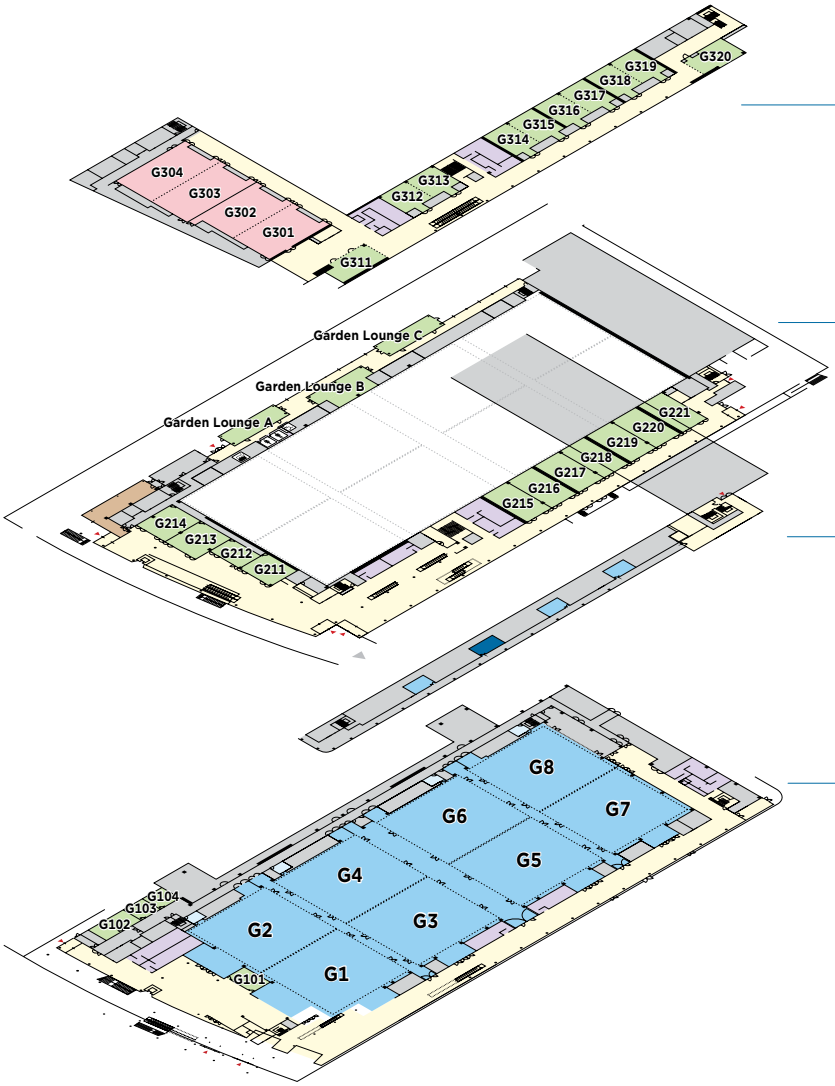
TECHNICAL PROGRAM | EXHIBITION GUIDE

# SPIE. ASTRONOMICAL TELESCOPES + INSTRUMENTATION

16–21 JUNE 2024 | PACIFICO YOKOHAMA NORTH
YOKOHAMA, JAPAN

# PACIFICO YOKOHAMA NORTH




**3F** **G311** | Speaker Check In

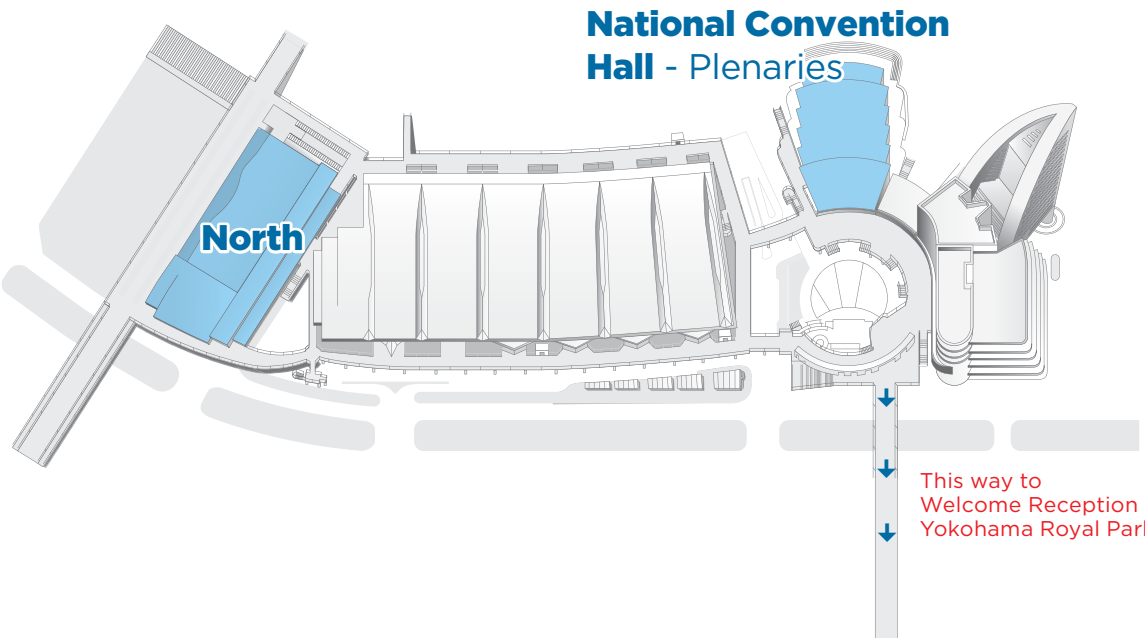
**2F** **Doutor Coffee Shop**
*Connects to the pedestrian deck*
*outside

**M2F**

**1F** **Registration** | 1F Lobby
**Exhibit Hall** | G1-G4
**Posters** | G5-G6
**Community Lounge** | G7

| | |
|---|---|
| Information | Coin Lockers |
| Self Service Print Corner | First-aid Room |
| Restroom | AED |
| Wheelchair-Accessible Restroom | Prayer Room |
| Vending Machines | Smoking Area |
| Nursing Room | |

## National Convention Hall - Plenaries



# SPIE. ASTRONOMICAL TELESCOPES + INSTRUMENTATION

**Conferences and Courses: 16–21 June 2024**
**Exhibition: 18–20 June 2024**
Pacifico Yokohama North
Yokohama, Japan

ADVANCING ASTRONOMICAL ENGINEERING AROUND THE GLOBE

Cutting-Edge Research | Exhibition | Industry Program | Training and Education

## Experience the energy of SPIE Astronomical Telescopes + Instrumentation

Get ready to enjoy real conversations, hear the latest breakthroughs, and make important connections in person. Hear cutting-edge research on ground-based, airborne, and space-based telescopes, and their supporting instrumentation. With a strong program and an active community, this event allows researchers and engineers to share advancements, discoveries, challenges, and project updates with colleagues from around the world.

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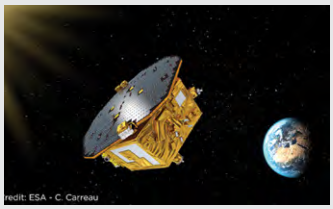



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2024 ASTRONOMICAL TELESCOPES + INSTRUMENTATION CHAIRS

**SYMPOSIUM CHAIRS**

**Sarah Kendrew**
European Space Agency
(United States)

**Satoshi Miyazaki**
National Astronomical Observatory of Japan
(Japan)

**SYMPOSIUM CO-CHAIRS**

**Desirée Della Monica Ferreira**
DTU Space
(Denmark)

**Anna Moore**
The Australian National Univ.
(Australia)

COOPERATING ORGANIZATIONS

NAOJ National Astronomical Observatory of Japan

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## Badge pick up and registration hours

**Location: Pacifico Yokohama, North, Foyer (1F)**

| | |
|---|---|
| Saturday 15 June | 16:00 – 19:30 |
| Sunday 16 June | 07:00 – 17:00 |
| Monday 17 June | 07:30 – 17:00 |
| Tuesday 18 June | 07:30 – 17:00 |
| Wednesday 19 June | 07:30 – 17:00 |
| Thursday 20 June | 07:30 – 17:00 |
| Friday 21 June | 07:45 – 17:00 |

## SPIE Cashier

**Location: Pacifico Yokohama, North, Foyer (1F)**
**Registration area**

Open during registration hours.

### Registration payments

If you have already registered and wish to add a course, workshop, or special event, you may do this online by signing into your SPIE account.

### Receipt and Certificate of Attendance

Preregistered attendees who need an SPIE-stamped receipt or attendees who need a Certificate of Attendance may obtain those at the Cashier.

### Badge Corrections

Badge corrections can be made at the Cashier. Please mark your badge with your changes before approaching the counter.

## Speaker Check-in and Preview Station

**Location: North, G311 (3F)**
**Open during registration hours.**

All speakers must stop at Speaker Check-in to upload and preview their slide presentation files at least two hours before their scheduled session or the day before if you present in the first session. Speakers are not able to present using their own devices. All conference rooms have a laptop, projector, screen, lapel microphone, and laser pointer.

## Internet access

Complimentary wireless internet access provided in lobbies on the conference room level and in the exhibition hall. Look for instructions onsite.

## SPIE Conference and Exhibition App

Our SPIE App developer will be onsite and available to answer any questions on its use or navigation and how to get the best user experience. We welcome your feedback.

This useful tool allows you to search and browse the program, special events, participants, exhibitors, courses, and more. It is free and available for iPhone and Android users. Download the SPIE App: spie.org/apps

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## SPIE Course Materials

**Location: North, Foyer (1F)**
**Open during registration hours.**

Browse course offerings or learn more about SPIE courses available in portable formats such as online and customized, in-company courses.

## Luggage Check

**Location: North, Foyer (1F) Registration Desk**

**Thursday and Friday . . . . . open during registration hours.**

Coin lockers are available all week in Foyer (1F), near registration.

## Onsite childcare

JOYSUPPO Daycare Service will provide onsite childcare free for attendees 10:00-17:00 on Monday-Thursday, 17-20 June.

Complete the application / consent form to reserve space.

https://joysuppospiechildcareservice.sfsite.me/
(Requests for additional childcare service can be submitted in the Notes section of the application form.)

## Business Center and Information Desk

**Locations: North 2F (Self Service)**
**Exhibition Hall 2F**

Kinko on-demand solution provider which operates on a national basis can help to print leaflets, business cards additionally on site.

For more information and hours please visit their website.

## Nursing Room

**Location: North, Foyer (1F)**

The Nursing Room is a lockable room intended for nursing mothers.

## Prayer Room

**Location: North, Foyer (1F)**

The Prayer Room is intended for silent meditation, reflection, and prayer. No mobile devices or computer use is allowed, and no food nor beverages are allowed.

## Gender inclusive restroom

**Location: North, Foyer (1F)**

See map onsite for location.

## Urgent message line

An urgent message line is available during registration hours: +1-360-927-6411

## Lost and Found

**Location: Location: North, Foyer (1F), Cashier**
**Open during registration hours.**

Found items will be kept at SPIE Cashier in the registration area during the meeting and available only during registration hours. At the end of the meeting, all found items will be turned over to the Pacifico Yokohama Security: +81-45-221-2155.

## Food and beverage services

**Complimentary coffee daily: . . . . . 8:00 – 16:00**

Beverage breaks will be near conference rooms and within the Exhibit halls when open.

**Vending mechines located in the Foyer (1F).**

**Please find out more local information within the SPIE Conference and Exhibition App.**

Download the

# SPIE Conference and Exhibition App

## Enhance your SPIE conference experience

Download the free mobile app to enrich your meeting experience. View events, exhibitors and connect with participants all in the palm of your hand. The app is free, easy to use, and loaded with features designed for planning and connecting on the go.

Make the most of your time with these app features:

» Real-time program updates
» Customize your schedule
» Organize your meeting notes
» Add new connections to your contacts
» Plan exhibitor visits
» Navigate the venue
» Bookmark specific research
» Create meeting reports
» And a whole lot more.

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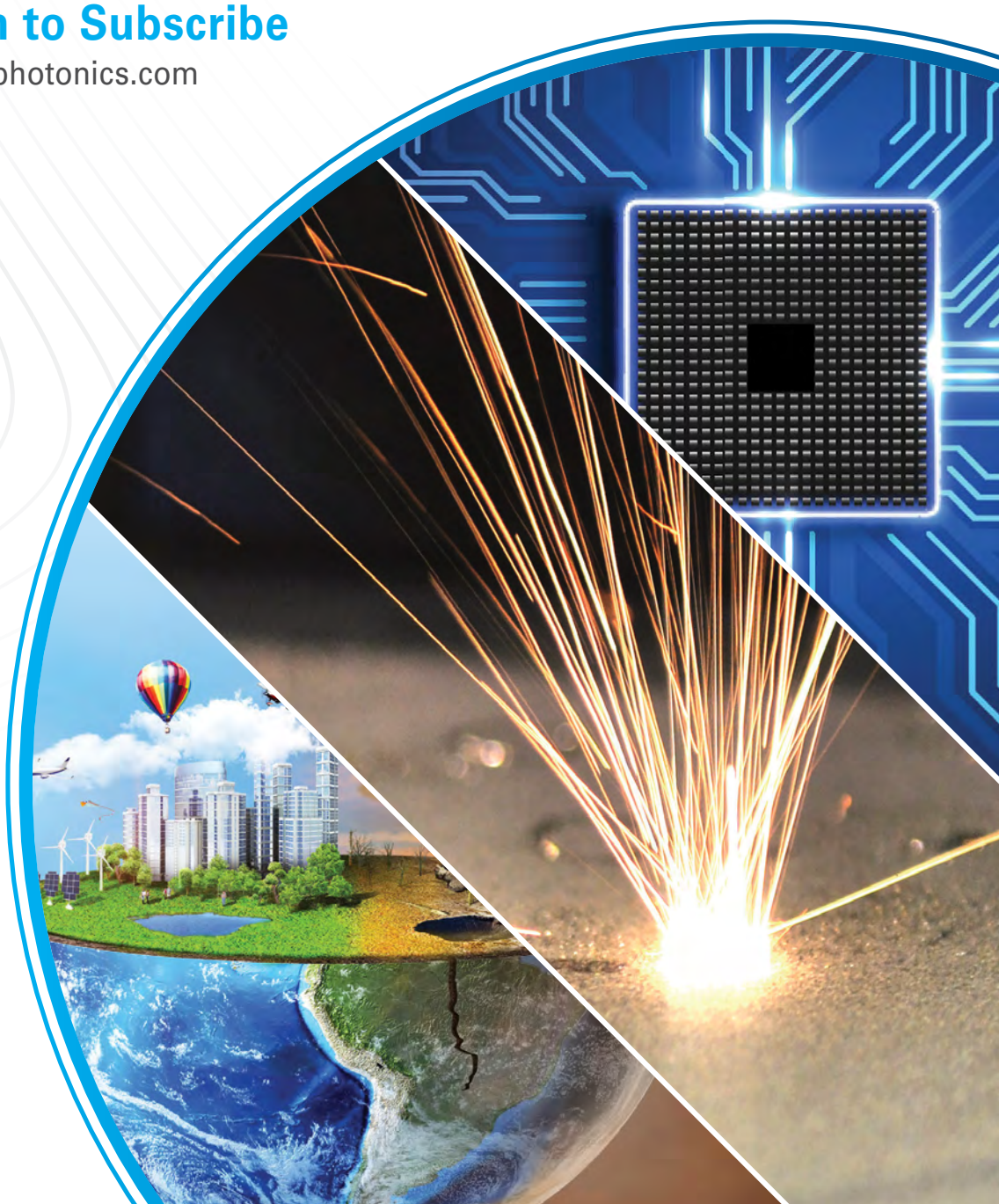

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PHOTONICS MEDIA photonics.com

## PLENARY EVENT

Hear from world-class speakers about the industry's challenges, breakthroughs, and project updates

### Monday Plenary

**17 June 2024 • 08:20 - 10:00 | National Convention Hall, 1F**

### Welcome Message

**Satoshi Miyazaki**
National Astronomical Observatory of Japan (Japan)

### Session Chair

**Anna Moore**
The Australian National Univ. (Australia)

### Moving TMT forward: Japan's contributions and transformative approach toward community engagement

**Tomonori Usuda**
National Astronomical Observatory of Japan (NAOJ) (Japan)

**Yuko Kakazu**
National Astronomical Observatory of Japan (NAOJ) and TMT International Observatory (United States)

The Thirty Meter Telescope International Observatory (TIO) is an ambitious international scientific endeavor. In Part 1, we highlight Japan's contributions toward technical advancements. Building upon the scientific and engineering success of the Subaru Telescope and ALMA, Japan leads in developing the telescope structure, primary mirror production, and cutting-edge science instruments. Part 2 delves into TIO's transformative shift toward community engagement. At TIO, we believe in community model of astronomy that upholds the values of inclusion, respect, and community stewardship. We are committed to listening to, learning from, and working together with Hawai'i communities to build a brighter future for all.

### From dark skies to bright futures: the evolution of astronomy in Africa and the hosting of the historic International Astronomical Union General Assembly 2024

**Charles Takalana**
African Astronomical Society (AfAS) (South Africa)

Africa's unique dark skies offer vast potential for astronomy, which has significantly advanced over the last two decades through substantial investment in infrastructure and human capital. The African Astronomical Society (AfAS), relaunched in 2019, plays a crucial role in this ascent, enhancing the network of astronomers across the continent, fostering research collaborations, and advising on policy. Noteworthy achievements for Astronomy in Africa include securing a bid to host the mid-frequency component of the Square Kilometre Array (SKA) telescope, hosting the first International Astronomical Union (IAU) General Assembly in Africa in August 2024, and being home to the IAU Office of Astronomy for Development (OAD) since 2011. This talk highlights these milestones, illustrating the community's commitment to developing astronomy on the continent and utilising astronomy as a tool to address developmental challenges.

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## Tuesday Plenary

**18 June 2024 • 08:30 - 10:00 | National Convention Hall, 1F**

**Session Chair**

**Satoshi Miyazaki**
National Astronomical Observatory of Japan (Japan)

### The present and future of Japan's space program

**Saku Tsuneta**
National Astronomical Observatory of Japan (NAOJ) (Japan)

The Basic Plan on Space Policy sets forth the basic principles of Japan's space policy with an aim to promote policies for space development. The latest version, approved by the Cabinet in June 2023, marks a significant shift by defining space science as a crucial integral part of Japan's space development efforts, transitioning from treating it solely as an isolated academic activity. For instance, the Artemis program is promoted as a policy initiative where scientific exploration is positioned to serve a precursor role. It also encourages Japan's involvement in NASA's post-JWST efforts. Here, I will present Japan's recent accomplishments and future plans in space science.

### NASA astrophysics: from today to the Habitable Worlds Observatory

**Mark Clampin**
NASA (United States)

**John O'Meara**
W.M. Keck Observatory (United States)

The goals of the Astrophysics Division are to understand how the universe works, understand how we got here and to address the question, are we alone? In this talk, Dr. Clampin will discuss the current goals of the Astrophysics Division, and its suite of current and future missions. He will also preview progress towards the 2020 National Academies (NAS) Decadal Survey including the key recommendation, the Habitable Worlds Observatory and NASA's approach to its implementation. Dr. O'Meara will discuss the first steps towards implementation, the formation of a Science, Technology, Architecture Review Team (START) and Technical Analysis Group (TAG) for HWO. He will describe how these teams, along with a large cohort of volunteers are working to define the trade space that must be explored for HWO to meet its top science goals of surveying exoplanets for the signatures of life and performing transformational astrophysics.

## Wednesday Plenary

**19 June 2024 • 08:30 - 10:00 | National Convention Hall, 1F**

**Session Chair**

**Sarah Kendrew**
European Space Agency (United States)

### Euclid mission: first year of operations

**René Laureijs**
European Space and Technology Centre (ESTEC) (The Netherlands)

After launch on 1 July 2023, the Euclid space telescope of the European Space Agency (ESA) has begun its 6-year mission designed to understand the origin of the Universe's accelerating expansion, which is commonly associated with Dark Energy. By observing billions of galaxies, Euclid will create a 3-dimensional map of the Universe covering 10 billion years of cosmic history. It contains the hierarchical assembly of (dark) matter in galaxies, clusters and superclusters telling us about the nature of gravity and giving us a detailed measurement of the accelerated expansion of the Universe in time. The stringent image quality and sky survey requirements impose extreme performances of the telescope, instruments, and spacecraft. After a mission summary, I will describe the in-orbit spacecraft and instrument performances. A notable challenge is the processing of the large volume of data. The scientific prospects of Euclid are illustrated with the first images and early science results.

### The ultraviolet explorer: new views of the UV universe

**Fiona Harrison**
Caltech (United States)

The Ultraviolet Explorer (UVEX) mission, scheduled for launch in 2030, advances three scientific pillars: exploring the low-mass, low-metallicity galaxy frontier; providing new views of the dynamic universe, and leaving a broad legacy of modern, deep synoptic surveys adding to the panchromatic richness of 21st century astrophysics. The UVEX instrument consists of a single module with simultaneous FUV and NUV imaging over a wide (10 sq. deg) FOV and sensitive R>1000 spectroscopy over a broad band from 1150 - 2650 Angstroms. In this talk I will describe the UVEX scientific program and provide an overview of the instrument and mission.

## Thursday Plenary

20 June 2024 • 08:30 - 10:00 | National Convention Hall, 1F

**Session Chair**

**Desirée Della Monica Ferreira**
DTU Space (Denmark)

### Navigating the radio astronomy renaissance: challenges and opportunities for a sustainable future

**Jessica Dempsey**
ASTRON and Radbound Univ.
(The Netherlands)

The next decade heralds a renaissance in radio astronomy, with a formidable complement of global Observatories, from LOFAR2.0, to the SKA becoming powerful discovery engines at these lowest frequencies. While they commit to lowering data access barriers, managing the deluge of data poses challenges, as the new constraint on viable astronomy must move from hours on sky to data product cost in energy, compute and carbon and data footprint. I will explore with you the challenges and opportunities in creating a new frontier of sustainable, ethical, affordable astronomy.

### The x-ray imaging and spectroscopy mission (XRISM): development and expected science

**Makoto Tashiro**
Saitama Univ. (Japan)

The X-Ray Imaging and Spectroscopy Mission (XRISM) project was initiated in 2018 as the recovery mission resuming the high-resolution X-ray spectroscopy with imaging once realized but unexpectedly terminated by a mishap of ASTRO-H/Hitomi. XRISM carries a pixelized X-ray micro-calorimeter array and an X-ray CCD on the focal planes of two sets of X-ray mirror assemblies. The spacecraft was successfully launched from JAXA Tanegashima Space Center on September 7, 2023, and is now conducting performance verification observation followed by guest observations starting in August 2024. In this paper, we present the history of development and recent results.

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# TECHNICAL EVENTS

## Astrophotonics Community Workshop

**16 June 2024 • 15:00 - 18:00**
**Room G316/317, North - 3F**

***Open to registered conference participants. Please wear your conference badge.***

Join us to discuss the recently published 2023 Astrophotonics Roadmap. Several astrophotonics research groups working together recently published the 2023 Astrophotonics Roadmap, which outlines the current status of the field and identifies several significant research priorities. To support the research goals highlighted in the Roadmap, we invite members of the astrophotonics community, along with any other interested SPIE attendees, to participate in a workshop.

In addition to providing updates on select research projects, the workshop will address additional topics of interest to the community, including enhancing opportunities for training of early career scientists and engineers in astrophotonics, improving partnerships with industry and government agencies, fostering collaboration and cooperation among independent research groups, and providing community-wide resources to assist fellow researchers. Several of these topics were initially discussed during a virtual workshop in January 2024; the in-person workshop in Yokohama will provide an opportunity to make further progress on these issues, as well as a chance to identify other topics important to members of the astrophotonics community.

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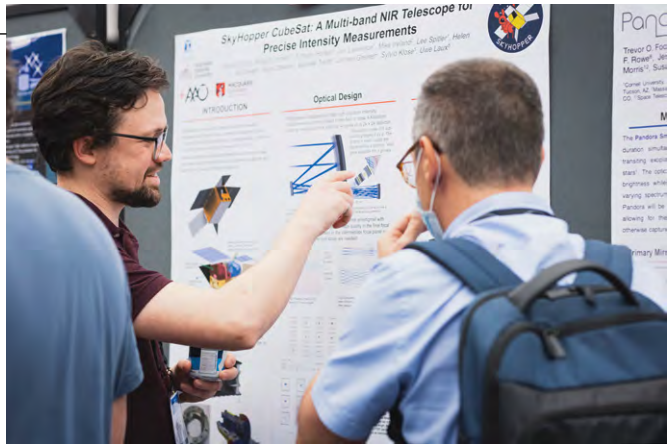


## Poster Sessions

**Location: Room G5, North - 1F**

**Monday 17 June 2024 . . . . . .17:30 - 19:00**
**Tuesday 18 June 2024. . . . . .17:30 - 19:00**
**Wednesday 19 June 2024 . . . . . .17:30 - 19:00**
**Thursday 20 June 2024 . . . . . .17:30 - 19:00**

Conference attendees are invited to attend the poster sessions (technical badge required). Authors of poster papers will be present during the poster sessions to answer questions concerning their papers.

Daily Schedule:

Poster Set Up - Beginning at 10:00 AM

Extended Poster Viewing (exhibit hours daily)

Poster Sessions (authors present) - 5:30 to 7:00 PM

Each session includes a unique set of posters. See individual conference programs for schedule.

## Panel Discussion: Cyber-Security Round Table

**18 June 2024 • 15:00 - 15:20**
**Room G314/315 - North, 3F**

All publicly exposed research organizations receive cyber-attacks periodically and, given the collaborative nature of our mission, there are some commonalities on specific vulnerabilities. This session aims to enable an informal round table to discuss lessons learned and good practices towards cyber-security.

This panel takes place as a part of the Software and Cyberinfrastructure for Astronomy VIII conference.

## Panel Discussion: Gender Balance in the Conference

**19 June 2024 • 15:00 - 15:20**
**Room G314/315 - North, 3F**

Despite notable advancements in diversity, inclusion, and equity across the broader astronomy community, gender diversity in astronomy instrumentation remains a challenge. This is reflected in a lower representation of female colleagues in abstract submissions for this conference, compared to other astronomy meetings focusing on astroinformatics, software, and data engineering. We would like to explore why this is and to identify opportunities for improvement.

The session will start with an overview, with examples of successes and challenges from our community. The floor will then be open to discussion and ideas on how to improve the participation and engagement of highly qualified women in SPIE events, along with promoting inclusivity across all dimensions.
This panel is part of the Software and Cyberinfrastructure for Astronomy VIII conference. The session is open to anyone interested in the topic, so please join us! We are looking forward to hearing about your experiences and suggestions.

See full details and updates at **spie.org/as** or on the **SPIE App**

# COMMUNITY SPECIAL EVENTS

Valuable information for anyone — engineers, researchers, students, and CEOs — looking for the inclusion tactics and equity trainings to build a stronger community

## Lunch & Learn: Understanding Your Social Battery

**17 June 2024 • 12:00 - 13:00 | Room G7, North - 1F**

During this interactive session, participants will learn about their own social batteries. Every human being has a different capacity in themselves to navigate social situations and life experiences. Some have large capacitors of stored energy to socialize and engage with others, while other people have smaller capacitors, and their energy is drained more quickly. We can summarize these experiences using social battery pins and spoon theory. This workshop will illustrate real world examples of how different people manage their social energy available, and how others can be mindful of those that have less social capacity.

Facilitators:

**Alysha Shugart**
NSF NOIRLab and Vera C. Rubin Observatory

**Stacey Sueoka**
Association of Universities for Research in Astronomy (AURA)

**Charlotte Guthrey**
W. M. Keck Observatory

**Nour Skaf**
University of California, Santa Cruz

## Women in Optics Meetup

**17 June 2024 • 15:00 - 16:00 | Room G7, North - 1F**

Join other women in the field for informal discussions and networking.

## Lunch & Learn: Discovering Intersectionality with Identity Webs

**18 June 2024 • 12:00 - 13:00 | Room G7, North - 1F**

Intersectionality was first defined 35 years ago by Professor Kimberlé Crenshaw as a way to describe how race, class, gender, and other individual characteristics "intersect" with one another and overlap to affect the lived experience of individuals in the world, including discrimination they may encounter. However, this term didn't become popularized beyond academia until ~2017 during the Women's March on Washington in the U.S. where it was used to describe the multitude of social justice and human rights issues that different female-identifying individuals can face. By first understanding identity and representation through the lens of intersectionality, society can begin to uncover deep structural and systemic questions about discrimination and inequality. During this hands-on group activity, we will visualize our intersectional identities, learn how specific intersectional groups can face unique challenges that result in inequality, and discuss ways to create a more egalitarian system through advocacy and remedial practices.

Facilitators:

**Danielle Rowland**
National Radio Astronomy Observatory (NRAO)

**Sandrine Thomas**
Vera C. Rubin Observatory

## Lunch & Learn: Astronomy for all: highlights of science and tech development in emerging countries

**19 June 2024 • 12:00 - 13:00 | Room G7, North - 1F**

Astronomy and space are intrinsically what connect us all, by the very nature of our cosmic origin. However, today, emerging countries have little to no access to it. While every single culture in the world once connected to the stars, few have the opportunity to contribute to our scientific understanding of the cosmos and benefit from it. In a post-COVID world threatened by climate change and with social injustices, addressing this inequality is urgent. There have been considerable efforts, yet much more is needed to make astronomy and space inclusive with concrete outcomes. One of the required things is to leverage communication between countries across the globe, and witness how different countries with different cultures and challenges approach their development of astronomy and space. In this session, we will look at a few African and Southeast Asian examples, and highlight how communities, universities, and governments are dealing with the focus of astronomy and space as a tool for development in education, technology, science, and peace-building.

Presenter:

**Nour Skaf**
University of California, Santa Cruz

## Black in Photonics Meetup

**19 June 2024 • 15:00 - 16:00 | Room G7, North - 1F**

Join us for a Black in Photonics informal meetup of at SPIE Astronomical Telescopes and Instrumentation.

## Lunch & Learn: Talk Story: Astronomy on Indigenous Land

**20 June 2024 • 12:00 - 13:00 Room G7, North - 1F**

In the pursuit of astronomical research, it is imperative to recognize and respect the cultural heritage and traditional knowledge of indigenous communities. Astronomy facilities are often situated on land that holds deep cultural and spiritual significance for indigenous peoples. This session explores the importance of establishing meaningful relationships with indigenous peoples in the construction, operation and management of astronomical facilities. By engaging with indigenous communities, astronomers honor the cultural heritages unique to these communities, gain valuable insights into traditional cosmologies, promote environmental stewardship, and uphold principles of social responsibility and equity. Join us for an engaging discussion with a few of the individuals who are promoting these practices at various astronomical facilities.

See online program or conference app for panelist information.

## LGBTQ+ Meetup

**20 June 2024 • 15:00 - 16:00 | Room G7, North - 1F**

Come join us and socialize and network with other LGBTQ+ attendees, students, scientists, and allies in the astronomy community.

## SPIE Community Lounge

**Monday–Thursday • 08:00 - 17:00 | Room G7, North - 1F**

Visit the SPIE Community Lounge to attend networking and educational events, or relax and recharge. Open to all attendees during registration hours from Monday through Friday.

The Community Lounge will be a central resource for all attendees to engage with the subjects of inclusion, belonging, equity, identity, and diversity. This space will offer lunch and learning opportunities that explore identity, emotional energy, accessibility, and personal storytelling. Community building events such as a Women in Optics Meetup, LGBTQ+ Social, a Black in Photonics Meetup, and other networking opportunities will be hosted in this room.

Volunteers from many different disciplines of the astronomy industry, including observatory operations, engineering, project management, observatory leadership, community engagement, and academia, will be facilitating the lunch and learn sessions, engaging in the community spaces, and staffing the room throughout the week to have discussions about DEI and community astronomy for all attendees.

## Welcome Reception

**16 June 2024 • 18:00 - 20:00**
**Royal Park Hotel, Banquet Hall**

All registered conference attendees are invited to join your colleagues at the Welcome Reception. This informal networking event will be held at the nearby Royal Park Hotel Banquet Hall. Dress is casual.

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## Habitable Worlds Observatory Open House

**17 June 2024 • 19:00 - 21:00 | Room G316/317, North - 3F**

Come to meet NASA Science, Technology, Architecture Review Team, Technology Assessment Group, and associated Working Group members and learn about ways to engage in the broad community efforts to prepare for this potential future flagship mission. Light refreshments provided.

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# COURSES

## In-person instruction

Join us for in-person training at SPIE Astronomical Telescopes + Instrumentation. SPIE courses are designed to expand your knowledge and skills. Take what you learn in class and apply it directly to your work.

### Adaptive Optics

Instructor: **Michael Hart** - Wyant College of Optical Sciences (United States)

**Course SC135 | Level: Introductory**
**Sunday, 16 June 2024 • 08:30 - 17:30**
**Member: $825.00 | Non-member: $980.00**
**Student member: $492.00**

Adaptive optics are used to improve image quality of optical systems by sensing and correcting dynamic wavefront disturbance in real time. The same methods also serve to improve beam quality for optical systems that transmit light through turbulent media like the Earth's atmosphere. This course covers the basic principles of adaptive optics with emphasis on large ground-based telescopes. We explore the effect of dynamic aberration, the key components of an adaptive optics system with examples of each, system integration and control strategies, and performance predictions and limitations. The course is illustrated throughout with examples from fielded systems spanning astronomy, laser communications, ophthalmology and other applications. We touch on advanced concepts including laser guide stars, multiconjugate and tomographic imaging systems, as well as numerical methods for image restoration that complement adaptive optics.

### Modern Optical Testing

Instructor: **Daewook Kim** - The Univ. of Arizona (United States)

**Course SC212 | Level: Intermediate**
**Sunday, 16 June 2024 • 13:30 - 17:30**
**Member: $550.00 | Non-member: $630.00**
**Student member: $352.00**

This course describes the basic interferometry techniques used in the evaluation of optical components and optical systems. It discusses interferogram interpretation, computer analysis, and phase-shifting interferometry, as well as various commonly used wavefront-measuring interferometers The instructor describes specialized techniques such as testing windows and prisms in transmission, 90-degree prisms and corner cubes, measuring index inhomogeneity, and radius of curvature. Testing cylindrical and aspheric surfaces, determining the absolute shape of flats and spheres, and the use of infrared interferometers for testing ground surfaces are also discussed. The course also covers state-of-the-art direct phase measurement interferometers.

**MONEY-BACK GUARANTEE**

We are confident that once you experience an SPIE course for yourself you will look to us for your future education needs. However, if for any reason you are dissatisfied, we will gladly refund your money. We just ask that you tell us what you did not like; suggestions for improvement are always welcome.

**Digital badges and certificates**

SPIE awards digital badges and certificates to participants who attend courses and complete the evaluation and quiz. Digital credentials are always accessible, easily shareable, printable at any time, and verified. For more information visit spie.org/digital-badges

SPIE reserves the right to cancel a course due to insufficient advance registration.

### Introduction to the Application of Probability to Systems Engineering and Design

Instructor: **Jonathan W. Arenberg** - Northrop Grumman Corp. (United States)

**Course SC1165 | Level: Introductory**
**Monday, 17 June 2024 • 08:30 - 12:30**
**Member: $515.00 | Non-member: $595.00**
**Student member: $338.00**

This probabilistic methodology of performance budgeting should be a tool in every engineer's tool kit as it is fundamental to understanding how system design impacts the probability of successful. This course explains basic principles for the use of probability analysis applied to systems engineering problems. Specific attention is given to the central problem of performance budgeting. A primary goal of the course is explaining the logic, construction and application of performance and error budgeting. Examples are taken from various problems in systems engineering of astronomical and laser systems. This course will be of benefit to anyone who wants to answer the question, "what are the chances of success of my project?" and "how can I change the design maximize the probability of success?", "how do I allocate tolerances?", "how do I explain the uncertainties in performance?"

### Opto-mechanical Design for Cryogenics Instruments

Instructor: **Jean-Louis Lizon** - European Southern Observatory (Germany)

**Course SC1344 | Level: Introductory**
**Monday, 17 June 2024 • 13:30 - 17:30**
**Member: $515.00 | Non-member: $595.00**
**Student member: $338.00**

A growing part of ground based astronomical instruments are dedicated to near infrared observations. This means always increasing need to deal with mechanism and optics operating in vacuum and cryogenic environment. This course explains the main difference between an instrument operated at ambient temperature in air and an instrument operated under vacuum and at cryogenic temperature. The course presents a

**Onsite courses**

View full course descriptions and register online.

set of technical solutions which have been developed in order to deal with the constraints of this specific environment. The course addresses a parts on pure mechanics with a number of example of mechanisms including lessons learned over the time. The second part discusses optomechanical problems encountered with the differential expansion coefficient and give also practical example of stress free mounting for optical components. This is based on more than 30 years of experience designing and building instruments for one of the world's most important astronomical institutes.

## Cryo-vacuum Design for Ground based Astronomy

Instructor: **Jean-Louis Lizon** - European Southern Observatory (Germany)

**Course SC1302 | Level: Intermediate**
**Tuesday, 18 June 2024 • 08:30 - 17:30**
**Member: $825.00 | Non-member: $980.00**
**Student member: $492.00**

This course explains the basic principles required for the design of a cryogenic system. It introduces the main laws to evaluate the heat load on a cryostat. The course provides a detailed process on how to design a cryogenic instrument and introduces the various means of cryogenic cooling. This course, in contrast to traditional cryogenic courses, directly addresses the case of ground-based astronomy, and is based on more than 30 years of experience designing and building instruments for one of the most important astronomical institutes. The course shows a number of real examples including a few mistakes and solutions on how to avoid them. The course also addresses the basics of vacuum technology, and reviews the various evacuation systems available today. A specific chapter is also dedicated on outgassing and how to reduce it.

## Introduction to Visible and NIR Spectrograph Design and Development for Astronomy

Instructor: **Andrew I. Sheinis** - Canada-France-Hawaii Telescope Corp. (United States)

**Course SC906 | Level: Introductory**
**Tuesday, 18 June 2024 • 08:30 - 17:30**
**Member: $825.00 | Non-member: $980.00**
**Student member: $492.00**

This course provides attendees with an introduction to aerial spectrograph design and development for astronomy. The course concentrates on system configurations and performance optimization and analysis. Specific concepts to be addressed include: image quality, throughput, flexure, performance modeling and system testing.

## Functioned-based Systems Engineering for the Design of Astronomical Instruments and Control Systems Architectures

Instructor: **Hermine Schnetler** - Max-Planck-Institut für extraterrestrische Physik (United Kingdom)

**Course SC1001 | Level: Introductory**
**Wednesday, 19 June 2024 • 08:30 - 17:30**
**Member: $825.00 | Non-member: $980.00**
**Student member: $492.00**

This course provides a novel functioned-based systems engineering methodology for the design of astronomical instruments and control systems architectures. The primary goal of this course is to provide a framework and a well-proven recipe to develop robust system architectures based on the functional requirements of the system. The course will be exercise-driven, and the participants will design the system architecture of an instrument during the course. During the course, we will illustrate how the proposed system architecture can meet the science requirements and objectives as well as how the system architecture drives the technical performance requirements.

## Systems Engineering and Large Telescope Observatories

Instructors: **Jonathan W. Arenberg** - Northrop Grumman Corp. (United States); **Allison A. Barto** - BAE Systems, Inc. (United States)

**Course SC1139 | Level: Introductory**
**Thursday, 20 June 2024 • 08:30 - 17:30**
**Member: $875.00 | Non-member: $1030.00**
**Student member: $512.00**

Modern astronomical observatories are becoming larger and more complex with many components working together to achieve the common goal of gathering useful information for astro-scientists. Successful engineering of these observatories is enabled by following a systems engineering viewpoint of looking at the whole. This viewpoint requires a multidisciplinary breadth and the ability to find a balance among 1) the system user's needs and desires, 2) the manager's funding and schedule constraints, and 3) the capabilities and ambitions of the engineering specialists who develop and build the system. The system engineer is sometimes described as the person on the program who should know the partial derivative of every parameter of the system with respect to every other parameter. This course introduces the concepts and models that are used to evolve a system from an abstract vision to the final validated and verified operational system. Examples are given that provide insight into the variety of engineering disciplines and typical subsystems found in observatories for optical astronomy observatories (X-ray through IR).

See full details and updates at **spie.org/as** or on the **SPIE App**

# EVENT SCHEDULE

| SUNDAY<br>16 June | MONDAY<br>17 June | TUESDAY<br>18 June | WEDNESDAY<br>19 June | THURSDAY<br>20 June | FRIDAY<br>21 June |
|---|---|---|---|---|---|
| **SPIE Community Lounge**<br>08:00 - 17:00<br>Room G7, North - 1F | **Monday Plenary**<br>08:20 - 10:00<br>National Convention Hall, 1F | **Tuesday Plenary**<br>08:30 - 10:00<br>National Convention Hall, 1F | **Wednesday Plenary**<br>08:30 - 10:00<br>National Convention Hall, 1F | **Thursday Plenary**<br>08:30 - 10:00<br>National Convention Hall, 1F | |
| | | **SPIE Astronomical Telescopes + Instrumentation Exhibition**<br>Room G1-4, North - 1F<br>10:00 - 17:00 | 10:00 - 17:00 | 10:00 - 14:00 | |
| | **Lunch & Learn: Understanding Your Social Battery**<br>12:00 - 13:00<br>Room G7, North - 1F | **Lunch & Learn: Discovering Intersectionality with Identity Webs**<br>12:00 - 13:00<br>Room G7, North - 1F | **Lunch & Learn: Astronomy for all: highlights of science and tech development in emerging countries**<br>12:00 - 13:00<br>Room G7, North - 1F | **Lunch & Learn: Talk Story: Astronomy on Indigenous Land**<br>12:00 - 13:00<br>Room G7, North - 1F | |
| **Astrophotonics Community Workshop**<br>15:00 - 18:00<br>Room G316/317, North - 3F | **Women in Optics Meetup**<br>15:00 - 16:00<br>Room G7, North - 1F | **Panel Discussion: Cyber-Security Round Table**<br>15:00 - 15:20<br>Room G314/315 -3F | **Panel Discussion: Gender Balance in the Conference**<br>15:00 - 15:20<br>Room G314/315 - North, 3F | **LGBTQ+ Meetup**<br>15:00 - 16:00<br>Room G7, North - 1F | |
| | | | **Black in Photonics Meetup**<br>15:00 - 16:00<br>Room G7, North - 1F | | |
| | | | **SPIE Student Member Meetup**<br>16:00 - 17:00<br>Room G1-4, North - 1F | | |
| | **Monday Poster Session**<br>17:30 - 19:00<br>Room G5, North - 1F | **Tuesday Poster Session**<br>17:30 - 19:00<br>Room G5, North - 1F | **Wednesday Poster Session**<br>17:30 - 19:00<br>Room G5, North - 1F | **Thursday Poster Session**<br>17:30 - 19:00<br>Room G5, North - 1F | |
| **Welcome Reception**<br>18:00 - 20:00<br>Royal Park Hotel, Banquet Hall | **Habitable Worlds Observatory Open House**<br>19:00 - 21:00<br>Room G316/317, North - 3F | **SPIE Member Reception**<br>19:00 - 21:00<br>Room G7, North - 1F | | | |

| SUNDAY 16 June | MONDAY 17 June | TUESDAY 18 June | WEDNESDAY 19 June | THURSDAY 20 June | FRIDAY 21 June |
|---|---|---|---|---|---|
| **CONFERENCES** | | | | | |
| Conference 13092: **Space Telescopes and Instrumentation 2024: Optical, Infrared, and Millimeter Wave,** Chairs: Laura E. Coyle; Shuji Matsuura; Marshall D. Perrin — Room G303/304, North - 3F | | | | | |
| Conference 13093: **Space Telescopes and Instrumentation 2024: Ultraviolet to Gamma Ray,** Chairs: Jan-Willem A. den Herder; Shouleh Nikzad; Kazuhiro Nakazawa — Room G414/415, North - 4F | | | | | |
| Conference 13094: **Ground-based and Airborne Telescopes X,** Chairs: Heather K. Marshall; Jason Spyromilio; Tomonori Usuda — Room G403/404, North - 4F | | | | | |
| | Conference 13095: **Optical and Infrared Interferometry and Imaging IX,** Chairs: Jens Kammerer; Stephanie Sallum; Joel Sanchez-Bermudez — Room G416/417, North - 4F | | | | |
| Conference 13096: **Ground-based and Airborne Instrumentation for Astronomy X,** Chairs: Julia J. Bryant; Kentaro Motohara; Joël R. D. Vernet — Room G401/402, North - 4F | | | | | |
| Conference 13097: **Adaptive Optics Systems IX,** Chairs: Kathryn J. Jackson; Dirk Schmidt; Elise Vernet Room G301/302, North - 3F | | | | | |
| | Conference 13098: **Observatory Operations: Strategies, Processes, and Systems X,** Chairs: Chris R. Benn; Antonio Chrysostomou; Lisa J. Storrie-Lombardi Room G316/317, North - 3F | | | | |
| Conference 13099: **Modeling, Systems Engineering, and Project Management for Astronomy XI,** Chairs: Sébastien Elias Egner; Scott Roberts — Room G213, North - 2F | | | | | |
| Conference 13100: **Advances in Optical and Mechanical Technologies for Telescopes and Instrumentation VI,** Chairs: Ramón Navarro; Ralf Jedamzik — Room G214, North - 2F | | | | | |
| Conference 13101: **Software and Cyberinfrastructure for Astronomy VIII,** Chairs: Jorge Ibsen; Gianluca Chiozzi — Room G314/315, North - 3F | | | | | |
| | | Conference 13102: **Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy XII,** Chairs: Jonas Zmuidzinas; Jian-Rong Gao — Room G318/319, North - 3F | | | |
| Conference 13103: **X-Ray, Optical, and Infrared Detectors for Astronomy XI,** Chairs: Andrew D. Holland; Kyriaki Minoglou — Room G312/313, North - 3F | | | | | |
| **COURSES** | | | | | |
| SC135: **Adaptive Optics** Instructor: Michael Hart 08:30 - 17:30 | SC1165: **Introduction to the Application of Probability to Systems Engineering and Design** Instructor: Jonathan W. Arenberg 08:30 - 12:30 | SC1302: **Cryo-vacuum Design for Ground-based Astronomy** Instructor: Jean-Louis Lizon 08:30 - 17:30 | SC1001: **Functioned-based Systems Engineering for the Design of Astronomical Instruments and Control Systems Architectures** Instructor: Hermine Schnetler 08:30 - 17:30 | SC1139: **Systems Engineering and Large Telescope Observatories** Instructors: Jonathan W. Arenberg,Allison A. Barto 08:30 - 17:30 | |
| SC212: **Modern Optical Testing** Instructor: Daewook Kim 13:30 - 17:30 | SC1344: **Opto-mechanical Design for Cryogenics Instruments** Instructor: Jean-Louis Lizon 13:30 - 17:30 | SC906: **Introduction to Visible and NIR Spectrograph Design and Development for Astronomy** Instructor: Andrew I. Sheinis 08:30 - 17:30 | | | |

See full details and updates at **spie.org/as** or on the **SPIE App**

## DAILY CONFERENCE SCHEDULE

| TIME | CONFERENCE 13092 Room G303/304, North - 3F | CONFERENCE 13093 Room G414/415, North - 4F | CONFERENCE 13094 Room G403/404, North - 4F | CONFERENCE 13095 Room G416/417, North - 4F | CONFERENCE 13096 Room G401/402, North - 4F | CONFERENCE 13097 Room G301/302, North - 3F |
|---|---|---|---|---|---|---|
| **SUNDAY 16 JUNE 2024** | | | | | | |
| **MORNING** | SESSION 1: **Sustainably Developing Technologies and Careers** | SESSION 1: **Ultra Violet I** | | | SESSION 1: **Instruments Overview of Existing Large Facilities I** | **Opening**<br>SESSION 1: **AO Systems in Commissioning I** |
| | Coffee Break | Coffee Break | | | Coffee Break | Coffee Break |
| | SESSION 2: **Mission Concepts with Small Spacecraft** | SESSION 2: **Ultra Violet II** | SESSION 1: **Enclosures** | | SESSION 2: **Instruments Overview of Existing Large Facilities II** | SESSION 2: **AO Systems in Commissioning II** |
| **AFTERNOON** | Lunch Break | Lunch Break | Lunch Break | | Lunch Break | Lunch Break |
| | SESSION 3: **Time Domain I: Astrometry and Dynamics** | SESSION 3: **Ultra Violet III** | SESSION 2: **Mounts** | | SESSION 3: **High-dispersion Spectrographs I** | SESSION 3: **AO Systems in Commissioning III** |
| | SESSION 4: **Far Infrared Mission Concepts I** | | | | | SESSION 4: **AO Systems in Commissioning IV** |
| | Coffee Break | Coffee Break | Coffee break | | Coffee Break | Coffee Break |
| | SESSION 5: **Far Infrared Mission Concepts II** | SESSION 4: **Ultra Violet IV** | SESSION 3: **Observatory Upgrades & Repairs** | | SESSION 4: **IFS I** | SESSION 5: **Upcoming AO Systems** |
| | | | | | | SESSION 6: **Operational AO Systems & Future Plans** |

## APPLICATION TRACKS

Application tracks enable attendees to group and explore presentations in the conference programs to more easily plan their event schedule around the topic of interest. Use the filters on SPIE.org to view application tracks and add presentations to your schedule.

### Four application tracks to explore

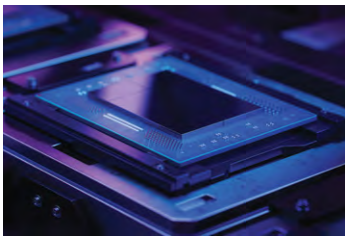
### Astrophotonics

Papers that highlight photonics technologies, which generate, transform, or use tailored light states, for astronomical engineering applications

### Radio Astronomy

Papers that illustrate advances in radio frequency telescope system design, performance, and applications

| | CONFERENCE 13098 Room G316/317, North - 3F | CONFERENCE 13099 Room G213, North - 2F | CONFERENCE 13100 Room G214, North - 2F | CONFERENCE 13101 Room G314/315, North - 3F | CONFERENCE 13102 Room G318/319, North - 3F | CONFERENCE 13103 Room G312/313, North - 3F |
|---|---|---|---|---|---|---|
| | **SUNDAY 16 JUNE 2024** | | | | | |
| | | SESSION 1: **Integrated and Optics Modelling I** | | | | SESSION 1: **Infrared Detectors I** |
| | | Coffee Break | | | | Coffee Break |
| | | SESSION 2: **Project Management** | SESSION 1: **Fabrication of Mirrors, Lenses and other Optical Components I** | SESSION 1: **Project Overviews and Progress** | | SESSION 1 CONTINUED |
| | | Lunch Break | Lunch Break | Lunch Break | | Lunch Break |
| | | SESSION 3: **Systems Engineering Methods** | SESSION 2: **Fabrication of Mirrors, Lenses and other Optical Components II** | SESSION 2: **Observatory/ Telescope Control I** | | SESSION 2: **Cryogenic Detectors** |
| | | Coffee Break | Coffee Break | Coffee Break | | Coffee Break |
| | | SESSION 4: **Systems Engineering Management I** | SESSION 3: **Fabrication of Mirrors, Lenses and other Optical Components III** | SESSION 3: **Software Testing/Quality** | | SESSION 3: **X-Ray Imaging** |
| | | | SESSION 4: **Materials and Metamaterials** | | | |



## AI/ML

Papers that highlight the use of artificial intelligence, machine learning, and deep learning to create and implement intelligent systems across multiple sectors, technologies, and applications

## Sustainability

Papers that highlight the use of optics and photonics for renewable energy, natural resource management, sustainable and green manufacturing, and greenhouse gas mitigation in support of the UN Sustainable Development Goals.

# DAILY CONFERENCE SCHEDULE

| TIME | CONFERENCE 13092 Room G303/304, North - 3F | CONFERENCE 13093 Room G414/415, North - 4F | CONFERENCE 13094 Room G403/404, North - 4F | CONFERENCE 13095 Room G416/417, North - 4F | CONFERENCE 13096 Room G401/402, North - 4F | CONFERENCE 13097 Room G301/302, North - 3F |
|---|---|---|---|---|---|---|
| **MONDAY 17 JUNE 2024** | | | | | | |
| **MORNING** | **MONDAY PLENARY**<br>Room: National Convention Hall, 1F<br>8:20-8:30<br>**Welcome and Introduction**<br>08:30 - 09:15 \| 13173-500<br>**Moving TMT forward: Japan's contributions and transformative approach toward community engagement** *(Plenary Presentation),* Tomonori Usuda, National Astronomical Observatory of Japan (Japan); Yuko Kakazu, National Astronomical Observatory of Japan (Japan) and TMT International Observatory (United States)<br>09:15 - 10:00 \| 13173-501<br>**From dark skies to bright futures: the evolution of astronomy in Africa and the hosting of the historic International Astronomical Union General Assembly 2024** *(Plenary Presentation)***,** Charles Mpho Takalana, The African Astronomical Society (South Africa) | | | | | |
| | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break |
| | SESSION 6: **Wide Field Survey Missions I** | SESSION 5: **UV Technology I** | SESSION 4: **Observatory Construction Updates** | SESSION 1: **Current and Planned Facilities I** | SESSION 5: **Multi Object Spectrographs I** | SESSION 7: **Modeling, Simulation & Analysis of AO Systems**<br>SESSION 8: **Wavefront Sensing with Machine Learning** |
| **AFTERNOON** | Lunch Break | Lunch Break | Lunch Break | Lunch Break | Lunch Break | Lunch Break |
| | SESSION 7: **Wide Field Survey Missions II** | SESSION 6: **UV Technology II**<br>SESSION 7: **Athena Instruments I** | SESSION 5: **Modeling as a Driver of Observatory Design**<br>***Joint Session with 13094 and 13099*** | SESSION 2: **Current and Planned Facilities II** | SESSION 6: **Instruments with New Concept/ Technologies I** | SESSION 9: **Calibration of AO Systems I**<br>SESSION 10: **Calibration of AO Systems II** |
| | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break |
| | SESSION 8: **Wide Field Survey Missions III** | SESSION 8: **Athena Instruments II** | SESSION 5 CONTINUED | SESSION 3: **Current and Planned Facilities III** | SESSION 7: **Multi Object Spectrographs II** | SESSION 11: **Wavefront Reconstruction & Control Algorithms I**<br>SESSION 12: **Wavefront Reconstruction & Control Algorithms II**<br>POSTER AWARD CEREMONY |
| 17:30 - 19:00 | **POSTER SESSION** | **POSTER SESSION** | | **POSTER SESSION** | **POSTER SESSION** | **POSTER SESSION** |

| | CONFERENCE 13098 Room G316/317, North - 3F | CONFERENCE 13099 Room G213, North - 2F | CONFERENCE 13100 Room G214, North - 2F | CONFERENCE 13101 Room G314/315, North - 3F | CONFERENCE 13102 Room G318/319, North - 3F | CONFERENCE 13103 Room G312/313, North - 3F |
|---|---|---|---|---|---|---|
| | **MONDAY 17 June 2024** | | | | | |
| | | | | | | |
| | Coffee Break | Coffee Break | Coffee Break | Coffee Break | | Coffee Break |
| | SESSION 1: **Site and Facility Operations I** | SESSION 5: **Series Production/ Information and Configuration and Quality Management** | SESSION 5: **Calibration, Test and Metrology I** | SESSION 4: **Instrumenta-tion Control** | | SESSION 4: **Infrared Detectors II** |
| | Lunch Break | Lunch Break | Lunch Break | Lunch Break | | Lunch Break |
| | SESSION 2: **Observation Planning and Scheduling I** | SESSION 6: NOTE ROOM CHANGE G403/404, North - 4F **Modeling as a Driver of Observatory Design** ***Joint Session with 13094 and 13099*** | SESSION 6: **Calibration, Test and Metrology II** | SESSION 5: **AI and ML Applied to Control**<br>**Lighting Talks** | | SESSION 5: **CCDs and Single Photon Detectors I** |
| | Coffee Break | Coffee Break | Coffee Break | Coffee Break | | Coffee Break |
| | SESSION 3: **Site and Facility Operations II** | SESSION 6 CONTINUED | SESSION 7: **Adaptive Optics, Active Instruments and Vibrations** | SESSION 6: **Data Management, Processing and Pipelines I** | | SESSION 6: **X-Ray I** |
| | | **POSTER SESSION** | | | | **POSTER SESSION** |

# DAILY CONFERENCE SCHEDULE

| TIME | CONFERENCE 13092 Room G303/304, North - 3F | CONFERENCE 13093 Room G414/415, North - 4F | CONFERENCE 13094 Room G403/404, North - 4F | CONFERENCE 13095 Room G416/417, North - 4F | CONFERENCE 13096 Room G401/402, North - 4F | CONFERENCE 13097 Room G301/302, North - 3F |
|---|---|---|---|---|---|---|
| **TUESDAY 18 JUNE 2024** | | | | | | |
| **MORNING** | **TUESDAY PLENARY**<br>Room: National Convention Hall, 1F<br>08:30 - 09:15 \| 13173-502<br>**The present and future of Japan's space program** *(Plenary Presentation)*, Saku Tsuneta, National Astronomical Observatory of Japan (Japan)<br>09:15 - 10:00 \| 13173-503<br>**NASA astrophysics: from today to the Habitable Worlds Observatory** *(Plenary Presentation)*, Mark Clampin, NASA (United States); John M. O'Meara, W. M. Keck Observatory (United States) | | | | | |
| | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break |
| | SESSION 9: **JWST** | SESSION 9: **Optics I** | SESSION 6: **Commissioning** | SESSION 4: **Current and Planned Facilities IV** | SESSION 8: **Instruments for Extremely Large Telescopes I** | SESSION 13: **Astronomy with Adaptive Optics I** |
| | SESSION 10: **Exoplanet Time Series Observations I** | | | | | SESSION 14: **Astronomy with Adaptive Optics II** |
| **AFTERNOON** | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break |
| | SESSION 11: **Exoplanet Time Series Observations II** | SESSION 10: **Optics II** | SESSION 7: **Commissioning & Ops I** | SESSION 5: **Current and Planned Facilities V** | SESSION 9: **Instruments for Extremely Large Telescopes II** | SESSION 15: **New Applications of Adaptive Optics** |
| | | | | SESSION 6: **Critical Subsystems I** | | SESSION 16: **New Proposed Concepts** |
| | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break |
| | SESSION 12: **Exoplanet Time Series Observations III** | SESSION 11: **Operational Missions** | SESSION 8: **Commissioning & Ops II** | SESSION 7: **Critical Subsystems II** | SESSION 10: **Solar Instruments** | SESSION 17: **Community Development: Future Needs & Strategies** |
| | | | | | | SESSION 18: **Discussion Session** |
| 17:30 - 19:00 | **POSTER SESSION** | | **POSTER SESSION** | **POSTER SESSION** | **POSTER SESSION** | **POSTER SESSION** |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| | CONFERENCE 13098 Room G316/317, North - 3F | CONFERENCE 13099 Room G213, North - 2F | CONFERENCE 13100 Room G214, North - 2F | CONFERENCE 13101 Room G314/315, North - 3F | CONFERENCE 13102 Room G318/319, North - 3F | CONFERENCE 13103 Room G312/313, North - 3F |
|---|---|---|---|---|---|---|
| | **TUESDAY 18 JUNE 2024** | | | | | |
| | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break |
| | SESSION 4: **Diversity and Inclusion** | SESSION 7: **Reliability, Availability, Maintainability, Safety** | SESSION 8: **Optics and Support Systems** | SESSION 7: **AI and ML** | SESSION 1: **Imagers and Polarimeters I** | SESSION 7: **CMOS Image Sensors** |
| | SESSION 5: **Data Flow and Management I** | | | | | SESSION 8: **CMOS I** |
| | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break |
| | SESSION 6: **Data Flow and Management II** | SESSION 8: **Integrated and Optics Modelling II** | SESSION 9: **Telescope Structures, Domes and Additive Manufacturing** | SESSION 8: **Cloud Technologies/ Adoption** | SESSION 2: **CMB Instruments I** | SESSION 9: **CMOS II** |
| | | | | PANEL DISCUSSION: **Cyber-Security Round Table** | | SESSION 10: **Camera** |
| | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break |
| | SESSION 7: **Site and Facility Management** | SESSION 9: **Systems Engineering Management II** | SESSION 10: **Spectroscopy: Gratings, Dispersers and Image Slicers I** | SESSION 9: **Observatory/ Telescope Control II** | SESSION 3: **New Instruments and Concepts I** | SESSION 11: **Infrared Detectors** |
| | | | | **POSTER SESSION** | **POSTER SESSION** | **POSTER SESSION** |

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# DAILY CONFERENCE SCHEDULE

| TIME | CONFERENCE 13092 Room G303/304, North - 3F | CONFERENCE 13093 Room G414/415, North - 4F | CONFERENCE 13094 Room G403/404, North - 4F | CONFERENCE 13095 Room G416/417, North - 4F | CONFERENCE 13096 Room G401/402, North - 4F | CONFERENCE 13097 Room G301/302, North - 3F |
|---|---|---|---|---|---|---|
| **WEDNESDAY 19 JUNE 2024** | | | | | | |
| **MORNING** | **WEDNESDAY PLENARY**<br>Room: National Convention Hall, 1F<br>08:30 - 09:15 \| 13173-504<br>**Euclid mission: first year of operations** *(Plenary Presentation),* René J. Laureijs, European Space and Technology Centre (ESTEC) (Netherlands)<br>09:15 - 10:00 \| 13173-505<br>**The ultraviolet explorer: new views of the UV universe** *(Plenary Presentation)***,** Fiona A. Harrison, Caltech (United States) | | | | | |
| | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break |
| | SESSION 13: **Exoplanet Imaging I: JWST, Roman, and Technology Roadmaps for HWO** | SESSION 12: **XRISM I** | SESSION 9: **ELTs** | SESSION 8: **Technologies I** | SESSION 11: **AO Instrument I** | SESSION 19: **Focal Plane Wavefront Sensing** |
| | | | SESSION 10: **Astronomy Community Relationships** | | | SESSION 20: **Pyramid Wavefront Sensors** |
| **AFTERNOON** | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break |
| | SESSION 14: **Exoplanet Imaging II: Towards the Habitable Worlds Observatory** | SESSION 13: **XRISM II** | SESSION 11: **Gravitational Wave Observatories** | SESSION 9: **Technologies II** | SESSION 12: **High-dispersion Spectrographs II** | SESSION 21: **Zernike Wavefront Sensors** |
| | | | SESSION 12: **ELT Enabling Technologies I** | SESSION 10: **Aperture Masking Interferometry I** | | SESSION 22: **Wavefront Sensing Testbeds I** |
| | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break |
| | SESSION 15: **Exoplanet Imaging III: Emerging Technologies for Photonics and Detectors** | SESSION 14: **Detectors** | SESSION 13: **ELT Enabling Technologies II** | SESSION 11: **Aperture Masking Interferometry II** | SESSION 13: **Instruments with New Concept/ Technologies II** | SESSION 23: **Wavefront Sensing Testbeds II** |
| | | | | | | SESSION 24: **Alternative Wavefront Sensors** |
| 17:30 - 19:00 | **POSTER SESSION** | **POSTER SESSION** | | **POSTER SESSION** | **POSTER SESSION** | **POSTER SESSION** |

| | CONFERENCE 13098 Room G316/317, North - 3F | CONFERENCE 13099 Room G213, North - 2F | CONFERENCE 13100 Room G214, North - 2F | CONFERENCE 13101 Room G314/315, North - 3F | CONFERENCE 13102 Room G318/319, North - 3F | CONFERENCE 13103 Room G312/313, North - 3F |
|---|---|---|---|---|---|---|
| | **WEDNESDAY 19 JUNE 2024** | | | | | |
| | Coffee Break | | Coffee Break | Coffee Break | Coffee Break | Coffee Break |
| | SESSION 8: **Operations Planning and Scheduling II** | | SESSION 11: **Spectroscopy: Gratings, Dispersers and Image Slicers II** | SESSION 10: **Data Management, Processing and Pipelines II** | SESSION 4: **CMB Instruments II** | SESSION 12: **CCDs and Single Photon Detectors II** |
| | Lunch/ Exhibition Break | | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break |
| | SESSION 9: **Site and Facility Operations IV** | | SESSION 12: **Coatings, Dichroics, Filters and Metasurfaces I** | SESSION 11 **Cyber-infrastructure**<br>PANEL DISCUSSION: **Gender Balance in the Conference** | SESSION 5: **Detectors** | SESSION 13: **Test and Modeling** |
| | Coffee Break | | Coffee Break | Coffee Break | Coffee Break | Coffee Break |
| | SESSION 10: **Observatory Benchmarks and Metrics** | | SESSION 13: **Coatings, Dichroics, Filters and Metasurfaces II**<br>**Poster Pop Presentations** | SESSION 12: **Data Engineering** | SESSION 6: **Optics and Components I** | SESSION 14: **X-Ray II** |
| | **POSTER SESSION** | | **POSTER SESSION** | **POSTER SESSION** | **POSTER SESSION** | |

# DAILY CONFERENCE SCHEDULE

| TIME | CONFERENCE 13092 Room G303/304, North - 3F | CONFERENCE 13093 Room G414/415, North - 4F | CONFERENCE 13094 Room G403/404, North - 4F | CONFERENCE 13095 Room G416/417, North - 4F | CONFERENCE 13096 Room G401/402, North - 4F | CONFERENCE 13097 Room G301/302, North - 3F |
|---|---|---|---|---|---|---|
| **THURSDAY 20 JUNE 2024** | | | | | | |
| **MORNING** | **THURSDAY PLENARY**<br>Room: National Convention Hall, 1F<br>08:30 - 09:15 \| 13173-506<br>**Navigating the radio astronomy renaissance: challenges and opportunities for a sustainable future** *(Plenary Presentation),* Jessica T. Dempsey, ASTRON and Radbound Univ. (Netherlands)<br>09:15 - 10:00 \| 13173-507<br>**The x-ray imaging and spectroscopy mission (XRISM): development and expected science** *(Plenary Presentation)***,** Makoto S. Tashiro, Saitama Univ. (Japan) | | | | | |
| | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break |
| | SESSION 16: **Exoplanet Imaging IV: Technology Testbed Results** | SESSION 15: **Missions I** | SESSION 14: **Future Observatories I** | SESSION 12: **Data Processing, Analysis, Access, and Discovery I** | SESSION 14: **Wide Field Imager** | SESSION 25: **ELTs: AO Systems Status I**<br>SESSION 26: **AO Systems Status II** |
| **AFTERNOON** | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break |
| | SESSION 17: **Exoplanet Imaging V: Technology Testbed Results** | SESSION 16: **Missions II** | SESSION 15: **Future Observatories II** | SESSION 13: **Data Processing, Analysis, Access, and Discovery II** | SESSION 15: **Wide-band Spectrographs**<br>SESSION 16: **AO Instrument II** | SESSION 27: **ELTs: AO Systems Testing**<br>SESSION 28: **Realtime Control Systems I** |
| | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break |
| | SESSION 18: **Submillimeter Sky Surveys** | SESSION 17: **Missions Probe Class Proposals** | SESSION 16: **Robotic Telescopes** | SESSION 14: **Space Interferometry Technology I**<br>**Michelson and Fizeau Prize** | SESSION 17: **IFS II** | SESSION 29: **Realtime Control Systems II**<br>SESSION 30: **Sensing & Correction of Wavefront Fragmentation** |
| 17:30 - 19:00 | **POSTER SESSION** | | | **POSTER SESSION** | **POSTER SESSION** | **POSTER SESSION** |

| | CONFERENCE 13098 Room G316/317, North - 3F | CONFERENCE 13099 Room G213, North - 2F | CONFERENCE 13100 Room G214, North - 2F | CONFERENCE 13101 Room G314/315, North - 3F | CONFERENCE 13102 Room G318/319, North - 3F | CONFERENCE 13103 Room G312/313, North - 3F |
|---|---|---|---|---|---|---|
| | **THURSDAY 20 JUNE 2024** | | | | | |
| | Coffee Break | | Coffee Break | Coffee Break | Coffee Break | |
| | SESSION 11: **Time Domain Astronomy** | | SESSION 14: **Optical Fibers, Positioners, Photonic Techniques I** | SESSION 13: **Data Management, Processing and Pipelines III** | SESSION 7: **Spectrometers I** | |
| | SESSION 12: **Site and Facility Operations V** | | | | | |
| | Lunch/ Exhibition Break | | Lunch/ Exhibition Break | Lunch/ Exhibition Break | Lunch/ Exhibition Break | |
| | SESSION 13: **Site and Facility Operations VI** | | SESSION 15: **Optical Fibers, Positioners, Photonic Techniques II** | SESSION 14: **Project Management/ Software Engineering** | SESSION 8: **Coherent Receiver Technology** | |
| | Coffee Break | | Coffee Break | | Coffee Break | |
| | SESSION 14: **Operations Planning and Scheduling III** | | SESSION 16: **High Contrast Imaging and Polarimetry** | | SESSION 9: **Detectors II** | |
| | | | **POSTER SESSION** | | **POSTER SESSION** | |

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# DAILY CONFERENCE SCHEDULE

| TIME | CONFERENCE 13092 Room G303/304, North - 3F | CONFERENCE 13093 Room G414/415, North - 4F | CONFERENCE 13094 Room G403/404, North - 4F | CONFERENCE 13095 Room G416/417, North - 4F | CONFERENCE 13096 Room G401/402, North - 4F | CONFERENCE 13097 Room G301/302, North - 3F |
|---|---|---|---|---|---|---|
| **FRIDAY 21 JUNE 2024** | | | | | | |
| **MORNING** | Session 19: **Time Domain II: High-Energy Transients** | SESSION 18: **Missions III** | SESSION 17: **Metrology & Alignment** | SESSION 15: **Space Interferometry Technology II** | | SESSION 31: **Laser Guide Star Technology**<br>SESSION 32: **Wavefront Modulating Devices** |
| | Coffee Break | Coffee Break | Coffee Break | Coffee Break | | Coffee Break |
| | SESSION 20: **Space Interferometry for Gravity Waves and Black Holes** | SESSION 19: **Missions IV**<br>SESSION 20: **Gamma and Polarimetry I** | SESSION 18: **Alignment & WFS** | SESSION 16: **Space Interferometry Technology III**<br>SESSION 17: **Future of Interferometry I** | | SESSION 33: **Adaptive Secondary Mirrors** |
| **AFTERNOON** | Lunch Break | Lunch Break | Lunch Break | Lunch Break | | Lunch Break |
| | SESSION 21: **Solar System and the Sun** | SESSION 21: **Gamma and Polarimetry II** | SESSION 19: **Opto-Mechanical Designs I** | SESSION 18: **Future of Interferometry II** | | **François Roddier Commemoration**<br>SESSION 34: **Atmospheric Turbulence Profiling** |
| | Coffee Break | | Coffee Break | Coffee Break | | Coffee Break |
| | SESSION 22: **Space Astronomy on the Surface of the Moon** | | SESSION 20: **Opto-Mechanical Designs II** | SESSION 19: **Future of Interferometry III**<br>SESSION 20: **Thesis Prize, Open Discussion, and Wrap Up** | | SESSION 35: **Postprocessing for Science Data** |

| | CONFERENCE 13098 Room G316/317, North - 3F | CONFERENCE 13099 Room G213, North - 2F | CONFERENCE 13100 Room G214, North - 2F | CONFERENCE 13101 Room G314/315, North - 3F | CONFERENCE 13102 Room G318/319, North - 3F | CONFERENCE 13103 Room G312/313, North - 3F |
|---|---|---|---|---|---|---|
| | **FRIDAY 21 JUNE 2024** | | | | | |
| | | | SESSION 17: **Technologies for Vacuum and Cryogenic Instruments I** | | SESSION 10: **New Instruments and Concepts II** | |
| | | | Coffee Break | | Coffee Break | |
| | | | SESSION 18: **Technologies for Vacuum and Cryogenic Instruments II** | | SESSION 11: **Multiplexing and Readout I** | |
| | | | Lunch Break | | Lunch Break | |
| | | | SESSION 19: **Novel and Disruptive Concepts** | | SESSION 12: **Detectors III** | |
| | | | **Award Ceremony** | | | |
| | | | | | Coffee Break | |
| | | | | | SESSION 13: **Spectrometers II** | |

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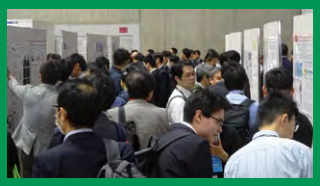

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# SPIE Astronomical Telescopes + Instrumentation Exhibition Directory

| | |
|---|---|
| TUESDAY 18 JUNE | 10:00 - 17:00 |
| WEDNESDAY 19 JUNE | 10:00 - 17:00 |
| THURSDAY 20 JUNE | 10:00 - 14:00 |

Exhibitors are listed in alphabetical order with full contact information and booth location. Company descriptions, product announcements, and other information are available on the SPIE App and on spie.org.

**FEATURED TECHNOLOGIES**

» Cameras and imaging systems
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» Filters, mirrors, and lenses
» Software for design and simulation
» Test and measurement equipment
» Computing, data processing hardware
» Optical coatings and thin films
» Positioning equipment
» Spectroscopy devices
» Vibration isolation equipment
» Laser components and accessories
» Signal analysis equipment

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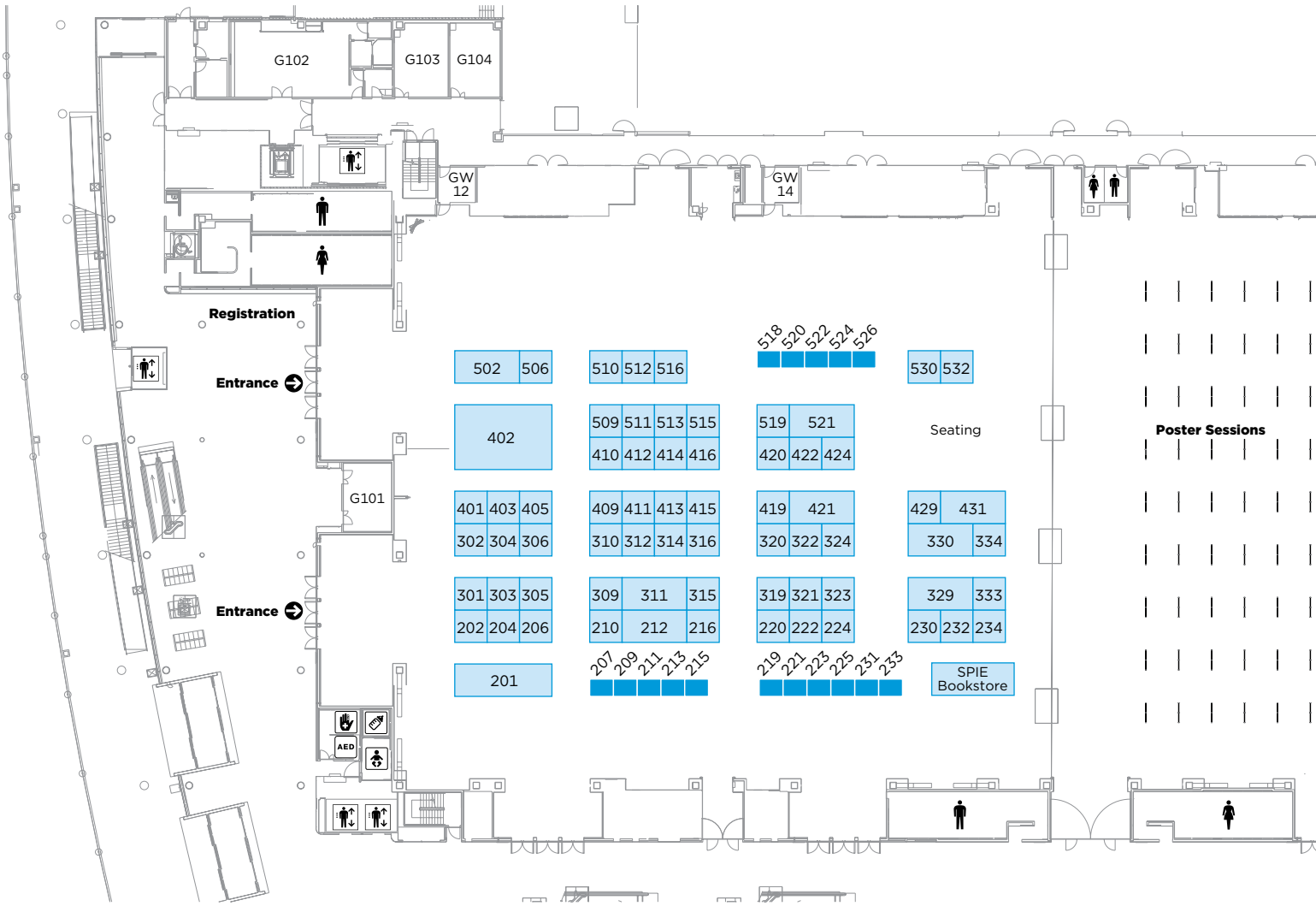
# EXHIBITOR FLOOR PLAN




# EXHIBITOR BOOTH LISTING

201 Teledyne Space Imaging
202 AVS Added Value Solutions
204 ICEX España Exportación e Inversiones, E.P.E
206 SENER Aeroespacial S.A.
207 Infrared Labs., Inc.
209 NexDome Observatories Inc.
210 Lytid SAS
211 StarSpec Technologies Inc.
212 National Astronomical Observatory of Japan
213 Thales SESO S.A.S.
215 DynaVac
216 QHYCCD
219 CILAS
220 Kogakugiken Corp.
221 Photonics Media/ Laurin Publishing
223 Luceo Co., Ltd.
224 Energetiq Technology, Inc.
224 Hamamatsu Photonics K.K.
225 Boston Micromachines Corp.
229 Wyse Light
230 Photonic Cleaning Technologies
233 Caeleste bv
234 ISAS/JAXA
301 TTI Norte SL
302 Fibertech Optica Inc.
303 Twoptics Systems Design SL
304 Leonardo UK Ltd.
305 FAGOR Automation S. Coop.
306 Nüvü Cameras Inc.
309 Centre for Advanced Instrumentation
310 Bluefors
311 Switzerland
312 Tokyo Instruments, Inc.
314 KYOCERA Corp.
315 KiwiStar Optics
316 MPS Micro Precision Systems AG
319 Officina Stellare S.p.A.
320 PlaneWave Instruments, Inc.
321 Tomelleri S.r.l.
322 Sea West Observatories
323 Asahi Spectra USA Inc.
324 CRYOVAC low temperature technologies
329 SCHOTT AG
330 IDOM
333 European Southern Observatory
334 Heraeus Conamic / Optics
401 4D Technology Corp.
402 ASTRON
402 cosine measurement systems
402 DEMCON Focal B.V.
402 Dutch United Instruments
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402 NOVA
402 SRON Netherlands Institute for Space Research
402 Technische Univ. Delft
402 TNO
402 VDL ETG
403 ASA Astrosysteme GmbH
405 EIE Group S.r.l.
409 Safran Reosc
410 ALPAO S.A.S.
411 Imagine Optic SA
412 ASTELCO Systems GmbH
413 Omega Optical Holdings, LLC
414 Sumitomo Heavy Industries, Ltd.
415 Green Optics Co., Ltd.
416 AMOS S.A.
419 Molex, LLC
420 Hellma Materials GmbH
421 OHB Digital Connect GmbH

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422 US Extremely Large Telescope Program
424 Luxel Corp.
429 MPB Communications Inc.
429 TOPTICA Projects GmbH
431 SPIE
431 SPIE Membership
502 Optimax Systems, Inc.
506 ANAX Optics Inc.
506 Zeeko Ltd.
509 Princeton Infrared Technologies, Inc.
510 Nihon Tokushu Kogaku Jushi Co., Ltd.
511 QED Optics
512 Sandvik Osprey Ltd.
513 Astro Haven Enterprises
515 KIYOHARA OPTICS Inc.
516 PHASICS S.A.
518 Andover Corp.
519 Bertin Technologies (Bertin Winlight)
520 CEDRAT TECHNOLOGIES SA
521 Ohara Inc.
522 Observatory Sciences Ltd.
524 Symétrie
526 Applied Surface Technologies
530 Oxford Instruments Andor
532 First Light Imaging S.A.S.

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Shanghai C-laser Materials Technology Ltd.
Shanghai Crylink Technology Co., Ltd.
Shanghai Optics Inc.
Shanghai PreciLasers Technology Co., Ltd.
Sheaumann Laser, Inc.
Shenzhen Solar Valley SciTech Development Co., Ltd.
Shenzhen Xinghan Laser Technology Co., Ltd.
Shincron Co., Ltd.
Shin-Etsu MicroSi, Inc.
SI Stuttgart Instruments GmbH
SiCART (Zhuhai) Technology Co., Ltd.
Sierra Precision Optics
Sierra-Olympia Technologies, Inc.
SILIOS Technologies
Sill Optics GmbH
Siskiyou Corporation
SmarAct Inc.
Somos IWT
son-x GmbH
Specim Spectral Imaging Ltd.
Spectrogon AB
Spectrogon UK Ltd.
Spectrogon US, Inc.
Spectrolight Inc.
Spectrum Scientific, Inc.
Spica Technologies, Inc.
SPO Precision Optics
SPU Optics Inc.
SRI International
Stanford Computer Optics, Inc.
Sunny Optical Technology (Group) Co. Ltd.
Sunny Technology
Superlum Diodes Ltd.
Surface Optics Corp.
Suzhou Everbright Photonics Co., Ltd.
Svenska Laserfabriken AB
Swabian Instruments GmbH
Swabian Instruments USA Inc.
SWIR Vision Systems
Sydor Optics, Inc.
Synopsys, Inc.
Syntec Optics
TAU Systems, Inc.
Taylor Hobson
Technica Optical Components, LLC
Technical Manufacturing Corp.
Tecnisco Ltd.
TelAztec LLC
Teledyne Acton Optics
Teledyne DALSA
Teledyne e2v UK Ltd.
Teledyne FLIR LLC
Teledyne Imaging
Teledyne Imaging Sensors
Teledyne Judson Technologies
Teledyne Lumenera
Teledyne Photometrics
Teledyne Princeton Instruments
Teledyne Scientific & Imaging, LLC
TeraXion Inc.
The Aerospace Corp.
The Institute of Optics, Univ. of Rochester
Thermo Fisher Scientific Inc.
ThinFilms, Inc.
Thorlabs, Inc.
TLC International World Headquarters
TOPTICA Photonics AG
TOPTICA Photonics, Inc.
Torrent Photonics
Tower Optical Corp.
TriLite Technologies GmbH
TRIOPTICS GmbH
TRIOPTICS USA
TRUMPF Inc.
TRUMPF Scientific Lasers GmbH + Co. KG
Tucsen Photonics Co., Ltd.
Turning Point Lasers Corporation
TwinStar Optics, Coatings & Crystals, Inc.
Twoptics Systems Design SL
Tydex
Umicore Optical Materials USA, Inc.
UNI Optics Co., Ltd.
Universal Photonics Inc.
Valtech Corp.
Vermont Photonics Technologies Corp.
Vertilite Inc.
Vescent Photonics Inc.
ViALUX GmbH
ViaSat, Inc.
Viavi Solutions Inc.
Video Scope International, Ltd.
Video Systems Srl
Videology Industrial-Grade Cameras, an inTEST Co.
Vincent Associates
VisiMax Technologies, Inc.
Vital Optics Technology Co., Ltd.
V-Optics SAS
Vortex Optical Coatings Ltd.
VORTRAN Laser Technology
Walk Laser Optics, LLC
Wasatch Photonics, Inc.
Wavelength Electronics, Inc.
Wavelength Opto-Electronic (S) Pte. Ltd.
WEINERT Fiber Optics, Inc.
WINHO Optical Mfg. Co., Ltd.
World Star Tech
Wuhan Union Optic, Inc.
Wyant College of Optical Sciences
Wyse Light
WZW-Optic AG
Xcimer Energy, Inc.
XIMEA Corp.
Xinxin Gem Technology Group LLC
XONOX Technology Inc.
Youopto Technology Co., Ltd.
YSL Photonics
Z & Z Optoelectronics Tech. Co., Ltd.
Zaber Technologies Inc.
ZAZA, Inc.
Zemax, LLC
Zhejiang Lante Optics Co., Ltd.
Zhongshan Meisu Technology Co., Ltd.
Z-Optics Co., Ltd.
Zygo Corporation

*As of 4/2024*

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# CONFERENCE 13092

# Space Telescopes and Instrumentation 2024: Optical, Infrared, and Millimeter Wave

**16 - 21 June 2024 | Room G303/304, North - 3F**

***Conference Chair(s):*** **Laura E. Coyle,** Ball Aerospace (United States); **Shuji Matsuura,** Kwansei Gakuin Univ. (Japan); **Marshall**
**D. Perrin,** Space Telescope Science Institute (United States)

***Program Committee:*** **Pin Chen,** Jet Propulsion Lab. (United States); **Jeanette L. Domber,** Ball Aerospace (United States); **Christopher J. Evans,** European Space Agency (United States); **Giovanni G. Fazio,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Matthew J. Griffin,** Cardiff Univ. (United Kingdom); **Tyler D. Groff,** NASA Goddard Space Flight Ctr. (United States); **Frank U. Grupp,** Univ.-Sternwarte München (Germany); **Astrid Heske,** Retired, European Space Research and Technology Ctr. (Netherlands); **Sylvestre Lacour,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Amy Lo,** Northrop Grumman Corp. (United States); **Elisa V. Quintana,** NASA Goddard Space Flight Ctr. (United States); **Anamparambu N. Ramaprakash,** Inter-Univ. Ctr. for Astronomy and Astrophysics (India); **Dmitry Savransky,** Cornell Univ. (United States); **Motohide Tamura,** National Astronomical Observatory of Japan (Japan); **Gillian S. Wright,** UK Astronomy Technology Ctr. (United Kingdom)

## Sunday 16 June 2024

### SESSION 1: SUSTAINABLY DEVELOPING TECHNOLOGIES AND CAREERS

16 June 2024 • 09:00 AM - 10:00 AM | Room G303/304, North - 3F
*Session Chair(s):* **Marshall D. Perrin**, Space Telescope Science Institute (United States)

13092-1 • 09:00 AM - 09:20 AM
**How NASA Astrophysics supports future technologies and technologists**
*Author(s):* **Dominic J. Benford, Mario R. Perez,** NASA (United States)

13092-2 • 09:20 AM - 09:40 AM
**Enabling development of early career scientists and technologists while implementing a space mission: Pandora's approach**
*Author(s):* **Jessie Dotson,** NASA Ames Research Ctr. (United States); **Elisa V. Quintana**, **Knicole Colon**, **Thomas Barclay, Christina L. Hedges,** NASA Goddard Space Flight Ctr. (United States)

13092-3 • 09:40 AM - 10:00 AM
**Lesson of newness and solutions**
*Author(s):* **Jonathan W. Arenberg**, **Tiffany M. Glassman, Charles Atkinson,** Northrop Grumman Corp. (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 2: MISSION CONCEPTS WITH SMALL SPACECRAFT

16 June 2024 • 10:30 AM - 12:10 PM | Room G303/304, North - 3F
*Session Chair(s):* **Laura E. Coyle**, BAE Systems, Inc. (United States)

13092-4 • 10:30 AM - 10:50 AM
**CuRIOS-ED: the technology demonstrator for the CubeSats for Rapid Infrared and Optical Surveys mission**
*Author(s):* **Hannah Gulick**, **Jessica Lu**, **Aryan Sood**, **Steve Beckwith**, **Josh Bloom**, **Guy Nir**, **Harrison Lee,** Univ. of California, Berkeley (United States); **Kodi Rider,** Space Sciences Lab., Univ. of California, Berkeley (United States); **Jeremy McCauley,** Space Sciences Lab. (United States), Univ. of California, Berkeley (United States)

13092-5 • 10:50 AM - 11:10 AM
**The CubeSpec mission: high resolution spectroscopy from a CubeSat**
*Author(s):* **Bart Vandenbussche**, **Gert Raskin**, **Hugues Sana**, **Jeroen De Maeyer**, **Dirk Vandepitte**, **Pierre Royer**, **Andrew Tkachanko**, **Sibo**

**Van Gool**, **Jorden Windey**, **Philippe Neuville**, **Dominic Bowman**, **Johan Morren**, **Jake Pember**, **Maddalena Reggiani**, **Wim De Munter**, **Maarten Kempenaers**, **Leonardo Peri,** KU Leuven (Belgium); **Bram Vandorden**, **Tjorven Delabie,** Arcsec (Belgium); **Philippe Saey, Arne Verhoeven,** KU Leuven (Belgium)

13092-6 • 11:10 AM - 11:30 AM

**Calibration for Astrophysics using an Artificial star with NIST-traceable Distribution of Luminous Energy (CANDLE) Instrument Development**

*Author(s):* **Eliad Peretz,** NASA Goddard Space Flight Ctr. (United States); **Susana Deustua**, **Joe Rice**, **Brian Alberding,** National Institute of Standards and Technology (United States); **Greg Aldering,** Univ. of California, Berkeley (United States), Lawrence Berkeley National Lab. (United States); **Daniel Küsters,** Univ. of California, Berkeley (United States); **Ralph Bohlin,** Space Telescope Science Institute (United States); **Dmitry Vorobiev,** Lab. for Atmospheric and Space Physics (United States); **Keshet Shavit**, **Thinh Bui,** National Institute of Standards and Technology (United States); **Jonathan Papa,** NASA Goddard Space Flight Ctr. (United States); **Benjamin Rose,** Duke Univ. (United States); **Peter Plavchan,** George Mason Univ. (United States); **Angelle Tanner,** Mississippi State Univ. (United States); **Peter Pachowicz,** George Mason Univ. (United States); **Eric Shirley,** National Institute of Standards and Technology (United States); **Justin Albert,** Univ. of Victoria (Canada)

13092-7 • 11:30 AM - 11:50 AM

**The Line Imaging Orbiter for Nanosatellite-Enabled Spectrographic Surveys (LIONESS)**

*Author(s):* **Matthew Werneken**, **David Schiminovich**, **David McIntosh**, **Ines Khouider**, **Bruno Rergis**, **Robert Pendergrast**, **Nidhi Shah**, **Nicholas de la Cruz**, **Naya Nwokorie**, **Yiyang Peng**, **Kathryn Lampo**, **Michael Kolber**, **Aaroosh Ramadorai, Manuella Kwawu,** Columbia Univ. (United States)

13092-8 • 11:50 AM - 12:10 PM

**Study of a deep space microsatellite mission for planetary habitability observation**

*Author(s):* **Jilin Liu**, **Zhuoxi Huo**, **Xiaojing Zhang, Qinglin Ouyang,** China Academy of Aerospace Science and Innovation (China)

## Lunch Break 12:10 PM - 01:30 PM

## SESSION 3: TIME DOMAIN I: ASTROMETRY AND DYNAMICS

16 June 2024 • 01:30 PM - 02:30 PM | Room G303/304, North - 3F

*Session Chair(s):* **Laura E. Coyle**, BAE Systems, Inc. (United States)

13092-9 • 01:30 PM - 01:50 PM

**Conceptual design of the satellite payload for the JASMINE mission**

*Author(s):* **Hirokazu Kataza,** Japan Aerospace Exploration Agency (Japan); **Ryouhei Kano**, **Naoteru Gouda**, **Masayuki Hirabayashi,** National Astronomical Observatory of Japan (Japan); **Naoki Isobe,** Japan Aerospace Exploration Agency (Japan); **Takafumi Kamizuka,** Institute of Astronomy, The Univ. of Tokyo (Japan); **Shingo Kashima,** National Astronomical Observatory of Japan (Japan); **Hajime Kawahara,** Japan Aerospace Exploration Agency (Japan); **Daisuke Kawata,** Mullard Space Science Lab., Univ. College London (United Kingdom); **Naoki Kohara,** National Astronomical Observatory of Japan (Japan); **Iona Kondo,** Japan Aerospace Exploration Agency (Japan); **Ichiro Mase**, **Kohei Miyakawa**, **Ryou Ohsawa**, **Masanobu Ozaki**, **Risa Shimizu**, **Yoshinori Suematsu,** National Astronomical Observatory of Japan (Japan); **Shotaro Tada,** The Graduate Univ. for Advanced Studies (Japan); **Toshihiro Tsuzuki**, **Fumihiro Uraguchi,** National Astronomical Observatory of Japan (Japan); **Fumihiko Usui,** Japan Aerospace Exploration Agency (Japan); **Shin Utsunomiya**, **Takehiko Wada,** National Astronomical Observatory of Japan (Japan); **Yoshiyuki Yamada,** Kyoto Univ. (Japan); **Taihei Yano,** National Astronomical Observatory of Japan (Japan)

13092-10 • 01:50 PM - 02:10 PM

**Challenges in focal plane and telescope calibration for High-Precision Space Astrometry**

*Author(s):* **Fabien Malbet**, **Manon Lizzana**, **Fabrice Pancher,** Institut de Planétologie et d'Astrophysique de Grenoble, Univ. Grenoble Alpes, CNRS (France); **Thierry Lépine,** Lab. Hubert Curien, Institut d'Optique Graduate School (France); **Alain Léger,** Institut d'Astrophysique Spatiale, Univ. Paris-Saclay, CNRS (France); **Gary Mamon,** Institut d'Astrophysique de Paris, Sorbonne Univ., CNRS (France); **Alessandro Sozzetti,** INAF - Osservatorio Astrofisico di Torino (Italy); **Lucas Labadie,** Univ. zu Köln (Germany); **Pierre-Olivier Lagage,** Univ. Paris-Saclay (France), CEA (France); **Alberto Riva, Deborah Busonero,** INAF - Osservatorio Astrofisico di Torino (Italy)

13092-11 • 02:10 PM - 02:30 PM

**Getting to know the neighbours: Earth analogues in Alpha Centauri with the TOLIMAN space telescope**

*Author(s):* **Peter G. Tuthill**, **Christopher Betters**, **Max Charles**, **Fred Crous,** The Univ. of Sydney (Australia); **Conaire Deagan,** The Univ. of New South Wales (Australia); **Louis Desdoigts,** The Univ. of Sydney (Australia); **David S. Doelman,** Leiden Univ. (Netherlands); **Mark George,** The Univ. of Sydney (Australia); **Kyran Grattan,** Breakthrough Initiatives (Luxembourg); **Olivier Guyon,** The Univ. of Arizona (United States); **Thomas Holland,** The Univ. of Sydney (Australia); **Peter Klupar,** Breakthrough Prize Foundation (United States); **Connor J. Langford**, **Kieran G. Larkin**, **Clarissa J. Luk,** The Univ. of Sydney (Australia); **Ben Montet,** The Univ. of New South Wales (Australia); **Jack Nelson,** The Univ. of Sydney (Australia); **Benjamin Pope,** The Univ. of Queensland (Australia); **Frans Snik,** Leiden Univ. (Netherlands); **Adam K. Taras**, **Alison Wong,** The Univ. of Sydney (Australia); **Simon P. Worden,** Breakthrough Prize Foundation (United States)

## SESSION 4: FAR INFRARED MISSION CONCEPTS I

16 June 2024 • 02:30 PM - 03:30 PM | Room G303/304, North - 3F
*Session Chair(s):* **Shuji Matsuura**, Kwansei Gakuin Univ. (Japan)

13092-12 • 02:30 PM - 02:50 PM
**The legacy of SOFIA and perspectives on the far-infrared**
*Author(s):* **Aaron Bryant,** Deutsches SOFIA Institut, Univ. Stuttgart (Germany); **Alfred Krabbe,** Deutsches SOFIA Institut (Germany); **Bernhard Schulz**, **Philipp Maier,** Deutsches SOFIA Institut, Univ. Stuttgart (Germany); **Hans Zinnecker,** Univ. Autónoma de Chile (Chile)

13092-13 • 02:50 PM - 03:10 PM
**Single Aperture Large Telescope for Universe Studies (SALTUS)**
*Author(s):* **Christopher K. Walker,** Steward Observatory, The Univ. of Arizona (United States); **Jonathan W. Arenberg,** Northrop Grumman Corp. (United States); **Yuzuru Takashima**, **Daewook Kim,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Daniel P. Marrone,** Steward Observatory, The Univ. of Arizona (United States); **Gordon Chin**, **Carrie M. Anderson,** NASA Goddard Space Flight Ctr. (United States); **Craig A. Kulesa,** Steward Observatory, The Univ. of Arizona (United States); **Leon Harding,** Northrop Grumman Corp. (United States); **Peter R. Roelfsema,** SRON Netherlands Institute for Space Research (Netherlands); **Trent Newswander,** Space Dynamics Lab. (United States)

13092-14 • 03:10 PM - 03:30 PM
**SAFARI-lite on SALTUS: taking FarIR spectroscopy of the obscured universe to the next level**
*Author(s):* **Peter R. Roelfsema**, **Gert de Lange**, **Wouter M. Laauwen**, **Stephen Yates**, **Jose Silva**, **Jian-Rong Gao,** SRON Netherlands Institute for Space Research (Netherlands); **Christopher K. Walker,** The Univ. of Arizona (United States)

### Coffee Break 03:30 PM - 04:00 PM

## SESSION 5: FAR INFRARED MISSION CONCEPTS II

16 June 2024 • 04:00 PM - 06:00 PM | Room G303/304, North - 3F
*Session Chair(s):* **Shuji Matsuura**, Kwansei Gakuin Univ. (Japan)

13092-15 • 04:00 PM - 04:20 PM
**Far-Infrared Spectroscopy Space Telescope (FIRSST)**
*Author(s):* **Asantha Cooray,** Univ. of California, Irvine (United States); **Meredith MacGregor,** Johns Hopkins Univ. (United States); **Ronald J. Vervack,** Johns Hopkins Univ. Applied Physics Lab., LLC (United States); **Uma Gorti,** SETI Institute (United States); **Vivian U,** Univ. of California, Irvine (United States); **Gordon J. Stacey,** Cornell Univ. (United States); **Martina C. Wiedner,** Observatoire de Paris (France); **Paul K. Grimes,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Andrey Baryshev,** Kapteyn Astronomical Institute (Netherlands); **Karwan Rostem,** NASA Goddard Space Flight Ctr. (United States); **Thomas Nikola,** Cornell Univ. (United States)

13092-16 • 04:20 PM - 04:40 PM
**FIRSST: Direct Detection Spectrometer Instrument**
*Author(s):* **Karwan Rostem,** NASA Goddard Space Flight Ctr. (United States); **Gordon J. Stacey**, **Thomas Nikola,** Cornell Univ. (United States); **Jake Connors**, **Alexander S. Kutyrev**, **Edward J. Wollack,** NASA Goddard Space Flight Ctr. (United States); **Lorenza Ferrari,** SRON Netherlands Institute for Space Research (Netherlands); **Isaiah Franka**, **Beck Fritzche**, **Michelle Goldman**, **Yongsu Kim**, **Chanda Walker,** Ball Aerospace (United States); **Michael B. Zemcov,** Rochester Institute of Technology (United States)

13092-17 • 04:40 PM - 05:00 PM
**FIRSST: Heterodyne Spectroscopy Instrument**
*Author(s):* **Martina C. Wiedner,** Observatoire de Paris (France); **Andrey Baryshev,** Kapteyn Astronomical Institute (Netherlands), Univ. of Groningen (Netherlands); **Paul K. Grimes,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Asantha Cooray,** Univ. of California, Irvine (United States); **Meredith MacGregor,** Johns Hopkins Univ. (United States); **Uma Gorti,** NASA Ames Research Ctr. (United States); **Ronald J. Vervack,** Johns Hopkins Univ. Applied Physics Lab., LLC (United States); **Victor Belitsky**, **Vincent Desmaris,** Chalmers Univ. of Technology (Sweden); **Yan Delorme,** Observatoire de Paris (France); **Juan-Daniel Gallego,** Observatorio Astronómico Nacional (Spain); **Paul Hartogh,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Netty Honingh,** Univ. zu Köln (Germany); **Bernd Klein,** Max-Planck-Institut für Radioastronomie (Germany); **Jean-Michel Krieg,** Observatoire de Paris (France); **Gary Melnick,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Sebastiano Ligori,** INAF - Osservatorio Astrofisico di Torino (Italy); **Boon-Kok Tan,** Univ. of Oxford (United Kingdom); **Bertrand Thomas,** Radiometer Physics GmbH (Germany); **Volker Tolls,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Jeanne Treuttel**, **Jérôme Valentin,** Observatoire de Paris (France); **David Clements,** Imperial College London (United Kingdom); **Ray Blundell,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Martin Cordiner,** NASA Goddard Space Flight Ctr. (United States); **Brandt Gaches,** Chalmers Univ. of Technology (Sweden); **Cristina Gracia Miro,** Observatorio Astronómico de Yebes (Spain); **Maryvonne Gerin,** Observatoire de Paris (France); **Leslie Hunt,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **David Neufeld,** Johns Hopkins Univ. (United States); **Tushara Pillai,** MIT Haystack Observatory (United States); **Maxime Ruaud,** NASA Ames Research Ctr. (United States); **Silvia Spezzano,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Floris van der Tak,** SRON Netherlands Institute for Space Research (Netherlands)

13092-18 • 05:00 PM - 05:20 PM
**PRIMA: the PRobe far-Infrared Mission for Astrophysics**
*Author(s):* **Jason Glenn,** NASA Goddard Space Flight Ctr. (United States); **Margaret Meixner**, **Charles M. Bradford**, **Klaus M. Pontoppidan,** Jet Propulsion Lab. (United States); **Erin A. Pope,** Univ. of Massachusetts Amherst (United States); **Tiffany Kataria**, **Elizabeth Luthman**, **Marc C. Foote**, **Matthew B. Johnson,** Jet Propulsion Lab. (United States); **Matthew Cannella,** Ball Aerospace (United States); **Alan M. Didion,** Jet Propulsion Lab. (United States); **Richard Dissly,** Ball Aerospace (United States); **Jennifer M. Rocca**, **John K. Ziemer,** Jet Propulsion Lab. (United States); **Lee Armus,** IPAC (United States); **Jochem Baselmans,** SRON Netherlands Institute for Space Research (Netherlands); **Cara Battersby,** Univ. of Connecticut (United States); **Alberto Bolatto,** Univ. of Maryland, College Park (United States); **Denis Burgarella**, **Laure Ciesla,** Lab. d'Astrophysique de Marseille (France); **Anna Maria Di Giorgio**, **Carlotta Gruppioni,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Thomas Henning**, **Oliver Krause,** Max-Planck-Institut für Astronomie (Germany); **Brandon S. Hensley,** Jet Propulsion Lab. (United States); **Willem Jellema,** SRON Netherlands Institute for Space Research (Netherlands); **Elisabeth Mills,** The Univ. of Kansas (United States); **Arielle Moullet,** National Radio Astronomy Observatory (United States); **Marc Sauvage,** French Alternative Energies and Atomic Energy Commission (France); **John D. Smith,** The Univ. of Toledo (United States); **Rachel Somerville,** Flatiron Institute (United States); **Johannes G. Staguhn,** Johns Hopkins Univ. (United States)

13092-19 • 05:20 PM - 05:40 PM
**PRIMA: PRIMAger, a far-infrared hyperspectral and polarimetric instrument**
*Author(s):* **Laure Ciesla**, **Denis Burgarella,** Lab. d'Astrophysique de Marseille (France); **Charles D. Dowell,** Jet Propulsion Lab. (United States); **Marc Sauvage,** CEA (France); **Jochem Baselmans,** SRON Netherlands Institute for Space Research (Netherlands); **Charles M. Bradford,** Jet Propulsion Lab. (United States); **Lorenza Ferrari,** SRON Netherlands Institute for Space Research (Netherlands); **Johan D. Floriot,** Lab. d'Astrophysique de Marseille (France); **Jason Glenn,** NASA Goddard Space Flight Ctr. (United States); **Matthew J. Griffin,** Cardiff Univ. (United Kingdom); **Willem Jellema,** SRON Netherlands Institute for Space Research (Netherlands); **Elizabeth Luthman,** Jet Propulsion Lab. (United States); **Laurent Martin**, **Tony Pamplona**, **Éric Prieto,** Lab. d'Astrophysique de Marseille (France); **Thomas Prouvé,** CEA (France); **Johannes G. Staguhn,** NASA Goddard Space Flight Ctr. (United States); **Carole Tucker,** Cardiff Univ. (United Kingdom)

13092-20 • 05:40 PM - 06:00 PM
**The Far-Infrared Enhanced Survey Spectrometer (FIRESS) for PRIMA**
*Author(s):* **Charles M. Bradford,** Jet Propulsion Lab. (United States); **Jason Glenn,** NASA Goddard Space Flight Ctr. (United States); **Margaret Meixner**, **Klaus M. Pontoppidan,** Jet Propulsion Lab. (United States); **Alan Kogut,** NASA Goddard Space Flight Ctr. (United States); **Alexandra Pope,** Univ. of Massachusetts Amherst (United States); **Willem Jellema**, **Jochem Baselmans,** SRON Netherlands Institute for Space Research (Netherlands); **David Naylor,** Univ. of Lethbridge (Canada); **Reinier Janssen,** Jet Propulsion Lab. (United States); **Steven Hailey-Dunsheath,** Caltech (United States); **Pierre Echternach**, **Peter Day**, **Henry LeDuc,** Jet Propulsion Lab. (United States); **Nicholas Cothard**, **Thomas Stevenson,** NASA Goddard Space Flight Ctr. (United States); **Marc C. Foote**, **Charles D. Dowell**, **James McGuire**, **Michael Rodgers**, **Thomas S. Pagano,** Jet Propulsion Lab. (United States); **Logan M. Foote**, **Elijah Kane, Chris Albert,** Caltech (United States)

## Monday 17 June 2024

### MONDAY PLENARY

17 June 2024 • 08:20 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/monday-plenary

13173-500 • 08:30 AM - 09:15 AM
**Moving TMT forward: Japan's contributions and transformative approach toward community engagement** (Plenary Presentation)
*Author(s):* **Tomonori Usuda,** National Astronomical Observatory of Japan (United States); **Yuko Kakazu,** Thirty Meter Telescope (United States)

13173-501 • 09:15 AM - 10:00 AM
**From dark skies to bright futures: the evolution of astronomy in Africa and the hosting of the historic International Astronomical Union General Assembly 2024** (Plenary Presentation)
*Author(s):* **Charles Mpho Takalana,** The African Astronomical Society (South Africa)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 6: WIDE FIELD SURVEY MISSIONS I

17 June 2024 • 10:20 AM - 12:00 PM | Room G303/304, North - 3F
*Session Chair(s):* **Frank U. Grupp**, Univ.-Sternwarte München (Germany)

13092-21 • 10:20 AM - 10:40 AM
**The Euclid mission: status after launch and early operations**
*Author(s):* **René J. Laureijs,** European Space Research and Technology Ctr., European Space Agency (Netherlands); **Pierre Ferruit,** European Space Astronomy Ctr., European Space Agency (Spain); **Giuseppe Racca,** European Space Research and Technology Ctr., European Space Agency (Netherlands); **Yannick Mellier,** Institut d'Astrophysique de Paris, Univ. Pierre et Marie Curie, CNRS (France); **Roland Vavrek,** European Space Astronomy Ctr., European Space Agency (Spain); **Luis M. Gaspar Venancio,** European Space Research and Technology Ctr. (Netherlands); **Ralf Kohley,** European Space Astronomy Ctr., European Space Agency (Spain); **Tobias Boenke,** European Space Research and Technology Ctr. (Netherlands); **Bruno Altieri**, **Guillermo Buenadicha,** European Space Astronomy Ctr., European Space Agency (Spain); **Knud Jahnke,** Max-Planck-Institut für Astronomie (Germany); **William Gillard,** Ctr. de Physique des Particules de Marseille (France); **Xavier Dupac**, **Alcione Mora, Juan Manuel Fleitas,** European Space Astronomy Ctr., European Space Agency (Spain)

13092-22 • 10:40 AM - 11:00 AM
**Performance verification of the Euclid space segment**
*Author(s):* **Luis M. Gaspar Venancio**, **Giuseppe Racca,** European Space Research and Technology Ctr. (Netherlands); **Laurent Brouard,** Airbus Defence and Space (France); **Paolo Musi,** Thales Alenia Space (Italy); **Lucas Courcoult-Mifsud,** Airbus Defence and Space (France); **Stefano Petraz,** Thales Alenia Space (Italy); **René J. Laureijs**, **Elena Maiorano**, **Paolo Strada**, **Tobias Boenke,** European Space Research and Technology Ctr. (Netherlands); **Magdalena Szafraniec,** Telespazio Belgium (Belgium); **Luis Campos,** European Space Research and Technology Ctr. (Netherlands)

13092-23 • 11:00 AM - 11:20 AM
**Euclid near infrared spectrometer and photometer instrument NISP in space**
*Author(s):* **William Gillard,** Aix-Marseille Univ. (France); **Thierry Maciaszek,** Ctr. National d'Études Spatiales (France); **Stefano Dusini,** Istituto Nazionale di Fisica Nucleare (Italy); **Knud Jahnke,** Max-Planck-Institut für Astronomie (Germany); **Remi Barbier,** Institut de Physique des 2 Infinis de Lyon (France); **Paola Battaglia,** INAF (Italy); **Chiara Sirignano,** Istituto Nazionale di Fisica Nucleare (Italy); **Eduardo Medinaceli**, **Sebastiano Ligori**, **Fabrizio Cogato,** INAF (Italy); **Sylvain Ferriol,** Institut de Physique des 2 Infinis de Lyon (France); **Enrico Franceschi,** INAF (Italy)

13092-24 • 11:20 AM - 11:40 AM
**Tracking radiation damage of Euclid VIS detectors after 1 year in space**
*Author(s):* **Jesper Skottfelt**, **Matt Wander,** The Open Univ. (United Kingdom); **Mark S. Cropper,** Mullard Space Science Lab. (United Kingdom); **Ben Dryer**, **David J. Hall,** The Open Univ. (United Kingdom); **Richard Hayes,** Durham Univ. (United Kingdom); **Bradley Kelman,** The Open Univ. (United Kingdom); **Thomas Kitching,** Mullard Space Science Lab. (United Kingdom); **Ralf Kohley,** European Space Astronomy Ctr. (Spain); **David J. Lagattuta,** Durham Univ. (United Kingdom); **Zoe Lee-Payne,** The Open Univ. (United Kingdom); **Patricia Liebing,** Mullard Space Science Lab. (United Kingdom); **Richard J. Massey,** Durham Univ. (United Kingdom); **Henry J. McCracken,** Institut d'Astrophysique de Paris (France); **Reiko Nakajima,** Argelander-Institute of Astronomy (Germany); **James W. Nightingale,** Durham Univ. (United Kingdom)

13092-25 • 11:40 AM - 12:00 PM
**ARRAKIHS: ESA's new fast-implementation science mission**
*Author(s):* **Carlos Corral van Damme,** European Space Agency (Netherlands); **Thibaut Prod'Homme**, **Kate Isaak, Marco Sirianni,** European Space Agency (United States)

## Lunch Break 12:00 PM - 01:30 PM

## SESSION 7: WIDE FIELD SURVEY MISSIONS II

17 June 2024 • 01:30 PM - 03:10 PM | Room G303/304, North - 3F
*Session Chair(s):* **Marshall D. Perrin**, Space Telescope Science Institute (United States)

13092-26 • 01:30 PM - 02:00 PM
**The Roman Space Telescope Observatory build, test, and verification status**
*Author(s):* **Jeremy S. Perkins**, **David A. Content**, **Joshua Abel**, **Joanne L. Baker**, **Lisa M. Bartusek**, **Matthew R. Bolcar**, **Alexia M. Harper**, **Jeffrey W. Kruk**, **Alice Lui,** NASA Goddard Space Flight Ctr. (United States); **Maxime J. Rizzo,** Conceptual Analytics, LLC (United States); **Melissa F. Vess**, **Edward J. Wollack**, **Jeffrey S Smith**, **Lawrence L Han**, **Joshua E Schlieder, Neil T Zimmerman,** NASA Goddard Space Flight Ctr. (United States)

13092-29 • 02:00 PM - 02:30 PM
**Survey science with the Nancy Grace Roman Space Telescope Wide Field Instrument**
*Author(s):* **Joshua E. Schlieder,** NASA Goddard Space Flight Ctr. (United States)

13092-30 • 02:30 PM - 02:50 PM
**SPHEREx instrument optical integration and testing campaign overview**
*Author(s):* **Phillip M. Korngut**, **James J Bock**, **Samuel Condon,** Caltech (United States); **Charles D Dowell,** Jet Propulsion Laboratory (United States); **Howard Hui,** Caltech (United States); **Woong-Seob Jeong**, **Young-Soo Jo,** KASI (Korea, Republic of); **Ken Manatt,** Jet Propulsion Laboratory (United States); **Chi Nguyen,** Caltech (United States); **Hien Nguyen,** Jet Propulsion Laboratory (United States); **Stephen Padin,** Caltech (United States); **Sung-Joon Park**, **Jeonghyun Pyo, Yujin Yang,** KASI (Korea, Republic of)

13092-31 • 02:50 PM - 03:10 PM
**The Reionization Explorer, REX: science overview**
*Author(s):* **Sangeeta Malhotra**, **James E. Rhoads**, **Thomas M. Casey**, **Bert A. Pasquale**, **Jeffrey W. Kruk**, **Gregory Mosby, Bernard J. Rauscher,** NASA Goddard Space Flight Ctr. (United States)

## Coffee Break 03:10 PM - 03:40 PM

## SESSION 8: WIDE FIELD SURVEY MISSIONS III

17 June 2024 • 03:40 PM - 05:20 PM | Room G303/304, North - 3F
*Session Chair(s):* **Laura E. Coyle**, BAE Systems, Inc. (United States)

13092-32 • 03:40 PM - 04:00 PM
**The Cosmic Infrared Background ExpeRiment 2: status of recent flights**
*Author(s):* **Shuji Matsuura,** Kwansei Gakuin Univ. (Japan); **James J. Bock,** Caltech (United States); **Asantha Cooray,** Univ. of California, Irvine (United States); **Candice Fazar,** Rochester Institute of Technology (United States); **Richard Feder,** Caltech (United States); **Sho Hanai,** Kwansei Gakuin Univ. (Japan); **Ryo Hashimoto,** Kwansei Gakuin Univ (Japan); **Grigory Heaton**, **Viktor Hristov,** Caltech (United States); **Yuya Kawano,** Kwansei Gakuin Univ. (Japan); **Phillip M. Korngut,** Caltech (United States); **Dae-Hee Lee,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Chika Matsumi,** Kwansei Gakuin Univ. (Japan); **Dale Mercado,** Rochester Institute of Technology (United States); **Shunsuke Nakagawa,** Kyushu Institute of Technology (Japan); **Tomoya Nakagawa**, **Shuta Nakahata,** Kwansei Gakuin Univ. (Japan); **Chi H. Nguyen,** Caltech (United States); **Kazuma Noda,** Rocheter Institute of Technology (United States); **Won-Kee Park,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Dorin Patru,** Rochester Institute of Technology (United States); **Kei Sano,** Kyushu Institute of Technology (Japan); **Aoi Takahashi,** National Astronomical Observatory of Japan (Japan); **Koji Takimoto,** Kyushu Institute of Technology (Japan); **Momoko Tamai,** Kwansei Gakuin Univ. (Japan); **Kohji Tsumura,** Tokyo City Univ. (Japan); **Takehiko Wada,** National Astronomical Observatory of Japan (Japan); **Shiang-Yu Wang,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Michael B. Zemcov,** Rochester Institute of Technology (United States)

13092-33 • 04:00 PM - 04:20 PM
**Astronomical 6U CubeSat mission VERTECS: Scientific objective and project status**
*Author(s):* **Kei Sano,** Kyushu Institute of Technology (Japan); **Takao Nakagawa,** Institute of Space and Astronautical Science (Japan); **Shuji Matsuura,** Kwansei Gakuin Univ. (Japan); **Koji Takimoto,** Kyushu Institute of Technology (Japan); **Aoi Takahashi,** National Astronomical Observatory of Japan (Japan); **Tetsuhito Fuse**, **Rodrigo Cordova**, **Victor Hugo Schulz**, **Pooja Lepcha**, **Necmi Cihan Örger**, **Daisuke Nakayama**, **Joseph Ofosu**, **Reynel Josue Galindo Rosales**, **Eyoas E. Areda**, **Pema Zangmo**, **Ezra Fielding**, **Keenan A. A. Chatar**, **Yukihisa Otani**, **Hisataka Kawasaki**, **Bastien B. A. Morelle**, **John Almonte**, **Shunsuke Nakagawa**, **Yuto Tome**, **Karaki Shohei**, **Chinathip Narongphun**, **Hari Shrestha**, **Marco Rosa**, **David Dai**, **Rin Sato**, **Kentaro Hayashida**, **Hiroki Miyagawa**, **Masahiro Nishioka**, **Kana Kurosaki**, **Isami Kato**, **Kohei Tsurumoto**, **Husseinat Etti-balogun**, **Kazuaki Tanaka,** Kyushu Institute of Technology (Japan); **Satoshi Ikari,** Meisei Univ. (Japan); **Kohji Tsumura,** Tokyo City Univ. (Japan); **Ichiro Jikuya,** Kanazawa Univ. (Japan); **Hideo Matsuhara**, **Umi Enokidani**, **Hayato Tanaka,** Institute of Space and Astronautical Science (Japan); **Yuki Hirose**, **Akimasa Ojika**, **Akane Tsumoto**, **Taiko Iwaki,** Kwansei Gakuin Univ. (Japan); **Mengu Cho**, **Kentaro Kitamura**, **Hirokazu Masui**, **Mariko Teramoto**, **Takashi Yamauchi,** Kyushu Institute of Technology (Japan); **Takehiko Wada,** National Astronomical Observatory of Japan (Japan); **Naoki Isobe,** Institute of Space and Astronautical Science (Japan); **Yasuyuki Miyazaki,** Japan Aerospace Exploration Agency (Japan); **Ryu Funase**, **Hajime Kawahara**, **Keiichi Hirako,** Institute of Space and Astronautical Science (Japan); **Yoichi Yatsu,** Tokyo Institute of Technology (Japan); **Yoshihide Aoyanagi,** Univ. of Fukui (Japan)

13092-34 • 04:20 PM - 04:40 PM
**VERTECS: development status of the mission payload specialized in visible EBL observation**
*Author(s):* **Koji Takimoto,** Kyushu Institute of Technology (Japan); **Yuki Hirose**, **Taiko Iwaki,** Kwansei Gakuin Univ. (Japan); **Hisataka Kawasaki,** Kyushu Institute of Technology (Japan); **Shuji Matsuura,** Kwansei Gakuin Univ. (Japan); **Shunsuke Nakagawa,** Kyushu Institute of Technology (Japan); **Takao Nakagawa,** Institute of Space and Astronautical Science (Japan); **Akimasa Ojika,** Kwansei Gakuin Univ. (Japan); **Rin Sato,** Kyushu Institute of Technology (Japan); **Aoi Takahashi,** National Astronomical Observatory of Japan (Japan); **Yuto Tome,** Kyushu Institute of Technology (Japan); **Akane Tsumoto,** Kwansei Gakuin Univ. (Japan); **Kohji Tsumura,** Tokyo City Univ. (Japan); **Kei Sano,** Kyushu Institute of Technology (Japan)

13092-35 • 04:40 PM - 05:00 PM
**Concept study of GREX-PLUS: galaxy reionization explorer and planetary universe spectrometer**
*Author(s):* **Akio K. Inoue,** Waseda Univ. (Japan); **Issei Yamamura,** Japan Aerospace Exploration Agency (Japan); **Toyoaki Suzuki,** Nagoya Univ. (Japan); **Takao Nakagawa,** Institute of Space and Astronautical Science (Japan); **Hidehiro Kaneda,** Nagoya Univ. (Japan); **Hideko Nomura,** National Astronomical Observatory of Japan (Japan); **Tadayuki Kodama,** Tohoku Univ. (Japan); **Takehiko Wada,** National Astronomical Observatory of Japan (Japan); **Fumihide Iwamuro,** Kyoto Univ. (Japan); **Kentaro Motohara,** National Astronomical Observatory of Japan (Japan); **Yutaka Komiyama,** Hosei Univ. (Japan); **Shinki Oyabu,** Tokushima Univ. (Japan); **Yuichi Harikane,** The Univ. of Tokyo (Japan); **Takashi Moriya,** National Astronomical Observatory of Japan (Japan); **Masami Ouchi,** National Astronomical Observatory of Japan (Japan), The Univ. of Tokyo (Japan); **Toru Yamada,** Institute of Space and Astronautical Science (Japan); **Shota Notsu,** The Univ. of Tokyo (Japan)

13092-36 • 05:00 PM - 05:20 PM
**SIRMOS: NIR spectroscopy of 131,000,000 galaxies over 1 < z < 4 and R~1300**
*Author(s):* **Robert Content,** Australian Astronomical Optics, Macquarie Univ. (Australia), Astronomical Design Robert Content (Canada); **Yun Wang,** IPAC (United States); **Massimo Robberto,** Space Telescope Science Institute (United States); **Lee Armus,** IPAC (United States); **Florian Beutler,** The Univ. of Edinburgh (United Kingdom); **Micol Bolzonella,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Samuel Brieden,** The Univ. of Edinburgh (United Kingdom); **Jarle Brinchmann,** Instituto de Astrofísica e Ciências do Espaço (Portugal); **Emanuele Daddi,** Univ. Paris-Saclay (France); **Mark Dickinson,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Andreas Faisst**, **Lynne Hillenbrand,** Caltech (United States); **Cullan Howlett,** The Univ. of Queensland (Australia); **Jeyhan Kartaltepe,** Rochester Institute of Technology (United States); **Dana Koeppe,** Johns Hopkins Univ. (United States); **Jonathan S. Lawrence,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Simona Mei,** Univ. Paris Cité (France); **Eva-Maria Mueller,** Univ. of Sussex (United Kingdom); **Seshadri Nadathur,** Univ. of Portsmouth (United Kingdom); **Zoran Ninkov,** Rochester Institute of Technology (United States); **Ken Osato,** Ctr. for Frontier Science, Chiba Univ. (Japan), Kavli Institute for the Physics and Mathematics of the Universe (Japan), Institute of Advanced Study, The Univ. of Tokyo (Japan); **Casey Papovich,** Texas A&M Univ. (United States), George P. and Cynthia Woods Mitchell Institute for Fundamental Physics & Astronomy (United States); **Will Percival,** Waterloo Ctr. for Astrophysics, Univ. of Waterloo (Canada), Perimeter Institute for Theoretical Physics, Univ. of Waterloo (Canada); **John Piotrowski,** Johns Hopkins Univ. (United States); **Lucia Pozzetti,** INAF-Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Alvise Raccanelli,** Univ. degli Studi di Padova (Italy); **Jason D. Rhodes,** Jet Propulsion Lab. (United States); **Shun Saito,** Missouri Univ. of Science and Technology (United States), Kavli Institute for the Physics and Mathematics of the Universe (Japan); **Stephen A. Smee,** Johns Hopkins Univ. (United States); **Dmitry Vorobiev,** Lab. for Atmospheric and Space Physics (United States); **Michael B. Zemcov,** Rochester Institute of Technology (United States)

## SESSION PS1: POSTERS - MISSION CONCEPTS AND TECHNOLOGIES FOR SMALL SPACECRAFT

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-103 • 05:30 PM - 07:00 PM
**Pandora astrophysics pioneers smallsat NIRDA detector testing progress**
*Author(s):* **Trevor O. Foote**, **Nikole Lewis,** Cornell Univ. (United States); **Elisa V. Quintana**, **Thomas Barclay,** NASA Goddard Space Flight Ctr. (United States); **Thomas P. Greene,** NASA Ames Research Ctr. (United States); **Gregory Mosby,** NASA Goddard Space Flight Ctr. (United States); **Jessie L. Dotson,** NASA Ames Research Ctr. (United States); **Christina L. Hedges,** NASA Goddard Space Flight Ctr. (United States); **Jordan Karburn**, **Collin Averill**, **Peter Heatwole**, **Lance Simms, Michael Wong,** Lawrence Livermore National Lab. (United States)

13092-104 • 05:30 PM - 07:00 PM
**CubeSpec mission analysis**
*Author(s):* **Jorden Windey**, **Pierre Royer**, **Bart Vandenbussche**, **Hugues Sana**, **Dominic Bowman**, **Gert Raskin**, **Andrew Tkachenko**, **Johan Morren**, **Sibo Van Gool**, **Maddalena Reggiani**, **Philippe Neuville,** KU Leuven (Belgium); **Tjorven Delabie,** Arcsec (Belgium)

13092-105 • 05:30 PM - 07:00 PM
**CubeSpec optical payload**
*Author(s):* **Gert Raskin**, **Jeroen De Maeyer**, **Bart Vandenbussche, Sibo Van Gool,** KU Leuven (Belgium)

13092-106 • 05:30 PM - 07:00 PM
**CubeSpec: development of the payload control unit for a high-resolution spectroscopy CubeSat**
*Author(s):* **Sibo Van Gool**, **Jan Goris**, **Bart Vandenbussche**, **Gert Raskin, Hugues Sana,** KU Leuven (Belgium)

13092-107 • 05:30 PM - 07:00 PM
**Accurate deployable mirrors for small optical CubeSat telescope: design and laboratory validations**
*Author(s):* **Katherine Morris**, **Junyi Zhou**, **David Isherwood**, **Noah Schwartz**, **Zeshan Ali,** UK Astronomy Technology Ctr. (United Kingdom); **Maria Milanova,** Univ. Bern (Switzerland); **Chris Miller**, **William Brzozowski**, **Rory Gillespie**, **Charlotte Bond**, **Douglas Harvey**, **Lawrence Bissell**, **Éamonn Harvey**, **Jay Stephan**, **Amelia Calderhead**, **Raziye Artan**, **Amna Waris**, **Stella Gouzon, Cassandra Mercury,** UK Astronomy Technology Ctr. (United Kingdom)

13092-108 • 05:30 PM - 07:00 PM
**A SmallSat mission study for STARLITE: superluminous tomographic atmospheric reconstruction with laser-beacons for imaging terrestrial exoplanets**
*Author(s):* **Adam B. Johnson,** Univ. of Victoria (Canada); **Ryan Hughes**, **Ashley Padres,** Cornell Univ. (United States); **Carmine Buonagura,** Politecnico di Milano (Italy); **Zane Chapman,** Univ. of California, Los Angeles (United States); **Alexia Kubas**, **Veronica Hegelein,** Cornell Univ. (United States); **Ishan Mishra,** Jet Propulsion Lab. (United States); **Adler Smith**, **Abu Taqui Md Tahsin,** Cornell Univ. (United States); **Akshiti Parashar,** Georgia Institute of Technology (United States); **Deemo Chen**, **Rafid Bendimerad,** Cornell Univ. (United States); **Qizhi Lu,** Univ. of Michigan (United States); **Asterios A. Kounios,** Cornell Univ. (United States); **Devin Desilva,** Boston Univ. (United States); **Verena Padres**, **Andrew van Paridon**, **Elaine Petro**, **James Lloyd**, **Dmitry Savransky, Joshua Umansky-Castro,** Cornell Univ. (United States)

13092-109 • 05:30 PM - 07:00 PM
**Development of LCTFs (Liquid Crystal Tunable Filters) for small satellites**
*Author(s):* **Mai Shirahata,** Genesia Corp. (Japan); **Kazuhiro Wako,** National Institute of Technology, Sendai College (Japan); **Junichi Kurihara,** Hokkaido Univ. (Japan); **Daisuke Fukuoka, Norihide Takeyama,** Genesia Corp. (Japan)

13092-110 • 05:30 PM - 07:00 PM
**Experimental validation of a full Stokes spectropolarimeter for space applications**
*Author(s):* **Bogdan Vasilescu**, **Pierre Piron**, **Fabien Schmutz,** Technische Univ. Delft (Netherlands); **Ralph Snel**, **Eugenio Di Iorio**, **Mireille Ouellet**, **Quentin Chavet**, **Ivan Ferrario,** TNO (Netherlands); **Jérôme Loïcq,** Technische Univ. Delft (Netherlands)

13092-111 • 05:30 PM - 07:00 PM
**Development of the broadband Fourier transform IR imaging spectrometer with common path wavefront division phase-shift interferometry for compact satellite payload**
*Author(s):* **Biao Zhao**, **Yasuhiro Hirahara**, **Yuan Li**, **Shohei Negishi,** Nagoya Univ. (Japan); **Hiroshi Sasago,** Sasago Co., Ltd. (Japan); **Yasumasa Kasaba,** Tohoku Univ. (Japan); **Ryoichi Koga,** Nagoya City Univ. (Japan); **Takao Nakagawa**, **Hideo Matsuhara**, **Umi Enokidani,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Takehiko Wada,** National Astronomical Observatory of Japan (Japan)

13092-112 • 05:30 PM - 07:00 PM
**STARI: starlight acquisition and reflection toward interferometry**
*Author(s):* **John D. Monnier**, **Prachet Jain**, **Shashank Kalluri**, **James Cutler**, **Michael Meyer,** Univ. of Michigan (United States); **Simone D'Amico,** Stanford Univ. (United States); **Glenn Lightsey,** Georgia Institute of Technology (United States); **Leonid Pogorelyuk,** Rensselaer Polytechnic Institute (United States); **Gautam Vasisht,** Jet Propulsion Lab. (United States); **Kerri Cahoy,** Massachusetts Institute of Technology (United States)

13092-113 • 05:30 PM - 07:00 PM
**Miniaturization of the Rafter optical design for CubeSat environment**
*Author(s):* **Fabrizio Fornasiero,** Politecnico di Torino (Italy); **Alberto Riva,** INAF - Osservatorio Astrofisico di Torino (Italy); **Fabrizio Stesina,** Politecnico di Torino (Italy); **Mario Gai**, **Deborah Busonero,** INAF - Osservatorio Astrofisico di Torino (Italy); **Bartolomeo Montrucchio,** Politecnico di Torino (Italy); **Alberto Vecchiato,** INAF - Osservatorio Astrofisico di Torino (Italy)

13092-114 • 05:30 PM - 07:00 PM
**Development of an STM32 based on-board computer for small satellites and CubeSat missions**
*Author(s):* **Shubham Ghatul**, **Bharat Chandra**, **Shubhangi Jain**, **Binukumar Nair**, **Mahesh Babu**, **Rekhesh Mohan**, **Margarita Safonova, Jayant Murthy,** Indian Institute of Astrophysics (India)

13092-115 • 05:30 PM - 07:00 PM
**Attitude and orbital control simulation for VERTECS**
*Author(s):* **Hayato Tanaka**, **Hideo Matsuhara**, **Takao Nakagawa,** Institute of Space and Astronautical Science (Japan); **Koji Takimoto,** Kyushu Institute of Technology (Japan); **Aoi Takahashi,** AstroBiology Ctr., National Institutes of Natural Sciences (Japan); **Satoshi Ikari,** Meisei Univ. (Japan); **Rodrigo Cordova**, **Victor Hugo Schulz**, **Necmi Cihan Örger**, **Shunsuke Nakagawa,** Kyushu Institute of Technology (Japan); **Shuji Matsuura,** Kwansei Gakuin Univ. (Japan); **Kohji Tsumura,** Tokyo City Univ. (Japan)

13092-116 • 05:30 PM - 07:00 PM
**VERTECS: design and development of 6U CubeSat structure for observations of extragalactic background light**
*Author(s):* **Hisataka Kawasaki**, **Eyoas E. Areda,** Kyushu Institute of Technology (Japan); **Hideo Matsuhara,** Institute of Space and Astronautical Science (Japan); **Hirokazu Masui,** Kyushu Institute of Technology (Japan); **Kohji Takimoto,** Institute of Space and Astronautical Science (Japan); **Bastien B. A. Morelle,** Kyushu Institute of Technology (Japan); **Shuji Matsuura,** Kwansei Gakuin Univ. (Japan); **Takao Nakagawa**, **Umi Enokidani,** Institute of Space and Astronautical Science (Japan); **Yuki Hirose,** Kwansei Gakuin Univ. (Japan); **Kei Sano,** Kyushu Institute of Technology (Japan)

13092-117 • 05:30 PM - 07:00 PM
**VERTECS: operational and power-management strategy**
*Author(s):* **Shunsuke Nakagawa**, **Kei Sano,** Kyushu Institute of Technology (Japan); **Takao Nakagawa,** Institute of Space and Astronautical Science (Japan); **Koji Takimoto,** Kyushu Institute of Technology (Japan); **Shuji Matsuura,** Kwansei Gakuin Univ. (Japan); **Kohji Tsumura,** Tokyo City Univ. (Japan); **Aoi Takahashi,** National Astronomical Observatory of Japan (Japan); **Victor Hugo Schulz**, **Necmi Cihan Örger**, **Daisuke Nakayama**, **Rodrigo Cordova,** Kyushu Institute of Technology (Japan); **Akimasa Ojika,** Kwansei Gakuin Univ. (Japan); **Rin Sato**, **Keenan A. A. Chatar**, **Yukihisa Otani**, **Ezra Fielding**, **Kentaro Hayashida,** Kyushu Institute of Technology (Japan); **Hayato Tanaka,** Tokyo Institute of Technology (Japan); **Eyoas E. Areda**, **Bastien B. A. Morelle**, **Hisataka Kawasaki,** Kyushu Institute of Technology (Japan); **Umi Enokidani,** The Graduate Univ. for Advanced Studies (Japan); **Reynel Josue Galindo Rosales**, **Karaki Shohei, Chinathip Narongphun,** Kyushu Institute of Technology (Japan)

## SESSION PS2: POSTERS - ASTROMETRY

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-184 • 05:30 PM - 07:00 PM
**A centred three mirror anastigmat**
*Author(s):* **Mario Gai**, **Alberto Riva**, **Deborah Busonero**, **Alberto Vecchiato, Federico Landini,** INAF - Istituto Nazionale di Astrofisica (Italy)

13092-185 • 05:30 PM - 07:00 PM
**Evaluation and verification plan for JASMINE telescope optics on the ground**
*Author(s):* **Yoshinori Suematsu**, **Toshihiro Tsuzuki**, **Naoki Kohara,** National Astronomical Observatory of Japan (Japan); **Naoki Isobe**, **Hirokazu Kataza,** Institute of Space and Astronautical Science (Japan); **Shingo Kashima, Ryouhei Kano,** National Astronomical Observatory of Japan (Japan)

13092-186 • 05:30 PM - 07:00 PM
**Structural, thermal, and optical stability of the JASMINE telescope system**
*Author(s):* **Naoki Isobe,** Japan Aerospace Exploration Agency (Japan); **Shingo Kashima**, **Yoshinori Suematsu**, **Naoteru Gouda**, **Ryouhei Kano,** National Astronomical Observatory of Japan (Japan); **Hirokazu Kataza**, **Hajime Kawahara,** Japan Aerospace Exploration Agency (Japan); **Naoki Kohara,** National Astronomical Observatory of Japan (Japan); **Iona Kondo,** Japan Aerospace Exploration Agency (Japan); **Ichiro Mase**, **Ryou Ohsawa**, **Toshihiro Tsuzuki,** National Astronomical Observatory of Japan (Japan); **Fumihiko Usui,** Japan Aerospace Exploration Agency (Japan); **Shin Utsunomiya**, **Takehiko Wada,** National Astronomical Observatory of Japan (Japan); **Yoshiyuki Yamada,** Kyoto Univ. (Japan); **Taihei Yano,** National Astronomical Observatory of Japan (Japan); **Aoi Takahashi,** Japan Aerospace Exploration Agency (Japan); **Tomoya Hattori**, **Koichi Takeda, Yukina Arima,** Mitsubishi Electric Corporation (Japan)

## SESSION PS3: POSTERS - MID- AND FAR-INFRARED MISSION CONCEPTS AND TECHNOLOGIES

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-230 • 05:30 PM - 07:00 PM
**Ball 4 K space cryocooler**
*Author(s):* **David Glaister**, **Ryan Taylor**, **Yongsu Kim, Brian Buchholtz,** Ball Aerospace (United States)

13092-231 • 05:30 PM - 07:00 PM
**A robust bandpass filter for mid- and far-infrared cryogenic space telescopes by simple photo-lithography**
*Author(s):* **Takehiko Wada,** National Astronomical Observatory of Japan (Japan); **Kasumi Miyata**, **Lisa Toyoshima**, **Masahiro Ueda**, **Riki Chin,** Sophia Univ. (Japan); **Yoshinori Shohmitsu,** High Energy Accelerator Research Organization, KEK (Japan); **Toyoaki Suzuki,** Japan Aerospace Exploration Agency (Japan); **Toshihiro Nakaoka,** Sophia Univ. (Japan)

13092-232 • 05:30 PM - 07:00 PM
**Preparing future instrument to high-precision spectroscopy of the cosmic microwave background**
*Author(s):* **Xavier Coulon**, **Bruno Maffei**, **Nabila Aghanim,** Institut d'Astrophysique Spatiale, CNRS (France); **Luca Pagano,** Univ. degli Studi di Ferrara (Italy)

13092-233 • 05:30 PM - 07:00 PM
**The continuous adiabatic demagnetization refrigerator for PRIMA**
*Author(s):* **Michael J. DiPirro**, **Peter Shirron**, **Amir Jahromi**, **Mark Kimball**, **Shuvo Mustafi,** NASA Goddard Space Flight Ctr. (United States); **Weibo Chen, Bradley Moore,** Jet Propulsion Lab. (United States)

13092-234 • 05:30 PM - 07:00 PM
**PRIMA: science cases and requirements for the photometric and polarimetric PRIMAger far-infrared camera**
*Author(s):* **Denis Burgarella**, **Laure Ciesla,** Lab. d'Astrophysique de Marseille (France); **Marc Sauvage,** CEA (France); **Charles D. Dowell,** Jet Propulsion Lab. (United States); **James Donnellan,** Astronomy Centre, University of Sussex (United Kingdom); **Marc Foote,** Jet Propulsion Lab. (United States); **Jason Glenn,** NASA Goddard Space Flight Ctr. (United States); **Margaret Meixner,** Jet Propulsion Lab. (United States); **Jochem Baselmans,** SRON Netherlands Institute for Space Research (Netherlands); **Laura Bisigello,** Istituto Nazionale di Astrofisica (INAF) - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Albert Bolatto,** Department of Astronomy, University of Maryland (United States); **Matthieu Béthermin,** Aix Marseille Univ, CNRS, CNES, LAM (France); **Charles Bradford,** Jet Propulsion Lab. (United States); **Carlotta Gruppioni,** Istituto Nazionale di Astrofisica (INAF) - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Willem Jellema,** SRON Netherlands Institute for Space Research (Netherlands); **Arielle Moullet,** National Radio Astronomy Observatory (United States); **Seb Oliver,** Astronomy Centre (United Kingdom); **Tony Pamplona,** Lab. d'Astrophysique de Marseille (France); **Alex Pope,** Department of Astronomy, University of Massachusetts (United States)

13092-235 • 05:30 PM - 07:00 PM
**SALTUS Observatory architecture**
*Author(s):* **Jonathan W. Arenberg,** Northrop Grumman Corp. (United States); **Christopher K. Walker, Daewook Kim,** The Univ. of Arizona (United States)

13092-236 • 05:30 PM - 07:00 PM
**Development of a high-resolution, mid-infrared CdZnTe immersion grating spectrometer for the detection of snow-lines**
*Author(s):* **Takao Nakagawa**, **Hideo Matsuhara**, **Umi Enokidani**, **Toyoaki Suzuki,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Yasuhiro Hirahara**, **Hidehiro Kaneda**, **Ryoichi Koga**, **Yuan Li**, **Biao Zhao**, **Daiki Takama**, **Hiroshi Sasago,** Nagoya Univ. (Japan); **Takehiko Wada,** National Astronomical Observatory of Japan (Japan); **Toshihiro Nakaoka**, **Taiki Eda**, **Ryota Kakihara,** Sophia Univ. (Japan); **Yoshinori Shohmitsu,** International Ctr. for Quantum-field Measurement Systems for Studies of the Universe and Particles (Japan); **Takuya Hosobata**, **Noboru Ebizuka**, **Yutaka Yamagata,** RIKEN Ctr. for Advanced Photonics (Japan); **Shota Notsu,** The Univ. of Tokyo (Japan); **Hideko Nomura,** National Astronomical Observatory of Japan (Japan); **Shunsuke Baba,** Institute of Space and Astronautical Science (Japan)

13092-237 • 05:30 PM - 07:00 PM
**Transmittance measurement of high-resistivity CdZnTe at cryogenic temperature for material selection of the immersion grating for the next-generation infrared telescope GREX-PLUS**
*Author(s):* **Yuan Li**, **Yasuhiro Hirahara**, **Biao Zhao,** Nagoya Univ. (Japan); **Hiroshi Sasago,** Nagoya Univ. (Japan), Sasago Co., Ltd. (Japan); **Umi Enokidani**, **Hideo Matsuhara**, **Takao Nakagawa,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Ryoichi Koga,** Nagoya Univ. (Japan); **Takehiko Wada,** National Astronomical Observatory of Japan (Japan)

13092-238 • 05:30 PM - 07:00 PM
**Development of a mid-infrared refractive index measurement system at cryogenic temperature for the development of an immersion grating to be onboard next-generation infrared space telescope GREX-PLUS**
*Author(s):* **Umi Enokidani**, **Hideo Matsuhara,** The Graduate Univ. for Advanced Studies (Japan), Institute of Space and Astronautical Science (Japan); **Takao Nakagawa,** The Univ. of Tokyo (Japan), Institute of Space and Astronautical Science (Japan); **Yasuhiro Hirahara**, **Ryoichi Koga**, **Yuan Li**, **Biao Zhao**, **Daiki Takama,** Nagoya Univ. (Japan); **Hiroshi Sasago,** Nagoya Univ. (Japan), Sasago Co., Ltd. (Japan); **Takehiko Wada,** National Astronomical Observatory of Japan (Japan)

## SESSION PS4: POSTERS - WIDE FIELD SURVEY MISSIONS

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-239 • 05:30 PM - 07:00 PM
**Euclid commissioning results: the near infrared spectrometer and photometer (NISP) signal detection chain**
*Author(s):* **Fabrizio Cogato,** Univ. degli Studi di Bologna (Italy), INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Eduardo Medinaceli Villegas,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Rémi Barbier,** Institut de Physique des 2 Infinis de Lyon (France); **Thierry Maciaszek,** Lab. d'Astrophysique de Marseille (France); **William Gillard,** Aix-Marseille Univ. (France); **Knud Jahnke,** Max-Planck-Institut für Astronomie (Germany); **Natalia Auricchio,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Andrea Balestra,** INAF - Osservatorio Astronomico di Padova (Italy); **Paola Battaglia,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Donata Bonino**, **Vito Capobianco,** INAF - Osservatorio Astrofisico di Torino (Italy); **Stefano Dusini,** Istituto Nazionale di Fisica Nucleare (Italy); **Ruben Farinelli**, **Enrico Franceschi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Sylvain Ferriol,** Institut de Physique des 2 Infinis (France); **Sebastiano Ligori,** INAF - Osservatorio Astrofisico di Torino (Italy); **Chiara Sirignaro,** INFN - Sezione di Padova (Italy); **Gabriele Sirri,** Istituto Nazionale di Fisica Nucleare (Italy); **Paolo Strada,** European Space Research and Technology Ctr. (Netherlands); **Massimo Trifoglio, Luca Valenziano,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13092-240 • 05:30 PM - 07:00 PM
**Euclid: the near infrared spectrometer and photometer (NISP) instrument operations**
*Author(s):* **Paola M. Battaglia,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Chiara Sirignano,** Istituto Nazionale di Fisica Nucleare (Italy), Univ. degli Studi di Padova (Italy); **Luca Valenziano,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Stefano Dusini,** Istituto Nazionale di Fisica Nucleare (Italy); **Anna Gregorio,** Univ. degli Studi di Trieste (Italy); **Sebastiano Ligori,** INAF - Osservatorio Astrofisico di Torino (Italy); **Thierry Maciaszek,** Lab. d'Astrophysique de Marseille (France); **Eduardo Medinaceli Villegas,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Erik Romelli**, **Andrea Zacchei,** INAF - Osservatorio Astronomico di Trieste (Italy); **Remi Barbier,** Université Claude-Bernard Lyon 1 (France), CNRS/IN2P3 (France), IP2I (France); **William Gillard,** Aix-Marseille Université (France), CPPM (France), IP2I (France); **Yannick Copin,** Université Claude-Bernard Lyon 1 (France), IP2I (France), CNRS/IN2P3 (France); **Knud Jahnke**, **Mischa Schirmer,** Max-Planck-Institut für Astronomie (Germany); **Natalia Auricchio,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Evandro Balbi,** Istituto Nazionale di Fisica Nucleare (Italy); **Andrea Balestra,** INAF-Osservatorio Astronomico di Padova (Italy); **Donata Bonino,** INAF - Osservatorio Astrofisico di Torino (Italy); **Enrico Borsato,** Istituto Nazionale di Fisica Nucleare (Italy); **Massimo Brescia,** INAF-Osservatorio Astronomico di Capodimonte (Italy); **Vito Capobianco,** INAF - Osservatorio Astrofisico di Torino (Italy); **Stefano Cavuoti,** INAF-Osservatorio Astronomico di Capodimonte (Italy); **Fabrizio Cogato,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Simon Conseil,** Université Claude-Bernard Lyon 1 (France), CNRS/IN2P3 (France), IP2I (France); **Leonardo Corcione,** INAF - Osservatorio Astrofisico di Torino (Italy); **Stefano Davini**, **Gaia Delucchi,** Istituto Nazionale di Fisica Nucleare (Italy); **Ruben Farinelli**, **Enrico Franceschi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Frank Grupp,** Universitäts-Sternwarte München (Germany); **Bogna Kubik,** Université Claude-Bernard Lyon 1 (France), CNRS/IN2P3 (France), IP2I (France); **Elisa Lentini,** Istituto Nazionale di Fisica Nucleare (Italy); **Romain Lhoussaine,** Aix-Marseille Université (France), CPPM (France), CNRS/IN2P3 (France); **Gianluca Morgante,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Francesca Passalacqua,** Istituto Nazionale di Fisica Nucleare (Italy); **Gianluca Polenta,** ASI - Agenzia Spaziale Italiana (Italy); **Giuseppe Riccio,** INAF-Osservatorio Astronomico di Capodimonte (Italy); **Gemma Testera**, **Silvano Tosi,** Istituto Nazionale di Fisica Nucleare (Italy); **Massimo Trifoglio,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Antonino Troja,** Istituto Nazionale di Fisica Nucleare (Italy); **Thierry Maciaszek,** Centre National d'Etudes Spatiales (France)

13092-241 • 05:30 PM - 07:00 PM
**Decoding optical aberrations of low-resolution Instruments from PSFs: machine learning and Zernike polynomials perspectives**
*Author(s):* **Lucas Sauniere,** Ctr. de Physique des Particules de Marseille (France); **William Gillard, Julien Zoubian,** Aix Marseille Univ, CNRS/IN2P3, CPPM, Marseille, France (France)

13092-242 • 05:30 PM - 07:00 PM
**High time resolution attitude reconstruction from Euclid science instruments data**
*Author(s):* **Roland Denis Vavrek**, **Alcione Mora, René J. Laureijs,** European Space Agency (Spain)

13092-244 • 05:30 PM - 07:00 PM
**Resolving the dark current anomaly in the Nancy Grace Roman Space Telescope Focal Plane**
*Author(s):* **Gregory Mosby**, **Synthia L. Tonn**, **James Chervenak,** NASA Goddard Space Flight Ctr. (United States); **Majid Zandian**, **Eric C. Piquette,** Teledyne Scientific & Imaging, LLC (United States); **Analia N. Cillis**, **Mario S. Cabrera**, **Stephanie A. Cheung**, **Michael Hickey**, **Robert J. Hill**, **Bernard J. Rauscher**, **Jeffrey W. Kruk**, **Mathew Samuel,** NASA Goddard Space Flight Ctr. (United States); **John Auyeung,** Teledyne Scientific & Imaging, LLC (United States); **Randy A. Kimble**, **Mat Greenhouse**, **Joshua E. Schlieder,** NASA Goddard Space Flight Ctr. (United States); **Ed Cheng,** Conceptual Analytics, LLC (United States); **Craig Cabelli**, **Jianmei Pan,** Teledyne Scientific & Imaging, LLC (United States); **Murzy Jhabvala**, **Alan C. Abeel,** NASA Goddard Space Flight Ctr. (United States); **Mark Farris**, **Anders Petersen,** Teledyne Scientific & Imaging, LLC (United States); **John D. Gygax**, **Colin A. Stuart,** NASA Goddard Space Flight Ctr. (United States); **Nibir Dhar,** Virginia Commonwealth Univ. (United States); **Chris Bennett**, **Lane A. Meier**, **Roger Foltz**, **Jonathan S. Mah**, **David A. Cottingham**, **Augustyn Waczynski, Christopher A. Merchant,** NASA Goddard Space Flight Ctr. (United States)

13092-246 • 05:30 PM - 07:00 PM
**Cryogenic focus calibration of the SPHEREx Satellite Telescope**
*Author(s):* **Samuel Condon**, **James J. Bock**, **Stephen Padin**, **Phillip M. Korngut**, **Howard Hui**, **Chi H. Nguyen, Jordan Otsby,** Caltech (United States)

13092-247 • 05:30 PM - 07:00 PM
**How to tame your dragon's breath: edge design to minimize scattered light from sources outside of SPHEREx field of view**
*Author(s):* **Chi Hanh Nguyen**, **James J. Bock**, **Samuel Condon,** Caltech (United States); **C. Darren Dowell,** Jet Propulsion Laboratory, California Institute of Technology (United States); **Howard Hui**, **Phillip M. Korngut,** Caltech (United States); **Kenneth Manatt**, **Hien T Nguyen,** Jet Propulsion Laboratory, California Institute of Technology (United States); **Stephen Padin,** Caltech (United States)

13092-248 • 05:30 PM - 07:00 PM
**Spectral response of the SPHEREx telescope**
*Author(s):* **Howard Hui**, **Chi H. Nguyen**, **Stephen Padin**, **Phillip M. Korngut**, **James J. Bock**, **Samuel Condon,** Caltech (United States); **Charles D Dowell**, **Kenneth Manatt, Hien Nguyen,** Jet Propulsion Lab (United States)

13092-250 • 05:30 PM - 07:00 PM
**The stray light baffle for the ARRAKIHS mission**
*Author(s):* **Lionel Clermont**, **Etienne Lallemand**, **Christian Kintziger, Jean-Yves Plesseria,** Ctr. Spatial de Liège (Belgium)

13092-251 • 05:30 PM - 07:00 PM
**A low-cost innovative observatory for the Reionization Explorer mission**
*Author(s):* **Thomas M. Casey,** Intuitive Machines (United States)

## SESSION PS5: POSTERS - MANUFACTURING, OPTOMECHANICAL, AND ELECTRONICS TECHNOLOGIES FOR SPACE APPLICATIONS

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-252 • 05:30 PM - 07:00 PM
**Large format microshutter arrays for the next generation space borne multi-object spectroscopy**
*Author(s):* **Alexander S. Kutyrev**, **Paul Scowen**, **Meng-Ping Chang**, **Regis Brekosky,** NASA Goddard Space Flight Ctr. (United States); **Kyowon Kim,** Science Systems and Applications, Inc. (United States); **Nicholas Costen**, **Ming Ke**, **Gang Hu**, **Eduard Aguayo**, **Beth Paquette,** NASA Goddard Space Flight Ctr. (United States); **Knute Ray**, **Frederick Wang,** Science Systems and Applications, Inc. (United States); **Rainer Fettig,** NASA Goddard Space Flight Ctr. (United States); **Stephan McCandliss,** Johns Hopkins Univ. (United States)

13092-253 • 05:30 PM - 07:00 PM
**Repurposing the James Webb Space Telescope's center of curvature optical bench hexapod for future mirror calibration testing at NASA Marshall's x-ray and cryogenic facility**
*Author(s):* **Bryan Walter**, **Mark Welle**, **Ryan Sneed**, **Mark Mimovich**, **Matt Granrud,** Moog Space and Defense Group (United States); **Jeffrey R. Kegley,** NASA Marshall Space Flight Ctr. (United States)

13092-254 • 05:30 PM - 07:00 PM
**DEPFET detectors with repetitive-non-destructive-readout for single electron detection**
*Author(s):* **Wolfgang Treberer-Treberspurg,** Univ. of Applied Sciences Wiener Neustadt (Austria); **Alexander Bähr,** Halbleiterlabor der Max-Planck-Gesellschaft (Germany)

13092-256 • 05:30 PM - 07:00 PM
**Electron beam patterning and wet etching of sputtered superconducting aluminium thin films for FIR PROBE proposals**
*Author(s):* **David J. Thoen,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Vignesh Murugesan**, **Dimitry Lamers**, **Tonny Coppens,** SRON Netherlands Institute for Space Research (Netherlands); **Lotte Boonstra,** Technische Univ. Delft (Netherlands); **Martijn Veen,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Daniela Perez,** SRON Netherlands Institute for Space Research (Netherlands); **Akira Endo,** Technische Univ. Delft (Netherlands); **Jochem Baselmans,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands)

13092-257 • 05:30 PM - 07:00 PM
**Coated black aperture stops for space-based applications**
*Author(s):* **Stefan Schwinde**, **Peter Munzert**, **Svetlana Shestaeva**, **Robert Leitel**, **Sylke Kleinle, Sven Schröder,** Fraunhofer-Institut für Angewandte Optik und Feinmechanik IOF (Germany)

13092-259 • 05:30 PM - 07:00 PM
**Advancement in thin film coatings for space and astronomy**
*Author(s):* **Kishore Thakurwani,** Optimax Systems, Inc. (United States)

13092-260 • 05:30 PM - 07:00 PM
**Characteristics of initial tool influence function on cordierite substrates**
*Author(s):* **Jiwoo Lee,** Univ. of Science and Technology (Korea, Republic of), LeO SPACE Inc. (Korea, Republic of); **Jeong-Yeol Han,** Korea Astronomy and Space Science Institute (Korea, Republic of), Univ. of Science and Technology (Korea, Republic of); **Myung Cho,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Kevin Ho**, **Shinobu Nagata**, **Hidehito Himeno, Masatsugu Kamiura,** KYOCERA Corp. (Japan)

13092-261 • 05:30 PM - 07:00 PM
**The improved replication technique to fabricate ultra-light and precise CFRP mirrors for space telescopes**
*Author(s):* **Shin Utsunomiya**, **Tsuyoshi Ozaki, Masakatsu Ide,** Techlab Co., Ltd. (Japan)

13092-263 • 05:30 PM - 07:00 PM
**Lightweight foam-based reflective thin film panels for radio telescopes**
*Author(s):* **Kwan Pui Evan Cheung, Hua-bai Li,** The Chinese Univ. of Hong Kong (Hong Kong, China)

13092-264 • 05:30 PM - 07:00 PM
**CFRP mirror with optical quality manufactured by replica technology**
*Author(s):* **Matthias R. Krödel,** ECM Engineered Ceramic Materials GmbH (Germany); **Alexander Haberl**, **Gerald Fütterer**, **Benedik Winter**, **Raimund Foerg,** Technische Hochschule Deggendorf (Germany); **Shin Utsunomiya, Tsuyoshi Ozaki,** Techlab Co., Ltd. (Japan)

13092-265 • 05:30 PM - 07:00 PM
**ZERODUR glass-ceramic thermal and mechanical trades for the next generation of space telescopes**
*Author(s):* **Janina Krieg,** SCHOTT North America, Inc. (United States); **Ina Mitra**, **Ralf Jedamzik**, **Clemens Kunisch,** SCHOTT AG (Germany); **Tony B. Hull,** The Univ. of New Mexico (United States); **Thomas Westerhoff,** SCHOTT AG (Germany)

## Tuesday 18 June 2024

### TUESDAY PLENARY

18 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/tuesday-plenary

13173-502 • 08:30 AM - 09:15 AM
**The present and future of Japan's space program** (Plenary Presentation)
*Author(s):* **Saku Tsuneta,** National Astronomical Observatory of Japan (Japan)

13173-503 • 09:15 AM - 10:00 AM
**NASA astrophysics: from today to the Habitable Worlds Observatory** (Plenary Presentation)
*Author(s):* **Mark Clampin,** NASA Goddard Space Flight Ctr. (United States); **John M. O'Meara,** W. M. Keck Observatory (United States)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 9: JWST

18 June 2024 • 10:20 AM - 11:20 AM | Room G303/304, North - 3F
*Session Chair(s):* **Marshall D. Perrin**, Space Telescope Science Institute (United States)

13092-37 • 10:20 AM - 10:40 AM
**Empirical characterization of JWST wavefront error variations**
*Author(s):* **Randal C. Telfer**, **Marcio Meléndez**, **Nicolas Flagey**, **Charles-Philippe Lajoie**, **Gregory R. Brady**, **Tracy Beck**, **Thomas M. Comeau**, **Bernard A. Kulp**, **Marshall D. Perrin, Matthew D. Lallo,** Space Telescope Science Institute (United States)

13092-38 • 10:40 AM - 11:00 AM
**The NIRSpec Micro-Shutter Array: operability and operations after two years of JWST science**
*Author(s):* **Katie Bechtold**, **Torsten Böker,** Space Telescope Science Institute (United States); **David E. Franz,** NASA Goddard Space Flight Ctr. (United States); **Maurice te Plate,** European Space Agency (United States); **Timothy D. Rawle,** Space Telescope Science Institute (Spain); **Chi Rai Wu, Peter Zeidler,** Space Telescope Science Institute (United States)

13092-267 • 11:00 AM - 11:20 AM
**JWST NIRISS/SOSS: advancements in calibration and observational tools for exoplanetary science**
*Author(s):* **Tyler Baines**, **Néstor Espinoza**, **Joseph Filippazzo, Kevin Volk,** Space Telescope Science Institute (United States)

### SESSION 10: EXOPLANET TIME SERIES OBSERVATIONS I

18 June 2024 • 11:20 AM - 12:00 PM | Room G303/304, North - 3F
*Session Chair(s):* **Marshall D. Perrin**, Space Telescope Science Institute (United States)

13092-40 • 11:20 AM - 11:40 AM
**Twinkle: a small satellite spectroscopy mission for the next phase of exoplanet science**
*Author(s):* **Yoga Barrathwaj Raman Mohan**, **Benjamin Wilcock**, **Marcell Tessenyi**, **Ian Stotesbury**, **Richard Archer**, **Sushang Ma**, **Lawrence Bradley,** Blue Skies Space Ltd. (United Kingdom); **Billy Edwards,** Leiden Univ. (Netherlands); **Giovanna Tinetti**, **Jonathan Tennyson**, **Giorgio Savini,** Univ. College London (United Kingdom); **Philip Windred**, **Ahmed Al-Refaie, Arianna Saba,** Blue Skies Space Ltd. (United Kingdom)

13092-41 • 11:40 AM - 12:00 PM
**The Pandora SmallSat: multiwavelength characterization of exoplanets and their host stars**
*Author(s):* **Elisa V. Quintana,** NASA Goddard Space Flight Ctr. (United States); **Jessie Dotson,** NASA Ames Research Ctr. (United States); **Knicole Colon**, **Thomas Barclay,** NASA Goddard Space Flight Ctr. (United States); **Daniel Apai,** The Univ. of Arizona (United States); **Benjamin Rackham,** Massachusetts Institute of Technology (United States); **Thomas P. Greene,** NASA Ames Research Ctr. (United States); **Christina L. Hedges,** NASA Goddard Space Flight Ctr. (United States); **Emily Gilbert,** Jet Propulsion Lab. (United States); **Benjamin Hord,** NASA Goddard Space Flight Ctr. (United States); **Megan Mansfield,** The Univ. of Arizona (United States); **Jordan Karburn**, **Pete Supsinskas,** Lawrence Livermore National Lab. (United States); **Trevor O. Foote,** Cornell Univ. (United States)

**Lunch/Exhibition Break 12:00 PM - 01:20 PM**

## SESSION 11: EXOPLANET TIME SERIES OBSERVATIONS II

18 June 2024 • 01:20 PM - 03:00 PM | Room G303/304, North - 3F
*Session Chair(s):* **Dmitry Savransky**, Cornell Univ. (United States)

13092-42 • 01:20 PM - 01:40 PM
**The Planetary Transit and Oscillations (PLATO) mission status: flight model build and initial ground testing**
*Author(s):* **Jose Lorenzo Alvarez**, **Thomas Walloschek**, **Ana Heras**, **Ian Harrison,** European Space Agency (Netherlands); **Isabella Pagano,** INAF (Italy); **Heike Rauer,** Deutsches Zentrum für Luft- und Raumfahrt e.V. (Germany); **Jose Miguel Mas-Hesse,** Centro de Astrobiología (Spain); **Sami Matias Niemi**, **Sean Madden**, **James Windsor**, **Francesca Molendini**, **Duncan Goulty**, **Juan Pablo Rodríguez García**, **Emanuelle De Biasi**, **Thomas Kanitz**, **Andrea Galbiati**, **Tobias Boenke**, **José Aroca**, **Alistair Winton**, **Philipp Laget**, **Daniele Teti**, **Nadia Hidalgo Torres**, **Claudio Casagrande**, **Edoardo Giana**, **Hans Rozemeijer,** European Space Agency (Netherlands); **Andrea Sacchetti,** OHB SE (Germany); **Juan Cabrera**, **Martin Pertenais**, **Anders Erikson,** Deutsches Zentrum für Luft- und Raumfahrt e.V. (Germany); **Bart Vandenbussche,** KU Leuven (Belgium); **Gianalfredo Nicolini,** INAF (Italy); **Gisbert Peter,** Deutsches Zentrum für Luft- und Raumfahrt e.V. (Germany); **Ana Balado,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Thomas Kennedy,** Mullard Space Science Lab., Univ. College London (United Kingdom); **Philipp Eigmüller,** Deutsches Zentrum für Luft- und Raumfahrt e.V. (Germany); **Theo Ridder,** European Space Agency (Netherlands); **Aline Hermans,** Ctr. Spatial de Liège (Belgium); **Philippe Plasson,** Observatoire de Paris (France); **Rosario Cosentino,** INAF (Italy); **Julio Rodríguez, Rosario Sanz,** Instituto de Astrofísica de Andalucía (Spain)

13092-43 • 01:40 PM - 02:00 PM
**Status of PLATO mission camera: progress on TVAC tests and performance overview for the camera flight models**
*Author(s):* **Nicolas Gorius,** INAF - Osservatorio Astrofisico di Catania (Italy)

13092-295 • 02:00 PM - 02:20 PM
**A highly reproducible industrial process for aligning, focusing, and testing the PLATO telescope optical units**
*Author(s):* **Andrea Novi**, **Diego Piccotti**, **Massimo Marinai**, **Umberto Barozzi**, **Vincenzo Binante**, **Alessandro Bini**, **Matteo Burresi**, **Emanuele Capuano**, **Michele Dami**, **Paolo Laganà**, **Emanuele Alberto Macri**, **Ottavio Nannucci**, **Carlo Pompei**, **Giovanni Postiglione**, **Filippo Ruggiero**, **Enrico Suetta**, **Marco Taiti,** Leonardo S.p.A. (Italy); **Mario Salatti**, **Raffaele Piazzolla**, **Demetrio Magrin,** Agenzia Spaziale Italiana (Italy); **Jacopo Farinato,** INAF - Osservatorio Astronomico di Padova (Italy); **Isabella Pagano,** INAF - Osservatorio Astrofisico di Catania (Italy); **Donata Valletti,** Thales Alenia Space (Italy); **Fabio Marioni,** Media Lario S.r.l. (Italy); **Andrea Ristori,** ; **Giammarco Roini,** Teoresi S.p.A. (Italy); **Alex Franciolini,** H.S.T. S.r.l. (Italy); **Roberto Ragazzoni,** INAF - Osservatorio Astronomico di Padova (Italy)

13092-45 • 02:20 PM - 02:40 PM
**Progress in the Earth 2.0 Space mission**
*Author(s):* **Jian Ge,** Shanghai Astronomical Observatory (China); **Wen Chen,** Innovation Academy for Microsatellites (China); **Yonghe Chen,** The Shanghai Institute of Technical Physics (China); **Zongxi Song,** Xi'an Institute of Optics and Precision Mechanics (China); **Jian Wang,** Univ. of Science and Technology of China (China); **Lianguo Wang,** National Space Science Ctr. (China); **Lin Wen,** The Xinjiang Technical Institute of Physics and Chemistry (China); **Shude Mao,** Tsinghua Univ. (China); **Kevin Willis,** Science Talent Training Ctr. (United States)

13092-46 • 02:40 PM - 03:00 PM
**An ultra-stable mid-infrared detector array for space-based exoplanet transit and phase curve spectroscopy**
*Author(s):* **Johannes G. Staguhn,** Johns Hopkins Univ. (United States); **Dale Fixsen**, **Elmer Sharp**, **Avi M. Mandell,** NASA Goddard Space Flight Ctr. (United States); **Kevin Stevenson,** Johns Hopkins Univ. Applied Physics Lab., LLC (United States); **Edward J. Wollack,** NASA Goddard Space Flight Ctr. (United States)

### Coffee Break 03:00 PM - 03:30 PM

## SESSION 12: EXOPLANET TIME SERIES OBSERVATIONS III

18 June 2024 • 03:30 PM - 05:30 PM | Room G303/304, North - 3F
*Session Chair(s):* **Dmitry Savransky**, Cornell Univ. (United States)

13092-47 • 03:30 PM - 03:50 PM
**The Ariel mission: a mission of the European Space Agency for the characterization of exoplanets**
*Author(s):* **Jean-Christophe Salvignol**, **Theresa Lueftinger**, **Gonzalo Saavedra Criado**, **Salma Fahmy**, **Camille Desportes de la Fosse**, **Riccardo Rinaldi**, **Cyril Colombo**, **Lidia Icardi**, **Robert Knockaert**, **Gianfranco Sechi**, **Ludovic Puig**, **Delphine Jollet**, **Anders Svedevall**, **Thierry Tirolien**, **Raymond Fels**, **Jorge Fiebrich**, **Marie-Geneviève Périchaud**, **Anja Plitzke,** European Space Research and Technology Ctr. (Netherlands); **David Milligan**, **Claudio Mevi,** European Space Research and Technology Ctr. (Germany); **Catarina Alves de Oliveira,** European Space Research and Technology Ctr. (Spain); **Giovanna Tinetti,** University College London (United Kingdom); **Paul Eccleston,** Rutherford Appleton Laboratory (United Kingdom); **Christophe Gabilan**, **Ludovic Larue**, **Jacques Oubrier,** Airbus Defence and Space (France); **Ahmad Qadir,** Airbus Defence and Space (United Kingdom)

13092-48 • 03:50 PM - 04:10 PM

**The Ariel payload design post-PDR**

*Author(s):* **Paul Eccleston**, **Andrew Caldwell**, **Georgia Bishop**, **Lucile Desjonqueres**, **Rachel Drummond**, **Alexander Davidson**, **Martin Whalley**, **Chris Pearson**, **Caroline Simpson**, **Sandy Fok**, **Davide Bruzzi**, **Alex Davies**, **Pranav Umesh,** STFC Rutherford Appleton Lab. (United Kingdom); **Enzo Pascale,** Sapienza Univ. di Roma (Italy); **Gianluca Morgante,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Mauro Focardi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Giorgio Savini**, **Giovanna Tinetti,** Univ. College London (United Kingdom); **Marc Ollivier,** Institut d'Astrophysique Spatiale (France), Univ. Paris-Sud (France); **Miroslaw Rataj,** Space Research Ctr. of the Polish Academy of Sciences (Poland); **Giuseppe Malaguti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Andrea Tozzi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Paolo Chioetto,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Emanuele Pace,** Univ. degli Studi di Firenze (Italy); **Paola Zuppella,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Giampaolo Preti,** Univ. degli Studi di Firenze (Italy); **Christophe Serre**, **José María Gómez Cama,** Institut de Ciències de l'Espai (Spain); **Gustavo Alonso**, **Javier Perez Alvarez,** Instituto Univ. de Microgravedad "Ignacio Da Riva", Univ. Politécnica de Madrid (Spain); **Neil Bowles**, **Keith Nowicki,** Univ. of Oxford (United Kingdom); **Jérôme Martignac,** Univ. Paris-Saclay (France), Univ. Paris Cité (France); **Michel Berthé,** Univ. Paris-Saclay (France); **Martin Crook**, **Matthew Hills**, **Charles Padley,** STFC Rutherford Appleton Lab. (United Kingdom); **Semu Mäkinen,** OHB System AG (Germany); **Zsolt Kovacs**, **János Szoke**, **Peter Szirovicza,** Admatis Ltd. (Hungary); **Mateusz Sobiecki**, **Konrad R. Skup**, **Piotr Wawer,** Space Research Ctr. of the Polish Academy of Sciences (Poland); **Roland Ottensamer,** Univ. Wien (Austria); **Warren A. Holmes,** Jet Propulsion Lab., Caltech (United States); **Renaud Goullioud,** Jet Propulsion Lab. (United States); **Markus Czupalla,** FH Aachen Univ. of Applied Sciences (Germany); **Niels Christian Jessen**, **Søren Møller Pedersen,** Technical Univ. of Denmark (Denmark); **Tom Ray**, **Deirdre Coffey,** Dublin Institute for Advanced Studies (Ireland); **Lukas Steiger,** Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic); **Carlos Compostizo,** SENER Aeroespacial S.A. (Spain); **Ricardo Machado,** Actividades Aeroespaciais SA (Portugal); **Stephan Birkmann,** European Space Astronomy Ctr., European Space Agency (Spain); **Salma Fahmy,** European Space Astronomy Ctr., European Space Agency (Netherlands); **Ludovic Puig**, **Delphine Jollet,** European Space Research and Technology Ctr., European Space Agency (Netherlands); **Anders Svedevall,** European Space Astronomy Ctr., European Space Agency (Netherlands); **Thierry Tirolien**, **Jean-Christophe Salvignol, Jean-Philippe Halain,** European Space Research and Technology Ctr., European Space Agency (Netherlands)

13092-49 • 04:10 PM - 04:30 PM

**The telescope assembly of the Ariel space mission**

*Author(s):* **Emanuele Pace,** Univ. degli Studi di Firenze (Italy); **Andrea Tozzi,** INAF - Istituto Nazionale di Astrofisica (Italy); **Paola Zuppella,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Umberto Barozzi,** Leonardo S.p.A. (Italy); **Andrea Bocchieri,** Sapienza Univ. di Roma (Italy); **Daniele Brienza**, **Pasquale Bonfà,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Anna Brucalassi,** INAF - Istituto Nazionale di Astrofisica (Italy); **Matteo Burresi,** Leonardo S.p.A. (Italy); **Paolo Chioetto,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Fausto Cortecchia**, **Ciro Del Vecchio,** INAF - Istituto Nazionale di Astrofisica (Italy); **Marco Di Giampietro,** Leonardo S.p.A. (Italy); **Emiliano Diolaiti,** INAF - Istituto Nazionale di Astrofisica (Italy); **Paul Eccleston,** STFC Rutherford Appleton Lab. (United Kingdom); **Debora Ferruzzi**, **Mauro Focardi,** INAF - Istituto Nazionale di Astrofisica (Italy); **Enrico Fossati**, **Francesco Giunta,** Leonardo S.p.A. (Italy); **Gabriele Grisoni,** Media Lario S.r.l. (Italy); **Elisa Guerriero,** INAF - Istituto Nazionale di Astrofisica (Italy); **Lucia Ianni,** Leonardo S.p.A. (Italy); **Matteo Lombini**, **Giuseppe Malaguti**, **Giuseppina Micela,** INAF - Istituto Nazionale di Astrofisica (Italy); **Federico Miceli,** Leonardo S.p.A. (Italy); **Gianluca Morgante,** INAF - Istituto Nazionale di Astrofisica (Italy); **Lorenzo Mugnai,** Cardiff Univ. (United Kingdom); **Vladimiro Noce,** INAF - Istituto Nazionale di Astrofisica (Italy); **Enzo Pascale,** Sapienza Univ. di Roma (Italy); **Raffaele Piazzolla,** Agenzia Spaziale Italiana (Italy); **Paolo Picchi,** Univ. degli Studi di Firenze (Italy); **Carlo Pompei**, **Giovanni Postiglione,** Leonardo S.p.A. (Italy); **Giampaolo Preti,** Univ. degli Studi di Firenze (Italy); **Mario Salatti,** Agenzia Spaziale Italiana (Italy); **Antonio Scippa,** Univ. degli Studi di Firenze (Italy); **Luca Terenzi,** INAF - Istituto Nazionale di Astrofisica (Italy); **Giovanna Tinetti,** Univ. College London (United Kingdom); **Leonardo Tommasi,** Leonardo (Italy); **Elisabetta Tommasi Di Vignano,** Agenzia Spaziale Italiana (Italy); **Dervis Vernani,** Media Lario S.r.l. (Italy)

13092-50 • 04:30 PM - 04:50 PM

**ARIEL IR Spectrometer development status**

*Author(s):* **Jérôme Martignac**, **Jerome Amiaux**, **Michel Berthé**, **Christophe Cara**, **Cyrille Delisle**, **Achrène Direk**, **Luc Dumaye**, **Jean Fontignie**, **Benoît Horeau**, **Norma Hurtado**, **Duc-Dat Huynh**, **Grégory Kaszubiak**, **Pierre-Olivier Lagage**, **Isabelle Le Mer**, **Michel Lortholary**, **Vincent Moreau**, **Patrick Mulet**, **Thibault Pichon**, **Léna Provost**, **Diana Renaud**, **Michel Talvard**, **Thierry Tourrette**, **François Visticot,** Univ. Paris-Saclay (France), Univ. Paris Cité (France), CEA (France); **Axel Arhancet**, **Damien Bachet**, **Nicolas Berton**, **Yannick Drouen**, **Mickaël Lacroix**, **Hervé Le Provost**, **Virgile Meyer**, **Nicolas Solenne**, **Olivier Tellier,** Univ. Paris-Saclay (France), CEA-IRFU (France); **Antoine Arondel**, **Anne Philippon**, **Clémence de Jabrun**, **Jean-Pierre Dubois**, **François Langlet**, **Dylan Le Claire**, **Benoît Lecomte**, **Gilles Morinaud**, **Marc Ollivier**, **Stéphane Tosti,** Institut d'Astrophysique Spatiale (France), Univ. Paris-Saclay (France); **Vincent Lapeyrere**, **Marion Bonafous**, **Jérôme Parisot**, **Eitan Pechevis**, **Jean-Michel Reess**, **Didier Zegadanin,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris à Meudon, CNRS (France), Univ. PSL (France), Sorbonne Univ. (France); **Jean-Philippe Beaulieu**, **Virginie Batista**, **Pierre Drossart,** Institut d'Astrophysique de Paris (France); **Salma Fahmy**, **Delphine Jollet**, **Ludovic Puig**, **Thierry Tirolien**, **Jean-Christophe Salvignol,** European Space Agency, ESTEC (Netherlands); **Elisa Baldit**, **Pascale Danto**, **Gilles Hervet**, **Océane Maisonnave,** Ctr. National d'Études Spatiales (France); **Paul Eccleston**, **Rachel Drummond**, **Georgia Bishop**, **Davide Bruzzi**, **Andrew Caldwell**, **Martin Caldwell**, **Lucile Desjonqueres**, **Martin Whalley,** Science and Technology Facilities Council (United Kingdom), STFC Rutherford Appleton Lab. (United Kingdom); **Enzo Pascale,** Sapienza Univ. di Roma (Italy); **Gianluca Morgante,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Mauro Focardi,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Emanuele Pace,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Anna Maria Di Giorgio,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Mallaury Guerrier, Adrien Défossé,** Hensoldt Space Consulting (France)

13092-51 • 04:50 PM - 05:10 PM
**The Ariel FGS: current design and implementation**
*Author(s):* **Konrad R. Skup**, **Miroslaw Rataj**, **Piotr Wawer**, **Mateusz Sobiecki**, **Kamil Ber**, **Konrad Rutkowski**, **Przemyslaw Nita**, **Grzegorz Szymanski**, **Marianna Fulara**, **Marcin Sobolewski**, **Nils Thernstrom**, **Lukasz Kurylowicz**, **Daniel Poltorak**, **Aleksandra Mironska**, **Marek Winkler**, **Marurycy Ciarka**, **Bradley Neuse,** Space Research Ctr. of the Polish Academy of Sciences (Poland); **Roland Ottensamer**, **Gerald Mösenlechner**, **Armin Luntzer,** Univ. Wien (Austria); **Warren A. Holmes**, **Renaud Goullioud,** Jet Propulsion Lab. (United States); **Mauro Focardi,** INAF - Istituto Nazionale di Astrofisica (Italy); **Raoul Grimoldi,** OHB Italia S.p.A. (Italy)

13092-52 • 05:10 PM - 05:30 PM
**The Atmospheric Remote-sensing Infrared Exoplanet Large-survey (Ariel) sensitivity and performance**
*Author(s):* **Enzo Pascale**, **Andrea Bocchieri,** Sapienza Univ. di Roma (Italy); **Paul Eccleston,** STFC Rutherford Appleton Lab. (United Kingdom); **Lorenzo V. Mugnai,** Cardiff Univ. (United Kingdom); **Giorgio Savini,** Univ. College London (United Kingdom); **Angele Syty,** Univ. Paris-Saclay (France); **Vinooja Thurairethinam, Giovanna Tinetti,** Univ. College London (United Kingdom)

## SESSION PS6: POSTERS - EXOPLANET TIME SERIES OBSERVATIONS: SCIENCE DATA PROCESSING & SIMULATIONS

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-268 • 05:30 PM - 07:00 PM
**A NIRISS/SOSS high-fidelity spectral library between 0.8 and 2.8 microns of planet-hosting stars**
*Author(s):* **Loïc Albert,** L'Institut Trottier de recherche sur les exoplanètes, Univ. de Montréal (Canada)

13092-269 • 05:30 PM - 07:00 PM
**The Ariel Instrument Operations Science and Data Centre: design, development, and implementation**
*Author(s):* **Chris Pearson,** STFC Rutherford Appleton Lab. (United Kingdom); **Giuseppe Malaguti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13092-270 • 05:30 PM - 07:00 PM
**ExoSim 2: the new exoplanet observation simulator applied to the Ariel space mission**
*Author(s):* **Lorenzo V. Mugnai,** Cardiff Univ. (United Kingdom); **Andrea Bocchieri, Enzo Pascale,** Sapienza Univ. di Roma (Italy)

## SESSION PS7: POSTERS - EXOPLANET TIME SERIES OBSERVATIONS: DETECTORS, ELECTRONICS, AND OPERATIONS

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-272 • 05:30 PM - 07:00 PM
**The transit signal detection and verification experiment with CMOS detectors for the Earth 2.0 mission**
*Author(s):* **Yan Li,** Shanghai Astronomical Observatory (China); **Jian Ge,** Shanghai Astronomical Observatory (China); **Xinyu Yao,** Shanghai Astronomical Observatory (China); **Sen Yang,** Xi'an Institute of Optics and Precision Mechanics (China); **Jianqing Cai,** Shanghai Astronomical Observatory (China); **Zongxi Song, Wei Gao,** Xi'an Institute of Optics and Precision Mechanics (China)

13092-273 • 05:30 PM - 07:00 PM
**CCD290-99 prototype camera and proton irradiation test for the Earth 2.0's microlensing telescope**
*Author(s):* **Hui Wang**, **Qi Feng**, **Hong-fei Zhang**, **Jian Wang**, **Jie Gao,** Univ. of Science and Technology of China (China); **Jian Ge**, **Hui Zhang,** Shanghai Astronomical Observatory (China); **Lin Wen, Yudong Li,** The Xinjiang Technical Institute of Physics and Chemistry (China)

13092-274 • 05:30 PM - 07:00 PM
**On-board control procedures for the PLATO space mission**
*Author(s):* **Simone Chiarucci**, **Mauro Focardi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Anna Maria Di Giorgio,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Rosario Cosentino,** Fundación Galileo Galilei - INAF (Spain); **Giovanni Giusi**, **Andrea Russi**, **Scigè John Liù,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Marina Vela Nuñez**, **Vladimiro Noce, Pierpaolo Merola,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

13092-275 • 05:30 PM - 07:00 PM
**Advancements and evolution of PLATO's instrument control unit: insights from engineering model performance testing to qualification model development**
*Author(s):* **Rosario Cosentino,** Fundación Galileo Galilei - INAF (Spain), INAF - Osservatorio Astrofisico di Catania (Italy); **Anna Maria Di Giorgio,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Mauro Focardi,** INAF - Istituto Nazionale di Astrofisica (Italy); **Chiarucci Simone,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Carlo Del Vecchio Blanco**, **Devitt Dini,** Kayser Italia Srl (Italy); **Fabrizio De Angelis**, **Maria Farina,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Giuseppe Giglio,** Kayser Italia Srl (Italy); **Giovanni Giusi,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Harald Jeszenszky**, **Gunter Laky,** Institut für Weltraumforschung (Austria); **Scigè John Liù,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Dominik Loidolt**, **Armin Luntzer,** Univ. Wien (Austria); **Vladimiro Noce,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Harald Ottacher**, **Roland Ottensamer,** Institut für Weltraumforschung (Austria); **Alessio Pannocchia**, **Marco Passerai,** Kayser Italia Srl (Italy); **Andrea Russi,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Luca Serafini,** Kayser Italia Srl (Italy); **Jorge Lucio Tonfat Seclen,** Institut für Weltraumforschung (Austria); **Luca Toscano,** Kayser Italia Srl (Italy); **Marina Vela Nuñez,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Marco Verna,** Kayser Italia Srl (Italy)

13092-276 • 05:30 PM - 07:00 PM
**The PLATO ICU data compression chain: SW architecture and preliminary performance test results**
*Author(s):* **Andrea Russi**, **Giovanni Giusi**, **Anna Maria Di Giorgio,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Dominik Loidolt,** Univ. Wien (Austria); **Harald Ottacher,** Institut für Weltraumforschung (Austria); **Simone Chiarucci,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Maria Farina**, **Fabrizio De Angelis**, **Scigè John Liù,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Roland Ottensamer,** Univ. Wien (Austria); **Rosario Cosentino,** Fundación Galileo Galilei - INAF (Spain); **Mauro Focardi,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

13092-277 • 05:30 PM - 07:00 PM
**The Ariel payload electrical and electronic architecture: a summary of the current design and implementation status**
*Author(s):* **Mauro Focardi,** INAF - Istituto Nazionale di Astrofisica (Italy); **Vladimiro Noce,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Anna Di Giorgio,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Sebastiano Ligori**, **Pierpaolo Merola**, **Marina Vela Nuñez**, **Simone Chiarucci**, **Gianluca Morgante**, **Eduardo Medinaceli Villegas**, **Natalia Auricchio,** INAF - Istituto Nazionale di Astrofisica (Italy); **Emanuele Pace**, **Giampaolo Preti,** Univ. degli Studi di Firenze (Italy); **Vito Capobianco,** INAF - Osservatorio Astrofisico di Torino (Italy); **Donata Bonino**, **Leonardo Corcione**, **Maria Farina**, **Andrea Russi**, **Giovanni Giusi,** INAF - Istituto Nazionale di Astrofisica (Italy); **Michel Berthé**, **Jérôme Martignac**, **Christophe Cara,** CEA-Paris-Saclay (France); **José María Gómez Cama,** Univ. de Barcelona (Spain); **Laura Marti**, **Jaume Ateca,** Institut d'Estudis Espacials de Catalunya (Spain); **Konrad R. Skup**, **Konrad Rutkowski**, **Kamil Ber,** Space Research Ctr. of the Polish Academy of Sciences (Poland); **Roland Ottensamer,** Univ. Wien (Austria); **Warren A. Holmes**, **Renaud Goullioud,** Jet Propulsion Lab. (United States); **Martin Crook**, **Matthew Hills**, **Geoffrey Gilley**, **Andrew Caldwell**, **Rachel Drummond**, **Paul Eccleston,** STFC Rutherford Appleton Lab. (United Kingdom); **Mateusz Sobiecki**, **Miroslaw Rataj,** Space Research Ctr. of the Polish Academy of Sciences (Poland); **Rafael Nunes**, **Ludovic Puig**, **Lidia Icardi**, **Delphine Jollet**, **Anders Svedeval, Salma Fahmy,** European Space Agency (Netherlands)

13092-278 • 05:30 PM - 07:00 PM
**Developing and testing the acquisition chain of the AIRS instrument for the ARIEL mission**
*Author(s):* **Grégory Kaszubiak**, **Nathan Leguay**, **Christophe Cara**, **Jérome Martignac**, **Michel Berthé**, **Thomas Capocci**, **Jean Fontigniè**, **Benoît Horeau**, **Michel Lortholary**, **Thibault Pichon**, **Thierry Tourrette**, **Duc-Dat Huynh**, **Norma Hurtado**, **Léna Provost,** CEA-Paris-Saclay (France), Univ. Paris Cité (France); **Pascale Danto,** Ctr. National d'Études Spatiales (France); **Hervé Le Provost,** CEA-IRFU (France), Univ. Paris-Saclay (France)

13092-279 • 05:30 PM - 07:00 PM
**Development and test of the integrated Focal Plane of the AIRS instrument for the ARIEL space mission**
*Author(s):* **Diana Renaud,** CEA-IRFU (France); **Axel Arhancet,** CEA (France); **Damien Bachet,** CEA-IRFU (France); **Elisa Baldit,** Ctr. National d'Études Spatiales (France); **Michel Berthé,** CEA (France); **Nicolas Berton,** CEA-Paris-Saclay (France); **Marion Baumann**, **Christophe Cara**, **Thomas Capocci,** CEA (France); **Pascale Danto,** Ctr. National d'Études Spatiales (France); **Yannick Drouen**, **Jean Fontigniè**, **Mallaury Guerrier,** CEA (France); **Benoît Horeau**, **Norma Hurtado,** CEA-Paris-Saclay (France); **Duc-Dat Huynh,** CEA-IRFU (France); **Grégory Kaszubiak,** CEA-Paris-Saclay (France); **Nathan Leguay**, **Mickaël Lacroix,** CEA (France); **Michel Lortholary,** CEA-IRFU (France); **Jérôme Martignac,** CEA (France); **Isabelle Le Mer**, **Virgile Meyer,** CEA-IRFU (France); **Vincent Moreau,** CEA-Paris-Saclay (France); **Thibault Pichon,** CEA-IRFU (France); **Lexane Picault,** CEA (France); **Lena Provost,** CEA-Paris-Saclay (France); **Nicolas Solenne,** CEA-IRFU (France); **Catherine Tamiatto,** Institut d'Astrophysique Spatiale (France); **Thierry Tourrette, François Visticot,** CEA-IRFU (France)

13092-280 • 05:30 PM - 07:00 PM
**The instrument control unit of the AIRS instrument on-board the ARIEL mission: design status after PDR**
*Author(s):* **Vladimiro Noce,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Mauro Focardi,** INAF - Istituto Nazionale di Astrofisica (Italy); **Pierpaolo Merola**, **Marina Vela Nunez,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Anna Maria Di Giorgio,** INAF-IAPS, Institute of Space Astrophysics and Planetology, (Italy); **Maria Farina,** INAF-IAPS (Italy); **Sebastiano Ligori,** INAF-OATo, Turin Astrophysical Observatory (Italy); **Vito Capobianco**, **Leonardo Corcione**, **Donata Bonino,** INAF-OATo (Italy); **Natalia Auricchio,** INAF/OAS - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Luca Serafini**, **Alessandra Tortora**, **Alessio Pannocchia**, **Marco Verna,** Kayser Italia (Italy); **Emanuele Pace**, **Giampaolo Preti,** Università degli Studi di Firenze (Italy); **Paul Eccleston,** RAL - Rutherford Appleton Laboratory (United Kingdom); **Salma Fahmy,** ESA/ESTEC (Netherlands); **Lucile Desjonqueres**, **Alexander Davidson,** RAL - Rutherford Appleton Laboratory (United Kingdom); **Daniele Brienza**, **Fulvio De Persio**, **Elisabetta Tommasi,** ASI - Italian Space Agency (Italy); **Michel Berthé**, **Christophe Cara**, **Jean Fontignie**, **Jerome Martignac,** CEA – Irfu Department of Astrophysics (France); **Delphine Jollet**, **Ludovic Puig,** ESA/ESTEC (Netherlands); **Giuseppina Micela,** INAF - Osservatorio Astronomico di Palermo (Italy); **Giuseppe Malaguti,** INAF/OAS - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Giovanna Tinetti,** UCL (United Kingdom)

13092-281 • 05:30 PM - 07:00 PM
**The application software for the instrument control unit of the Ariel mission: report on the development status**
*Author(s):* **Sebastiano Ligori**, **Leonardo Corcione**, **Vito Capobianco**, **Donata Bonino,** INAF - Osservatorio Astrofisico di Torino (Italy); **Mauro Focardi,** INAF - Istituto Nazionale di Astrofisica (Italy); **Anna Maria Di Giorgio,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Marina Vela Nuñez**, **Vladimiro Noce**, **Pierpaolo Merola,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Maria Farina,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Natalia Auricchio,** INAF - Osservatorio di Astrofisica e scienza dello Spazio (Italy)

## SESSION PS8: POSTERS - EXOPLANET TIME SERIES OBSERVATIONS: OPTICS, OPTOMECHANICS, AND MODELING

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-44 • 05:30 PM - 07:00 PM
**PLATO: verification of in-orbit performances through STOP analysis**
*Author(s):* **Davide Greggio**, **Demetrio Magrin,** INAF - Osservatorio Astronomico di Padova (Italy); **Nicolas Gorius,** INAF - Osservatorio Astrofisico di Catania (Italy); **Giovanni Tropea**, **Paolo Apollonio**, **Maria Fürmetz,** OHB System AG (Germany); **Andrea Cottinelli,** INAF - Osservatorio Astronomico di Padova (Italy); **Duncan Goulty**, **Thomas Kanitz,** European Space Research and Technology Ctr., European Space Agency (Netherlands); **Giacomo Dinuzzi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Francesco Santoli,** IAPS - INAF Istituto di Astrofisica e Planetologia Spaziali (Italy); **Alexander Kuisl,** OHB System AG (Germany); **Sami Matias Niemi,** European Space Research and Technology Ctr., European Space Agency (Netherlands); **Isabella Pagano,** INAF - Osservatorio Astrofisico di Catania (Italy); **Martin Pertenais,** Deutsches Zentrum für Luft- und Raumfahrt e.V. (Germany); **Roberto Ragazzoni,** INAF - Osservatorio Astronomico di Padova (Italy)

13092-283 • 05:30 PM - 07:00 PM
**Design of straylight suppression for ET transit telescopes**
*Author(s):* **Yonghe Chen,** The Shanghai Institute of Technical Physics (China); **Chuanxin Wei,** The Shanghai Institute of Technical Physics (China); **Dongge Zhang,** The Shanghai Institute of Technical Physics (China); **Yanwu Kang,** The Shanghai Institute of Technical Physics (China); **Jian Ge**, **Dan Zhou**, **Jiapeng Zhu,** Shanghai Astronomical Observatory (China); **Wen Chen**, **Kun Chen**, **Haoyu Wang, Xuliang Duan,** Innovation Academy for Microsatellites (China)

13092-284 • 05:30 PM - 07:00 PM
**Aluminum based large telescopes: the ARIEL mission case**
*Author(s):* **Paolo Picchi,** Univ. degli Studi di Firenze (Italy); **Andrea Tozzi,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

13092-286 • 05:30 PM - 07:00 PM
**Preliminary study of the medium frequencies of Ariel's primary mirror using Zemax simulations**
*Author(s):* **Elisa Guerriero**, **Fabio D'Anca,** INAF - Osservatorio Astronomico di Palermo "Giuseppe Salvatore Vaiana" (Italy); **Andrea Tozzi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Paolo Chioetto,** INAF - Osservatorio Astrofisico di Arcetri (Italy), CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Giuseppina Micela,** INAF - Osservatorio Astronomico di Palermo "Giuseppe Salvatore Vaiana" (Italy); **Emanuele Pace,** Univ. degli Studi di Firenze (Italy); **Emiliano Diolaiti**, **Fausto Cortecchia,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Daniele Brienza,** Agenzia Spaziale Italiana (Italy); **Andrew Caldwell,** STFC Rutherford Appleton Lab. (United Kingdom); **Paul Eccleston,** STFC Rutherford Appleton Lab. (Italy); **Giuseppe Malaguti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Enzo Pascale,** Sapienza Univ. di Roma (Italy); **Raffaele Piazzolla,** Agenzia Spaziale Italiana (Italy); **Giampaolo Preti,** Univ. degli Studi di Firenze (Italy); **Mario Salatti,** Agenzia Spaziale Italiana (Italy); **Giovanna Tinetti,** Univ. College London (United Kingdom); **Elisabetta Tommasi Di Vignano,** Agenzia Spaziale Italiana (Italy); **Paola Zuppella,** CNR-Istituto di Fotonica e Nanotecnologie (Italy), INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13092-288 • 05:30 PM - 07:00 PM
**Development, manufacturing, and testing of Ariel's structural model prototype flexure hinges**
*Author(s):* **Fabio D'Anca,** INAF - Osservatorio Astronomico di Palermo "Giuseppe Salvatore Vaiana" (Italy); **Antonio Scippa**, **Riccardo Lilli**, **Daniele Gottini,** Univ. degli Studi di Firenze (Italy), INAF - Osservatorio Astrofisico di Arcetri (Italy); **Andrea Tozzi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Paolo Chioetto**, **Paola Zuppella,** CNR-Istituto di Fotonica e Nanotecnologie (Italy), INAF - Osservatorio Astrofisico di Arcetri (Italy); **Giuseppina Micela,** INAF - Osservatorio Astronomico di Palermo "Giuseppe Salvatore Vaiana" (Italy); **Maurizio Filizzolo,** Zericad di Filizzolo Maurizio (Italy); **Dervis Vernani**, **Marco Terraneo,** Media Lario S.r.l. (Italy); **Carlo Pompei**, **Umberto Barozzi**, **Matteo Burresi**, **Federico Miceli,** Leonardo S.p.A. (Italy); **Emiliano Diolaiti**, **Fausto Cortecchia,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Daniele Brienza,** Agenzia Spaziale Italiana (Italy); **Andrew Caldwell**, **Paul Eccleston,** STFC Rutherford Appleton Lab. (United Kingdom); **Giuseppe Malaguti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Emanuele Pace,** Univ. degli Studi di Firenze (Italy); **Enzo Pascale,** Sapienza Univ. di Roma (Italy); **Raffaele Piazzolla,** Agenzia Spaziale Italiana (Italy); **Giampaolo Preti,** Univ. degli Studi di Firenze (Italy); **Mario Salatti,** Agenzia Spaziale Italiana (Italy); **Giovanna Tinetti,** Univ. College London (United Kingdom); **Elisabetta Tommasi Di Vignano,** Agenzia Spaziale Italiana (Italy); **Leonardo Tommasi,** Leonardo S.p.A. (Italy); **Alfonso Collura, Elisa Guerriero,** INAF - Osservatorio Astronomico di Palermo "Giuseppe Salvatore Vaiana" (Italy)

13092-289 • 05:30 PM - 07:00 PM
**From structural mechanics to optics: an all-in-one method for computing the performances of the Ariel Telescope**
*Author(s):* **Ciro Del Vecchio,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

13092-290 • 05:30 PM - 07:00 PM
**PAOS: a fast, modern, and reliable Python package for physical optics studies**
*Author(s):* **Andrea Bocchieri**, **Lorenzo V. Mugnai, Enzo Pascale,** Sapienza Univ. di Roma (Italy)

13092-291 • 05:30 PM - 07:00 PM
**ARIEL payload STOP analysis: a view on the in-flight operational cases for the telescope assembly**
*Author(s):* **Anna Brucalassi**, **José Antonio Araiza-Durán**, **Andrea Tozzi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Camille Galy,** Ctr. Spatial de Liège (Belgium), Liège Univ. (Belgium); **Andres Garcia Perez,** Univ. Politécnica de Madrid (Spain); **Andrew Caldwell,** STFC Rutherford Appleton Lab. (United Kingdom); **Gianluca Morgante,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Davide Bruzzi**, **Martin Caldwell,** STFC Rutherford Appleton Lab. (United Kingdom); **Paolo Chioetto,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Paul Eccleston,** STFC Rutherford Appleton Lab. (United Kingdom); **Alejandro Jose Fernández Soler,** Univ. Politécnica de Madrid (Spain); **Debora Ferruzzi**, **Riccardo Lilli,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Giuseppina Micela,** INAF - Osservatorio Astronomico di Palermo "Giuseppe Salvatore Vaiana" (Italy); **Emanuele Pace,** Univ. degli Studi di Firenze (Italy); **Enzo Pascale,** Sapienza Univ. di Roma (Italy); **Javier Perez Alvarez,** Univ. Politécnica de Madrid (Spain); **Raffaele Piazzolla,** Agenzia Spaziale Italiana (Italy); **Paolo Picchi**, **Giampaolo Preti,** Univ. degli Studi di Firenze (Italy); **Mario Salatti,** Agenzia Spaziale Italiana (Italy); **Antonio Scippa,** Univ. degli Studi di Firenze (Italy); **Giovanna Tinetti,** Univ. College London (United Kingdom); **Paola Zuppella,** CNR-Istituto di Fotonica e Nanotecnologie (Italy)

## SESSION PS9: POSTERS - EXOPLANET TIME SERIES OBSERVATIONS: ASSEMBLY, INTEGRATION AND TEST RESULTS

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-292 • 05:30 PM - 07:00 PM
**Results for the Pandora SmallSat optical payload integration and characterization**
*Author(s):* **Jordan Karburn,** Lawrence Livermore National Lab. (United States); **Elisa V. Quintana**, **Thomas Barclay**, **Knicole Colón,** NASA Goddard Space Flight Ctr. (United States); **Jessie Dotson,** NASA Ames Research Ctr. (United States); **Peter Supsinskas**, **Maricris Schneider**, **Aaron Peer**, **Michael Wong**, **Ryan Fellini, Hilary Johnson,** Lawrence Livermore National Lab. (United States)

13092-293 • 05:30 PM - 07:00 PM
**Focal plane assemblies (FPAs) assembly, integration, and verification (AIV): from small to large array detectors**
*Author(s):* **Juan Francisco Cabrero Gomez**, **Angel Luis Valverde Guijarro**, **Gonzalo Ramos Zapata**, **Maria Teresa Rodrigo Rodríguez**, **Luis Miguel González Fernández, Tomás Belenguer,** INTA Instituto Nacional de Técnica Aeroespacial (Spain)

13092-294 • 05:30 PM - 07:00 PM
**Autocompatibility testing during vacuum test campaign of the PLATO flight model cameras**
*Author(s):* **Claudio Arena**, **Nicolas Gorius,** INAF - Osservatorio Astrofisico di Catania (Italy); **Gianalfredo Nicolini,** INAF - Osservatorio Astrofisico di Torino (Italy); **Alessio Aboudan,** Universita' di Padova (Italy); **Jose L Alvarezb,** European Space Research and Technology Ctr., European Space Agency (Netherlands); **Francesco Borsa,** INAF - Osservatorio Astronomico di Brera (Italy); **Giacomo Cherchi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio Bologna (Italy); **Cydalise Dumesnil,** IAS Univ. Paris-Saclay (France); **Yves M.E Levillain,** European Space Research and Technology Ctr. (Netherlands); **Christian Olivetto,** IAS Univ. Paris-Saclay (France); **Isabella Pagano,** INAF - Osservatorio Astrofisico di Catania (Italy)

13092-296 • 05:30 PM - 07:00 PM
**Thermal vacuum test facility for PLATO camera performance verification**
*Author(s):* **Lorenza Ferrari**, **Gabby Aitink-Kroes**, **Wouter M. Laauwen**, **Heino Smit**, **Sena Gomashie**, **Robert Huisman**, **Auke Veninga**, **Jarno Panman**, **Erik van der Meer**, **Phillip P. Laubert**, **Jens Johansen, Michiel Min,** SRON Netherlands Institute for Space Research (Netherlands)

13092-297 • 05:30 PM - 07:00 PM
**Comparison of PLATO telescope optical unit test results at ambient and in cryo-vacuum environment for definition of focus plane**
*Author(s):* **Diego Piccotti**, **Andrea Novi**, **Massimo Marinai,** Leonardo S.p.A. (Italy); **Andrea Ristori,** Teoresi S.p.A. (Italy); **Giammarco Roini,** Teoresi S.p.A (Italy); **Christian Magliano,** Univ. degli Studi di Napoli Federico II (Italy); **Vincenzo Binante**, **Umberto Barozzi**, **Marco Taiti**, **Matteo Burresi**, **Alessandro Bini,** Leonardo S.p.A. (Italy); **Demetrio Magrin**, **Jacopo Farinato**, **Andrea Cottinelli,** INAF - Osservatorio Astronomico di Padova (Italy); **Mario Salatti**, **Raffaele Piazzola,** Agenzia Spaziale Italiana (Italy); **Isabella Pagano,** INAF - Osservatorio Astrofisico di Catania (Italy)

13092-298 • 05:30 PM - 07:00 PM
**Cryogenic vacuum test campaign PSF results of the PLATO flight model cameras**
*Author(s):* **Francesco Borsa,** INAF - Osservatorio Astronomico di Brera (Italy); **Nicolas Gorius**, **Claudio Arena, Isabella Pagano,** INAF - Osservatorio Astrofisico di Catania (Italy)

13092-299 • 05:30 PM - 07:00 PM
**INTA as test house for PLATO: telescopes TVAC testing and calibration set-up preparation and EM results**
*Author(s):* **Elisa Borreguero**, **Gonzalo Ramos Zapata**, **Guillermo Mercant**, **Francisco Montoro**, **M. Teresa Rodrigo**, **Ángel L. Valverde**, **M. Ángeles Sierra** , **Lucía Espinosa**, **Amaia Santiago**, **Fernando Conde,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Jesús Saiz,** Blasai (Spain); **Nicolas Gorius**, **Claudio Arena,** INAF - Osservatorio Astrofisico di Catania (Italy); **Bart Vandenbussche,** KU Leuven (Belgium); **Philipp Eigmüller,** Deutsches Zentrum für Luft- und Raumfahrt e.V. (Germany); **Carsten Paproth,** DLR (Germany); **Francesca Molendini, José Lorenzo,** ESA (Netherlands)

13092-300 • 05:30 PM - 07:00 PM
**INTA as test house for PLATO: telescope flight model TVAC testing and calibration first results**
*Author(s):* **Francisco Montoro**, **Gonzalo Ramos Zapata**, **Lucia Espinosa**, **Elisa Borreguero**, **Guillermo Mercant**, **María Teresa Rodrigo**, **Ángel Luis Valverde**, **María Ángeles Sierra**, **Amaia Santiago**, **Fernando Conde,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Jesús Saiz,** Blasai (Spain); **Nicolas Gorius**, **Claudio Arena,** INAF - Osservatorio Astrofisico di Catania (Italy); **Bart Vandenbussche,** KU Leuven (Belgium); **Philipp Eigmüller**, **Carsten Paproth,** Deutsches Zentrum für Luft- und Raumfahrt e.V. (Germany); **Francesca Molendini,** European Space Agency (Netherlands); **José Lorenzo,** European Space Research and Technology Ctr. (Netherlands)

13092-301 • 05:30 PM - 07:00 PM
**Planning the integration and test of a space telescope with a 1 m aluminum primary mirror: the Ariel mission case**
*Author(s):* **Paolo Chioetto,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Anna Brucalassi,** INAF-Osservatorio Astrofisico di Arcetri (Italy); **José Antonio Araiza-Durán**, **Andrea Tozzi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Enrico Fossati**, **Carlo Pompei**, **Umberto Barozzi**, **Lorenzo Barubiani**, **Lorenzo Maddii Fabiani**, **Matteo Burresi**, **Federico Miceli,** Leonardo S.p.A. (Italy); **Emiliano Diolaiti**, **Fausto Cortecchia,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Georgia Bishop,** STFC Rutherford Appleton Lab. (United Kingdom); **Andrea Bocchieri,** Sapienza Univ. di Roma (Italy); **Daniele Brienza,** Agenzia Spaziale Italiana (Italy); **Andrew Caldwell**, **Martin Caldwell**, **Lucile Desjonquères,** STFC Rutherford Appleton Lab. (United Kingdom); **Fabio D'Anca,** INAF - Osservatorio Astronomico di Palermo "Giuseppe Salvatore Vaiana" (Italy); **Marco Di Giampietro,** Leonardo S.p.A. (Italy); **Paul Eccleston,** STFC Rutherford Appleton Lab. (United Kingdom); **Debora Ferruzzi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Elisa Guerriero,** INAF - Osservatorio Astronomico di Palermo "Giuseppe Salvatore Vaiana" (Italy); **Giuseppe Malaguti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Giuseppina Micela,** INAF - Osservatorio Astronomico di Palermo "Giuseppe Salvatore Vaiana" (Italy); **Emanuele Pace,** Univ. degli Studi di Firenze (Italy); **Enzo Pascale,** Sapienza Univ. di Roma (Italy); **Raffaele Piazzolla,** Agenzia Spaziale Italiana (Italy); **Giampaolo Preti,** Univ. degli Studi di Firenze (Italy); **Mario Salatti,** Agenzia Spaziale Italiana (Italy); **Giovanna Tinetti,** Univ. College London (United Kingdom); **Elisabetta Tommasi Di Vignano,** Agenzia Spaziale Italiana (Italy); **Leonardo Tommasi,** Leonardo S.p.A. (Italy); **Ines Ypi,** Univ. degli Studi di Padova (Italy); **Paola Zuppella,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Javier Pérez Álvarez**, **Alejandro Fernández Soler**, **Andrés Garcia Pérez,** Universidad Politécnica de Madrid (Spain); **Steve Roose**, **Marie-Laure Hellin**, **Lionel Jacques, Camille Galy,** Centre Spatial de Liège (Belgium)

13092-302 • 05:30 PM - 07:00 PM
**Cryogenic testing of the integrated Ariel space telescope: design of the optical test equipment**
*Author(s):* **Robert Spry,** Univ. of Oxford (United Kingdom); **Manuel Abreu,** Univ. de Lisboa (Portugal); **Keith Nowicki**, **Neil Bowles**, **Maisie Rashman,** Univ. of Oxford (United Kingdom); **Cédric Pereira,** Univ. de Lisboa (Portugal); **Jake Hutchinson,** Univ. of Oxford (United Kingdom); **David Miguel Ventura de Castro Alves,** Univ. de Lisboa (Portugal); **Rory Evans**, **Robert Watkins**, **Waqas Mir**, **John-Paul Walker,** Univ. of Oxford (United Kingdom); **Ioannis Argyriou,** KU Leuven (Belgium); **Joss Guy**, **Juergen Schmoll**, **Chris Davison,** Durham Univ. (United Kingdom); **Henry Eshbaugh,** Univ. of Oxford (United Kingdom); **Alexandre Cabral,** Univ. de Lisboa (Portugal); **Rachel Drummond**, **Lucile Desjonqueres**, **Mark Anderson**, **Georgia Bishop**, **Paul Eccleston,** STFC Rutherford Appleton Lab. (United Kingdom); **Enzo Pascale,** Sapienza Univ. di Roma (Italy); **Andrew Caldwell,** STFC Rutherford Appleton Lab. (United Kingdom); **Giovanna Tinetti,** Univ. College London (United Kingdom)

13092-303 • 05:30 PM - 07:00 PM
**Stability of the OGSE Vis-NIR illumination sub-system for the future ARIEL space mission**
*Author(s):* **Cédric Pereira,** Univ. de Lisboa (Portugal), Instituto de Astrofísica e Ciências do Espaço, Univ. de Lisboa (Portugal); **Manuel Abreu,** Instituto de Astrofísica e Ciências do Espaço, Univ. de Lisboa (Portugal); **David C. Alves,** Univ. de Lisboa (Portugal), Instituto de Astrofísica e Ciências do Espaço, Univ. de Lisboa (Portugal); **Alexandre Cabral,** Instituto de Astrofísica e Ciências do Espaço, Univ. de Lisboa (Portugal); **Robert Spry**, **Neil Bowles**, **Keith Nowicki, Maisie Rashman,** Univ. of Oxford (United Kingdom)

## SESSION PS10: POSTERS - EXOPLANET TIME SERIES OBSERVATIONS: THERMAL CONTROL & SPACE ENVIRONMENT

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-119 • 05:30 PM - 07:00 PM
**The thermal architecture of the ESA Ariel payload: present design and development status in the middle of Phase C**
*Author(s):* **Gianluca Morgante,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Alejandro Jose Fernández Soler,** IDR/UPM, Univ. Politécnica de Madrid (Spain); **Lucile Desjonqueres,** RAL Space, STFC Rutherford Appleton Lab. (United Kingdom); **Luca Terenzi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Paul Eccleston**, **Andrew Caldwell**, **Georgia Bishop,** RAL Space, STFC Rutherford Appleton Lab. (United Kingdom); **Martin Crook**, **Matthew Hills,** STFC Rutherford Appleton Lab. (United Kingdom); **Thierry Tirolien**, **Alexander Darrau,** European Space Research and Technology Ctr. (Netherlands); **Martin Whalley**, **Davide Bruzzi**, **Alexander Davidson,** RAL Space, STFC Rutherford Appleton Lab. (United Kingdom); **Mauro Focardi**, **Vladimiro Noce,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Jérôme Martignac,** Univ. Paris-Saclay (France), Univ. Paris Cité (France), CEA (France); **Clémence de Jabrun,** Institut d'Astrophysique Spatiale (France); **Gregory D. Allen**, **Renaud Goullioud**, **Warren A. Holmes,** Jet Propulsion Lab. (United States); **Markus Czupalla**, **Mateusz Sobiecki,** Space Research Ctr. of the Polish Academy of Sciences (Poland); **Niels Christian Jessen**, **Søren Møller Pedersen,** DTU Space (Denmark); **Giordano Bruno,** RUAG Space AG (Switzerland); **José María Gómez Cama,** Institut de Ciències de l'Espai (Spain), Univ. de Barcelona (Spain); **Emanuele Pace,** Univ. degli Studi di Firenze (Italy); **Enzo Pascale,** Sapienza Univ. di Roma (Italy)

13092-120 • 05:30 PM - 07:00 PM
**The electrical design of the thermal control systems of the all-aluminum ARIEL telescope**
*Author(s):* **Vladimiro Noce,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Emanuele Pace,** Univ. degli Studi di Firenze (Italy); **Andrea Tozzi**, **Mauro Focardi**, **Pierpaolo Merola,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Paolo Picchi,** Univ. degli Studi di Firenze (Italy); **Paola Zuppella**, **Paolo Chioetto,** CNR-INF (Italy); **Javier Perez Alvarez**, **Laura Garcia Moreno**, **Alejandro Fernandez Soler,** UPM – Instituto Universitario de Microgravedad (Spain); **Gianluca Morgante,** INAF/OAS - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Fausto Rosadi**, **Ottavio Nannucci**, **Umberto Barozzi**, **Andrea Paternoster,** Leonardo SpA (Italy); **Giampaolo Preti,** Univ. degli Studi di Firenze (Italy); **Paul Eccleston,** RAL - Rutherford Appleton Laboratory (United Kingdom); **Salma Fahmy,** ESA/ESTEC (Netherlands); **Andrew Caldwell**, **Lucile Desjonqueres,** RAL - Rutherford Appleton Laboratory (United Kingdom); **Daniele Brienza,** ASI - Italian Space Agency (Italy); **Delphine Jollet,** ESA/ESTEC (Netherlands); **Giuseppina Micela,** INAF - Osservatorio Astronomico di Palermo (Italy); **Giuseppe Malaguti,** INAF/OAS - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Giovanna Tinetti,** UCL (United Kingdom)

13092-121 • 05:30 PM - 07:00 PM
**Ariel payload temperature measurement electronics**
*Author(s):* **José María Gómez Cama,** Univ. de Barcelona (Spain), Institut d'Estudis Espacials de Catalunya (Spain); **Jaume Ateca,** Institut d'Estudis Espacials de Catalunya (Spain), Univ. de Barcelona (Spain); **Jose Bosch Estrada**, **Manuel Carmona,** Univ. de Barcelona (Spain), Institut d'Estudis Espacials de Catalunya (Spain); **Albert Casas**, **Patricia Lopez**, **Laura Marti**, **Aina Royo,** Institut d'Estudis Espacials de Catalunya (Spain), Univ. de Barcelona (Spain); **Oscar Ruiz**, **Christophe Serre,** Univ. de Barcelona (Spain), Institut d'Estudis Espacials de Catalunya (Spain); **Ignasi Ribas,** Institut d'Estudis Espacials de Catalunya (Spain)

13092-122 • 05:30 PM - 07:00 PM
**Consolidation of surface charging analyses on the Ariel payload dielectrics in the early transfer orbit and L2 space environments**
*Author(s):* **Mauro Focardi,** INAF - Istituto Nazionale di Astrofisica (Italy); **Marianna Michelagnoli,** Univ. degli Studi di Firenze (Italy); **Vladimiro Noce**, **Pierpaolo Merola**, **Marina Vela Nuñez, Simone Chiarucci,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

# Wednesday 19 June 2024

## WEDNESDAY PLENARY

19 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/wednesday-plenary

13173-504 • 08:30 AM - 09:15 AM
**Euclid mission: first year of operations** (Plenary Presentation)
*Author(s):* **René J. Laureijs,** European Space Research and Technology Ctr. (Netherlands)

13173-505 • 09:15 AM - 10:00 AM
**The ultraviolet explorer: new views of the UV universe** (Plenary Presentation)
*Author(s):* **Fiona A. Harrison,** Caltech (United States)

## Coffee Break 10:00 AM - 10:20 AM

## SESSION 13: EXOPLANET IMAGING I: JWST, ROMAN, AND TECHNOLOGY ROADMAPS FOR HWO

19 June 2024 • 10:20 AM - 12:20 PM | Room G303/304, North - 3F
*Session Chair(s):* **Marshall D. Perrin**, Space Telescope Science Institute (United States)

13092-53 • 10:20 AM - 10:40 AM
**High contrast imaging with JWST: early results and implications for future missions**
*Author(s):* **Laurent Pueyo, Marshall D. Perrin,** Space Telescope Science Institute (United States)

13092-304 • 10:40 AM - 11:00 AM
**Roman coronagraph status at the completion of instrument level test program**
*Author(s):* **Ilya Y. Poberezhskiy,** Jet Propulsion Lab. (United States)

13092-54 • 11:00 AM - 11:20 AM
**The Nancy Grace Roman Space Telescope Coronagraph Community Participation Program**
*Author(s):* **Dmitry Savransky,** Cornell Univ. (United States); **Vanessa P. Bailey,** Jet Propulsion Lab. (United States)

13092-55 • 11:20 AM - 11:40 AM
**A coronagraph technology roadmap for future space observatories to directly image earth-like exoplanets**
*Author(s):* **Pin Chen,** Jet Propulsion Lab. (United States); **Laurent Pueyo,** Space Telescope Science Institute (United States); **Nicholas Siegler,** Jet Propulsion Lab. (United States)

13092-56 • 11:40 AM - 12:00 PM
**Achieved maturation of key component-level technologies to enable large, segmented apertures in an ultra-stable optical architecture**
*Author(s):* **Laura E. Coyle,** Ball Aerospace (United States); **Tyler McCracken,** Yale Univ. (United States); **Laurent Pueyo**, **Rémi Soummer,** Space Telescope Science Institute (United States); **Matthew East,** L3Harris Technologies, Inc. (United States); **Robert Hellekson**, **Todd Lawton**, **Jonathan W. Arenberg,** Northrop Grumman Corp. (United States); **Marcel Bluth,** KBR, Inc. (United States); **James R. Tucker,** Kratos Defense (United States); **Sang C. Park**, **Michael Eisenhower,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Benjamin Cromey**, **Jeremy Shugrue**, **Joseph Ho**, **Jake Crouse**, **Alexander Klein**, **Dustin Putnam**, **Brian Hicks**, **Randal S. Abbott,** Ball Aerospace (United States); **Ananya Sahoo,** Space Telescope Science Institute (United States); **Iva Laginja,** Observatoire de Paris (France); **Sean Brennan**, **Colin Kingsley**, **Vincent Tagliamonti**, **Vera Versteeg**, **David Stewart**, **Laurie Hill**, **Michael Lesczynski,** L3Harris Technologies, Inc. (United States); **Sze Chaung,** Northrop Grumman Corp. (United States)

13092-57 • 12:00 PM - 12:20 PM
**Deformable mirror technology roadmap: architecting a path to TRL 5 for future exoplanet direct imaging space missions**
*Author(s):* **Tyler D. Groff,** NASA Goddard Space Flight Ctr. (United States); **Eduardo A. Bendek**, **Nicholas Siegler, Duncan Liu,** Jet Propulsion Lab. (United States)

## Lunch/Exhibition Break 12:20 PM - 01:40 PM

## SESSION 14: EXOPLANET IMAGING II: TOWARDS THE HABITABLE WORLDS OBSERVATORY

19 June 2024 • 01:40 PM - 03:40 PM | Room G303/304, North - 3F
*Session Chair(s):* **Pin Chen**, Jet Propulsion Lab. (United States)

13092-58 • 01:40 PM - 02:00 PM
**The Habitable Worlds Observatory science view: status, plans, and opportunities**
*Author(s):* **John M. O'Meara,** W. M. Keck Observatory (United States); **Megan Ansdell**, **Julie Crooke**, **Joshua Pepper,** NASA (United States); **Lee D. Feinberg**, **Aki Roberge,** NASA Goddard Space Flight Ctr. (United States); **John Ziemer**, **Bertrand Mennesson,** Jet Propulsion Lab. (United States); **Courtney Dressing,** Univ. of California, Berkeley (United States)

13092-59 • 02:00 PM - 02:20 PM
**The Habitable Worlds Observatory engineering view: status, plans and opportunities**
*Author(s):* **Lee D. Feinberg,** NASA Goddard Space Flight Ctr. (United States); **John Ziemer,** Jet Propulsion Lab. (United States); **Megan Ansdell**, **Julie Crooke,** NASA (United States); **Courtney Dressing,** Univ. of California, Berkeley (United States); **Bertrand Mennesson,** Jet Propulsion Lab. (United States); **John M. O'Meara,** W. M. Keck Observatory (United States); **Joshua Pepper,** NASA (United States); **Aki Roberge,** NASA Goddard Space Flight Ctr. (United States)

13092-60 • 02:20 PM - 02:40 PM
**Modeling over a program lifecycle: lessons learned from JWST that apply to HWO**
*Author(s):* **Charlie Atkinson**, **Jonathan W. Arenberg, Tiffany M. Glassman,** Northrop Grumman Corp. (United States)

13092-61 • 02:40 PM - 03:00 PM
**Wavefront sensing and control for a future Habitable Worlds Observatory**
*Author(s):* **David C. Redding**, **John Z. Lou**, **Siddarayappa Bikkannavar**, **Andrew Kee**, **Carl R. Nissly**, **Catherine M. Ohara**, **Philip K. Poon**, **Jonathan A. Tesch, Mitchell Troy,** Jet Propulsion Lab. (United States)

13092-62 • 03:00 PM - 03:20 PM
**Mission architecture trades for the Habitable Worlds Observatory**
*Author(s):* **Matthew East**, **Sean A. Brennan**, **Peter Miller,** L3Harris Technologies, Inc. (United States); **Emily Lunde,** L3Harris Technologies (United States)

13092-63 • 03:20 PM - 03:40 PM
**Picometer-level metrology of test articles on the road to Habitable Worlds Observatory**
*Author(s):* **Breann N. Sitarski**, **Babak Saif,** NASA Goddard Space Flight Ctr. (United States); **Marcel Bluth,** KBR, Inc. (United States); **Peter Petrone,** NASA Goddard Space Flight Ctr. (United States); **Perry Greenfield,** Space Telescope Science Institute (United States); **Lee D. Feinberg,** NASA Goddard Space Flight Ctr. (United States); **Sang C. Park**, **Michael Eisenhower,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Thomas P. Zielinski**, **Ritva A. Keski-Kuha**, **Theodore J. Hadjimichael, Stephen J. Hagopian,** NASA Goddard Space Flight Ctr. (United States)

## Coffee Break 03:40 PM - 04:00 PM

## SESSION 15: EXOPLANET IMAGING III: EMERGING TECHNOLOGIES FOR PHOTONICS AND DETECTORS

19 June 2024 • 04:00 PM - 05:40 PM | Room G303/304, North - 3F
*Session Chair(s):* **Tyler D. Groff**, NASA Goddard Space Flight Ctr. (United States)

13092-64 • 04:00 PM - 04:20 PM
**A photonic coronagraph architecture achieving theoretical near ideal performance**
*Author(s):* **Jeffrey B. Jewell**, **James Kent Wallace**, **Luis Costa**, **Dylan M. McKeithen**, **Tobias S. Wenger, Ryan M. Briggs,** Jet Propulsion Lab. (United States)

13092-65 • 04:20 PM - 04:40 PM
**AstroPIC: architecture options and trades for a near-infrared photonic coronagraph for the Habitable Worlds Observatory**
*Author(s):* **Dan Sirbu**, **Ruslan Belikov**, **Kevin W. Fogarty,** NASA Ames Research Ctr. (United States); **Carson G. Valdez**, **Zhanghao Sun**, **David A. B. Miller**, **Olav Solgaard,** Stanford Univ. (United States); **Olivier Guyon,** Steward Observatory, The Univ. of Arizona (United States)

13092-66 • 04:40 PM - 05:00 PM
**A hybrid coronagraphic approach using photonic integrated circuits and bulk optic coronagraphs**
*Author(s):* **Emiel H. Por**, **Laurent Pueyo**, **Rémi Soummer,** Space Telescope Science Institute (United States); **Ruslan Belikov,** NASA Ames Research Ctr. (United States); **Padrip Gatkine,** Caltech (United States); **Raphaël Pourcelot,** Space Telescope Science Institute (United States)

13092-67 • 05:00 PM - 05:20 PM
**Self-calibrating photonic nulling systems for exoplanet imaging and spectroscopy**
*Author(s):* **Olivier Guyon,** Steward Observatory (United States), Subaru Telescope, NAOJ (United States); **Barnaby Norris**, **Peter G. Tuthill,** The Univ. of Sydney (Australia); **Elizabeth Arcadi**, **Glen Douglas,** Macquarie Univ. (Australia); **Marc-Antoine Martinod,** KU Leuven (Belgium); **Simon Gross**, **Stephanie Rossini-Bryson,** Macquarie Univ. (Australia); **Eckhart Spalding,** The Univ. of Sydney (Australia)

13092-68 • 05:20 PM - 05:40 PM
**Simulated performance of energy-resolving detectors towards exoplanet imaging with the Habitable Worlds Observatory**
*Author(s):* **Sarah Steiger**, **Emiel H. Por**, **Laurent Pueyo**, **Raphaël Pourcelot,** Space Telescope Science Institute (United States); **Pin Chen**, **Vanessa P. Bailey,** Jet Propulsion Lab. (United States), Caltech (United States); **Leonid Pogorelyuk,** Rensselaer Polytechnic Institute (United States); **Iva Laginja,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Rémi Soummer,** Space Telescope Science Institute (United States)

## SESSION PS11: POSTERS - EXOPLANET IMAGING: JWST

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-123 • 05:30 PM - 07:00 PM
**Optimizing NIRCam coronagraphy: performance and science operations**
*Author(s):* **Julien H. Girard,** Space Telescope Science Institute (United States); **Jarron Leisenring,** Steward Observatory, The Univ. of Arizona (United States); **Mario Gennaro**, **Martha Boyer**, **Armin Rest**, **Bryan Hilbert**, **David Golimowski**, **Alicia Canipe**, **Marshall D. Perrin**, **Brian Brooks**, **Ben Sunnquist**, **John Stansberry,** Space Telescope Science Institute (United States); **Marcia Rieke,** Steward Observatory, The Univ. of Arizona (United States); **Jens Kammerer,** European Southern Observatory (Germany); **William Balmer,** Johns Hopkins Univ. (United States)

13092-124 • 05:30 PM - 07:00 PM
**ESCAPE project: fundamental detection limits of JWST/NIRCam coronographic observations**
*Author(s):* **Nicolas Godoy**, **Élodie Choquet**, **Lisa Altinier**, **Alexis Lau,** Lab. d'Astrophysique de Marseille (France); **Romain Mayer,** Université Côte d'Azur, Observatoire de la Côte d'Azur, CNRS, Laboratoire Lagrange (France); **Arthur Vigan,** Lab. d'Astrophysique de Marseille (France); **David Mary,** Université Côte d'Azur (France)

13092-125 • 05:30 PM - 07:00 PM
**The effect of off-axis sources on JWST NIRCam coronagraphic performance**
*Author(s):* **Klaus Subbotina Stephenson**, **Aarynn Carter, Andrew J. Skemer,** Univ. of California, Santa Cruz (United States)

13092-126 • 05:30 PM - 07:00 PM
**The JWST/MIRI-MRS spectrum of CT Cha b**
*Author(s):* **Elena Kokoulina,** Liège Univ. (Belgium); **Christian Rab,** Max Planck Institute (Germany); **Tobias Schmidt,** Univ. Hamburg (Germany); **Valentin Christiaens, Olivier Absil,** Liège Univ. (Belgium)

## SESSION PS12: POSTERS - EXOPLANET IMAGING: THE ROMAN CORONAGRAPH

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-127 • 05:30 PM - 07:00 PM
**The Roman Coronagraph Community Participation Program: observation planning**
*Author(s):* **Schuyler G. Wolff,** The Univ. of Arizona (United States)

13092-128 • 05:30 PM - 07:00 PM
**The Roman Coronagraph Community Participation Program: data reduction pipeline and simulations**
*Author(s):* **Maxwell A. Millar-Blanchaer,** Univ. of California, Santa Barbara (United States); **Jason Wang,** Northwestern Univ. (United States); **Vanessa P. Bailey,** Jet Propulsion Lab. (United States); **Dmitry Savransky,** Cornell Univ. (United States); **Roman Space Telescope CGI CPP Team,** Multinational (United States)

13092-129 • 05:30 PM - 07:00 PM
**High-contrast polarimetric observations of debris disks through the Roman Coronagraph instrument**
*Author(s):* **Ramya M. Anche,** The Univ. of Arizona (United States); **David S. Doelman,** Leiden Univ. (Netherlands); **Maxwell A. Millar-Blanchaer,** Univ. of California, Santa Barbara (United States); **Schuyler G. Wolff**, **Ewan S. Douglas**, **Justin Hom,** The Univ. of Arizona (United States); **Frans Snik,** Leiden Univ. (Netherlands); **Kian Milani, Jaren N. Ashcraft,** The Univ. of Arizona (United States)

13092-130 • 05:30 PM - 07:00 PM
**ESCAPE project. CAPyBARA: a Roman Coronagraph simulator for post-processing methods development**
*Author(s):* **Lisa Altinier**, **Élodie Choquet**, **Arthur Vigan**, **Alexis Lau, Nicolás Godoy,** Lab. d'Astrophysique de Marseille (France)

13092-131 • 05:30 PM - 07:00 PM
**Precision alignment mechanisms for the Coronagraph Instrument aboard the Roman Space Telescope**
*Author(s):* **Oliver Krause**, **Friedrich Mueller**, **Ulrich Klaas**, **Monica Ebert**, **Ralf-Rainer Rohloff**, **Armin Böhm**, **Tobias Stadler,** Max-Planck-Institut für Astronomie (Germany); **Fang Shi**, **Feng Zhao**, **Mark Colavita**, **Douglas Moore,** Jet Propulsion Lab. (United States); **Guido Krein**, **Tobias Scott**, **Daniel Schäfer, Sebastian Morain,** von Hoerner & Sulger GmbH (Germany)

## SESSION PS13: POSTERS - EXOPLANET IMAGING: STARSHADES

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-132 • 05:30 PM - 07:00 PM
**A comparison of solar and stellar coronagraphs that make use of external occulters**
*Author(s):* **Claude J. Aime**, **Celine Theys**, **Simon Prunet, André Ferrari,** Univ. Côte d'Azur (France)

13092-133 • 05:30 PM - 07:00 PM
**Starshade Exoplanet Data Challenge: what we learned**
*Author(s):* **Renyu Hu**, **Mario Damiano**, **Stuart Shaklan,** Jet Propulsion Lab. (United States); **Brian Dunne,** Quartus Engineering Incorporated (United States); **Angelle Tanner,** Mississippi State Univ. (United States); **Joseph Carson,** College of Charleston (United States); **Sergi Hildebrandt, Doug Lisman,** Jet Propulsion Lab. (United States)

13092-134 • 05:30 PM - 07:00 PM
**Computation of the Fresnel diffraction of starshades based on a polygonal approximation**
*Author(s):* **Simon Prunet,** Observatoire de la Côte d'Azur (France); **Claude J. Aime**, **André Ferrari, Céline Theys-Ferrari,** Univ. Côte d'Azur (France)

13092-135 • 05:30 PM - 07:00 PM
**Starshade concepts for the Habitable Worlds Observatory**
*Author(s):* **Stuart Shaklan**, **Rhonda M. Morgan**, **Doug Lisman,** Jet Propulsion Lab. (United States); **Sara Seager,** Massachusetts Institute of Technology (United States); **Philip Dumont, Dylan M. McKeithen,** Jet Propulsion Lab. (United States)

## SESSION PS14: POSTERS - PATHWAYS TO GREAT OBSERVATORIES

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-136 • 05:30 PM - 07:00 PM
**New Paradigm on astronomical space missions—designed for the huge—applicable to all scales**
*Author(s):* **Frank U. Grupp,** Univ.-Sternwarte München (Germany), Max-Planck-Institut für extraterrestrische Physik (Germany); **Jonathan W. Arenberg,** Northrop Grumman Corp. (United States); **Hanna Kellermann,** Univ.-Sternwarte München (Germany)

13092-137 • 05:30 PM - 07:00 PM
**Fleet architecture for the Next Great Observatories**
*Author(s):* **Jonathan W. Arenberg**, **Tiffany M. Glassman, Charles Atkinson,** Northrop Grumman Corp. (United States)

13092-138 • 05:30 PM - 07:00 PM
**Considerations for serviceability at L2**
*Author(s):* **Jonathan W. Arenberg,** Northrop Grumman Corp. (United States)

## SESSION PS15: POSTERS - HABITABLE WORLDS OBSERVATORY

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-139 • 05:30 PM - 07:00 PM
**Architectural considerations for the Habitable Worlds Observatory**
*Author(s):* **Tiffany M. Glassman**, **Jonathan W. Arenberg**, **Charles Atkinson, Blake Shepherd,** Northrop Grumman Corp. (United States)

13092-141 • 05:30 PM - 07:00 PM
**Habitable Worlds Observatory: a preliminary look at implications of mirror segment lightweighting on structural and thermal sources of ultrastability**
*Author(s):* **Tony B. Hull,** The Univ. of New Mexico (United States); **Janina Krieg,** SCHOTT AG (Germany); **George Harpole**, **Samia Afreen**, **Jonathan W. Arenberg,** Northrop Grumman Corp. (United States); **Thomas Westerhoff,** SCHOTT AG (Germany)

13092-143 • 05:30 PM - 07:00 PM
**Leveraging the Roman coronagraph approach for the HWO error budget**
*Author(s):* **Bijan Nemati, H. Philip Stahl,** NASA Marshall Space Flight Ctr. (United States)

13092-144 • 05:30 PM - 07:00 PM
**ExoSpec project: exoplanet spectroscopy technologies for the Habitable Worlds Observatory at NASA's Goddard Space Flight Center**

*Author(s):* **Michael W. McElwain**, **Neil T. Zimmerman**, **Bernard J. Rauscher**, **Tyler D. Groff**, **Avi M. Mandell**, **Joshua Berrier,** NASA Goddard Space Flight Ctr. (United States); **Harrison M. Bradley,** Southeastern Universities Research Association (United States); **Qian Gong**, **Roser Juanola-Parramon**, **Emily Kan**, **Breann N. Sitarski**, **Christopher C. Stark**, **Hari B. Subedi, Scott D. Will,** NASA Goddard Space Flight Ctr. (United States)

13092-145 • 05:30 PM - 07:00 PM
**How the Habitable Worlds Observatory's field of regard will impact the use of precursor science**
*Author(s):* **Corey Spohn**, **Christopher C. Stark,** NASA Goddard Space Flight Ctr. (United States); **Dmitry Savransky,** Cornell Univ. (United States), Carl Sagan Institue (United States)

13092-146 • 05:30 PM - 07:00 PM
**HWO yield sensitivities in the NIR and NUV**
*Author(s):* **Rhonda M. Morgan,** Jet Propulsion Lab. (United States); **Dmitry Savransky,** Cornell Univ. (United States); **Michael Turmon**, **Mario Damiano**, **Renyu Hu**, **Bertrand Mennesson**, **Eric E. Mamajek**, **Armen Tokadjian,** Jet Propulsion Lab. (United States); **Tyler D. Robinson,** The Univ. of Arizona (United States)

## SESSION PS16: POSTERS - WAVEFRONT SENSING AND SEGMENT PHASING

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-147 • 05:30 PM - 07:00 PM
**Phasing segmented space telescope via deep learning methods**
*Author(s):* **Maxime Dumont,** ONERA (France), Lab. d'Astrophysique de Marseille (France), Univ. do Porto (Portugal); **Jean-François Sauvage,** ONERA (France), Lab. d'Astrophysique de Marseille (France); **Carlos Correia,** Space ODT (Portugal); **Noah Schwartz,** UK Astronomy Technology Ctr. (United Kingdom); **Morgan Gray,** Lab. d'Astrophysique de Marseille (France); **Jaime Cardoso,** INESCTEC (Portugal)

13092-148 • 05:30 PM - 07:00 PM
**Membrane space telescope: active surface control with radiative adaptive optics**
*Author(s):* **Sebastian Rabien,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Lorenzo Busoni**, **Ciro Del Vecchio,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Julian Ziegleder,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Simone Esposito,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

13092-149 • 05:30 PM - 07:00 PM
**Membrane Space Telescope: case study of a deployable large aperture**
*Author(s):* **Sebastian Rabien,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Nancy Ageorges**, **Dirk Kampf, Sebastian Eberle,** Kampf Telescope Optics GmbH (Germany)

13092-150 • 05:30 PM - 07:00 PM
**Phasing a small deployable optical space telescope using focal-plane wavefront sensing**
*Author(s):* **Noah Schwartz**, **Douglas Harvey**, **Éamonn Harvey**, **Jay Stephan**, **Junyi Zhou,** UK Astronomy Technology Ctr. (United Kingdom); **Samuel Pinilla Sanchez**, **Siu-Lun Yeung,** Science and Technology Facilities Council (United Kingdom); **Charlotte Bond, Katherine Morris,** UK Astronomy Technology Ctr. (United Kingdom)

13092-151 • 05:30 PM - 07:00 PM
**White light interferometry: a method for coarse phasing segmented telescopes without dedicated hardware**
*Author(s):* **Mitchell Troy**, **Siddarayappa Bikkannavar**, **Andrew Kee**, **Catherine M. Ohara**, **Carl R. Nissly**, **Phillip K. Poon**, **David C. Redding**, **Lewis C. Roberts, Jonathan A. Tesch,** Jet Propulsion Lab. (United States)

13092-153 • 05:30 PM - 07:00 PM
**An efficient method for image based coarse alignment of a segmented space telescope**
*Author(s):* **Carl R. Nissly**, **Frank G. Dekens**, **Andrew Kee**, **Luis Marchen**, **Catherine M. Ohara**, **Phillip K. Poon**, **David C. Redding**, **Lewis C. Roberts**, **Jonathan A. Tesch, Mitchell Troy,** Jet Propulsion Lab. (United States)

## SESSION PS17: POSTERS - EXOPLANET IMAGING: PHOTONICS AND INTEGRATED OPTICS

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-154 • 05:30 PM - 07:00 PM
**Simulation of a single photon counting photonic spectrograph for exoplanet atmospheric characterization**
*Author(s):* **Edwin Alexani**, **Donald F. Figer,** Rochester Institute of Technology (United States); **Pradip Gatkine,** Univ. of California, Los Angeles (United States)

13092-155 • 05:30 PM - 07:00 PM
**Laboratory demonstration of broadband fiber-coupled coronagraphy in a vacuum environment**
*Author(s):* **Gregory W. Allan**, **Alex B. Walter**, **Garreth Ruane**, **A. J. Eldorado Riggs**, **Matthew R. Noyes**, **Camilo M. Prada**, **Phillip K. Poon,** Jet Propulsion Lab. (United States), Caltech (United States); **Jorge Llop-Sayson,** Caltech (United States), Jet Propulsion Lab. (United States); **Dimitri Mawet,** Caltech (United States)

13092-156 • 05:30 PM - 07:00 PM
**Hardware development towards the demonstration of an ideal photonic coronagraph**
*Author(s):* **Dylan M. McKeithen,** Jet Propulsion Lab. (United States)

13092-157 • 05:30 PM - 07:00 PM
**Sympathy for the nulling**
*Author(s):* **François M Hénault**, **Jean-Philippe Berger, Laura Schreiber,** Institut de Planétologie et d'Astrophysique de Grenoble (France)

13092-158 • 05:30 PM - 07:00 PM
**Adaptive tunable kernel-nulling interferometry for the direct detection of extrasolar planets**
*Author(s):* **Vincent Foriel**, **Frantz Martinache, David Mary,** Observatoire de la Côte d'Azur (France)

13092-305 • 05:30 PM - 07:00 PM
**Review of CubeSat astrophotonics for space-based astronomy**
*Author(s):* **Tyler deLoughery,** National Research Council Canada (Canada)

## SESSION PS18: POSTERS - EXOPLANET IMAGING: CORONAGRAPHS, OPTICS, AND DEFORMABLE MIRRORS

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-159 • 05:30 PM - 07:00 PM
**Advances in deformable mirror driver electronics for space-applications**
*Author(s):* **Camilo A. Mejia Prada**, **Alex B. Walter**, **Chris Shelton**, **Lewis C. Roberts, Stuart Shaklan,** Jet Propulsion Lab. (United States)

13092-160 • 05:30 PM - 07:00 PM
**Experimental verification of the parabolic deformable mirror for the ExoSpec Project**
*Author(s):* **Hari B. Subedi**, **Qian Gong**, **Tyler D. Groff**, **Roser Juanola-Parramon**, **Scott D. Will**, **Michael W. McElwain, Joshua Berrier,** NASA Goddard Space Flight Ctr. (United States)

13092-161 • 05:30 PM - 07:00 PM
**Efficient mirrorlet array based integral field spectrometer for HWO**
*Author(s):* **Qian Gong**, **Michael W. McElwain**, **Neil T. Zimmerman**, **Tyler D. Groff,** NASA Goddard Space Flight Ctr. (United States); **Enrico Biancalani,** NASA Goddard Space Flight Ctr. (United States), University of Maryland, 4296 Stadium Drive Building 415, College Park, MD 20742 (United States)

13092-162 • 05:30 PM - 07:00 PM
**A new integral field spectrograph for broadband coronagraph demonstrations at the High Contrast Imaging Testbed facility**
*Author(s):* **Neil T. Zimmerman**, **Qian Gong**, **Tyler D. Groff**, **Roser Juanola-Parramon,** NASA Goddard Space Flight Ctr. (United States); **Jorge Llop-Sayson,** Jet Propulsion Lab. (United States); **Michael W. McElwain,** NASA Goddard Space Flight Ctr. (United States); **Matthew R. Noyes,** Jet Propulsion Lab. (United States); **Paul E. Nikulla,** NASA Goddard Space Flight Ctr. (United States); **Camilo Mejia Prada**, **Garreth Ruane, Nicholas Seigler,** Jet Propulsion Lab. (United States)

13092-163 • 05:30 PM - 07:00 PM
**Black silicon apodized pupil coronagraph masks: specular reflectance and polarization aberrations**
*Author(s):* **Emory L. Jenkins**, **Ramya M. Anche,** The Univ. of Arizona (United States); **A. J. Eldorado Riggs,** Jet Propulsion Lab. (United States); **Ewan S. Douglas,** The Univ. of Arizona (United States)

13092-164 • 05:30 PM - 07:00 PM
**Dual purpose focal plane masks for contemporaneous wavefront sensing and high-contrast imaging: hardware status**
*Author(s):* **James Kent Wallace**, **Garreth Ruane**, **Nasrat Raouf**, **Tobias S. Wenger**, **A. J. Eldorado Riggs**, **Jeffrey B. Jewell, Daniel N. Shanks,** Jet Propulsion Lab. (United States)

13092-166 • 05:30 PM - 07:00 PM
**Impact of near-angle scatter on exo-Earth coronagraphy**
*Author(s):* **H. Philip Stahl**, **David Smith, Bijan Nemati,** NASA Marshall Space Flight Ctr. (United States)

13092-169 • 05:30 PM - 07:00 PM
**Coronagraph design survey for future exoplanet direct imaging space missions**
*Author(s):* **Ruslan Belikov,** NASA Ames Research Ctr. (United States); **Christopher C. Stark,** NASA Goddard Space Flight Ctr. (United States); **Nick Siegler,** Jet Propulsion Lab. (United States); **Emiel H. Por,** Space Telescope Science Institute (United States); **Bertrand Mennesson**, **Pin Chen,** Jet Propulsion Lab. (United States); **Kevin W. Fogarty,** NASA Ames Research Ctr. (United States); **Olivier Guyon,** The Univ. of Arizona (United States); **Roser Juanola-parramon,** NASA Goddard Space Flight Ctr. (United States); **John Krist,** Jet Propulsion Lab. (United States); **Dimitri Mawet,** Caltech (United States); **Camilo Mejia Prada,** Jet Propulsion Lab. (United States); **Jeremy N. Kasdin,** Princeton Univ. (United States); **Laurent Pueyo,** Space Telescope Science Institute (United States); **Susan F. Redmond**, **Garreth Ruane,** Jet Propulsion Lab. (United States); **Dan Sirbu,** NASA Ames Research Ctr. (United States); **Karl Stapelfeldt**, **John T. Trauger,** Jet Propulsion Lab. (United States); **Neil T. Zimmerman,** NASA Goddard Space Flight Ctr. (United States)

## Thursday 20 June 2024

### THURSDAY PLENARY

20 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/thursday-plenary

13173-506 • 08:30 AM - 09:15 AM
**Navigating the radio astronomy renaissance: challenges and opportunities for a sustainable future** (Plenary Presentation)
*Author(s):* **Jessica T. Dempsey,** ASTRON (Netherlands)

13173-507 • 09:15 AM - 10:00 AM
**The x-ray imaging and spectroscopy mission (XRISM): development and expected science** (Plenary Presentation)
*Author(s):* **Makoto S. Tashiro,** Saitama Univ. (Japan)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 16: EXOPLANET IMAGING IV: TECHNOLOGY TESTBED RESULTS

20 June 2024 • 10:20 AM - 12:00 PM | Room G303/304, North - 3F
*Session Chair(s):* **Tyler D. Groff**, NASA Goddard Space Flight Ctr. (United States)

13092-69 • 10:20 AM - 10:40 AM
**Demonstration of single-picometer deformable mirror wavefront control using high-resolution electronics**
*Author(s):* **Eduardo A. Bendek**, **Gregory W. Allan, Garreth Ruane,** Jet Propulsion Lab. (United States)

13092-70 • 10:40 AM - 11:00 AM
**Vector vortex coronagraph experiments in vacuum towards 1e-10 contrast**
*Author(s):* **Jorge Llop-Sayson**, **Garreth Ruane**, **Eugene Serabyn**, **Camilo Mejia Prada, A. J. Eldorado Riggs,** Jet Propulsion Lab., Caltech (United States)

13092-71 • 11:00 AM - 11:20 AM
**High-contrast imager for complex aperture telescopes (HiCAT): 9. TRL-4 TRL-4 system-level static and dynamic demonstration of coronagraphy with a segmented aperture**
*Author(s):* **Rémi Soummer,** Space Telescope Science Institute (United States)

13092-72 • 11:20 AM - 11:40 AM
**Demonstration of coronagraphs and wavefront control at the testbed EXIST**
*Author(s):* **Naoshi Murakami**, **Mizuki Asano**, **Shunya Sato,** Hokkaido Univ. (Japan); **Kenta Yoneta,** National Astronomical Observatory of Japan (Japan); **Jun Nishikawa,** National Astronomical Observatory of Japan (Japan), The Graduate Univ. for Advanced Studies (Japan), AstroBiology Ctr., NINS (Japan)

13092-73 • 11:40 AM - 12:00 PM
**Development of broadband scalar vortex coronagraphs with phase dimples for exoplanet imaging**
*Author(s):* **Niyati Desai**, **Dimitri Mawet,** Caltech (United States); **Garreth Ruane**, **Eugene Serabyn,** Jet Propulsion Lab. (United States); **Matthias Kraus,** Carl Zeiss Jena GmbH (Germany); **Susan Redmond, Arielle Bertrou-Cantou,** Caltech (United States)

**Lunch/Exhibition Break 12:00 PM - 01:20 PM**

### SESSION 17: EXOPLANET IMAGING V: TECHNOLOGY TESTBED RESULTS

20 June 2024 • 01:20 PM - 03:20 PM | Room G303/304, North - 3F
*Session Chair(s):* **Laura E. Coyle**, BAE Systems, Inc. (United States)

13092-74 • 01:20 PM - 01:40 PM
**The space coronagraph optical bench (SCoOB): 4. vacuum performance of a high contrast imaging testbed**
*Author(s):* **Kyle Van Gorkom,** Wyant College of Optical Sciences (United States); **Ewan S. Douglas**, **Jaren N. Ashcraft**, **Kian Milani**, **Ramya M. Anche**, **Emory L. Jenkins**, **Sebastiaan Y. Haffert,** The Univ. of Arizona (United States); **Daewook Kim**, **Heejoo Choi,** Wyant College of Optical Sciences (United States); **Olivier Durney,** The Univ. of Arizona (United States)

13092-75 • 01:40 PM - 02:00 PM
**Simulated results of the PIAA-vortex coronagraph for on-axis telescopes**
*Author(s):* **Kevin W. Fogarty**, **Dan Sirbu, Ruslan Belikov,** NASA Ames Research Ctr. (United States)

13092-76 • 02:00 PM - 02:20 PM
**Exoplanet detection techniques for direct imaging dark zone maintenance data sets**
*Author(s):* **Susan F. Redmond,** Caltech (United States), Jet Propulsion Lab. (United States); **Laurent Pueyo**, **Emiel H. Por**, **Raphaël Pourcelot,** Space Telescope Science Institute (United States); **Iva Laginja,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Bryony F. Nickson**, **Ananya Sahoo**, **Meiji M. Nguyen,** Space Telescope Science Institute (United States); **N. Jeremy Kasdin,** Princeton Univ. (United States); **Marshall D. Perrin**, **Rémi Soummer,** Space Telescope Science Institute (United States); **Leonid Pogorelyuk,** Rensselaer Polytechnic Institute (United States)

13092-77 • 02:20 PM - 02:40 PM
**Experimental results of the Coherent Differential Imaging on Speckle Area Nulling (CDI-SAN) Method**
*Author(s):* **Kenta Yoneta,** National Astronomical Observatory of Japan (Japan); **Jun Nishikawa,** National Astronomical Observatory of Japan (Japan), The Graduate Univ. for Advanced Studies (Japan), AstroBiology Ctr., NINS (Japan); **Yutaka Hayano,** National Astronomical Observatory of Japan (United States), The Graduate Univ. for Advanced Studies (Japan); **Masatsugu Iribe,** Osaka Electro-Communication Univ. (Japan); **Kodai Yamamoto,** Kyoto Univ. (Japan); **Ryo Tsukui,** LogistLab, Inc. (Japan); **Naoshi Murakami**, **Mizuki Asano,** Hokkaido Univ. (Japan); **Yosuke Tanaka,** Tokyo Univ. of Agriculture and Technology (Japan), AstroBiology Ctr., NINS (Japan); **Motohide Tamura,** The Univ. of Tokyo (Japan), AstroBiology Ctr., NINS (Japan), National Astronomical Observatory of Japan (Japan); **Takahiro Sumi,** Osaka Univ. (Japan); **Toru Yamada,** Japan Aerospace Exploration Agency (Japan); **Olivier Guyon,** National Astronomical Observatory of Japan (United States), The Univ. of Arizona (United States), AstroBiology Ctr., NINS (Japan); **Julien Lozi**, **Vincent Deo,** National Astronomical Observatory of Japan (United States); **Sébastien Vievard,** National Astronomical Observatory of Japan (United States), AstroBiology Ctr., NINS (Japan); **Kyohoon Ahn,** National Astronomical Observatory of Japan (United States)

13092-78 • 02:40 PM - 03:00 PM
**Adaptive algorithms for high-contrast wavefront sensing and control**
*Author(s):* **Scott D. Will,** NASA Goddard Space Flight Ctr. (United States); **Meiji Nguyen**, **Raphael Pourcelot**, **Rémi Soummer,** Space Telescope Science Institute (United States); **Hari B. Subedi, Tyler D. Groff,** NASA Goddard Space Flight Ctr. (United States)

13092-80 • 03:00 PM - 03:20 PM
**Prototyping liquid-crystal coronagraphs for exo-Earth imaging**
*Author(s):* **Iva Laginja,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **David S. Doelman,** Leiden Observatory (Netherlands), SRON Netherlands Institute for Space Research (Netherlands); **Frans Snik,** Leiden Observatory (Netherlands), NOVA (Netherlands); **Pierre Baudoz,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Felix Bettonvil,** Leiden Observatory (Netherlands), NOVA (Netherlands); **Thomas van der Wielen,** Leiden Observatory (Netherlands); **Jeroen H. H. Rietjens,** SRON Netherlands Institute for Space Research (Netherlands); **Chris van Dijk,** Cosine Measurement Systems (Netherlands); **Alexander B. C. Eigenraam,** SRON Netherlands Institute for Space Research (Netherlands); **Marco Esposito,** Cosine Measurement Systems (Netherlands); **Thomas Wijnen,** NOVA (Netherlands); **Johan Mazoyer,** Observatoire de Paris (France); **Mariya Krasteva, Matteo Taccola,** European Space Research and Technology Ctr. (Netherlands)

## Coffee Break 03:20 PM - 03:50 PM

## SESSION 18: SUBMILLIMETER SKY SURVEYS

20 June 2024 • 03:50 PM - 04:50 PM | Room G303/304, North - 3F
*Session Chair(s):* **Shuji Matsuura**, Kwansei Gakuin Univ. (Japan)

13092-81 • 03:50 PM - 04:10 PM

**The LiteBIRD mission to explore cosmic inflation**

*Author(s):* **Tommaso Ghigna,** High Energy Accelerator Research Organization, KEK (Japan); **Alexander Adler,** Stockholm University (Sweden); **Kosuke Aizawa,** University of Tokyo (Japan); **Hiroki Akamatsu,** High Energy Accelerator Research Organization (Japan); **Ryosuke Akizawa,** University of Tokyo (Japan); **Erwan Allys,** École normale supérieure (France); **Avinash Anand,** Universita' di Roma Torvergata (Italy); **Jonathan Aumont,** IRAP (France); **Jason Austermann,** NIST (United States); **Susanna Azzoni,** Princeton University (United States); **Carlo Baccigalupi,** SISSA (Italy); **Mario Ballardini,** Universita' di Ferrara (Italy); **Anthony Banday,** IRAP (France); **Rita Barreiro,** IFCA (Spain); **Nicola Bartolo,** Universita' di Padova (Italy); **Soumen Basak,** Indian Institute of Science Education and Research (India); **Artem Basyrov,** University of Oslo (Norway); **Shawn Beckman,** University of California Berkeley (United States); **Marco Bersanelli,** Universita' di Milano Statale (Italy); **Marco Bortolami,** Universita' di Ferrara (Italy); **François Bouchet,** IAP (France); **Thejs Brinckmann,** Universita' di Ferrara (Italy); **Paolo Campeti,** INFN (Italy); **Emile Carinos,** IRAP (France); **Alessandro Carones,** Universita' di Roma Torvergata (Italy); **Francisco J. Casas,** IFCA (Spain); **Kolen Cheung,** University of California Berkeley (United States); **Yuji Chinone,** High Energy Accelerator Research Organization (Japan); **Lionel Clermont,** CSL (Belgium); **Fabio Columbro**, **Alessandro Coppolecchia,** Universita' di Roma Sapienza (Italy); **David Curtis,** University of California Berkeley (United States); **Paolo de Bernardis,** Universita' di Roma Sapienza (Italy); **Tijmen de Haan,** High Energy Accelerator Research Organization (Japan); **Elena de la Hoz,** University of California Berkeley (United States); **Marco De Petris,** Universita' di Roma Sapienza (Italy); **Stefano Della Torre**, **Giovanni Delle Monache**, **Eugenia Di Giorgi,** INFN (Italy); **Jose Díaz García,** IAC (Spain); **Clive Dickinson,** University of Manchester (United Kingdom); **Patricia Diego-Palazuelos,** MPA (Germany); **Matt Dobbs,** McGill University (Canada); **Tadayasu Dotani,** Japan Aerospace Exploration Agency (Japan); **Hans Kristian Eriksen,** University of Oslo (Norway); **Josquin Errard,** Universite' de Paris (France); **Thomas Essinger-Hileman,** NASA (United States); **Nicole Farias,** University of California Berkeley (United States); **Elisa Ferreira,** Kavli IPMU (Japan); **Cristian Franceschet,** Universita' di Milano Statale (Italy); **Unni Fuskeland,** University of Oslo (Norway); **Giacomo Galloni,** Universita' di Ferrara (Italy); **Mathew Galloway,** University of Oslo (Norway); **Ken Ganga,** Universite' de Paris (France); **Ricardo Génova-Santos,** IAC (Spain); **Martina Gerbino,** INFN (Italy); **Massimo Gervasi,** Universita' di Milano Bicocca (Italy); **Serena Giardiello,** Cardiff University (United Kingdom); **Christian Gimeno-Amo,** IFCA (Spain); **Eirik Gjerløw,** University of Oslo (Norway); **Raul González González,** IAC (Spain); **Laurent Grandsire,** Universite' de Paris (France); **Alessandro Gruppuso,** INAF (Italy); **Nils Halverson,** University of Colorado Boulder (United States); **Peter Hargrave,** Cardiff University (United Kingdom); **Stuart Harper,** University of Manchester (United Kingdom); **Masashi Hazumi,** High Energy Accelerator Research Organization, KEK (Japan); **Sophie Henrot-Versillé,** IJCLab (France); **Lukas Hergt,** University of British Columbia (Canada); **Diego Herranz,** IFCA (Spain); **Eric Hivon,** IAP (France); **Renee Hlozek,** University of Toronto (Canada); **Thuong Hoang,** University of Minnesota (United States); **Johannes Hubmayr,** NIST (United States); **Kiyotomo Ichiki,** Nagoya University (Japan); **Kiyoshi Ikuma**, **Hirokazu Ishino,** Okayama University (Japan); **Gregory Jaehnig,** NIST (United States); **Baptiste Jost,** Kavli IPMU (Japan); **Kazunori Kohri,** High Energy Accelerator Research Organization (Japan); **Kuniaki Konishi,** University of Tokyo (Japan); **Luca Lamagna,** Universita' di Roma Sapienza (Italy); **Massimiliano Lattanzi,** INFN (Italy); **Clement Leloup,** Kavli IPMU (Japan); **François Levrier,** École normale supérieure (France); **Anto Lanoppan,** Universita' di Roma Torvergata (Italy); **Gemma Luzzi,** ASI (Italy); **Juan Macias-Perez,** LPSC-IN2P3 (France); **Bruno Maffei,** IAS (France); **Elisabetta Marchitelli,** Universita' di Roma Sapienza (Italy); **Enrique Martínez-González,** IFCA (Spain); **Silvia Masi,** Universita' di Roma Sapienza (Italy); **Sabino Matarrese,** Univarsita' di Padova (Italy); **Tomotake Matsumura,** Kavli IPMU (Japan); **Silvia Micheli,** Universita' di Roma Sapienza (Italy); **Marina Migliaccio,** Universita' di Roma Torvergata (Italy); **Marta Monelli,** MPA (Germany); **Ludovic Montier,** IRAP (France); **Gianluca Morgante,** INAF (Italy); **Louise Mousset,** École normale supérieure (France); **Yuya Nagano,** Okayama University (Japan); **Ryo Nagata,** Japan Aerospace Exploration Agency (Japan); **Paolo Natoli,** Universita' di Ferrara (Italy); **Alessandro Novelli,** Universita' di Roma Sapienza (Italy); **Fabio Noviello,** Cardiff University (United Kingdom); **Ippei Obata,** Kavli IPMU (Japan); **Andrea Occhiuzzi,** Universita' di Roma Sapienza (Italy); **Kimihide Odagiri,** Japan Aerospace Exploration Agency (Japan); **Ryuji Omae,** Okayama University (Japan); **Luca Pagano,** Universita' di Ferrara (Italy); **Alessandro Paiella,** Universita' di Roma Sapienza (Italy); **Daniela Paoletti,** INAF (Italy); **Guillermo Pascual-Cisneros,** IFCA (Spain); **Guillaume Patanchon,** Universite' de Paris (France); **Vasiliki Pavlidou,** Foundation for Research and Technology-Hellas (Greece); **Francesco Piacentini,** Universita' di Roma Sapienza (Italy); **Michel Piat,** Universite' de Paris (France); **Giulia Piccirilli,** Universita' di Roma Torvergata (Italy); **Michele Pinchera,** INFN (Italy); **Giampaolo Pisano,** Universita' di Roma Sapienza (Italy); **Luca Porcelli,** INFN (Italy); **Nicolò Elia Raffuzzi,** Universita' di Ferrara (Italy); **Christopher Raum,** University of California Berkeley (United States); **Mathieu Remazeilles,** IFCA (Spain); **Alessia Ritacco,** INFN (Italy); **Jose Alberto Rubino-Martin,** IAC (Spain); **Miguel Ruiz-Granda,** IFCA (Spain); **Yuki Sakurai,** Suwa University of Science (Japan); **Giorgio Savini,** University College London (United Kingdom); **Douglas Scott,** University of British Columbia (Canada); **Yutaro Sekimoto,** Japan Aerospace Exploration Agency (Japan); **Maresuke Shiraishi,** Suwa University of Science (Japan); **Giovanni Signorelli,** INFN (Italy); **Samantha L. 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13092-82 • 04:10 PM - 04:30 PM

**Sidelobe optical simulations of the LiteBIRD Low-Frequency Telescope and payload module**

*Author(s):* **Frederick T. Matsuda**, **Ryo Nagata**, **Kimihide Odagiri**, **Shugo Oguri**, **Yutaro Sekimoto**, **Hayato Takakura,** Japan Aerospace Exploration Agency (Japan); **Tommaso Ghigna,** High Energy Accelerator Research Organization (Japan)

13092-84 • 04:30 PM - 04:50 PM
**A polarimetric camera for a future large aperture submillimeter space observatory**
*Author(s):* **Vincent Revéret**, **Louis Rodriguez**, **Jérôme Martignac, Albrecht Poglitsch,** CEA-Paris-Saclay (France)

## SESSION PS19: POSTERS - EXOPLANET IMAGING: SENSING, CONTROL, ALGORITHMS, AND DATA PROCESSING

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-170 • 05:30 PM - 07:00 PM
**Efficient methods for computing dynamic completeness**
*Author(s):* **Dmitry Savransky,** Cornell Univ. (United States)

13092-171 • 05:30 PM - 07:00 PM
**Mid-order wavefront control for exoplanet imaging: segmented mirror characterization and control loop validation on HiCAT**
*Author(s):* **Benjamin Buralli**, **Mamadou N'Diaye,** Observatoire de la Côte d'Azur (France); **Raphaël Pourcelot,** Space Telescope Science Institute (United States); **Marcel Carbillet,** Observatoire de la Côte d'Azur (France); **Emiel H. Por,** Space Telescope Science Institute (United States); **Iva Laginja,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Ludovic Canas,** Thales Alenia Space (France); **Meiji M. Nguyen**, **Bryony F. Nickson,** Space Telescope Science Institute (United States); **Susan F. Redmond,** Caltech (United States), Jet Propulsion Lab. (United States); **Ananya Sahoo**, **Sarah Steiger**, **Laurent Pueyo**, **Marshall D. Perrin, Rémi Soummer,** Space Telescope Science Institute (United States)

13092-172 • 05:30 PM - 07:00 PM
**A parameter scan of dark zone maintenance for high-contrast imaging of exoplanets using theoretical and experimental implementations**
*Author(s):* **Saikrishna Manojkumar**, **Christine L. Page,** Massachusetts Institute of Technology (United States); **Leonid Pogorelyuk,** Rensselaer Polytechnic Institute (United States); **Susan F. Redmond,** Caltech (United States); **Ajay S. Gill,** Massachusetts Institute of Technology (United States); **Laurent Pueyo**, **Emiel H. Por,** Space Telescope Science Institute (United States); **Iva Laginja,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Raphaël Pourcelot**, **Bryony F. Nickson**, **Ananya Sahoo**, **Meiji M. Nguyen**, **Rémi Soummer**, **Marshall D. Perrin,** Space Telescope Science Institute (United States); **Bijan Nemati,** The Univ. of Alabama in Huntsville (United States); **Kerri Cahoy,** Massachusetts Institute of Technology (United States); **Jeremy N. Kasdin,** Princeton Univ. (United States)

13092-173 • 05:30 PM - 07:00 PM
**Repurposing PISCES for broadband wavefront sensing and control experiments on the ExoSpec Project testbed**
*Author(s):* **Harrison M. Bradley,** Southeastern Universities Research Association (United States), NASA Goddard Space Flight Ctr. (United States); **Neil T. Zimmerman,** NASA Goddard Space Flight Ctr. (United States); **Roser Juanola-Parramon,** Univ. of Maryland, Baltimore County (United States), NASA Goddard Space Flight Ctr. (United States); **Qian Gong**, **Michael W. McElwain**, **Tyler D. Groff**, **Hari B. Subedi, George Hilton,** NASA Goddard Space Flight Ctr. (United States)

13092-174 • 05:30 PM - 07:00 PM
**High contrast spectroscopy testbed (HCST): implementation of Tip/Tilt sensing and control for enhanced coronagraphic stability**
*Author(s):* **Arielle Bertrou-Cantou**, **Susan F. Redmond**, **Dimitri Mawet**, **Niyati Desai,** Caltech (United States); **Jorge Llop-Sayson**, **Garreth Ruane**, **Eugene Serabyn, James Kent Wallace,** Jet Propulsion Lab. (United States)

13092-175 • 05:30 PM - 07:00 PM
**Active low order wavefront control demonstration for high contrast exoplanet imaging**
*Author(s):* **John T. Trauger**, **James Kent Wallace**, **John Krist**, **Duncan Liu, A. J. Eldorado Riggs,** Jet Propulsion Lab. (United States)

13092-176 • 05:30 PM - 07:00 PM
**Enhancing concurrent low-order wavefront control strategies on the HiCAT testbed in broadband light**
*Author(s):* **Raphaël Pourcelot**, **Sarah Steiger**, **Emiel H. Por,** Space Telescope Science Institute (United States); **Mamadou N'Diaye,** Univ. Côte d'Azur (France), Observatoire de la Côte d'Azur (France); **Laurent Pueyo,** Space Telescope Science Institute (United States); **Iva Laginja,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Ananya Sahoo,** Space Telescope Science Institute (United States); **Benjamin Buralli**, **Marcel Carbillet,** Univ. Côte d'Azur (France), Observatoire de la Côte d'Azur (France); **Kjetil Dohlen,** Aix Marseille Univ. (France), Lab. d'Astrophysique de Marseille (France); **Bryony F. Nickson**, **Meiji M. Nguyen**, **Marshall D. Perrin**, **Peter Petrone,** Space Telescope Science Institute (United States); **Susan F. Redmond,** Caltech (United States), Jet Propulsion Lab. (United States); **Rémi Soummer,** Space Telescope Science Institute (United States)

13092-177 • 05:30 PM - 07:00 PM
**Revisiting the Borde-Traub focal plane wavefront estimation technique for exoplanet direct imaging**
*Author(s):* **Axel Potier,** Univ. Bern (Switzerland); **A. J. Eldorado Riggs**, **Garreth Ruane**, **Phillip K. Poon**, **Matthew R. Noyes**, **Gregory W. Allan**, **Alex B. Walter**, **Camilo A. Mejia Prada,** Jet Propulsion Lab. (United States); **Raphaël Galicher**, **Johan Mazoyer, Pierre Baudoz,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France)

13092-178 • 05:30 PM - 07:00 PM
**Dynamic measurement of complex E-field using phase shifting interferometry**
*Author(s):* **Brandon D. Dube**, **Erkin Sidick**, **David C. Redding, John Z. Lou,** Jet Propulsion Lab. (United States)

13092-179 • 05:30 PM - 07:00 PM
**Evaluating HOWFSC algorithm implementations on embedded space processors**
*Author(s):* **Brandon Eickert**, **Nicholas Belsten,** Massachusetts Institute of Technology (United States); **Kian Milani,** The Univ. of Arizona (United States); **Shanti Rao,** Shanti Rao Consulting (United States); **Ewan S. Douglas,** The Univ. of Arizona (United States); **Leonid Pogorelyuk,** Rensselaer Polytechnic Institute (United States); **Kerri Cahoy,** Massachusetts Institute of Technology (United States)

13092-180 • 05:30 PM - 07:00 PM
**A deep reinforcement learning approach to wavefront control for exoplanet imaging**
*Author(s):* **Yann Gutierrez,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France), ONERA (France); **Baptiste Abeloos**, **Olivier Herscovici-Schiller,** ONERA (France); **Johan Mazoyer,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Laurent Mugnier,** ONERA (France); **Iva Laginja,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France)

13092-181 • 05:30 PM - 07:00 PM
**ESCAPE project: investigating active observing strategies and post-processing methods for exoplanet high-contrast imaging with active space missions**
*Author(s):* **Élodie Choquet**, **Lisa Altinier**, **Nicolas Godoy**, **Alexis Lau**, **Arthur Vigan,** Lab. d'Astrophysique de Marseille (France); **David Mary,** Observatoire de la Côte d'Azur (France)

13092-182 • 05:30 PM - 07:00 PM
**ESCAPE project: testing active observing strategies for high-contrast imaging in space on the HiCAT testbed**
*Author(s):* **Alexis Lau**, **Élodie Choquet**, **Lisa Altinier,** Lab. d'Astrophysique de Marseille (France); **Iva Laginja,** LESIA, Observatoire de Paris (France); **Rémi Soummer,** Space Telescope Science Institute (United States)

## SESSION PS20: POSTERS - EXOPLANET IMAGING: POLARIZATION

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-187 • 05:30 PM - 07:00 PM
**The space coronagraph optical bench (SCoOB): 3. Mueller matrix polarimetry of a coronagraphic exit pupil**
*Author(s):* **Jaren N. Ashcraft**, **Ewan S. Douglas**, **Ramya M. Anche**, **Kyle Van Gorkom,** Steward Observatory (United States); **Maxwell A Millar-Blanchaer,** Department of Physics, University of California, Santa Barbara (United States); **William Melby,** Department of Physics (United States); **Emory Jenkins,** Steward Observatory (United States)

13092-188 • 05:30 PM - 07:00 PM
**Polarization effects on high contrast imaging: measurements on THD2 bench**
*Author(s):* **Pierre Baudoz,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Célia Desgrange,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Raphaël Galicher, Iva Laginja,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France)

13092-189 • 05:30 PM - 07:00 PM
**Polarization aberrations for the next-generation space-based high-contrast imaging instruments**
*Author(s):* **Ramya M. Anche**, **Kyle Van Gorkom**, **Sebastiaan Y. Haffert**, **Jaren N. Ashcraft,** The Univ. of Arizona (United States); **Maxwell A. Millar-Blanchaer,** Univ. of California, Santa Barbara (United States); **Ewan S. Douglas,** The Univ. of Arizona (United States)

## SESSION PS21: POSTERS - EXOPLANET IMAGING: POLARIZATION

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-190 • 05:30 PM - 07:00 PM
**Prospects of far-infrared intensity interferometry in space**
*Author(s):* **Hiroshi Matsuo**, **Hajime Ezawa,** National Astronomical Observatory of Japan (Japan), The Graduate Univ. for Advanced Studies (Japan); **Ayako Niwa**, **Tomohiro Koseki,** Univ. of Tsukuba (Japan), National Astronomical Observatory of Japan (Japan); **Norio Okada,** National Astronomical Observatory of Japan (Japan)

13092-191 • 05:30 PM - 07:00 PM
**Extremely large optical space telescope comprising formation-flying ultra-small satellites: science requirements and telescope concept**
*Author(s):* **Yuichi Matsuda**, **Toshihiro Tsuzuki**, **Naoki Kohara**, **Kazuhisa Mitsuda,** National Astronomical Observatory of Japan (Japan); **Atsushi Noda,** Interstellar Technologies Inc. (Japan); **Yuichiro Ezoe,** Tokyo Metropolitan Univ. (Japan); **Naoshi Murakami,** Hokkaido Univ. (Japan)

13092-193 • 05:30 PM - 07:00 PM
**The Black Hole Explorer: operating a hybrid observatory**
*Author(s):* **Sara Issaoun**, **Janice Houston,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Jade Wang,** MIT Lincoln Lab. (United States); **Kim Alonso,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Daniel P. Marrone,** The Univ. of Arizona (United States); **Alexander Plavin,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Robert Lafon,** NASA Goddard Space Flight Ctr. (United States); **Kari Haworth,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Peter Kurczynski**, **Eliad Peretz**, **Leonid Petrov,** NASA Goddard Space Flight Ctr. (United States); **Yuri Kovalev,** Max-Planck-Institut für Radioastronomie (Germany); **Dominic Pesce,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Kazunori Akiyama,** MIT Haystack Observatory (United States), National Astronomical Observatory of Japan (Japan); **Lindy Blackburn,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Peter Galison,** Black Hole Initiative, Harvard Univ. (United States); **Michael Johnson,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13092-194 • 05:30 PM - 07:00 PM
**The Black Hole Explorer: photon ring science, detection, and shape measurement**
*Author(s):* **Alexandru Lupsasca,** Vanderbilt Univ. (United States); **Alejandro Cárdenas-Avendaño,** Princeton Univ. (United States); **Daniel C. Palumbo**, **Michael Johnson,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Samuel E. Gralla**, **Daniel P. Marrone,** The Univ. of Arizona (United States); **Peter Galison,** Black Hole Initiative, Harvard Univ. (United States); **Paul Tiede,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Lennox Keeble,** Princeton Univ. (United States)

13092-195 • 05:30 PM - 07:00 PM
**The Black Hole Explorer: using the photon ring to visualize spacetime around the black hole**
*Author(s):* **Peter Galison,** Black Hole Initiative, Harvard Univ. (United States); **Michael Johnson,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Alexandru Lupsasca**, **Trevor Gravely, Roman Berens,** Vanderbilt Univ. (United States)

13092-196 • 05:30 PM - 07:00 PM
**The Black Hole Explorer (BHEX): preliminary antenna design**
*Author(s):* **Tirupati Kumara Sridharan,** National Radio Astronomy Observatory (United States), Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Robert Lehmensiek,** National Radio Astronomy Observatory (United States); **Peter Cheimets**, **Mark Freeman**, **Janice Houston**, **Michael Johnson,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Daniel P. Marrone,** Steward Observatory, The Univ. of Arizona (United States)

13092-197 • 05:30 PM - 07:00 PM
**Receivers for the black hole explorer (BHEX) mission**
*Author(s):* **Edward Tong,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Kazunori Akiyama,** MIT Haystack Observatory (United States); **Paul K. Grimes,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Mareki Honma,** National Astronomical Observatory of Japan (Japan); **Janice Houston**, **Michael Johnson,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Daniel P. Marrone,** The Univ. of Arizona (United States); **Hannah Rana,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Yoshinori Uzawa,** National Astronomical Observatory of Japan (Japan)

13092-198 • 05:30 PM - 07:00 PM
**The Black Hole Explorer (BHEX) cryocooling instrument**
*Author(s):* **Hannah Rana,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Kazunori Akiyama,** MIT Haystack Observatory (United States); **Edgar R. Canavan**, **Michael J. DiPirro,** NASA Goddard Space Flight Ctr. (United States); **Mark Freeman,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Peter Galison,** Black Hole Initiative, Harvard Univ. (United States); **Paul K. Grimes,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Kazuhiro Hada,** National Astronomical Observatory of Japan (Japan); **Mareki Honma,** National Astronomical Observatory of Japan (United States); **Janice Houston**, **Michael Johnson,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Mark O. Kimball,** NASA Goddard Space Flight Ctr. (United States); **Daniel P. Marrone,** The Univ. of Arizona (United States); **Kotaro Niinuma,** Yamaguchi Univ. (Japan); **Edward Tong,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13092-199 • 05:30 PM - 07:00 PM
**The Black Hole Explorer: back end electronics**
*Author(s):* **Ranjani Srinivasan**, **Elliot Richards**, **Jonathan Weintroub**, **John Test**, **Mark Freeman**, **Kari Haworth**, **Thomas Gauron**, **Michael Johnson**, **Peter Cheimets**, **Janice Houston,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Jade Wang**, **Bryan Bilyeu,** MIT Lincoln Lab. (United States); **Manuel Fernandez**, **Emilia Mamani,** Univ. Nacional de Córdoba (Argentina); **Ariel L. Pola,** Ericsson AB (Sweden); **Mauricio Gendelman,** Univ. de Buenos Aires (Argentina); **Daniel P. Marrone,** Steward Observatory, The Univ. of Arizona (United States); **Rick Raffanti,** Techne Instruments, Inc. (United States)

13092-200 • 05:30 PM - 07:00 PM
**High rate laser communications for the Black Hole Explorer**
*Author(s):* **Jade Wang**, **Bryan Bilyeu**, **Don Boroson**, **David Caplan**, **Kathleen Riesing**, **Bryan Robinson**, **Curt Schieler,** MIT Lincoln Lab. (United States); **Michael Johnson**, **Lindy Blackburn**, **Kari Haworth**, **Janice Houston**, **Sara Issaoun**, **Daniel Palumbo**, **Elliot Richards**, **Ranjani Srinivasan**, **Jonathan Weintraub,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Daniel P. Marrone,** The Univ. of Arizona (United States), Steward Observatory (United States)

13092-201 • 05:30 PM - 07:00 PM
**Black hole spacetime and properties of accretion flows and jets probed by Black Hole Explorer: science cases proposed by BHEX Japan Team**
*Author(s):* **Tomohisa Kawashima,** Institute for Cosmic Ray Research, The Univ. of Tokyo (Japan); **Yuh Tsunetoe,** Harvard Univ. (United States); **Ken Ohsuga,** Ctr. for Computational Sciences, Univ. of Tsukuba (Japan)

## SESSION PS22: POSTERS - TIME DOMAIN: HIGH ENERGY TRANSIENTS

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-202 • 05:30 PM - 07:00 PM
**Telescope lens design for Terzina payload**
*Author(s):* **Giuseppe Crescenzio**, **Alessandro Scudeler**, **Andrea Cecconello**, **Andrea Turella**, **Enrico Tessarolo**, **Lorenzo Iannascoli, Simone Caretta,** Officina Stellare S.p.A. (Italy)

13092-203 • 05:30 PM - 07:00 PM
**Design and fabrication of the double Kösters prism for NIR telescope of HiZ-GUNDAM satellite**
*Author(s):* **Koji S. Kawabata,** Hiroshima Univ. (Japan); **Kohji Tsumura,** Tokyo City Univ. (Japan); **Daisuke Yonetoku,** Kanazawa Univ. (Japan); **Hideo Matsuhara,** Institute of Space and Astronautical Science (Japan); **Shuji Matsuura,** Kwansei Gakuin Univ. (Japan); **Akihiro Doi,** Institute of Space and Astronautical Science (Japan); **Hiroshi Akitaya,** Chiba Institute of Technology (Japan); **Tomoya Hori,** Hiroshima Univ. (Japan)

## SESSION PS23: POSTERS - SUBMILLIMETER, MILLIMETER, AND RADIO

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-204 • 05:30 PM - 07:00 PM
**Using Zemax programming language and API as a method to perform parametric ghost analysis, chromatic aberrations, and baffle thermal loading on the LiteBIRD medium and high frequency telescopes**
*Author(s):* **Giorgio Savini**, **Vinooja Thurairethinam**, **Alexey Shitvov,** Univ. College London (United Kingdom); **Peter Hargrave**, **Ian Veenendaal**, **Matt Lyons,** Cardiff Univ. (United Kingdom); **Luca Lamagna**, **Giampaolo Pisano**, **Marco de Petris,** Sapienza Univ. di Roma (Italy); **Cristian Franceschet,** Univ. degli Studi di Milano (Italy); **Johannes Hubmayr, Greg Jaehnig,** National Institute of Standards and Technology (United States)

13092-205 • 05:30 PM - 07:00 PM
**Mitigation strategy of infrared radiation entering LiteBIRD low-frequency telescope**
*Author(s):* **Shugo Oguri**, **Frederick T. Matsuda**, **Yutaro Sekimoto**, **Toyoaki Suzuki**, **Hayato Takakura,** Japan Aerospace Exploration Agency (Japan); **Rion Takahashi,** The Univ. of Tokyo (Japan)

13092-206 • 05:30 PM - 07:00 PM
**Electrical architecture and development of the digital processing unit of the payload onboard the LiteBIRD space mission**
*Author(s):* **Damien Rambaud,** Institut de Recherche en Astrophysique et Planétologie, CNRS (France); **Stephan Maestre,** Institut de Recherche en Astrophysique et Planétologie (France), Univ. Paul Sabatier (France); **Baptiste Mot, Ludovic Montier,** Institut de Recherche en Astrophysique et Planétologie, CNRS (France)

13092-207 • 05:30 PM - 07:00 PM
**Antenna pattern measurements of a LiteBIRD low-frequency telescope scaled antenna in a cryogenic chamber**
*Author(s):* **Hayato Takakura**, **Yutaro Sekimoto**, **Kimihide Odagiri,** Japan Aerospace Exploration Agency (Japan); **Rion Takahashi**, **Fumiya Miura,** Yokohama National Univ. (Japan), Japan Aerospace Exploration Agency (Japan); **Frederick T. Matsuda, Shugo Oguri,** Japan Aerospace Exploration Agency (Japan)

13092-209 • 05:30 PM - 07:00 PM
**Near-field antenna pattern measurement and holographic phase retrieval of a LiteBIRD high frequency telescope optical model**
*Author(s):* **Emile Carinos,** Institut de Recherche en Astrophysique et Planétologie (France); **Hayato Takakura,** Japan Aerospace Exploration Agency (Japan); **Yutaro Sekimoto,** Japan Aerospace Exploration Agency (Japan), Univ. of Tokyo (Japan); **Baptiste Mot**, **Ludovic Montier,** Institut de Recherche en Astrophysique et Planétologie (France); **Rion Takahashi,** Yokohama National Univ. (Japan); **Hiroaki Imada,** National Astronomical Observatory of Japan (Japan)

13092-210 • 05:30 PM - 07:00 PM
**Fabrication of low frequency detector arrays with integrated cosmic ray mitigation structures for the LiteBIRD CMB experiment**
*Author(s):* **Christopher R. Raum**, **Shawn M. Beckman**, **Nicole Farias,** Univ. of California, Berkeley (United States); **Tommaso Ghigna,** High Energy Accelerator Research Organization, KEK (Japan); **Nils Halverson,** Ctr. for Astrophysics and Space Astronomy, Univ. of Colorado (United States); **Masashi Hazumi,** High Energy Accelerator Research Organization, KEK (Japan); **Johannes Hubmayr,** National Institute of Standards and Technology (United States); **Greg Jaehnig,** Ctr. for Astrophysics and Space Astronomy, Univ. of Colorado Boulder (United States); **Adrian T. Lee,** Univ. of California, Berkeley (United States); **Samantha Stever,** Okayama University, Department of Physics (Japan); **Aritoki Suzuki,** Lawrence Berkeley National Lab. (United States); **Keith L Thompson,** Stanford University, Kavli Institute for Particle Astrophysics and Cosmology (United States); **Ben Westbrook,** Univ. of California, Berkeley (United States)

13092-211 • 05:30 PM - 07:00 PM
**Development and precision characterisation of broadband anti-reflection-coated mm-wave components**
*Author(s):* **Matt Lyons**, **Peter Hargrave**, **Ian Veenendaal**, **Rashmikant Sudiwala**, **Carole Tucker**, **Ian K. Walker**, **Lottie Braithwaite,** Cardiff Univ. (United Kingdom); **Berend Winter**, **Giorgio Savini**, **Alexey Shitvov,** Univ. College London (United Kingdom); **Jin Zhang,** Anglia Ruskin Univ. (United Kingdom); **Jon E. Gudmundsson,** Univ. of Iceland (Iceland), Stockholm Univ. (Sweden); **Giampaolo Pisano,** Sapienza Univ. of Rome (Italy)

13092-212 • 05:30 PM - 07:00 PM
**Improvement of on-chip terahertz spectroscopy by nanometer-scale control of electron-beam lithography**
*Author(s):* **Leon Olde Scholtenhuis,** Technische Univ. Delft (Netherlands); **Kenichi Karatsu**, **David J. Thoen,** SRON Netherlands Institute for Space Research (Netherlands); **Louis H. Marting**, **Jochem Baselmans,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Sten Vollebregt, Akira Endo,** Technische Univ. Delft (Netherlands)

## SESSION PS24: POSTERS - ASTRONOMY ON THE SURFACE OF THE MOON

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-213 • 05:30 PM - 07:00 PM
**A 1–50 MHz short dipole antenna for observing the 21 cm global signal on the Moon**
*Author(s):* **Yasumasa Yamasaki**, **Takeru Matsumoto,** Osaka Metropolitan Univ. (Japan); **Satoru Iguchi,** National Astronomical Observatory of Japan (Japan); **Toshikazu Onishi,** Osaka Metropolitan Univ. (Japan); **Toru Yamada,** Japan Aerospace Exploration Agency (Japan); **Daisuke Yamauchi,** Okayama Univ. of Science (Japan); **Fuminori Tsuchiya,** Tohoku Univ. (Japan); **Keitaro Takahashi,** Kumamoto Univ. (Japan); **Naoki Isobe**, **Takahiro Iwata**, **Naoto Usami**, **Yutaro Sekimoto**, **Yasuyuki Miyazaki**, **Takanao Saiki**, **Osamu Mori, Tetsuo Yoshimitsu,** Institute of Space and Astronautical Science (Japan)

13092-214 • 05:30 PM - 07:00 PM
**Low-frequency antenna design to observe the 21 cm global signal from the Dark Ages with the lunar telescope, TSUKUYOMI**
*Author(s):* **Takeru Matsumoto**, **Yasumasa Yamasaki**, **Toshikazu Onishi,** Osaka Metropolitan Univ. (Japan); **Satoru Iguchi,** National Astronomical Observatory of Japan (Japan), National Institutes of Natural Sciences (Japan); **Toru Yamada,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Daisuke Yamauchi,** Okayama Univ. of Science (Japan); **Fuminori Tsuchiya,** Tohoku Univ. (Japan); **Keitaro Takahashi,** Kumamoto Univ. (Japan); **Naoki Isobe**, **Takahiro Iwata**, **Naoto Usami**, **Yutaro Sekimoto**, **Yasuyuki Miyazaki**, **Takanao Saiki**, **Osamu Mori, Tetsuo Yoshimitsu,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan)

13092-215 • 05:30 PM - 07:00 PM
**Design, modeling, and characterization of the antenna module for the LuSEE-Night project**
*Author(s):* **Kaja M. Rotermund**, **Aritoki Suzuki**, **Joseph Silber,** Lawrence Berkeley National Lab. (United States); **Jeremy McCauley**, **Stuart D. Bale,** Space Sciences Lab. (United States); **On behalf of the LuSEE-Night Team,** Brookhaven National Lab. (United States)

13092-97 • 05:30 PM - 07:00 PM
**EQM test results of GrainCams payload for the CLPS lunar rover**
*Author(s):* **Woojin Kim**, **Bongkon Moon**, **Dukhang Lee**, **Dae-Hee Lee**, **Minbae Kim**, **Minsup Jeong**, **Jihun Kim**, **Sung-Joon Park**, **Yunjong Kim**, **Seonghwan Choi**, **Jehyuck Shin**, **Mingyeong Lee**, **Seul-Min Baek**, **Chae Kyung Sim**, **Young-Jun Choi,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Sungsoo S. Kim,** Kyung Hee Univ. (Korea, Republic of)

## SESSION PS25: POSTERS - SOLAR SYSTEM AND HELIOPHYSICS

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13092-216 • 05:30 PM - 07:00 PM
**In-flight star calibration and simulation methodology for the Metis coronagraph on board solar orbiter**
*Author(s):* **Chiara Casini**, **Paolo Chioetto**, **Antonela Comisso**, **Alain J. Corso**, **Fabio Frassetto**, **Paola Zuppella**, **Vania Da Deppo,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Federico Landini,** INAF OATo (Italy); **Marco Romoli,** Fisica e Astronomia - Università di Firenze (Italy)

13092-217 • 05:30 PM - 07:00 PM
**The Space Weather Solar Coronagraph, a new design from Southwest Research Institute**
*Author(s):* **Matthew Beasley**, **Craig DeForest**, **Nicholas Erickson, Steven Osterman,** Southwest Research Institute (United States)

13092-218 • 05:30 PM - 07:00 PM
**New high-resolution solar spectrum in the 0.7-1.7 µm domain obtained with the ACS-NIR spectrometer (TGO).**
*Author(s):* **Abdanour Irbah**, **Jean-Loup Bertaux**, **Franck Montmessin,** Lab. Atmosphères, Milieux, Observations Spatiales (France); **Alexander Trokhimovskiy**, **Oleg Korablev, Anna Fedorova,** Space Research Institute (Russian Federation)

13092-219 • 05:30 PM - 07:00 PM
**Performance of solar orbiter PHI image stabilisation System (ISS) on ground, during commissioning, and science phase**
*Author(s):* **Reiner Volkmer**, **Eiji Nakai,** Leibniz-Institut für Sonnenphysik (KIS) (Germany); **Pablo Gutierrez-Marques**, **Dennis Busse**, **Johann Hirzberger**, **Achim Gandorfer**, **Dietmar Germerott**, **Martin Kolleck,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Thorsten Maue,** Fraunhofer-Institut für Kurzzeitdynamik, Ernst-Mach-Institut, EMI (Germany); **José María Gómez Cama,** Univ. de Barcelona (Spain); **David Roma Dollase,** Institut d'Estudis Espacials de Catalunya, Consejo Superior de Investigaciones Científicas (Spain); **Kinga Albert,** Max-Planck-Institut für Sonnensystemforschung (Germany); **David Orozco Suárez,** Instituto de Astrofísica de Andalucía, Consejo Superior de Investigaciones Científicas (Spain); **Nestor Albelo Jorge,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Thierry Appourchaux,** Institut d'Astrophysique Spatiale, Univ. Paris-Sud (France); **Alberto Alvarez Herrero,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Julian Blanco Rodriguez,** Univ. de València (Spain); **Lucas Guerrero**, **Fatima Kahil**, **Sami Solanki,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Jose Carlos del Toro Iniesta,** Instituto de Astrofísica de Andalucía, Consejo Superior de Investigaciones Científicas (Spain); **Joachim Woch,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Bjoern Fiethe,** Institut für Datentechnik und Kommunikationsnetze, Technische Univ. Braunschweig (Germany); **Isabel Perez Grande,** Instituto Univ. de Microgravedad "Ignacio Da Riva" (Spain); **Esteban Sanchis Kilders,** Univ. de València (Spain); **Maria Balaguer Martinez**, **Luis Bellot Rubio,** Instituto de Astrofísica de Andalucía, Consejo Superior de Investigaciones Científicas (Spain); **Daniele Calchetti,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Manuel Carmona Flores,** Univ. de Barcelona (Spain); **Werner Deutsch**, **Alex Feller**, **German Fernandez Rico,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Ana Belen Fernandez Medina Maeso**, **Pilar Garcia Parejo,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Jose Luis Gasent Blesa,** Instituto de Astrofísica de Andalucía, Consejo Superior de Investigaciones Científicas (Spain); **Laurent Gizon**, **Bianca Grauf**, **Klaus Heerlein**, **Andreas Lagg,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Tobias Lange,** Institut für Datentechnik und Kommunikationsnetze, Technische Univ. Braunschweig (Germany); **Antonio Lopez Jimenez,** Instituto de Astrofísica de Andalucía, Consejo Superior de Investigaciones Científicas (Spain); **Reinhard Meller,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Harald Michalik,** Institut für Datentechnik und Kommunikationsnetze, Technische Univ. Braunschweig (Germany); **Alejandro Moreno Vacas,** Instituto de Astrofísica de Andalucía, Consejo Superior de Investigaciones Científicas (Spain); **Reinhard Müller,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Wolfgang Schmidt,** Leibniz-Institut für Sonnenphysik (KIS) (Germany); **Jesper Schou**, **Udo Schühle**, **Jonas Sinjan**, **Hanna Strecker**, **Jan Staub,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Ignacio Torralbo,** Instituto Univ. de Microgravedad "Ignacio Da Riva" (Spain); **Gherardo Valori,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Thomas Berkefeld,** Institut für Sonnenphysik (Germany)

13092-220 • 05:30 PM - 07:00 PM
**Laboratory spectroscopic ellipsometer for bidirectional reflectance of planetary surfaces**
*Author(s):* **Sandra Potin**, **Adyn Miles**, **Jérôme Loïcq**, **Pierre Piron, Fabien Schmutz,** Technische Univ. Delft (Netherlands)

13092-221 • 05:30 PM - 07:00 PM
**Onboard scientific image data compression scheme of Martian Moons eXplorer (MMX)**
*Author(s):* **Masanobu Ozaki,** National Astronomical Observatory of Japan (Japan), Japan Aerospace Exploration Agency (Japan); **Naru Hirata,** Univ. of Aizu (Japan); **Hideaki Miyamoto**, **Yuta Shimizu,** The Univ. of Tokyo (Japan); **Hiromu Nakagawa,** Tohoku Univ. (Japan); **Risa Miyazaki,** Japan Aerospace Exploration Agency (Japan); **Kazunori Ogohara,** Kyoto Sangyo Univ. (Japan); **Hiroyuki Kurokawa,** The Univ. of Tokyo (Japan); **Christophe Donny**, **Nathalie Pons**, **Nicolas Theret**, **Mickael Bruno,** Ctr. National d'Études Spatiales (France); **Sonia Fornasier**, **Frederic Merlin, Maria Antonella Barucci,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France), Observatoire de Paris (France)

13092-222 • 05:30 PM - 07:00 PM
**StrayLight analysis update of Janus, the ESA mission JUICE camera**
*Author(s):* **Matteo Munari,** INAF - Osservatorio Astrofisico di Catania (Italy); **Demetrio Magrin**, **Davide Greggio,** INAF - Osservatorio Astronomico di Padova (Italy); **Livio Agostini,** INAF-IAPS (Italy); **Alice Lucchetti,** INAF - Osservatorio Astronomico di Padova (Italy); **Riccardo Paolinetti**, **Marco Barilli**, **Andrea Turella**, **Alessandro Dattolo**, **Antonio Colosimo**, **Francesco Sarti**, **Lorenzo Francesco Livi**, **A. Galeotti**, **Iacopo Ficai Veltroni,** Leonardo S.p.A. (Italy); **Pasquale Palumbo,** INAF-IAPS (Italy)

13092-223 • 05:30 PM - 07:00 PM
**Opto-mechanical design of a bifocal panoramic lens for space applications**
*Author(s):* **Davide Greggio**, **Paolo Martini**, **Emanuele Simioni**, **Oleksandra Rebrysh,** INAF - Osservatorio Astronomico di Padova (Italy); **Diego Scaccabarozzi**, **Marco Giovanni Corti**, **Alessandro Mulig De Palmenberg**, **Bortolino Saggin,** Politecnico di Milano (Italy); **Luigi Lessio, Claudio Pernechele,** INAF - Osservatorio Astronomico di Padova (Italy)

13092-225 • 05:30 PM - 07:00 PM
**Characterization of the polarizing filters for the EnVisS camera**
*Author(s):* **Carmen Naletto,** CNR-Istituto di Fotonica e Nanotecnologie (Italy), Univ. degli Studi di Padova (Italy); **Vania Da Deppo**, **Paola Zuppella**, **Simone Nordera, Paolo Chioetto,** CNR-Istituto di Fotonica e Nanotecnologie (Italy)

13092-226 • 05:30 PM - 07:00 PM
**Setting up a laboratory test bench for optical verification and testing of the EnVisS camera prototype**
*Author(s):* **Vania Da Deppo**, **Paola Zuppella,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Vincenzo Della Corte,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Enrico Friso,** OBO Space srl (Italy); **Simone Nordera**, **Fabio Frassetto**, **Lorenzo Cocola**, **Paolo Chioetto,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Carmen Naletto,** CNR-Istituto di Fotonica e Nanotecnologie (Italy), Univ. degli Studi di Padova (Italy); **Claudio Pernechele,** INAF - Osservatorio Astronomico di Padova (Italy)

13092-227 • 05:30 PM - 07:00 PM
**Development and testing of a methane humidity sensor for the Dragonfly mission to Titan**
*Author(s):* **Tyler Nelson**, **Kyle J. Ryan**, **Cody M. Huber**, **Robert Osiander**, **Caitlin E. Shearer**, **Matthew J. Bowers,** Johns Hopkins Univ. Applied Physics Lab., LLC (United States); **Paul Corlies,** Spectral Sciences, Inc. (United States); **Ralph D. Lorenz,** Johns Hopkins Univ. Applied Physics Lab., LLC (United States)

13092-228 • 05:30 PM - 07:00 PM
**Ejecta plume observability from an asteroid small impactor mission**
*Author(s):* **Pierpaolo Merola,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Camilla Colombo,** Politecnico di Milano (Italy); **Mirko Trisolini,** Vyoma GmbH (Germany)

13092-229 • 05:30 PM - 07:00 PM
**Polarimetric characterization of the coronal diagnostic experiment (CODEX)**
*Author(s):* **Marta Casti,** The Catholic Univ. of America (United States); **Jeffrey S. Newmark,** NASA Goddard Space Flight Ctr. (United States); **Yeon-Han Kim,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Gerardo Capobianco**, **Hervé Haudemand,** INAF - Osservatorio Astrofisico di Torino (Italy); **Lucia Abbo,** INAF - Osservatorio Astronomico di Torino (Italy); **Donguk Song**, **Sung-Hong Park**, **Su-Chan Bong**, **Kyungsuk Cho**, **Seonghwan Choi,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Qian Gong,** NASA Goddard Space Flight Ctr. (United States); **Ji-Hye Baek**, **Jongyeob Park**, **Jihun Kim**, **Heesu Yang,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Nelson L. Reginald,** The Catholic Univ. of America (United States); **Nicholeen M. Viall,** NASA Goddard Space Flight Ctr. (United States); **Silvano Fineschi**, **Federico Landini**, **Davide Loreggia**, **Luca Zangrilli,** INAF - Osservatorio Astrofisico di Torino (Italy); **Jason Budinoff,** Visioneering Space Corp. (United States)

13092-306 • 05:30 PM - 07:00 PM
**Ground support equipments for MMX-MIRS instrument optical alignment and performance verification**
*Author(s):* **Marion Bonafous**, **Jérôme Parisot**, **Pernelle Bernardi**, **Jean-Michel Reess**, **Karim Hussein, Didier Zeganadin,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France), Observatoire de Paris (France), Univ. PSL (France)

## Friday 21 June 2024

### SESSION 19: TIME DOMAIN II: HIGH-ENERGY TRANSIENTS

21 June 2024 • 10:00 AM - 10:20 AM | Room G303/304, North - 3F
*Session Chair(s):* **Frank U. Grupp**, Univ.-Sternwarte München (Germany)

13092-86 • 10:00 AM - 10:20 AM
**Development of an optical and near-infrared telescope onboard the HiZ-GUNDAM mission**
*Author(s):* **Kohji Tsumura,** Tokyo City Univ (Japan); **Hideo Matsuhara,** Institute of Space and Astronautical Science (Japan); **Koji S. Kawabata,** Hiroshima Univ. (Japan); **Hiroshi Akitaya,** Chiba Institute of Technology (Japan); **Shuji Matsuura,** Kwansei Gakuin Univ. (Japan); **Haruki Fukui**, **Akihiro Miyasaka,** Tokyo City Univ. (Japan); **Keisuke Shinozaki,** Japan Aerospace Exploration Agency (Japan); **Akihiro Doi,** Institute of Space and Astronautical Science (Japan); **Daisuke Yonetoku,** Kanazawa Univ. (Japan)

### SESSION 20: SPACE INTERFEROMETRY FOR GRAVITY WAVES AND BLACK HOLES

21 June 2024 • 10:20 AM - 12:10 PM | Room G303/304, North - 3F
*Session Chair(s):* **Frank U. Grupp**, Univ.-Sternwarte München (Germany)

13092-88 • 10:20 AM - 10:50 AM
**LISA telescope development status and flight design**
*Author(s):* **Ritva A. Keski-Kuha, Ryan Derosa,** NASA Goddard Space Flight Ctr. (United States)

13092-90 • 10:50 AM - 11:10 AM
**The Black Hole Explorer: motivation and vision**
*Author(s):* **Michael Johnson,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Kazunori Akiyama,** MIT Haystack Observatory (United States); **Rebecca Baturin,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Bryan Bilyeu,** MIT Lincoln Lab. (United States); **Lindy Blackburn,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Don Boroson,** MIT Lincoln Lab. (United States); **Alejandro Cárdenas-Avendaño,** Princeton Gravity Initiative, Princeton Univ. (United States); **Andrew Chael,** Princeton Gravity Initiative (United States); **Chi-kwan Chan,** The Univ. of Arizona (United States); **Dominic Chang**, **Peter Cheimets,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Cathy Chou,** Steward Observatory (United States); **Sheperd S. Doeleman,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Joseph Farah,** Univ. of California, Santa Barbara (United States); **Peter Galison,** Black Hole Initiative, Harvard Univ. (United States); **Ronald S. Gamble,** NASA Goddard Space Flight Ctr. (United States); **Charles F. Gammie,** Univ. of Illinois (United States); **Zachary Gelles,** Princeton Univ. (United States); **José L. Gómez,** Instituto de Astrofísica de Andalucía (Spain); **Samuel E. Gralla,** The Univ. of Arizona (United States); **Paul K. Grimes,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Leonid I. Gurvits,** Joint Institute for VLBI in Europe (Netherlands); **Shahar Hadar,** Univ. of Haifa (Israel); **Kari Haworth,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Kazuhiro Hada,** Mizusawa VLBI Observatory, National Astronomical Observatory of Japan (Japan); **Michael H. Hecht,** MIT Haystack Observatory (United States); **Mareki Honma,** Mizusawa VLBI Observatory, National Astronomical Observatory of Japan (Japan); **Janice Houston,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Ben Hudson,** Faculty of Aerospace Engineering, Delft University of Technology (Netherlands), KISPE Space Systems Limited (United Kingdom); **Sara Issaoun,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **He Jia,** Princeton Univ. (United States); **Svetlana Jorstad,** Institute for Astrophysical Research, Boston Univ. (United States); **Jens Kauffman,** MIT Haystack Observatory (United States); **Yuri Kovalev,** Max-Planck-Institut für Radioastronomie (Germany); **Peter Kurczynski**, **Robert Lafon,** NASA Goddard Space Flight Ctr. (United States); **Alexandru Lupsasca,** Vanderbilt Univ. (United States); **Robert Lehmensiek,** National Radio Astronomy Observatory (United States); **Chung-Pei Ma,** Univ. of California, Berkeley (United States); **Daniel P. Marrone,** The Univ. of Arizona (United States); **Alan P. Marscher,** Institute for Astrophysical Research, Boston Univ. (United States); **Gary Melnick**, **Ramesh Narayan,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Kotaro Niinuma,** Yamaguchi Univ. (Japan); **Scott C. Noble**, **Eric J. Palmer,** NASA Goddard Space Flight Ctr. (United States); **Daniel C. M. Palumbo,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Lenny Paritsky,** MIT Haystack Observatory (United States); **Eliad Peretz,** NASA Goddard Space Flight Ctr. (United States); **Dominic Pesce,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Leonid Petrov,** NASA Goddard Space Flight Ctr. (United States); **Alexander Plavin,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Eliot Quataert,** Princeton Univ. (United States); **Hannah Rana**, **Angelo Ricarte**, **Freek Roelofs,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Katia Shtyrkova,** MIT Lincoln Lab. (United States); **Laura C. Sinclair,** National Institute of Standards and Technology (United States); **Jeffrey Small,** NASA Goddard Space Flight Ctr. (United States); **Tirupati Kumara Sridharan,** National Radio Astronomy Observatory (United States); **Ranjani Srinivasan,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Andrew Strominger,** Harvard Univ. (United States); **Paul Tiede**, **Edward Tong,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Jade Wang,** MIT Lincoln Lab. (United States); **Jonathan Weintroub,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Maciek Wielgus,** Max-Planck-Institut für Radioastronomie (Germany); **George N Wong,** School of Natural Sciences, Institute for Advanced Study (United States)

13092-91 • 11:10 AM - 11:30 AM
**The Japanese Vision for the Black Hole Explorer Mission**
*Author(s):* **Kazunori Akiyama,** MIT Haystack Observatory (United States), National Astronomical Observatory of Japan (Japan); **Kazuhiro Hada,** National Astronomical Observatory of Japan (Japan); **Kotaro Niinuma,** Yamaguchi Univ. (Japan); **Akihiro Doi,** Japan Aerospace Exploration Agency (Japan); **Peter Galison,** Black Hole Initiative, Harvard Univ. (United States); **Yoshiaki Hagiwara,** Toyo Univ. (Japan); **Aya Higuchi,** Tokyo Denki Univ. (United States); **Tomoya Hirota**, **Mareki Honma,** National Astronomical Observatory of Japan (Japan); **Michael Johnson,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Tomohisa Kawashima,** The Univ. of Tokyo (Japan); **Shoko Koyama,** Niigata Univ. (Japan); **Sho Masui,** National Astronomical Observatory of Japan (Japan); **Ken Ohsuga,** University of Tsukuba (Japan); **Hannah Rana,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Hidetoshi Sano,** Gifu Univ. (Japan); **Edward Tong,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Yuh Tsunetoe,** Harvard Univ. (United States); **Yoshinori Uzawa,** National Astronomical Observatory of Japan (Japan)

13092-92 • 11:30 AM - 11:50 AM
**The Black Hole Explorer: astrophysics mission concept engineering study report**
*Author(s):* **Eliad Peretz**, **Peter Kurczynski,** NASA Goddard Space Flight Ctr. (United States); **Michael Johnson**, **Janice Houston**, **Sheperd S. Doeleman**, **Kari Haworth,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Tirupati Kumara Sridharan,** National Radio Astronomical Observatory (United States); **Jade Wang,** MIT Lincoln Lab. (United States); **Daniel P. Marrone,** The Univ. of Arizona (United States); **Jeffrey Small,** NASA Goddard Space Flight Ctr. (United States); **Peter Galison,** Black Hole Initiative, Harvard Univ. (United States); **Ronald Gamble**, **Scott Noble,** NASA Goddard Space Flight Ctr. (United States); **Gary Melnick,** Black Hole Initiative, Harvard Univ. (United States); **Leonid Petrov,** NASA Goddard Space Flight Ctr. (United States); **Hannah Rana,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Kazunori Akiyama,** MIT Haystack Observatory (United States); **Sara Issaoun,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Shahar Hadar,** Univ. of Haifa (Israel); **Alexandru Lupsasca,** Vanderbilt Univ. (United States); **Edward Tong**, **Ranjani Srinivasan,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Dan Boroson,** MIT Lincoln Lab. (United States); **Guangning Yang**, **Tiffany Hoerbelt,** NASA Goddard Space Flight Ctr. (United States); **Mareki Honma,** Mizusawa VLBI Observatory, National Astronomical Observatory of Japan (Japan); **Bryan Bilyeu,** MIT Lincoln Lab. (United States); **Ed Canavan,** NASA Goddard Space Flight Ctr. (United States); **Katia Shtyrkova,** MIT Lincoln Lab. (United States); **Robert Lafon,** NASA Goddard Space Flight Ctr. (United States); **Lenny Paritsky,** MIT Lincoln Lab. (United States); **Laura C. Sinclair,** National Institute of Standards and Technology (United States); **Mark Silver,** MIT Lincoln Lab. (United States); **Leonid I. Gurvits,** Joint Institute for VLBI in Europe (Netherlands), Technische Univ. Delft (Netherlands); **Yuri Kovalev,** Max-Planck-Institut für Radioastronomie (Germany); **Robert Lehmensiek,** National Radio Astronomical Observatory (United States)

13092-93 • 11:50 AM - 12:10 PM
**The Black Hole Explorer: instrument system overview**
*Author(s):* **Daniel P. Marrone,** Steward Observatory (United States); **Kazunori Akiyama,** MIT Haystack Observatory (United States); **Lindy Blackburn,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Bryan C. Bilyeu**, **Don Boroson,** MIT Lincoln Lab. (United States); **Edgar R. Canavan,** NASA Goddard Space Flight Ctr. (United States); **Dave Caplan,** MIT Lincoln Lab. (United States); **Peter Cheimets,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Cathy Chou,** The Univ. of Arizona (United States); **Michael J. DiPirro,** NASA Goddard Space Flight Ctr. (United States); **Mark Freeman,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Peter Galison,** Black Hole Initiative, Harvard Univ. (United States); **Paul K. Grimes,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Leonid I. Gurvits,** Joint Institute for VLBI in Europe (Netherlands), Technische Univ. Delft (Netherlands); **Kazuhiro Hada,** National Astronomical Observatory of Japan (Japan); **Kari Haworth,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Michael H. Hecht,** MIT Haystack Observatory (United States); **Mareki Honma,** National Astronomical Observatory of Japan (Japan); **Janice Houston**, **Sara Issaoun**, **Michael Johnson,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Yuri Kovalev,** Max-Planck-Institut für Radioastronomie (Germany); **Peter Kurczynski**, **Robert Lafon,** NASA Goddard Space Flight Ctr. (United States); **Robert Lehmensiek,** National Radio Astronomy Observatory (United States); **Alexandru Lupsasca,** Vanderbilt Univ. (United States); **Gary Melnick,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Kotaro Niinuma,** Yamaguchi Univ. (Japan); **Lenny Paritsky,** MIT Haystack Observatory (United States); **Eliad Peretz,** NASA Goddard Space Flight Ctr. (United States); **Hannah Rana**, **Elliot Richards,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Curt Schieler,** MIT Lincoln Lab. (United States); **Tirupati Kumara Sridharan,** National Radio Astronomy Observatory (United States); **Ranjani Srinivasan**, **Edward Tong,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Jade Wang,** MIT Lincoln Lab. (United States); **Jonathan Weintroub,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Guangning Yang,** NASA Goddard Space Flight Ctr. (United States)

## Lunch Break 12:10 PM - 01:40 PM

## SESSION 21: SOLAR SYSTEM AND THE SUN

21 June 2024 • 01:40 PM - 03:00 PM | Room G303/304, North - 3F
*Session Chair(s):* **Pin Chen**, Jet Propulsion Lab. (United States)

13092-94 • 01:40 PM - 02:00 PM
**NEOMIR: ESA's space-based infrared mission for NEO detection and early warning**
*Author(s):* **Luca Conversi,** European Space Agency (Italy); **Javier Licandro,** Instituto de Astrofísica de Canarias (Spain); **Marco Delbo,** Observatoire de la Côte d'Azur (France); **Alan Fitzsimmons,** Queen's Univ. Belfast (United Kingdom); **Karri Muinonen,** Univ. of Helsinki (Finland); **Thomas G. Müller,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Marcel Popescu,** Astronomical Institute of the Romanian Academy (Romania); **Paolo Tanga,** Observatoire de la Côte d'Azur (France); **Richard Moissl,** European Space Agency (Italy)

13092-95 • 02:00 PM - 02:20 PM
**CODEX optical design and alignment**
*Author(s):* **Qian Gong**, **Jeffrey S. Newmark,** NASA Goddard Space Flight Ctr. (United States); **Yeon-Han Kim,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Marta Casti,** NASA Goddard Space Flight Ctr. (United States), The Catholic Univ. of America (United States); **Lucia Abbo,** INAF - Osservatorio Astronomico di Torino (Italy); **Ji-Hye Baek**, **Su-Chan Bong,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Jason Budinoff,** Visioneering Space Corp. (United States); **Gerardo Capobianco,** INAF - Osservatorio Astrofisico di Torino (Italy); **Kyungsuk Choi**, **Seonghwan Choi,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Silvano Fineschi**, **Hervé Haudemand,** INAF - Osservatorio Astrofisico di Torino (Italy); **Jihun Kim,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Federico Landini**, **Davide Loreggia,** INAF - Osservatorio Astrofisico di Torino (Italy); **Sung-Hong Park**, **Jongyeob Park,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Nelson L. Reginald,** NASA Goddard Space Flight Ctr. (United States), The Catholic Univ. of America (United States); **Donguk Song,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Leonard Strachan,** U.S. Naval Research Lab. (United States); **Heesu Yang,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Luca Zangrilli,** INAF - Osservatorio Astrofisico di Torino (Italy)

13092-96 • 02:20 PM - 02:40 PM
**Design and performance of MIRS infrared imaging spectrometer onboard MMX mission**
*Author(s):* **Pernelle Bernardi,** Observatoire de Paris à Meudon (France); **Jean-Michel Réess,** Observatoire de Paris (France), Univ. PSL (France); **Matthieu Castelnau,** Ctr. National d'Études Spatiales (France); **Frédéric Chapron**, **Napoléon Nguyen-Tuong,** Observatoire de Paris à Meudon (France); **Stéphane Gauffre**, **Benjamin Quertier,** Lab. d'Astrophysique de Bordeaux (France); **Jérôme Parisot**, **Marion Bonafous,** Observatoire de Paris à Meudon (France); **Didier Zeganadin,** Observatoire de Paris (France); **Maria Antonella Barucci,** Observatoire de Paris à Meudon (France); **Sonia Fornasier**, **Frédéric Merlin,** Observatoire de Paris (France); **Christian Imbert**, **Véronique Piou**, **Eric Sawyer**, **Nicolas Théret**, **Michel Le Du,** Ctr. National d'Études Spatiales (France); **Takahiro Iwata,** Institute of Space and Astronautical Science (Japan); **Hiromu Nakagawa, Tomoki Nakamura,** Tohoku Univ. (Japan)

13092-98 • 02:40 PM - 03:00 PM
**Design and testing of the Lunar Thermal Mapper Optics**
*Author(s):* **Rory Evans**, **Neil Bowles**, **Simon Calcutt**, **Keith Nowicki,** Univ. of Oxford (United Kingdom); **Cyril Bourgenot,** Univ. of Durham (United Kingdom); **Bethany L. Ehlmann,** Caltech (United States)

## Coffee Break 03:00 PM - 03:30 PM

## SESSION 22: SPACE ASTRONOMY ON THE SURFACE OF THE MOON

21 June 2024 • 03:30 PM - 04:50 PM | Room G303/304, North - 3F
*Session Chair(s):* **Pin Chen**, Jet Propulsion Lab. (United States)

13092-99 • 03:30 PM - 03:50 PM
**Lunar meter-wave telescope (TSUKUYOMI) as one of Japanese lunar plans**
*Author(s):* **Satoru Iguchi,** National Astronomical Observatory of Japan (Japan), National Institutes of Natural Sciences (Japan); **Toru Yamada,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Yasumasa Yamasaki,** National Astronomical Observatory of Japan (Japan), National Institutes of Natural Sciences (Japan); **Toshikazu Onishi,** Osaka Metropolitan Univ. (Japan); **Daisuke Yamauchi,** Okayama Univ. of Science (Japan); **Fuminori Tsuchiya,** Tohoku Univ. (Japan); **Keitaro Takahashi,** Kumamoto Univ. (Japan); **Takeru Matsumoto,** Osaka Metropolitan Univ. (Japan); **Naoki Isobe**, **Takahiro Iwata,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Naoto Usami,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Yutaro Sekimoto,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Yasuyuki Miyazaki,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Takanao Saiki,** Japan Aerospace Exploration Agency (Japan), Institute of Space and Astronautical Science (Japan); **Osamu Mori,** Japan Aerospace Exploration Agency (Japan), Institute of Space and Astronautical Science (Japan); **Tetsuo Yoshimitsu,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan)

13092-100 • 03:50 PM - 04:10 PM
**DEX: Design and development of a lunar far side radio interferometer for neutral hydrogen cosmology observations**
*Author(s):* **Christiaan D. Brinkerink**, **Marc Klein Wolt, Annelies Ampe,** Radboud Univ. Nijmegen (Netherlands)

13092-101 • 04:10 PM - 04:30 PM
**MoonLITE: a CLPS-delivered NASA Astrophysics Pioneers lunar optical interferometer for sensitive, milliarcsecond observing**
*Author(s):* **Gerard T. van Belle,** Lowell Observatory (United States); **David Ciardi,** NASA Exoplanet Science Institute (United States), Infrared Processing and Analysis Ctr. (United States), Caltech (United States); **Daniel Hillsberry,** Redwire Space (United States); **Anders M. Jorgensen,** New Mexico Institute of Mining and Technology (United States); **John D. Monnier,** Univ. of Michigan (United States); **Krista Lynne Smith,** Texas A&M Univ. (United States); **Tabetha Boyajian,** Louisiana State Univ. (United States), Texas A&M Univ. (United States); **Kenneth Carpenter,** NASA Goddard Space Flight Ctr. (United States); **Catherine A. Clark,** NASA Exoplanet Science Institute (United States), Jet Propulsion Lab. (United States), Caltech (United States); **Gail Schaefer,** CHARA Array, Georgia State Univ. (United States); **Vineel Rao-Aourpally,** Redwire Space (United States)

13092-102 • 04:30 PM - 04:50 PM

**LuSEE 'Night': The Lunar Surface Electromagnetics Experiment**

*Author(s):* **Stuart D. Bale,** Univ. of California, Berkeley (United States); **Anže Slosar,** Brookhaven National Lab. (United States)

# CONFERENCE 13093

# Space Telescopes and Instrumentation 2024: Ultraviolet to Gamma Ray

**16 - 21 June 2024 | Room G414/415, North - 4F**

***Conference Chair(s):*** **Jan-Willem A. den Herder,** SRON Netherlands Institute for Space Research (Netherlands); **Shouleh Nikzad,** Jet Propulsion Lab. (United States); **Kazuhiro Nakazawa,** Nagoya Univ. (Japan)

***Program Committee:*** **Hisamitsu Awaki,** Ehime Univ. (Japan); **Marshall Bautz,** Massachusetts Institute of Technology (United States); **Marcos Bavdaz,** European Space Research and Technology Ctr. (Netherlands); **Jeff T. Booth,** Jet Propulsion Lab. (United States); **Enrico Bozzo,** ISDC Data Ctr. for Astrophysics (Switzerland); **Vadim Burwitz,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Maria Teresa Ceballos,** Consejo Superior de Investigaciones Científicas (Spain); **Roland H. den Hartog,** SRON Netherlands Institute for Space Research (Netherlands); **Megan E. Eckart,** Lawrence Livermore National Lab. (United States); **Marco Feroci,** INAF - Istituto di Fisica dello Spazio Interplanetario (Italy); **Desiree Della Monica Ferreira,** DTU Space (Denmark); **Luigi Gallo,** Saint Mary's Univ. (Canada); **Jessica A. Gaskin,** NASA Marshall Space Flight Ctr. (United States); **Varoujan Gorjian,** Jet Propulsion Lab. (United States); **Walter M. Harris,** The Univ. of Arizona (United States); **Fiona A. Harrison,** Caltech (United States); **Gillian Kyne,** NASA Jet Propulsion Lab. (United States); **Olivier Limousin,** CEA-Ctr. de SACLAY (France); **Alexander Lutovinov,** Space Research Institute of the RAS (Russian Federation); **Hironori Matsumoto,** Nagoya Univ. (Japan); **Mark L. McConnell,** The Univ. of New Hampshire (United States); **Norbert Meidinger,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Kyriaki Minoglou,** European Space Agency (Netherlands); **Anna M. Moore,** The Australian National Univ. (Australia); **Kirpal Nandra,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Giovanni Pareschi,** INAF - Osservatorio Astronomico di Brera (Italy); **Biswajit Paul,** Raman Research Institute (India); **Taro Sakao,** Institute of Space and Astronautical Science (Japan); **Hiroyasu Tajima,** Nagoya Univ. (Japan); **Andrea Santangelo,** Eberhard Karls Univ. Tübingen (Germany); **Tadayuki Takahashi,** The Univ. of Tokyo (Japan); **Daniele Spiga,** INAF - Osservatorio Astronomico di Brera (Italy); **Vincent Tatischeff,** Institut National de Physique Nucléaire et de Physique des Particules (France); **Hiroshi Tsunemi,** Osaka Univ. (Japan); **Sarah E. Tuttle,** Univ. of Washington (United States); **Wei Cui,** Tsinghua Univ. (China); **Richard Willingale,** Univ. of Leicester (United Kingdom); **Jörn Wilms,** Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); **Yoichi Yatsu,** Tokyo Institute of Technology (Japan); **Shuangnan Zhang,** Institute of High Energy Physics (China); **William W. Zhang,** NASA Goddard Space Flight Ctr. (United States)

## Sunday 16 June 2024

### SESSION 1: ULTRA VIOLET I

16 June 2024 • 08:30 AM - 09:50 AM | Room G414/415, North - 4F
*Session Chair(s):* **Yoichi Yatsu**, Tokyo Institute of Technology (Japan)

13093-1 • 08:30 AM - 08:50 AM
**Aspera Payload Design Overview: UV SmallSat Mission to Detect and Map Warm-hot Halo Gas around the Nearby Galaxies**
*Author(s):* **Haeun Chung**, **Carlos J. Vargas**, **Erika T. Hamden**, **Tom McMahon**, **Hannah Tanquary**, **Aafaque R. Khan**, **Fernando Coronado**, **Nicole Melso**, **Dave Hamara**, **Miriam Keppler**, **Jessica S. Li**, **Jason B. Corliss**, **Simran Agarwal,** The Univ. of Arizona (United States); **Heejoo Choi,** The Univ. of Arizona (United States), Large Binocular Telescope Observatory (United States); **Elijah Garcia**, **Giulia Ghidoli,** The Univ. of Arizona (United States); **Carl Hergenrother**, **John Kidd,** Ascending Node Technologies, LLC (United States); **Daewook Kim**, **Jamison Noenickx**, **Sooseong Park,** The Univ. of Arizona (United States); **Sanford Selznick,** Ascending Node Technologies, LLC (United States); **Daniel Truong**, **Sumedha Uppnor**, **Bill Verts**, **Naomi Yescas,** The Univ. of Arizona (United States); **Mateo Batkis,** NASA Goddard Space Flight Ctr. (United States); **Walter M. Harris,** The Univ. of Arizona (United States); **John J. Hennessy,** Jet Propulsion Lab. (United States); **Keri Hoadley,** The Univ. of Iowa (United States); **Luis V. Rodriguez-de-Marcos,** NASA Goddard Space Flight Ctr. (United States), The Catholic Univ. of America (United States); **Adrian Martin,** Sensor Sciences, LLC (United States); **Manuel A. Quijada,** NASA Goddard Space Flight Ctr. (United States); **Oswald H. W. Siegmund,** Sensor Sciences, LLC (United States)

13093-2 • 08:50 AM - 09:10 AM
**FIREBall-2(023): the 2023 flight of the Faint Intergalactic-medium Redshifted Emission Balloon**
*Author(s):* **Drew M. Miles**, **Vincent Picouet**, **Chris Martin,** Caltech (United States); **Erika T. Hamden,** The Univ. of Arizona (United States); **Keri Hoadley,** The Univ. of Iowa (United States); **Bruno Milliard,** Lab. d'Astrophysique de Marseille (France); **Shouleh Nikzad,** Jet Propulsion Lab. (United States); **David Schiminovich,** Columbia Univ. (United States); **David Valls-Gabaud,** Observatoire de Paris (France); **Simran Agarwal,** The Univ. of Arizona (United States); **Philippe Balard**, **Patrick Blanchard,** Lab. d'Astrophysique de Marseille (France); **Harrison Bradley,** The Univ. of Arizona (United States); **Nicolas Bray,** Ctr. National d'Études Spatiales (France); **Ignacio Cevallos-Aleman,** Columbia Univ. (United States); **Charles-Antoine Chevrier,** Ctr. National d'Études Spatiales (France); **Haeun Chung,** The Univ. of Arizona (United States); **Marty Crabill,** Caltech (United States); **Fernando Cruz Aguirre**, **Greyson Davis,** The Univ. of Iowa (United States); **Xihan Deng,** Caltech (United States); **Fabien Harmand**, **Catherine Hourtolle,** Ctr. National d'Études Spatiales (France); **Olivia Jones**, **Nazende Kerkeser**, **Aafaque R. Khan,** The Univ. of Arizona (United States); **Gillian Kyne,** Jet Propulsion Lab. (United States); **Jessica S. Li,** The Univ. of Arizona (United States); **Zeren Lin,** Caltech (United States); **Nicole Melso,** The Univ. of Arizona (United States); **Johan Montel,** Ctr. National d'Études Spatiales (France); **Julie Richard,** Lab. d'Astrophysique de Marseille (France); **Meghna Sitaram,** Columbia Univ. (United States); **Jared A. Termini,** The Univ. of Iowa (United States); **Jean-Noel Valdivia,** Ctr. National d'Études Spatiales (France); **Didier Vibert,** Lab. d'Astrophysique de Marseille (France); **Matthew Werneken,** Columbia Univ. (United States)

13093-3 • 09:10 AM - 09:30 AM
**Performance of the SPARCS UV camera and detectors**
*Author(s):* **April D. Jewell**, **Christophe Basset**, **Shouleh Nikzad**, **Gillian Kyne**, **Yuki Maruyama**, **Nathan Bush**, **John J. Hennessy**, **Todd J. Jones**, **Matthew Klein**, **Steve Monacos**, **Robin E. Rodríguez**, **David Ardila,** Jet Propulsion Lab. (United States); **Judd Bowman**, **Johnathan Gamaunt,** Arizona State Univ. (United States); **Dawn Gregory,** AZ Space Technologies, LLC (United States); **Daniel Jacobs**, **Logan Jensen**, **Matthew Kolopanis**, **Cristy Ladwig**, **Tahina Ramiaramanantsoa,** Arizona State Univ. (United States); **Paul A. Scowen,** NASA Goddard Space Flight Ctr. (United States); **Nathaniel Struebel,** AZ Space Technologies, LLC (United States); **Evgenya Shkolnik,** Arizona State Univ. (United States)

13093-4 • 09:30 AM - 09:50 AM
**Results of the JUICE ultraviolet spectrograph near-Earth commissioning**
*Author(s):* **Michael W. Davis**, **G. R. Gladstone**, **Thomas K. Greathouse**, **Philippa M. Molyneux**, **Kurt D. Retherford**, **Sue A. Ferrell**, **Maarten H. Versteeg, Steven C. Persyn,** Southwest Research Institute (United States)

## Coffee Break 09:50 AM - 10:10 AM

## SESSION 2: ULTRA VIOLET II

16 June 2024 • 10:10 AM - 11:50 AM | Room G414/415, North - 4F
*Session Chair(s):* **Walter M. Harris**, The Univ. of Arizona (United States)

13093-5 • 10:10 AM - 10:30 AM
**QUVIK (Quick Ultra-VIolet Kilonova surveyor) spacecraft and payload system design overview**
*Author(s):* **Vladimír Dániel,** Czech Aerospace Research Ctr. (Czech Republic); **Norbert Werner,** Masaryk Univ. (Czech Republic); **Jan Václavík,** Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic); **Jakub Jon**, **Petr Svoboda**, **Filip Rak**, **David Hriadel**, **Jan Gromeš,** Czech Aerospace Research Ctr. (Czech Republic); **Jakub Rípa**, **Filip Munz,** Masaryk Univ. (Czech Republic); **Martin Jelínek,** Astronomical Institute of the CAS, v.v.i. (Czech Republic); **Lukáš Steiger,** Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic); **Jan Seginak,** PEKASAT SE (Czech Republic); **Róbert Šošovicka,** Czech Aerospace Research Ctr. (Czech Republic)

13093-6 • 10:30 AM - 10:50 AM
**INFUSE: inflight performance and future improvements for the first FUV integral field spectrograph to study the influence of massive stars on galaxies**
*Author(s):* **Alex Haughton**, **Emily Witt**, **Alex Sico,** Univ. of Colorado Boulder (United States); **Sally Oey,** Univ. of Michigan (United States); **Michael J. Kaiser**, **Dana Chafetz**, **Jack Williams**, **James Green**, **Kevin C. France,** Univ. of Colorado Boulder (United States); **Takashi Sukegawa,** Canon Inc. (Japan); **Oswald H. W. Siegmund**, **Adrian Martin,** Sensor Sciences, LLC (United States); **Brian T. Fleming,** Univ. of Colorado Boulder (United States)

13093-7 • 10:50 AM - 11:10 AM
**All-reflective spatial heterodyne spectroscopy: extending high sensitivity velocity resolved measurements into the EUV and the utilization of a novel grating design for simultaneous detection of discrete passbands**
*Author(s):* **Jason B. Corliss**, **Walter M. Harris**, **Ricardo Maciel,** The Univ. of Arizona (United States); **Derek Gardner,** Radiance Technologies, Inc. (United States)

13093-8 • 11:10 AM - 11:30 AM
**Development of UV telescope system for the astronomical observation satellite PETREL**
*Author(s):* **Minori Fukuda**, **Shunsuke Hayatsu**, **Hibiki Seki**, **Katsuki Tashiro,** Tokyo Institute of Technology (Japan); **Takahiro Noguchi,** Tokyo Denki Univ. (Japan); **Hiroyuki Kobayashi**, **Kei Watanabe**, **Toshihiro Chujo**, **Yoichi Yatsu**, **Nobuyuki Kawai,** Tokyo Institute of Technology (Japan); **Tohru Nakano,** I-NET Corp. (Japan); **Mai Shirahata**, **Akito Enokuchi**, **Norihide Takeyama,** Genesia Corp. (Japan); **Naoki Ogino**, **Makoto Arimoto**, **Daisuke Yonetoku,** Kanazawa Univ. (Japan); **Hiromasa Tamura,** Tokyo Drawing Co., Ltd. (Japan); **PETREL Development Team**, **Shigeaki Joshima**, **Masafumi Niwano**, **Yuki Amaki**, **Daiki Kobayashi**, **Moe Yasuda**, **Keito Otsubo**, **Yusuke Arai**, **Yusaku Ozeki**, **Kiyona Miyamoto, Hiroki Nakanishi,** Tokyo Institute of Technology (Japan)

13093-9 • 11:30 AM - 11:50 AM
**An innovative approach to the optical alignment of contamination-sensitive Far-Ultraviolet spectrographs on the Aspera SmallSat mission**
*Author(s):* **Aafaque R. Khan**, **Erika T. Hamden**, **Haeun Chung,** Steward Observatory (United States); **Heejoo Choi**, **Daewook Kim,** Wyant College of Optical Sciences (United States); **Nicole Melso,** Steward Observatory (United States); **Keri Hoadley,** The Univ. of Iowa (United States); **Jason B. Corliss,** The Univ. of Arizona (United States); **Carlos J. Vargas**, **Thomas J. McMahon, Hannah Tanquary,** Steward Observatory (United States)

## Lunch Break 11:50 AM - 01:10 PM

## SESSION 3: ULTRA VIOLET III

16 June 2024 • 01:10 PM - 02:50 PM | Room G414/415, North - 4F
*Session Chair(s):* **Sarah E. Tuttle**, Univ. of Washington (United States)

13093-10 • 01:10 PM - 01:30 PM
**The MANTIS 16U CubeSat mission: characterizing the high energy stellar radiation environment of exoplanetary systems with simultaneous extreme-UV through visible observations**
*Author(s):* **Briana L. Indahl**, **Brian T. Fleming**, **Kevin C. France**, **David Wilson,** Lab. for Atmospheric and Space Physics (United States); **Juan M. Alcala,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Stefano Basso**, **Francesco Borsa,** INAF - Osservatorio Astronomico di Brera (Italy); **Amal Chandran,** Lab. for Atmospheric and Space Physics (United States); **Marta M. Civitani**, **Vincenzo Cortroneo,** INAF - Osservatorio Astronomico di Brera (Italy); **Néstor Espinoza,** Space Telescope Science Institute (United States); **Davide Fedele,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Giancarlo Ghirlanda,** INAF - Osservatorio Astronomico di Brera (Italy); **Fabien Grisé,** The Pennsylvania State Univ. (United States); **Eliza Kempton,** Univ. of Maryland, College Park (United States); **Tommi T. Koskinen,** The Univ. of Arizona (United States); **Nicholas Kruczek,** Lab. for Atmospheric and Space Physics (United States); **Jake A. McCoy**, **Randall L. McEntaffer,** The Pennsylvania State Univ. (United States); **Yamila Miguel,** Leiden Observatory (Netherlands); **Nicholas J. Nell,** Lab. for Atmospheric and Space Physics (United States); **Brunella Nisini,** INAF - Osservatorio Astronomico di Roma (Italy); **Giovanni Pareschi,** INAF - Osservatorio Astronomico di Brera (Italy); **Ignazio F. Pillitteri,** INAF - Osservatorio Astronomico di Roma (Italy); **Peter C. Schneider,** Hamburger Sternwarte, Univ. Hamburg (Germany); **Davide Sisana,** INAF - Osservatorio Astronomico di Brera (Italy); **Stefan Ulrich**, **Dmitry Vorobiev,** Lab. for Atmospheric and Space Physics (United States); **Allison Youngblood,** NASA Goddard Space Flight Ctr. (United States)

13093-11 • 01:30 PM - 01:50 PM
**Eos: a FUV spectroscopic mission to observe molecular hydrogen in molecular clouds**
*Author(s):* **Erika T. Hamden,** Steward Observatory (United States); **David Schiminovich,** Columbia Univ. (United States); **Haeun Chung,** Steward Observatory (United States); **Keri Hoadley,** The Univ. of Iowa (United States); **Neal Turner**, **Shouleh Nikzad,** Jet Propulsion Lab. (United States); **Blakesley Burkhart,** Rutgers, The State Univ. of New Jersey (United States); **Shmuel Bialy,** Technion-Israel Institute of Technology (Israel); **Shuo Kong**, **Miriam Keppler**, **Serena Kim,** Steward Observatory (United States); **Tom Haworth,** Queen Mary Univ. of London (United Kingdom); **Min-Young Lee,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Thavisha Dharmawardena,** Flatiron Institute (United States)

13093-12 • 01:50 PM - 02:10 PM
**The Small NASA Optical Ultraviolet Telescope (SNOUT): a SmallSat mission concept to connect extreme UV stellar flare to exoplanetary atmospheres**
*Author(s):* **Keri Hoadley,** The Univ. of Iowa (United States); **Allison Youngblood**, **Sarah Peacock**, **Eliad Peretz**, **Bert Pasquale,** NASA Goddard Space Flight Ctr. (United States); **Scott Bounds**, **Jeff Dolan**, **Richard Dvorsky**, **Casey T. DeRoo,** The Univ. of Iowa (United States); **Graham Kerr,** The Catholic Univ. of America (United States); **Tommi T. Koskinen,** The Univ. of Arizona (United States); **Arika Egan,** Johns Hopkins Univ. Applied Physics Lab., LLC (United States); **Kevin C. France,** Univ. of Colorado Boulder (United States)

13093-14 • 02:10 PM - 02:30 PM
**UVEX: The Ultraviolet Explorer**
*Author(s):* **Fiona A. Harrison**, **Brian W. Grefenstette,** Caltech (United States); **William Craig,** Space Science Lab. (United States), Univ. of California, Berkeley (United States); **Danielle Berg,** The Univ. of Texas at Austin (United States); **Walter R. Cook**, **Hannah P. Earnshaw**, **Jason R. Fucik**, **Karl Forster,** Caltech (United States); **Suvi Gezari,** Space Telescope Science Institute (United States); **Matthew Graham,** Caltech (United States); **John J. Hennessy,** Jet Propulsion Lab. (United States); **Mansi Kasliwal,** Caltech (United States); **Joel Krajewski,** Space Sciences Lab. (United States), Univ. of California, Berkeley (United States); **Shrinivas R. Kulkarni,** Caltech (United States); **Rafaella Marqutti,** Univ. of California, Berkeley (United States); **Chris Martin,** Caltech (United States); **Shouleh Nikzad,** Jet Propulsion Lab. (United States); **Sterl Phinney,** Caltech (United States); **Hugues Sana,** KU Leuven (Belgium); **Roger Smith,** Caltech (United States); **Keivan G. Stassun,** Vanderbilt Univ. (United States); **Daniel Stern,** Jet Propulsion Lab. (United States); **Harry Teplitz,** IPAC (United States); **Dan Weisz,** Univ. of California, Berkeley (United States)

13093-15 • 02:30 PM - 02:50 PM
**Development of wide-field UV transient exploration satellite PETREL**
*Author(s):* **Yoichi Yatsu**, **Minori Fukuda**, **Shunsuke Hayatsu**, **Nobuyuki Kawai,** Tokyo Institute of Technology (Japan); **Shrinivas R. Kulkarni,** Caltech (United States); **Nozomu Tominaga,** National Astronomical Observatory of Japan (Japan); **Masaomi Tanaka,** Tohoku Univ. (Japan); **Tomoki Morokuma,** Chiba Institute of Technology (Japan); **Nao Suzuki,** Lawrence Berkeley National Lab. (United States); **Hiroyuki Kobayashi**, **Daiki Kobayashi**, **Moe Yasuda**, **Keito Otsubo**, **Yusuke Arai**, **Katsuki Tashiro**, **Yusaku Ozeki**, **Kiyona Miyamoto**, **Kei Watanabe**, **Toshihiro Chujo**, **Hiroki Nakanishi,** Tokyo Institute of Technology (Japan); **Yuji Sakamoto,** Hokkaido Univ. (Japan); **Hiroaki Kobayashi**, **Yu Murata**, **Toru Nakano**, **Masashi Uo**, **Eriko Kusunoki**, **Chiharu Iizuka,** I-NET Corp. (Japan); **Norihide Takeyama**, **Akito Enokuchi**, **Mai Shirahata,** Genesia Corp. (Japan); **Leo Terada, Toshiki Ozawa,** I-NET Corp. (Japan)

## Coffee Break 02:50 PM - 03:20 PM

## SESSION 4: ULTRA VIOLET IV

16 June 2024 • 03:20 PM - 05:00 PM | Room G414/415, North - 4F
*Session Chair(s):* **Shouleh Nikzad**, Jet Propulsion Lab. (United States)

13093-16 • 03:20 PM - 03:40 PM
**Maratus: mapping the circumgalactic medium through UV narrowband imaging**
*Author(s):* **Sarah E. Tuttle**, **Jessica Werk,** Univ. of Washington (United States); **John J. Hennessy,** Jet Propulsion Lab. (United States); **Brian T. Fleming,** Lab. for Atmospheric and Space Physics (United States); **Oswald H. W. Siegmund,** Space Sciences Lab. (United States); **Manuel A. Quijada,** NASA Goddard Space Flight Ctr. (United States); **Thomas R. Quinn**, **Matthew McQuinn**, **Alvar Saenz-Otero,** Univ. of Washington (United States); **Shouleh Nikzad,** Jet Propulsion Lab. (United States); **Mehran Mesbahi,** Univ. of Washington (United States); **Lauren Corlies,** Adler Planetarium & Astronomy Museum (United States); **Yakov Faerman,** Univ. of Washington (United States); **Natalie Sanchez,** Carnegie Observatories (United States); **Travis Mandeville,** Univ. of Washington (United States)

13093-17 • 03:40 PM - 04:00 PM
**The UVIa 12U CubeSat Concept: mission overview**
*Author(s):* **Keri Hoadley,** The Univ. of Iowa (United States); **Curtis McCully,** Las Cumbres Observatory (United States)

13093-18 • 04:00 PM - 04:20 PM
**Overview of the LAPYUTA mission (Life-environmentology, Astronomy, and PlanetarY Ultraviolet Telescope Assembly)**
*Author(s):* **Fuminori Tsuchiya,** Tohoku Univ. (Japan); **Go Murakami,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Expolration Agency (Japan); **Atsushi Yamazaki,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Shingo Kameda**, **Akifumi Nakayama,** Rikkyo Univ. (Japan); **Masahiro Ikoma,** National Astronomical Observatory of Japan (Japan); **Tomoki Kimura,** Tokyo Univ. of Science (Japan); **Chihiro Tao,** National Institute of Information and Communications Technology (Japan); **Ryoichi Koga,** Nagoya Univ. (Japan); **Jun Kimura,** Osaka Univ. (Japan); **Kei Masunaga,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Shotaro Sakai,** Tohoku Univ. (Japan); **Masami Ouchi,** National Astronomical Observatory of Japan (Japan), The Univ. of Tokyo (Japan); **Masaomi Tanaka,** Tohoku Univ. (Japan); **Shin Toriumi,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Kazuo Yoshioka,** The Univ. of Tokyo (Japan); **Masato Kagitani,** Tohoku Univ. (Japan)

13093-19 • 04:20 PM - 04:40 PM
**Breaking through the geocoronal barrier: spectroscopic validation of the hydrogen absorption cell for Lyman-alpha attenuation**
*Author(s):* **Isu Ravi**, **Jack Ford**, **Russell Pelton, Stephan McCandliss,** Johns Hopkins Univ. (United States)

13093-20 • 04:40 PM - 05:00 PM
**Investigation of the energetic and radiative transfer properties of exospheric hydrogen with the hydrogen emission line interferometric eXplorer (HELIX)**
*Author(s):* **Walter M. Harris**, **Jason B. Corliss,** The Univ. of Arizona (United States); **Edwin Mierkiewicz,** Embry-Riddle Aeronautical Univ. (United States); **Dolon Bhattacharyya,** Univ. of Colorado Boulder (United States); **Gonzalo Augusto Cucho-Padín,** NASA Goddard Space Flight Ctr. (United States)

## Monday 17 June 2024

### MONDAY PLENARY

17 June 2024 • 08:20 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/monday-plenary

13173-500 • 08:30 AM - 09:15 AM
**Moving TMT forward: Japan's contributions and transformative approach toward community engagement** (Plenary Presentation)
*Author(s):* **Tomonori Usuda,** National Astronomical Observatory of Japan (United States); **Yuko Kakazu,** Thirty Meter Telescope (United States)

13173-501 • 09:15 AM - 10:00 AM
**From dark skies to bright futures: the evolution of astronomy in Africa and the hosting of the historic International Astronomical Union General Assembly 2024** (Plenary Presentation)
*Author(s):* **Charles Mpho Takalana,** The African Astronomical Society (South Africa)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 5: UV TECHNOLOGY I

17 June 2024 • 10:20 AM - 11:40 AM | Room G414/415, North - 4F
*Session Chair(s):* **Gillian Kyne**, Jet Propulsion Lab. (United States)

13093-22 • 10:20 AM - 10:40 AM
**Development of broadband and narrowband coatings for future UV missions: increasing throughput, uniformity, and environmental stability in the far- and Lyman-ultraviolet**
*Author(s):* **Emily Farr**, **Kevin C. France,** Univ. of Colorado Boulder (United States); **Juan Larruquet**, **Carlos Honrado-Benítez**, **Paloma López-Reyes,** Consejo Superior de Investigaciones Científicas (Spain), Instituto de Óptica "Daza de Valdés" (Spain); **John J. Hennessy**, **Robin E. Rodríguez,** NASA (United States), Jet Propulsion Lab. (United States); **Nicholas Kruczek, Nicholas J. Nell,** Univ. of Colorado Boulder (United States)

13093-26 • 10:40 AM - 11:00 AM
**Advancing Ultraviolet Detector Technology for future missions: Investigating the dark current plateau in silicon detectors using photon-counting EMCCDs**
*Author(s):* **Aafaque R. Khan**, **Erika T. Hamden,** Steward Observatory (United States); **Gillian Kyne,** Jet Propulsion Lab. (United States); **Frank Gacon**, **John Ford**, **Dave Beaty**, **Paul Arbo**, **Jessica S. Li**, **Ipek Kerkeser, Jacob Vider,** Steward Observatory (United States)

13093-24 • 11:00 AM - 11:20 AM
**Adaptive Field-of-View Ultraviolet Integral-Field Spectroscopy with the Ultraviolet Micromirror Imaging Spectrograph (UMIS)**
*Author(s):* **Brian T. Fleming**, **Dmitry Vorobiev**, **Briana L. Indahl,** Lab. for Atmospheric and Space Physics (United States); **Amanda Hendrix,** Planetary Science Institute (United States); **Rebecca Schindhelm,** Ball Aerospace (United States)

13093-25 • 11:20 AM - 11:40 AM
**Microchannel plate detectors for ultraviolet astronomy**
*Author(s):* **Sebastian J. Diebold**, **Jürgen Barnstedt**, **Jonas Bluhm**, **Lauro Conti,** Institut für Astronomie & Astrophysik, Eberhard Karls Univ. Tübingen (Germany); **Hans R. Elsener,** EMPA (Switzerland); **Markus Höltzli**, **Christoph Kalkuhl**, **Laurin Rupp,** Institut für Astronomie & Astrophysik, Eberhard Karls Univ. Tübingen (Germany); **Daniel Schaadt**, **Darleen Rau,** Institute of Energy Research and Physical Technologies, Technische Univ. Clausthal (Germany); **Thomas Schanz**, **Beate Stelzer**, **Alexander Stock**, **Christopher Weinert, Klaus Werner,** Institut für Astronomie & Astrophysik, Eberhard Karls Univ. Tübingen (Germany)

**Lunch Break 11:40 AM - 01:00 PM**

### SESSION 6: UV TECHNOLOGY II

17 June 2024 • 01:00 PM - 01:40 PM | Room G414/415, North - 4F
*Session Chair(s):* **Jeff T. Booth**, Jet Propulsion Lab. (United States)

13093-23 • 01:00 PM - 01:20 PM
**The LUVCamera: a high-performance, low-cost, UV/optical camera for the future of space astronomy**
*Author(s):* **Aaron Tohuvavohu**, **Mark Barnet**, **Shaojie Chen,** Dunlap Institute for Astronomy & Astrophysics (Canada), Univ. of Toronto (Canada); **Christopher Damaren**, **Maria Drout,** Univ. of Toronto (Canada); **Julia Empey,** Univ. of Waterloo (Canada); **Jean-Christophe Fronteddu**, **Braden Gail,** Univ. of Toronto (Canada); **Ajay Gill,** Massachusetts Institute of Technology (United States); **Gavin Hay**, **Sarik Jeram,** Dunlap Institute for Astronomy & Astrophysics (Canada), Univ. of Toronto (Canada); **Christopher Matzner,** Univ. of Toronto (Canada); **Patrick Nkwari**, **Dhwanil Patel,** Dunlap Institute for Astronomy & Astrophysics (Canada), Univ. of Toronto (Canada); **Emma Seabrook,** Univ. of Toronto (Canada); **Mohamed Shaaban**, **Suresh Sivanandam**, **Jacob Taylor,** Dunlap Institute for Astronomy & Astrophysics (Canada), Univ. of Toronto (Canada); **Phil Van-Lane,** Univ. of Toronto (Canada)

13093-27 • 01:20 PM - 01:40 PM
**The SmallSat Technology Accelerated Maturation Platform-1 (STAMP-1): a proposal to advance ultraviolet science, workforce, and technology for the Habitable Worlds Observatory**
*Author(s):* **Kevin C. France,** Univ. of Colorado Boulder (United States); **Jason Tumlinson,** Space Telescope Science Institute (United States); **Brian T. Fleming,** Univ. of Colorado Boulder (United States); **Erika T. Hamden,** The Univ. of Arizona (United States); **Stephan McCandliss,** Johns Hopkins Univ. (United States); **Paul A. Scowen,** NASA Goddard Space Flight Ctr. (United States); **Sarah E. Tuttle,** Univ. of Washington (United States); **Allison Youngblood,** NASA Goddard Space Flight Ctr. (United States)

## SESSION 7: ATHENA INSTRUMENTS I

17 June 2024 • 01:40 PM - 03:10 PM | Room G414/415, North - 4F
*Session Chair(s):* **Marshall W. Bautz**, Massachusetts Institute of Technology (United States)

13093-28 • 01:40 PM - 02:10 PM
**The Wide Field Imager for the reformulated Athena mission**
*Author(s):* **Kirpal Nandra,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13093-29 • 02:10 PM - 02:25 PM
**Low temperature proton irradiation with DEPFETs for Athena's WFI**
*Author(s):* **Valentin Emberger**, **Johannes Müller-Seidlitz,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Wolfgang Treberer-Treberspurg**, **Parviz Azhdarzadeh**, **Abbas Rezaei,** Univ. of Applied Sciences Wiener Neustadt (Austria); **Günter Hauser, Robert Andritschke,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13093-30 • 02:25 PM - 02:40 PM
**Spectroscopic performance of detectors for Athena's WFI: measurements and simulation**
*Author(s):* **Johannes Müller-Seidlitz**, **Robert Andritschke**, **Valentin Emberger**, **Günter Hauser,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Peter Lechner,** Halbleiterlabor der Max-Planck-Gesellschaft (Germany); **Astrid Mayr**, **Jonas Reiffers, Anna-Katharina Schweingruber,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13093-31 • 02:40 PM - 03:10 PM
**The X-ray Integral Field Unit architecture following the Athena mission rescope**
*Author(s):* **Philippe Peille**, **Vincent Albouys,** Ctr. National d'Études Spatiales (France); **Didier Barret,** Institut de Recherche en Astrophysique et Planétologie (France); **Jan-Willem A. den Herder,** SRON Netherlands Institute for Space Research (Netherlands); **Luigi Piro,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Massimo Cappi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

**Coffee Break 03:10 PM - 03:40 PM**

## SESSION 8: ATHENA INSTRUMENTS II

17 June 2024 • 03:40 PM - 05:10 PM | Room G414/415, North - 4F
*Session Chair(s):* **Davide Vaccaro**, SRON Netherlands Institute for Space Research (Netherlands)

13093-32 • 03:40 PM - 03:55 PM
**The detection chain for Athena X-IFU: a status on the design and demonstrations**
*Author(s):* **Hervé Geoffray,** Ctr. National d'Études Spatiales (France)

13093-33 • 03:55 PM - 04:10 PM
**The end-to-end simulator of the ATHENA X-IFU Cryogenic AntiCoincidence detector (CryoAC)**
*Author(s):* **Matteo D'Andrea**, **Claudio Macculi**, **Simone Lotti**, **Luigi Piro,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Andrea Argan,** INAF (Italy); **Guido Torrioli, Fabio Chiarello,** CNR-Istituto di Fotonica e Nanotecnologie (Italy)

13093-34 • 04:10 PM - 04:25 PM
**X-IFU Focal Plane Assembly Development Model design upgrade and critical technology developments**
*Author(s):* **Henk J. van Weers**, **Johannes P. C. Dercksen**, **Mark Leeman**, **Paul van der Hulst**, **A. J. van der Linden**, **Arthur Q. Bennebroek**, **Roland H. den Hartog**, **Pourya Khosropanah**, **Brian D. Jackson, Peter Roelfsema,** SRON Netherlands Institute for Space Research (Netherlands)

13093-35 • 04:25 PM - 04:40 PM
**The X-IFU Focal Plane Assembly Development Model: micro-vibrations characterization**
*Author(s):* **Emanuele Taralli**, **Roland H. den Hartog**, **Geert Keizer**, **Johannes Dercksen**, **Brian D. Jackson**, **Henk J. van Weers**, **Jan-Willem A. den Herder**, **Pourya Khosropanah**, **Peter Roelfsema, Damian Audley,** SRON Netherlands Institute for Space Research (Netherlands)

13093-36 • 04:40 PM - 04:55 PM
**Ground calibration plan for the Athena/X-IFU microcalorimeter spectrometer**
*Author(s):* **Alexeï Molin**, **François Pajot,** Institut de Recherche en Astrophysique et Planétologie (France); **Marc Audard,** Univ. de Genève (Switzerland); **Marco Barbera,** INAF - Osservatorio Astronomico di Palermo "Giuseppe Salvatore Vaiana" (Italy); **Sophie Beaumont**, **Edoardo Cuchetti,** Ctr. National d'Études Spatiales (France); **Matteo D'Andrea,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Christophe Daniel,** Ctr. National d'Études Spatiales (France); **Roland H. den Hartog,** SRON Netherlands Institute for Space Research (Netherlands); **Megan E. Eckart,** Lawrence Livermore National Lab. (United States); **Philippe Ferrando,** CEA-IRFU (France); **Elias Kammoun,** Univ. degli Studi di Roma Tre (Italy); **Maurice A. Leutenegger,** NASA Goddard Space Flight Ctr. (United States); **Simone Lotti,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Jean-Michel Mesnager,** Ctr. National d'Études Spatiales (France); **Lorenzo Natalucci,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Philippe Peille,** Ctr. National d'Études Spatiales (France); **Jelle de Plaa,** SRON Netherlands Institute for Space Research (Netherlands); **Etienne Pointecouteau,** Institut de Recherche en Astrophysique et Planétologie (France); **Frederick S. Porter,** NASA Goddard Space Flight Ctr. (United States); **Kosuke Sato,** Saitama Univ. (Japan); **Joern Wilms,** Dr. Karl Remeis-Sternwarte Astronomisches Institut (Germany), Erlangen Ctr. for Astroparticle Physics (Germany); **Luciano Gottardi,** SRON Netherlands Institute for Space Research (Netherlands); **Vincent Albouys,** Ctr. National d'Études Spatiales (France); **Didier Barret,** Institut de Recherche en Astrophysique et Planétologie (France); **Massimo Cappi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Jan-Willem A. den Herder,** SRON Netherlands Institute for Space Research (Netherlands); **Luigi Piro,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

13093-165 • 04:55 PM - 05:10 PM
**Development of the microcalorimeter array for the Athena X-ray Integral Field Unit**
*Author(s):* **Stephen J. Smith**, **Joseph S. Adams**, **Simon R. Bandler**, **James A. Chervenak**, **Renata S. Cumbee**, **Fred M. Finkbeiner**, **Joshua D. Fuhrman**, **Samuel V. Hull**, **Richard L. Kelley**, **Caroline A. Kilbourne**, **Frederick S. Porter**, **Kazuhiro Sakai**, **Nicholas A. Wakeham**, **Edward J. Wassell, Sang H. Yoon,** NASA Goddard Space Flight Ctr. (United States)

## SESSION PS1: POSTERS - UV

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13093-101 • 05:30 PM - 07:00 PM
**Contamination Control for the Aspera FUV SmallSat**
*Author(s):* **Nicole Melso**, **Aafaque R. Khan**, **Hannah Tanquary**, **Elijah Garcia**, **Daniel Truong**, **Naomi Yescas**, **Sooseong Park**, **Sumedha Uppnor**, **Carlos J. Vargas**, **Haeun Chung**, **Tom McMahon,** The Univ. of Arizona (United States); **Keri Hoadley,** The Univ. of Iowa (United States); **Erika T. Hamden**, **Jason B. Corliss, Bill Verts,** The Univ. of Arizona (United States)

13093-102 • 05:30 PM - 07:00 PM
**Straylight analysis and baffle design for the Aspera UV SmallSat astrophysics mission**
*Author(s):* **Simran Agarwal**, **Aafaque R. Khan,** The Univ. of Arizona (United States); **Fernando Coronado**, **Tom Connors**, **Haeun Chung**, **Carlos J. Vargas**, **Erika T. Hamden**, **Tom Mcmahon, Hannah Tanquary,** Steward Observatory (United States)

13093-104 • 05:30 PM - 07:00 PM
**FIREBall-2 2023: flight communications performance**
*Author(s):* **Greyson Davis**, **Keri Hoadley**, **Jared A. Termini**, **Fernando Cruz Aguirre,** The Univ. of Iowa (United States); **Philippe Balard,** Lab. d'Astrophysique de Marseille (France); **Nicolas Bray,** Ctr. National d'Études Spatiales (France); **Ignacio Cevallos-Aleman,** Columbia Univ. (United States); **Erika T. Hamden,** The Univ. of Arizona (United States); **Gillian Kyne,** Jet Propulsion Lab. (United States); **Zeren Lin**, **D. Christopher Martin**, **Drew M. Miles,** Caltech (United States); **Bruno Millard,** Lab. d'Astrophysique de Marseille (France); **Shouleh Nikzad,** Jet Propulsion Lab. (United States); **Vincent Picouet,** Caltech (United States); **David Schiminovich**, **Meghna Sitaram,** Columbia Univ. (United States); **David Valls-Gabaud,** Observatoire de Paris (France)

13093-105 • 05:30 PM - 07:00 PM
**FIREBall-2 2023: detector system upgrade and performance**
*Author(s):* **Zeren Lin,** Caltech (United States); **Gillian Kyne,** Jet Propulsion Lab. (United States); **Vincent Picouet,** Caltech (United States); **Aafaque R. Khan,** The Univ. of Arizona (United States); **Drew M. Miles**, **Chris Martin,** Caltech (United States); **Erika T. Hamden,** The Univ. of Arizona (United States); **Keri Hoadley,** The Univ. of Iowa (United States); **Bruno Milliard,** Lab. d'Astrophysique de Marseille (France); **Shouleh Nikzad,** Jet Propulsion Lab. (United States); **David Schiminovich,** Columbia Univ. (United States); **David Valls-Gabaud,** Observatoire de Paris (France)

13093-106 • 05:30 PM - 07:00 PM
**FIREBall-2 2023: fine guidance system performance for UV balloon telescope flight**
*Author(s):* **Ignacio Cevallos-Aleman**, **David Schiminovich**, **Meghna Sitaram,** Columbia Univ. (United States); **Charles-Antoine Chevrier,** Ctr. National d'Études Spatiales (France); **Zeren Lin**, **Drew M. Miles,** Caltech (United States); **Johan Montel,** Ctr. National d'Études Spatiales (France); **Vincent Picouet,** Caltech (United States); **Matthew Werneken,** Columbia Univ. (United States)

13093-107 • 05:30 PM - 07:00 PM
**Realignment and performance verification of two-mirror focal corrector optics for FIREBall-2 using computer generated hologram (CGH)**
*Author(s):* **Simran Agarwal**, **Aafaque R. Khan**, **Harrison Bradley**, **Nazende I. Kerkeser**, **Olivia Jones**, **Haeun Chung**, **Erika T. Hamden,** The Univ. of Arizona (United States); **David Schiminovich,** Columbia Univ. (United States); **Bruno Milliard,** Lab. d'Astrophysique de Marseille (France); **Drew Miles**, **Christopher Martin,** Cahill Center for Astrophysics,California Institute of Technology (United States); **Keri Hoadley,** University of Iowa (United States); **Shouleh Nikzad,** Jet Propulsion Laboratory, California Institute of Technology (United States); **Vincent Picouet,** Cahill Center for Astrophysics,California Institute of Technology (United States); **David Valls-Gabaud,** Observatoire de Paris, CNRS (France)

13093-108 • 05:30 PM - 07:00 PM
**Ultraviolet reflective grating performance verification test setup and simulations for the Aspera SmallSat mission**
*Author(s):* **Jessica S. Li**, **Rebecca Su**, **Sumedha Uppnor**, **Haeun Chung**, **Jason B. Corliss**, **Simran Agarwal**, **Aafaque R. Khan**, **Elijah Garcia**, **Naomi Yescas**, **Daniel Truong**, **Carlos J. Vargas**, **Erika T. Hamden,** The Univ. of Arizona (United States); **Ramona Augustin,** Space Telescope Science Institute (United States); **Peter Behroozi,** The Univ. of Arizona (United States); **Joe Burchett,** New Mexico State Univ. (United States); **Heejoo Choi,** The Univ. of Arizona (United States); **Lauren Corlies,** Adler Planetarium & Astronomy Museum (United States); **Greyson Davis,** The Univ. of Iowa (United States); **Ewan Douglas**, **Carl Hergenrother,** The Univ. of Arizona (United States); **Keri Hoadley,** The Univ. of Iowa (United States); **Chris Howk,** Univ. of Notre Dame (United States); **Miriam Keppler**, **Daewook Kim**, **Nicole Melso,** The Univ. of Arizona (United States); **David Schiminovich,** Columbia Univ. (United States); **Dennis Zaritsky**, **Fernando Coronado,** The Univ. of Arizona (United States); **Giulia Ghidoli,** Ascending Node Technologies, LLC (United States); **Alfred Goodwin**, **Dave Hamara**, **Walter M. Harris**, **Karl Harshman,** The Univ. of Arizona (United States); **John Kidd,** Ascending Node Technologies, LLC (United States); **Tom McMahon**, **Jamison Noenickx**, **Gabe Noriega**, **Ryan Pecha**, **Cork Sauve,** The Univ. of Arizona (United States); **Sanford Selznick,** Ascending Node Technologies, LLC (United States); **Hannah Tanquary**, **Bill Verts, Ellie Wolcott,** The Univ. of Arizona (United States)

13093-109 • 05:30 PM - 07:00 PM
**Small UV imager for hydrogen Lyman-alpha onboard ultra-small spacecraft**
*Author(s):* **Kazuo Yoshioka**, **Ashita Yamazaki**, **Yusei Mitoh**, **Ichiro Yoshikawa,** The Univ. of Tokyo (Japan); **Yudai Suzuki**, **Go Murakami,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Masaki Kuwabara**, **Makoto Taguchi, Shingo Kameda,** Rikkyo Univ. (Japan)

13093-110 • 05:30 PM - 07:00 PM
**The exploratory phase for Lifetime Position 7 in the Cosmic Origins Spectrograph FUV channel**
*Author(s):* **David J. Sahnow**, **Christian Johnson**, **Darshan Kakkad**, **Marc Rafelski**, **Svea Hernandez, William Fischer,** Space Telescope Science Institute (United States)

13093-111 • 05:30 PM - 07:00 PM
**Advancements in Space-based NUV Spectrography: Precision Fabrication and Evaluation of an Optical Slit using optical lithography and deep reactive ion etching**
*Author(s):* **Binukumar G. Nair**, **Bharat P. Chandra**, **Margarita Safonova,** Indian Institute of Astrophysics (India); **Sabiha Sultana**, **Yadhukrishnan SV**, **Nawaz N.,** Ctr. for Nano Science and Engineering (CeNSE) (India), Indian Institute of Science, Bengaluru (India); **Shubham Ghatul**, **Shubhangi Jain**, **Mahesh Babu**, **Rekhesh Mohan, Jayant Murthy,** Indian Institute of Astrophysics (India)

13093-112 • 05:30 PM - 07:00 PM
**ULTRASAT scientific payload: current status and as-built performance**
*Author(s):* **Sagi Ben-Ami**, **Yossi Shvartzvald**, **Eli Waxman**, **Avishay Gal-Yam**, **Eran O. Ofek,** Weizmann Institute of Science (Israel); **Viktor M. Algranatti,** Israel Space Agency (Israel); **Merlin Barschke**, **David Berge,** Deutsches Elektronen-Synchrotron (Germany); **Marek Kowalski,** Humboldt-Univ. zu Berlin (Germany); **Ofer Lapid**, **Udi Netzer, Yoram Yaniv,** Weizmann Institute of Science (Israel)

13093-113 • 05:30 PM - 07:00 PM
**Development, building, and testing of the Spectroscopic Ultraviolet Multi-object Observatory (SUMO) prototype for deployment on the INFUSE sounding rocket**
*Author(s):* **Grace M. Halferty**, **Dmitry Vorobiev**, **Brian T. Fleming**, **William Snyder**, **Dana Chafetz, Jack Williams,** Lab. for Atmospheric and Space Physics (United States)

13093-114 • 05:30 PM - 07:00 PM
**Observing modes of the SPRITE 12U CubeSat: a probe of star formation feedback with far-UV imaging spectroscopy**
*Author(s):* **Donal O'Sullivan**, **Brian T. Fleming**, **Briana L. Indahl**, **Dmitry Vorobiev**, **Maitland Bowen,** Lab. for Atmospheric and Space Physics, Univ. of Colorado Boulder (United States); **Sreejith Aickara Gopinathan,** Institut für Weltraumforschung, Österreichische Akademie der Wissenschaften (Austria); **Dana Chafetz**, **Jack Williams**, **Diane Brening**, **Adriana Diaz**, **Kevin C. France**, **Michael J. Kaiser**, **Alex Sico**, **Stefan Ulrich,** Lab. for Atmospheric and Space Physics, Univ. of Colorado Boulder (United States); **John J. Hennessy,** Jet Propulsion Lab. (United States); **Adrian Martin,** Sensor Sciences, LLC (United States); **Luis V. Rodriguez-de Marcos,** NASA Goddard Space Flight Ctr. (United States); **Sanchayeeta Borthakur,** Arizona State Univ. (United States); **Oswald H. W. Siegmund,** Sensor Sciences, LLC (United States); **Stephan McCandliss,** Johns Hopkins Univ. (United States); **Anne Jaskot,** Williams College (United States); **John O'Meara,** W. M. Keck Observatory (United States); **Michael Rutkowski,** Minnesota State Univ., Mankato (United States); **Jason Tumlinson,** Space Telescope Science Institute (United States); **Manuel A. Quijada,** NASA Goddard Space Flight Ctr. (United States); **Ravi Sankrit,** Space Telescope Science Institute (United States); **Adam Magruder,** Nu-Tek Precision Optical Corp. (United States); **Javier Del Hoyo,** NASA Goddard Space Flight Ctr. (United States)

13093-115 • 05:30 PM - 07:00 PM
**An overview of the on-ground and in-orbit calibration of Far-Ultraviolet Spectrographs for the Aspera SmallSat**
*Author(s):* **Aafaque R. Khan,** Steward Observatory (United States); **Carl Hergenrother,** Ascending Node Technologies, LLC (United States); **Miriam Keppler,** Steward Observatory (United States); **Jason B. Corliss,** The Univ. of Arizona (United States); **Keri Hoadley,** The Univ. of Iowa (United States); **Oswald H. W. Siegmund**, **Adrian Martin,** Sensor Sciences, LLC (United States); **Carlos J. Vargas**, **Erika T. Hamden**, **Haeun Chung**, **Hannah Tanquary**, **Thomas J. McMahon, Jacob Vider,** Steward Observatory (United States)

13093-116 • 05:30 PM - 07:00 PM
**Preflight characterization of the SPRITE CubeSat: a far-UV imaging spectrograph for stellar feedback in local galaxies**
*Author(s):* **Maitland Bowen**, **Brian T. Fleming**, **Briana L. Indahl**, **Dmitry Vorobiev**, **Donal O'Sullivan**, **Kevin C. France**, **William Snyder**, **Alan Ochoa,** Lab. for Atmospheric and Space Physics, Univ. of Colorado Boulder (United States); **Luis V. Rodriguez-de Marcos,** The Catholic Univ. of America (United States), NASA Goddard Space Flight Ctr. (United States); **Manuel A. Quijada,** NASA Goddard Space Flight Ctr. (United States); **John J. Hennessy,** Jet Propulsion Lab. (United States); **Oswald H. W. Siegmund, Adrian Martin,** Sensor Sciences, LLC (United States)

13093-117 • 05:30 PM - 07:00 PM
**NASA's role in ULTRASAT mission development and science**
*Author(s):* **James E. Rhoads,** NASA Goddard Space Flight Ctr. (United States); **Eli Waxman**, **Avishay Gal-Yam**, **Yossi Shvartzvald**, **Eran O. Ofek**, **Sagi Ben-Ami,** Weizmann Institute of Science (Israel); **Shahid Habib,** NASA (United States); **Mark M. Matsumura**, **Barbara Grofic**, **Catherine B. Barclay,** NASA Goddard Space Flight Ctr. (United States); **Shaun M. Daly**, **Aaron D. Fournier,** NASA Kennedy Space Ctr. (United States); **Manuel Bautista,** NASA (United States); **Udi Netzer**, **Ofer Lapid, ULTRASAT Collaboration,** Weizmann Institute of Science (Israel)

13093-118 • 05:30 PM - 07:00 PM
**Spectroscopic Investigation of Nebular Gas (SING): instrument assembly, testing and calibration**
*Author(s):* **Bharat P. Chandra**, **Binukumar G. Nair**, **Shubham Ghatul**, **Shubhangi Jain**, **Mahesh Babu**, **Rekhesh Mohan**, **Margarita Safonova, Jayant Murthy,** Indian Institute of Astrophysics (India)

13093-119 • 05:30 PM - 07:00 PM
**Assembly, integration, and testing of the Star-Planet Activity Research CubeSat (SPARCS)**
*Author(s):* **Logan Jensen**, **Johnathan Gamaunt,** Arizona State Univ. (United States); **Paul A. Scowen,** NASA Goddard Space Flight Ctr. (United States); **Nathaniel Struebel,** AZ Space Technologies, LLC (United States); **Liam O'Mara**, **Neil Naik,** Arizona State Univ. (United States); **David Ardila,** Jet Propulsion Lab. (United States); **Jim Austin,** Jim Austin Consulting, LLC (United States); **Travis Barman,** The Univ. of Arizona (United States); **Christophe Basset,** Jet Propulsion Lab. (United States); **Matthew Beasley,** Southwest Research Institute (United States); **Lee Bernard**, **Judd Bowman**, **Nathaniel Butler,** Arizona State Univ. (United States); **Dawn Gregory,** AZ Space Technologies, LLC (United States); **April D. Jewell,** Jet Propulsion Lab. (United States); **Mary Knapp,** Massachusetts Institute of Technology (United States); **Daniel Jacobs**, **Matthew Kolopanis**, **Cristy Ladwig,** Arizona State Univ. (United States); **Joe Llama,** Lowell Observatory (United States); **Victoria Meadows,** Univ. of Washington (United States); **Shouleh Nikzad,** Jet Propulsion Lab. (United States); **Sarah Peacock,** NASA Goddard Space Flight Ctr. (United States); **Tahina Ramiaramanantsoa**, **Titu Samson**, **Evgenya Shkolnik,** Arizona State Univ. (United States); **Mark Swain,** Jet Propulsion Lab. (United States); **Todd Veach,** Southwest Research Institute (United States)

13093-120 • 05:30 PM - 07:00 PM
**Photometric calibration in the ultraviolet of the Star-Planet Activity Research CubeSat (SPARCS)**
*Author(s):* **David R. Ardila,** Jet Propulsion Lab. (United States); **Evgenya Shkolnik,** Arizona State Univ. (United States); **Paul A. Scowen,** NASA Goddard Space Flight Ctr. (United States); **Tahina Ramiaramanantsoa,** Arizona State Univ. (United States); **Travis Barman,** The Univ. of Arizona (United States); **Judd Bowman,** Arizona State Univ. (United States); **Christophe Basset,** Jet Propulsion Lab. (United States); **Johnathan Gamaunt,** Arizona State Univ. (United States); **Dawn Gregory,** AZ Space Technologies, LLC (United States); **Daniel Jacobs**, **Logan Jensen,** Arizona State Univ. (United States); **April D. Jewell,** Jet Propulsion Lab. (United States); **Matthew Kolopanis,** Arizona State Univ. (United States); **Mary Knapp,** MIT Haystack Observatory (United States); **Gillian Kyne,** Jet Propulsion Lab. (United States); **Cristy Ladwig,** Arizona State Univ. (United States); **Joe Llama,** Jet Propulsion Lab. (United States); **Victoria Meadows,** Univ. of Washington (United States); **Shouleh Nikzad,** Jet Propulsion Lab. (United States); **Sarah Peacock,** NASA Goddard Space Flight Ctr. (United States); **Nathaniel Struebel,** Arizona State Univ. (United States); **Mark Swain,** Jet Propulsion Lab. (United States)

13093-121 • 05:30 PM - 07:00 PM
**Alignment and ground calibration of the Carruthers GeoCoronal Imager**
*Author(s):* **Kodi A. Rider**, **Jason McPhate**, **William Craig**, **Cathy Chou**, **Martin Sirk**, **Thomas Immel**, **Anna Butterworth,** Space Sciences Lab. (United States); **Lara Waldrop**, **Alex Zhang**, **Evan Widloski,** Univ. of Illinois (United States); **John Clarke,** Boston Univ. (United States); **Pascal Blain**, **Jérémy Brisbois, Jean-François Vandenrijt,** Ctr. Spatial de Liège (Belgium)

13093-122 • 05:30 PM - 07:00 PM
**Design and status of the CASTOR mission**
*Author(s):* **Patrick Côté**, **Melissa Amenouche, Deborah Lokhorst,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13093-123 • 05:30 PM - 07:00 PM
**Transient sky survey using small-scale UV imaging payloads in the era of high cadence astronomy**
*Author(s):* **Joice Mathew**, **Brad Tucker, Eduardo Trifoni,** The Australian National Univ. (Australia)

13093-124 • 05:30 PM - 07:00 PM
**Performance qualification of the detector on board the Spektr-UF (WSO-UV) space telescope**
*Author(s):* **Ana Inés Gómez de Castro,** Univ. Complutense de Madrid (Spain); **David Moya**, **Juan Carlos Vallejo,** Universidad Complutense de Madrid (Spain); **Ashley Thomson**, **Tom Conneely, James Milnes,** PHOTEK (United Kingdom)

13093-126 • 05:30 PM - 07:00 PM
**Optical design options for Pollux: UV spectropolarimeter project for the Habitable Worlds Observatory**
*Author(s):* **Eduard R. Muslimov,** Univ. of Oxford (United Kingdom); **Coralie Neiner,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France), Observatoire de Paris, CNRS (France), Univ. PSL, Sorbonne Univ. (France); **Jean-Claude Bouret,** Lab. d'Astrophysique de Marseille, Aix-Marseille Univ., Ctr. National d'Études Spatiales, CNRS (France)

13093-127 • 05:30 PM - 07:00 PM
**A standalone UV coronagraph instrument for the Habitable Worlds Observatory**
*Author(s):* **Roser Juanola-Parramon**, **Neil Zimmerman**, **Christopher Stark,** NASA Goddard Space Flight Ctr. (United States); **Pin Chen,** Jet Propulsion Lab. (United States); **Jessica Gersh-Range**, **N. Jeremy Kasdin,** Princeton Univ. (United States); **John Krist**, **Eric Mamajek**, **Rhonda Morgan**, **Axel Potier,** Jet Propulsion Lab. (United States); **Laurent Pueyo,** Space Telescope Science Institute (United States); **John Sadleir**, **Paul A. Scowen,** NASA Goddard Space Flight Ctr. (United States); **Karl Stapelfeldt,** Jet Propulsion Lab. (United States)

13093-128 • 05:30 PM - 07:00 PM
**Spektr-UF space mission: status 2024**
*Author(s):* **Mikhail Sachkov, Evgeniy Kopylov,** Institute of Astronomy (Russian Federation)

13093-129 • 05:30 PM - 07:00 PM
**Optical alignment results of the FLUID F110M Telescope**
*Author(s):* **Nicholas J. Nell**, **Patrick Behr**, **Stefan Ulrich**, **Nicholas Kruczek, Kevin C. France,** Lab. for Atmospheric and Space Physics (United States)

13093-130 • 05:30 PM - 07:00 PM
**Anew imaging instrument for Spectr-UF Space mission**
*Author(s):* **Mikhail Sachkov, Evgeniy Kopylov,** Institute of Astronomy (Russian Federation)

13093-131 • 05:30 PM - 07:00 PM
**The optical design for the Ultraviolet Explorer (UVEX) mission: a next generation wide-field UV telescope**
*Author(s):* **Jason R. Fucik,** Caltech (United States)

13093-132 • 05:30 PM - 07:00 PM
**UVIa: a cubesat to explore type Ia supernovae in the UV**
*Author(s):* **Curtis McCully,** Las Cumbres Observatory (United States); **Keri Hoadley,** The Univ. of Iowa (United States)

13093-133 • 05:30 PM - 07:00 PM
**Exploring the ultraviolet extinction landscape: a mission concept for probing interstellar medium composition in the Milky Way and local group galaxies**
*Author(s):* **Joice Mathew**, **Andrew Battisti**, **Brad Tucker,** The Australian National Univ. (Australia); **Rekhesh Mohan,** Indian Institute of Astrophysics (India)

13093-134 • 05:30 PM - 07:00 PM
**The CASTOR mission: performance, uniqueness and science program**
*Author(s):* **Melissa Amenouche**, **Deborah Lokhorst, Patrick Côté,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13093-135 • 05:30 PM - 07:00 PM
**Nox: the 12U CubeSat mission concept for characterizing all-sky LUV/FUV background**
*Author(s):* **Haeun Chung**, **Carlos J. Vargas**, **Erika T. Hamden,** The Univ. of Arizona (United States); **Heejoo Choi,** The Univ. of Arizona (United States), Large Binocular Telescope Observatory (United States); **Sumedha Uppnor,** The Univ. of Arizona (United States); **April D. Jewell,** Jet Propulsion Lab. (United States); **Drew M. Miles,** Caltech (United States); **Manuel A. Quijada,** NASA Goddard Space Flight Ctr. (United States); **Luis V. Rodriguez-de-Marcos,** NASA Goddard Space Flight Ctr. (United States), The Catholic Univ. of America (United States); **Keri Hoadley,** The Univ. of Iowa (United States); **David Schiminovich,** Columbia Univ. (United States)

13093-136 • 05:30 PM - 07:00 PM
**The optical design of the UVIa CubeSat: a multi-channel ultraviolet telescope for transient science**
*Author(s):* **Fernando Cruz Aguirre**, **Keri Hoadley,** The Univ. of Iowa (United States); **Curtis McCully,** Las Cumbres Observatory (United States); **Gillian Kyne**, **Shouleh Nikzad**, **John Hennessy**, **April Jewell**, **Christophe Basset,** Jet Propulsion Laboratory (United States); **Greyson Davis,** The Univ. of Iowa (United States); **Leonidas Moustakas,** Jet Propulsion Laboratory (United States); **Daniel Harbeck,** Las Cumbres Observatory (United States); **Andrew Howell,** Las Cumbres Observatory (United States), University of California, Santa Barbara (United States); **Saurabh Jha,** Rutgers (United States); **David Sand,** University of Arizona (United States); **Peter Brown,** Texas A&M University (United States); **Ken Shen,** University of California, Berkeley (United States)

13093-138 • 05:30 PM - 07:00 PM
**Spectrograph with High dispersion Echelle grating for Terrestrial exoplanetary Atmosphere (SHETA) for the LAPYUTA mission**
*Author(s):* **Shingo Kameda,** Rikkyo Univ. (Japan); **Masato Kagitani,** Tohoku Univ. (Japan); **Go Murakami,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Masaki Kuwabara**, **Akifumi Nakayama,** Rikkyo Univ. (Japan); **Fuminori Tsuchiya,** Tohoku Univ. (Japan)

13093-139 • 05:30 PM - 07:00 PM
**Life-environmentology, Astronomy, and PlanetarY Ultraviolet Telescope Assembly (LAPYUTA) mission: instrument overview and development updates**
*Author(s):* **Go Murakami,** Japan Aerospace Exploration Agency (Japan); **Fuminori Tsuchiya**, **Masato Kagitani,** Tohoku Univ. (Japan); **Atsushi Yamazaki,** Japan Aerospace Exploration Agency (Japan); **Kazuo Yoshioka,** The Univ. of Tokyo (Japan); **Masaki Kuwabara, Shingo Kameda,** Rikkyo Univ. (Japan)

13093-140 • 05:30 PM - 07:00 PM
**A modification of the optical design for the SOLAR-C EUVST instrument: design performance, sensitivity analysis, optical alignment, and optical error budget**
*Author(s):* **Toshihiro Tsuzuki**, **Yoshinori Suematsu**, **Yukio Katsukawa**, **Hirohisa Hara**, **Ryoko Ishikawa**, **Fumihiro Uraguchi,** National Astronomical Observatory of Japan (Japan); **Toshifumi Shimizu,** Japan Aerospace Exploration Agency (Japan); **Shinsuke Imada,** The Univ. of Tokyo (Japan); **Tomoko Kawate,** National Institute for Fusion Science (Japan)

13093-143 • 05:30 PM - 07:00 PM
**Exposure time calculator of the Spektr-UF space mission: the first web version for users**
*Author(s):* **Mikhail Sachkov, Evgeniy Kopylov,** Institute of Astronomy (Russian Federation)

13093-313 • 05:30 PM - 07:00 PM
**Supernova and Stellar Feedback Rapid-Acquisition Spectrograph (SASAFRAS): a UV multi-object spectrograph mission concept for the SuperBIT platform**
*Author(s):* **Dmitry Vorobiev**, **Brian T. Fleming**, **Briana L. Indhal**, **Donal O'Sullivan**, **Grace M. Halferty**, **William Snyder,** Lab. for Atmospheric and Space Physics, Univ. of Colorado Boulder (United States); **Sreejith Aickara Gopinathan,** Österreichische Akademie der Wissenschaften (Austria)

## SESSION PS2: POSTERS - UV TECHNOLOGY

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13093-145 • 05:30 PM - 07:00 PM
**VUV bandpass reflective coatings for the SMILE-UVI instrument**
*Author(s):* **Jérémy Brisbois**, **Frédéric Rabecki**, **Julien Rosin**, **Cédric Hardy**, **Pascal Blain**, **Alexandra Mazzoli,** Ctr. Spatial de Liège (Belgium); **Jérôme Loïcq,** Technische Univ. Delft (Netherlands); **Jean-François Vandenrijt**, **Cédric Lénaerts, Karl Fleury-Frenette,** Ctr. Spatial de Liège (Belgium)

13093-146 • 05:30 PM - 07:00 PM
**Heterodyne OH Lunar Miniature Spectrometer (HOLMS), a miniature ultra-sensitive UV spectrometer for future lunar and planetary missions**
*Author(s):* **Sona Hosseini,** Jet Propulsion Lab. (United States), Caltech (United States); **Guillaume Gronoff,** Science Systems and Applications, Inc. (United States); **Bjorn Davidsson,** Jet Propulsion Lab. (United States); **Anthony Colaprete,** NASA Ames Research Ctr. (United States); **Amanda Hendrix,** Planetary Science Institute (United States)

13093-147 • 05:30 PM - 07:00 PM
**Design of a far-UV polarimeter for POLLUX aboard NASA's HWO flagship mission**
*Author(s):* **Adrien Girardot**, **Coralie Neiner, Jean-Michel Réess,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France), Observatoire de Paris, CNRS (France), Univ. PSL, Sorbonne Univ. (France)

13093-148 • 05:30 PM - 07:00 PM
**Evaluating UV detector enhancement technologies for the next generation of space telescopes: the path to CASTOR**
*Author(s):* **Jesper Skottfelt**, **David J. Hall**, **Chiaki Crews**, **Ben Dryer**, **Oliver Hetherington,** The Open Univ. (United Kingdom); **Doug Jordan, David Morris,** Teledyne e2v UK Ltd. (United Kingdom)

13093-149 • 05:30 PM - 07:00 PM
**The Lunar Ultraviolet Observatory: preparatory optical activities and detector**
*Author(s):* **Ana Inés Gómez de Castro**, **Maria Frutos Pastor,** Univ. Complutense de Madrid (Spain); **Miguel Chávez**, **Rafael Izazaga,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **León Restrepo,** Institución Univ. de Envigado (Colombia); **Shingo Kameda,** Rikkyo Univ. (Japan); **Eduardo Bendek,** ESO- Prontificia Univ. Católica de Chile (Chile); **Ada Canet,** Universidad Complutense de Madrid (Spain); **Juan Carlos Vallejo,** Univ. Complutense de Madrid (Spain); **Esteban Garcia Migani,** UNSJ - CONICET (Argentina)

13093-150 • 05:30 PM - 07:00 PM
**Theoretical Performance and Applications of a Novel 128-amplifier Delta-Doped UV Enhanced Skipper CCD**
*Author(s):* **Brock Parker**, **Erika T. Hamden, Aafaque R. Khan,** The Univ. of Arizona (United States)

13093-151 • 05:30 PM - 07:00 PM
**Novel prototype reflection-based polarizer for the far ultraviolet**
*Author(s):* **Olivia Jones, Keri Hoadley,** The Univ. of Iowa (United States)

13093-152 • 05:30 PM - 07:00 PM
**Enhanced far ultra-violet optical properties of physical vapor deposited aluminum mirrors through fluorination**
*Author(s):* **Manuel A. Quijada,** NASA Goddard Space Flight Ctr. (United States); **Luis V. Rodriguez-de-Marcos,** The Catholic Univ. of America (United States); **Javier G. Del Hoyo,** NASA Goddard Space Flight Ctr. (United States); **Devin M. Lewis,** Brigham Young Univ. (United States); **Edward J. Wollack,** NASA Goddard Space Flight Ctr. (United States); **Tanner D. Rydalch, David D. Allred,** Brigham Young Univ. (United States)

13093-153 • 05:30 PM - 07:00 PM
**The SUAVE disruptive off-axis SiC far UV Lyman-Alpha telescope for long term solar observation**
*Author(s):* **Luc Damé**, **Mustapha Meftah**, **Nicolas Rouanet,** Lab. Atmosphères, Milieux, Observations Spatiales (France); **Pierre Etcheto, Jacques Berthon,** Ctr. National d'Études Spatiales (France)

13093-154 • 05:30 PM - 07:00 PM
**Characterizing fabrication quality and UV performance of UV gratings**
*Author(s):* **Jared A. Termini**, **Keri Hoadley**, **Casey T. DeRoo**, **Cecilia R. Fasano,** The Univ. of Iowa (United States); **Paul A. Scowen**, **Manuel A. Quijada**, **Mateo Batkis**, **Luis V. Rodriguez-de-Marcos**, **Javier G. Del Hoyo,** NASA Goddard Space Flight Ctr. (United States); **Erika T. Hamden, Jessica S. Li,** The Univ. of Arizona (United States)

13093-155 • 05:30 PM - 07:00 PM
**Designing a compact, self-contained control and power system for a DMD-based spectrograph suitable for the space environment**
*Author(s):* **William Snyder**, **Dmitry Vorobiev**, **Grace M. Halferty**, **Dana Chafetz, Brian T. Fleming,** Lab. for Atmospheric and Space Physics (United States)

13093-156 • 05:30 PM - 07:00 PM
**Fabrication of custom UV astronomical gratings for the next decade**
*Author(s):* **Fabien Grisé**, **Randall McEntaffer,** The Pennsylvania State Univ. (United States); **Brian T. Fleming**, **Kevin C. France,** Lab. for Atmospheric and Space Physics (United States); **Stephan McCandliss**, **Mackenzie Carlson,** Johns Hopkins Univ. (United States); **Briana L. Indahl,** Lab. for Atmospheric and Space Physics (United States); **Jake McCoy,** The Pennsylvania State Univ. (United States); **Drew M. Miles,** Caltech (United States)

13093-157 • 05:30 PM - 07:00 PM
**Development of high reflective mirrors for space-based EUV polarimeter**
*Author(s):* **Raveena Khan,** Indian Institute of Astrophysics (India)

13093-158 • 05:30 PM - 07:00 PM
**Quantum Efficiency of delta-doped CCD201-20 detectors for sub-orbital and space missions**
*Author(s):* **Gillian Kyne**, **April D. Jewell**, **Shouleh Nikzad**, **Michael E. Hoenk**, **John J. Hennessy**, **Todd J. Jones, Robin E. Rodríguez,** Jet Propulsion Lab. (United States)

13093-21 • 05:30 PM - 07:00 PM
**Compact Lyman-alpha Spatial heterodyne Spectrometer (CLASS), a miniature ultra-sensitive FUV spectrometer for future heliophysics and astrophysics Space explorations**
*Author(s):* **Sona Hosseini,** Jet Propulsion Lab. (United States), Caltech (United States); **Leonard Strachan,** U.S. Naval Research Lab. (United States); **Angelos Vourlidas, Larry Paxton,** Johns Hopkins Univ. Applied Physics Lab., LLC (United States)

## SESSION PS3: POSTERS - ATHENA INSTRUMENTS

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13093-159 • 05:30 PM - 07:00 PM
**Thermal design and control of Athena WFI camera head**
*Author(s):* **Anirudh Mukund Saraf**, **Valeria Antonelli**, **Daniel Pietschner**, **Astrid Mayr**, **Johannes Müller-Seidlitz**, **Olaf Hälker**, **Hermine Schnetler, Kirpal Nandra,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13093-160 • 05:30 PM - 07:00 PM
**The X-IFU focal plane assembly development model: evaluation of the global magnetic shielding factor**
*Author(s):* **Emanuele Taralli**, **Roland H. den Hartog**, **Henk J. van Weers**, **Johannes Dercksen**, **Brian D. Jackson**, **Pourya Khosropanah**, **Jan-Willem A. den Herder**, **Peter Roelfsema**, **Damian Audley**, **Geert Keizer**, **Willen-Jan Vreeling**, **Jan Van der Kuur, Lorenza Ferrari,** SRON Netherlands Institute for Space Research (Netherlands)

13093-161 • 05:30 PM - 07:00 PM
**System performance of a cryogenic test-bed for the time-division multiplexing readout for Athena X-IFU**
*Author(s):* **Davide Vaccaro**, **Jan van der Kuur**, **Paul van der Hulst**, **Martin de Wit**, **Luciano Gottardi**, **Kevin Ravensberg**, **Emanuele Taralli**, **Tobias Vos,** SRON Netherlands Institute for Space Research (Netherlands); **Joseph S. Adams**, **Simon R. Bandler**, **James A. Chervenak,** NASA Goddard Space Flight Ctr. (United States); **Bertrand W. Doriese**, **Malcolm Durkin**, **Carl Reintsema,** National Institute of Standards and Technology (United States); **Kazuhiro Sakai**, **Stephen J. Smith**, **Nick A. Wakeham,** NASA Goddard Space Flight Ctr. (United States); **Brian D. Jackson**, **Pourya Khosropanah**, **Jian-Rong Gao**, **Peter Roelfsema, Jan-Willem A. den Herder,** SRON Netherlands Institute for Space Research (Netherlands)

13093-162 • 05:30 PM - 07:00 PM
**Electrical ground support equipment for the ESA NewAthena wide field imager**
*Author(s):* **Francisco Javier Veredas**, **Sebastian Albrecht**, **Robert Andritschke**, **Günter Hauser,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Marko Mecina,** Univ. Wien (Austria); **Kirpal Nandra,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Roland Ottensamer,** Univ. Wien (Austria); **Hermine Schnetler, Andreas Lederhuber,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13093-163 • 05:30 PM - 07:00 PM
**Review of the ATHENA/WFI instrumental background and lessons learned from SRG/eROSITA**
*Author(s):* **Emanuele Perinati**, **Andrea Santangelo**, **Chris Tenzer**, **Sebastian Diebold, Bastian Hess,** Eberhard Karls Univ. Tübingen (Germany)

13093-164 • 05:30 PM - 07:00 PM
**The VERITAS 2.3 readout ASIC for the ATHENA Wide Field Imager**
*Author(s):* **Anna-Katharina Schweingruber,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Steven W. Allen,** Kavli Institute for Particle Astrophysics & Cosmology (United States), Stanford Univ. (United States); **Sebastian Albrecht,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Sven C. Herrmann,** Kavli Institute for Particle Astrophysics & Cosmology (United States); **Astrid Mayr,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Glenn Morris,** Kavli Institute for Particle Astrophysics & Cosmology (United States); **Johannes Müller-Seidlitz**, **Kirpal Nandra,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Peter Orel,** Kavli Institute for Particle Astrophysics & Cosmology (United States); **Jonas Reiffers, Hermine Schnetler,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13093-166 • 05:30 PM - 07:00 PM
**Detector electronics sub-system development for the NewAthena Wide Field Imager**
*Author(s):* **Francisco Javier Veredas**, **Andreas Lederhuber**, **Jonas Reiffers**, **Olaf Hälker,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Jaroslav Laifr,** Astronomical Institute of the CAS, v.v.i. (Czech Republic); **Samuel Pliego**, **Thomas Schanz,** Eberhard Karls Univ. Tübingen (Germany); **Benjamin Mican**, **Sebastian Albrecht**, **Hermine Schnetler,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Christopher Tenzer,** Eberhard Karls Univ. Tübingen (Germany)

13093-167 • 05:30 PM - 07:00 PM
**Calibration and test of the Athena On-board Metrology system**
*Author(s):* **Manuel Adler Abreu,** Instituto de Astrofísica e Ciências do Espaço (Portugal); **Alexandre Cabral,** Instituto de Astrofísica e Ciências do Espaço (Portugal), Univ. de Lisboa (Portugal); **José Rebordão,** Instituto de Astrofísica e Ciências do Espaço (Portugal); **Nuno M. Gonçalves,** Instituto de Astrofísica e Ciências do Espaço (Portugal), Univ. de Lisboa (Portugal); **Sergio Mottini,** Thales Alenia Space Italia (Italy); **João Costa Pinto,** EVOLEO Technologies (Portugal); **Miguel Santos,** Frezite High Performance, Lda (Portugal); **Davide Oddenino,** European Space Research and Technology Ctr., European Space Agency (Netherlands)

13093-168 • 05:30 PM - 07:00 PM
**X-IFU magnetic field modelling including multi-stage ADR and FPA using a hybrid 2D axisymmetric- and 3D-approach**
*Author(s):* **Henk J. van Weers**, **Brian D. Jackson,** SRON Netherlands Institute for Space Research (Netherlands); **Sylvain Martin**, **Jean-Marc Duval,** CEA-Grenoble (France); **Philippe Peille, Oceane Maisonnave,** Ctr. National d'Études Spatiales (France)

13093-169 • 05:30 PM - 07:00 PM
**The DEMUX module of the ATHENA / X-IFU digital readout electronics demonstration model**
*Author(s):* **David Murat**, **Laurent Ravera**, **Yann Parot**, **Thierry Camus**, **Odile Coeur-Joly, Corentin Guerin,** Institut de Recherche en Astrophysique et Planétologie (France)

13093-170 • 05:30 PM - 07:00 PM
**Alignment verification of the X-IFU Focal Plane Assembly detector stage in warm and cold conditions**
*Author(s):* **Henk J. van Weers**, **Auke Veninga**, **Johannes P. C. Dercksen**, **Simon van Alphen**, **Roland H. den Hartog**, **Emanuele Taralli**, **Brian D. Jackson, Jan-Willem A. den Herder,** SRON Netherlands Institute for Space Research (Netherlands)

13093-171 • 05:30 PM - 07:00 PM
**ASIC design evolution of ATHENA X-IFU warm front-end electronics**
*Author(s):* **Si Chen**, **Damien Prêle**, **Manuel Gonzalez**, **Jean Mesquida**, **Bernard Courty**, **Michael Punch**, **Horacio Arnaldi**, **Bao Ton, Jean Lesrel,** Astroparticule et Cosmologie (France)

13093-172 • 05:30 PM - 07:00 PM
**The X-IFU Focal Plane Assembly Development Model: thermal characterization**
*Author(s):* **Roland H. den Hartog**, **Emanuele Taralli**, **Damian Audley, Henk J. van Weers,** SRON Netherlands Institute for Space Research (Netherlands)

13093-173 • 05:30 PM - 07:00 PM
**The Wide Field Imager for the NewAthena mission: preliminary design and verification**
*Author(s):* **Valeria Antonelli**, **Daniel Pietschner**, **Rafael Strecker**, **Benjamin Mican**, **Hermine Schnetler**, **Kirpal Nandra**, **Jan Philipp Möller**, **Aysun Sönmez, Anirudh Saraf,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13093-174 • 05:30 PM - 07:00 PM
**Rejection and crosstalk measurements on the X-IFU warm front-end readout using lock-in amplifier up to 50 MHz**
*Author(s):* **Michael Punch**, **Manuel Gonzalez**, **Horacio Arnaldi**, **Si Chen, Damien Prêle,** Astroparticule et Cosmologie (France)

13093-175 • 05:30 PM - 07:00 PM
**Impact of space ionizing environment on the warm front-end electronics flicker noise used for TES/SQUID readout**
*Author(s):* **Bao Ton**, **Manuel Gonzalez**, **Horacio Arnaldi**, **Si Chen, Damien Prêle,** Astroparticule et Cosmologie (France)

13093-176 • 05:30 PM - 07:00 PM
**X-IFU warm front end electronic demonstrator model measured performances**
*Author(s):* **Damien Prêle**, **Manuel Gonzalez**, **Horacio Arnaldi**, **Si Chen**, **Bernard Courty**, **Alain Givaudan**, **Mael Le Cam**, **Jean Lesrel, Michael Punch,** Astroparticule et Cosmologie (France)

## SESSION PS4: POSTERS - OPTICS

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13093-177 • 05:30 PM - 07:00 PM
**Preparing for NewATHENA flight production: recent developments in upscaling SPO plate manufacturing technology**
*Author(s):* **Jeroen Haneveld**, **Bart Schurink**, **Marko Blom**, **Mathijs Bosman**, **Bastiaan van Dam**, **Arenda Koelewijn**, **Jan-Joost Lankwarden**, **Mark Olde Riekerink**, **Ronald Start**, **Maurice Wijnperlé,** Micronit B.V. (Netherlands); **Maximilien J. Collon**, **Ramses Günther**, **Laurens Keek**, **Boris Landgraf**, **Adam Lassise**, **Paulo da Silva Ribeiro**, **Aniket Thete**, **Giuseppe Vacanti,** cosine measurement systems (Netherlands); **Marcos Bavdaz**, **Ivo Ferreira, Eric Wille,** European Space Agency (Netherlands)

13093-178 • 05:30 PM - 07:00 PM
**The VERT-X calibration facility: development and test of the most critical parts**
*Author(s):* **Alberto Moretti**, **Daniele Spiga**, **Stefano Basso**, **Giovanni Pareschi**, **Giorgia Sironi**, **Mauro Ghigo**, **Marta M. Civitani**, **Vincenzo Cotroneo,** INAF - Osservatorio Astronomico di Brera (Italy); **Nicola La Palombara**, **Michela Uslenghi,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Giuseppe Valsecchi**, **Fabio Marioni**, **Dervis Vernani**, **Fabio Zocchi,** Media Lario S.r.l. (Italy); **Massimiliano Tordi**, **Simone De Lorenzi,** EIE S.r.l. (Italy); **Giancarlo Parodi**, **Matteo Ottolini,** BCV Progetti S.r.l. (Italy); **Franco Amisano,** Apogeo Space S.r.l. (Italy); **Desirée Della Monica Ferreira,** Technical Univ. of Denmark (Denmark); **Vadim Burwitz,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Stuart Coleman**, **John Burnett,** Sigray, Inc. (United States); **Ivo Ferreira**, **Paolo Corradi**, **Marcos Bavdaz,** European Space Agency (Netherlands); **Gaetano Pecoraro,** INAF - Osservatorio Astronomico di Brera (Italy)

13093-179 • 05:30 PM - 07:00 PM
**Data handling for the production of the NewAthena optics**
*Author(s):* **Giuseppe Vacanti**, **Luis Abalo**, **Nicolas M. Barrière**, **Alex Bayerle**, **Donny de Borst**, **Luigi Castiglione**, **Abdelhakim Chatbi**, **Maximilien J. Collon**, **Loes Crama**, **Noë Eenkhoorn**, **David Girou**, **Ramses Günther**, **James Harpur**, **Enrico Hauser**, **Jasper den Hollander**, **Yvette Jenkins**, **Laurens Keek**, **Christian Körnig**, **Boris Landgraf**, **Adam Lassise**, **Sebastian Obwaller**, **Ben Okma**, **Paulo da Silva Ribeiro**, **Chris Rizos**, **Aniket Thete**, **Sjoerd Verhoeckx**, **Mark Vervest**, **Roel Visser, Luc Voruz,** cosine measurement systems (Netherlands)

13093-180 • 05:30 PM - 07:00 PM
**BEaTriX x-ray calibration facility: status of the project**
*Author(s):* **Davide Sisana,** Politecnico di Milano (Italy), INAF - Osservatorio Astronomico di Brera (Italy); **Bianca Salmaso**, **Daniele Spiga**, **Stefano Basso**, **Mauro Ghigo**, **Gabriele Vecchi**, **Giorgia Sironi**, **Vincenzo Cotroneo**, **Giovanni Pareschi**, **Gianpiero Tagliaferri,** INAF - Osservatorio Astronomico di Brera (Italy); **Michela Uslenghi**, **Mauro Fiorini,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Claudio Ferrari**, **Elena Ferrari,** Istituto dei Materiali per l'Elettronica ed il Magnetismo, Consiglio Nazionale delle Ricerche (Italy); **Vadim Burwitz,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Maximilien J. Collon**, **Giuseppe Vacanti**, **Nicolas M. Barrière**, **David Girou,** cosine measurement systems (Netherlands); **Marcos Bavdaz,** European Space Research and Technology Ctr. (Netherlands)

13093-181 • 05:30 PM - 07:00 PM
**Ir/C multilayers for the NewAthena X-ray mirror coatings**
*Author(s):* **Sara Svendsen**, **Desiree D. M. Ferreira**, **Sonny Massahi**, **Diego Paredes Sanz**, **Nis Christian Gellert**, **Arne S. Jegers**, **Finn E. Christensen,** DTU Space (Denmark); **Aniket Thete**, **Boris Landgraf**, **Maximilien J. Collon,** cosine measurement systems (Netherlands); **Dieter Skroblin**, **Levent Cibik**, **Christian Gollwitzer**, **Michael Krumrey,** Physikalisch-Technische Bundesanstalt (Germany); **Ivo Ferreira, Marcos Bavdaz,** European Space Agency (Netherlands)

13093-182 • 05:30 PM - 07:00 PM
**Ray-traced effective area and angular resolution of NewATHENA's optics**
*Author(s):* **Arne Jegers**, **Desiree D. M. Ferreira,** DTU Space (Denmark); **Erik B. Bergbäck Knudsen,** DTU Space (Denmark), Copenhagen Atomics A/S (Denmark); **Sonny Massahi**, **Sara Svendsen**, **Nis Christian Gellert**, **Diego Paredes Sanz**, **Bruno N. Menezes,** DTU Space (Denmark); **Giorgia Sironi**, **Daniele Spiga,** INAF - Osservatorio Astronomico di Brera (Italy); **Ivo Ferreira, Marcos Bavdaz,** European Space Agency (Netherlands)

13093-183 • 05:30 PM - 07:00 PM
**KB Silicon Pore Optics for high-angular-resolution hard X-ray telescope**
*Author(s):* **Nicolas M. Barrière**, **Luis Abalo**, **Maximilien J. Collon**, **Laurens Keek, Giuseppe Vacanti,** cosine measurement systems (Netherlands)

13093-184 • 05:30 PM - 07:00 PM
**Integration of the SPO Mirror Modules onto the NewAthena x-ray telescope**
*Author(s):* **Dervis Vernani,** Media Lario S.r.l. (Italy); **Marta Maria Civitani,** INAF - Osservatorio Astronomico di Brera (Italy)

13093-185 • 05:30 PM - 07:00 PM
**MINERVA, a new x-ray facility at the ALBA Synchrotron devoted to assemble and characterize the Silicon Pore Optics Mirror Modules for the NewATHENA mission**
*Author(s):* **Dominique Heinis**, **Antonio Carballedo Costa**, **Albert Van Eeckhout Alsinet**, **Marc Sánchez Hidalgo**, **Núria Valls Vidal**, **Alejandro Sánchez Grueso**, **Josep Nicolàs Roman,** CELLS - ALBA (Spain); **Nicolas Barrière**, **Maximilien J. Collon**, **Giuseppe Vacanti**, **Luis Abalo,** cosine measurement systems (Netherlands); **Dieter Skroblin**, **Levent Cibik**, **Michael Krumrey,** Physikalish-Technische Bundesanstalt (PTB) (Germany); **Marcos Bavdaz,** European Space Agency (Netherlands)

13093-186 • 05:30 PM - 07:00 PM
**Precision in motion: advances in robotic polishing of x-ray mirrors**
*Author(s):* **Fadi Atallah**, **Kathryn Copson,** Zeeko Ltd. (United Kingdom); **Taku Yamashita,** Kyoto Univ. (Japan); **Shivam Kumar,** Zeeko Ltd. (United Kingdom); **Anthony Beaucamp,** Keio Univ. (Japan)

13093-187 • 05:30 PM - 07:00 PM
**Silicon pore optics: a highly configurable modular x-ray mirror technology**
*Author(s):* **Laurens Keek**, **Alexandra McNamara**, **Nicolas M. Barrière**, **Maximilien J. Collon**, **Boris Landgraf, Giuseppe Vacanti,** cosine measurement systems (Netherlands)

13093-188 • 05:30 PM - 07:00 PM
**Digital Micro-Mirror Device (DMD) controller development for INSIST mission**
*Author(s):* **Amit Kumar**, **Sisira P. K.**, **Prasanna G. Deshmukh, Phanindra D. V. S.,** Indian Institute of Astrophysics (India)

13093-189 • 05:30 PM - 07:00 PM
**Characterization of JET-X, mono-crystalline silicon optics and off-plane reflection gratings at the PANTER x-ray test facility**
*Author(s):* **Alexandra N. Higley**, **Randall McEntaffer**, **Bridget O'Meara**, **James H. Tutt**, **Jake McCoy**, **Fabien Grisé,** The Pennsylvania State Univ. (United States); **Casey T. DeRoo,** The Univ. of Iowa (United States); **Vadim Burwitz**, **Gisela Hartner**, **Andreas Langmeier**, **Thomas Müller**, **Surangkhana Rukdee,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Andrew Holland,** The Open Univ. (United Kingdom), XCAM Ltd. (United Kingdom); **Daniel Evan,** The Open Univ. (United Kingdom); **Karen Holland**, **David Colebrook, David Gopinath,** XCAM Ltd. (United Kingdom)

13093-190 • 05:30 PM - 07:00 PM
**Evaluation of the potentialities of the micro-roughness characterization via replica approach**
*Author(s):* **Marta M. Civitani**, **Gabriele Vecchi, Flavio Petit,** INAF - Osservatorio Astronomico di Brera (Italy)

13093-191 • 05:30 PM - 07:00 PM
**Development of precision Wolter mirrors for future soft x-ray observations of the sun**
*Author(s):* **Taro Sakao,** Institute of Space and Astronautical Science (Japan); **Sota Kashima,** Institute of Space and Astronautical Science (Japan), Kwansei Gakuin Univ. (Japan); **Satoshi Matsuyama**, **Takato Inoue**, **Haruhito Iriyama**, **Shinnosuke Kurimoto,** Nagoya Univ. (Japan); **Kazuto Yamauchi,** Osaka Univ. (Japan); **Yoshiki Kohmura,** RIKEN SPring-8 Ctr. (Japan); **Akira Miyake**, **Hiroki Nakamori**, **Shunichiro Matsuzaka**, **Toshiki Taniguchi**, **Toshio Nakano,** JTEC Corp. (Japan); **Noriyuki Narukage,** National Astronomical Observatory of Japan (Japan)

13093-192 • 05:30 PM - 07:00 PM
**Development of x-ray optical system for scan-type all-sky monitor**
*Author(s):* **Satoshi Sugita**, **Atsumasa Yoshida**, **Tomoki Kawada**, **Riki Seida**, **Kenya Ogasawara,** Aoyama Gakuin Univ. (Japan); **Yoshitomo Maeda,** Japan Aerospace Exploration Agency (Japan)

13093-193 • 05:30 PM - 07:00 PM
**Design, fabrication, and testing of Wolter-I x-ray optic for Swift Solar Activity X-ray Imager (SSAXI)-Rocket**
*Author(s):* **Jae Sub E. Hong**, **Suzanne Romaine**, **Ricardo Bruni,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Charles G. Davis,** The Univ. of Alabama in Huntsville (United States); **Nicholas E. Thomas,** NASA Marshall Space Flight Ctr. (United States); **Sophia A. Sánchez-Maes**, **David Caldwell**, **Elias Aguirre-Contreras**, **Edward Hertz,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Chet O. Speegle,** NASA Marshall Space Flight Ctr. (United States); **Christopher S. Moore,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13093-194 • 05:30 PM - 07:00 PM
**Zero residual stress determination of iridium/carbon bilayer and multilayer coatings by utilizing chromium**
*Author(s):* **Sonny Massahi,** DTU Space (Denmark), CHEXS ApS (Denmark); **Sara Svendsen**, **Diego Paredes Sanz,** DTU Space (Denmark); **Desiree D. M. Ferreira,** DTU Space (Denmark), CHEXS ApS (Denmark); **Nis Christian Gellert**, **Arne S. Jegers,** DTU Space (Denmark); **Finn E. Christensen,** DTU Space (Denmark), CHEXS ApS (Denmark); **Ivo Ferreira**, **Marcos Bavdaz,** European Space Research and Technology Ctr. (Netherlands); **Aniket Thete**, **Boris Landgraf**, **David Girou**, **Maximilien J. Collon,** cosine measurement systems (Netherlands); **Levent Cibik**, **Dieter Skroblin**, **Christian Gollwitzer, Michael Krumrey,** Physikalisch-Technische Bundesanstalt (PTB) (Germany)

13093-195 • 05:30 PM - 07:00 PM
**Investigation of ALD coatings for next generation x-ray telescope mirrors**
*Author(s):* **Youwei Yao**, **Kai-Wing Chan**, **Peter M. Solly, William W. Zhang,** NASA Goddard Space Flight Ctr. (United States)

13093-196 • 05:30 PM - 07:00 PM
**Enhancing X-ray mirror performance with carbon dip-coatings**
*Author(s):* **Vincenzo Cotroneo**, **Stefano Basso**, **Marta M. Civitani,** INAF - Osservatorio Astronomico di Brera (Italy); **Thorsten Döhring,** Technische Hochschule Aschaffenburg (Germany); **Eugenio Gibertini**, **Luca Magagnin,** Politecnico di Milano (Italy); **Giovanni Pareschi**, **Giorgia Sironi**, **Daniele Spiga**, **Gianpiero Tagliaferri,** INAF - Osservatorio Astronomico di Brera (Italy); **Giuseppe Valsecchi,** Media Lario S.r.l. (Italy)

13093-197 • 05:30 PM - 07:00 PM
**Lobster eye X-ray optics fabricated with MEMS technologies**
*Author(s):* **Kumi Ishikawa**, **Yuichiro Ezoe**, **Masaki Numazawa,** Tokyo Metropolitan Univ. (Japan); **Daiki Ishi,** Japan Aerospace Exploration Agency (Japan); **Rei Ishikawa**, **Yudai Yamada**, **Hiromi Morishita**, **Yukine Tsuji**, **Takatoshi Murakawa**, **Luna Sekiguchi**, **Daiki Morimoto**, **Aoi Ishimure**, **Yuto Ogasawara, Shunei Miyauchi,** Tokyo Metropolitan Univ. (Japan)

13093-198 • 05:30 PM - 07:00 PM
**Ultrafast laser welding of X-ray mirror segment stacks**
*Author(s):* **Brody D. McElwain**, **Ian J. Arnold**, **Adel Al-Ghazwi**, **Chang-Jin Oh**, **Paola Luna, Brandon D. Chalifoux,** The Univ. of Arizona (United States)

13093-199 • 05:30 PM - 07:00 PM
**Thin mirror surface figure correctability using ultrafast laser stress figuring (ULSF): from X-ray optics to thin shells for deformable mirrors**
*Author(s):* **Joshua C. Richards**, **Brandon D. Chalifoux, Chang-Jin Oh,** The Univ. of Arizona (United States)

13093-200 • 05:30 PM - 07:00 PM
**Assessing substrate quality and contamination of thin film coatings for X-ray optics**
*Author(s):* **Diego Paredes Sanz**, **Desirée Della Monica Ferreira,** Technical Univ. of Denmark (Denmark); **Ricardo Martins,** European Space Research and Technology Ctr. (Netherlands); **Sara Svendsen**, **Nis Christian Gellert**, **Arne S. Jegers**, **Finn E. Christensen,** Technical Univ. of Denmark (Denmark); **Ivo Ferreira**, **Marcos Bavdaz,** European Space Research and Technology Ctr. (Netherlands); **Aniket Thete**, **Boris Landgraf**, **Maximilien J. Collon**, **David Girou,** cosine measurement systems (Netherlands); **Sonny Massahi,** Technical Univ. of Denmark (Denmark)

13093-203 • 05:30 PM - 07:00 PM
**Development of blocking filters using high-throughput SiC grids**
*Author(s):* **James H. Tutt,** The Pennsylvania State Univ. (United States); **Bruce Lairson,** PhotonFoils (United States); **Ross C McCurdy**, **Alexandra Higley, Keith Rice,** The Pennsylvania State Univ. (United States)

13093-204 • 05:30 PM - 07:00 PM
**Measurements of the soft proton reflectivity on X-ray optics**
*Author(s):* **Sebastian J. Diebold**, **Bastian Heß,** Eberhard Karls Univ. Tübingen (Germany); **Lothar Schmidt,** Goethe-Univ. Frankfurt am Main (Germany); **Chris Tenzer**, **Emanuele Perinati, Andrea Santangelo,** Eberhard Karls Univ. Tübingen (Germany)

13093-206 • 05:30 PM - 07:00 PM
**Simulation of Rowland ghosts generated by recently fabricated ultraviolet reflection gratings**
*Author(s):* **Cecilia R. Fasano**, **Casey T. DeRoo**, **Keri Hoadley**, **Fernando Cruz Aguirre**, **Jared A. Termini,** The Univ. of Iowa (United States); **Randall McEntaffer**, **Fabien Grisé, Jake McCoy,** The Pennsylvania State Univ. (United States)

13093-207 • 05:30 PM - 07:00 PM
**Fabrication of gratings on curved substrates using electron-beam lithography**
*Author(s):* **Fabien Grisé,** The Pennsylvania State Univ. (United States); **Casey T. DeRoo,** The Univ. of Iowa (United States); **Randall McEntaffer**, **Jake McCoy**, **James Tutt,** The Pennsylvania State Univ. (United States); **Cecilia R. Fasano,** The Univ. of Iowa (United States)

13093-208 • 05:30 PM - 07:00 PM
**Figure correction of adjustable x-ray optic segments with thin-film PZT actuators**
*Author(s):* **Kenny Buffo**, **Casey T. DeRoo,** The Univ. of Iowa (United States); **Paul Reid**, **Vladimir Kradinov**, **Vanessa Marquez,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Susan Trolier-McKinistry**, **Nathan Bishop,** Materials Research Institute, The Pennsylvania State Univ. (United States); **Thomas N. Jackson**, **Quyen Tran**, **Hanyuan Liang**, **Mohit Tendulkar, Tianning Liu,** The Pennsylvania State Univ. (United States)

13093-43 • 05:30 PM - 07:00 PM
**Development of Thin Gold Release Layer for Fabrication of High-Resolution Full-Shell X-ray Optics**
*Author(s):* **Danielle N. Gurgew**, **Srikanth Panini Singam**, **David D Smith,** NASA Marshall Space Flight Ctr. (United States); **David Banks,** NASA MSFC/ESSCA (United States)

## Tuesday 18 June 2024

### TUESDAY PLENARY

18 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/tuesday-plenary

13173-502 • 08:30 AM - 09:15 AM
**The present and future of Japan's space program** (Plenary Presentation)
*Author(s):* **Saku Tsuneta,** National Astronomical Observatory of Japan (Japan)

13173-503 • 09:15 AM - 10:00 AM
**NASA astrophysics: from today to the Habitable Worlds Observatory** (Plenary Presentation)
*Author(s):* **Mark Clampin,** NASA Goddard Space Flight Ctr. (United States); **John M. O'Meara,** W. M. Keck Observatory (United States)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 9: OPTICS I

18 June 2024 • 10:20 AM - 12:00 PM | Room G414/415, North - 4F
*Session Chair(s):* **Marcos Bavdaz**, European Space Agency (Netherlands)

13093-37 • 10:20 AM - 10:40 AM
**The Off-plane Grating Rocket Experiment (OGRE): high-performance X-ray spectroscopy**
*Author(s):* **Randall L. McEntaffer,** The Pennsylvania State Univ. (United States)

13093-38 • 10:40 AM - 11:00 AM
**Curved diffractive optics for high energy spectroscopy: current status and challenges**
*Author(s):* **Casey T. DeRoo,** The Univ. of Iowa (United States); **Fabien Grisé**, **Randall L. McEntaffer**, **James H. Tutt,** The Pennsylvania State Univ. (United States); **Cecilia R. Fasano,** The Univ. of Iowa (United States)

13093-39 • 11:00 AM - 11:20 AM
**Improved efficiency critical-angle transmission gratings for high-resolution soft x-ray spectroscopy**
*Author(s):* **Ralf K. Heilmann,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Alexander R. Bruccoleri,** Izentis LLC (United States); **Mark L. Schattenburg,** MIT Kavli Institute for Astrophysics and Space Research (United States)

13093-40 • 11:20 AM - 11:40 AM
**Next generation x-ray optics for astrophysics: high resolution, light weight, and low cost**
*Author(s):* **William W. Zhang,** NASA Goddard Space Flight Ctr. (United States)

13093-41 • 11:40 AM - 12:00 PM
**Development of the light-weight X-ray mirror using carbon fiber reinforced plastic and ultra-precision machining technology**
*Author(s):* **Hironori Matsumoto,** Osaka Univ. (Japan); **Kairyu Tsuchiya,** Tokyo Denki Univ. (Japan); **Mio Aoyagi,** Osaka Univ. (Japan); **Hisamitsu Awaki,** Ehime Univ. (Japan); **Takuya Hosobata,** RIKEN (Japan); **Haruki Kuramoto,** Osaka Univ. (Japan); **Shinya Morita,** Tokyo Denki Univ. (Japan); **Kaito Murakami,** Osaka Univ. (Japan); **Masahiro Takeda, Yutaka Yamagata,** RIKEN (Japan)

**Lunch/Exhibition Break 12:00 PM - 01:20 PM**

### SESSION 10: OPTICS II

18 June 2024 • 01:20 PM - 03:20 PM | Room G414/415, North - 4F
*Session Chair(s):* **William W. Zhang**, NASA Goddard Space Flight Ctr. (United States)

13093-42 • 01:20 PM - 01:40 PM
**Advancing towards a swift, deterministic, and reliable process for high-resolution thin monolithic shells**
*Author(s):* **Marta M. Civitani**, **Stefano Basso**, **Mauro Ghigo**, **Giovanni Pareschi**, **Daniele Spiga**, **Gabriele Vecchi,** INAF - Osservatorio Astronomico di Brera (Italy); **Mauro Fiorini**, **Salvatore Incorvaia**, **Giorgio Toso,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Luigi Lessio,** INAF - Osservatorio Astronomico di Padova (Italy); **Giancarlo Parodi,** BCV Progetti S.r.l. (Italy)

13093-91 • 01:40 PM - 02:00 PM
**BlackCAT: an upcoming soft X-ray coded aperture telescope on a 6U CubeSat**
*Author(s):* **Abraham D. Falcone**, **Joseph M. Colosimo**, **Mitchell Wages**, **Michael Betts**, **William A. Bevidas**, **Jacob C. Buffington**, **David N. Burrows**, **Zachary E. Catlin**, **Timothy Emeigh**, **Derek B. Fox,** The Pennsylvania State Univ. (United States); **David M. Palmer,** Los Alamos National Lab. (United States); **Collin Reichard**, **Ana C. Scigliani**, **Lukas R. Stone**, **Ian Thornton**, **Daniel Washington, Michael E. Zugger,** The Pennsylvania State Univ. (United States)

13093-44 • 02:00 PM - 02:20 PM
**Optics developments for NewATHENA**
*Author(s):* **Marcos Bavdaz**, **Eric Wille**, **Mark Ayre**, **Ivo Ferreira**, **Sebastiaan Fransen,** European Space Agency (Netherlands); **Maximilien J. Collon**, **Giuseppe Vacanti**, **Nicolas M. Barrière**, **Boris Landgraf**, **David Girou,** cosine measurement systems (Netherlands); **Mark Olde Riekerink**, **Jeroen Haneveld**, **Ronald Start**, **Bart Schurink,** Micronit B.V. (Netherlands); **Desirée Della Monica Ferreira**, **Sonny Massahi**, **Sara Svendsen**, **Finn E. Christensen,** DTU Space (Denmark); **Michael Krumrey**, **Dieter Skroblin,** Physikalisch-Technische Bundesanstalt (Germany); **Vadim Burwitz,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Giovanni Pareschi**, **Bianca Salmaso**, **Alberto Moretti**, **Daniele Spiga**, **Stefano Basso,** INAF - Osservatorio Astronomico di Brera (Italy); **Giuseppe Valsecchi**, **Dervis Vernani,** Media Lario S.r.l. (Italy); **Paul Lupton,** Teledyne e2v UK Ltd. (United Kingdom); **Mirko Riede,** Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS (Germany); **Tapio Korhonen**, **Mikko Pasanen,** Opteon Oy (Finland); **Alejandro Sanchez**, **Dominique Heinis**, **Carles Colldelram Peroliu,** ALBA Synchrotron (Spain); **Massimiliano Tordi,** EIE S.r.l. (Italy); **Norman Niewrzella,** Carl Zeiss SMT GmbH (Germany)

13093-45 • 02:20 PM - 02:40 PM
**Silicon pore X-ray optics for the NewAthena telescope**
*Author(s):* **Maximilien J. Collon**, **Luis Abalo**, **Nicolas M. Barrière**, **Alex Bayerle**, **Donny de Borst**, **Luigi Castiglione**, **Loes Crama**, **Abdelhakim Chatbi**, **Noë Eenkhoorn**, **David Girou**, **Ramses Günther**, **James Harpur**, **Enrico Hauser**, **Jasper den Hollander**, **Yvette Jenkins**, **Boris Landgraf**, **Adam Lassise**, **Laurens Keek**, **Christian Körnig**, **Sebastian Obwaller**, **Ben Okma**, **Paulo da Silva Ribeiro**, **Chris Rizos**, **Aniket Thete**, **Giuseppe Vacanti**, **Sjoerd Verhoeckx**, **Mark Vervest**, **Roel Visser**, **Luc Voruz,** cosine measurement systems (Netherlands); **Marcos Bavdaz**, **Ivo Ferreira**, **Eric Wille,** European Space Agency (Netherlands); **Mathijs Bosman**, **Jeroen Haneveld**, **Arenda Koelewijn**, **Jan-Joost Lankwarden**, **Mark Olde Riekerink**, **Bart Schurink**, **Ronald Start**, **Maurice Wijnperlé,** Micronit B.V. (Netherlands); **Levent Cibik**, **Michael Krumrey**, **Dieter Skroblin**, **Vadim Burwitz,** Physikalisch-Technische Bundesanstalt (Germany); **Finn E. Christensen**, **Desirée Della Monica Ferreira**, **Sonny Massahi**, **Diego P. Sanz**, **Sara Svendsen,** DTU Space (Denmark); **Ethan Dunnell**, **Paul Lupton**, **Chris Adam**, **Andrew Rees,** Teledyne e2v UK Ltd. (United Kingdom); **Carles Colldelram Peroliu**, **Dominique Heinis**, **Alejandro Sánchez,** ALBA Synchrotron (Spain); **Norman Niewrzella,** Carl Zeiss SMT GmbH (Germany); **Stefano Basso,** INAF (Netherlands); **Alberto Moretti**, **Bianca Salmaso, Daniele Spiga,** INAF (Italy)

13093-46 • 02:40 PM - 03:00 PM
**Opportunities and challenges of X-ray multilayer mirror coatings for NewAthena and Future High-Energy Missions**
*Author(s):* **Desiree D. M. Ferreira**, **Sara Svendsen**, **Sonny Massahi**, **Nis Christian Gellert**, **Diego P. Sanz**, **Arne Jegers,** DTU Space (Denmark); **Boris Landgraf**, **Maximilien J. Collon,** cosine measurement systems (Netherlands); **Ivo Ferreira**, **Marcos Bavdaz,** European Space Research and Technology Ctr. (Netherlands); **Finn E. Christensen,** DTU Space (Denmark)

13093-47 • 03:00 PM - 03:20 PM
**Testing Silicon Pore Optics for NewATHENA at PANTER**
*Author(s):* **Vadim Burwitz,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Maximilien J. Collon**, **Giuseppe Vacanti**, **Nicolas M. Barrière**, **Boris Landgraf,** cosine measurement systems (Netherlands); **Marcos Bavdaz,** European Space Agency (Netherlands), European Space Research and Technology Ctr. (Netherlands); **Ivo Ferreira,** European Space Agency (Netherlands); **Gisela Hartner**, **Andreas Langmeier**, **Thomas Müller**, **Surangkhana Rukdee, Thomas Schmidt,** Max-Planck-Institut für extraterrestrische Physik (Germany)

## Coffee Break 03:20 PM - 03:50 PM

## SESSION 11: OPERATIONAL MISSIONS

18 June 2024 • 03:50 PM - 05:30 PM | Room G414/415, North - 4F
*Session Chair(s):* **Hironori Matsumoto**, Osaka Univ. (Japan)

13093-48 • 03:50 PM - 04:30 PM
**Updates of the Einstein Probe mission** *(Invited Paper)*
*Author(s):* **Weimin Yuan,** National Astronomical Observatories (China)

13093-49 • 04:30 PM - 04:50 PM
**Performance evaluation of new large area 3D CdZnTe drift strip detectors**
*Author(s):* **Benjamin Nobre Hauptmann**, **Selina Howalt Owe**, **Denis Tcherniak**, **Irfan Kuvvetli**, **Carl Budtz-Jørgensen,** Technical Univ. of Denmark (Denmark); **Ian Baistow,** Kromek (United Kingdom); **Brian Harris,** Kromek (United States); **Alexander Cherlin, Ben Cantwell,** Kromek (United Kingdom)

13093-50 • 04:50 PM - 05:10 PM
**The Advanced CCD Imaging Spectrometer on the Chandra X-ray Observatory: twenty-five years of on-orbit operation**
*Author(s):* **Catherine E. Grant**, **Marshall W. Bautz,** Massachusetts Institute of Technology (United States); **Paul P. Plucinsky,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Peter G. Ford,** Massachusetts Institute of Technology (United States)

13093-51 • 05:10 PM - 05:30 PM
**The performance of RHESSI's germanium detectors over a 16-year science mission**
*Author(s):* **Andrew Inglis, Albert Shih,** NASA Goddard Space Flight Ctr. (United States)

## Wednesday 19 June 2024

### WEDNESDAY PLENARY

19 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/wednesday-plenary

13173-504 • 08:30 AM - 09:15 AM
**Euclid mission: first year of operations** (Plenary Presentation)
*Author(s):* **René J. Laureijs,** European Space Research and Technology Ctr. (Netherlands)

13173-505 • 09:15 AM - 10:00 AM
**The ultraviolet explorer: new views of the UV universe** (Plenary Presentation)
*Author(s):* **Fiona A. Harrison,** Caltech (United States)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 12: XRISM I

19 June 2024 • 10:20 AM - 12:15 PM | Room G414/415, North - 4F
*Session Chair(s):* **Kazuhiro Nakazawa**, Nagoya Univ. (Japan)

13093-52 • 10:20 AM - 10:50 AM
**Development and Operation Status of X-Ray Imaging and Spectroscopy Mission (XRISM)**
*Author(s):* **Makoto S. Tashiro,** Saitama Univ. (Japan); **Hironori Maejima**, **Kenichi Toda,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Kyoko Matsushita,** Tokyo Univ. of Science (Japan); **Hiroya Yamaguchi,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Richard L. Kelley**, **Lillian S. Reichenthal**, **Leslie S. Hartz**, **Robert Petre**, **Brian J. Williams,** NASA Goddard Space Flight Ctr. (United States); **Matteo Guainazzi,** European Space Agency (Netherlands), European Space Research and Technology Ctr. (Netherlands); **Elisa Costantini,** SRON Netherlands Institute for Space Research (Netherlands)

13093-53 • 10:50 AM - 11:20 AM

**In-orbit operation of Resolve onboard the XRISM satellite**

*Author(s):* **Yoshitomo Maeda,** Institute of Space and Astronautical Science (Japan); **Hisamitsu Awaki,** Ehime Univ. (Japan); **Jesus C. Balleza**, **Kim R. Barnstable**, **Thomas G. Bialas**, **Rozenn Boissay-Malaquin,** NASA Goddard Space Flight Ctr. (United States); **Gregory V. Brown,** Lawrence Livermore National Lab. (United States); **Edgar R. Canavan**, **Timothy M. Carnahan**, **Meng P. Chiao**, **Brian J. Comber**, **Renata S. Cumbee,** NASA Goddard Space Flight Ctr. (United States); **Elisa Costantini**, **Jan-Willem A. den Herder**, **Johannes Dercksen,** SRON Netherlands Institute for Space Research (Netherlands); **Michael J. DiPirro,** NASA Goddard Space Flight Ctr. (United States); **Megan E. Eckart,** Lawrence Livermore National Lab. (United States); **Yuichiro Ezoe,** Tokyo Metropolitan Univ. (Japan); **Carlo Ferrigno,** Univ. de Genève (Switzerland); **Ryuichi Fujimoto,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Nathalie Q. S. Gorter,** SRON Netherlands Institute for Space Research (Netherlands); **Steven M. Graham,** NASA Goddard Space Flight Ctr. (United States); **Martin Grim,** SRON Netherlands Institute for Space Research (Netherlands); **Leslie S. Hartz,** NASA Goddard Space Flight Ctr. (United States); **Ryota Hayakawa,** High Energy Accelerator Research Organization, KEK (Japan); **Takayuki Hayashi,** Univ. of Maryland, Baltimore County (United States); **Natalie Hell,** Lawrence Livermore National Lab. (United States); **Akio Hoshino,** Japan Aerospace Exploration Agency (Japan); **Yuto Ichinohe,** RIKEN Nishina Ctr. for Accelerator-Based Science (Japan); **Daiki Ishi**, **Manabu Ishida,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Kumi Ishikawa**, **Yoshitaka Ishisaki,** Tokyo Metropolitan Univ. (Japan); **Bryan L. James,** NASA Goddard Space Flight Ctr. (United States); **Yoshiaki Kanemaru,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Steven J. Kenyon**, **Richard L. Kelley**, **Caroline A. Kilbourne**, **Mark O. Kimball,** NASA Goddard Space Flight Ctr. (United States); **Shunji Kitamoto,** Rikkyo Univ. (Japan); **Maurice A. Leutenegger,** NASA Goddard Space Flight Ctr. (United States); **Dan McCammon,** Univ. of Wisconsin-Madison (Japan); **Brian J. McLaughlin**, **Joseph J. Miko,** NASA Goddard Space Flight Ctr. (United States); **Erik van der Meer,** SRON Netherlands Institute for Space Research (Netherlands); **Misaki Mizumoto,** Univ. of Teacher Education Fukuoka (Japan); **Takashi Okajima,** NASA Goddard Space Flight Ctr. (United States); **Atsushi Okamoto,** Japan Aerospace Exploration Agency (Japan); **Stéphane Paltani,** Univ. de Genève (Switzerland); **Frederick S. Porter**, **Lillian S. Reichenthal,** NASA Goddard Space Flight Ctr. (United States); **Kosuke Sato,** Saitama Univ. (Japan); **Toshiki Sato,** Meiji Univ. (Japan); **Yohichi Sato,** Japan Aerospace Exploration Agency (Japan); **Makoto Sawada,** Rikkyo Univ. (Japan); **Keisuke Shinozaki,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Russell F. Shipman,** SRON Netherlands Institute for Space Research (Netherlands); **Peter J. Shirron**, **Gary A. Sneiderman**, **Soong Yang**, **Richard Szymkiewicz,** NASA Goddard Space Flight Ctr. (United States); **Andrew E. Szymkowiak,** Yale Univ. (United States); **Yoh Takei,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Mai Takeo,** Saitama Univ. (Japan); **Tsubasa Tamba,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Keisuke Tamura,** Univ. of Maryland, Baltimore County (United States); **Masahiro Tsujimoto,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Yuusuke Uchida,** Tokyo Univ. of Science (Japan); **Stephen Wasserzug**, **Michael C. Witthoeft,** NASA Goddard Space Flight Ctr. (United States); **Rob Wolfs,** SRON Netherlands Institute for Space Research (Netherlands); **Shinya Yamada,** Rikkyo Univ. (Japan); **Susumu Yasuda,** Japan Aerospace Exploration Agency (Japan)

13093-54 • 11:20 AM - 11:40 AM

**Status of Xtend telescope onboard X-Ray Imaging and Spectroscopy Mission (XRISM)**

*Author(s):* **Koji Mori,** Univ. of Miyazaki (Japan); **Hiroshi Tomida,** Japan Aerospace Exploration Agency (Japan); **Hiroshi Nakajima,** Kanto Gakuin Univ. (Japan); **Takashi Okajima,** NASA Goddard Space Flight Ctr. (United States); **Hirofumi Noda,** Osaka Univ. (Japan); **Hiroyuki Uchida,** Kyoto Univ. (Japan); **Hiromasa Suzuki,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Shogo B. Kobayashi,** Tokyo Univ. of Science (Japan); **Tomokage Yoneyama,** Chuo Univ. (Japan); **Kouichi Hagino,** The Univ. of Tokyo (Japan); **Kumiko K. Nobukawa,** Kindai Univ. (Japan); **Takaaki Tanaka,** Konan Univ. (Japan); **Hiroshi Murakami,** Tohoku Gakuin Univ. (Japan); **Hideki Uchiyama,** Shizuoka Univ. (Japan); **Masayoshi Nobukawa,** Nara Univ. of Education (Japan); **Hironori Matsumoto,** Osaka Univ. (Japan); **Takeshi Go Tsuru,** Kyoto Univ. (Japan); **Makoto Yamauchi**, **Isamu Hatsukade,** Univ. of Miyazaki (Japan); **Hirokazu Odaka,** Osaka Univ. (Japan); **Takayoshi Kohmura,** Tokyo Univ. of Science (Japan); **Kazutaka Yamaoka,** Nagoya Univ. (Japan); **Manabu Ishida**, **Yoshitomo Maeda,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Takayuki Hayashi**, **Keisuke Tamura,** Univ. of Maryland, Baltimore County (United States); **Rozenn Boissay-Malaquin,** NASA Goddard Space Flight Ctr. (United States); **Toshiki Sato,** Meiji Univ. (Japan); **Tessei Yoshida,** Japan Aerospace Exploration Agency (Japan); **Yoshiaki Kanemaru,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Junko S. Hiraga,** Kwansei Gakuin Univ. (Japan); **Tadayasu Dotani,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Masanobu Ozaki,** National Astronomical Observatory of Japan (Japan); **Hiroshi Tsunemi,** Osaka Univ. (Japan); **Shun Inoue,** Kyoto Univ. (Japan); **Ryuichi Azuma,** Konan Univ. (Japan); **Yoh Asahina**, **Shutaro Nakamura**, **Takamitsu Kamei**, **Masahiro Fukuda,** Kanto Gakuin Univ. (Japan); **Kazunori Asakura**, **Marina Yoshimoto**, **Yuichi Ode**, **Tomohiro Hakamata**, **Mio Aoyagi**, **Kohei Shima,** Osaka Univ. (Japan); **Yuma Aoki**, **Yamato Ito,** Kindai Univ. (Japan); **Daiki Aoki,** Tokyo Univ. of Science (Japan); **Keitaro Miyazaki**, **Kohei Kusunoki**, **Yoshinori Otsuka**, **Haruhiko Yokosu**, **Wakana Yonemaru**, **Kazuhiro Ichikawa**, **Hanako Nakano**, **Reo Takemoto**, **Tsukasa Matsushima,** Univ. of Miyazaki (Japan); **Kiyoshi Hayashida,** Osaka Univ. (Japan)

13093-55 • 11:40 AM - 12:00 PM

**Overview and inflight performance of the resolve high-resolution soft X-Ray spectrometer on the X-Ray imaging and spectroscopy mission**

*Author(s):* **Richard L. Kelley,** NASA Goddard Space Flight Ctr. (United States); **Hisamitsu Awaki,** Ehime Univ. (Japan); **Jesus C. Balleza**, **Kim R. Barnstable**, **Thomas G. Bialas,** NASA Goddard Space Flight Ctr. (United States); **Rozenn Boissay-Malaquin,** Univ. of Maryland, Baltimore County (United States), NASA Goddard Space Flight Ctr. (United States); **Gregory V. Brown,** Lawrence Livermore National Lab. (United States); **Edgar R. Canavan**, **Timothy M. Carnahan**, **Meng P. Chiao**, **Brian J. Comber,** NASA Goddard Space Flight Ctr. (United States); **Elisa Costantini,** SRON Netherlands Institute for Space Research (Netherlands); **Renata S. Cumbee,** NASA Goddard Space Flight Ctr. (United States); **Jan-Willem A. den Herder**, **Johannes Dercksen**, **Cor de Vries,** SRON Netherlands Institute for Space Research (Netherlands); **Michael J. DiPirro**, **Megan E. Eckart,** NASA Goddard Space Flight Ctr. (United States); **Yuichiro Ezoe,** Tokyo Metropolitan Univ. (Japan); **Carlo Ferrigno,** Univ. de Genève (Switzerland); **Ryuichi Fujimoto,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Nathalie Q. S. Gorter,** SRON Netherlands Institute for Space Research (Netherlands); **Steven M. Graham,** NASA Goddard Space Flight Ctr. (United States); **Martin Grim,** SRON Netherlands Institute for Space Research (Netherlands); **Leslie S. Hartz,** NASA Goddard Space Flight Ctr. (United States); **Ryota Hayakawa,** High Energy Accelerator Research Organization, KEK (Japan); **Takayuki Hayashi,** Univ. of Maryland, Baltimore County (United States), NASA Goddard Space Flight Ctr. (United States); **Natalie Hell,** Lawrence Livermore National Lab. (United States); **Akio Hoshino,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Yuto Ichinohe,** RIKEN (Japan); **Daiki Ishi**, **Manabu Ishida,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Kumi Ishikawa**, **Yoshitaka Ishisaki,** Tokyo Metropolitan Univ. (Japan); **Bryan L. James,** NASA Goddard Space Flight Ctr. (United States); **Yoshiaki Kanemaru,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Steven J. Kenyon**, **Caroline A. Kilbourne**, **Mark O. Kimball,** NASA Goddard Space Flight Ctr. (United States); **Shunji Kitamoto,** Rikkyo Univ. (Japan); **Maurice A. Leutenegger,** NASA Goddard Space Flight Ctr. (United States); **Yoshitomo Maeda,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Dan McCammon,** Univ. of Wisconsin-Madison (United States); **Brian J. McLaughlin**, **Joseph J. Miko,** NASA Goddard Space Flight Ctr. (United States); **Erik van der Meer,** SRON Netherlands Institute for Space Research (Netherlands); **Misaki Mizumoto,** Univ. of Teacher Education Fukuoka (Japan); **Takashi Okajima,** NASA Goddard Space Flight Ctr. (United States); **Atsushi Okamoto,** Japan Aerospace Exploration Agency (Japan); **Stéphane Paltani,** Univ. de Genève (Switzerland); **Frederick S. Porter**, **Lillian S. Reichenthal,** NASA Goddard Space Flight Ctr. (United States); **Kosuke Sato,** Saitama Univ. (Japan); **Toshiki Sato,** NASA Goddard Space Flight Ctr. (United States); **Yohichi Sato,** Japan Aerospace Exploration Agency (Japan); **Makoto Sawada,** Rikkyo Univ. (Japan); **Keisuke Shinozaki,** Japan Aerospace Exploration Agency (Japan); **Russell F. Shipman,** SRON Netherlands Institute for Space Research (Netherlands); **Peter J. Shirron**, **Gary A. Sneiderman**, **Soong Yang**, **Richard Szymkiewicz,** NASA Goddard Space Flight Ctr. (United States); **Andrew E. Szymkowiak,** Yale Univ. (United States); **Yoh Takei,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Mai Takeo,** Saitama Univ. (Japan); **Tsubasa Tamba,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Keisuke Tamura,** Univ. of Maryland, Baltimore County (United States), NASA Goddard Space Flight Ctr. (United States); **Masahiro Tsujimoto,** Institute of Space and Astronautical Science (Japan); **Yuusuke Uchida,** Tokyo Univ. of Science (Japan); **Stephen Wasserzug**, **Michael C. Witthoeft,** NASA Goddard Space Flight Ctr. (United States); **Rob Wolfs,** SRON Netherlands Institute for Space Research (Netherlands); **Shinya Yamada,** Rikkyo Univ. (Japan); **Susumu Yasuda,** Japan Aerospace Exploration Agency (Japan)

13093-56 • 12:00 PM - 12:15 PM

**In-flight performance of the XRISM/Resolve detector system**

*Author(s):* **Frederick S. Porter**, **Caroline A. Kilbourne**, **Meng P. Chiao**, **Renata S. Cumbee,** NASA Goddard Space Flight Ctr. (United States); **Megan E. Eckart,** Lawrence Livermore National Lab. (United States); **Ryuichi Fujimoto,** Japan Aerospace Exploration Agency (Japan); **Yoshitaka Ishisaki,** Tokyo Metropolitan Univ. (Japan); **Richard L. Kelley**, **Maurice A. Leutenegger,** NASA Goddard Space Flight Ctr. (United States); **Misaki Mizumoto,** Univ. of Teacher Education Fukuoka (Japan); **Makoto Sawada,** Rikkyo Univ. (Japan); **Gary A. Sneiderman,** NASA Goddard Space Flight Ctr. (United States); **Yoh Takei**, **Masahiro Tsujimoto,** Japan Aerospace Exploration Agency (Japan); **Tomomi Watanabe,** Ball Aerospace (United States); **Shinya Yamada,** Rikkyo Univ. (Japan); **Yuusuke Uchida,** Tokyo Univ. of Science (Japan); **Yoshitomo Maeda,** Japan Aerospace Exploration Agency (Japan); **Kosuke Sato,** Saitama Univ. (Japan)

## Lunch/Exhibition Break 12:15 PM - 01:50 PM

## SESSION 13: XRISM II

19 June 2024 • 01:50 PM - 03:05 PM | Room G414/415, North - 4F

*Session Chair(s):* **Wei Cui**, Tsinghua Univ. (China)

13093-58 • 01:50 PM - 02:05 PM

**In-orbit performance of the XMA for XRISM/Resolve**

*Author(s):* **Takayuki Hayashi**, **Rozenn Boissay-Malaquin**, **Keisuke Tamura**, **Takashi Okajima,** NASA Goddard Space Flight Ctr. (United States); **Megan E. Eckart,** Lawrence Livermore National Lab. (United States); **Maurice A. Leutenegger**, **Tahir Yaqoob**, **Michael Loewenstein**, **Richard L. Kelley**, **Frederick S. Porter**, **Caroline A. Kilbourne**, **Meng P. Chiao**, **Gary A. Sneiderman**, **Renata S. Cumbee,** NASA Goddard Space Flight Ctr. (United States); **Yoshitaka Ishisaki,** Tokyo Metropolitan Univ. (Japan); **Ryuichi Fujimoto**, **Masahiro Tsujimoto,** Japan Aerospace Exploration Agency (Japan), Institute of Space and Astronautical Science (Japan); **Makoto Sawada,** Rikkyo Univ. (Japan); **Misaki Mizumoto,** Univ. of Teacher Education Fukuoka (Japan); **Yoshitomo Maeda**, **Yoshiaki Kanemaru,** Japan Aerospace Exploration Agency (Japan), Institute of Space and Astronautical Science (Japan); **Toshiki Sato,** Meiji Univ. (Japan); **Manabu Ishida,** Japan Aerospace Exploration Agency (Japan), Institute of Space and Astronautical Science (Japan)

13093-59 • 02:05 PM - 02:20 PM

**In-orbit performance of the Xtend-XMA onboard XRISM**

*Author(s):* **Keisuke Tamura**, **Takayuki Hayashi**, **Rozenn Boissoy-Malaquin,** Univ. of Maryland, Baltimore County (United States); **Takashi Okajima,** NASA Goddard Space Flight Ctr. (United States); **Toshiki Sato,** Meiji Univ. (Japan); **Megan E. Eckart,** Lawrence Livermore National Lab. (United States); **Maurice A. Leutenegger**, **Tahir Yaqoob,** NASA Goddard Space Flight Ctr. (United States); **Koji Mori,** Univ. of Miyazaki (Japan); **Manabu Ishida**, **Yoshitomo Maeda**, **Hiroshi Tomida,** Japan Aerospace Exploration Agency (Japan); **Hiroshi Nakajima,** Kanto Gakuin Univ. (Japan); **Hirofumi Noda,** Osaka Univ. (Japan); **Hiroyuki Uchida,** Kyoto Univ. (Japan); **Hiromasa Suzuki,** Japan Aerospace Exploration Agency (Japan); **Shogo B. Kobayashi,** Tokyo Univ. of Science (Japan); **Tomokage Yoneyama,** Chuo Univ. (Japan); **Kouichi Hagino,** The Univ. of Tokyo (Japan); **Kumiko K. Nobukawa,** Kindai Univ. (Japan); **Takaaki Tanaka,** Konan Univ. (Japan); **Hiroshi Murakami,** Tohoku Gakuin Univ. (Japan); **Hideki Uchiyama,** Shizuoka Univ. (Japan); **Masayoshi Nobukawa,** Nara Univ. of Education (Japan); **Tessei Yoshida,** Japan Aerospace Exploration Agency (Japan); **Hironori Matsumoto,** Osaka Univ. (Japan); **Takeshi Go Tsuru,** Kyoto Univ. (Japan); **Makoto Yamauchi**, **Isamu Hatsukade,** Univ. of Miyazaki (Japan); **Hirokazu Odaka,** Osaka Univ. (Japan); **Takayoshi Kohmura,** Tokyo Univ. of Science (Japan); **Kazutaka Yamaoka,** Nagoya Univ. (Japan); **Yoshiaki Kanemaru,** Japan Aerospace Exploration Agency (Japan); **Junko S. Hiraga,** Kwansei Gakuin Univ. (Japan); **Tadayasu Dotani,** Japan Aerospace Exploration Agency (Japan); **Masanobu Ozaki,** National Astronomical Observatory of Japan (Japan); **Hiroshi Tsunemi,** Osaka Univ. (Japan); **Keitaro Miyazaki**, **Kohei Kusunoki**, **Yoshinori Otsuka**, **Haruhiko Yokosu**, **Wakana Yonematsu**, **Kazuhiro Ichikawa**, **Hanako Nakano**, **Reo Takemoto**, **Tsukasa Matsushima,** Univ. of Miyazaki (Japan); **Yoh Asahina**, **Masahiro Fukuda,** Kanto Gakuin Univ. (Japan); **Marina Yoshimoto**, **Kohei Shima**, **Mio Aoyagi,** Osaka Univ. (Japan); **Yuma Aoki**, **Yamato Ito,** Kindai Univ. (Japan); **Daiki Aoki**, **Kaito Fujisawa**, **Yasuyuki Shimizu**, **Mayu Higuchi,** Tokyo Univ. of Science (Japan); **Kiyoshi Hayashida,** Osaka Univ. (Japan)

13093-60 • 02:20 PM - 02:35 PM

**The in-orbit XRISM Science Operations**

*Author(s):* **Katsuhiro Hayashi,** Japan Aerospace Exploration Agency (Japan); **Makoto S. Tashiro**, **Yukikatsu Terada,** Saitama Univ. (Japan), Japan Aerospace Exploration Agency (Japan); **Tessei Yoshida**, **Shoji Ogawa**, **Yoshiaki Kanemaru**, **Kotaro Fukushima**, **Akio Hoshino,** Japan Aerospace Exploration Agency (Japan); **Hiromitsu Takahashi,** Hiroshima Univ. (Japan); **Masayoshi Nobukawa,** Nara Univ. of Education (Japan); **Tsunefumi Mizuno,** Hiroshima Univ. (Japan); **Kazuhiro Nakazawa,** Nagoya Univ. (Japan); **Shin'ichiro Uno,** Nihon Fukushi Univ. (Japan); **Ken Ebisawa,** Japan Aerospace Exploration Agency (Japan); **Satoshi Eguchi,** Kumamoto Gakuen Univ. (Japan); **Satoru Katsuda,** Saitama Univ. (Japan); **Takao Kitaguchi,** RIKEN (Japan); **Aya Kubota,** Shibaura Institute of Technology (Japan); **Naomi Ota,** Nara Women's Univ. (Japan); **Megumi Shidatsu,** Ehime Univ. (Japan); **Atsushi Tanimoto,** Kagoshima Univ. (Japan); **Yuichi Terashima,** Ehime Univ. (Japan); **Yohko Tsuboi,** Chuo Univ. (Japan); **Yuusuke Uchida,** Tokyo Univ. of Science (Japan); **Hideki Uchiyama,** Shizuoka Univ. (Japan); **Shigeo Yamauchi,** Nara Women's Univ. (Japan); **Tomokage Yoneyama,** Chuo Univ. (Japan); **Satoshi Yamada,** RIKEN (Japan); **Eric D. Miller,** Massachusetts Institute of Technology (United States); **Nagomi Uchida,** Japan Aerospace Exploration Agency (Japan); **Seiko Sakurai,** Saitama Univ. (Japan); **Shin Watanabe**, **Ryo Iizuka**, **Rie Sato,** Japan Aerospace Exploration Agency (Japan); **Chris Baluta,** NASA (United States); **Takayuki Tamura,** Japan Aerospace Exploration Agency (Japan); **Yasushi Fukazawa,** Hiroshima Univ. (Japan); **Hirokazu Odaka,** Osaka Univ. (Japan); **Tsubasa Tamba,** Japan Aerospace Exploration Agency (Japan); **Ryohei Sato**, **So Kato**, **Minami Sakama,** Saitama Univ. (Japan); **Yuki Niida,** Ehime Univ. (Japan); **Natsuki Sakamoto,** Hiroshima Univ. (Japan); **Takumi Shioiri,** Saitama Univ. (Japan); **Noboru Nemoto,** Chuo Univ. (Japan); **Yuki Omiya,** Nagoya Univ. (Japan); **Nari Suzuki,** Nara Women's Univ. (Japan); **Matt Holland,** NASA (United States); **Michael Loewenstein,** NASA (United States), Univ. of Maryland, College Park (United States); **Tahir Yaqoob**, **Robert S. Hill**, **Trisha F. Doyle**, **Efrain Perez-Solis**, **Morgan D. Waddy**, **Mark Mekosh**, **Joseph B. Fox,** NASA (United States); **Matteo Guainazzi**, **Jan-Uwe Ness,** European Space Agency (Spain); **Hironori Maejima**, **Kenichi Toda, Chikara Natsukari,** Japan Aerospace Exploration Agency (Japan)

13093-61 • 02:35 PM - 02:50 PM
**Detail design of the XRISM Timing System and its verification in the nominal operation mode**
*Author(s):* **Yukikatsu Terada,** Saitama Univ. (Japan), Japan Aerospace Exploration Agency (Japan); **Megumi Shidatsu,** Ehime Univ. (Japan); **Takashi Kominato,** NEC Corp. (Japan); **So Kato**, **Ryohei Sato**, **Minami Sakama**, **Takumi Shioiri,** Saitama Univ. (Japan); **Yuki Niida,** Ehime Univ. (Japan); **Makoto Sawada,** Rikkyo Univ. (Japan); **Chikara Natsukari,** Japan Aerospace Exploration Agency (Japan); **Makoto S. Tashiro,** Saitama Univ. (Japan), Japan Aerospace Exploration Agency (Japan); **Kenichi Toda**, **Hironori Maejima**, **Katsuhiro Hayashi**, **Tessei Yoshida**, **Shoji Ogawa**, **Yoshiaki Kanemaru**, **Akio Hoshino,** Japan Aerospace Exploration Agency (Japan); **Hiromitsu Takahashi,** Hiroshima Univ. (Japan); **Masayoshi Nobukawa,** Nara Univ. of Education (Japan); **Tsunefumi Mizuno,** Hiroshima Univ. (Japan); **Kazuhiro Nakazawa,** Nagoya Univ. (Japan); **Shin'ichiro Uno,** Nihon Fukushi Univ. (Japan); **Ken Ebisawa,** Japan Aerospace Exploration Agency (Japan); **Satoshi Eguchi,** Fukuoka Univ. (Japan); **Satoru Katsuda,** Saitama Univ. (Japan); **Aya Kubota,** Shibaura Institute of Technology (Japan); **Naomi Ota,** Nara Women's Univ. (Japan); **Atsushi Tanimoto,** Kagoshima Univ. (Japan); **Yuichi Terashima,** Ehime Univ. (Japan); **Yohko Tsuboi,** Chuo Univ. (Japan); **Yuusuke Uchida,** Tokyo Univ. of Science (Japan); **Hideki Uchiyama,** Shizuoka Univ. (Japan); **Shigeo Yamauchi,** Nara Women's Univ. (Japan); **Tomokage Yoneyama,** Chuo Univ. (Japan); **Satoshi Yamada,** RIKEN (Japan); **Nagomi Uchida**, **Shin Watanabe**, **Ryo Iizuka**, **Rie Sato,** Japan Aerospace Exploration Agency (Japan); **Chris Baluta**, **Matt Holland,** NASA (United States); **Michael Loewenstein,** NASA (United States), Univ. of Maryland, College Park (United States); **Eric D. Miller,** Massachusetts Institute of Technology (United States); **Tahir Yaqoob**, **Robert S. Hill**, **Trisha F. Doyle**, **Efrain Perez-Solis**, **Morgan D. Waddy**, **Mark Mekosh, Joseph B. Fox,** NASA (United States)

13093-62 • 02:50 PM - 03:05 PM
**Energy gain scale calibration of the XRISM Resolve microcalorimeter spectrometer: ground calibration results and on orbit comparison**
*Author(s):* **Megan E. Eckart**, **Gregory V. Brown,** Lawrence Livermore National Lab. (United States); **Meng P. Chiao**, **Renata S. Cumbee,** NASA Goddard Space Flight Ctr. (United States); **Ryuichi Fujimoto,** Japan Aerospace Exploration Agency (Japan), Institute of Space and Astronautical Science (Japan); **Natalie Hell,** Lawrence Livermore National Lab. (United States); **Akio Hoshino,** Japan Aerospace Exploration Agency (Japan), Institute of Space and Astronautical Science (Japan); **Yoshitaka Ishisaki,** Tokyo Metropolitan Univ. (Japan); **Richard L. Kelley**, **Steven J. Kenyon**, **Caroline A. Kilbourne,** NASA Goddard Space Flight Ctr. (United States); **Shunji Kitamoto,** Rikkyo Univ. (Japan); **Maurice A. Leutenegger,** NASA Goddard Space Flight Ctr. (United States); **Thomas E. Lockard,** Lawrence Livermore National Lab. (United States); **Michael Loewenstein,** NASA Goddard Space Flight Ctr. (United States), Univ. of Maryland, College Park (United States); **Edward W. Magee,** Lawrence Livermore National Lab. (United States); **Misaki Mizumoto,** Univ. of Teacher Education Fukuoka (Japan); **Frederick S. Porter,** NASA Goddard Space Flight Ctr. (United States); **Kosuke Sato,** Saitama Univ. (Japan); **Makoto Sawada,** Rikkyo Univ. (Japan); **Chintan D. Shah,** NASA Goddard Space Flight Ctr. (United States); **Russell F. Shipman,** SRON Netherlands Institute for Space Research (Netherlands); **Gary A. Sneiderman,** NASA Goddard Space Flight Ctr. (United States); **Yoh Takei**, **Masahiro Tsujimoto,** Japan Aerospace Exploration Agency (Japan), Institute of Space and Astronautical Science (Japan); **Cor P. de Vries,** SRON Netherlands Institute for Space Research (Netherlands); **Tomomi Watanabe,** BAE Systems, Inc. (United States); **Michael C. Witthoeft,** NASA Goddard Space Flight Ctr. (United States); **Rob Wolfs,** SRON Netherlands Institute for Space Research (Netherlands); **Shinya Yamada,** Rikkyo Univ. (Japan); **Tahir Yaqoob,** NASA Goddard Space Flight Ctr. (United States), Univ. of Maryland, Baltimore County (United States)

## Coffee Break 03:05 PM - 03:35 PM

## SESSION 14: DETECTORS

19 June 2024 • 03:35 PM - 04:55 PM | Room G414/415, North - 4F
*Session Chair(s):* **Vadim Burwitz**, Max-Planck-Institut für extraterrestrische Physik (Germany)

13093-63 • 03:35 PM - 03:55 PM
**Fast, low-noise X-ray image sensor technology for strategic X-ray astrophysics missions**
*Author(s):* **Marshall W. Bautz**, **Eric D. Miller**, **Gregory Prigozhin**, **Beverly LaMarr**, **Andrew Malonis**, **Richard F. Foster**, **Catherine E. Grant**, **Benjamin Schneider,** Massachusetts Institute of Technology (United States); **Christopher Leitz**, **Kevan Donlon**, **Ilya Prigozhin**, **Renee Lambert**, **Michael Cooper,** MIT Lincoln Lab. (United States); **Sven C. Herrmann**, **Peter Orel**, **Tanmoy Chattopadhyay**, **Glenn Morris**, **Dan R. Wilkins**, **Haley R. Stueber**, **Artem Poliszczuk, Steven W. Allen,** Stanford Univ. (United States)

13093-65 • 03:55 PM - 04:15 PM
**Augmenting astronomical X-ray detectors with AI for enhanced sensitivity and reduced background**
*Author(s):* **Dan R. Wilkins**, **Artem Poliszczuk,** Kavli Institute for Particle Astrophysics & Cosmology (United States); **Benjamin Schneider,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Steven W. Allen,** Kavli Institute for Particle Astrophysics & Cosmology (United States); **Eric D. Miller**, **Marshall W. Bautz,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Tanmoy Chattopadhyay,** Kavli Institute for Particle Astrophysics & Cosmology (United States); **Abraham D. Falcone,** The Pennsylvania State Univ. (United States); **Richard F. Foster**, **Catherine E. Grant,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Sven C. Herrmann**, **Glenn Morris,** Kavli Institute for Particle Astrophysics & Cosmology (United States); **Paul E. J. Nulsen,** Smithsonian Astrophysical Observatory (United States); **Peter Orel,** Kavli Institute for Particle Astrophysics & Cosmology (United States); **Gerrit Schellenberger,** Smithsonian Astrophysical Observatory (United States)

13093-66 • 04:15 PM - 04:35 PM
**DarkNESS CubeSat: development of Skipper CCDs for X-ray astronomy**
*Author(s):* **Juan Cruz Estrada,** Fermi National Accelerator Lab. (United States)

13093-67 • 04:35 PM - 04:55 PM
**Towards efficient machine-learning-based reduction of the cosmic-ray induced background in X-ray imaging detectors: increasing context awareness**
*Author(s):* **Artem Poliszczuk**, **Dan R. Wilkins,** Kavli Institute for Particle Astrophysics & Cosmology (United States); **Steven W. Allen,** Stanford Univ. (United States); **Eric D. Miller,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Tanmoy Chattopadhyay,** Kavli Institute for Particle Astrophysics & Cosmology (United States); **Benjamin Schneider,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Julien E. Darve,** Stanford Univ. (United States); **Marshall W. Bautz,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Abraham D. Falcone,** The Pennsylvania State Univ. (United States); **Rick F. Foster**, **Catherine E. Grant,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Sven C. Herrmann,** Kavli Institute for Particle Astrophysics & Cosmology (United States); **Ralph P. Kraft,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Glenn Morris,** Kavli Institute for Particle Astrophysics & Cosmology (United States); **Paul E. J. Nulsen,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Peter Orel,** Kavli Institute for Particle Astrophysics & Cosmology (United States); **Gerrit Schellenberger,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Haley R. Stueber,** Stanford Univ. (United States)

## SESSION PS5: POSTERS - DETECTORS AND OPERATIONS

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13093-211 • 05:30 PM - 07:00 PM
**Feasibility study of upper atmosphere density measurement on the ISS by observations of the CXB transmitted through the Earth rim**
*Author(s):* **Takumi Kishimoto**, **Kumiko K. Nobukawa,** Kindai Univ. (Japan); **Ayaki Takeda,** Univ. of Miyazaki (Japan); **Takeshi Go Tsuru,** Kyoto Univ. (Japan); **Satoru Katsuda,** Saitama Univ. (Japan); **Kazuhiro Nakazawa,** Nagoya Univ. (Japan); **Koji Mori,** Univ. of Miyazaki (Japan); **Masayoshi Nobukawa,** Nara Univ. of Education (Japan); **Hiroyuki Uchida,** Kyoto Univ. (Japan); **Yoshihisa Kawabe**, **Satoru Kuwano,** Kindai Univ. (Japan); **Eisuke Kurogi,** Univ. of Miyazaki (Japan); **Yamato Ito, Yuma Aoki,** Kindai Univ. (Japan)

13093-212 • 05:30 PM - 07:00 PM
**An interface to evaluate the performance of photon-counting detectors**
*Author(s):* **Ana Inés Gómez de Castro**, **Maria Frutos Pastor**, **Moya David, Juan Carlos Vallejo,** Univ. Complutense de Madrid (Spain)

13093-213 • 05:30 PM - 07:00 PM
**Stray light analysis of the optical chamber at the PANTER X-ray test facility**
*Author(s):* **Surangkhana Rukdee**, **Vadim Burwitz**, **Thomas Müller**, **Thomas Schmidt, Gisela Hartner,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13093-214 • 05:30 PM - 07:00 PM
**Principle and demonstration of a novel pointing direction metrology system for high-resolution X-ray imaging**
*Author(s):* **Leo Terada,** Genesia Corp. (Japan); **Ikuyuki Mitsuishi,** Nagoya Univ. (Japan); **Yoichi Yatsu,** Tokyo Institute of Technology (Japan)

13093-215 • 05:30 PM - 07:00 PM
**SRG/eROSITA background analysis**
*Author(s):* **Emanuele Perinati,** Eberhard Karls Univ. Tübingen (Germany); **Michael J. Freyberg,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Christian Pommranz**, **Muhammed M. Serim,** Eberhard Karls Univ. Tübingen (Germany); **Michael Yeung**, **Konrad Dennerl**, **Susanne Friedrich,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Chris Tenzer, Andrea Santangelo,** Eberhard Karls Univ. Tübingen (Germany)

13093-216 • 05:30 PM - 07:00 PM
**The commissioning and early operations of the high energy HERMES payload onboard SpIRIT**
*Author(s):* **Giulia Baroni,** INAF - Osservatorio Astronomico di Trieste (Italy); **Riccardo Campana,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Yuri Evangelista,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Alejandro Guzmán Cabrera**, **Paul Hedderman,** Eberhard Karls Univ. Tübingen (Germany); **Giuseppe Dilillo,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Ezequiel J. Marchesini,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Giovanni Della Casa,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Michele Trenti**, **Jack McRobbie**, **Robert Mearns**, **Miguel Ortiz Del Castillo**, **Matthew Thomas**, **Clint Therakam**, **Airlie Chapman,** The Univ. of Melbourne (Australia); **Simone Pirrotta**, **Simonetta Puccetti**, **Matteo Perri,** Agenzia Spaziale Italiana (Italy); **Andrea Santangelo,** Eberhard Karls Univ. Tübingen (Germany); **Sara Trevisan**, **Marco Citossi, Fabrizio Fiore,** INAF - Osservatorio Astronomico di Trieste (Italy)

13093-217 • 05:30 PM - 07:00 PM
**Curved detectors for future X-ray astrophysics missions**
*Author(s):* **Eric D. Miller,** MIT Kavli Institute for Astrophysics and Space Research (United States); **James A. Gregory,** MIT Lincoln Lab. (United States); **Marshall W. Bautz,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Michael Cooper**, **Kevan Donlon,** MIT Lincoln Lab. (United States); **Richard F. Foster**, **Catherine E. Grant,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Mallory Jensen,** MIT Lincoln Lab. (United States); **Beverly LaMarr,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Renee Lambert**, **Christopher Leitz,** MIT Lincoln Lab. (United States); **Andrew Malonis**, **Gregory Prigozhin,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Kevin K. Ryu,** MIT Lincoln Lab. (United States); **Benjamin Schneider,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Keith Warner,** MIT Lincoln Lab. (United States); **William W. Zhang,** NASA Goddard Space Flight Ctr. (United States)

13093-218 • 05:30 PM - 07:00 PM
**Development of soft x-ray CMOS camera for the GEO-X mission**
*Author(s):* **Yuki K. Satoh**, **Hiroshi Nakajima**, **Shoei Yamanoi**, **Naoki Yokomizo,** Kanto Gakuin Univ. (Japan); **Junko S. Hiraga,** Kwansei Gakuin Univ. (Japan); **Kouichi Hagino,** The Univ. of Tokyo (Japan); **Yuichiro Ezoe,** Tokyo Metropolitan Univ. (Japan); **Daiki Ishi,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Masaki Numazawa,** Tokyo Metropolitan Univ. (Japan)

13093-219 • 05:30 PM - 07:00 PM
**Test and characterization of finely segmented pixel CZT detectors for future hard X-ray missions**
*Author(s):* **Giovanni Pinaroli**, **Grzegorz W. Deptuch**, **Gabriella A. Carini**, **Dominik S. Gorni**, **Piotr G. Maj,** Brookhaven National Lab. (United States); **Henrich Krawczynski,** Washington Univ. in St. Louis (United States)

13093-220 • 05:30 PM - 07:00 PM
**Production of microchannel plates using nano-scale additive manufacturing**
*Author(s):* **Camden D. Ertley,** Southwest Research Institute (United States); **Ashley R. Bielinski**, **Jeffrey W. Elam**, **Anil U. Mane**, **Alex B. F. Martinson,** Argonne National Lab. (United States); **Kevin Mello,** Southwest Research Institute (United States); **Prabhjot M. Menon,** Argonne National Lab. (United States); **Jerome F. Moore**, **Michael J. Pellin,** Robot Nose Corp. (United States); **Robert G. Wagner,** Argonne National Lab. (United States)

13093-221 • 05:30 PM - 07:00 PM
**Development of an improved, scalable, mosaicked CdZnTe (CZT) imaging detector plane architecture for high energy astrophysics**
*Author(s):* **Branden Allen,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13093-222 • 05:30 PM - 07:00 PM
**Development of atomically thin optical devices with graphene for astronomical applications**
*Author(s):* **Ryoya Tago**, **Ikuyuki Mitsuishi**, **Kazuto Kashiwakura**, **Yoshimi Niwa**, **Tomoyo Ogawa**, **Midori Hirota**, **Yuzuru Tawara**, **Haruka Omachi,** Nagoya Univ. (Japan); **Ryo Kitaura,** National Institute for Materials Science (Japan); **Kenji Kawahara**, **Hiroki Ago,** Kyushu Univ. (Japan); **Kentaro Nomoto**, **Sadayuki Shimizu**, **Kazuyuki Tsuruoka,** Ushio Inc. (Japan); **Masahito Tagawa,** Kobe Univ. (Japan)

## SESSION PS6: POSTERS - XRISM

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13093-224 • 05:30 PM - 07:00 PM
**Evaluation of the in-orbit pointing accuracy of XRISM**
*Author(s):* **Yoshiaki Kanemaru**, **Ryo Iizuka**, **Yoshitomo Maeda,** Japan Aerospace Exploration Agency (Japan); **Takashi Okajima**, **Takayuki Hayashi,** NASA (United States); **Kazuhiro Kiyokane**, **Yuto Nihei**, **Takashi Kominato,** NEC Corp. (Japan); **Manabu Ishida**, **Shin Watanabe**, **Chikara Natsukari,** Japan Aerospace Exploration Agency (Japan); **Kosuke Sato**, **Yukikatsu Terada,** Saitama Univ. (Japan); **Katsuhiro Hayashi,** Japan Aerospace Exploration Agency (Japan); **Chris Baluta,** NASA (United States); **Tessei Yoshida**, **Akio Hoshino**, **Shoji Ogawa,** Japan Aerospace Exploration Agency (Japan); **Hiromitsu Takahashi,** Hiroshima Univ. (Japan); **Masayoshi Nobukawa,** Nara Univ. of Education (Japan); **Tsunefumi Mizuno,** Hiroshima Univ. (Japan); **Kazuhiro Nakazawa,** Nagoya Univ. (Japan); **Shin'ichiro Uno,** Nihon Fukushi Univ. (Japan); **Ken Ebisawa,** Japan Aerospace Exploration Agency (Japan); **Satoshi Eguchi,** Kumamoto Gakuen Univ. (Japan); **Satoru Katsuda,** Saitama Univ. (Japan); **Aya Kubota,** Shibaura Institute of Technology (Japan); **Naomi Ota,** Nara Women's Univ. (Japan); **Megumi Shidatsu,** Ehime Univ. (Japan); **Atsushi Tanimoto,** Kagoshima Univ. (Japan); **Yuichi Terashima,** Ehime Univ. (Japan); **Yohko Tsuboi,** Chuo Univ. (Japan); **Yuusuke Uchida,** Tokyo Univ. of Science (Japan); **Hideki Uchiyama,** Shizuoka Univ. (Japan); **Shigeo Yamauchi,** Nara Women's Univ. (Japan); **Yoneyama Tomokage,** Chuo Univ. (Japan); **Satoshi Yamada,** RIKEN (Japan); **Nagomi Uchida**, **Rie Sato,** Japan Aerospace Exploration Agency (Japan); **Matt Holland,** NASA (United States); **Michael Loewenstein,** NASA (United States), Univ. of Maryland, College Park (United States); **Eric D. Miller,** Massachusetts Institute of Technology (United States); **Tahir Yaqoob**, **Robert S. Hill**, **Trisha F. Doyle**, **Efrain Perez-Solis**, **Morgan D. Waddy**, **Mark Mekosh**, **Joseph B. Fox,** NASA (United States); **Makoto S. Tashiro,** Saitama Univ. (Japan), Japan Aerospace Exploration Agency (Japan); **Kenichi Toda, Hironori Maejima,** Japan Aerospace Exploration Agency (Japan)

13093-225 • 05:30 PM - 07:00 PM
**In-orbit operation of Resolve filter wheel and MXS**
*Author(s):* **Russell F. Shipman,** SRON Netherlands Institute for Space Research (Netherlands); **Shunji Kitamoto,** Rikkyo Univ. (Japan); **Rob Wolfs,** DIFFER (Netherlands); **Elisa Costantini,** SRON Netherlands Institute for Space Research (Netherlands); **Megan E. Eckart,** Lawrence Livermore National Lab. (United States); **Carlo Ferrigno,** Univ. de Genève (Switzerland); **Ludovic Genolet,** Observatoire de Genève (Switzerland); **Nathalie Q. S. Gorter**, **Martin Grim**, **Jan-Willem A. den Herder,** SRON Netherlands Institute for Space Research (Netherlands); **Caroline A. Kilbourne**, **Maurice A. Leutenegger,** NASA Goddard Space Flight Ctr. (United States); **Erik van der Meer,** SRON Netherlands Institute for Space Research (Netherlands); **Misaki Mizumoto,** Univ. of Teacher Education Fukuoka (Japan); **Frederick S. Porter,** NASA Goddard Space Flight Ctr. (United States); **Stéphane Paltani,** Univ. de Genève (Switzerland); **Makoto Sawada,** Rikkyo Univ. (Japan); **Simon Strotmann,** European Space Research and Technology Ctr. (Netherlands); **Masahiro Tsujimoto,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Cor P. de Vries,** SRON Netherlands Institute for Space Research (Netherlands)

13093-226 • 05:30 PM - 07:00 PM
**New CCD driving technique to suppress anomalous charge intrusion from outside the imaging area for soft x-ray imager of Xtend onboard XRISM**
*Author(s):* **Hirofumi Noda**, **Mio Aoyagi,** Osaka Univ. (Japan); **Koji Mori,** Univ. of Miyazaki (Japan), Japan Aerospace Exploration Agency (Japan); **Hiroshi Tomida,** Japan Aerospace Exploration Agency (Japan); **Hiroshi Nakajima,** Kanto Gakuin Univ. (Japan), Japan Aerospace Exploration Agency (Japan); **Takaaki Tanaka,** Konan Univ. (Japan); **Hiromasa Suzuki,** Japan Aerospace Exploration Agency (Japan); **Hiroshi Murakami,** Tohoku Gakuin Univ. (Japan); **Hiroyuki Uchida**, **Takeshi Go Tsuru,** Kyoto Univ. (Japan); **Keitaro Miyazaki**, **Kohei Kusunoki,** Univ. of Miyazaki (Japan); **Yoshiaki Kanemaru,** Japan Aerospace Exploration Agency (Japan); **Yuma Aoki**, **Kumiko K. Nobukawa,** Kindai Univ. (Japan); **Masayoshi Nobukawa,** Nara Univ. of Education (Japan); **Kohei Shima**, **Marina Yoshimoto**, **Kazunori Asakura**, **Hironori Matsumoto,** Osaka Univ. (Japan); **Tomokage Yoneyama,** Chuo Univ. (Japan); **Shogo B. Kobayashi,** Tokyo Univ. of Science (Japan); **Kouichi Hagino,** The Univ. of Tokyo (Japan); **Hideki Uchiyama,** Shizuoka Univ. (Japan); **Kiyoshi Hayashida,** Osaka Univ. (Japan)

13093-227 • 05:30 PM - 07:00 PM
**Pile-up simulator for XRISM/Xtend**
*Author(s):* **Tomokage Yoneyama,** Chuo Univ. (Japan); **Tsubasa Tamba,** Japan Aerospace Exploration Agency (Japan); **Hirokazu Odaka,** Osaka Univ. (Japan); **Aya Bamba,** The Univ. of Tokyo (Japan); **Hiroshi Murakami,** Tohoku Gakuin Univ. (Japan); **Koji Mori,** Univ. of Miyazaki (Japan); **Yukikatsu Terada,** Saitama Univ. (Japan); **Masayoshi Nobukawa,** Nara Univ. of Education (Japan); **Tsunefumi Mizuno,** Hiroshima Univ. (Japan)

13093-228 • 05:30 PM - 07:00 PM
**Initial operations of the Soft X-ray Imager onboard XRISM**
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13093-229 • 05:30 PM - 07:00 PM
**On-orbit performance of the Resolve Adiabatic Demagnetization Refrigerator on XRISM**
*Author(s):* **Peter J. Shirron**, **Mark O. Kimball**, **Bryan L. James**, **Theodore T. Muench**, **Edgar R. Canavan**, **Michael A. Sampson**, **Michael J. DiPirro**, **Thomas G. Bialas**, **Gary A. Sneiderman**, **Caroline A. Kilbourne**, **Frederick S. Porter**, **Richard L. Kelley,** NASA Goddard Space Flight Ctr. (United States); **Ryuichi Fujimoto**, **Yoh Takei,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Seiji Yoshida,** Sumitomo Heavy Industries, Ltd. (Japan)

13093-231 • 05:30 PM - 07:00 PM
**Design and performance of the Hitomi/XRISM Adiabatic Demagnetization Refrigerator Controller**
*Author(s):* **Meng P. Chiao**, **Thomas G. Bialas**, **Michael J. DiPirro**, **Caroline A. Kilbourne**, **Frederick S. Porter**, **Knute A. Ray**, **Peter J. Shirron, Gary A. Sneiderman,** NASA Goddard Space Flight Ctr. (United States)

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**Pre- and post-launch operation of the soft x-ray spectrometer Resolve on board the XRISM satellite**

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**Optimization of X-ray event screening using ground and in-orbit data for the Resolve instrument onboard the XRISM satellite**

*Author(s):* **Yuto Mochizuki,** The Univ. of Tokyo (Japan), Institute of Space and Astronautical Science (Japan); **Masahiro Tsujimoto,** Japan Aerospace Exploration Agency (Japan), Institute of Space and Astronautical Science (Japan); **Caroline A. Kilbourne**, **Frederick S. Porter,** NASA Goddard Space Flight Ctr. (United States); **Kosuke Sato,** Saitama Univ. (Japan); **Makoto Sawada,** Rikkyo Univ. (Japan); **Megan E. Eckart,** Lawrence Livermore National Lab. (United States); **Misaki Mizumoto,** Univ. of Teacher Education Fukuoka (Japan); **Shinya Yamada,** Rikkyo Univ. (Japan); **Yoshiaki Kanemaru,** Japan Aerospace Exploration Agency (Japan), Institute of Space and Astronautical Science (Japan); **Yoshitaka Ishisaki,** Tokyo Metropolitan Univ. (Japan); **Maurice A. Leutenegger,** NASA Goddard Space Flight Ctr. (United States)

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**Strategies for the in-orbit gain tracking using the modulated x-ray sources for the Resolve microcalorimeter spectrometer on XRISM**

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**Verification of the XRISM timing system in the GPS unsynchronized mode**
*Author(s):* **Megumi Shidatsu,** Ehime Univ. (Japan); **Yukikatsu Terada,** Saitama Univ. (Japan), Japan Aerospace Exploration Agency (Japan); **Takashi Kominato,** NEC Corp. (Japan); **So Kato**, **Ryohei Sato**, **Minami Sakama**, **Takumi Shioiri,** Saitama Univ. (Japan); **Yuki Niida,** Ehime Univ. (Japan); **Chikara Natsukari,** Japan Aerospace Exploration Agency (Japan); **Makoto S. Tashiro,** Saitama Univ. (Japan), Japan Aerospace Exploration Agency (Japan); **Kenichi Toda**, **Hironori Maejima**, **Shin Watanabe**, **Ryo Iizuka**, **Rie Sato,** Japan Aerospace Exploration Agency (Japan); **Chris Baluta,** NASA (Japan); **Katsuhiro Hayashi**, **Tessei Yoshida**, **Shoji Ogawa**, **Yoshiaki Kanemaru**, **Akio Hoshino,** Japan Aerospace Exploration Agency (Japan); **Hiromitsu Takahashi,** Hiroshima Univ. (Japan); **Masayoshi Nobukawa,** Nara Univ. of Education (Japan); **Tsunefumi Mizuno,** Hiroshima Univ. (Japan); **Kazuhiro Nakazawa,** Nagoya Univ. (Japan); **Shin'ichiro Uno,** Nihon Fukushi Univ. (Japan); **Ken Ebisawa,** Japan Aerospace Exploration Agency (Japan); **Satoshi Eguchi,** Fukuoka Univ. (Japan); **Satoru Katsuda,** Saitama Univ. (Japan); **Aya Kubota,** Shibaura Institute of Technology (Japan); **Naomi Ota,** Nara Women's Univ. (Japan); **Atsushi Tanimoto,** Kagoshima Univ. (Japan); **Yuichi Terashima,** Ehime Univ. (Japan); **Yohko Tsuboi,** Chuo Univ. (Japan); **Yuusuke Uchida,** Tokyo Univ. of Science (Japan); **Hideki Uchiyama,** Shizuoka Univ. (Japan); **Shigeo Yamauchi,** Nara Women's Univ. (Japan); **Tomokage Yoneyama,** Chuo Univ. (Japan); **Satoshi Yamada,** RIKEN (Japan); **Nagomi Uchida,** Japan Aerospace Exploration Agency (Japan); **Matt Holland,** NASA (United States); **Michael Loewenstein,** NASA (United States), Univ. of Maryland, College Park (United States); **Eric D. Miller,** Massachusetts Institute of Technology (United States); **Tahir Yaqoob**, **Robert S. Hill**, **Trisha F. Doyle**, **Efrain Perez-Solis**, **Morgan D. Waddy**, **Mark Mekosh, Joseph B. Fox,** NASA (United States)

13093-236 • 05:30 PM - 07:00 PM
**X-ray transient search using XRISM/Xtend**
*Author(s):* **Yohko Tsuboi**, **Koichiro Akasu,** Chuo Univ. (Japan); **Marc Audard,** Univ. de Genève (Switzerland); **Ehud Behar,** Technion-Israel Institute of Technology (Israel); **Shun Inoue,** Kyoto Univ. (Japan); **Yuiko Ishihara,** Chuo Univ. (Japan); **Takayoshi Komura,** Tokyo Univ. of Science (Japan); **Yoshitomo Maeda,** Institute of Space and Astronautical Science (Japan); **Misaki Mizumoto,** Univ. of Teacher Education Fukuoka (Japan); **Noboru Nemoto,** Chuo Univ. (Japan); **Masayoshi Nobukawa,** Nara Univ. of Education (Japan); **Katja Pottschmidt,** Univ. of Maryland, Baltimore County (United States); **Megumi Shidatsu,** Ehime Univ. (Japan); **Yukikatsu Terada,** Saitama Univ. (Japan); **Yuichi Terashima,** Ehime Univ. (Japan); **Hiroyuki Uchida,** Kyoto Univ. (Japan); **Tomokage Yoneyama,** Chuo Univ. (Japan); **Marina Yoshimoto,** Osaka Univ. (Japan); **Kotaro Fukushima**, **Katsuhiro Hayashi**, **Yoshiaki Kanemaru**, **Shoji Ogawa, Tessei Yoshida,** Institute of Space and Astronautical Science (Japan)

13093-237 • 05:30 PM - 07:00 PM
**X-ray mirror assembly for the X-ray Imaging and Spectroscopy Mission (XRISM): comparison between ground calibration measurements and raytracing simulations**
*Author(s):* **Rozenn Boissay-Malaquin**, **Takayuki Hayashi**, **Keisuke Tamura,** Univ. of Maryland, Baltimore County (United States), NASA Goddard Space Flight Ctr. (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States); **Takashi Okajima,** NASA Goddard Space Flight Ctr. (United States); **Tahir Yaqoob,** Univ. of Maryland, Baltimore County (United States), NASA Goddard Space Flight Ctr. (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States); **Megan E. Eckart,** Lawrence Livermore National Lab. (United States); **Maurice A. Leutenegger,** NASA Goddard Space Flight Ctr. (United States); **Michael Loewenstein,** Univ. of Maryland, Baltimore County (United States), NASA Goddard Space Flight Ctr. (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States); **Toshiki Sato,** Meiji University (Japan)

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**Measuring the liquid helium volume on XRISM and predicting the liquid lifetime**
*Author(s):* **Michael J. DiPirro**, **Peter J. Shirron,** NASA Goddard Space Flight Ctr. (United States); **Ryuichi Fujimoto,** Japan Aerospace Exploration Agency (Japan); **Seiji Yoshida,** Sumitomo Heavy Industries, Ltd. (Japan); **Kumi Ishikawa,** Japan Aerospace Exploration Agency (Japan)

13093-240 • 05:30 PM - 07:00 PM
**In-orbit selection of cryocooler drive frequencies for XRISM/Resolve**
*Author(s):* **Gary A. Sneiderman**, **Frederick S. Porter**, **Caroline A. Kilbourne**, **Meng P. Chiao,** NASA Goddard Space Flight Ctr. (United States); **Masahiro Tsujimoto,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan)

## SESSION PS7: POSTERS - MISSIONS

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13093-71 • 05:30 PM - 07:00 PM
**Development of nested X-ray telescope for HUBS mission**
*Author(s):* **Jun Yu**, **Zhanshan Wang**, **Wei Zhang, Ruohui Xian,** Tongji Univ. (China)

13093-241 • 05:30 PM - 07:00 PM
**Development of the software algorithm for detection of gamma-ray bursts for HiZ-GUNDAM mission**
*Author(s):* **Takumi Togashi**, **Shuichi Gunji**, **Ryuji Sato**, **Keito Watanabe**, **Haruaki Niinuma,** Yamagata Univ. (Japan); **Daisuke Yonetoku,** Kanazawa Univ. (Japan); **Hiroshi Akitaya,** Chiba Institute of Technology (Japan); **Akihiro Doi,** Institute of Space and Astronautical Science (Japan); **Hatsune Goto,** Kanazawa Univ. (Japan); **Yusuke Kono,** National Astronomical Observatory of Japan (Japan); **Hideo Matsuhara,** Institute of Space and Astronautical Science (Japan); **Tatehiro Mihara,** RIKEN (Japan); **Takanori Sakamoto,** Aoyama Gakuin Univ. (Japan); **Tatsuya Sawano,** Kanazawa Univ. (Japan)

13093-242 • 05:30 PM - 07:00 PM
**The status of pnCCD with an FPGA-based electronic system for HiZ-GUNDAM**
*Author(s):* **Hsien-Chieh Shen,** Aoyama Gakuin Univ. (Japan); **Naoki Ogino**, **Makoto Arimoto**, **Daisuke Yonetoku,** Kanazawa Univ. (Japan); **Takanori Sakamoto**, **Shintaro Ikunaga,** Aoyama Gakuin Univ. (Japan); **Ryuji Kondo,** Kanazawa Univ. (Japan); **Junko S. Hiraga,** Kwansei Gakuin Univ. (Japan); **Robert Hartmann, Lothar Strüder,** PNSensor GmbH (Germany)

13093-243 • 05:30 PM - 07:00 PM
**Design and development of an FPGA-based pnCCD driver & readout system for future satellite mission HiZ-GUNDAM**
*Author(s):* **Ryuji Kondo,** Kanazawa Univ. (Japan); **Shintaro Ikunaga**, **Hsien-Chieh Shen,** Aoyama Gakuin Univ. (Japan); **Naoki Ogino**, **Arimoto Makoto**, **Shuta Takahashi**, **Daisuke Yonetoku**, **Tatsuya Sawano,** Kanazawa Univ. (Japan); **Junko S. Hiraga,** Kwansei Gakuin Univ. (Japan); **Robert Hartmann, Lothar Strüder,** PNSensor GmbH (Germany)

13093-244 • 05:30 PM - 07:00 PM
**Performance evaluation of pnCCD onboard HiZ-GUNDAM mission**
*Author(s):* **Junko S. Hiraga**, **Daisuke Hatanaka**, **Masataka Sato**, **Aoi Sugimoto**, **Kenjiro Fujimoto,** Kwansei Gakuin Univ. (Japan); **Makoto Arimoto**, **Daisuke Yonetoku,** Kanazawa Univ. (Japan); **Takanori Sakamoto,** Aoyama Gakuin Univ. (Japan)

13093-245 • 05:30 PM - 07:00 PM
**Design and development of the HERMES Pathfinder payloads**
*Author(s):* **Riccardo Campana,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Yuri Evangelista,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Fabrizio Fiore,** INAF - Osservatorio Astronomico di Trieste (Italy); **Alejandro Guzmán Cabrera,** Eberhard Karls Univ. Tübingen (Germany); **Giulia Baroni,** INAF - Osservatorio Astronomico di Trieste (Italy); **Giovanni Della Casa**, **Giuseppe Dilillo,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Paul Hedderman,** Eberhard Karls Univ. Tübingen (Germany); **Ezequiel J. Marchesini,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Francesco Ceraudo,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Evgeny Demenev,** Fondazione Bruno Kessler (Italy); **Mauro Fiorini,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Paolo Nogara,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Palermo (Italy); **Alessio Nuti,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Giuseppe Sottile**, **Francesco Russo,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Palermo (Italy); **Sara Trevisan,** INAF - Osservatorio Astronomico di Trieste (Italy)

13093-246 • 05:30 PM - 07:00 PM
**Planetary HERMES: towards a hybrid high-energy detector for planetary surface spectroscopy and navigation**
*Author(s):* **Fabrizio Fiore**, **Giulia Baroni**, **Sara Trevisan**, **Chiara Feruglio**, **Marco Citossi,** INAF - Osservatorio Astronomico di Trieste (Italy); **Federico Dogo,** Univ. degli Studi di Trieste (Italy); **Riccardo Campana,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Yuri Evangelista,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

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**The HERMES calibration pipeline: mescal**
*Author(s):* **Giuseppe Dilillo,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Ezequiel J. Marchesini,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Giovanni Della Casa,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Giulia Baroni,** INAF - Osservatorio Astronomico di Trieste (Italy); **Riccardo Campana**, **Edoardo Borciani**, **Smiriti Srivastava,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Sara Trevisan,** INAF - Osservatorio Astronomico di Trieste (Italy); **Francesco Ceraudo,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Marco Citossi,** INAF - Osservatorio Astronomico di Trieste (Italy); **Yuri Evangelista,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Alejandro Guzmán**, **Paul Heddermann,** IAAT (Germany); **Claudio Labanti**, **Enrico Virgilli,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Fabrizio Fiore,** INAF - Osservatorio Astronomico di Trieste (Italy)

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**The on-board scientific software of the HERMES missions**
*Author(s):* **Alejandro Guzmán Cabrera,** Eberhard Karls Univ. Tübingen (Germany); **Yuri Evangelista,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Paul Hedderman**, **Moritz Klawin,** Eberhard Karls Univ. Tübingen (Germany); **Riccardo Campana,** INAF (Italy); **Samuel Pliego,** Eberhard Karls Univ. Tübingen (Germany); **Fabrizio Fiore**, **Ezequiel Marchesini,** INAF (Italy); **Giuseppe Dilillo,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Andrea Santangelo,** Eberhard Karls Univ. Tübingen (Germany)

13093-250 • 05:30 PM - 07:00 PM
**GRBAlpha and VZLUSAT-2: GRB observations with CubeSats after 3 years of operations**
*Author(s):* **Filip Munz**, **Jakub Rípa**, **Norbert Werner**, **Marianna Dafcikova,** Masaryk Univ. (Czech Republic); **Andras Pal,** Konkoly Observatory (Hungary); **Masanori Ohno,** Hiroshima Univ. (Japan); **Laszlo Meszaros,** Konkoly Observatory (Hungary); **Vladimír Dániel,** Czech Aerospace Research Ctr. (Czech Republic); **Peter Hanak,** Technical Univ. of Košice (Slovakia); **Jan Hudec**, **Jakub Kapus,** Spacemanic s.r.o. (Czech Republic); **Petr Svoboda,** Czech Aerospace Research Ctr. (Czech Republic); **Ivo Vertat,** Univ. of West Bohemia (Czech Republic); **Hiromitsu Takahashi**, **Yasushi Fukazawa,** Hiroshima Univ. (Japan); **Gabor Galgoczi,** Wigner Research Ctr. for Physics (Hungary); **Balázs Csák,** Konkoly Observatory (Hungary); **Robert Laszlo,** Needronix s.r.o. (Slovakia); **Tsunefumi Mizuno,** Hiroshima Univ. (Japan); **Nikola Husarikova,** Masaryk Univ. (Czech Republic); **Kazuhiro Nakazawa,** Nagoya Univ. (Japan)

13093-251 • 05:30 PM - 07:00 PM
**Performance improvement of Adiabatic Demagnetization Refrigerator for HUBS**
*Author(s):* **Chunyang Jiang**, **Hai Jin**, **Chengzhe Li, Wei Cui,** Tsinghua Univ. (China)

13093-252 • 05:30 PM - 07:00 PM
**Simulation of magnetic shielding for DIXE**
*Author(s):* **Jiejia Liu**, **Hai Jin**, **Sifan Wang, Wei Cui,** Tsinghua Univ. (China)

13093-253 • 05:30 PM - 07:00 PM
**Developing frequency division multiplexing readout for HUBS**
*Author(s):* **Qian Wang**, **Naihui Chen**, **Jing Yi Zhang**, **Sifan Wang**, **Jie Jia Liu,** Tsinghua Univ. (China); **Guo Le Wang,** National Astronomical Observatories (China); **Yajie Liang,** Tsinghua Univ. (China); **Ai Min Xiao**, **Tuo Zheng**, **Yi Fan Chen,** Technology and Engineering Ctr. for Space Utilization (China); **Yu Wang**, **Jian Guo Liu**, **Pei Ke Shang-Guan,** Univ. of Science and Technology of China (China); **Da Xu**, **Yu Xiao Guo**, **Jin Jin Li,** National Institute of Metrology (China); **Ting Ting Lun**, **Zhong Shan Zhang,** The Institute of Physics, Chinese Academy of Sciences (China); **Wei Cui,** Tsinghua Univ. (China)

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**Study on HUBS Satellite mission architecture and the key technologies of mechanical and thermal designs**
*Author(s):* **Wei Zhang**, **Wei Wang**, **Yibo Cai**, **Jin Yang**, **Jianwei Wang,** Shanghai Institute of Satellite Engineering (China); **Jun Yu,** Tongji Univ. (China); **Xi Lu,** Shanghai Institute of Satellite Engineering (China); **Zhanshan Wang,** Tongji Univ. (China); **Wei Cui,** Tsinghua Univ. (China)

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**Developing large-area TES microcalorimeters for HUBS**
*Author(s):* **Guole Wang,** National Astronomical Observatories (China); **Sifan Wang**, **Yajie Liang**, **Naihui Chen**, **Wei Cui**, **Jiao Ding,** Tsinghua Univ. (China); **Fajun Li,** National Astronomical Observatories (China); **Yaowu Song,** Tsinghua University (China); **Le Wang,** National Astronomical Observatories, CAS (China); **Qian Wang,** Tsinghua Univ. (China); **Yeru Wang,** Jinan Institute of Quantum Technology (China)

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**Mo-Cu TES measurements for HUBS**
*Author(s):* **Naihui Chen**, **Qian Wang**, **Sifan Wang,** Tsinghua Univ. (China); **Guole Wang,** Chinese Academy of Sciences (China); **Yajie Liang, Wei Cui,** Tsinghua Univ. (China)

13093-257 • 05:30 PM - 07:00 PM
**Silicon drift detectors for the Spectroscopy Focusing Array of eXTP**
*Author(s):* **Alexander Altmann**, **Thomas Bechteler**, **Rafael Strecker,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Peter Lechner,** Halbleiterlabor der Max-Planck-Gesellschaft (Germany); **Robert Andritschke**, **Günter Hauser,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Carlo Fiorini,** Politecnico di Milano (Italy); **Kirpal Nandra,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13093-258 • 05:30 PM - 07:00 PM
**Improving the LAD detector energy resolution with a novel sensor design**
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**Exploring the impact of total ionizing dose on the LAD detectors leakage current**
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**Development of the end-to-end simulator of the WFM camera**
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13093-261 • 05:30 PM - 07:00 PM
**Imaging and spectroscopic performances of the Silicon Drift Detector of the Wide Field Monitor**
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**Development of a facility for high accuracy and precision characterization of collimator Micro-Pore Optics**
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**Development of X-ray optics for the solar flare sounding rocket FOXSI-4: ray-tracing simulation**
*Author(s):* **Yusuke Yoshida**, **Koki Sakuta**, **Kazuki Ampuku**, **Ryuto Fujii**, **Kumiko Okada**, **Keitoku Yoshihira**, **Tetsuo Kano**, **Naoki Ishida**, **Wataru Kato,** Nagoya Univ. (Japan); **Yoshitaka Inoue,** IMV Corp. (Japan); **Keisuke Tamura,** NASA Goddard Space Flight Ctr. (United States), Univ. of Maryland, Baltimore County (United States); **Kikuko Miyata,** Meijo Univ. (Japan); **Noriyuki Narukage,** National Astronomical Observatory of Japan (Japan); **Gota Yamaguchi,** RIKEN SPring-8 Ctr. (Japan); **Shunsuke Ito**, **Shutaro Mohri,** The Univ. of Tokyo (Japan); **Takehiro Kume**, **Yusuke Matsuzawa**, **Yoichi Imamura**, **Takahiro Saito**, **Kentarou Hiraguri**, **Hirokazu Hashizume,** Natsume Optical Corp. (Japan); **Hidekazu Mimura,** Institute of Physical and Chemical Research (Japan), The Univ. of Tokyo (Japan); **Ikuyuki Mitsuishi,** Nagoya Univ. (Japan)

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**Development and evaluation of a metal 3D printed pre-collimator for FOXSI-4 sounding rocket experiment**
*Author(s):* **Yoshiaki Sato,** The Graduate Univ. for Advanced Studies (Japan), National Astronomical Observatory of Japan (Japan); **Noriyuki Narukage,** National Astronomical Observatory of Japan (Japan); **Hayato Inuzuka**, **Futoshi Yoshimura,** Toray Precision Co., Ltd. (Japan); **Sota Kashima,** Kwansei Gakuin Univ. (Japan), Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Riko Shimizu,** The Graduate Univ. for Advanced Studies (Japan), Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Juan Camilo Buitrago-Casas,** Univ. of California, Berkeley (United States), Space Sciences Lab. (United States); **Wayne H. Baumgartner**, **Nicholas E. Thomas,** NASA Marshall Space Flight Ctr. (United States); **Taro Sakao,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Lindsay Glesener,** Univ. of Minnesota, Twin Cities (United States)

13093-265 • 05:30 PM - 07:00 PM
**Development of X-ray optics for the solar flare sounding rocket FOXSI-4: vibration test**
*Author(s):* **Ryuto Fujii**, **Koki Sakuta**, **Kazuki Ampuku**, **Yusuke Yoshida**, **Takashi Ito**, **Kumiko Okada**, **Keitoku Yoshihira**, **Tetsuo Kano**, **Naoki Ishida,** Nagoya Univ. (Japan); **Yoshitaka Inoue,** IMV Corp. (Japan); **Keisuke Tamura,** NASA Goddard Space Flight Ctr. (United States), Univ. of Maryland, Baltimore County (United States); **Kikuko Miyata,** Meijo Univ. (Japan); **Noriyuki Narukage,** National Astronomical Observatory of Japan (Japan); **Gota Yamaguchi,** RIKEN SPring-8 Ctr. (Japan); **Shunsuke Ito**, **Shutaro Mohri,** The Univ. of Tokyo (Japan); **Takehiro Kume**, **Yusuke Matsuzawa**, **Yoichi Imamura**, **Takahiro Saito**, **Kentarou Hiraguri**, **Hirokazu Hashizume,** Natsume Optical Corp. (Japan); **Hidekazu Mimura,** RIKEN SPring-8 Ctr. (Japan), The Univ. of Tokyo (Japan); **Ikuyuki Mitsuishi,** Nagoya Univ. (Japan)

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**Technological development and AIT/AIV activities on ECLAIRs camera onboard the SVOM space mission**
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**ECLAIRs coded mask design for SVOM mission**
*Author(s):* **Alain Givaudan**, **Cyril Lachaud**, **Maurice Karakac**, **Stéphane Dheilly**, **Walter Bertoli,** Astroparticule et Cosmologie (France); **Stéphane Schanne**, **Aleksandra Gros,** CEA-IRFU (France); **Hélène Pasquier**, **Sébastien Bégoc,** Ctr. National d'Études Spatiales (France); **Pierre Mandrou,** Institut de Recherche en Astrophysique et Planétologie (France); **Philippe Guillemot,** Ctr. National d'Études Spatiales (France)

13093-268 • 05:30 PM - 07:00 PM
**Development of an STM32 based on-board computer for small satellites & CubeSat missions**
*Author(s):* **Shubham Ghatul**, **Bharat P. Chandra**, **Shubhangi Jain**, **Binukumar G. Nair**, **Mahesh Babu**, **Rekhesh Mohan**, **Margarita Safonova, Jayant Murthy,** Indian Institute of Astrophysics (India)

13093-269 • 05:30 PM - 07:00 PM
**Goals of the Swift Solar Activity X-ray Imager (SSAXI-Rocket) Rocket experiment**
*Author(s):* **Christopher S. Moore**, **Jae Sub E. Hong**, **Johnny Ho**, **Sophia A. Sánchez-Maes**, **Elias Aguirre-Contreras**, **Isaac Anderson**, **Carl Barcroft**, **Ricardo Bruni**, **David Caldwell**, **Gabriel Dubinski**, **Thomas Gauron**, **Leon Golub,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Laura A. Hayes,** European Space Agency (Netherlands); **Edward Hertz,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Andrew Inglis,** NASA Goddard Space Flight Ctr. (United States); **Almus Kenter,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Adam Kobelski,** NASA Marshall Space Flight Ctr. (United States); **Jeffrey W. Reep,** Univ. of Hawai'i (United States); **Suzanne Romaine,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Sabrina Savage,** NASA Marshall Space Flight Ctr. (United States); **Zachary Svec**, **David Theroux,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Nicholas E. Thomas, Amy R. Winebarger,** NASA Marshall Space Flight Ctr. (United States)

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**The Rockets for Extended-source X-ray Spectroscopy: instrument updates, results from the first flight, and future outlook**
*Author(s):* **Drew M. Miles,** Caltech (United States); **Ross McCurdy**, **Randall L. McEntaffer**, **James H. Tutt**, **Jessica Mondoskin**, **Keir Hunter**, **Katherine Brooks**, **Daniel Washington**, **Tyler Anderson**, **Logan Baker**, **Michael Betts**, **Chad M. Eichfeld**, **Gianna Gagliardi**, **Fabien Grisé**, **Gabrielle Hernandez**, **Christopher Hillman**, **Joseph Kang**, **Michael Labella**, **Bridget O'Meara**, **Bailey Myers**, **Eli Papadopoulos**, **Nestor Pelaez**, **Vincent Smedile**, **Joseph Weston**, **Taylor Wood, Natalie Zinski,** The Pennsylvania State Univ. (United States)

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**Understanding the manufacturing challenge for modern X-ray missions**
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**SuperHERO (Super-High Energy Replicated Optics) balloon mission concept**
*Author(s):* **Nicholas E. Thomas,** NASA Marshall Space Flight Ctr. (United States)

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**Ground calibration of the BlackCAT CubeSat X-Ray Coded Aperture Telescope**
*Author(s):* **Joseph M. Colosimo**, **Abraham D. Falcone**, **Mitchell Wages**, **Timothy Emeigh**, **Lukas R. Stone,** The Pennsylvania State Univ. (United States); **David M. Palmer,** Los Alamos National Lab. (United States); **Zachary E. Catlin**, **Michael Betts**, **William A. Bevidas**, **Jacob C. Buffington**, **David N. Burrows**, **Derek B. Fox**, **Collin Reichard**, **Ana C. Scigliani**, **Ian Thornton**, **Daniel Washington, Michael E. Zugger,** The Pennsylvania State Univ. (United States)

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**The evaluation of the CUSP scientific performance by a GEANT4 Monte Carlo simulation**
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**Current status of the REDSoX sounding rocket**
*Author(s):* **Alan Garner**, **Herman L. Marshall**, **Sarah N. Trowbridge Heine**, **Sean McNeil**, **Norbert S. Schulz**, **Ralf K. Heilmann**, **Hans Moritz Günther**, **Beverly LaMarr**, **Jill Juneau**, **Ace Metivier**, **Swati Ravi**, **Nithya V. Kothnur,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Stephen D. Bongiorno,** NASA Marshall Space Flight Ctr. (United States); **Eric M. Gullikson,** Lawrence Berkeley National Lab. (United States)

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**Moon Moisture Targeting Observatory (MoMoTarO) for water resource exploration and basic science application**
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**Instrument overview of a gravitational wave counterpart CubeSat: BurstCube**
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**The Portable Lunar Observer for Volatiles, Environment and Resources (PLOVER)**
*Author(s):* **Branden Allen,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

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**Estimates of magnetospheric solar wind charge exchange events detectable with GEO-X**
*Author(s):* **Daiki Ishi,** Japan Aerospace Exploration Agency (Japan); **Yuichiro Ezoe,** Tokyo Metropolitan Univ. (Japan); **Ralf Boden,** Japan Aerospace Exploration Agency (Japan); **Yoshizumi Miyoshi,** Nagoya Univ. (Japan); **Kumi Ishikawa,** Tokyo Metropolitan Univ. (Japan); **Hiroshi Nakajima,** Kanto Gakuin Univ. (Japan); **Ikuyuki Mitsuishi,** Nagoya Univ. (Japan); **Masaki Numazawa,** Tokyo Metropolitan Univ. (Japan); **Yuki K. Satoh,** Kanto Gakuin Univ. (Japan)

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**The GEO-X optical blocking filter**
*Author(s):* **Ikuyuki Mitsuishi**, **Hirota Midori,** Nagoya Univ. (Japan); **Yuichiro Ezoe**, **Kumi Ishikawa**, **Masaki Numazawa,** Tokyo Metropolitan Univ. (Japan); **Daiki Ishi,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Ben Zeiger,** Luxel Corp. (United States)

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**Development of ultra-lightweight X-ray telescopes fabricated with MEMS technologies for GEO-X**
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**The Solar X-Ray MOONitor (SXRM) a lunar-based Sun activity monitor**
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**Instrument testing of the Swift Solar Activity X-ray Imager (SSAXI-Rocket)**
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**TES-based anti-coincidence detector development for the LEM Probe Mission Concept**
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**Development of the microcalorimeter array for the Line Emission Mapper (LEM) x-ray probe**
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**Transition-edge sensor time-division multiplexing digital readout electronics for the Line Emission Mapper (LEM) mission**
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**The Line Emission Mapper (LEM): mission and science operations**
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**Implementing the LEM science program with a high spectral resolution wide field of view x-ray telescope**
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**Alignment, calibration, and the first flight of the Rockets for Extended Source X-ray Spectroscopy**
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**The detector assembly of the cameras of the Lunar Electromagnetic Monitor in X-rays (LEM-X)**
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13093-315 • 05:30 PM - 07:00 PM
**The Lunar Electromagnetic Monitor in X-rays (LEM-X): optimization of the instrument layout and trade-off study for the observatory location on the Moon surface**
*Author(s):* **Marco Feroci**, **Alessio Nuti**, **Francesco Ceraudo**, **Ettore Del Monte**, **Yuri Evangelista,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Francesca Esposito,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Immacolata Donnarumma,** Agenzia Spaziale Italiana (Italy); **Ugo Cortesi**, **Marco Gai,** Istituto di Fisica Applicata "Nello Carrara" (Italy); **Fabio D'Amico,** INAF - Istituto Nazionale di Astrofisica (Italy); **Alessandro Turchi,** Agenzia Spaziale Italiana (Italy); **Andrea Argan, Giuseppe Dilillo,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

## SESSION PS8: POSTERS - GAMMA AND POLARIMETRY

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13093-293 • 05:30 PM - 07:00 PM
**Development of a novel HV-CMOS active pixel sensor AstroPix for gamma-ray space telescopes**
*Author(s):* **Yusuke Suda,** Hiroshima Univ. (Japan); **Regina Caputo,** NASA Goddard Space Flight Ctr. (United States); **Amanda L. Steinhebel,** NASA Goddard Space Flight Ctr. (United States), NASA Postdoctoral Program Fellow (United States); **Nicolas Striebig,** Karlsruher Institut für Technologie (Germany); **Manoj Jadhav,** Argonne National Lab. (United States); **Yasushi Fukazawa**, **Masaki Hashizume,** Hiroshima Univ. (Japan); **Carolyn Kierans,** NASA Goddard Space Flight Ctr. (United States); **Richard Leys,** Karlsruher Institut für Technologie (Germany); **Jessica Metcalfe,** Argonne National Lab. (United States); **Michela Negro,** Louisiana State Univ. (United States); **Norito Nakano,** Hiroshima Univ. (Japan); **Ivan Peric,** Karlsruher Institut für Technologie (Germany); **Jeremy Perkins,** NASA Goddard Space Flight Ctr. (United States); **Taylor K. W. Shin,** Univ. of California, Santa Cruz (United States); **Hiroyasu Tajima,** Nagoya Univ. (Japan); **Daniel P. Violette,** NASA Goddard Space Flight Ctr. (United States), NASA Postdoctoral Program Fellow (United States)

13093-294 • 05:30 PM - 07:00 PM
**The anti-coincidence detector subsystem for ComPair**
*Author(s):* **Zachary Metzler,** Univ. of Maryland, College Park (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States), NASA Goddard Space Flight Ctr. (United States); **Nicholas Cannady,** Univ. of Maryland, Baltimore County (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States), NASA Goddard Space Flight Ctr. (United States); **Daniel Shy,** U.S. Naval Research Lab. (United States); **Regina Caputo**, **Carolyn Kierans,** NASA Goddard Space Flight Ctr. (United States); **Richard Woolf,** U.S. Naval Research Lab. (United States)

13093-295 • 05:30 PM - 07:00 PM
**Proof-of-concept study of MeV gamma-ray imaging using a liquid argon time projection chamber for GRAMS**
*Author(s):* **Satoshi Takashima,** The Univ. of Tokyo (Japan); **Hirokazu Odaka**, **Kentaro Shirahama**, **Kota Ishiwata**, **Ryutaro Tatsumi**, **Hodaka Kawamura**, **Tomohiro Hakamata**, **Marina Yoshimoto,** Osaka Univ. (Japan); **Shin Watanabe**, **Tsubasa Tamba,** Institute of Space and Astronautical Science (Japan); **Hiroki Yoneda,** Julius-Maximilians-Univ. Würzburg (Germany); **Shota Arai**, **Aya Bamba**, **Masahiro Ichihashi,** The Univ. of Tokyo (Japan); **Kazutaka Aoyama**, **Masashi Tanaka**, **Kohei Yorita,** Waseda Univ. (Japan); **Kazuhiro Nakazawa**, **Keigo Okuma,** Nagoya Univ. (Japan); **Tsuguo Aramaki,** Northeastern Univ. (United States); **Georgia Karagiorgi,** Columbia Univ. (United States)

13093-296 • 05:30 PM - 07:00 PM
**The path toward 500μm depletion of AstroPix, a pixelated silicon HVCMOS sensor for space and EIC**
*Author(s):* **Amanda L. Steinhebel,** NASA Goddard Space Flight Ctr. (United States), NASA Postdoctoral Program Fellow (United States); **Jennifer Ott**, **Olivia Kroger,** Santa Cruz Institute for Particle Physics (United States); **Regina Caputo,** NASA Goddard Space Flight Ctr. (United States); **Vitaliy Fadeyev**, **Anthony Affolder,** Santa Cruz Institute for Particle Physics (United States); **Nicolas Striebig,** Karlsruher Institut für Technologie (Germany); **Manoj Jadhav,** Argonne National Lab. (United States); **Yusuke Suda**, **Yasushi Fuzakawa,** Hiroshima Univ. (Japan); **Jessica Metcalfe,** Argonne National Lab. (United States); **Richard Leys**, **Ivan Peric,** Karlsruher Institut für Technologie (Germany); **Taylor K Shin,** Santa Cruz Institute for Particle Physics (United States); **Daniel P. Violette,** NASA Goddard Space Flight Ctr. (United States), NASA Postdoctoral Program Fellow (United States); **Kirsten Affolder, Aware Deshmekh,** Santa Cruz Institute for Particle Physics (United States)

13093-297 • 05:30 PM - 07:00 PM
**The double-sided silicon strip detector tracker onboard the ComPair balloon flight**
*Author(s):* **Nicholas Kirschner,** The George Washington Univ. (United States); **Carolyn Kierans,** Nasa GSFC (United States); **Sambid Wasti,** Catholic University of America (United States); **Adam J Schoenwald**, **Regina Caputo,** Nasa GSFC (United States); **Sean Griffin,** Wisconsin IceCube Particle Astrophysics Center (United States); **Iker Liceaga-Indart,** Nasa GSFC (United States); **Lucas Parker,** Los Alamos National Labratory (United States); **Jeremy Perkins, Anna Zajczyk,** Nasa GSFC (United States)

13093-298 • 05:30 PM - 07:00 PM
**GALI - A GAmma-ray burst Localizing Instrument: new structure current results**
*Author(s):* **Julia Salh**, **Ehud Behar**, **Shlomit Tarem,** Technion-Israel Institute of Technology (Israel); **Roi Rahin,** NASA (United States); **Omer Reich,** Technion-Israel Institute of Technology (Israel)

13093-299 • 05:30 PM - 07:00 PM
**Glowbug-2: a gamma-ray transient instrument for the ISS**
*Author(s):* **Richard Woolf**, **Jon E. Grove**, **Matthew Kerr**, **Teddy C. Cheung**, **Joseph M. Davis**, **Theodore T. Finne,** U.S. Naval Research Lab. (United States); **Wiley N. Johnson,** Technology Service Corp. (United States); **Michael S. Briggs,** The Univ. of Alabama in Huntsville (United States); **Adam Goldstein,** Universities Space Research Association (United States); **Daniel Kocevski, Colleen Wilson-Hodge,** NASA Marshall Space Flight Ctr. (United States)

13093-300 • 05:30 PM - 07:00 PM
**Prototype fine-imaging narrow field of view semiconductor Compton telescope with shielded coded-mask, mini-SGI**
*Author(s):* **Keigo Okuma**, **Kazuhiro Nakazawa,** Nagoya Univ. (Japan); **Shin'ichiro Takeda,** The Univ. of Tokyo (Japan); **Yuta Nishimura**, **Mii Ando**, **Yuki Omiya**, **Atsuya Tanaka**, **Manari Oguchi,** Nagoya Univ. (Japan); **Shin Watanabe,** Japan Aerospace Exploration Agency (Japan); **Tadayuki Takahashi,** The Univ. of Tokyo (Japan); **Masahiko Kobayashi,** Nagoya Univ. (Japan); **Naoki Ishida,** Technical Ctr. of Nagoya Univ. (Japan); **Takahiro Minami,** The Univ. of Tokyo (Japan); **Mitsunobu Onishi, Toshihiko Arai,** iMAGINE-X Inc. (Japan)

13093-301 • 05:30 PM - 07:00 PM
**Results from the CsI calorimeter onboard the ComPair balloon flight**
*Author(s):* **Daniel Shy**, **Richard Woolf**, **Clio Sleator**, **Bernard Phlips**, **J. Eric Grove**, **Eric Wulf**, **Mary Johnson-Rambert**, **Mitch Davis,** U.S. Naval Research Lab. (United States); **Emily Kong,** Technology Service Corp. (United States); **Thomas Caligure**, **Wilder Crosier,** Naval Research Enterprise Internship Program (United States); **Aleksey Bolotnikov,** Brookhaven National Lab. (United States); **Nicholas Cannady,** NASA (United States); **Gabriella A. Carini,** Brookhaven National Lab. (United States); **Regina Caputo,** NASA (United States); **Jack Fried,** Brookhaven National Lab. (United States); **Priyarshini Ghosh,** NASA (United States); **Sean Griffin,** Univ. of Wisconsin-Madison (United States); **Elizabeth Hays,** NASA (United States); **Sven C. Herrmann,** Brookhaven National Lab. (United States); **Carolyn Kierans**, **Nicholas Kirschner**, **Iker Liceaga-Indart**, **Julie McEnery**, **John Mitchell**, **A. A. Moiseev,** NASA (United States); **Lucas Parker,** Los Alamos National Lab. (United States); **Alfred Dellapenna,** Brookhaven National Lab. (United States); **Jeremy Perkins**, **Makoto Sasaki**, **Adam Schoenwald**, **Lucas D. Smith**, **Janeth Valverde**, **Sambid Wasti, Anna Zajczyk,** NASA (United States)

13093-302 • 05:30 PM - 07:00 PM
**Towards a response function for the COSI anticoincidence system: preliminary results from Geant4 simulations**
*Author(s):* **Alex Ciabattoni,** Univ. degli Studi di Bologna (Italy), INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Valentina Fioretti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **John Tomsick,** Space Sciences Lab., Univ. of California, Berkeley (United States); **Pierre Jean,** Institut de Recherche en Astrophysique et Planétologie (France); **Andreas Zoglauer,** Space Sciences Lab., Univ. of California, Berkeley (United States); **Daniel Alvarez Franco,** Institut de Ciències de l'Espai, Consejo Superior de Investigaciones Científicas (Spain); **Peter von Ballmoos,** Institut de Recherche en Astrophysique et Planétologie (France); **Andrea Bulgarelli**, **Nicolò Parmiggiani,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Gabriele Panebianco,** Univ. degli Studi di Bologna (Italy), INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Luca Castaldini,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13093-303 • 05:30 PM - 07:00 PM
**The ComPair balloon instrument and flight**
*Author(s):* **Lucas D. Smith,** Univ. of Maryland, College Park (United States), NASA Goddard Space Flight Ctr. (United States); **Nicholas Cannady,** NASA Goddard Space Flight Ctr. (United States), Ctr. for Space Sciences and Technology (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States); **Regina Caputo,** NASA Goddard Space Flight Ctr. (United States); **Nicholas Kirschner,** The George Washington Univ. (United States), NASA Goddard Space Flight Ctr. (United States); **Carolyn Kierans,** NASA Goddard Space Flight Ctr. (United States); **Emily Kong,** U.S. Naval Research Lab. (United States); **Zachary Metzler,** Univ. of Maryland, College Park (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States); **Lucas Parker,** Los Alamos National Lab. (United States); **Adam J. Schoenwald,** NASA Goddard Space Flight Ctr. (United States), Brookhaven National Lab. (United States); **Daniel Shy,** U.S. Naval Research Lab. (United States); **Janeth Valverde,** NASA Goddard Space Flight Ctr. (United States), Ctr. for Space Sciences and Technology (United States); **Richard Woolf,** U.S. Naval Research Lab. (United States); **Aleksey Bolotnikov**, **Gabriella A. Carini**, **Alfred Dellapenna**, **Jack Fried,** Brookhaven National Lab. (United States); **Priyarshini Ghosh,** The George Washington Univ. (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States); **Sean Griffin,** Wisconsin IceCube Particle Astrophysics Ctr. (United States); **J. Eric Grove,** U.S. Naval Research Lab. (United States); **Elizabeth Hays,** NASA Goddard Space Flight Ctr. (United States); **Sven C. Herrmann,** Brookhaven National Lab. (United States); **Iker Liceaga-Indart,** NASA Goddard Space Flight Ctr. (United States), The Catholic Univ. of America (United States); **Julie McEnery**, **John Mitchell,** NASA Goddard Space Flight Ctr. (United States); **A. A. Moiseev,** NASA Goddard Space Flight Ctr. (United States), Univ. of Maryland, College Park (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States); **Jeremy Perkins,** NASA Goddard Space Flight Ctr. (United States); **Bernard Phlips,** U.S. Naval Research Lab. (United States); **Makoto Sasaki,** NASA Goddard Space Flight Ctr. (United States), Univ. of Maryland, College Park (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States); **Clio Sleator,** U.S. Naval Research Lab. (United States); **Sambid Wasti,** NASA Goddard Space Flight Ctr. (United States), The Catholic Univ. of America (United States); **Eric Wulf,** U.S. Naval Research Lab. (United States); **Anna Zajczyk,** NASA Goddard Space Flight Ctr. (United States), Ctr. for Space Sciences and Technology (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States)

13093-304 • 05:30 PM - 07:00 PM
**The calibration of the Compton Spectrometer and Imager (COSI) instrument**
*Author(s):* **Alyson Joens**, **John Tomsick,** Space Sciences Lab., Univ. of California, Berkeley (United States); **Carolyn Kierans,** NASA Goddard Space Flight Ctr. (United States); **Andreas Zoglauer**, **Alexander Lowell**, **Joel Krajewski**, **Bryce Unruh**, **Ellen Taylor**, **Matthew Fraysse**, **Field Rogers**, **Max Glicklin,** Space Sciences Lab., Univ. of California, Berkeley (United States); **Eric Wulf,** U.S. Naval Research Lab. (United States)

13093-305 • 05:30 PM - 07:00 PM

**A-STEP: the AstroPix sounding rocket technology demonstration payload**

*Author(s):* **Daniel P. Violette**, **Amanda L. Steinhebel,** NASA Goddard Space Flight Ctr. (United States); **Richard Leys**, **Nicolas Striebig,** Karlsruher Institut für Technologie (Germany); **Manoj Jadhav,** Argonne National Lab. (United States); **Taylor K. W. Shin,** Univ. of California, Santa Cruz (United States); **Ryan Boggs**, **David Durachka,** NASA Goddard Space Flight Ctr. (United States); **Lindsey Seo,** NASA Goddard Space Flight Ctr. (United States), NASA Wallops Flight Facility (United States); **Yasushi Fukazawa**, **Yusuke Suda,** Hiroshima Univ. (Japan); **Hiroyasu Tajima,** Nagoya Univ. (Japan); **Kavic Kumar**, **Zachary Metzler,** Univ. of Maryland, College Park (United States), NASA Goddard Space Flight Ctr. (United States); **Regina Caputo**, **Carolyn Kierans,** NASA Goddard Space Flight Ctr. (United States); **Ivan Peric,** Karlsruher Institut für Technologie (Germany); **Jessica Metcalfe,** Argonne National Lab. (United States); **Jeremy Perkins,** NASA Goddard Space Flight Ctr. (United States)

13093-306 • 05:30 PM - 07:00 PM

**In search of the third dimension in Compton x-ray polarimeters**

*Author(s):* **Fabio Muleri,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Riccardo Campana**, **Edoardo Borciani**, **Lorenzo Amati,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Enrico Costa**, **Nicolas De Angelis**, **Ettore Del Monte**, **Alessandro Di Marco**, **Sergio Fabiani,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Mauro Fiorini,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Dawoon Kim**, **Riccardo Ferrazzoli**, **Fabio La Monaca**, **Carlo Lefevre**, **Hemanth Manikantan,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Ezequiel Marchesini,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Romana Mikusincova**, **Alfredo Morbidini**, **John Rankin**, **Ajay Ratheesh**, **Alda Rubini**, **Paolo Soffitta,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Enrico Virgilli,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13093-307 • 05:30 PM - 07:00 PM

**The payload thermo-mechanical design of the CUbesat Solar Polarimeter (CUSP), for space weather and solar flares X-ray polarimetry**

*Author(s):* **Giovanni Lombardi**, **Sergio Fabiani**, **Ettore Del Monte**, **Enrico Costa**, **Paolo Soffitta**, **Fabio Muleri,** INAF (Italy); **Ilaria Baffo,** UNITUS (Italy); **Marco Evangelos Biancolini,** University Tor Vergata (Italy); **Sergio Bonomo,** IMT (Italy); **Daniele Brienza,** ASI (Italy); **Riccardo Campana**, **Mauro Centrone,** INAF (Italy); **Gessica Contini,** SCAI Connect (Italy); **Giovanni Cucinella,** IMT (Italy); **Andrea Curatolo,** University of Bologna (Italy); **Nicolas De Angelis**, **Giovanni De Cesare,** INAF (Italy); **Andrea Del Re,** SCAI Connect (Italy); **Sergio Di Cosimo,** INAF (Italy); **Simone Di Filippo,** IMT (Italy); **Alessandro Di Marco,** INAF (Italy); **Emanuele Di Meo,** University Tor Vergata (Italy); **Giuseppe Di Persio,** INAF (Italy); **Immacolata Donnarumma,** ASI (Italy); **Pierluigi Fanelli,** UNITUS (Italy); **Paolo Leonetti,** SCAI Connect (Italy); **Alfredo Locarini,** University of Bologna (Italy); **Pasqualino Loffredo,** INAF (Italy); **Andrea Lopez,** University Tor Vergata (Italy); **Gabriele Minervini,** INAF (Italy); **Dario Modenini,** University of Bologna (Italy); **Silvia Natalucci,** ASI (Italy); **Andrea Negri**, **Massimo Perelli,** IMT (Italy); **Monia Rossi**, **Alda Rubini**, **Emanuele Scalise,** INAF (Italy); **Andrea Terracciano,** ASI (Italy); **Paolo Tortora,** University of Bologna (Italy); **Emanuele Zaccagnino,** ASI (Italy); **Alessandro Zambardi,** IMT (Italy)

13093-308 • 05:30 PM - 07:00 PM

**Characterization of avalanche photodiodes (APDs) for the CUbesat Solar Polarimeter (CUSP) mission**

*Author(s):* **Fabrizio Cologgi,** Univ. degli Studi di Roma Tre (Italy); **Sergio Fabiani,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Andrea Alimenti**, **Kostiantyn Torokhtii**, **Enrico Silva,** Univ. degli Studi di Roma Tre (Italy); **Ettore Del Monte,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Ilaria Baffo,** Univ. degli Studi della Tuscia, Italy (Italy); **Sergio Bonomo,** IMT s.r.l. (Italy); **Riccardo Campana,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Gessica Contini,** SCAI Connect (Italy); **Enrico Costa,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Giovanni Cucinella,** IMT s.r.l. (Italy); **Giovanni De Cesare,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Andrera Del Re,** SCAI Connect (Italy); **Sergio Di Cosimo,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Simone Di Filippo,** IMT s.r.l. (Italy); **Alessandro Di Marco,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Pierluigi Fanelli,** Univ. degli Studi della Tuscia (Italy); **Paolo Leonetti,** SCAI Connect (Italy); **Alfredo Locarini,** Univ. di Bologna (Italy); **Pasqualino Loffredo**, **Giovanni Lombardi**, **Gabriele Minervini,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Dario Modenini,** Univ. di Bologna (Italy); **Fabio Muleri,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Andrea Negri**, **Massimo Perelli,** IMT s.r.l. (Italy); **Alda Rubini**, **Paolo Soffitta,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Paolo Tortora,** Univ. di Bologna (Italy); **Alessandro Zambardi,** SCAI Connect (Italy); **Daniele Brienza,** ASI - Agenzia Spaziale Italiana (Italy); **Mauro Centrone,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Andrea Curatolo,** Univ. di Bologna (Italy); **Nicolas De Angelis**, **Giuseppe Di Persio,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Immacolata Donnarumma**, **Siilvia Natalucci,** ASI - Agenzia Spaziale Italiana (Italy); **Monia Rossi**, **Emanuele Scalise,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Andrea Terracciano, Emanuele Zaccagnino,** ASI - Agenzia Spaziale Italiana (Italy)

13093-309 • 05:30 PM - 07:00 PM

**New generation of 3D detectors for X-ray polarimetry: simulation of performances**

*Author(s):* **Alessandro Di Marco,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Dawoon Kim,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy), Univ. degli Studi di Roma "Tor Vergata" (Italy); **Paolo Soffitta**, **Enrico Costa**, **Ettore Del Monte**, **Sergio Fabiani,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Fabio La Monaca,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy), Univ. degli Studi di Roma "Tor Vergata" (Italy); **Hemanth Manikantan**, **Fabio Muleri**, **Ajay Ratheesh, Alda Rubini,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

13093-310 • 05:30 PM - 07:00 PM
**The legacy of IXPE: directions towards a new generation of 3D photo-electric x-ray polarimetry missions**
*Author(s):* **Paolo Soffitta**, **Enrico Costa**, **Ettore Del Monte,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Klaus Desch,** Rheinische Friedrich-Wilhelms-Univ. Bonn (Germany); **Sergio Fabiani,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Markus Gruber,** Rheinische Friedrich-Wilhelms-Univ. Bonn (Germany); **Fabio La Monaca,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Jochen Kaminski,** Rheinische Friedrich-Wilhelms-Univ. Bonn (Germany); **Dawoon Kim**, **Riccardo Ferrazzoli**, **Carlo Lefevre**, **Alfredo Morbidini**, **Fabio Muleri,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Vladislavs Plesanovs,** Rheinische Friedrich-Wilhelms-Univ. Bonn (Germany); **Ajay Ratheesh**, **Alda Rubini**, **John Rankin**, **Alessandro Di Marco**, **Giuseppe Di Persio**, **Nicolas De Angelis**, **Saba Imtiaz**, **Hemanth Manikantan, Romana Mikusinkova,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

13093-311 • 05:30 PM - 07:00 PM
**Towards imaging spectro-polarimetry of solar flares in the X-rays**
*Author(s):* **Sergio Fabiani,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Stefano Basso,** INAF - Osservatorio Astronomico di Brera (Italy); **Enrico Costa**, **Ettore Del Monte,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Klaus Desch,** Rheinische Friedrich-Wilhelms-Univ. Bonn (Germany); **Alessandro Di Marco,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Markus Gruber**, **Jochen Kaminski,** Rheinische Friedrich-Wilhelms-Univ. Bonn (Germany); **Dawoon Kim**, **Carlo Lefevre**, **Alfredo Morbidini**, **Fabio Muleri,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Giovanni Pareschi,** INAF - Osservatorio Astronomico di Brera (Italy); **Vladislavs Plesanovs,** Rheinische Friedrich-Wilhelms-Univ. Bonn (Germany); **John Rankin**, **Ajay Ratheesh**, **Alda Rubini**, **Paolo Soffitta,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Daniele Spiga,** INAF - Osservatorio Astronomico di Brera (Italy); **Giovanni Lombardi,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

## Thursday 20 June 2024

### THURSDAY PLENARY

20 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/thursday-plenary

13173-506 • 08:30 AM - 09:15 AM
**Navigating the radio astronomy renaissance: challenges and opportunities for a sustainable future** (Plenary Presentation)
*Author(s):* **Jessica T. Dempsey,** ASTRON (Netherlands)

13173-507 • 09:15 AM - 10:00 AM
**The x-ray imaging and spectroscopy mission (XRISM): development and expected science** (Plenary Presentation)
*Author(s):* **Makoto S. Tashiro,** Saitama Univ. (Japan)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 15: MISSIONS I

20 June 2024 • 10:20 AM - 11:40 AM | Room G414/415, North - 4F
*Session Chair(s):* **Jan-Willem A. den Herder**, SRON Netherlands Institute for Space Research (Netherlands); **Shouleh Nikzad**, Jet Propulsion Lab. (United States); **Kazuhiro Nakazawa**, Nagoya Univ. (Japan)

13093-270 • 10:20 AM - 10:40 AM
**Status of the Lunar Electromagnetic Monitor in X-rays (LEM-X)**
*Author(s):* **Ettore Del Monte**, **Yuri Evangelista**, **Marco Feroci**, **Francesco Ceraudo**, **Alessio Nuti,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Riccardo Campana,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Mauro Fiorini,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Gianluigi Zampa,** Istituto Nazionale di Fisica Nucleare (Italy); **Francesca Esposito,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Immacolata Donnarumma,** Agenzia Spaziale Italiana (Italy); **Ugo Cortesi,** Istituto di Fisica Applicata "Nello Carrara" (Italy); **Fabio D'Amico,** INAF - Istituto Nazionale di Astrofisica (Italy); **Alessandro Turchi,** Agenzia Spaziale Italiana (Italy); **Marco Gai,** Istituto di Fisica Applicata "Nello Carrara" (Italy); **Andrea Argan,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

13093-69 • 10:40 AM - 11:00 AM
**Calibration of the MXT camera before launch of the SVOM mission and prediction of its spectral performance at the end of the mission**
*Author(s):* **Clara Plasse**, **Diego Götz**, **Aline Meuris**, **Philippe Ferrando,** CEA (France); **Vadim Burwitz,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Eric Doumayrou**, **Michel Lortholary,** CEA (France); **Karine Mercier,** Ctr. National d'Études Spatiales (France); **Miguel Moita**, **Frédéric Pinsard**, **Marin Prieur**, **Diana Renaud**, **Benjamin Schneider, François Visticot,** CEA (France)

13093-70 • 11:00 AM - 11:20 AM
**HUBS and its pathfinder experiment DIXE**
*Author(s):* **Wei Cui,** Tsinghua Univ. (China)

13093-72 • 11:20 AM - 11:40 AM
**The Large Area Detector onboard the eXTP mission**
*Author(s):* **Marco Feroci,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Walter Bonvicini,** Istituto Nazionale di Fisica Nucleare (Italy); **Fangjun Lu,** Institute of High Energy Physics (China); **Manuel Guedel,** Univ. Wien (Austria); **Malgorzata Michalska,** Space Research Ctr. of the Polish Academy of Sciences (Poland); **Andrea Santangelo,** Eberhard Karls Univ. Tübingen (Germany); **Stéphane Schanne,** CEA (France); **Vladimír Karas,** Astronomical Institute of the CAS, v.v.i. (Czech Republic); **Xin Wu,** Univ. de Genève (Switzerland); **Shuang-Nan Zhang,** Institute of High Energy Physics (China); **Gianluigi Zampa,** Istituto Nazionale di Fisica Nucleare (Italy)

## Lunch/Exhibition Break 11:40 AM - 01:00 PM

## SESSION 16: MISSIONS II

20 June 2024 • 01:00 PM - 03:00 PM | Room G414/415, North - 4F
*Session Chair(s):* **Jessica A. Gaskin**, NASA Marshall Space Flight Ctr. (United States)

13093-73 • 01:00 PM - 01:20 PM
**The Wide Field Monitor (WFM) of the China-Europe eXTP (enhanced X-ray Timing and Polarimetry) mission**
*Author(s):* **Margarita Hernanz,** Institut de Ciències de l'Espai (Spain), Institut d'Estudis Espacials de Catalunya (Spain); **Marco Feroci**, **Yuri Evangelista,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Aline Meuris**, **Stéphane Schanne,** CEA-IRFU (France); **Gianluigi Zampa,** Istituto Nazionale di Fisica Nucleare (Italy); **Chris Tenzer**, **Jörg Bayer,** Eberhard Karls Univ. Tübingen (Germany); **Witold Nowosielski**, **Malgorzata Michalska,** Space Research Ctr. of the Polish Academy of Sciences (Poland); **Emrah Kalemci,** Sabanci Univ. (Turkey); **Müberra Sungur,** TÜBITAK Space Technologies Research Institute (Turkey); **Søren Brandt**, **Irfan Kuvvetli,** Technical Univ. of Denmark (Denmark); **Alessandro Patruno**, **José-Luis Gálvez**, **Alex Carmona**, **Daniel Alvarez Franco,** Institut de Ciències de l'Espai (Spain), Institut d'Estudis Espacials de Catalunya (Spain); **Jean In't Zand**, **Frans Zwart,** SRON Netherlands Institute for Space Research (Netherlands); **Andrea Santangelo,** Eberhard Karls Univ. Tübingen (Germany); **Enrico Bozzo,** Univ. de Genève (Switzerland)

13093-74 • 01:20 PM - 01:40 PM
**The HERMES (High Energy Rapid Modular Ensemble of Satellites) Pathfinder mission**
*Author(s):* **Yuri Evangelista,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Riccardo Campana,** INAF (Italy); **Alejandro Guzmán Cabrera,** Eberhard Karls Univ. Tübingen (Germany); **Fabrizio Fiore**, **Giulia Baroni,** INAF (Italy); **Giovanni Della Casa**, **Giuseppe Dilillo,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Mauro Fiorini,** INAF (Italy); **Paul Hedderman,** Eberhard Karls Univ. Tübingen (Germany); **Ezequiel J. Marchesini**, **Gianluca Morgante**, **Paolo Nogara,** INAF (Italy); **Alessio Nuti,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Samuel Pliego-Caballero,** Eberhard Karls Univ. Tübingen (Germany); **Irina Rashevskaya,** Trento Institute for Fundamental Physics and Applications (Italy); **Francesco Russo**, **Giuseppe Sottile**, **Sara Trevisan,** INAF (Italy); **Francesco Ceraudo,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Marco Citossi,** INAF (Italy); **Evgeny Demenev,** Fondazione Bruno Kessler (Italy); **Giuseppe Bertuccio**, **Irisa Dedolli,** Politecnico di Milano (Italy); **Marco Feroci,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Francesco Ficorella,** Fondazione Bruno Kessler (Italy); **Marco Grassi,** Univ. degli Studi di Pavia (Italy); **Filippo Mele,** Politecnico di Milano (Italy); **Piero Malcovati,** Univ. degli Studi di Pavia (Italy); **Alexander Rashevsky,** Istituto Nazionale di Fisica Nucleare (Italy); **Andrea Santangelo,** Eberhard Karls Univ. Tübingen (Germany); **Gianluigi Zampa,** Istituto Nazionale di Fisica Nucleare (Italy); **Nicola Zampa,** Univ. degli Studi di Udine (Italy)

13093-75 • 01:40 PM - 02:00 PM

**High-z gamma-ray bursts unraveling the dark ages and extreme space-time mission - HiZ-GUNDAM**

*Author(s):* **Daisuke Yonetoku,** Kanazawa Univ. (Japan); **Akihiro Doi,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Tatehiro Mihara,** RIKEN (Japan); **Takanori Sakamoto,** Aoyama Gakuin Univ. (Japan); **Makoto Arimoto,** Kanazawa Univ. (Japan); **Kohji Tsumura,** Tokyo City Univ. (Japan); **Hideo Matsuhara,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Shuji Matsuura,** Kwansei Gakuin Univ. (Japan); **Tatsuya Sawano,** Kanazawa Univ. (Japan); **Shuichi Gunji,** Yamagata Univ. (Japan); **Akihiro Miyasaka,** Tokyo City Univ. (Japan); **Yusuke Kono,** National Astronomical Observatory of Japan (Japan); **Hiroshi Akitaya,** Chiba Institute of Technology (Japan); **Junko S. Hiraga,** Kwansei Gakuin Univ. (Japan); **Nobutaka Bando,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Ichiro Jikuya,** Kanazawa Univ. (Japan); **Koji Kawabata,** Hiroshima Univ. (Japan); **Teruaki Enoto,** RIKEN (Japan); **Nobuyuki Kawai,** Tokyo Institute of Technology (Japan); **Shunsuke Kurosawa,** Tohoku Univ. (Japan); **Motoko Serino**, **Satoshi Sugita,** Aoyama Gakuin Univ. (Japan); **Makoto S. Tashiro,** Saitama Univ. (Japan); **Toru Tamagawa,** RIKEN (Japan); **Keisuke Tamura,** NASA Goddard Space Flight Ctr. (United States); **Takaaki Tanaka,** Konan Univ. (Japan); **Toru Tanimori,** Kyoto Univ. (Japan); **Hiroshi Tomida,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Yujin Nakagawa,** Japan Agency for Marine-Earth Science and Technology (Japan); **Yoshitomo Maeda,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Ikuyuki Mitsuishi,** Nagoya Univ. (Japan); **Toshio Murakami,** Kanazawa Univ. (Japan); **Yoichi Yatsu,** Tokyo Institute of Technology (Japan); **Makoto Yamauchi,** Univ. of Miyazaki (Japan); **Kazutaka Yamaoka,** Nagoya Univ. (Japan); **Atsumasa Yoshida,** Aoyama Gakuin Univ. (Japan); **Yoshifusa Ita,** Tohoku Univ. (Japan); **Yuji Urata,** National Central Univ. (Taiwan); **Hirofumi Okita,** Subaru Telescope, NAOJ (United States); **Kei Sano,** Kyushu Institute of Technology (Japan); **Masaomi Tanaka,** Tohoku Univ. (Japan); **Norio Narita,** The Univ. of Tokyo (Japan); **Hirofumi Noda,** Osaka Univ. (Japan); **Akihiko Fukui**, **Kentaro Motohara,** The Univ. of Tokyo (Japan); **Kenshi Yanagisawa**, **Michitoshi Yoshida**, **Takehiko Wada,** National Astronomical Observatory of Japan (Japan); **Keisuke Shinozaki,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Katsuaki Asano,** The Univ. of Tokyo (Japan); **Kunihito Ioka,** Kyoto Univ. (Japan); **Hirotaka Ito,** RIKEN (Japan); **Kohei Inayoshi,** Peking Univ. (China); **Susumu Inoue,** Chiba Univ. (Japan); **Norita Kawanaka,** Kyoto Univ. (Japan); **Shota Kisaka,** Hiroshima Univ. (Japan); **Tomoya Kinugawa,** Shinshu Univ. (Japan); **Kenta Kiuchi,** Max-Planck-Institut für Gravitationsphysik (Germany); **Kotaro Kyutoku,** Kyoto Univ. (Japan); **Yudai Suwa,** Kyoto Sangyo Univ. (Japan); **Keitaro Takahashi,** Kumamoto Univ. (Japan); **Takahiro Tanaka,** Kyoto Univ. (Japan); **Kenji Toma,** Tohoku Univ. (Japan); **Tomonori Totani,** The Univ. of Tokyo (Japan); **Hiroki Nagakura,** Princeton Univ. (United States); **Shigehiro Nagataki,** RIKEN (Japan); **Takashi Nakamura,** Kyoto Univ. (Japan); **Yuu Niino,** The Univ. of Tokyo (Japan); **Jin Matsumoto,** Keio Univ. (Japan); **Akira Mizuta,** RIKEN (Japan); **Kohta Murase,** The Pennsylvania State Univ. (United States); **Ryo Yamazaki,** Aoyama Gakuin Univ. (Japan); **Jun'ichi Yokoyama**, **Yoshikazu Nakada,** The Univ. of Tokyo (Japan); **Hideyuki Izumiura,** National Astronomical Observatory of Japan (Japan); **Naoki Takase,** Kanazawa Univ. (Japan); **Shunichi Nakatsubo**, **Tooru Kaga,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Naoki Ogino**, **Hatsune Goto**, **Shuta Takahashi**, **Tomoya Sato,** Kanazawa Univ. (Japan); **Hsien-Chieh Shen,** Aoyama Gakuin Univ. (Japan); **Takumi Togashi**, **Ryuji Sato,** Yamagata Univ. (Japan); **Ryuji Kondo,** Kanazawa Univ. (Japan); **Haruki Fukui,** Tokyo City Univ. (Japan); **Issin Nagataka,** Kanazawa Univ. (Japan); **Shintaro Ikunaga,** Aoyama Gakuin Univ. (Japan); **Sou Tajima,** Tokyo City Univ. (Japan); **Keito Watanabe,** Yamagata Univ. (Japan); **Taiki Owari**, **Junyi Li,** Aoyama Gakuin Univ. (Japan); **Kenjiro Fujimoto**, **Masataka Sato,** Kwansei Gakuin Univ. (Japan); **Yuichi Harikane,** The Univ. of Tokyo (Japan); **Mariko Kimura,** Kanazawa Univ. (Japan)

13093-76 • 02:00 PM - 02:20 PM

**The wide field X-ray monitor (WFXM) on the HiZ-GUNDAM mission**

*Author(s):* **Takanori Sakamoto,** Aoyama Gakuin Univ. (Japan); **Daisuke Yonetoku,** Kanazawa Univ. (Japan); **Akihiro Doi**, **Hideo Matsuhara,** Institute of Space and Astronautical Science (Japan); **Tatehiro Mihara,** RIKEN (Japan); **Makoto Arimoto**, **Tatsuya Sawano,** Kanazawa Univ. (Japan); **Shuichi Gunji,** Yamagata Univ. (Japan); **Junko S. Hiraga,** Kwansei Gakuin Univ. (Japan)

13093-77 • 02:20 PM - 02:40 PM

**Construction and evaluation of x-ray optics system for the wide field x-ray monitor onboard HiZ-GUNDAM**

*Author(s):* **Hatsune Goto**, **Daisuke Yonetoku**, **Isshin Nagataka**, **Makoto Arimoto**, **Tatsuya Sawano**, **Naoki Takase,** Kanazawa Univ. (Japan); **Takanori Sakamoto,** Aoyama Gakuin Univ. (Japan); **Tatehiro Mihara,** RIKEN (Japan); **Tooru Kaga**, **Shunichi Nakatsubo**, **Hideo Matsuhara**, **Maeda Yoshitomo**, **Akihiro Doi,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Takumi Togashi,** Yamagata University (Japan)

13093-78 • 02:40 PM - 03:00 PM

**Development of X-ray optics for the solar flare sounding rocket FOXSI-4: ground calibration**

*Author(s):* **Kazuki Ampuku**, **Koki Sakuta**, **Ryuto Fujii**, **Yusuke Yoshida**, **Kumiko Okada**, **Keitoku Yoshihira**, **Tetsuo Kano**, **Naoki Ishida**, **Wataru Kato,** Nagoya Univ. (Japan); **Yoshitaka Inoue,** IMV Corp. (Japan); **Keisuke Tamura,** NASA Goddard Space Flight Ctr. (United States); **Kikuko Miyata,** Meijo Univ. (Japan); **Noriyuki Narukage,** National Astronomical Observatory of Japan (Japan); **Gota Yamaguchi,** RIKEN (Japan); **Shunsuke Ito**, **Shutaro Mohri,** The Univ. of Tokyo (Japan); **Takehiro Kume**, **Yusuke Matsuzawa**, **Yoichi Imamura**, **Takahiro Saito**, **Kentarou Hiraguri**, **Hirokazu Hashizume,** Natsume Optical Corp. (Japan); **Hidekazu Mimura,** The Univ. of Tokyo (Japan); **Ikuyuki Mitsuishi,** Nagoya Univ. (Japan)

## Coffee Break 03:00 PM - 03:30 PM

## SESSION 17: MISSIONS PROBE CLASS PROPOSALS

20 June 2024 • 03:30 PM - 05:30 PM | Room G414/415, North - 4F
*Session Chair(s):* **Marco Feroci**, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

13093-79 • 03:30 PM - 03:50 PM
**NASA technology development for Time-Domain and Multi-Messenger Astronomy**
*Author(s):* **Valerie Connaughton**, **Antonino Cucchiara, Rachele Cocks,** NASA (United States)

13093-80 • 03:50 PM - 04:10 PM
**The high-energy X-ray probe (HEX-P): Across the X-ray Universe**
*Author(s):* **Kristin K. Madsen,** NASA Goddard Space Flight Ctr. (United States); **Daniel Stern,** Jet Propulsion Lab. (United States), Caltech (United States); **Javier Garcia,** NASA Goddard Space Flight Ctr. (United States); **Matteo Bachetti,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Stephano Bianchi,** Univ. degli Studi di Roma Tre (Italy); **Murray Brightman,** Caltech (United States); **Esra Bulbul,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Francesca Civano,** NASA Goddard Space Flight Ctr. (United States); **Joel Coley,** Howard Univ. (United States); **Melania Del Santo,** INAF (Italy); **Laura Di Gesu,** Agenzia Spaziale Italiana (Italy); **Chris Fragile,** College of Charleston (United States); **Suvi Gezari,** Space Telescope Science Institute (United States); **Brian W. Grefenstette**, **Fiona A. Harrison,** Caltech (United States); **Giorgio Lanzuisi,** INAF (Italy); **Bret Lehmer,** Univ. of Arkansas (United States); **Rafaella Marqutti,** Univ. of California, Berkeley (United States); **Andrea Merloni,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Kaya Mori,** Columbia Univ. (United States); **Kirpal Nandra,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Kerstin Perez,** Columbia Univ. (United States); **Gabriele Ponti,** INAF (Italy); **Peter Predehl,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Simonetta Puccetti,** Agenzia Spaziale Italiana (Italy); **Arne Rau,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Andrea Santangelo,** Eberhard Karls Univ. Tübingen (Germany); **Daniele Spiga,** INAF (Italy); **John Tomsick,** Space Sciences Lab. (United States); **Dominic Walton,** Univ. of Hertfordshire (United Kingdom); **Joern Wilms,** Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); **William W. Zhang,** NASA Goddard Space Flight Ctr. (United States)

13093-81 • 04:10 PM - 04:30 PM
**Arcus Probe: revealing feedback-driven structure and evolution throughout the universe**
*Author(s):* **Randall K. Smith,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13093-82 • 04:30 PM - 04:50 PM
**The Line Emission Mapper (LEM) Probe mission concept**
*Author(s):* **Ralph P. Kraft,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Caroline A. Kilbourne**, **Simon R. Bandler,** NASA Goddard Space Flight Ctr. (United States); **Akos Bogdan,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Jenna Cann**, **Renata S. Cumbee,** NASA Goddard Space Flight Ctr. (United States); **William Dunn,** Univ. College London (United Kingdom); **Jeremy Drake,** Lockheed Martin Space Systems Co. (United States); **Megan E. Eckart,** Lawrence Livermore National Lab. (United States); **Massimiliano Galeazzi,** Univ. of Miami (United States); **Amy Gall**, **Cecilia Garraffo,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Edmund Hodges-Kluck,** NASA Goddard Space Flight Ctr. (United States); **Philip E. Kaaret,** NASA Marshall Space Flight Ctr. (United States); **Richard L. Kelley,** NASA Goddard Space Flight Ctr. (United States); **Ildar Khabibullin,** Max-Planck-Institut für Astrophysik (Germany); **Maurice A. Leutenegger**, **Maxim Markevitch,** NASA Goddard Space Flight Ctr. (United States); **Francois Mernier**, **Anna Ogorzalek,** Univ. of Maryland, College Park (United States); **Daniel J. Patnaude,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Ryan Pfeifle**, **Frederick S. Porter,** NASA Goddard Space Flight Ctr. (United States); **Paul P. Plucinsky,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Markus Rau,** The Univ. of Chicago (United States); **James Steiner,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Yuanyuan Su,** Univ. of Kentucky (United States); **Nhut Truong,** Univ. of Maryland, Baltimore County (United States); **Kimberly Weaver,** NASA Goddard Space Flight Ctr. (United States); **Irina Zhuravleva,** The Univ. of Chicago (United States); **John Zuhone,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13093-83 • 04:50 PM - 05:10 PM
**The Advanced X-ray Imaging Satellite (AXIS)**
*Author(s):* **Christopher S. Reynolds,** Univ. of Maryland, College Park (United States); **Eric D. Miller**, **Erin A. Kara,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Richard F. Mushotzky,** Univ. of Maryland, College Park (United States); **Andrew Ptak,** NASA Goddard Space Flight Ctr. (United States); **Michael J. Koss,** Eureka Scientific, Inc. (United States); **Brian J. Williams,** NASA Goddard Space Flight Ctr. (United States); **Steven W. Allen,** Stanford Univ. (United States); **Franz E. Bauer,** Pontificia Univ. Católica de Chile (Chile); **Marshall W. Bautz,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Arash Bodaghee,** Georgia College & State Univ. (United States); **Kevin B. Burdge,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Nico Cappelluti,** Univ. of Miami (United States); **Brad Cenko,** NASA Goddard Space Flight Ctr. (United States); **George Chartas,** College of Charleston (United States); **Kai-Wing Chan,** NASA Goddard Space Flight Ctr. (United States); **Lia Corrales,** Univ. of Michigan (United States); **Tansu Daylan,** Washington Univ. in St. Louis (United States); **Abraham D. Falcone,** The Pennsylvania State Univ. (United States); **Adi Foord,** Univ. of Maryland, Baltimore County (United States); **Catherine E. Grant,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Melanie Habouzit,** Max-Planck-Institut für Astronomie (Germany); **Daryl Haggard,** McGill Univ. (Canada); **Sven C. Herrmann,** Stanford Univ. (United States); **Edmund Hodges-Kluck,** NASA Goddard Space Flight Ctr. (United States); **Oleg Kargaltsev,** The George Washington Univ. (United States); **George W. King,** Univ. of Michigan (United States); **Marina Kounkel,** Univ. of North Florida (United States); **Laura A. Lopez,** The Ohio State Univ. (United States); **Stefano Marchesi,** Univ. degli Studi di Bologna (Italy); **Michael McDonald,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Eileen Meyer,** Univ. of Maryland, Baltimore County (United States); **Melania Nynka,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Takashi Okajima,** NASA Goddard Space Flight Ctr. (United States); **Fabio Pacucci,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Helen R. Russell,** The Univ. of Nottingham (United Kingdom); **Samar Safi-Harb,** Univ. of Manitoba (Canada); **Keivan G. Stassun,** Vanderbilt Univ. (United States); **Anna Trindade Falcão,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Stephen A. Walker,** The Univ. of Alabama in Huntsville (United States); **Joern Wilms,** Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); **Mihoko Yukita, William W. Zhang,** NASA Goddard Space Flight Ctr. (United States)

13093-84 • 05:10 PM - 05:30 PM
**STROBE-X: Capturing the Universe in Motion**
*Author(s):* **Cynthia S. Froning,** Southwest Research Institute (United States)

## Friday 21 June 2024

### SESSION 18: MISSIONS III

21 June 2024 • 08:30 AM - 09:50 AM | Room G414/415, North - 4F
*Session Chair(s):* **Vadim Burwitz**, Max-Planck-Institut für extraterrestrische Physik (Germany)

13093-85 • 08:30 AM - 08:50 AM
**Hard X-ray Focal Plane Detectors onboard the FOXSI-4 sounding rocket for solar flare observation**
*Author(s):* **Takahiro Minami,** The Univ. of Tokyo (Japan), Kavli Institute for the Physics and Mathematics of the Universe (Japan); **Shunsaku Nagawsawa,** Space Sciences Lab. (United States); **Yixian Zhang**, **Kristopher Cooper**, **Athanasios Pantazides**, **Lindsay Glesener,** Univ. of Minnesota, Twin Cities (United States); **Hunter Kanniainen,** Space Sciences Lab. (United States), Univ. of California, Berkeley (United States); **Shin Watanabe,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan), Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); **Noriyuki Narukage,** National Astronomical Observatory of Japan (Japan), Graduate University for Advanced Studies, SOKENDAI (Japan); **Tadayuki Takahashi,** Kavli Institute for the Physics and Mathematics of the Universe (Japan), The Univ. of Tokyo (Japan)

13093-86 • 08:50 AM - 09:10 AM
**THESEUS: The High Energy Sky and Early Universe Surveyor**
*Author(s):* **Enrico Bozzo,** Univ. de Genève (Switzerland)

13093-87 • 09:10 AM - 09:30 AM
**The LargE Area burst Polarimeter (LEAP): a NASA mission of opportunity for the ISS**
*Author(s):* **Jessica A. Gaskin,** NASA Marshall Space Flight Ctr. (United States); **Mark McConnell,** The Univ. of New Hampshire (United States); **Randy Baggett,** NASA Marshall Space Flight Ctr. (United States); **Matthew Baring,** Rice Univ. (United States); **Peter Bloser,** Los Alamos National Lab. (United States); **Byron Bonds,** Teledyne Brown Engineering, Inc. (United States); **Dennis Bowler,** Southwest Research Institute (United States); **Michael S. Briggs,** The Univ. of Alabama in Huntsville (United States); **Camden D. Ertley,** Southwest Research Institute (United States); **Paul Galloway,** NASA Marshall Space Flight Ctr. (United States); **Adam Goldstein,** Universities Space Research Association (United States); **J. Eric Grove,** U.S. Naval Research Lab. (United States); **Dieter Hartmann,** Clemson Univ. (United States); **Peter Jenke,** The Univ. of Alabama in Huntsville (United States); **R. Marc Kippen,** Los Alamos National Lab. (United States); **Fabian Kislat,** The Univ. of New Hampshire (United States); **Daniel Kocevski,** NASA Marshall Space Flight Ctr. (United States); **Merlin Kole,** Univ. de Genève (Switzerland); **John Krizmanic,** NASA Goddard Space Flight Ctr. (United States); **Jason Legere,** The Univ. of New Hampshire (United States); **Tyson Littenberg**, **Neil Martin,** NASA Marshall Space Flight Ctr. (United States); **Sheila McBreen,** Univ. College Dublin (Ireland); **Chip Meegan,** The Univ. of Alabama in Huntsville (United States); **Karla Oñate Melecio,** The Univ. of New Hampshire (United States); **Mark Pearce,** KTH Royal Institute of Technology (Sweden); **John Polizotti,** Southwest Research Institute (United States); **Rob Preece,** Universities Space Research Association (United States); **Nicolas Produit,** Univ. de Genève (Switzerland); **James Ryan,** The Univ. of New Hampshire (United States); **Felix Ryde,** KTH Royal Institute of Technology (Sweden); **Lisa Smith,** NASA Marshall Space Flight Ctr. (United States); **Steven Sturner,** Univ. of Maryland, Baltimore County (United States), NASA Goddard Space Flight Ctr. (United States); **Vincent Tatischeff,** Univ. Paris-Saclay (France); **Peter Veres,** The Univ. of Alabama in Huntsville (United States); **W. Thomas Vestrand,** Los Alamos National Lab. (United States); **Colleen Wilson-Hodge,** NASA Marshall Space Flight Ctr. (United States); **George Younes,** NASA Goddard Space Flight Ctr. (United States); **Jimmy Zaid,** The Univ. of New Hampshire (United States); **Bing Zhang,** Univ. of Nevada, Las Vegas (United States)

13093-88 • 09:30 AM - 09:50 AM
**KOYOH: the X-ray transient monitoring and rapid alert satellite**
*Author(s):* **Tatsuya Sawano**, **Daisuke Yonetoku**, **Takayuki Akahane**, **Makoto Arimoto**, **Daichi Eguchi**, **Takuma Hasegawa**, **Masashi Horita**, **Tomohiko Imachi**, **Yuki Imizu**, **Takashi Ito**, **Yoshiya Kasahara**, **Yuuki Kato**, **Ryuki Kawamoto**, **Naoki Kawasuji**, **Mariko Kimura**, **Ayaka Kiyoi**, **Yasuha Kojima**, **Daichi Kondo**, **Tomohisa Kurosu**, **Yasuhiro Shoji**, **Shoya Matsuda,** Kanazawa Univ. (Japan); **Tatehiro Mihara,** RIKEN (Japan); **Shunsuke Nakamura**, **Taro Nishide**, **Takeo Otaki**, **Valentin Pal'shin**, **Kaiji Takeuchi**, **Taiki Yamaguchi**, **Mitsuki Utoyama**, **Naoki Takahashi**, **Takuya Saito**, **Tsubasa Yoshida, Satoshi Yagitani,** Kanazawa Univ. (Japan)

## Coffee Break 09:50 AM - 10:10 AM

## SESSION 19: MISSIONS IV

21 June 2024 • 10:10 AM - 11:30 AM | Room G414/415, North - 4F
*Session Chair(s):* **Megan E. Eckart**, Lawrence Livermore National Lab. (United States)

13093-89 • 10:10 AM - 10:30 AM
**Status of geospace X-ray imager mission (GEO-X)**
*Author(s):* **Yuichiro Ezoe,** Tokyo Metropolitan Univ. (Japan); **Ryu Funase,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Harunori Nagata,** Hokkaido Univ. (Japan); **Yoshizumi Miyoshi,** Nagoya Univ. (Japan); **Hiroshi Nakajima,** Kanto Gakuin Univ. (Japan); **Ikuyuki Mitsuishi,** Nagoya Univ. (Japan); **Kumi Ishikawa**, **Masaki Numazawa,** Tokyo Metropolitan Univ. (Japan); **Yosuke Kawabata**, **Ryota Fuse,** The Univ. of Tokyo (Japan); **Shintaro Nakajima**, **Ralf Boden,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Landon Kamps**, **Yuki Nobuhara**, **Shota Hirai,** Letara Ltd. (Japan); **Tomokage Yoneyama,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Kouichi Hagino,** The Univ. of Tokyo (Japan); **Yosuke Matsumoto,** Chiba Univ. (Japan); **Keisuke Hosokawa,** The Univ. of Electro-Communications (Japan); **Satoshi Kasahara,** The Univ. of Tokyo (Japan); **Daiki Ishi,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Junko S. Hiraga,** Kwansei Gakuin Univ. (Japan); **Kazuhisa Mitsuda,** National Astronomical Observatory of Japan (Japan); **Masaki Fujimoto**, **Munetaka Ueno**, **Atsushi Yamazaki**, **Hiroshi Hasegawa**, **Takefumi Mitani**, **Yasuhiro Kawakatsu**, **Takahiro Iwata,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Hiroyuki Koizumi,** The Univ. of Tokyo (Japan); **Hironori Sahara,** Tokyo Metropolitan Univ. (Japan); **Yoshiaki Kanamori,** Tohoku Univ. (Japan); **Kohei Morishita,** Kyushu Univ. (Japan)

13093-90 • 10:30 AM - 10:50 AM
**BurstCube: a CubeSat for gravitational wave counterparts**
*Author(s):* **Ava Myers,** NASA Goddard Space Flight Ctr. (United States)

13093-274 • 10:50 AM - 11:10 AM
**SUIM project: measuring the upper atmosphere from the ISS by observations of the CXB transmitted through the Earth rim**
*Author(s):* **Kumiko K. Nobukawa,** Kindai Univ. (Japan); **Ayaki Takeda,** Univ. of Miyazaki (Japan); **Satoru Katsuda,** Saitama Univ. (Japan); **Takeshi Go Tsuru,** Kyoto Univ. (Japan); **Kazuhiro Nakazawa,** Nagoya Univ. (Japan); **Koji Mori,** Univ. of Miyazaki (Japan); **Hiroyuki Uchida,** Kyoto Univ. (Japan); **Masayoshi Nobukawa,** Nara Univ. of Education (Japan); **Eisuke Kurogi,** Univ. of Miyazaki (Japan); **Takumi Kishimoto**, **Satoru Kuwano,** Kindai Univ. (Japan); **Mizuki Uenomachi**, **Masamune Matsuda,** Kyoto Univ. (Japan); **Takaya Yamawaki,** Saitama Univ. (Japan)

13093-92 • 11:10 AM - 11:30 AM
**Wide-band X-ray observatory for the Time Domain Astronomy Era, JEDI**
*Author(s):* **Kazuhiro Nakazawa,** Nagoya Univ. (Japan); **Hiroki Akamatsu,** High Energy Accelerator Research Organization, KEK (Japan); **Teruaki Enoto,** Kyoto Univ. (Japan); **Manabu Ishida,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Wataru B. Iwakiri,** Chiba Univ. (Japan); **Hironori Matsumoto,** Osaka Univ. (Japan); **Koji Mori,** Univ. of Miyazaki (Japan); **Hiroshi Nakajima,** Kanto Gakuin Univ. (Japan); **Masayoshi Nobukawa,** Nara Univ. of Education (Japan); **Hirofumi Noda,** Osaka Univ. (Japan); **Megumi Shidatsu,** Ehime Univ. (Japan); **Hiromitsu Takahashi,** Hiroshima Univ. (Japan); **Takaaki Tanaka,** Konan Univ. (Japan); **Hiroyuki Uchida**, **Yoshihiro Ueda,** Kyoto Univ. (Japan); **Shin Watanabe, Hiroya Yamaguchi,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan)

## SESSION 20: GAMMA AND POLARIMETRY I

21 June 2024 • 11:30 AM - 12:20 PM | Room G414/415, North - 4F
*Session Chair(s):* **Yuri Evangelista**, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

13093-93 • 11:30 AM - 12:00 PM
**The Imaging X-ray Polarimetry Explorer 2.5 years later**
*Author(s):* **Paolo Soffitta,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Luca Baldini,** Univ. di Pisa (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Wayne H. Baumgartner,** NASA Marshall Space Flight Ctr. (United States); **Ronaldo Bellazzini,** Univ. di Pisa (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Stephen D. Bongiorno,** NASA Marshall Space Flight Ctr. (United States); **Niccolò Bucciantini,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Enrico Costa,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Michal Dovciak,** Astronomical Institute of the CAS, v.v.i. (Czech Republic); **Steven R. Ehlert**, **Philip E. Kaaret**, **Jeffery J. Kolodziejczak,** NASA Marshall Space Flight Ctr. (United States); **Luca Latronico,** Istituto Nazionale di Fisica Nucleare (Italy); **Frédéric Marin,** Observatoire astronomique de Strasbourg, Univ. de Strasbourg (France); **Alan P. Marscher,** Boston Univ. (United States); **Herman L. Marshall,** Massachusetts Institute of Technology (United States); **Giorgio Matt,** Univ. degli Studi di Roma Tre (Italy); **Fabio Muleri,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Stephen L. O'Dell,** NASA Marshall Space Flight Ctr. (United States); **Juri Poutanen,** Univ. of Turku (Finland); **Brian Ramsey,** NASA Marshall Space Flight Ctr. (United States); **Roger W. Romani,** Stanford Univ. (United States); **Patrick Slane,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Allyn Tennant,** NASA Marshall Space Flight Ctr. (United States); **Roberto Turolla,** Univ. degli Studi di Padova (Italy); **Martin C. Weisskopf,** NASA Marshall Space Flight Ctr. (United States)

13093-97 • 12:00 PM - 12:20 PM
**Across the soft gamma-ray regime: utilizing simultaneous detections in the Compton Spectrometer and Imager (COSI) and the Background and Transient Observer (BTO) to understand astrophysical transients**
*Author(s):* **Hannah Gulick,** Univ. of California, Berkeley (United States); **John Tomsick**, **Juan-Carlos Martinez Oliveros,** Space Sciences Lab., Univ. of California, Berkeley (United States); **Claire Chen**, **Hubert Liu**, **Derek Shah**, **Shreya Nandyala**, **Kaylie Ching**, **Tomas Mician,** Univ. of California, Berkeley (United States); **Alyson Joens,** Space Sciences Lab., Univ. of California, Berkeley (United States); **Eliza Neights,** The George Washington Univ. (United States); **Carolyn Kierans**, **Israel Martinez,** NASA Goddard Space Flight Ctr. (United States); **Tadayuki Takahashi,** Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); **Kazuhiro Nakazawa,** Kobayashi-Maskawa Institute for the Origin of Particles and the Universe, Nagoya Univ. (Japan); **Samer Al Nussirat, Andreas Zoglauer,** Space Sciences Lab., Univ. of California, Berkeley (United States)

**Lunch Break 12:20 PM - 01:40 PM**

## SESSION 21: GAMMA AND POLARIMETRY II

21 June 2024 • 01:40 PM - 03:40 PM | Room G414/415, North - 4F
*Session Chair(s):* **Enrico Bozzo**, Univ. de Genève (Switzerland)

13093-95 • 01:40 PM - 02:00 PM
**The CUbesat Solar Polarimeter (CUSP) mission overview**
*Author(s):* **Sergio Fabiani, on behalf of the CUSP Team,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

13093-96 • 02:00 PM - 02:20 PM

**The GRAMS mission for MeV gamma-ray astronomy and dark matter search**

*Author(s):* **Hirokazu Odaka,** Osaka Univ. (Japan); **Kazutaka Aoyama,** Waseda Univ. (Japan); **Shota Arai,** The Univ. of Tokyo (Japan); **Shintaro Arai,** Waseda Univ. (Japan); **Tsuguo Aramaki,** Northeastern Univ. (United States); **Jonathan Asaadi,** The Univ. of Texas at Arlington (United States); **Aya Bamba,** The Univ. of Tokyo (Japan); **John Barry,** Northeastern Univ. (United States); **Manel Errando,** Washington Univ. in St. Louis (United States); **Lorenzo Fabris,** Oak Ridge National Lab. (United States); **Tatsuki Fujiwara,** Osaka Univ. (Japan); **Yasushi Fukazawa,** Hiroshima Univ. (Japan); **Kouichi Hagino,** The Univ. of Tokyo (Japan); **Tomohiro Hakamata,** Osaka Univ. (Japan); **Utano Hijikata,** Waseda Univ. (Japan); **Nagisa Hiroshima,** Univ. of Toyama (Japan); **Masahiro Ichihashi,** The Univ. of Tokyo (Japan); **Yuto Ichinohe,** RIKEN (Japan); **Yoshiyuki Inoue,** Osaka Univ. (Japan); **Koki Ishikawa,** Waseda Univ. (Japan); **Kota Ishiwata,** Osaka Univ. (Japan); **Toshiya Iwata,** The Univ. of Tokyo (Japan); **Georgia Karagiorgi,** Columbia Univ. (United States); **Tatsuaki Kato,** The Univ. of Tokyo (Japan); **Hodaka Kawamura,** Osaka Univ. (Japan); **Dmitry Khangulyan,** Rikkyo Univ. (Japan); **Jon Leyva**, **Emma Malabanan,** Northeastern Univ. (United States); **Akshay Malige,** Columbia Univ. (United States); **John Mitchell,** NASA Goddard Space Flight Ctr. (United States); **Reshmi Mukherjee,** Barnard College (United States); **Riki Nakajima,** Waseda Univ. (Japan); **Kazuhiro Nakazawa,** Nagoya Univ. (Japan); **Nga Nguyen,** Northeastern Univ. (United States); **Keigo Okuma,** Nagoya Univ. (Japan); **Kerstin Perez,** Columbia Univ. (United States); **Nabin Poudyal**, **Melissa Rivera,** Northeastern Univ. (United States); **Ibrahim Safa**, **William Seligman,** Columbia Univ. (United States); **Ruo-Yu Shang,** Barnard College (United States); **Mihir Shetty,** Columbia Univ. (United States); **Tiga Shimizu,** Waseda Univ. (Japan); **Kentaro Shirahama,** Osaka Univ. (Japan); **Takuya Shiraishi,** Kanagawa Univ. (Japan); **Sonya Smith,** Howard Univ. (United States); **Yusuke Suda,** Hiroshima Univ. (Japan); **Arathi Suraj,** Northeastern Univ. (United States); **Hiromitsu Takahashi,** Hiroshima Univ. (Japan); **Satoshi Takashima,** The Univ. of Tokyo (Japan); **Tsubasa Tamba,** Japan Aerospace Exploration Agency (Japan); **Masashi Tanaka,** Waseda Univ. (Japan); **Svanik Tandon,** Columbia Univ. (United States); **Hinako Taniguchi,** Waseda Univ. (Japan); **Ryutaro Tatsumi,** Osaka Univ. (Japan); **John Tomsick,** Univ. of California, Berkeley (United States); **Naomi Tsuji,** Kanagawa Univ. (Japan); **Yuusuke Uchida,** Tokyo Univ. of Science (Japan); **Yorinobu Utsumi,** Waseda Univ. (Japan); **Shin Watanabe,** Japan Aerospace Exploration Agency (Japan); **Timothy Wessling-Resnick,** Northeastern Univ. (United States); **Yutaro Yano,** Waseda Univ. (Japan); **Kazushi Yawata,** National Defense Medical College (Japan); **Hiroki Yoneda,** Julius-Maximilians-Univ. Würzburg (Germany); **Kohei Yorita,** Waseda Univ. (Japan); **Marina Yoshimoto,** Osaka Univ. (Japan); **Jiancheng Zeng,** Northeastern Univ. (United States)

13093-94 • 02:20 PM - 02:40 PM

**ComPair 2: a next generation medium energy gamma-ray telescope prototype**

*Author(s):* **Regina Caputo**, **Carolyn Kierans,** NASA Goddard Space Flight Ctr. (United States); **Nicholas Cannady,** Univ. of Maryland, Baltimore County (United States), NASA Goddard Space Flight Ctr. (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States); **Abraham D. Falcone,** The Pennsylvania State Univ. (United States); **Yasushi Fukazawa,** Hiroshima Univ. (Japan); **Manoj Jadhav,** Argonne National Lab. (United States); **Matthew Kerr,** U.S. Naval Research Lab. (United States); **Nicholas Kirschner,** The George Washington Univ. (United States); **Kavic Kumar,** Univ. of Maryland, College Park (United States), NASA Goddard Space Flight Ctr. (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States); **Adrien Laviron,** Univ. Paris–Saclay (France); **Richard Leys,** Karlsruher Institut für Technologie (Germany); **Julie McEnery,** NASA Goddard Space Flight Ctr. (United States); **Jessica Metcalfe,** Argonne National Lab. (United States); **Zachary Metzler,** Univ. of Maryland, College Park (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States); **Nathan Miller,** Johns Hopkins Univ. (United States); **John Mitchell,** NASA Goddard Space Flight Ctr. (United States); **Lucas Parker,** Los Alamos National Lab. (United States); **Ivan Peric,** Karlsruher Institut für Technologie (Germany); **Jeremy Perkins,** NASA Goddard Space Flight Ctr. (United States); **Bernard Phlips,** U.S. Naval Research Lab. (United States); **Judith Racusin,** NASA Goddard Space Flight Ctr. (United States); **Makoto Sasaki,** Univ. of Maryland, College Park (United States), NASA Goddard Space Flight Ctr. (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States); **Kenneth F Segal,** Heliospace Corporation (United States); **Daniel Shy,** U.S. Naval Research Lab. (United States); **Amanda L. Steinhebel,** NASA Goddard Space Flight Ctr. (United States); **Nicolas Striebig,** Karlsruher Institut für Technologie (Germany); **Yusuke Suda,** Hiroshima Univ. (Japan); **Hiroyasu Tajima,** Nagoya Univ. (Japan); **Janeth Valverde,** Univ. of Maryland, Baltimore County (United States), NASA Goddard Space Flight Ctr. (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States); **Daniel P. Violette,** NASA Goddard Space Flight Ctr. (United States); **Richard Woolf,** U.S. Naval Research Lab. (United States); **Andreas Zoglauer,** Space Sciences Lab. (United States), Univ. of California, Berkeley (United States)

13093-98 • 02:40 PM - 03:00 PM

**MeV gamma-ray detector on the 50-kg class satellite**

*Author(s):* **Kazuo Tanaka**, **Jun Kataoka**, **Ryoji Iwashita**, **Ryohei Mori**, **Tomoya Suga**, **Shojun Ogasawara**, **Moeri Tao,** Waseda Univ. (Japan); **Yoichi Yatsu**, **Chujo Toshihiro,** Tokyo Institute of Technology (Japan); **Shinichiro Takeda,** The Univ. of Tokyo (Japan), iMAGINE-X Inc. (Japan); **Mitsunobu Onishi,** iMAGINE-X Inc. (Japan)

13093-99 • 03:00 PM - 03:20 PM

**Celestial MeV gamma-ray observation using electron-tracking Compton camera loaded on long duration balloons (SMILE-3)**

*Author(s):* **Atsushi Takada**, **Tomonori Ikeda**, **Mitsuru Abe**, **Hirotake Tsukamoto**, **Ryo Yoshioka**, **Toru Tanimori**, **Taito Takemura**, **Kei Yoshikawa,** Kyoto Univ. (Japan); **Yoshitaka Mizumura,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Shunsuke Kurosawa,** Tohoku Univ. (Japan); **Kentaro Miuchi,** Kobe Univ. (Japan); **Tatsuya Sawano,** Kanazawa Univ. (Japan); **Takeshi Nakamori**, **Haruki Iiyama,** Yamagata Univ. (Japan); **Tomohiko Oka**, **Masaki Mori,** Ritsumeikan Univ. (Japan); **Kenji Hamaguchi,** Univ. of Maryland, Baltimore County (United States); **Junko Kushida,** Tokai Univ. (Japan)

13093-100 • 03:20 PM - 03:40 PM

**Gamma-ray observations at stratospheric altitudes with the Gamma-Ray Polarimeter Experiment (GRAPE)**

*Author(s):* **Karla Oñate Melecio,** The Univ. of New Hampshire (United States); **Mark McConnell,** The Univ. of New Hampshire (United States), Southwest Research Institute (United States); **Jason Legere**, **James Bundock,** The Univ. of New Hampshire (United States); **Camden D. Ertley,** Southwest Research Institute (United States); **Fabian Kislat**, **Emily Mello,** The Univ. of New Hampshire (United States); **Kevin Mello,** Southwest Research Institute (United States); **Dominic Puopolo**, **Jimmy Zaid, Merlin Kole,** The Univ. of New Hampshire (United States)

# CONFERENCE 13094

# Ground-based and Airborne Telescopes X

**16 - 21 June 2024 | Room G403/404, North - 4F**

***Conference Chair(s):*** **Heather K. Marshall,** DKIST/National Solar Observatory (United States); **Jason Spyromilio,** European Southern Observatory (Germany); **Tomonori Usuda,** National Astronomical Observatory of Japan (Japan)

***Program Committee:*** **Bruce C. Bigelow,** GMTO Corp. (United States); **Emanuela Ciattaglia,** European Southern Observatory (Germany); **Matthew Colless,** Research School of Astronomy & Astrophysics, The Australian National Univ. (Australia); **Jean-Gabriel Cuby,** Lab. d'Astrophysique de Marseille (France); **Frank W. Kan,** Simpson Gumpertz & Heger Inc. (United States); **Jeffrey R. Kuhn,** Univ. of Hawai'i (United States); **Maria Grazia Labate,** SKA Organisation (United Kingdom); **Bernhard Lopez,** Cherenkov Telescope Array Observatory gGmbH (Germany); **Brialyn Onodera,** National Solar Observatory (United States); **Anamparambu N. Ramaprakash,** Inter-Univ. Ctr. for Astronomy and Astrophysics (India); **Trupti Ranka,** GMTO Corp. (United States); **Stephen A. Rinehart,** NASA (United States); **Amir Sadjadpour,** Thirty Meter Telescope (United States); **Breann N. Sitarski,** NASA Goddard Space Flight Ctr. (United States); **Mario Tapia,** European Southern Observatory (Chile); **Sandrine J. Thomas,** Vera C. Rubin Observatory (United States); **Yongtian Zhu,** Nanjing Institute of Astronomical Optics & Technology (China)

## Sunday 16 June 2024

### SESSION 1: ENCLOSURES

16 June 2024 • 10:10 AM - 11:50 AM | Room G403/404, North - 4F
*Session Chair(s):* **Trupti Ranka**, GMTO Corp. (United States); **Frank W. Kan**, Simpson Gumpertz & Heger Inc. (United States)

13094-1 • 10:10 AM - 10:30 AM
**The GMT site, enclosure, and facilities: 2024 design and construction update**
*Author(s):* **Bruce C. Bigelow**, **Gustavo Arriagada**, **Christopher Madden**, **Francisco Meza**, **Hector Swett**, **Eduardo Villar, Miroslav Vulinovic,** GMTO Corp. (United States)

13094-2 • 10:30 AM - 10:50 AM
**The SDSS-V Local Volume Mapper instrument (LVM-I): Enclosure design, construction, and performance**
*Author(s):* **Guillermo A. Blanc,** Las Campanas Observatory (United States); **Francisco Morales,** FRISO Arquitectura (Chile); **Felipe Besser**, **Mauricio Flores,** Las Campanas Observatory (Chile); **Thomas M. Herbst,** Max-Planck-Institut für Astronomie (Germany); **Nick Konidaris,** Carnegie Observatories (United States); **Marcelo Rodriguez,** Las Campanas Observatory (Chile); **José Sanchez-Gallego,** Univ. of Washington (United States); **Leon Aslan**, **Julia Brady,** Carnegie Observatories (United States); **Francesco DiMille,** Las Campanas Observatory (Chile); **Niv Drory,** McDonald Observatory, The Univ. of Texas at Austin (United States); **Cynthia Froning,** The Univ. of Texas McDonald Observatory (United States); **Carlos Godoy,** Las Campanas Observatory (Chile); **Juna Kollmeier,** Carnegie Observatories (United States); **Soojong Pak,** Kyung Hee Univ. (Korea, Republic of); **Solange Ramirez**, **Alan Umoto**, **Stefanie Wachter,** Carnegie Observatories (United States); **Mingyeong Yang,** Kyung Hee Univ. (Korea, Republic of); **Abner Zapata,** Las Campanas Observatory (Chile)

13094-3 • 10:50 AM - 11:10 AM
**Rubin observatory rotating enclosure (dome) progress and status**
*Author(s):* **Douglas R. Neill,** Vera C. Rubin Observatory (United States); **Gianpietro Marchiori,** EIE Group S.r.l. (Italy)

13094-4 • 11:10 AM - 11:30 AM
**GMT enclosure detail engineering design: facing the construction phase**
*Author(s):* **Armando Bilbao Arechabala**, **Lourdes Cabezuelo**, **Nerea Castro**, **Manuel Cuartas Meseguer**, **Alberto Fernández García**, **Esther Fernandez**, **Angel Gomez**, **Miguel Martin**, **Juan Martinez**, **Francisco Sanchez**, **Paula Sierra,** IDOM S.A. (Spain); **Gustavo Arriagada,** GMTO Corp. (Chile); **Bruce C. Bigelow**, **Christopher Madden,** GMTO Corp. (United States); **Francisco Meza**, **Hector Swett**, **Eduardo Villar,** GMTO Corp. (Chile); **Miroslav Vulinovic,** GMTO Corp. (United States)

13094-5 • 11:30 AM - 11:50 AM
**Procurement of the dome and the telescope structure of the ELT: update status report**
*Author(s):* **Pascal Martinez, Mark Wallace,** European Southern Observatory (Germany)

**Lunch Break 11:50 AM - 01:10 PM**

## SESSION 2: MOUNTS

16 June 2024 • 01:10 PM - 02:50 PM | Room G403/404, North - 4F
*Session Chair(s):* **Sandrine J. Thomas**, Vera C. Rubin Observatory (United States); **Jason Spyromilio**, European Southern Observatory (Germany)

13094-6 • 01:10 PM - 01:30 PM
**DAG (Dogu Anatolu Gözlemevi) telescope mount performances**
*Author(s):* **Gianpietro Marchiori**, **Francesco Rampini**, **Manfredi Amalfi**, **Riccardo Bressan,** EIE Group S.r.l. (Italy); **Eric Gabriel,** AMOS S.A. (Belgium); **Cahir Yesilyaprak,** Ataturk Univ. Astrophysics Research & Application Ctr. (ATASAM) (Turkey); **Onur Keskin,** Isik Üniv. (Turkey); **Cristiana Manfrin**, **Cristina Battistel**, **Lorenzo Vio**, **Tiziano Niero**, **Leonardo Ghedin**, **Tommaso Marchiori,** EIE Group S.r.l. (Italy); **Laurence Meant, Olivier Pirnay,** AMOS S.A. (Belgium)

13094-7 • 01:30 PM - 01:50 PM
**Design and status overview of TMT telescope structure**
*Author(s):* **Masahiro Sugimoto,** National Astronomical Observatory of Japan (Japan); **Yutaka Ezaki,** Mitsubishi Electric Corp. (Japan); **Kyle Kinoshita**, **Amir Sadjadpour,** Thirty Meter Telescope (United States); **Junji Takaki**, **Yusuke Saruta**, **Tomoya Hattori**, **Hayato Hoshino**, **Yoshihiro Hosokawa**, **Makoto Endo**, **Yusuke Sugie**, **Masaki Haruna**, **Noboru Kawaguchi**, **Yasushi Horiuchi**, **Masaki Tabata,** Mitsubishi Electric Corp. (Japan); **Hiroshi Terada,** Thirty Meter Telescope (United States); **Seiichi Tazawa,** National Astronomical Observatory of Japan (Japan); **Hirofumi Okita,** Subaru Telescope, NAOJ (United States); **Koji Omata**, **Hiroshi Kusumoto**, **Koichi Okamoto**, **Masao Saito, Tomonori Usuda,** National Astronomical Observatory of Japan (Japan)

13094-8 • 01:50 PM - 02:10 PM
**Rubin Observatory Simonyi Survey Telescope integrated mount performance**
*Author(s):* **Brian Stalder**, **Freddy Munoz**, **Christian Aguilar**, **Claudio Araya**, **Karla Aubel**, **Jeffrey Barr**, **Anthony Borstad**, **Charles Claver**, **Andy W Clements**, **Julio Constanzo**, **Giovanni Corvetto**, **Eric Coughlin**, **Felipe Daruich**, **Erik Dennihy**, **Holger Drass,** Vera C. Rubin Observatory (United States); **Johnny Esteves,** University of Michigan (United States); **Juan Fabrega,** Vera C. Rubin Observatory (United States); **Kevin Fanning,** SLAC National Accelerator Laboratory (United States); **Peter Ferguson,** University of Wisconsin-Madison (United States); **Manuelangel Garcia Fernandez**, **Miguel Fernandez**, **Merlin Fisher-Levine,** Vera C. Rubin Observatory (United States); **Samuel B Gamundi,** GHESA Ingenieria y Technologia, S.A. (Spain); **Julen Garcia,** Tekniker (Spain); **Ivan Gonzalez,** Vera C. Rubin Observatory (United States); **Ronald Harris,** NSF's National Optical-Infrared Astronomy Research Lab (United States); **Hernan Herrera**, **Joshua Hoblitt,** Vera C. Rubin Observatory (United States); **Alberto Izpizua,** Tekniker (Spain); **David Jimenez-Mejias**, **Brian Johnson,** Vera C. Rubin Observatory (United States); **Yijung Kang,** SLAC National Accelerator Laboratory (United States); **Kshitija Kelkar,** Vera C. Rubin Observatory (United States); **Craig Lage,** University of California-Davis (United States); **Juan Lopez-Toro**, **Guido Maulen**, **David Mills**, **Neill Mills**, **Douglas R. Neill**, **Oscar Nunez**, **Ian Ordenes**, **Juan Orellana,** Vera C. Rubin Observatory (United States); **HyeYun Park,** Duke University (United States); **Bruno C. Quint,** Vera C. Rubin Observatory (United States); **Kevin Reil,** SLAC National Accelerator Laboratory (United States); **Heinrich Reinking**, **Michael Reuter**, **Tiago Ribeiro**, **Rodrigo Rojas**, **Sandra Romero**, **David Sanmartim,** Vera C. Rubin Observatory (United States); **Clare Saunders,** Princeton University (United States); **Bill Schoening**, **Jacques Sebag**, **Eduardo Serrano**, **Alysha Shugart**, **Christian Silva**, **Kevin Siruno**, **Ioana Sotuela**, **Anthony Tache**, **Diego Tapia**, **Sandrine Thomas**, **Roberto Tighe**, **Te-Wei Tsai,** Vera C. Rubin Observatory (United States); **Elana Urbach,** Harvard University (United States); **Luis Vergara,** Vera C. Rubin Observatory (United States); **Christopher Walter,** Duke University (United States)

13094-9 • 02:10 PM - 02:30 PM
**The Giant Magellan Telescope Mount: final design completion and start of fabrication**
*Author(s):* **Samuel Park**, **Keath Beifus**, **Chris Echols**, **Colby Gottschalk**, **King-Ming Lam,** GMTO Corp. (United States); **Nathan P. Loewen,** Sightline Engineering Ltd. (Canada); **Byron Smith,** X Double Dot, LLC (United States); **William S. Burgett, Nick Juelsgaard,** GMTO Corp. (United States)

13094-10 • 02:30 PM - 02:50 PM
**Prototyping activities during development of the Giant Magellan Telescope mount**
*Author(s):* **Eberhard Sust**, **Dietmar Koch**, **Jens Langguth**, **Ulrich Weis**, **Benjamin Hauska**, **Arne Mann**, **Aleksej Kiselev**, **Alexander Rohr, Alexei Ippa,** OHB Digital Connect GmbH (Germany)

**Coffee Break 02:50 PM - 03:20 PM**

## SESSION 3: OBSERVATORY UPGRADES & REPAIRS

16 June 2024 • 03:20 PM - 05:40 PM | Room G403/404, North - 4F
*Session Chair(s):* **Tomonori Usuda**, National Astronomical Observatory of Japan (United States)

13094-11 • 03:20 PM - 03:40 PM
**DKIST Enclosure Azimuth Mechanism adjustments for improved performance and reliability**
*Author(s):* **James Hoag**, **Paul F. Jeffers, Heather Marshall,** Association of Universities for Research in Astronomy (United States)

13094-12 • 03:40 PM - 04:00 PM
**Safeguarding astronomical research: innovative & traditional techniques for rainwater leak detection in telescope observatories.**
*Author(s):* **Eric J. Grigel**, **David Adriaanse,** M3 Engineering & Technology Corp. (United States); **Dana Chandler**, **Eric Chandler**, **Andrew Dean,** The Chandler Companies (United States); **Grecia Falcon,** M3 Engineering & Technology Corp. (United States)

13094-13 • 04:00 PM - 04:20 PM
**Energy recovery system for large telescopes**
*Author(s):* **Aleksej Kiselev**, **Matthias Reichert,** OHB Digital Connect GmbH (Germany); **Tony Mroczkowski,** European Southern Observatory (Germany)

13094-14 • 04:20 PM - 04:40 PM
**Structural pier repair, primary load path change from cementitious to epoxy grout at the Keck 1 telescope**
*Author(s):* **Joel Payne**, **John S. Hudek**, **Jason N. Worden**, **Dennis McBride**, **Robert L. Meeks,** W. M. Keck Observatory (United States); **Bernardo C. Lopez**, **Timothy C. Sink,** Jet Propulsion Lab. (United States); **Samuel Park,** GMTO Corp. (United States)

13094-15 • 04:40 PM - 05:00 PM
**Advanced metrology sensor applications for improved pointing performance of the Greenland Telescope**
*Author(s):* **Nimesh A. Patel,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Satoki Matsushita**, **Philippe Raffin**, **Pierre Martin-Cocher**, **Chih-Wei L. Huang,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Klaus J. Willmeroth,** CPI Vertex Antennentechnik GmbH (Germany); **George Nystrom**, **Jun-Yi Koay**, **Cristina Romero-Canizales**, **Keiichi Asada**, **Ming-Tang Chen**, **Johnson Han**, **Paul T. P. Ho**, **Teddy Huang**, **Derek Kubo,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Timothy J. Norton,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **T. K. Sridharan,** National Radio Astronomy Observatory (United States)

13094-16 • 05:00 PM - 05:20 PM
**Gemini North primary mirror glass repair after fracture incident**
*Author(s):* **Thomas Schneider,** Gemini Observatory (United States); **Myung Cho**, **Gary Poczulp,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Charles Cavedoni**, **Heather Carr,** Gemini Observatory (United States); **Ron Harris,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Katie Smither,** Gemini Observatory (United States); **Slawomir Bucki,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Clayton Ah Hee,** Gemini Observatory (United States); **Thomas Hayward,** Gemini Observatory (Chile)

13094-17 • 05:20 PM - 05:40 PM
**Laser mirror cleaning: a disruptive technology**
*Author(s):* **Albert Tomás**, **Antonio Marzoa**, **Joan Manel Casalta,** SENER Aeroespacial S.A. (Spain); **Manuela Abril Abril,** Grantecan (Spain)

## Monday 17 June 2024

### MONDAY PLENARY

17 June 2024 • 08:20 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/monday-plenary

13173-500 • 08:30 AM - 09:15 AM
**Moving TMT forward: Japan's contributions and transformative approach toward community engagement** (Plenary Presentation)
*Author(s):* **Tomonori Usuda,** National Astronomical Observatory of Japan (United States); **Yuko Kakazu,** Thirty Meter Telescope (United States)

13173-501 • 09:15 AM - 10:00 AM
**From dark skies to bright futures: the evolution of astronomy in Africa and the hosting of the historic International Astronomical Union General Assembly 2024** (Plenary Presentation)
*Author(s):* **Charles Mpho Takalana,** The African Astronomical Society (South Africa)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 4: OBSERVATORY CONSTRUCTION UPDATES

17 June 2024 • 10:20 AM - 12:30 PM | Room G403/404, North - 4F
*Session Chair(s):* **Bruce C. Bigelow**, GMTO Corp. (United States)

13094-18 • 10:20 AM - 10:50 AM
**Vera C. Rubin Observatory construction status** *(Invited Paper)*
*Author(s):* **Victor Krabbendam,** Vera C. Rubin Observatory (United States)

13094-19 • 10:50 AM - 11:20 AM
**The Cherenkov Telescope Array Observatory (CTAO): ongoing development of the world's premier ground-based gamma ray observatory** *(Invited Paper)*
*Author(s):* **Stuart McMuldroch,** Cherenkov Telescope Array Observatory gGmbH (Germany); **Roberta Zanin,** Cherenkov Telescope Array Observatory gGmbH (Italy); **Stefan Schlenstedt,** Cherenkov Telescope Array Observatory gGmbH (Germany); **Stefano Stanghellini,** Cherenkov Telescope Array Observatory gGmbH (Italy); **Volker Heinz,** Cherenkov Telescope Array Observatory gGmbH (Chile); **Paolo Calisse,** Cherenkov Telescope Array Observatory gGmbH (Spain); **Federico Ferrini,** Cherenkov Telescope Array Observatory gGmbH (Italy); **Igor Oya,** Cherenkov Telescope Array Observatory gGmbH (Germany)

13094-20 • 11:20 AM - 11:50 AM
**Construction update for the Square Kilometre Array Observatory** *(Invited Paper)*
*Author(s):* **Joseph P. McMullin**, **Philip Diamond,** SKA Observatory (United Kingdom), The Univ. of Manchester (United Kingdom); **Andrea Casson,** SKA Observatory (United Kingdom); **Tracy Cheetham,** SKA Observatory (South Africa); **Peter Dewdney**, **Robert Laing**, **Maria Grazia Labate**, **Ben Lewis**, **Nick Rees,** SKA Observatory (United Kingdom); **Antony Schinckel,** SKA Observatory (Australia); **Luca Stringhetti**, **Gerhard Swart**, **Andre van Es**, **Lewis Ball**, **Antonio Chrysostomou,** SKA Observatory (United Kingdom); **Lindsay Magnus,** SKA Observatory (South Africa); **Sarah Pearce,** SKA Observatory (Australia); **Simon Berry, Robert Braun,** SKA Observatory (United Kingdom)

13094-21 • 11:50 AM - 12:10 PM
**DREAMS telescope: construction status**
*Author(s):* **Tony D. Travouillon**, **Jamie Soon**, **Anna Moore**, **Ken Freeman,** The Australian National Univ. (Australia); **Orsola De Marco**, **Stuart Rider**, **Simon Ellis,** Macquarie Univ. (Australia); **Alexander Heger,** Monash Univ. (Australia); **Jeffrey Cooke,** Swinburne Univ. of Technology (Australia); **Jonathan Bland-Hawthorn,** The Univ. of Sydney (Australia); **Michael C. B. Ashley,** The Univ. of New South Wales (Australia); **Hadrien Devillepoix,** Curtin Univ. (Australia); **Jarek Antoszewski,** The Univ. of Western Australia (Australia); **Roberto Soria,** Chinese National Astronomical Observatory (China); **Mansi M. Kasliwal,** Caltech (United States); **Robert Simcoe,** Massachusetts Institute of Technology (United States)

13094-220 • 12:10 PM - 12:30 PM
**High-contrast imaging and spectroscopy by a low-scattering off-axis telescope PLANETS: current status of the development and future plan**
*Author(s):* **Takeshi Sakanoi,** Tohoku Univ. (Japan), PLANETS Foundation (United States); **Marcelo Emilio,** Univ. Estadual de Ponta Grossa (Brazil), PLANETS Foundation (United States); **Simone Daflon dos Santos,** Observatório Nacional (Brazil), PLANETS Foundation (United States); **Svetlana V. Berdyugina,** Istituto ricerche solari Aldo e Cele Daccò (Switzerland), PLANETS Foundation (United States); **Masato Kagitani,** Tohoku Univ. (Japan); **Mikio Kurita,** Kyoto Univ. (Japan); **Yasuhiro Hirahara,** Nagoya Univ. (Japan); **Jeffery R. Kuhn,** Univ. of Hawai'i (United States); **Kevin Lewis,** Buble Studios (United States); **Keisuke Takahashi,** LogistLab. Inc. (Japan); **Ryan Swindle,** Odyssey Systems Colting Group Ltd. (United States)

## Lunch Break 12:30 PM - 02:00 PM

## SESSION 5: MODELING AS A DRIVER OF OBSERVATORY DESIGN - JOINT SESSION WITH 13094 AND 13099

17 June 2024 • 02:00 PM - 04:50 PM | Room G403/404, North - 4F
*Session Chair(s):* **Breann N. Sitarski**, NASA Goddard Space Flight Ctr. (United States); **Bernhard Lopez**, Cherenkov Telescope Array Observatory gGmbH (Germany)

13094-25 • 02:00 PM - 02:20 PM
**An update on the DKIST's sitewide vibration surveillance and mitigation efforts**
*Author(s):* **Brialyn Onodera**, **Sebastien Poupar**, **David M. Harrington**, **Luke C. Johnson, Stacey R. Sueoka,** National Solar Observatory (United States)

13094-26 • 02:20 PM - 02:40 PM
**Thermal stabilization of the Large Millimeter Telescope**
*Author(s):* **F. Peter Schloerb**, **Kamal Souccar,** Univ. of Massachusetts Amherst (United States); **David M. Gale,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Xia Huang,** Univ. of Massachusetts Amherst (United States); **David H. Hughes**, **Emir Moreno**, **José Luis Hernández Rebollar,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Grant W. Wilson,** Univ. of Massachusetts Amherst (United States)

13094-27 • 02:40 PM - 03:00 PM
**Aerothermal support for TMT International Observatory Enclosure and Summit Facilities subsystems**
*Author(s):* **Konstantinos Vogiatzis**, **Hugh Thompson, Gelys Trancho,** Thirty Meter Telescope (United States)

13094-28 • 03:00 PM - 03:20 PM
**Modal vibration testing of the 26m John A. Galt radio telescope**
*Author(s):* **Peter W. G. Byrnes**, **Mohammad N. Islam**, **Timothy Robishaw, Parmeet Brar,** NRC-Herzberg Astronomy & Astrophysics (Canada)

Coffee Break • 03:20 PM - 03:50 PM

13099-28 • 03:50 PM - 04:10 PM
**A feedforward/feedback pointing control policy for Leighton Chajnantor Telescope against wind disturbance and beam offset**
*Author(s):* **Weirui Chen, Zheng Wang,** Southeast Univ. (China)

13099-29 • 04:10 PM - 04:30 PM
**GMT integrated FEM and its role in systems engineering**
*Author(s):* **Christoph Dribusch**, **Rodolphe Conan**, **Rodrigo Romano, Henry Fitzpatrick,** GMTO Corp. (United States)

13099-30 • 04:30 PM - 04:50 PM
**Dynamic simulations, jitter analysis, and vibration budget for tracking performance optimization of the Giant Magellan Telescope mount**
*Author(s):* **Alexei Ippa**, **Eberhard Sust**, **Ulrich Weis, Peter Eisenträger,** OHB Digital Connect GmbH (Germany)

## Tuesday 18 June 2024

### TUESDAY PLENARY

18 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/tuesday-plenary

13173-502 • 08:30 AM - 09:15 AM
**The present and future of Japan's space program** (Plenary Presentation)
*Author(s):* **Saku Tsuneta,** National Astronomical Observatory of Japan (Japan)

13173-503 • 09:15 AM - 10:00 AM
**NASA astrophysics: from today to the Habitable Worlds Observatory** (Plenary Presentation)
*Author(s):* **Mark Clampin,** NASA Goddard Space Flight Ctr. (United States); **John M. O'Meara,** W. M. Keck Observatory (United States)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 6: COMMISSIONING

18 June 2024 • 10:20 AM - 12:40 PM | Room G403/404, North - 4F
*Session Chair(s):* **Tomonori Usuda**, National Astronomical Observatory of Japan (United States)

13094-29 • 10:20 AM - 10:50 AM
**The University of Tokyo Atacama Observatory 6.5m telescope: project status 2024** *(Invited Paper)*
*Author(s):* **Takashi Miyata**, **Yuzuru Yoshii**, **Mamoru Doi**, **Kotaro Kohno**, **Takeo Minezaki,** The Univ. of Tokyo (Japan); **Kentaro Motohara,** National Astronomical Observatory of Japan (Japan); **Shigeyuki Sako**, **Fumi Egusa**, **Itsuki Sakon**, **Masahiro Konishi**, **Hidenori Takahashi**, **Takafumi Kamizuka**, **Kazuya Matsubayashi**, **Hiroaki Sameshima**, **Mitsuyoshi Yamagishi**, **Masataka Imai**, **Shuhei Koyama**, **Takashi Horiuchi**, **Yuki Hirao**, **Kosuke Kushibiki**, **Natsuko Kato**, **Mizuki Numata,** The Univ. of Tokyo (Japan); **Leonardo Bronfman**, **Maria T. Ruiz**, **Rene Mendez**, **Guido Garay**, **Andres Escala, Patricio Rojo,** Univ. de Chile (Chile)

13094-30 • 10:50 AM - 11:20 AM
**The CCAT project nearing first light: updates on the facility, instrumentation, and science** *(Invited Paper)*
*Author(s):* **Gordon J. Stacey, CCAT Collaboration,** Cornell Univ. (United States)

13094-31 • 11:20 AM - 11:40 AM
**NSF's Daniel K. Inouye Solar Telescope: the highs and lows of commissioning and transition to early operations**
*Author(s):* **Paul F. Jeffers, Heather Marshall,** National Solar Observatory (United States)

13094-32 • 11:40 AM - 12:00 PM
**Simons Observatory: small aperture telescopes overview and status**
*Author(s):* **Tomoki Terasaki,** The Univ. of Tokyo (Japan)

13094-33 • 12:00 PM - 12:20 PM
**Performance of ASTRI-1 the first telescope of the ASTRI Mini-Array**
*Author(s):* **Salvatore Scuderi,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Gino Tosti,** Univ. degli Studi di Perugia (Italy); **Giovanni Pareschi,** INAF - Osservatorio Astronomico di Brera (Italy); **Carmelo Gargano,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Palermo (Italy); **Nicola La Palombara,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Matteo Spinola**, **Gianpietro Marchiori,** EIE Group S.r.l. (Italy); **Adriano Ghedina,** Fundación Galileo Galilei - INAF (Spain)

13094-34 • 12:20 PM - 12:40 PM
**Introduction to the 7-Dimensional Telescope: commissioning procedures and data characteristics**
*Author(s):* **Ji Hoon Kim**, **Myungshin Im**, **Hyungmok Lee**, **Seo-Won Chang**, **Hyeonho Choi, Gragory S.H. Paek,** Seoul National Univ. (Korea, Republic of)

## Lunch/Exhibition Break 12:40 PM - 02:00 PM

## SESSION 7: COMMISSIONING & OPS I

18 June 2024 • 02:00 PM - 03:40 PM | Room G403/404, North - 4F
*Session Chair(s):* **Jean-Gabriel Cuby**, Lab. d'Astrophysique de Marseille (United States)

13094-35 • 02:00 PM - 02:30 PM
**The US National Science Foundation Daniel K. Inouye Solar Telescope: operations commissioning: results and lessons learned** *(Invited Paper)*
*Author(s):* **Thomas R. Rimmele**, **Alexandra Tritschler**, **Friedrich Wöger**, **Heather Marshall**, **Paul Jeffers**, **Bret Goodrich**, **Andres Parraguez**, **Alisdair Davey**, **Robert Tawa**, **David Harrington**, **Thomas Schad**, **André Fehlmann**, **Sarah Jaeggli**, **Tetsu Anan**, **Christian Beck**, **Catherine Fischer**, **Gianna Cauzzi**, **Lucas Tarr**, **Maxim Kramar**, **Serena Criscuoli**, **David Kuridze**, **Joao Manuel da Silva Santos**, **Han Uitenbroek**, **Scott Wiant**, **Tony Hays**, **Arthur Eigenbrot**, **Fraser Watson**, **Hillary Head**, **David Morris**, **Manuel Díaz Alfaro**, **Nuria Wright-Garba**, **Antony Santini, DKIST Team,** National Solar Observatory (United States)

13094-36 • 02:30 PM - 03:00 PM
**SUNRISE III balloon-borne solar telescope and its NIR spectropolarimeter SCIP** *(Invited Paper)*
*Author(s):* **Yukio Katsukawa**, **Hirohisa Hara,** National Astronomical Observatory of Japan (Japan); **Sami K. Solanki**, **Andreas Korpi-Lagg,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Pietro N. Bernasconi,** Johns Hopkins Univ. Applied Physics Lab., LLC (United States); **Jose Carlos del Toro Iniesta,** Instituto de Astrofísica de Andalucía (Spain); **Thomas Berkefeld,** Leibniz-Institut für Sonnenphysik (KIS) (Germany); **Masahito Kubo**, **Takayoshi Oba**, **Yusuke Kawabata,** National Astronomical Observatory of Japan (Japan); **Toshifumi Shimizu,** Institute of Space and Astronautical Science (Japan); **Fumihiro Uraguchi**, **Toshihiro Tsuzuki,** National Astronomical Observatory of Japan (Japan); **María Balaguer Jiménez**, **David Orozco Suárez,** Instituto de Astrofísica de Andalucía (Spain); **Javier Piqueras Carreño,** Univ. Politécnica de Madrid (Spain); **Achim Gandorfer, Alex Feller,** Max-Planck-Institut für Sonnensystemforschung (Germany)

13094-37 • 03:00 PM - 03:20 PM
**The Large Millimeter Telescope (LMT) Alfonso Serrano: current status and future upgrades**
*Author(s):* **David H. Hughes,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **F. Peter Schloerb**, **Min S. Yun**, **Grant W. Wilson**, **Kamal Souccar**, **Alexandra Pope**, **Gopal Narayanan,** Univ. of Massachusetts Amherst (United States); **David M. Gale**, **José Luis Hernández Rebollar**, **Itziar Aretxaga,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Arturo Gómez Ruiz**, **David Omar Sánchez Argüelles,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico), Consejo Nacional de Humanidades, Ciencias y Tecnologías (Mexico); **Alfredo Montaña,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Iván Rodríguez Montoya,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico), Consejo Nacional de Humanidades, Ciencias y Tecnologías (Mexico); **Marcos Emir Moreno,** COMIMSA - Corporación Mexicana de Investigación en Materiales S.A. de C.V (Mexico)

13094-38 • 03:20 PM - 03:40 PM
**The SDSS-V Local Volume Mapper Survey Telescopes: from conception to science**
*Author(s):* **Thomas M. Herbst**, **Peter Bizenberger,** Max-Planck-Institut für Astronomie (Germany); **Guillermo A. Blanc,** Carnegie Institution for Science (United States); **Florian Briegel,** Max-Planck-Institut für Astronomie (Germany); **Scott Case,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Niv Drory,** The Univ. of Texas at Austin (United States); **Tobias Feger,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Cynthia Froning,** The Univ. of Texas at Austin (United States); **Wolfgang Gaessler**, **Maximilian Häberle,** Max-Planck-Institut für Astronomie (Germany); **Anthony Hebert,** Carnegie Institution for Science (United States); **Juna Kollmeier,** Canadian Institute for Theoretical Astrophysics (Canada); **Nicholas Konidaris,** Carnegie Institution for Science (United States); **Markus Kuhlberg,** Max-Planck-Institut für Astronomie (Germany); **Alicia Lanz,** Carnegie Institution for Science (United States); **Richard Mathar**, **Lars Mohr,** Max-Planck-Institut für Astronomie (Germany); **Soojong Pak,** Kyung Hee Univ. (Korea, Republic of); **Solange Ramirez,** Carnegie Institution for Science (United States); **Christopher Ritz,** Landessternwarte Heidelberg (Germany); **David Robertson,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Ralf-Rainer Rohloff,** Max-Planck-Institut für Astronomie (Germany); **José Sanchez-Gallego,** Univ. of Washington (United States); **Paula Stępień,** Max-Planck-Institut für Astronomie (Germany); **Stefanie Wachter,** Carnegie Institution for Science (United States); **Ross Zhelem,** Australian Astronomical Optics, Macquarie Univ. (Australia)

**Coffee Break 03:40 PM - 04:10 PM**

## SESSION 8: COMMISSIONING & OPS II

18 June 2024 • 04:10 PM - 04:50 PM | Room G403/404, North - 4F
*Session Chair(s):* **Anamparambu N. Ramaprakash**, Inter-Univ. Ctr. for Astronomy and Astrophysics (India)

13094-39 • 04:10 PM - 04:30 PM
**Updates on MeerKAT+, the MeerKAT radio telescope extension project**
*Author(s):* **Gundolf Wieching,** Max-Planck-Institut für Radioastronomie (Germany); **Kobus Clote,** South African Radio Astronomy Observatory (South Africa); **Hans-Rainer Klöckner,** Max-Planck-Institut für Radioastronomie (Germany); **Fernando Camilo,** South African Radio Astronomy Observatory (South Africa); **Filippo Maria Zerbi,** INAF - Istituto Nazionale di Astrofisica (Italy); **Pontsho Maruping,** South African Radio Astronomy Observatory (South Africa); **Michael Kramer,** Max-Planck-Institut für Radioastronomie (Germany)

13094-40 • 04:30 PM - 04:50 PM
**SPECULOOS: five years hunting terrestrial planets around ultracool dwarfs**
*Author(s):* **Sebastián Zúñiga-Fernández**, **Michaël Gillon,** Liège Univ. (Belgium); **Daniel Sebastian,** Univ. of Birmingham (United Kingdom); **Peter P. Pedersen,** Univ. of Cambridge (United Kingdom); **Artem Burdanov,** Massachusetts Institute of Technology (United States)

## SESSION PS1: POSTERS - COMMISSIONING

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13094-95 • 05:30 PM - 07:00 PM
**Overview of communications and observation strategies in the stratosphere for the Super Pressure Balloon-borne Imaging Telescope (SuperBIT)**
*Author(s):* **Emaad Paracha,** Univ. of Toronto (Canada); **Steven J. Benton,** Princeton Univ. (United States); **Christopher J. Damaren,** Univ. of Toronto (Canada); **Spencer W. Everett,** Jet Propulsion Lab., Caltech (United States); **Aurelien A. Fraisse,** Princeton Univ. (United States); **Ajay S. Gill,** Massachusetts Institute of Technology (United States); **John W. Hartley,** StarSpec Technologies Inc. (Canada); **David Harvey,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Bradley Holder,** Univ. of Toronto (Canada); **Eric M. Huff,** Jet Propulsion Lab., Caltech (United States); **Mathilde Jauzac,** Institute for Computational Cosmology, Durham Univ. (United Kingdom); **William C. Jones,** Princeton Univ. (United States); **Jason S.-Y. Leung,** Univ. of Toronto (Canada); **Lun Li,** StarSpec Technologies Inc. (Canada); **Thuy Vy T. Luu,** Princeton Univ. (United States); **Richard Massey,** Ctr. for Extragalactic Astronomy, Durham Univ. (United Kingdom); **Jacqueline E. McCleary,** Northeastern Univ. (United States); **Johanna M. Nagy,** Case Western Reserve Univ. (United States); **C. Barth Netterfield,** Univ. of Toronto (Canada); **Susan F. Redmond,** Caltech (United States); **Jason D. Rhodes**, **Andrew Robertson,** Jet Propulsion Lab., Caltech (United States); **L. Javier Romualdez,** StarSpec Technologies Inc. (Canada); **Jürgen Schmoll,** Institute for Computational Cosmology, Durham Univ. (United Kingdom); **Mohamed M. Shaaban,** Palantir Technologies (United States); **Ellen L. Sirks,** The Univ. of Sydney (Australia); **Georgios N. Vassilakis,** Northeastern Univ. (United States); **Philippe Voyer,** Institute for Aerospace Studies, Univ. of Toronto (Canada); **Andre Z. Vitorelli,** Jet Propulsion Lab., Caltech (United States)

13094-96 • 05:30 PM - 07:00 PM
**The Dragonfly Spectral Line Mapper: Completion of the 120-lens array**
*Author(s):* **Seery Chen,** Univ. of Toronto (Canada); **Deborah M. Lokhorst,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Imad Pasha**, **William Bowman,** Yale Univ. (United States); **Qing Liu,** Univ. of Toronto (Canada); **Zili Shen,** Yale Univ. (United States); **Evgeni I Malakhov,** New Mexico Skies (United States); **Roberto G. Abraham,** Univ. of Toronto (Canada); **Pieter van Dokkum,** Yale Univ. (United States)

13094-97 • 05:30 PM - 07:00 PM
**Advancements in the implementation and commissioning of the Wendelstein First Ring for the 2.1 m-telescope at the Wendelstein Observatory**
*Author(s):* **Frank Grupp**, **Juliana Ehrhardt**, **Hanna Kellermann**, **Claus Gössl,** Univ.-Sternwarte München (Germany); **Florian Lang,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Ulrich Hopp, Ralf Bender,** Univ.-Sternwarte München (Germany)

13094-98 • 05:30 PM - 07:00 PM
**Image quality estimation: pathfinding for the Vera C. Rubin Observatory**
*Author(s):* **Elana Urbach,** Harvard Univ. (United States); **Chuck Claver**, **Erik Dennihy,** Vera C. Rubin Observatory (United States); **Juan Fabrega,** Vera C. Rubin Observatory (Chile); **Kevin Fanning,** SLAC National Accelerator Lab. (United States); **Merlin Fisher-Levine,** Vera C. Rubin Observatory (United States); **Claire-Alice Hebert,** Brookhaven National Laboratory (United States); **Patrick Ingraham,** Steward Observatory, The Univ. of Arizona (United States); **David Jimenez,** Vera C. Rubin Observatory (Chile); **Tony Johnson,** SLAC National Accelerator Lab. (United States); **Craig Lage,** Univ. of California, Davis (United States); **Robert Lupton,** Princeton Univ. (United States); **Josh Meyers,** SLAC National Accelerator Lab. (United States); **Eske Pedersen,** Harvard Univ. (United States); **Mario Rivera**, **Jacques Sebag,** Vera C. Rubin Observatory (Chile); **Alysha Shugart**, **Ioana Sotuela**, **Brian Stalder,** Vera C. Rubin Observatory (United States); **Christopher W. Stubbs,** Harvard Univ. (United States); **Gregg Thayer,** SLAC National Accelerator Lab. (United States); **Sandrine J. Thomas,** Vera C. Rubin Observatory (United States); **Roberto Tighe,** Vera C. Rubin Observatory (Chile); **Chris Walter,** Duke Univ. (United States)

## SESSION PS2: POSTERS - COMMISSIONING & OPERATIONS

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13094-163 • 05:30 PM - 07:00 PM
**Status of the Lowell Discovery Telescope twelve years past first light**
*Author(s):* **Stephen E. Levine,** Lowell Observatory (United States)

13094-164 • 05:30 PM - 07:00 PM
**Realizing the potential of the Dragonfly Spectral Line Mapper: Calibration methods and on sky performance**
*Author(s):* **Deborah M. Lokhorst,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Seery Chen**, **Roberto G. Abraham,** Univ. of Toronto (Canada); **Pieter van Dokkum**, **Imad Pasha**, **William P Bowman**, **Zili Shen,** Yale Univ. (United States); **Qing Liu,** Univ. of Toronto (Canada); **Victoria Purcell**, **Aidan MacNichol,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Evgeni Malakhov,** New Mexico Skies Observatories (United States)

13094-166 • 05:30 PM - 07:00 PM
**The Lowell Observatory Solar Telescope (LOST) and the EXtreme PREcision Spectrograph (EXPRES)**
*Author(s):* **Joe Llama,** Lowell Observatory (United States); **Lily Zhao,** Flatiron Institute (United States); **John Brewer,** San Francisco State Univ. (United States); **Andrew Szymkowiak, Debra Fischer,** Yale Univ. (United States)

13094-167 • 05:30 PM - 07:00 PM
**To the stratosphere and beyond: super-pressure balloon flight overview for the Super-pressure Balloon-borne Imaging Telescope (SuperBIT)**
*Author(s):* **Susan F. Redmond,** Caltech (United States), Jet Propulsion Lab. (United States); **Ajay S. Gill,** Massachusetts Institute of Technology (United States); **C. Barth Netterfield,** Univ. of Toronto (Canada); **Steven J. Benton,** Princeton Univ. (United States); **Christopher J. Damaren,** Univ. of Toronto (Canada); **Spencer W. Everett,** Jet Propulsion Lab. (United States); **Aurelien A. Fraisse,** Princeton Univ. (United States); **John W. Hartley,** StarSpec Technologies Inc. (Canada); **David Harvey,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Bradley Holder,** Univ. of Toronto (Canada); **Eric M. Huff,** Jet Propulsion Lab. (United States); **William C. Jones,** Princeton Univ. (United States); **David Lagattuta**, **Mathilde Jauzac,** Durham Univ. (United Kingdom); **Jason S.-Y. Leung,** Univ. of Toronto (Canada); **Lun Li,** StarSpec Technologies Inc. (Canada); **Thuy Vy T. Luu,** Princeton Univ. (United States); **Richard Massey,** Durham Univ. (United Kingdom); **Jacqueline E. McCleary,** Northeastern Univ. (United States); **Johanna M. Nagy,** Case Western Reserve Univ. (United States); **Emaad Paracha,** Univ. of Toronto (Canada); **Jason D. Rhodes**, **Andrew Robertson,** Jet Propulsion Lab. (United States); **Jürgen Schmoll,** Durham Univ. (United Kingdom); **L. Javier Romualdez,** StarSpec Technologies Inc. (Canada); **Mohamed M. Shaaban,** Palantir Technologies (United States); **Ellen L. Sirks,** The Univ. of Sydney (Australia); **Georgios N. Vassilakis,** Northeastern Univ. (United States); **Andre Z. Vitorelli,** Jet Propulsion Lab. (United States)

## SESSION PS3: POSTERS - ELT ENABLING TECHNOLOGIES

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13094-46 • 05:30 PM - 07:00 PM
**The United States Extremely Large Telescope Program science and concept of operations**
*Author(s):* **Eric Peng**, **Marie Lemoine-Busserole**, **Lucas Macri,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Gelys Trancho,** Thirty Meter Telescope (United States); **Robert W. Goodrich,** GMTO Corp. (United States); **André-Nicolas Chené**, **Richard F. Green,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Scot J. Kleinman,** Thirty Meter Telescope (United States); **Rebecca Bernstein,** GMTO Corp. (United States); **Mike Fitzpatrick**, **François Pradeau,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Kim K. Gillies,** Thirty Meter Telescope (United States); **Brian Walls,** GMTO Corp. (United States); **Andrew Serio,** NSF's National Optical-Infrared Astronomy Research Lab. (United States)

13094-169 • 05:30 PM - 07:00 PM
**TMT Primary Mirror segment actuators: from prototyping to production**
*Author(s):* **Christopher J. Carter,** Thirty Meter Telescope (United States); **Mark M. Colavita,** Jet Propulsion Lab. (United States)

13094-170 • 05:30 PM - 07:00 PM
**Vibration Measurements on a Utility Wrap Test Bench for Jitter Analysis of High-Precision Telescopes (GMT project)**
*Author(s):* **Alexander Rohr**, **Alexei Ippa,** OHB Digital Connect GmbH (Germany); **Andrej Bolender,** igus GmbH (Germany)

13094-171 • 05:30 PM - 07:00 PM
**Design, development, and production of the ELT M1 Segment Concentrator**
*Author(s):* **Pablo J. Barriga**, **Nick Kornweibel**, **Martin Dimmler**, **Andres Ramirez**, **Ronald Guzman, Jose A. Abad,** European Southern Observatory (Germany)

13094-174 • 05:30 PM - 07:00 PM
**Giant Magellan telescope primary mirror thermal control system design**
*Author(s):* **Gary Muller**, **David S. Ashby**, **Christopher Contaxis**, **Marianne Cox**, **Austin Everman**, **Barbara Fischer,** GMTO Corp. (United States); **John Ford,** Steward Observatory, The Univ. of Arizona (United States); **Michael Gardiner**, **Maria Harnandez**, **Tomas Krasuski**, **Oliver McIrwin**, **Trupti Ranka,** GMTO Corp. (United States); **Thomas Salanski,** The Univ. of Arizona (United States); **Jose Soto**, **Hector Swett,** GMTO Corp. (United States); **David J. Zeller,** The Univ. of Arizona (United States)

## SESSION PS4: POSTERS - ENCLOSURES

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13094-175 • 05:30 PM - 07:00 PM
**Improving the performance of the GTC's dome by upgrading the shutters and dome rotation**
*Author(s):* **William Miguel Hernández Sánchez**, **Sergio Rodriguez Rocha**, **Patricia Gomez Gonzalez**, **Carlos Enrique Martin**, **Domingo Alonso Diaz**, **Ignacio De Leon Rodriguez**, **Maria Martin Calero**, **Alejandro Leal Gonzalez, Victor Herrera Perez,** Gran Telescopio de Canarias, S.A. (Spain)

13094-176 • 05:30 PM - 07:00 PM
**High performance clamshell domes: a new paradigm for astronomical observatories**
*Author(s):* **Gianpietro Marchiori**, **Tommaso Marchiori**, **Matteo Spinola**, **Lorenzo Vio**, **Alessandro Colovini**, **Francesco Rampini,** EIE Group S.r.l. (Italy); **Massimiliano Tordi,** EIE S.r.l. (Italy)

13094-177 • 05:30 PM - 07:00 PM
**The design and construction of the observatory for the FLYEYE telescopes**
*Author(s):* **Gianpietro Marchiori,** EIE Group S.r.l. (Italy); **Massimiliano Tordi,** EIE S.r.l. (Italy); **Leonardo Ghedin**, **Johana L. Martinez**, **Cristiana Manfrin**, **Cristina Battistel,** EIE Group S.r.l. (Italy); **Renè Messing**, **Ernesto Doelling,** European Space Operations Ctr., European Space Agency (Germany); **Riccardo Bressan**, **Tommaso Marchiori**, **Tiziano Niero, Lorenzo Vio,** EIE Group S.r.l. (Italy)

13094-178 • 05:30 PM - 07:00 PM
**DAG rotating enclosure final erection and acceptance tests**
*Author(s):* **Gianpietro Marchiori**, **Francesco Rampini**, **Manfredi Amalfi**, **Riccardo Bressan**, **Cristiana Manfrin**, **Cristina Battistel**, **Johana L. Martinez**, **Lorenzo Vio**, **Tiziano Niero**, **Leonardo Ghedin**, **Tommaso Marchiori,** EIE Group S.r.l. (Italy); **Cahir Yesilyaprak,** Ataturk Univ. Astrophysics Research & Application Ctr. (ATASAM) (Turkey); **Onur Keskin,** Isik Üniv. (Turkey)

13094-179 • 05:30 PM - 07:00 PM
**MROI project: the UTE #2 integrated at the Magdalena Ridge Observatory Interferometer**
*Author(s):* **Gianpietro Marchiori**, **Tommaso Marchiori**, **Alberto Callegaro**, **Cristiana Manfrin**, **Giuseppe Renosto**, **Cristina Battistel**, **Francesco Rampini**, **Cristiano Trabuio,** EIE Group S.r.l. (Italy); **Chris Salcido**, **Van Romero**, **Michelle Creech Eakman, Andres Olivares,** New Mexico Institute of Mining and Technology (United States)

## SESSION PS5: POSTERS - FUTURE OBSERVATORIES

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13094-180 • 05:30 PM - 07:00 PM
**The Near-Ultraviolet eXplorer (NUX): a ground-based wide-field near-UV telescope to search for near-UV transients**
*Author(s):* **Rudy Wijnands,** Univ. of Amsterdam (Netherlands); **Steven Bloemen,** Radboud Univ. Nijmegen (Netherlands); **Rasjied Sloot,** Univ. of Amsterdam (Netherlands); **Rik Ter Horst,** ASTRON (Netherlands); **André Young,** Radboud Univ. Nijmegen (Netherlands); **Mattijs Bakker,** Univ. of Amsterdam (Netherlands); **Paul Groot, Paul Vreeswijk,** Radboud Univ. Nijmegen (Netherlands)

13094-182 • 05:30 PM - 07:00 PM
**WST - Widefield Spectroscopic Telescope: design of a new 12m class telescope dedicated to widefield multi-object and integral field spectroscopy**
*Author(s):* **Philippe Dierickx,** Ctr. de Recherche Astrophysique de Lyon (France); **Tony D. Travouillon**, **Gaston Gausachs,** The Australian National Univ. (Australia); **Roland M. Bacon**, **Corentin Cudennec,** Ctr. de Recherche Astrophysique de Lyon (France); **Ian Bryson**, **David Lee,** UK Astronomy Technology Ctr. (United Kingdom); **Jan Kragt**, **Eduard R. Muslimov,** ASTRON (Netherlands); **Kjetil Dohlen,** Aix-Marseille Univ. (France), Lab. d'Astrophysique de Marseille (France); **Johan Kosmalski**, **Joël Vernet,** European Southern Observatory (Germany); **Thierry Lépine,** Institut d'Optique Graduate School (France), Lab. Hubert Curien (France); **Peter Doel, David Brooks,** Univ. College London (United Kingdom)

13094-183 • 05:30 PM - 07:00 PM
**Instrument overview of Taurus: a balloon-borne CMB and dust polarization experiment**
*Author(s):* **Jared May,** Case Western Reserve Univ. (United States); **Taurus Collaboration,** Taurus Collaboration (United States)

13094-184 • 05:30 PM - 07:00 PM
**Engineering a whole sky one meter class telescope: MezzoCielo as a patrol of transients**
*Author(s):* **Roberto Ragazzoni**, **Silvio Di Rosa,** INAF - Osservatorio Astronomico di Padova (Italy); **Paolo Spanò,** Optical-Design.It (Italy); **Demetrio Magrin**, **Carmelo Arcidiacono**, **Marco Dima**, **Jacopo Farinato**, **Luigi Lessio**, **Paolo Cerpelloni,** INAF - Osservatorio Astronomico di Padova (Italy); **Elisa Portaluri,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Simone Zaggia,** INAF - Osservatorio Astronomico di Padova (Italy)

13094-185 • 05:30 PM - 07:00 PM
**Design and verification of a Radio Frequency Interference (RFI) quite radio astronomical telescope control and drive system for the SKA-MPI Prototype and MeerKAT+ Antennas**
*Author(s):* **Christian Leinz,** Max-Planck-Institut für Radioastronomie (Germany); **Pierre Dubois-dit-Bonclaude**, **Matthias Jost**, **Jens Gotta,** OHB Digital Connect GmbH (Germany); **Christoph Kasemann, Gundolf Wieching,** Max-Planck-Institut für Radioastronomie (Germany)

13094-186 • 05:30 PM - 07:00 PM
**The Grand Spherical Telescope Array (GSTA)**
*Author(s):* **Jun Nishikawa,** National Astronomical Observatory of Japan (Japan), The Graduate Univ. for Advanced Studies (Japan), Astrobiology Ctr. (Japan)

13094-187 • 05:30 PM - 07:00 PM
**The quad-mirror optical telescope concept for the Maunakea Spectroscopic Explorer**
*Author(s):* **Samuel C. Barden,** Canada-France-Hawaii Telescope Corp. (United States)

13094-188 • 05:30 PM - 07:00 PM
**Cryoscope Pathfinder: testing a new approach to low background, diffraction limited, NIR imaging with exceptionally large field of view**
*Author(s):* **Roger M. Smith,** Caltech (United States); **Karim Agabi,** Observatoire de la Côte d'Azur (France); **Michael C. B. Ashley,** The Univ. of New South Wales (Australia); **Robert Bertz**, **Lauren Fahey**, **Jason Fucik**, **Timothee Greffe,** Caltech (United States); **Tristan Guillot,** Observatoire de la Côte d'Azur (France); **David Hale**, **Mansi M. Kasliwal**, **Rishi Pahuja,** Caltech (United States); **Tony Travouillon,,** Australian National University (Australia); **Antonio de Ugarte Postigo,** Observatoire de la Côte d'Azur (France); **Robert Weber**, **Ray Zarzaca,** Caltech (United States); **Jake Zimmer,** California Institute of Technology (United States)

13094-189 • 05:30 PM - 07:00 PM
**Study and analysis of pointing manoeuvres for the RAFTER mission**
*Author(s):* **Chiara Scandaglia,** Politecnico di Torino (Italy); **Alberto Riva,** INAF - Osservatorio Astrofisico di Torino (Italy); **Lorenzo Casalino,** Politecnico di Torino (Italy); **Mario Gai**, **Deborah Busonero, Alberto Vecchiato,** INAF - Osservatorio Astrofisico di Torino (Italy)

13094-190 • 05:30 PM - 07:00 PM
**MUST: the innovative Multiplexed Survey Telescope**
*Author(s):* **Gianpietro Marchiori**, **Simone De Lorenzi**, **Leonardo Ghedin**, **Cristiana Manfrin**, **Cristina Battistel**, **Riccardo Bressan**, **Matteo Spinola**, **Tiziano Niero**, **Lorenzo Vio**, **Tommaso Marchiori,** EIE Group S.r.l. (Italy); **Massimiliano Tordi,** EIE S.r.l. (Italy); **Junsen Lao**, **Lei Huang**, **Lu Lu**, **Zheng Cai**, **Yuchen Zang, Liquan Guod,** Tsinghua Univ. (China)

13094-191 • 05:30 PM - 07:00 PM
**Panopticon: a telescope for our times**
*Author(s):* **Will Saunders, Michael Goodwin,** Australian Astronomical Optics, Macquarie Univ. (Australia)

13094-192 • 05:30 PM - 07:00 PM
**The EXoplanet Climate Infrared TElescope (EXCITE)**
*Author(s):* **Peter C. Nagler,** NASA Goddard Space Flight Ctr. (United States); **Lee Bernard**, **Nat Butler**, **Michael Line**, **Jennifer Patience**, **Logan Jensen**, **Johnathan Gamaunt,** Arizona State Univ. (United States); **Kanchita Klangboonkrong**, **Annalies Kleyheeg**, **Tim Rehm**, **Gregory S. Tucker,** Brown Univ. (United States); **Subhajit Sarkar**, **Lorenzo V. Mugnai,** Cardiff Univ. (United Kingdom); **Nikole Lewis,** Cornell Univ. (United States); **Paul Scowen**, **Kyle Helson**, **Daniel P. Kelly**, **Edward Leong**, **Stephen Maher**, **Ryan McClelland**, **Qian Gong**, **Laddawan R. Miko**, **Augustyn Waczynski,** NASA Goddard Space Flight Ctr. (United States); **Vivien Parmentier,** Univ. of Oxford (United Kingdom); **Andrea Bocchieri**, **Azzurra D'Alessandro**, **Enzo Pascale,** Sapienza Univ. di Roma (Italy); **John W. Hartley**, **Steven Li**, **L. Javier Romualdez,** StarSpec Technologies Inc. (Canada); **C. Barth Netterfield,** Univ. of Toronto (Canada); **Quentin Changeat**, **Billy Edwards, Ingo Waldmann,** Univ. College London (United Kingdom)

## SESSION PS6: POSTERS - METROLOGY & ALIGNMENT

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13094-193 • 05:30 PM - 07:00 PM
**Integration and Optical Alignment of the Rubin Observatory Simonyi Survey telescope with a Laser Tracker**
*Author(s):* **Guillem Megias Homar,** Stanford Univ. (United States); **Roberto Tighe,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Sandrine J. Thomas,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Scott Sandwith,** Hexagon Manufacturing Intelligence (United States); **Jacques Sebag,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Brian Stalder,** Vera C. Rubin Observatory (United States); **Mario Rivera,** Vera C. Rubin Observatory (Chile); **Tiago Ribeiro,** Vera C. Rubin Observatory (United States); **John Palmateer,** DP Metrology Consulting LLC (United States); **Joshua M. Meyers,** Kavli Institute for Particle Astrophysics and Cosmology (United States), SLAC National Accelerator Laboratory (United States); **Dave Mills,** Vera C. Rubin Observatory (United States); **Steven M. Kahn,** Departments of Physics and Astronomy, University of California, Berkelely (United States), Kavli Institute for Particle Astrophysics and Cosmology, Stanford University, (United States); **Freddy Muñoz**, **Juan López**, **Claudio Araya, Christian Aguilar,** Vera C. Rubin Observatory (Chile)

13094-194 • 05:30 PM - 07:00 PM
**Design and study of LAMOST reference fiber position measurement error compensation device**
*Author(s):* **Jinxin Zhou**, **Yingfu Wang**, **Jiahao Zhou**, **Ziming Liu**, **Rongfeng Chen**, **Jiacheng Xie**, **Hongzhuan Hu**, **Jianping Wang**, **Zhigang Liu**, **Jiaru Chu, Zengxiang Zhou,** Univ. of Science and Technology of China (China)

13094-195 • 05:30 PM - 07:00 PM
**Alignment using the LT in the MORFEO @ ELT instrumentation**
*Author(s):* **Edoardo Maria Alberto Redaelli**, **Matteo Aliverti**, **Marco Riva**, **Giorgio Pariani,** INAF - Osservatorio Astronomico di Brera (Italy); **Vincenzo De Caprio**, **Vincenzo Cianniello**, **Christian Eredia**, **Enrico Cascone,** INAF-Osservatorio Astronomico di Capodimonte (Italy); **Ivan Di Antonio**, **Gianluca Di Rico**, **Mauro Dolci**, **Gabriele Rodeghiero,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Demetrio Magrin,** INAF - Osservatorio Astronomico di Padova (Italy); **Lorenzo Busoni**, **Italo Foppiani Foppiani,** INAF – Osservatorio Astronomico di Arcetri (Italy); **Jacopo Farinato,** INAF - Osservatorio Astronomico di Padova (Italy); **Paolo Ciliegi Ciliegi, Andrea Di Rocco Di Rocco,** INAF Osservatorio di Astrofisica e Scienza dello Spazio di Bologna (Italy)

13094-196 • 05:30 PM - 07:00 PM
**BAMM! An improved warping solver for segmented mirrors**
*Author(s):* **Luke Gers,** W. M. Keck Observatory (United States)

13094-198 • 05:30 PM - 07:00 PM
**Finite element model verification of the John A. Galt 26m Telescope through photogrammetry**
*Author(s):* **Mohammad N. Islam**, **Bruce Veidt**, **Tim Robishaw**, **Parmeet Brar, Xuan Du,** National Research Council Canada (Canada)

13094-199 • 05:30 PM - 07:00 PM
**Simulation and analysis of co-phasing errors of the segmented primary mirror in JUST**
*Author(s):* **Shidong Shen,** Nanjing Institute of Astronomical Optics & Technology (China)

13094-200 • 05:30 PM - 07:00 PM
**Inductance-to- digital Converters (LDC) based differential inductive displacement sensors with frequency output**
*Author(s):* **Xiaolong Lu**, **Zongwen Wang,** Sichuan Univ. (China); **You Wang,** Nanjing Institute of Astronomical Optics & Technology (China); **Guiyun Tian Tian,** Newcastle Univ. (United Kingdom); **Dehua Yang, Yong Zhang,** Nanjing Institute of Astronomical Optics & Technology (China)

13094-201 • 05:30 PM - 07:00 PM
**Testing of eddy current edge displacement sensor on LAMOST**
*Author(s):* **Shuyu Zhu,** Univ. of Science and Technology of China (China); **Jijun Ni,** Nanjing Institute of Astronomical Optics & Technology (China); **Jing Yin, Zhihua Feng,** Univ. of Science and Technology of China (China)

13094-202 • 05:30 PM - 07:00 PM
**The design of a star tracker camera for high-altitude scientific balloon flights**
*Author(s):* **Windell H. Jones, Salah E. Fatih,** No'eau Instrument Development, LLC (United States)

## SESSION PS7: POSTERS - MODELING AS A DRIVER OF OBSERVATORY DESIGN

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13094-203 • 05:30 PM - 07:00 PM
**Model-based optimal tracking control architecture for ground-based telescopes**
*Author(s):* **Giacomo Basile,** INAF - Osservatorio Astronomico di Capodimonte (Italy), Univ. degli Studi di Napoli Federico II (Italy); **Manuel D. Gonzalez,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Alberto Petrillo**, **Stefania Santini,** Univ. degli Studi di Napoli Federico II (Italy); **Salvatore Savarese, Pietro Schipani,** INAF - Osservatorio Astronomico di Capodimonte (Italy)

13094-204 • 05:30 PM - 07:00 PM
**Framework for Identifying and Separating Individual Sources for Radio Imaging Data in the SKA Era**
*Author(s):* **Heng Zhang**, **Peng Jia**, **Lichun Sun**, **Kaiyang Li, Botong Chen,** Taiyuan Univ. of Technology (China)

13094-205 • 05:30 PM - 07:00 PM
**Advancing the Vera C. Rubin Observatory active optics control system**
*Author(s):* **Guillem Megias Homar**, **Joshua E. Meyers,** Kavli Institute for Particle Astrophysics & Cosmology, Stanford Univ. (United States), SLAC National Accelerator Lab. (United States); **Sandrine J. Thomas,** Vera C. Rubin Observatory (United States); **Steven M. Kahn,** Univ. of California, Berkeley (United States), Kavli Institute for Particle Astrophysics & Cosmology, Stanford Univ. (United States), SLAC National Accelerator Lab. (United States); **Andrew J. Connolly**, **John Franklin Crenshaw**, **J. Bryce Kalmbach**, **Krzysztof Suberlak,** Univ. of Washington (United States); **Rebekah Polen,** Department of Physics, Duke University (United States); **Tei-Wei Tsai**, **Tiago Ribeiro,** Vera C. Rubin Observatory (United States); **Roberto Tighe,** Vera C. Rubin Observatory (Chile); **Gabriele Rodeghiero,** INAF OAS (Italy); **Rodolfo Canestrari,** INAF IASF-Pa (Italy); **Enrico Giro,** INAF OATS (Italy); **Douglas Niell**, **Petr Kubanek,** Vera C. Rubin Observatory (United States); **Luca Rosignoli,** Department of Physics and Astronomy (DIFA), University of Bologna (Italy)

## SESSION PS8: POSTERS - MOUNTS

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13094-207 • 05:30 PM - 07:00 PM
**Design implementation of Telescope Utility Services (TUS) onto the TMT telescope structure**
*Author(s):* **Seiichi Tazawa,** National Astronomical Observatory of Japan (Japan); **Benjamin Irarrazaval**, **Amir Sadjadpour,** Thirty Meter Telescope (United States); **Hirokazu Honda**, **Makoto Endo**, **Tatsunori Hirano**, **Yusuke Kibayashi**, **Kengo Fujiwara,** Mitsubishi Electric Corp. (Japan); **Hiroshi Kusumoto,** National Astronomical Observatory of Japan (Japan); **Jamie Dodge**, **Josh Church**, **Fernando Santoro,** Thirty Meter Telescope (United States); **Yutaka Ezaki,** Mitsubishi Electric Corp. (Japan); **Gelys Trancho**, **Kyle Kinoshita,** Thirty Meter Telescope (United States); **Hiroshi Terada**, **Masahiro Sugimoto**, **Masao Saito, Tomonori Usuda,** National Astronomical Observatory of Japan (Japan)

13094-208 • 05:30 PM - 07:00 PM
**DiSQ: a software solution to facilitate the verification of the SKA-Mid dish structures**
*Author(s):* **Oliver Skivington,** Critical Software Technologies Ltd. (United Kingdom); **Thomas Juerges,** SKA Observatory (United Kingdom); **Ulrik Pedersen,** Observatory Sciences Ltd. (United Kingdom); **Jarrett Engelbrecht,** Vivo Technical (South Africa)

13094-209 • 05:30 PM - 07:00 PM
**LFAST 20x Telescope: design and testing**
*Author(s):* **Peter Gray,** The Univ. of Arizona (United States)

13094-211 • 05:30 PM - 07:00 PM
**Small-ELF Telescope opto-mechanical system: progress on design, manufacturing, and tensegrity prototyping**
*Author(s):* **Ye Zhou**, **Timothy K Lee,** Dynamic Intelligent Structures Ltd. (Canada); **Jeff R Kuhn,** IfA Univ. Hawaii (United States); **M de Oliveira,** UC San Diego (United States); **Ian Cunnyngham,** MorphOptic (United States); **Stuart M Jefferies,** Georgia State University (United States); **Maud Langlois**, **Gil Moretto,** CNRS (France); **Kevin Lewis,** PLANETS Foundation (United States); **Nicolas Lodieu**, **Rafael Rebolo,** IAC (Spain); **Joe Ritter,** MorphOptic (United States); **Ryan Swindle,** Odyssey Consulting (United States); **Sergio Salata, Ricardo Diego,** AVS (Spain)

13094-212 • 05:30 PM - 07:00 PM
**Segmentation of the hyperbolic primary mirror of the 4-m JUST telescope**
*Author(s):* **Dehua Yang,** Nanjing Institute of Astronomical Optics & Technology (China)

13094-213 • 05:30 PM - 07:00 PM
**Support design of the elliptical tertiary mirror of the 4-m JUST telescope**
*Author(s):* **Shouwei Hu**, **Yongjun Liang, Dehua Yang,** Nanjing Institute of Astronomical Optics & Technology (China)

13094-214 • 05:30 PM - 07:00 PM
**Mechanical design and on-site installation of the first three telescopes of the ASTRI mini-array for ground-based gamma-ray astronomy**
*Author(s):* **Gianpietro Marchiori**, **Matteo Spinola,** EIE Group S.r.l. (Italy); **Salvatore Scuderi,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Gino Tosti,** Univ. degli Studi di Perugia (Italy); **Carmelo Gargano,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Palermo (Italy); **Giuseppe Leto**, **Valentina Giordano,** INAF - Osservatorio Astrofisico di Catania (Italy); **Giovanni Pareschi**, **Giorgia Sironi,** INAF - Osservatorio Astronomico di Brera (Italy); **Christine Grivel,** Fundación Galileo Galilei - INAF (Spain); **Tiziano Niero, Cristiano Trabuio,** EIE Group S.r.l. (Italy)

13094-216 • 05:30 PM - 07:00 PM
**The LST-south as part of the "CTA+" program**
*Author(s):* **Lucio Angelo Antonelli,** INAF - Osservatorio Astronomico di Roma (Italy)

13094-217 • 05:30 PM - 07:00 PM
**New Robotic Telescope system progress towards critical design review**
*Author(s):* **David Copley**, **Richard Ashley**, **Stuart D. Bates**, **Joao Bento**, **Sebastian Buntin**, **Chris M. Copperwheat**, **Adam Garner**, **Beth Garton**, **David Heffernan**, **Helen E. Jermak**, **David Law**, **Adrian McGrath**, **Chloe Miossec**, **Ali Ranjbar**, **Robert Smith**, **Iain A. Steele,** Liverpool John Moores Univ. (United Kingdom); **Alejandra Goded**, **Carlos M. M. Gutiérrez**, **Alberto Prieto**, **Marta Puga**, **Cesar Quintana**, **Rafael Rebolo,** Instituto de Astrofísica de Canarias (Spain); **Francisco Javier De Cos Juez**, **Javier Gracia Rodríguez**, **Cesar Rodríguez Pereira**, **Fernando Sánchez Lasheras,** Instituto de Ciencias y Tecnologías Espaciales de Asturias, Univ. de Oviedo (Spain); **Fernando Abarzuza,** Light Bridges (Spain)

## SESSION PS9: POSTERS - OBSERVATORY CONSTRUCTION UPDATES

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13094-219 • 05:30 PM - 07:00 PM
**The Peggy and Eric Johnson 1-meter telescope at Lowell Observatory, converting a historic observatory into a modern research facility**
*Author(s):* **Ben Hardesty**, **Tom Bida**, **Michael Collins**, **Frank Cornelius**, **Ryan Hamilton**, **Kyler Kuehn, Stephen E. Levine,** Lowell Observatory (United States)

## SESSION PS10: POSTERS - OBSERVATORY UPGRADES & REPAIRS

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13094-99 • 05:30 PM - 07:00 PM

**Status of the Small-Sized Telescopes programme for the Cherenkov Telescope Array Observatory**

*Author(s):* **Alessio Trois,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Jean-Laurent Douneaux,** Galaxies Etoiles Physiques et Instrumentation, Observatoire de Paris – PSL (France); **Salvatore Scuderi,** INAF-Istituto di Astrofisica Spaziale di Milano (Italy); **Richard White,** Max Planck Institute for Nuclear Physics (Germany); **Gianpiero Tagliaferri**, **Laura Proserpio,** INAF - Osservatorio Astronomico di Brera (Italy); **Gino Tosti,** Università degli Studi di Perugia (Italy); **Pietro Bruno,** INAF - Osservatorio Astrofisico di Catania (Italy); **Julien Cailleux,** Galaxies Etoiles Physiques et Instrumentation (France); **Vito Conforti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Assia El Mouden,** Galaxies Etoiles Physiques et Instrumentation, Observatoire de Paris – PSL, CNRS (France); **Fatima De Frondat,** Galaxies Etoiles Physiques et Instrumentation (France); **Carmelo Gargano,** INAF-Istituto di Astrofisica Spaziale di Palermo (Italy); **Stefano Germani,** Università degli Studi di Perugia (Italy); **Fulvio Gianotti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Gianluca Giavitto,** Deutsches Elektronen-Synchrotron (Germany); **Valentina Giordano,** INAF - Osservatorio Astrofisico di Catania (Italy); **Lilith Grassi,** Apogeo Space (Italy); **Simone Iovenitti,** INAF - Osservatorio Astronomico di Brera (Italy); **Philippe Laporte,** Galaxies Etoiles Physiques et Instrumentation (France); **Nicola La Palombara,** INAF-Istituto di Astrofisica Spaziale di Milano (Italy); **Luigi Lessio,** INAF-Osservatorio Astronomico di Padova (Italy); **Giuseppe Leto,** INAF - Osservatorio Astrofisico di Catania (Italy); **Alida Marchetti**, **Rachele Millul,** INAF - Osservatorio Astronomico di Brera (Italy); **Cesare Molfese,** INAF-Osservatorio Astronomico di Capodimonte (Italy); **Federico Russo,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Francesco Saturni,** INAF - Osservatorio Astronomico di Roma (Italy); **Giorgia Sironi,** INAF - Osservatorio Astronomico di Brera (Italy); **Angelo Antonelli,** INAF - Osservatorio Astronomico di Roma (Italy); **Stefan Funk,** ECAP Friedrich-Alexander-Universität Erlangen-Nürnberg (Germany); **Jim Hinton,** Max Planck Institute for Nuclear Physics (Germany); **Giovanni Pareschi,** INAF - Osservatorio Astronomico di Brera (Italy); **Helene Sol,** Laboratoire Univers et Théorie, Observatoire de Paris - PSL, CNRS (France); **Matthias Able,** ECAP Friedrich-Alexander-Universität Erlangen-Nürnberg (Germany); **Primo Attinà,** Apogeo Space (Italy); **Miquel Barcelo,** Max Planck Institute for Nuclear Physics (Germany); **Andrey Baryshev,** Kapteyn Astronomical Institute, University of Groningen (Germany); **Paula Chadwick,** Durham University (United Kingdom); **Davide Depaoli,** Max Planck Institute for Nuclear Physics (Germany); **Sabrina Einecke,** The University of Adelaide (Australia); **Jon Lapington,** The University of Leicester (United Kingdom); **Simon Lee,** The University of Adelaide (Australia); **Akira Okumura,** Nagoya University (Japan); **Evert Rol,** University of Amsterdam (Netherlands); **Gavin Rowell,** The University of Adelaide (Australia); **Johannes Schaefer,** ECAP Friedrich-Alexander-Universität Erlangen-Nürnberg (Germany); **Isabella Sofia,** Max Planck Institute for Nuclear Physics (Germany); **Hiro Tajima,** Nagoya University (Japan); **Jason Watson,** Deutsches Elektronen-Synchrotron (Germany); **Frederik Wohlleben,** Max Planck Institute for Nuclear Physics (Germany); **Ricardo Zanmar Sanchez,** INAF - Osservatorio Astrofisico di Catania (Italy); **Adrian Zink,** ECAP Friedrich-Alexander-Universität Erlangen-Nürnberg (Germany); **Matteo Balbo,** University of Geneva (Switzerland); **Seonghyun Bang,** Nagoya University (Japan); **Marielle Bekema,** University of Groningen (Netherlands); **Giancarlo Bellassai,** INAF - Osservatorio Astrofisico di Catania (Italy); **David Berge,** Deutsches Elektronen-Synchrotron (Germany); **Ciro Bigongiari,** INAF - Osservatorio Astronomico di Roma (Italy); **Giacomo Bonnoli,** INAF - Osservatorio Astronomico di Brera (Italy); **Anthony Brown,** Durham University (United Kingdom); **Andrea Bulgarelli**, **Massimo Cappi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Patrizia Caraveo,** INAF - Osservatorio Astronomico di Brera (Italy); **Garret Cotter,** University of Oxford (United Kingdom); **Pierre Cristofari,** Laboratoire Univers et Théorie (France); **Diego Falceta-Goncalvez,** EACH - University of Sao Paulo (Brazil); **Elisabete De Gouveia Dal Pino,** IAG - University of Sao Paulo (Brazil); **Nicola De Simone,** Deutsches Elektronen-Synchrotron (Germany); **Maria Victoria del Valle**, **Carlos Eduardo Fermino,** IAG - University of Sao Paulo (Brazil); **Andrea Giuliani,** INAF-Istituto di Astrofisica Spaziale di Milano (Italy); **Tim Greenshaw,** The University of Liverpool (United Kingdom); **Grzergorz Kowal,** EACH - University of Sao Paulo (Brazil); **Sheridan Lloyd,** Durham University (United Kingdom); **Saverio Lombardi**, **Fabrizio Lucarelli,** INAF - Osservatorio Astronomico di Roma (Italy); **Eugenio Martinetti,** INAF - Osservatorio Astrofisico di Catania (Italy); **Teresa Mineo,** INAF-Istituto di Astrofisica Spaziale di Palermo (Italy); **Amrit Nayak,** Durham University (United Kingdom); **Will Oughton,** The University of Leicester (United Kingdom); **Marek Penno,** Deutsches Elektronen-Synchrotron (Germany); **Chiara Righi,** INAF - Osservatorio Astronomico di Brera (Italy); **Duncan Ross,** The University of Leicester (United Kingdom); **Cameron Rulten,** Durham University (United Kingdom); **Reinaldo Santos-Lima,** IAG - University of Sao Paulo (Brazil); **Benjamin chwab,** ECAP Friedrich-Alexander-Universität Erlangen-Nürnberg (Germany); **Vitalii Sliusar,** University of Geneva (Switzerland); **Antonio Stamerra,** INAF - Osservatorio Astronomico di Roma (Italy); **Mitsunari Takahashi,** Nagoya University (Japan); **Fabrizio Tavecchio,** INAF - Osservatorio Astronomico di Brera (Italy); **Manuela Vecchi,** University of Groningen (Netherlands); **Stefano Vercellone,** INAF - Osservatorio Astronomico di Brera (Italy); **Jacco Vink,** University of Amsterdam (Netherlands); **Roland Walter,** University of Geneva (Switzerland); **Luca Zampieri,** INAF-Osservatorio Astronomico di Padova (Italy); **Andreas Zech Andreas Zech,** Laboratoire Univers et Théorie (France)

13094-100 • 05:30 PM - 07:00 PM

**Maintaining the observatory: the role of facility condition assessments in astronomical facilities**

*Author(s):* **Grecia A. Falcon**, **David Adriaanse**, **Eric J. Grigel,** M3 Engineering & Technology Corp. (United States); **John Maclean,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Piero Anticona,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile)

13094-101 • 05:30 PM - 07:00 PM

**TL-1: the K-band 32m Mexican radio telescope**

*Author(s):* **Enrique Colorado Ortiz**, **Felix Diaz Santos**, **Stanley E. Kurtz**, **David S. Hiriart Garcia**, **Tomas Calvario Velasquez**, **Hazael Serrano Guerrero,** Univ. Nacional Autónoma de México (Mexico); **David M. Gale,** National Institute for Astrophysics, Optics and Electronics (Mexico)

13094-102 • 05:30 PM - 07:00 PM
**Telescopio Nazionale Galileo control system upgrade completed**
*Author(s):* **Manuel D. Gonzalez,** Telescopio Nazionale Galileo (Spain); **Pietro Schipani,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Héctor Pérez Ventura**, **Marcos Hernández Díaz**, **Adriano Ghedina**, **Marcello Lodi**, **José J. San Juan**, **Nauzet Hernandez**, **José Guerra**, **Luis Riverol**, **Carlos Riverol**, **Vidal Guerra Padilla,** Telescopio Nazionale Galileo (Spain); **Salvatore Savarese, Mirko Colapietro,** INAF - Osservatorio Astronomico di Capodimonte (Italy)

13094-103 • 05:30 PM - 07:00 PM
**First light of the upgraded Gregor Infrared Spectrograph**
*Author(s):* **Carlos Quintero Noda**, **Manuel Collados Vera**, **Juan Carlos Trelles Arjona,** Instituto de Astrofísica de Canarias (Spain), Univ. de La Laguna (Spain); **Silvia Regalado Olivares**, **Jonai Bienes**, **Jorge Quintero Nehrkorn**, **Antonio Matta-Gómez**, **Patricia Gómez González**, **Francisco González Pérez**, **Claudia Ruiz de Galarreta, Mary Barreto Cabrera,** Instituto de Astrofísica de Canarias (Spain)

13094-104 • 05:30 PM - 07:00 PM
**Optimizing slew control in the SOAR telescope mount upgrade project: a jerk-constrained and minimum-time trajectory generator approach**
*Author(s):* **Braulio Cancino**, **Norman Diaz**, **Manuel Martinez**, **Fabian Collao**, **Jonathan Elias**, **Michael Warner**, **Rolando Cantarutti**, **Victor Aguirre**, **Guillermo Dubo**, **Marcelo Taiba**, **Rodrigo Leiva**, **Ignacio Roco, Juan Burgos,** Association of Universities for Research in Astronomy (Chile)

13094-105 • 05:30 PM - 07:00 PM
**SOFIA performance improvements through active mass damping**
*Author(s):* **Benjamin Greiner**, **Sonja Hofmann, Jörg Wagner,** Univ. Stuttgart (Germany)

13094-106 • 05:30 PM - 07:00 PM
**W.M. Keck Observatory's hydrostatic bearing system controls replacement project: zero loss of observing, remote operations, enhanced troubleshooting, and improved energy efficiency**
*Author(s):* **Erin Clement**, **Justin Ballard, Craig Nance,** W. M. Keck Observatory (United States)

13094-107 • 05:30 PM - 07:00 PM
**Tulancingo-I: the Mexican 32-meter radio telescope altazimuthal control system**
*Author(s):* **Felix Diaz Santos**, **Enrique Colorado Ortiz**, **Stanley Eugene Kurtz**, **David Salome Hiriart Garcia**, **Luis Tomas Calvario Velasquez**, **Hazael Serrano Guerrero, David Gale,** Univ. Nacional Autónoma de México (Mexico)

13094-108 • 05:30 PM - 07:00 PM
**20 years of experience maintaining the encoders in the Very Large Telescope at Paranal Observatory**
*Author(s):* **Fernando Salgado**, **Rodrigo Huerta**, **Juan Carlos Pineda**, **Eduardo Garces**, **Nicolas Alvarez**, **Juan Palacios**, **Jose Figueroa**, **Pascual Rojas**, **Jose Baez**, **Victor Cea, Maxime Boccas,** European Southern Observatory (Chile)

13094-109 • 05:30 PM - 07:00 PM
**Half moon platform: maintenance on GTC**
*Author(s):* **Benjamin Siegel,** Gran Telescopio de Canarias, S.A. (Spain); **Nauzet Salazar**, **Germán Prieto**, **Alfonso Gardell,** Gran Telescopio de Canarias (Spain); **Ana García**, **Fran Lorente**, **Pedro Saura,** Mecánicas Bolea (Spain); **Antonio Tortosa, Fran Marin,** Electrohine (Spain)

13094-110 • 05:30 PM - 07:00 PM
**Operational upgrades for the CFHT Observatory to create and preserve a sustainable future**
*Author(s):* **Ivan A. Look,** Canada-France-Hawaii Telescope Corp. (United States)

13094-111 • 05:30 PM - 07:00 PM
**Machine learning compensator for active optics control of the SOAR primary mirror**
*Author(s):* **Norman Diaz,** Association of Universities for Research in Astronomy (Chile), NSF's National Optical-Infrared Astronomy Research Lab. (Chile)

## SESSION PS11: POSTERS - OPTO-MECHANICAL DESIGNS

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13094-112 • 05:30 PM - 07:00 PM
**Thermal architecture for a cryogenic super-pressure balloon payload: design and development of the Taurus flight cryostat**
*Author(s):* **Simon Tartakovsky, Taurus Collaboration,** Princeton Univ. (United States)

13094-113 • 05:30 PM - 07:00 PM
**The as-manufactured design of the cryostat for ELT/METIS**
*Author(s):* **Emilie Bouzerand**, **Adrian Michael Glauser**, **Marcel Baer,** ETH Zurich (Switzerland); **Werner Laun,** Max-Planck-Institut für Astronomie (Germany); **Paul Prantl,** ETH Zurich (Switzerland); **Dirk Lesman,** cNOVA Optical IR Instrumentation Group at ASTRON (Netherlands)

13094-114 • 05:30 PM - 07:00 PM
**An unconventional manner to keep centered the "thin" main mirror of the "EPSILON" Telescope of the C.2.P.U.**
*Author(s):* **Edoardo Maria Alberto Redaelli,** INAF - Osservatorio Astronomico di Brera (Italy); **Marco Scardia,** INAF - Osservatorio Astronomico di Brera (Italy), C.2.P.U. - Observatoire de la Cote d'Azur, Plateau de Calern, France (France); **Jean Pierre Rivet, David Vernet,** Observatoire de la Côte d'Azur (France)

13094-115 • 05:30 PM - 07:00 PM
**The University of Tokyo Atacama Observatory 6.5-m telescope: screen camera system for the telescope mirror alignment**
*Author(s):* **Kazuya Matsubayashi**, **Emon Kodama**, **Takeo Minezaki**, **Hidenori Takahashi**, **Takashi Horiuchi**, **Shigeyuki Sako**, **Takashi Miyata**, **Yuzuru Yoshii**, **Mamoru Doi**, **Kotaro Kohno,** The Univ. of Tokyo (Japan); **Kentaro Motohara,** National Astronomical Observatory of Japan (Japan), The Univ. of Tokyo (Japan); **Fumi Egusa**, **Itsuki Sakon**, **Masahiro Konishi**, **Takafumi Kamizuka**, **Hiroaki Sameshima**, **Mitsuyoshi Yamagishi**, **Masataka Imai**, **Shuhei Koyama**, **Yuki Hirao**, **Kosuke Kushibiki**, **Natsuko Kato, Mizuki Numata,** The Univ. of Tokyo (Japan)

13094-116 • 05:30 PM - 07:00 PM
**Design and performance of a double focus optical telescope**
*Author(s):* **Lixin Zheng**, **Congcong Zhang,** Shanghai Astronomical Observatory (China); **Song Yao,** Shanghai Science and Technology Museum (China); **Lurun Shen**, **Dan Zhou**, **Zhendong Chen**, **Wei Wang**, **Jianjun Cao**, **Guoping Chen**, **Yong Yu**, **Jie Zhu,** Shanghai Astronomical Observatory (China); **Qing Lin,** Shanghai Science and Technology Museum (China); **Jianqing Cai**, **Yuanyuan Ding,** Shanghai Astronomical Observatory (China); **Zhimao Du,** Shanghai Science and Technology Museum (China)

13094-117 • 05:30 PM - 07:00 PM
**Realization of a kind of interferometric imaging telescope with four apertures**
*Author(s):* **Congcong Zhang**, **Xinyang Chen**, **Lixin Zheng**, **Dan Zhou**, **Yuanyuan Ding**, **Chaoyan Wang,** Shanghai Astronomical Observatory (China); **Massinissa Hadjara,** Chinese Academy of Sciences South America Ctr. for Astronomy (Chile); **Lurun Shen**, **Zhendong Chen**, **Jianqing Cai**, **Qi Wang, Nenghong Zhu,** Shanghai Astronomical Observatory (China)

13094-118 • 05:30 PM - 07:00 PM
**Measuring IRTF image quality and modeled improvement through use of FELIX and the prototype adaptive secondary mirror**
*Author(s):* **Cuc Dinh**, **John Rayner,** Univ. of Hawai'i (United States); **Charles Lockhart,** NASA Infrared Telescope Facility (United States); **Mark Chun, Mike Connelley,** Univ. of Hawai'i (United States)

13094-119 • 05:30 PM - 07:00 PM
**Versatile mid-resolution fiber-fed spectrograph on Subaru/SCEXAO for interferometry and photonic devices spectroscopy in the visible**
*Author(s):* **Manon Lallement**, **Elsa Huby**, **Sylvestre Lacour,** Observatoire de Paris (France); **Sebastien Vievard,** Subaru Telescope, NAOJ (United States); **Olivier Guyon,** National Astronomical Observatory of Japan (United States); **Nemanja Jovanovic,** Caltech (United States); **Sergio Leon-Saval,** Sydney Astrophotonic Instrumentation Lab. (Australia); **Guillermo Martin,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Harry-Dean Kenchington Goldsmith,** Observatoire de Paris (France); **Kévin Barjot,** Physikalisches Institut, Univ. zu Köln (Germany); **Julien Lozi**, **Vincent Deo**, **Kyohoon Ahn,** National Astronomical Observatory of Japan (United States); **Miles Lucas,** Institute for Astronomy, Univ. of Hawai'i (United States); **Steph Sallum,** Univ. of California, Irvine (United States); **Michael Fitzgerald,** Univ. of California, Los Angeles (United States); **Christopher Betters**, **Barnaby Norris,** Sydney Astrophotonic Instrumentation Lab. (Australia); **Pradip Gatkine,** Caltech (United States); **Jonathan Lin**, **YooJung Kim,** Univ. of California, Los Angeles (United States); **Guy Perrin**, **Daniel Rouan**, **Vincent Lapeyrere,** Observatoire de Paris à Meudon (France); **Nick Cvetojevic**, **Frantz Martinache,** Observatoire de la Côte d'Azur (France); **Franck Marchis,** SETI Institute (United States); **Takayuki Kotani,** AstroBiology Ctr., NINS (Japan); **Gaspard Duchene,** Univ. of California, Berkeley (United States); **Cédric Cassagnettes,** TEEM Photonics (France)

13094-121 • 05:30 PM - 07:00 PM
**Design of a custom wideband camera for Mistral imager-spectrograph**
*Author(s):* **Eduard R. Muslimov,** Univ. of Oxford (United Kingdom); **Jerome Schmitt**, **Christophe Adami,** Observatoire de Haute-Provence (France); **Michel Dennefeld,** Institut d'Astrophysique de Paris, Sorbonne Univ. (France); **Marc Ferrari,** Observatoire de Haute-Provence, CNRS (France)

13094-122 • 05:30 PM - 07:00 PM
**Instrumentation for disk-integrated high-resolution echelle spectroscopy for Solar System objects**
*Author(s):* **Parvathy M.**, **Arun Surya**, **S. Sriram**, **Thirupathi Sivarani,** Indian Institute of Astrophysics (India); **Andrew Skemer,** Univ. of California, Santa Cruz (United States); **Ravinder Banyal**, **S. P. Rajaguru**, **Manjunath Bestha, Devika Divakar,** Indian Institute of Astrophysics (India)

13094-123 • 05:30 PM - 07:00 PM
**The MICADO first light imager for the ELT: the mechanical manufacturing design of the cryostat**
*Author(s):* **Andreas Emslander**, **Florian Lang**, **Lothar Barl**, **Sebastian Rabien**, **Heinrich Huber**, **Federico Biondi,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Michael Krzyzowski**, **Ilja Aul**, **Andreas Blömeke**, **Marcel Bornstein,** CryoVac GmbH & Co. KG (Germany); **Lenard Spallek,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13094-124 • 05:30 PM - 07:00 PM
**Detailed design and first test results of the ELT prefocal station hosted metrology**
*Author(s):* **Sebastian P. Schmid**, **Emmanuel Aller Carpentier**, **Christophe Dupuy**, **Paulo Ferreira**, **Stéphane Guisard**, **Paul Jolley**, **Andreas Jost**, **Samuel Lévêque**, **Steffan A. E. Lewis**, **Juan A. Marrero Hernández, Heiko A. Sommer,** European Southern Observatory (Germany)

13094-125 • 05:30 PM - 07:00 PM
**The ESO extremely large telescope segment manipulator: a multipurpose device for M1 maintenance operations**
*Author(s):* **Albert Nieto**, **Manuel Canchado**, **Ferran Grañena**, **Raul Gonzalez**, **Jordi Martinez**, **Albert Tomás**, **Joan Manel Casalta,** SENER Aeroespacial S.A. (Spain); **Patrick Caillier, Lluis Cavaller,** European Southern Observatory (Germany)

13094-126 • 05:30 PM - 07:00 PM
**The Large Fiber Array Spectroscopic Telescope: prime focus corrector optics**
*Author(s):* **Andrew J. Monson**, **J. Roger Angel**, **Chad F. Bender**, **Joel Berkson**, **Erich Bugueno**, **Gilberto Chavez Lopez**, **On To Sonja Choi**, **James Dibelka**, **Nick Didato**, **John Ford**, **Warren B. Foster**, **Nestor Garcia**, **Kevin Gilliam**, **Peter Gray,** The Univ. of Arizona (United States); **Samuel Halverson,** Jet Propulsion Lab. (United States); **Yiyang Huang**, **Daewook Kim**, **Chang Jin Oh**, **Jason Patrou,** The Univ. of Arizona (United States); **Christian Schwab,** Macquarie Univ. (Australia); **Richard Wortley, Andrew Young,** The Univ. of Arizona (United States)

13094-127 • 05:30 PM - 07:00 PM
**Balancing a Takahashi FET-200 Telescope on a one metric ton Takahashi EM-3500 Mount: "When a little is too Much" - Problem Solving by Frederick Garcia**
*Author(s):* **Frederick Garcia,** Takahashi America (United States)

13094-128 • 05:30 PM - 07:00 PM
**The DKIST Vibrometer: a high-speed camera system to identify image jitter**
*Author(s):* **Stacey R. Sueoka**, **Isabelle F. Scholl**, **David M. Harrington**, **Luke C. Johnson, Dirk Schmidt,** National Solar Observatory (United States)

13094-129 • 05:30 PM - 07:00 PM
**Practical experiences from manufacture of the tools and equipment for the Colibrí Telescope at the Observatorio Astronómico Nacional**
*Author(s):* **María H. Pedrayes-López,** Univ. Nacional Autónoma de México (Mexico); **Stéphane Basa,** Aix-Marseille Univ., CNRS (France), Ctr. National d'Études Spatiales (France); **Edgar Omar Cadena Zepeda,** Observatorio Astronómico Nacional, Univ. Nacional Autónoma de México (Mexico); **François Dolon,** Aix-Marseille Univ. (France), Observatoire de Haute-Provence, CNRS (France); **Liliana Figueroa,** Univ. Nacional Autónoma de México (Mexico); **Johan Floriot,** Aix-Marseille Univ. (France); **Gerardo Guisa**, **Javier Landa**, **Rosalía Langarica**, **Eduardo López Angeles**, **Erica E. Lugo-Ibarra**, **José L. Ochoa**, **Luis Ortiz,** Univ. Nacional Autónoma de México (Mexico); **Pierre Richaud,** Aix-Marseille Univ. (France); **Silvio Tinoco**, **Francisco Valenzuela, Alan M. Watson,** Univ. Nacional Autónoma de México (Mexico)

13094-130 • 05:30 PM - 07:00 PM
**A physical optics characterization of the beam shape and sidelobe levels for the Atacama Large Aperture Submillimeter Telescope (AtLAST)**
*Author(s):* **Roberto Puddu,** Pontificia Univ. Católica de Chile (Chile); **Patricio A. Gallardo,** Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States); **Tony Mroczkowski,** European Southern Observatory (Germany); **Erik Dahl**, **Manuel Groh**, **Matthias Reichert**, **Martin Timpe,** OHB System AG (Germany); **Claudia Cicone,** Univ. of Oslo (Norway); **Pierre Dubois-dit-Bonclaude,** OHB System AG (Germany)

13094-131 • 05:30 PM - 07:00 PM
**Development of the hexapod of the secondary mirror of the YNAO 2-m Ring Solar Telescope**
*Author(s):* **Dehua Yang,** Nanjing Institute of Astronomical Optics & Technology (China); **Changcheng Wu,** Nanjing Univ. of Aeronautics and Astronautics (China); **Yichun Dai, Zhenyu Jin,** Yunnan Astronomical Observatories (China)

13094-132 • 05:30 PM - 07:00 PM
**Optical system of Jiao Tong University spectroscopic telescope (JUST)**
*Author(s):* **Hua Bai**, **Xiangyan Yuan,** Nanjing Institute of Astronomical Optics & Technology (China), The Univ. of Chinese Academy of Sciences (China); **Tingting Liu, Jianan Cong,** Nanjing Institute of Astronomical Optics & Technology (China)

13094-133 • 05:30 PM - 07:00 PM
**TMT NFIRAOS deformable mirror electronics FPGA firmware design**
*Author(s):* **Erning Zhao**, **Krzysztof Caputa**, **Glen Herriot, Zoran Ljusic,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13094-134 • 05:30 PM - 07:00 PM
**Modeling and simulation of Capillary-Operated Space Mesoporous Optical System (COSMOS)**
*Author(s):* **Dhanushkodidurai Mariappan,** GE Research (United States); **Denis Brousseau,** Univ. Laval (Canada); **Greg Radighieri**, **Sudharsan Kalidoss**, **Dongil Shin,** GE Research (United States); **Simon Thibault,** Univ. Laval (Canada); **Hullas Sehgal**, **Habeebullah Abdulkadir, Sreekar Karnati,** GE Vernova (United States)

13094-135 • 05:30 PM - 07:00 PM
**Concept design of an electrostatic actuated controlled liquid mirror**
*Author(s):* **Paul Schroeder,** General Atomics (United States); **Tomu Hisakado,** General Atomics - Energy (United States)

13094-136 • 05:30 PM - 07:00 PM
**The EXoplanet Climate Infrared TElescope (EXCITE): Gondola Pointing & Stabilization Qualification**
*Author(s):* **L. Javier Romualdez,** StarSpec Technologies Inc. (Canada); **Lee Bernard,** Arizona State Univ. (United States); **Andrea Bocchieri,** Sapienza Univ. di Roma (Italy); **Nathaniel Butler,** Arizona State Univ. (United States); **Quentin Changeat,** Univ. College London (United Kingdom); **Azzurra D'Alessandro,** Univ. of Maryland, Baltimore (United States); **Billy Edwards,** Univ. College London (United Kingdom); **Johnathan Gamaunt,** Arizona State Univ. (United States); **Qian Gong,** NASA Goddard Space Flight Ctr. (United States); **John W. Hartley,** StarSpec Technologies Inc. (Canada); **Kyle Helson,** Univ. of Maryland, Baltimore (United States); **Logan Jensen,** Arizona State Univ. (United States); **Daniel P. Kelly,** NASA Goddard Space Flight Ctr. (United States); **Kanchita Klangboonkrong**, **Annalies Kleyheeg,** Brown Univ. (United States); **Edward Leong,** NASA Goddard Space Flight Ctr. (United States); **Nikole Lewis,** Cornell Univ. (United States); **Steven Li,** StarSpec Technologies Inc. (Canada); **Michael Line,** Arizona State Univ. (United States); **Stephen Maher**, **Ryan McClelland**, **Laddawan R. Miko,** NASA Goddard Space Flight Ctr. (United States); **Lorenzo V. Mugnai,** Sapienza Univ. di Roma (Italy), INAF - Osservatorio Astronomico di Palermo "Giuseppe Salvatore Vaiana" (Italy); **Peter C. Nagler,** NASA Goddard Space Flight Ctr. (United States); **C. Barth Netterfield,** Univ. of Toronto (Canada); **Vivien Parmentier,** Univ. of Oxford (United Kingdom); **Enzo Pascale,** Sapienza Univ. di Roma (Italy); **Jennifer Patience,** Arizona State Univ. (United States); **Tim Rehm,** Brown Univ. (United States); **Subhajit Sarkar,** Cardiff Univ. (United Kingdom); **Paul Scowen,** NASA Goddard Space Flight Ctr. (United States), Arizona State Univ. (United States); **Gregory S. Tucker,** Brown Univ. (United States); **Augustyn Waczynski,** NASA Goddard Space Flight Ctr. (United States); **Ingo Waldmann,** Univ. College London (United Kingdom)

13094-137 • 05:30 PM - 07:00 PM
**From SuperBIT to GigaBIT: Informing next-generation balloon-borne telescope design with Fine Guidance System flight data**
*Author(s):* **Philippe Voyer,** Univ. of Toronto Institute for Aerospace Studies (Canada); **Steven J. Benton,** Princeton Univ. (United States); **Christopher J. Damaren,** Univ. of Toronto Institute for Aerospace Studies (Canada); **Spencer W. Everett,** Jet Propulsion Lab., Caltech (United States); **Aurelien A. Fraisse,** Princeton Univ. (United States); **Ajay S. Gill,** Massachusetts Institute of Technology (United States); **John W. Hartley,** StarSpec Technologies Inc. (Canada); **David Harvey,** Ecole Polytechnique Fédérale de Lausanne (France); **Michael Henderson**, **Bradley Holder,** Univ. of Toronto Institute for Aerospace Studies (Canada); **Eric M. Huff,** Jet Propulsion Lab., Univ. of California, Berkeley (United States); **Mathilde Jauzac,** Institute for Computational Cosmology, Durham Univ. (United Kingdom); **William C. Jones,** Princeton Univ. (United States); **David Lagattuta,** Institute for Computational Cosmology, Durham Univ. (United Kingdom); **Jason S.-Y. Leung,** Univ. of Toronto (Canada), Dunlap Institute for Astronomy and Astrophysics (Canada); **Lun Li,** StarSpec Technologies Inc. (Canada); **Thuy Vy T. Luu,** Princeton Univ. (United States); **Richard Massey,** Durham Univ. (United Kingdom), Institute for Computational Cosmology (United Kingdom); **Jacqueline E. McCleary,** Northeastern Univ. (United States); **Johanna M. Nagy,** Case Western Reserve Univ. (United States); **C. Barth Netterfield,** Univ. of Toronto (Canada), Dunlap Institute for Astronomy and Astrophysics (Canada); **Emaad Paracha,** Univ. of Toronto (Canada); **Susan F. Redmond,** Caltech (United States), Jet Propulsion Lab. (United States); **Jason D. Rhodes**, **Andrew Robertson,** Jet Propulsion Lab., Caltech (United States); **L. Javier Romualdez,** StarSpec Technologies Inc. (Canada); **Jürgen Schmoll,** Institute for Computational Cosmology, Durham Univ. (United Kingdom); **Mohamed M. Shaaban,** Palantir Technologies (United States), Univ. of Toronto (Canada); **Ellen L. Sirks,** The Univ. of Sydney (Australia); **Georgios N. Vassilakis,** Northeastern Univ. (United States); **Andre Z. Vitorelli,** Jet Propulsion Lab., Caltech (United States)

13094-138 • 05:30 PM - 07:00 PM
**HXI collimator onboard ASO-S mission and its ground characterization**
*Author(s):* **Dengyi Chen**, **Hao-Xiang Wang**, **Yi-Ming Hu**, **Yang Su**, **Xian-Kai Jiang**, **Wei Liu, Zhe Zhang,** Purple Mountain Observatory (China)

13094-222 • 05:30 PM - 07:00 PM
**Rubin Observatory primary and tertiary (M1M3) mirror cell assembly final integration and commissioning**
*Author(s):* **Felipe Daruich,** Vera C. Rubin Observatory (Chile)

## SESSION PS12: POSTERS - ROBOTIC TELESCOPES

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13094-139 • 05:30 PM - 07:00 PM
**Status of the Transneptunian Automated Occultation Survey (TAOS II)**
*Author(s):* **Matthew J. Lehner,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan), Univ. of Pennsylvania (United States); **Charles Alcock,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Edward Ashton,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Tomás Calvario-Velásquez,** Instituto de Astronomia, Univ. Nacional Autónoma de México (Mexico); **Joel H. Castro-Chacón,** Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); **Yin-Chang Chang**, **Chueh-Yi Chou,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Patrick Dowler,** National Research Council Canada (Canada); **Liliana Figueroa,** Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); **John Geary,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Sharon Goliath,** National Research Council Canada (Canada); **Paula Granados-Contreeras,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Javier Hernández-Landa**, **Benjamín Hernández-Valencia,** Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); **Chung-Kai Huang**, **Jennifer Karr**, **Hung-Hsu Ling,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **JJ Kavelaars,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Timothy J. Norton,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Mauricio Reyes-Ruiz,** Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); **John Ouellette,** National Research Council Canada (Canada); **Andrew Szentgyorgyi,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Bo-Jhou Wang**, **Shiang-Yu Wang**, **Wei-Ling Yen,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Iván Zavala-Ibarra,** Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); **Zhi-Wei Zhang,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan)

13094-140 • 05:30 PM - 07:00 PM
**DeepSpec: a broad-band R~650 spectrograph with multiplexing capabilities**
*Author(s):* **Ido Irani**, **Sagi Ben-Ami**, **Yahel Sofer-Rimalt**, **Eran O. Ofek**, **Gleb Mikhnevich**, **Avishay Gal-Yam,** Weizmann Institute of Science (Israel); **Jani Achren,** Incident Angle Oy (Finland); **Alex Bichkovsky**, **Arie Blumenweig**, **Na'ama Hallakoun**, **Hershko Ofir,** Weizmann Institute of Science (Israel); **Hanindyo Kuncarayakti**, **Seppo Mattila,** University of Turku (Finland); **Oren Ironi**, **David Polishook, Ofer Yaron,** Weizmann Institute of Science (Israel)

13094-141 • 05:30 PM - 07:00 PM
**Radiometry modeling with variable atmospheric degradations using neural radiance fields and general adversarial networks**
*Author(s):* **Kimmy Chang**, **Zach Gazak, Justin Fletcher,** U.S. Space Force (United States)

13094-142 • 05:30 PM - 07:00 PM
**Enhancing space surveillance through the Unistellar collaborative observation program**
*Author(s):* **Pierre Janin-Potiron,** Lab. d'Astrophysique de Marseille (France), Ctr. National de la Recherche Scientifique (France); **Raoul Cañameras**, **Benoit Neichel**, **Morgan Gray,** Lab. d'Astrophysique de Marseille (France); **Franck Marchis,** Unistellar SAS (United States), SETI Institute (United States); **Ryan Lambert,** SETI Institute (United States); **Fabien Quere**, **Guillaume Blaclard**, **Arnaud Malvache,** Unistellar SAS (France); **Olivier Beltramo-Martin**, **Julien Cantegreil**, **Paul Boutte**, **Yannis Zancanaro,** SpaceAble (France); **Antoine Gervail,** Observatoire de la Combe-de-Lancey (France); **Carlos M. Correia,** Space ODT Lda (Portugal)

13094-143 • 05:30 PM - 07:00 PM
**The commissioning of the low-cost NIR extended solar telescope (LOCNES)**
*Author(s):* **Riccardo Claudi**, **Lorenzo Cabona,** INAF - Osservatorio Astronomico di Padova (Italy); **Adriano Ghedina**, **Avet Harutyunyan,** Fundación Galileo Galilei - INAF (Spain); **John S. Liu,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Emanuele Pace,** Univ. degli Studi di Firenze (Italy); **Stefania Stefani,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Andrea Tozzi,** INAF- Osservatorio astronomico di Arcetri (Italy); **Ilaria Carleo,** INAF - Astrophysical Observatory of Torino (Italy); **Luca Di Fabrizio,** Fundación Galileo Galilei - INAF (Spain); **Valentina D'Orazi,** Dip. di Fisica, Università di Torvergata (Italy); **Manuel Gonzalez**, **Vidal Guerra Padilla,** Fundación Galileo Galilei - INAF (Spain); **Lanza Antonino Francesco,** INAF Osservatorio Astrofisico di Catania (Italy); **Marcello Lodi,** Fundación Galileo Galilei - INAF (Spain); **Giuseppina Micela,** INAF _ Astronomical Observatory of Palermo (Italy); **Hector Perez Ventura,** Fundación Galileo Galilei - INAF (Spain); **Giuseppe Piccioni,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Monica Rainer,** INAF-Astronomical observatory of Merate (Italy); **Luis Riverol, Jose San Juan,** Fundación Galileo Galilei - INAF (Spain)

13094-144 • 05:30 PM - 07:00 PM
**An approach to ground support of Spektr-UF Space mission**
*Author(s):* **Mikhail Sachkov, Evgeniy Kopylov,** Institute of Astronomy (Russian Federation)

13094-145 • 05:30 PM - 07:00 PM
**No photon left behind: optimizing image quality for the Argus Optical Array**
*Author(s):* **Lawrence M. Machia**, **Hank Corbett**, **Alan Vasquez Soto**, **Ramses Gonzalez**, **Nicholas Law**, **Thomas Procter**, **Nathan Galliher**, **Jonathan Carney**, **William Marshall**, **Shannon Fitton, Amy Glazier,** The Univ. of North Carolina at Chapel Hill (United States)

## SESSION PS13: POSTERS - SITE CHARACTERIZATION

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13094-146 • 05:30 PM - 07:00 PM
**Preliminary characterization of the AlUla Manara astronomical site for the 4-m telescope project in the Kingdom of Saudi Arabia**
*Author(s):* **Gianluca Lombardi,** Gran Telescopio de Canarias, S.A. (Spain); **Gary Fildes,** Royal Commission for AlUla (Saudi Arabia); **Thamer Alrefay,** King Abdulaziz City for Science and Technology (Saudi Arabia); **Naif Almalik,** Royal Commission for AlUla (Saudi Arabia); **Omar Cuevas,** Univ. de Valparaíso (Chile)

13094-147 • 05:30 PM - 07:00 PM
**Atmospheric seeing at Indian Astronomical Observatory**
*Author(s):* **Padmakar Singh Parihar,** Indian Institute of Astrophysics (India); **Tsewang Stanzin**, **Sonam Jorphail**, **Dorje Angchuk**, **Urgain Stanzin**, **Jigmet Stanzin**, **Tashi Thsering Mahay**, **Tsewang Dorjai**, **Tsewang Gyaltson**, **Padma Dorjay**, **Tsewang Phunchok**, **Tashi Pamber, Phunchok Dorjay,** Indian Astronomical Observatory (India)

13094-148 • 05:30 PM - 07:00 PM
**Optimizing atmospheric turbulence predictions for optical links and astronomical observations by an instrumented drone**
*Author(s):* **Mary Joe Medlej**, **Christophe Giordano**, **Aziz Ziad**, **Alohotsy Rafalimanana, Eric Aristidi,** Observatoire de la Côte d'Azur (France)

13094-149 • 05:30 PM - 07:00 PM
**Preliminary results of near-infrared night sky brightness measurements at Lenghu Observatory**
*Author(s):* **Jinji Li**, **Bin Ma**, **Zhongnan Dong, Haoran Zhang,** Sun Yat-Sen Univ. (China)

13094-150 • 05:30 PM - 07:00 PM
**A modular water vapour radiometer for comparing water vapour radiometer topologies and calibration techniques**
*Author(s):* **Reuben Neate, Tinus Stander,** Univ. of Pretoria (South Africa)

13094-152 • 05:30 PM - 07:00 PM
**Precipitable water vapor measurement using GNSS data in the Atacama Desert for millimeter and submillimeter astronomical observations**
*Author(s):* **Junna Sugiyama,** The Univ. of Tokyo (Japan); **Haruki Nishino,** Japan Synchrotron Radiation Research Institute (Japan); **Akito Kusaka,** The Univ. of Tokyo (Japan), Research Ctr. for the Early Universe (Japan), Lawrence Berkeley National Lab. (United States)

13094-153 • 05:30 PM - 07:00 PM
**Local seeing analysis for the European Solar Telescope**
*Author(s):* **Mahy Soler**, **Konstantinos Vogiatzis**, **Juan Cózar-Castellano**, **Sergio Bonaque-González**, **Marta Belío-Asin**, **Miguel Núñez Cagigal, Mary Barreto Cabrera,** Instituto de Astrofísica de Canarias (Spain)

13094-154 • 05:30 PM - 07:00 PM
**Wind tunnel test for the preliminary design of the European Solar Telescope**
*Author(s):* **Ander Urrutia**, **Rubén Sanquirce-Garcia,** IDOM S.A. (Spain); **Juan Cózar-Castellano**, **Mahy Soler,** Instituto de Astrofísica de Canarias (Spain); **Gaizka Murga,** IDOM S.A. (Spain); **Ángel Mato**, **Mary Barreto Cabrera, Miguel Núñez Cagigal,** Instituto de Astrofísica de Canarias (Spain)

13094-155 • 05:30 PM - 07:00 PM
**All sky photometric monitoring at Las Campanas Observatory (LCO)**
*Author(s):* **Povilas Palunas,** Carnegie Observatories (Chile); **Francesco DiMille,** Las Campanas Observatory (Chile); **Christoph Birk,** Carnegie Observatories (United States); **Nicolas Gonzalez, Mauricio Flores,** Las Campanas Observatory (Chile)

13094-156 • 05:30 PM - 07:00 PM
**A device and method for measuring atmospheric optical turbulence profile based on telescope focal plane ring image**
*Author(s):* **Jiaxin Li,** Nanjing Institute of Astronomical Optics & Technology (China), Univ. of Chinese Academy of Sciences (China); **Hualin Chen**, **Hua Bai**, **Chong Pei, Ying Fu,** Nanjing Institute of Astronomical Optics & Technology (China)

13094-157 • 05:30 PM - 07:00 PM
**Development of Solar Scintillometers and Lunar Scintillometers for Profiling the Near-ground Turbulence**
*Author(s):* **Ying Fu**, **Hualin Chen**, **Chong Pei**, **Xiangyan Yuan,** Nanjing Institute of Astronomical Optics & Technology (China); **Hua Bai,** Nanjing Institute of Astronomical Optics & Technology ,National Astronomical Observatories ,CAS (China)

13094-158 • 05:30 PM - 07:00 PM
**The ground-layer turbulence evaluation with low-layer SCIDAR and Lunar scintillometer**
*Author(s):* **Ying Fu**, **Hualin Chen**, **Chong Pei**, **Xiangyan Yuan,** Nanjing Institute of Astronomical Optics & Technology (China); **Jiaxin Li,** Nanjing Institute of Astronomical Optical & Technology (China)

13094-159 • 05:30 PM - 07:00 PM
**The last upgrades of the CATS station**
*Author(s):* **Christophe Giordano**, **Aziz Ziad**, **Eric Aristidi,** Observatoire de la Côte d'Azur (France); **Julien Chabé,** Univ. Côte d'Azur (France); **Yan Caujolle, Chistophe Bailet,** Observatoire de la Côte d'Azur (France)

13094-160 • 05:30 PM - 07:00 PM
**The Simons Observatory: laboratory beam characterization for the first small aperture telescope, SAT-MF1**
*Author(s):* **Remington G. Gerras,** The Univ. of Southern California (United States)

13094-161 • 05:30 PM - 07:00 PM
**Evaluation of snow mechanics in Dome A and its application in telescopes**
*Author(s):* **Haikun Wen**, **Zhimin Ren,** Nanjing Institute of Astronomical Optics & Technology (China); **Minghu Ding,** Chinese Academy of Meteorological Sciences (China); **Tong Zhang,** Beijing Normal Univ. (China); **Zhou Xu,** National Astronomical Observatories (China)

## Wednesday 19 June 2024

### WEDNESDAY PLENARY

19 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/wednesday-plenary

13173-504 • 08:30 AM - 09:15 AM
**Euclid mission: first year of operations** (Plenary Presentation)
*Author(s):* **René J. Laureijs,** European Space Research and Technology Ctr. (Netherlands)

13173-505 • 09:15 AM - 10:00 AM
**The ultraviolet explorer: new views of the UV universe** (Plenary Presentation)
*Author(s):* **Fiona A. Harrison,** Caltech (United States)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 9: ELTS

19 June 2024 • 10:20 AM - 12:10 PM | Room G403/404, North - 4F
*Session Chair(s):* **Breann N. Sitarski**, NASA Goddard Space Flight Ctr. (United States); **Jason Spyromilio**, European Southern Observatory (Germany)

13094-43 • 10:20 AM - 10:50 AM
**ESO's ELT halfway through construction** *(Invited Paper)*
*Author(s):* **Roberto Tamai**, **Bertrand Koehler**, **Michele Cirasuolo**, **Fabio Biancat-Marchet**, **Mauro Tuti**, **Juan-Carlos González, Suzanne Ramsay,** European Southern Observatory (Germany)

13094-44 • 10:50 AM - 11:20 AM
**Thirty Meter Telescope project status and community engagement in Hawai'i** *(Invited Paper)*
*Author(s):* **Fengchuan Liu,** Thirty Meter Telescope (United States); **Yuko Kakazu,** Thirty Meter Telescope (United States), National Astronomical Observatory of Japan (Japan)

13094-45 • 11:20 AM - 11:50 AM
**The Giant Magellan Telescope project in 2024: status and look ahead** *(Invited Paper)*
*Author(s):* **William S. Burgett**, **Rebecca Bernstein**, **David S. Ashby**, **Bruce C. Bigelow**, **Glenn Brossus**, **Marianne Cox**, **Rick Demers**, **Francisco Figueroa**, **Barbara Fischer**, **Frank Groark**, **Robert Laskin**, **Rafael Millan-Gabet**, **Samuel Park**, **Robert Turner, Brian Walls,** GMTO Corp. (United States)

13094-173 • 11:50 AM - 12:10 PM
**Progress and plans of the United States Extremely Large Telescope Program (US-ELTP)**
*Author(s):* **Marie Lemoine-Busserolle**, **Lucas Macri**, **Eric Peng**, **André-Nicolas Chené**, **François Pradeau**, **Mike Fitzpatrick**, **Andrew Serio, Dara Norman,** NSF's National Optical-Infrared Astronomy Research Lab. (United States)

### SESSION 10: ASTRONOMY COMMUNITY RELATIONSHIPS

19 June 2024 • 12:10 PM - 12:30 PM | Room G403/404, North - 4F
*Session Chair(s):* **Breann N. Sitarski**, NASA Goddard Space Flight Ctr. (United States); **Jason Spyromilio**, European Southern Observatory (Germany)

13094-47 • 12:10 PM - 12:30 PM
**On the relationship between astronomy and indigenous lands and peoples**
*Author(s):* **Jean-Gabriel Cuby,** Canada-France-Hawaii Telescope Corp. (United States); **Rich Matsuda,** W. M. Keck Observatory (United States); **Christine Matsuda,** Maunakea Observatories (United States)

## Lunch/Exhibition Break 12:30 PM - 01:30 PM

### SESSION 11: GRAVITATIONAL WAVE OBSERVATORIES

19 June 2024 • 01:30 PM - 03:00 PM | Room G403/404, North - 4F
*Session Chair(s):* **Tomonori Usuda**, National Astronomical Observatory of Japan (United States); **Sandrine J. Thomas**, Vera C. Rubin Observatory (United States)

13094-48 • 01:30 PM - 02:00 PM
**The LIGO gravitational-wave detector** *(Invited Paper)*
*Author(s):* **Gabriele Vajente,** Caltech (United States)

13094-49 • 02:00 PM - 02:30 PM
**Status of KAGRA for the 4th international gravitational wave observation** *(Invited Paper)*
*Author(s):* **Shinji Miyoki,** The Univ. of Tokyo (Japan)

13094-50 • 02:30 PM - 03:00 PM
**Advanced Virgo+: status and future perspectives** *(Invited Paper)*
*Author(s):* **Fabio Garufi,** Univ. degli Studi di Napoli Federico II (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **The Virgo Collaboration,** Virgo (Italy)

### SESSION 12: ELT ENABLING TECHNOLOGIES I

19 June 2024 • 03:00 PM - 03:40 PM | Room G403/404, North - 4F
*Session Chair(s):* **Tomonori Usuda**, National Astronomical Observatory of Japan (United States); **Sandrine J. Thomas**, Vera C. Rubin Observatory (United States)

13094-51 • 03:00 PM - 03:20 PM
**Advancements of the ELT M1 Figure Control Loop: edge sensor fault detection and management of actuator non-linearities in a large MIMO system**
*Author(s):* **Andreas Reinacher**, **Babak Sedghi**, **Martin Dimmler, Luigi Andolfato,** European Southern Observatory (Germany)

13094-52 • 03:20 PM - 03:40 PM
**GMTO primary mirror active support system testing with the test cell and mass simulator**
*Author(s):* **Trupti Ranka**, **Barbara Fischer**, **Christopher Contaxis**, **David S. Ashby**, **Tomas Krasuski,** GMTO Corp. (United States); **David J. Zeller,** Steward Observatory, The Univ. of Arizona (United States); **Gary Muller**, **Michael Gardiner**, **Jose Soto**, **Oliver McIrwin**, **Austin Everman**, **Neil Mills,** GMTO Corp. (United States); **John Ford**, **Michael Sibayan,** Steward Observatory (United States); **Thomas Salanski,** Steward Observatory, The Univ. of Arizona (United States); **Hector Swett,** GMTO Corp. (United States)

## Coffee Break 03:40 PM - 04:00 PM

### SESSION 13: ELT ENABLING TECHNOLOGIES II

19 June 2024 • 04:00 PM - 06:20 PM | Room G403/404, North - 4F
*Session Chair(s):* **Jason Spyromilio**, European Southern Observatory (Germany); **Anamparambu N. Ramaprakash**, Inter-Univ. Ctr. for Astronomy and Astrophysics (India)

13094-53 • 04:00 PM - 04:20 PM
**Measurement data and evaluation result Of CLEARCERAM-Z Hs 1.5M diameter mirror blanks for the TMT M1 segment blanks**
*Author(s):* **Omata Yoshihiko,** Ohara Inc. (Japan)

13094-54 • 04:20 PM - 04:40 PM
**ZERODUR® for the ELT: mission completed**
*Author(s):* **Ralf Jedamzik**, **Thomas Werner, Thomas Westerhoff,** SCHOTT AG (Germany)

13094-55 • 04:40 PM - 05:00 PM
**The assembly, integration, and testing of the Extremely Large Telescope prefocal stations**
*Author(s):* **Asier Larringan**, **Gaizka Murga**, **Amaia Ormaetxe**, **Manuel Roldán,** IDOM S.A. (Spain); **Paul Jolley, Steffan A. E. Lewis,** European Southern Observatory (Germany)

13094-56 • 05:00 PM - 05:20 PM
**ESO European Extremely Large Telescope M2, M3 and M5 Mirror Cells critical performances verification process**
*Author(s):* **Aura Amoros**, **Albert Tomás**, **José Ángel Andión**, **Miguel Redondo**, **Ferran Grañena**, **Juan Bernardino**, **Oscar Maroto**, **Joan Manel Casalta,** SENER Aeroespacial S.A. (Spain); **Michael Müller**, **Yannick Lammen**, **Jean-François Pirard**, **Pablo Zuluaga, Babak Sedghi,** European Southern Observatory (Germany)

13094-57 • 05:20 PM - 05:40 PM
**Hydrostatic bearing system for the Giant Magellan Telescope**
*Author(s):* **Ulrich Weis,** OHB Digital Connect GmbH (Germany); **Raffaele Tomelleri,** Tomelleri S.r.l. (Italy); **Alexei Ippa**, **Peter Eisenträger**, **Eberhard Sust,** OHB Digital Connect GmbH (Germany); **Amedeo Todeschini,** Tomelleri S.r.l. (Italy)

13094-58 • 05:40 PM - 06:00 PM
**GMT telescope seismic isolation system design and validation**
*Author(s):* **Armando Bilbao Arechabala**, **Nerea Castro Hurtado**, **Alberto Fernández García**, **Iñigo Hernandez Alonso,** IDOM S.A. (Spain); **Ricardo Bustamante**, **Gilberto Mosqueda, Claudio Sepulveda-Contreras,** Univ. of California, San Diego (United States)

13094-59 • 06:00 PM - 06:20 PM
**Thirty Meter Telescope: design of the M2 support system and positioner**
*Author(s):* **Olivier Pirnay**, **Christian Bastin**, **Eric Gabriel**, **Vincent Lavielle**, **Laurence Méant**, **Jean-Marc Schumacher**, **Laurent Wéra,** AMOS S.A. (Belgium); **Jamie Dodge**, **Ben Gallagher, Arthur Mihill,** Thirty Meter Telescope (United States)

## Thursday 20 June 2024

### THURSDAY PLENARY

20 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/thursday-plenary

13173-506 • 08:30 AM - 09:15 AM
**Navigating the radio astronomy renaissance: challenges and opportunities for a sustainable future** (Plenary Presentation)
*Author(s):* **Jessica T. Dempsey,** ASTRON (Netherlands)

13173-507 • 09:15 AM - 10:00 AM
**The x-ray imaging and spectroscopy mission (XRISM): development and expected science** (Plenary Presentation)
*Author(s):* **Makoto S. Tashiro,** Saitama Univ. (Japan)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 14: FUTURE OBSERVATORIES I

20 June 2024 • 10:20 AM - 12:20 PM | Room G403/404, North - 4F
*Session Chair(s):* **Heather K. Marshall**, National Solar Observatory (United States); **Trupti Ranka**, GMTO Corp. (United States)

13094-63 • 10:20 AM - 10:50 AM
**Updates to the Maunakea Spectroscopic Explorer: thousands of fibers, infinite possibilities** *(Invited Paper)*
*Author(s):* **Andrew I. Sheinis**, **Sam Barden**, **Windell Jones**, **Greg Barrick,** Canada-France-Hawaii Telescope Corp. (United States); **Terence Bauge,** Canada-France-Hawaii Telescope Corp. (United States), Supmicrotech, École Nationale Supérieure de Mécanique et des Microtechniques (France); **Greg Green**, **Marc Baril**, **Kevin Ho,** Canada-France-Hawaii Telescope Corp. (United States); **Peter Frinchaboy,** Texas Christian University (United States), Canada-France-Hawaii Telescope Corp. (United States)

13094-60 • 10:50 AM - 11:20 AM
**Project Description of the Stage-4 Cosmic Microwave Background Experiment (CMB-S4)** *(Invited Paper)*
*Author(s):* **Matthaeus Leitner**, **Jessica N. Aguilar**, **Robert Besuner**, **Julian Borrill,** Lawrence Berkeley National Lab. (United States); **John E. Carlstrom,** The Univ. of Chicago (United States); **Brenna Flaugher,** Fermi National Accelerator Lab. (United States); **John E. Ruhl,** Case Western Reserve Univ. (United States); **James Strait,** Lawrence Berkeley National Lab. (United States); **Jeff Zivick,** The Univ. of Chicago (United States); **Zeeshan Ahmed,** SLAC National Accelerator Lab. (United States); **Kam Arnold,** Univ. of California, San Diego (United States); **Amy N. Bender,** Argonne National Lab. (United States); **Bradford Benson,** Fermi National Accelerator Lab. (United States); **Nick Emerson,** The Univ. of Arizona (United States); **Gunther Haller,** SLAC National Accelerator Lab. (United States); **Kelly Hanzel,** Lawrence Berkeley National Lab. (United States); **John Kovac,** Harvard Univ. (United States); **Kevin Long,** Lawrence Berkeley National Lab. (United States); **Laura Newburgh,** Yale Univ. (United States); **Hogan Nguyen,** Fermi National Accelerator Lab. (United States); **Erik Nichols,** The Univ. of Chicago (United States); **Michael D. Niemack,** Cornell Univ. (United States); **Mauricio E. Pilleux,** EONS SpA (Chile); **Joseph H. Silber**, **Aritoki Suzuki,** Lawrence Berkeley National Lab. (United States); **John G. Thayer,** SLAC National Accelerator Lab. (United States); **Dianna Jacobs,** Lawrence Berkeley National Lab. (United States)

13094-61 • 11:20 AM - 11:50 AM
**WST - Widefield Spectroscopic Telescope: motivation, science drivers and top level requirements for a new dedicated facility** *(Invited Paper)*
*Author(s):* **Roland M. Bacon,** Observatoire de Lyon (France); **Vincenzo Maineiri,** European Southern Observatory (Germany); **Sofia Randich,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Andrea Cimatti,** Univ. degli Studi di Bologna (Italy); **Jean-Paul Kneib,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Jarle Brinchmann,** Instituto de Astrofísica e Ciências do Espaço (Portugal); **Richard Ellis,** Univ. College London (United Kingdom); **Eline Tolstoi,** Univ. of Groningen (Netherlands); **Rodolfo Smiljanic,** Nicolaus Copernicus Astronomical Ctr. (Poland); **Vanessa Hill,** Observatoire de la Côte d'Azur (France); **Richard Anderson,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Paula Sanchez Saez,** European Southern Observatory (Germany); **Cyrielle Opitom**, **Ian Bryson,** UK Research and Innovation (United Kingdom); **Philippe Dierickx,** Ctr. de Recherche Astrophysique de Lyon (France); **Bianca Garilli,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Oscar Gonzalez,** UK Research and Innovation (United Kingdom); **Roelof de Jong,** Leibniz-Institut für Astrophysik Potsdam (Germany); **David Lee,** UK Research and Innovation (United Kingdom); **Steffen Mieske**, **Angel Otarola,** European Southern Observatory (Germany); **Pietro Schipani,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Tony D. Travouillon,** The Australian National Univ. (Australia); **Joel Vernet,** European Southern Observatory (Germany); **Julya Bryant,** University of Sydney (Australia); **Marc Casali,** Macquarie Univ. (Australia); **Matthew Colless,** The Australian National Univ. (Australia); **Warrick Couch,** Swinburne Univ. of Technology (Australia); **Simon Driver,** The Univ. of Western Australia (Australia); **Adriano Fontana,** INAF - Osservatorio Astronomico di Roma (Italy); **Matthew Lehnert,** Ctr. de Recherche Astrophysique de Lyon (France); **Laura Magrini,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Ben Montet,** The Univ. of New South Wales (Australia); **Luca Pasquini,** European Southern Observatory (Germany); **Martin Roth,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Ruben Sanchez-Janssen,** UK Research and Innovation (United Kingdom); **Matthias Steinmetz,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Laurence Tresse,** Lab. d'Astrophysique de Marseille (France); **Christophe Yeche,** CEA IRFU (France); **Bodo Ziegler,** Univ. Wien (Austria)

13094-221 • 11:50 AM - 12:20 PM
**DAG telescope first light commissioning status** *(Invited Paper)*
*Author(s):* **Cahit Yesilyaprak,** Ataturk Univ. Astrophysics Research & Application Ctr. (ATASAM) (Turkey), Türkiye National Observatories (ATASAM-DAG) (Turkey); **Onur Keskin,** Isik Üniv. (Turkey), Türkiye National Observatories (ATASAM-DAG) (Turkey); **Bulent Gucsav**, **Derya Ozturk Cetni, Mehmet Kurucolak,** Türkiye National Observatories (ATASAM-DAG) (Turkey)

## Lunch/Exhibition Break 12:20 PM - 01:20 PM

## SESSION 15: FUTURE OBSERVATORIES II

20 June 2024 • 01:20 PM - 03:20 PM | Room G403/404, North - 4F
*Session Chair(s):* **Brialyn Onodera**, National Solar Observatory (United States); **Bernhard Lopez**, Cherenkov Telescope Array Observatory gGmbH (Germany)

13094-64 • 01:20 PM - 01:40 PM
**Concept design of an extremely large spectroscopic survey telescope**
*Author(s):* **Xiangyan Yuan,** Nanjing Institute of Astronomical Optics & Technology (China), Univ. of Chinese Academy of Sciences (China); **Ding-qiang Su,** Nanjing Univ. (China), Nanjing Institute of Astronomical Optics & Technology (China); **Hua Bai**, **Xiangqun Cui,** Nanjing Institute of Astronomical Optics & Technology (China), Univ. of Chinese Academy of Sciences (China); **Chen Xu,** Nanjing Institute of Astronomical Optics & Technology (China)

13094-65 • 01:40 PM - 02:00 PM
**The SOLARIS observatory: a smart Solar imaging system at high radio frequency for continuous Solar monitoring and Space Weather applications**
*Author(s):* **Alberto Pellizzoni,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Marco Potenza**, **Francesco Cavaliere,** Univ. degli Studi di Milano (Italy); **Francesco Cuttaia,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Massimo Gervasi**, **Andrea Passerini,** Univ. degli Studi di Milano-Bicocca (Italy); **Fabrizio Villa,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Enea Boria,** Univ. degli Studi di Milano (Italy); **Ivan Bruni,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Marco Buttu,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Marco De Petris,** Sapienza Univ. di Roma (Italy); **Stefano Della Torre,** Istituto Nazionale di Fisica Nucleare (Italy), Univ. degli Studi di Milano-Bicocca (Italy); **Elise Egron,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Maria Noemi Iacolina,** Agenzia Spaziale Italiana (Italy); **Andrea Limonta,** Univ. degli Studi di Milano-Bicocca (Italy); **Adriana Marcucci,** AM-CNMCA (Italy); **Marco Marongiu,** INAF - Osservatorio Astronomico di Cagliari (Italy); **William Merli,** Univ. degli Studi di Milano (Italy); **Mauro Messerotti,** INAF - Osservatorio Astronomico di Trieste (Italy); **Antonio Miriametro,** Sapienza Univ. di Roma (Italy); **Sara Mulas**, **Alessandro Navarrini,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Massimiliano Oranges,** Università Ca' Foscari (Italy); **Pierluigi Ortu,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Bruno Paroli**, **Federico Pezzotta,** Univ. degli Studi di Milano (Italy); **Tonino Pisanu,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Gabriella Pizzo,** Univ. degli Studi di Roma "Tor Vergata" (Italy); **Sara Ricciardi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Simona Righini,** INAF - Istituto di Radioastronomia (Italy); **Alessia Ritacco,** Università degli Studi di Roma "Tor Vergata" (Italy); **Andrea Saba,** Agenzia Spaziale Italiana (Italy); **Maura Sandri,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Lorenzo Scalcinati,** Univ. degli Studi di Milano-Bicocca (Italy); **Federico Schiavone,** Univ. degli Studi di Milano (Italy); **Giampaolo Serra,** Agenzia Spaziale Italiana (Italy); **Luca Stringhetti,** SKA Observatory (Italy), INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Luca Teruzzi,** Univ. degli Studi di Milano (Italy); **Caterina Tiburzi,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Giuseppe Valente,** Agenzia Spaziale Italiana (Italy); **Daniela Vergani,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Elena Vignati,** Univ. degli Studi di Milano (Italy); **Mario Zannoni,** Univ. degli Studi di Milano-Bicocca (Italy)

13094-66 • 02:00 PM - 02:20 PM
**The Large Fiber Array Spectroscopic Telescope: status update of the prototype telescope**
*Author(s):* **Chad F. Bender**, **J. Roger Angel**, **Joel Berkson**, **Erich Bugueno**, **Gilberto Chavez Lopez**, **On To Sonja Choi**, **James Dibelka**, **Nick Didato**, **John Ford**, **Warren B. Foster**, **Nestor Garcia**, **Kevin Gilliam**, **Peter Gray,** The Univ. of Arizona (United States); **Samuel Halverson,** Jet Propulsion Lab. (United States); **Yiyang Huang**, **Buell Jannuzi**, **Dean Ketelsen**, **Daewook Kim**, **Andrew J. Monson**, **Chang Jin Oh**, **Jason Patrou,** The Univ. of Arizona (United States); **Christian Schwab,** Macquarie Univ. (Australia); **Melanie Sisco**, **Richard Wortley, Andrew Young,** The Univ. of Arizona (United States)

13094-67 • 02:20 PM - 02:40 PM
**The next-generation Event Horizon Telescope**
*Author(s):* **Dominic W. Pesce**, **Lindy Blackburn**, **Sheperd S. Doeleman,** Ctr. for Astrophysics | Harvard & Smithsonian (United States), Black Hole Initiative, Harvard Univ. (United States); **Garret Fitzpatrick,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Michael D. Johnson,** Ctr. for Astrophysics | Harvard & Smithsonian (United States), Black Hole Initiative, Harvard Univ. (United States); **Aaron Oppenheimer,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Jonathan Weintroub,** Ctr. for Astrophysics | Harvard & Smithsonian (United States), Black Hole Initiative, Harvard Univ. (United States)

13094-68 • 02:40 PM - 03:00 PM
**The Atacama Large Aperture Submm Telescope (AtLAST): concept design of a novel 50m single dish submillimeter telescope with large FoV**
*Author(s):* **Matthias Reichert,** OHB Digital Connect GmbH (Germany); **Tony Mroczkowski,** European Southern Observatory (Germany); **Claudia Cicone,** Institute of Theoretical Astrophysics, Univ. of Oslo (Norway); **Hans J. Kaercher,** Independent Consultant (Germany); **Martin Timpe**, **Erik Dahl**, **Aleksej Kiselev**, **Manuel Groh,** OHB Digital Connect GmbH (Germany); **Patricio A. Gallardo,** Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States); **Mike Macintosh**, **Pamela Klaasen,** UK Astronomy Technology Ctr., The Royal Observatory, Edinburgh (United Kingdom); **Pierre Dubois-dit-Bonclaude**, **Johann Boleininger, Daniel Bok,** OHB Digital Connect GmbH (Germany)

13094-69 • 03:00 PM - 03:20 PM
**Design and simulation of 6.2m wide-field telescope for spectroscopic survey**
*Author(s):* **Prasanna G. Deshmukh,** Indian Institute of Astrophysics (India); **S. Sriram,** CHRIST Deemed to be Univ. (India), Indian Institute of Astrophysics (India); **Chand Totan**, **Sudharsan Kambhala**, **Ramya Sethuram**, **Ravi Joshi**, **Bharat Kumar Yerra, Muthahar R. Mohammed,** Indian Institute of Astrophysics (India)

## Coffee Break 03:20 PM - 03:50 PM

## SESSION 16: ROBOTIC TELESCOPES

20 June 2024 • 03:50 PM - 05:10 PM | Room G403/404, North - 4F
*Session Chair(s):* **Tomonori Usuda**, National Astronomical Observatory of Japan (United States); **Jason Spyromilio**, European Southern Observatory (Germany)

13094-70 • 03:50 PM - 04:10 PM
**The Argus Array: low-cost access to the deep, high-cadence sky**
*Author(s):* **Nicholas Law**, **Hank Corbett**, **Alan Vasquez Soto**, **Ramses Gonzalez**, **Lawrence M. Machia**, **Jonathan Carney**, **William Marshall**, **Glenn Walters**, **Shannon Fitton**, **Amy Glazier, Thomas Procter,** The Univ. of North Carolina at Chapel Hill (United States)

13094-71 • 04:10 PM - 04:30 PM
**The Gravitational-wave Optical Transient Observer (GOTO)**
*Author(s):* **Martin J. Dyer,** The Univ. of Sheffield (United Kingdom); **Kendall Ackley,** The Univ. of Warwick (United Kingdom); **Felipe Jiménez Ibarra,** Monash Univ. (Australia); **Joe Lyman**, **Krzysztof Ulaczyk**, **Danny Steeghs,** The Univ. of Warwick (United Kingdom); **Duncan K. Galloway,** Monash Univ. (Australia); **Vik Dhillon,** The Univ. of Sheffield (United Kingdom); **Paul O'Brien,** Univ. of Leicester (United Kingdom); **Gavin Ramsay,** Armagh Observatory & Planetarium (United Kingdom); **Kanthanakorn Noysena,** National Astronomical Research Institute of Thailand (Thailand); **Rubina Kotak,** Univ. of Turku (Finland); **Rene Breton,** The Univ. of Manchester (United Kingdom); **Laura K. Nuttall,** Univ. of Portsmouth (United Kingdom); **Enric Pallé,** Instituto de Astrofísica de Canarias (Spain); **Don Pollacco,** The Univ. of Warwick (United Kingdom); **Tom Killestein,** Univ. of Turku (Finland); **Amit Kumar**, **David O'Neill,** The Univ. of Warwick (United Kingdom); **Lisa Kelsey,** Univ. of Portsmouth (United Kingdom); **Ben Godson,** The Univ. of Warwick (United Kingdom); **Dan Jarvis,** The Univ. of Sheffield (United Kingdom)

13094-74 • 04:30 PM - 04:50 PM
**A mobile, off-grid, robotic observatory for space domain awareness**
*Author(s):* **Ryan Swindle,** U.S. Space Force (United States); **Eric Blackhurst**, **Kevin Iott**, **Shelby Stubbe,** PlaneWave Instruments, Inc. (United States); **Matthew Phelps**, **Zach Gazak, Justin Fletcher,** U.S. Space Force (United States)

13094-75 • 04:50 PM - 05:10 PM
**SNORT: The Spectroscopic Network Of Robotic Telescopes, a proposed network of low cost 3 meter telescopes**
*Author(s):* **Reed L. Riddle,** Caltech (United States)

## Friday 21 June 2024

### SESSION 17: METROLOGY & ALIGNMENT

21 June 2024 • 08:30 AM - 10:10 AM | Room G403/404, North - 4F
*Session Chair(s):* **Bruce C. Bigelow**, GMTO Corp. (United States)

13094-197 • 08:30 AM - 08:50 AM
**Post-wide-field-upgrade imaging performance evaluation of the Hobby-Eberly Telescope**
*Author(s):* **Hanshin Lee,** The Univ. of Texas at Austin (United States); **Herman J. Kriel**, **Steven Janowiecki**, **Jim Fowler**, **Chris E. Robison, Juster Pauztke,** Hobby Eberly Telescope (United States)

13094-77 • 08:50 AM - 09:10 AM
**COALA: a diurnal alignment and phasing instrument for GTC**
*Author(s):* **Javier Castro López-Tarruella**, **Mireia Rosado Rubio**, **Benjamin Siegel**, **Alfonso G. Cardell Bilbao**, **Aday Pérez García, Germán Prieto Labra,** Gran Telescopio de Canarias, S.A. (Spain)

13094-78 • 09:10 AM - 09:30 AM
**Hobby-Eberly Telescope primary mirror alignment metrology system upgrade**
*Author(s):* **Hanshin Lee,** The Univ. of Texas at Austin (United States); **Herman J. Kriel**, **Chris E. Robison**, **Shane Henk, Jayton Lindley,** Hobby Eberly Telescope (United States)

13094-79 • 09:30 AM - 09:50 AM
**Sardinia Radio Telescope Metrology System: tools and application strategies**
*Author(s):* **Alessandro Attoli**, **Sergio Poppi**, **Franco Buffa,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Giampaolo Serra,** Agenzia Spaziale Italiana (Italy), INAF - Osservatorio Astronomico di Cagliari (Italy); **Antonietta A. R. Fara**, **Pasqualino Marongiu,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Giannina Sanna,** Univ. degli Studi di Cagliari (Italy); **Francesco Gaudiomonte**, **Mauro Pili**, **Tonino Pisanu, Gian Paolo Vargiu,** INAF - Osservatorio Astronomico di Cagliari (Italy)

13094-80 • 09:50 AM - 10:10 AM
**Development of the GMT Telescope metrology system**
*Author(s):* **Bo Xin,** GMTO Corp. (United States); **Bijan Nemati,** Tellus1 Scientific LLC (United States); **Patricio Schurter**, **Hugo Chiquito**, **William Schoenell**, **Josema Filgueira**, **Juan Pablo Haddad**, **Richard Demers**, **Peter Thompson,** GMTO Corp. (United States); **Antonin Bouchez,** W. M. Keck Observatory (United States); **Breann Sitarski,** NASA Goddard Space Flight Ctr. (United States); **Joel Nissen,** Contractor (United States); **Heejoo Choi,** Wyant College of Optical Sciences (United States), Large Binocular Telescope Observatory (United States); **Guillermo Gonzalez**, **David Nemati, Peter Williams,** Tellus1 Scientific LLC (United States)

**Coffee Break 10:10 AM - 10:40 AM**

## SESSION 18: ALIGNMENT & WFS

21 June 2024 • 10:40 AM - 11:40 AM | Room G403/404, North - 4F
*Session Chair(s):* **Jason Spyromilio**, European Southern Observatory (Germany); **Tomonori Usuda**, National Astronomical Observatory of Japan (United States)

13094-81 • 10:40 AM - 11:00 AM
**Combining photonic wavefront sensing with machine learning solutions to measure the optical wavefront in the distributed aperture ELF telescope**
*Author(s):* **Jeffrey R. Kuhn**, **Ian Cunnyngham,** Institute for Astronomy (United States); **Natalia Marrero**, **Nicolas Lodieu**, **Rafael Rebolo,** Instituto de Astrofísica de Canarias (Spain); **Ryan Swindle,** Odyssey Systems Consulting Group Ltd. (United States); **Pradip Gatkine,** Caltech (United States); **Stuart Jefferies**, **Fabien Baron,** Georgia State Univ. (United States); **Andres Ramos,** Instituto de Astrofisica de Canarias (Spain); **Kevin Lewis,** MorphOptics, Inc. (United States); **Maud Langlois**, **Gil Moretto,** Ctr. de Recherche Astrophysique de Lyon (France); **Auxiliadora Padrón-Brito,** Instituto de Astrofísica de Canarias (Spain)

13094-82 • 11:00 AM - 11:20 AM
**Thirty Meter Telescope Alignment and Phasing System risk reduction studies and experiments**
*Author(s):* **Matthias Schöck,** Thirty Meter Telescope (United States); **Mitchell Troy,** Jet Propulsion Lab. (United States); **Gary Chanan,** Univ. of California, Irvine (United States); **Scott Michaels,** Thirty Meter Telescope (United States)

13094-83 • 11:20 AM - 11:40 AM
**Simulation and experimental study of the OTF based alignment and phasing of segmented mirrors**
*Author(s):* **Radhika Dharmadhikari, Padmakar Singh Parihar,** Indian Institute of Astrophysics (India)

### Lunch Break 11:40 AM - 01:00 PM

## SESSION 19: OPTO-MECHANICAL DESIGNS I

21 June 2024 • 01:00 PM - 03:00 PM | Room G403/404, North - 4F
*Session Chair(s):* **Mario Tapia**, European Southern Observatory (Chile)

13094-84 • 01:00 PM - 01:20 PM
**The optical design concept of the Atacama Large Aperture Submillimeter Telescope, AtLAST**
*Author(s):* **Patricio A. Gallardo,** Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States); **Roberto Puddu,** Pontificia Univ. Católica de Chile (Chile); **Tony Mroczkowski,** European Southern Observatory (Germany); **Martin Timpe**, **Pierre Dubois-dit-Bonclaude**, **Matthias Reichert,** OHB Digital Connect GmbH (Germany); **Claudia Cicone,** Institute of Theoretical Astrophysics, Univ. of Oslo (Norway); **Hans J. Kaercher,** Independent Consultant (Germany)

13094-85 • 01:20 PM - 01:40 PM
**Rubin M1M3 support system dynamic performance**
*Author(s):* **Bruno C. Quint**, **Felipe Daruich**, **Petr Kubanek,** Vera C. Rubin Observatory (United States); **Adrian Shestakov,** Univ. of California, Santa Cruz (United States); **Alysha Shugart,** Vera C. Rubin Observatory (United States); **Benjamin Levine,** Stony Brook Univ. (United States); **Brian Stalder,** Vera C. Rubin Observatory (United States); **Craig Lage,** Univ. of California, Davis (United States); **David Sanmartim,** Vera C. Rubin Observatory (United States); **Dominique Boutigny,** Institut National de Physique Nucléaire et de Physique des Particules du CNRS (France); **Doug Neil,** Vera C. Rubin Observatory (United States); **Elana Urbach,** Harvard Univ. (United States); **Erik Dennihy**, **Freddy Muñoz,** Vera C. Rubin Observatory (United States); **Holger Drass,** Vera C. Rubin Observatory (Chile); **HyeYun Park,** Duke Univ. (United States); **Karla Aubel,** Vera C. Rubin Observatory (United States); **Ignacio Sevilla-Noarbe,** Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); **Ioana Sotuela**, **Jacques Sebag**, **Jeffrey L. Carlin,** Vera C. Rubin Observatory (United States); **Markus Rabus,** Univ. Católica de la Santísima Concepción (Chile); **Matthew Dowicz,** Univ. of California, Irvine (United States); **Merlin Fisher-Levine,** Vera C. Rubin Observatory (United States); **Peter Ferguson,** Univ. of Wisconsin-Madison (United States); **Prakruth Adari,** Stony Brook Univ. (United States); **Roberto Tighe**, **Sandrine J. Thomas**, **Tiago Ribeiro,** Vera C. Rubin Observatory (United States); **Yijung Kang,** SLAC National Accelerator Lab. (United States)

13094-86 • 01:40 PM - 02:00 PM **(CANCELLED)**
**Evolution of the Dragonfly Telephoto Array: from galaxies to the cosmic web**
*Author(s):* **Roberto G. Abraham,** Univ. of Toronto (Canada); **Pieter van Dokkum,** Yale Univ. (United States); **Deborah M. Lokhorst,** National Research Council Canada (Canada); **Seery Chen,** Univ. of Toronto (Canada); **Imad Pasha,** Yale Univ. (United States)

13094-87 • 02:00 PM - 02:20 PM
**ASTEP to Cryoscope: expanding Antarctic astronomy at Dome-C with a Wide Field Infrared Telescope**
*Author(s):* **Antonio de Ugarte Postigo**, **Tristan Guillot,** Observatoire de la Côte d'Azur (France); **Mansi M. Kasliwal**, **Roger M. Smith,** Caltech (United States); **Tony D. Travouillon,** The Australian National Univ. (Australia); **Lyu Abe**, **Karim Agabi**, **Sarah Antier,** Observatoire de la Côte d'Azur (France); **Michael C. B. Ashley,** The Univ. of New South Wales (Australia); **Philippe Bendjoya**, **Benoit Carry,** Observatoire de la Côte d'Azur (France); **Luca Casagrande,** The Australian National Univ. (Australia); **Ilaria Caiazzo,** Caltech (United States); **Cenko Brad,** NASA Goddard Space Flight Ctr. (United States); **Matthew Graham**, **Timothee Greffe**, **Nicholas Earley**, **Jason Fucik**, **David Hale,** Caltech (United States); **Elena Pian,** INAF (Italy); **Olga Suarez,** Observatoire de la Côte d'Azur (France); **Amaury Triaud,** Univ. of Birmingham (United Kingdom); **Bob Weber,** Caltech (United States); **Julien de Wit,** Massachusetts Institute of Technology (United States)

13094-88 • 02:20 PM - 02:40 PM
**Conceptual design of the infrared Integral Field Spectropolarimeter for the European Solar Telescope**
*Author(s):* **Carlos Quintero Noda**, **María Jesús Martínez González,** Instituto de Astrofísica de Canarias (Spain), Univ. de La Laguna (Spain); **Silvia Regalado Olivares**, **Patricia Gómez González,** Instituto de Astrofísica de Canarias (Spain); **Tanausú del Pino Alemán**, **Juan Carlos Trelles Arjona,** Instituto de Astrofísica de Canarias (Spain), Univ. de La Laguna (Spain); **Jonai Bienes**, **Antonio Matta-Gómez,** Instituto de Astrofísica de Canarias (Spain); **Manuel Collados Vera,** Instituto de Astrofísica de Canarias (Spain), Univ. de La Laguna (Spain)

13094-89 • 02:40 PM - 03:00 PM
**Rubin M2 support system integration and verification on the TMA**
*Author(s):* **Holger Drass,** Vera C. Rubin Observatory (Chile); **Austin Roberts**, **Brian Stalder,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Bruno C. Quint,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Doug Neil,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Enrico Giro,** INAF - Osservatorio Astronomico di Padova (Italy); **Felipe Daruich**, **Freddy Munoz**, **Franco Colleoni,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Gabriele Rodeghiero,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Jacques sebag,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Kevin Siruno,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Luca Rosignoli,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Mostafa Lutfi,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Pablo Zorzi,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Peter Ferguson,** Univ. of Wisconsin-Madison (United States); **Roberto Tighe,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Rodolfo Canestrari,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Palermo (Italy); **Russel Owen**, **Sandrine J. Thomas,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Te-Wei Tsai,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Tiago Ribeiro,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Yijung Kang,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile)

## Coffee Break 03:00 PM - 03:30 PM

## SESSION 20: OPTO-MECHANICAL DESIGNS II

21 June 2024 • 03:30 PM - 05:10 PM | Room G403/404, North - 4F
*Session Chair(s):* **Tomonori Usuda**, National Astronomical Observatory of Japan (United States); **Jason Spyromilio**, European Southern Observatory (Germany)

13094-90 • 03:30 PM - 03:50 PM
**Upgrading the Polarisation Modulation Unit of the Gregor Infrared Spectrograph**
*Author(s):* **Carlos Quintero Noda**, **Manuel Collados Vera,** Instituto de Astrofísica de Canarias (Spain), Univ. de La Laguna (Spain); **Silvia Regalado Olivares,** Instituto de Astrofísica de Canarias (Spain); **Juan Carlos Trelles Arjona,** Instituto de Astrofísica de Canarias (Spain), Univ. de La Laguna (Spain); **Jonai Bienes**, **Jorge Quintero Nehrkorn**, **Antonio Matta-Gómez**, **Patricia Gómez González**, **Francisco González Pérez**, **Claudia Ruiz de Galarreta, Mary Barreto Cabrera,** Instituto de Astrofísica de Canarias (Spain)

13094-91 • 03:50 PM - 04:10 PM
**Overview of the optical design of CMB-S4 large-aperture telescopes and camera optics**
*Author(s):* **Patricio A. Gallardo,** Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States); **CMB-S4 Collaboration,** CMB-S4 Collaboration (United States)

13094-92 • 04:10 PM - 04:30 PM
**An overview of the preliminary optical design of the European Solar Telescope (EST)**
*Author(s):* **Marta Belío-Asin**, **Jorge Sánchez-Capuchino**, **Álvaro Pérez-Garcia**, **Sergio Bonaque-González**, **Esther Soria**, **Noelia Feijoo**, **Claudia Ruiz de Galarreta**, **Juan Cózar-Castellano**, **Miguel Núñez Cagigal**, **Manuel Collados Vera, Mary Barreto Cabrera,** Instituto de Astrofísica de Canarias (Spain)

13094-93 • 04:30 PM - 04:50 PM
**Design and fabrication of fold mirror (M3) system for New Robotic Telescope**
*Author(s):* **Ali Ranjbar**, **David Copley,** Astrophysics Research Institute (United Kingdom); **Mauro Ghigo,** INAF - Osservatorio Astronomico di Brera (Italy); **Éamonn J. Harvey**, **Iain A. Steele,** Astrophysics Research Institute (United Kingdom); **Carlos M. M. Gutiérrez,** Instituto de Astrofísica de Canarias (Spain); **Adam Garner, Stuart D. Bates,** Astrophysics Research Institute (United Kingdom)

13094-94 • 04:50 PM - 05:10 PM

**Final design for the Extremely Large Telescope (ELT) M1 Local Coherencer**

*Author(s):* **Alexander Diaz**, **Gaizka Murga**, **Maialen González**, **Borja Vega**, **Afonso Teixeira**, **Juan Francisco Márquez,** IDOM S.A. (Spain); **Santiago Royo**, **Noel Rodrigo**, **Pau Santos,** Univ. Politècnica de Catalunya (Spain); **Andreas Förster**, **Sebastian P. Schmid**, **Samuel Lévêque**, **Philippe Gitton, Martin Dimmler,** European Southern Observatory (Germany)

## DIGITAL POSTERS

The posters listed below are available exclusively for online viewing during the week of SPIE Astronomical Telescopes + Instrumentation 2024.

13094-168

**Refrigerant cooling services for the Thirty Meter Telescope**

*Author(s):* **John W. Miles**, **Brent Ellerbroek**, **Jamie Dodge,** Thirty Meter Telescope (United States); **Hugh Thompson,** Thirty Meter Telescope (Canada); **Adam Densmore,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Calvin Winter,** Quantum Technology Corporation (Canada); **Ian Welle,** Polar Engineering (Canada)

# CONFERENCE 13095

# Optical and Infrared Interferometry and Imaging IX

**17 - 21 June 2024 | Room G416/417, North - 4F**

***Conference Chair(s):*** **Jens Kammerer,** Space Telescope Science Institute (Germany); **Stephanie Sallum,** Univ. of California, Irvine (United States); **Joel Sanchez-Bermudez,** Univ. Nacional Autónoma de México (Mexico)

***Program Committee:*** **Fabien R. Baron,** Georgia State Univ. (United States); **David S. Doelman,** Leiden Observatory (Netherlands); **Xavier Haubois,** European Southern Observatory (Chile); **Sebastian F. Hönig,** Univ. of Southampton (United Kingdom); **Elsa Huby,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Lucas Labadie,** Univ. zu Köln (Germany); **Antoine Mérand,** European Southern Observatory (Chile); **Keiichi Ohnaka,** Univ. Andres Bello (Chile); **Claudia Paladini,** European Southern Observatory (Chile); **Sylvie Robbe-Dubois,** Observatoire de la Côte d'Azur (France); **Rachael M. Roettenbacher,** Univ. of Michigan (United States); **Stephen A. Rinehart,** NASA (United States); **Gail H. Schaefer,** CHARA (United States); **Gerard T. van Belle,** Lowell Observatory (United States); **Felix Widmann,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Rebeca García-López,** Univ. College Dublin (Ireland)

## Monday 17 June 2024

### MONDAY PLENARY

17 June 2024 • 08:20 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/monday-plenary

13173-500 • 08:30 AM - 09:15 AM
**Moving TMT forward: Japan's contributions and transformative approach toward community engagement** (Plenary Presentation)
*Author(s):* **Tomonori Usuda,** National Astronomical Observatory of Japan (United States); **Yuko Kakazu,** Thirty Meter Telescope (United States)

13173-501 • 09:15 AM - 10:00 AM
**From dark skies to bright futures: the evolution of astronomy in Africa and the hosting of the historic International Astronomical Union General Assembly 2024** (Plenary Presentation)
*Author(s):* **Charles Mpho Takalana,** The African Astronomical Society (South Africa)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 1: CURRENT AND PLANNED FACILITIES I

17 June 2024 • 10:30 AM - 12:00 PM | Room G416/417, North - 4F
*Session Chair(s):* **Stephanie E. Sallum**, Univ. of California, Irvine (United States)

13095-1 • 10:30 AM - 11:00 AM
**Recent technical and scientific highlights from the CHARA Array** *(Invited Paper)*
*Author(s):* **Douglas R. Gies**, **Gail H. Schaefer**, **Nicholas J. Scott**, **Edgar R. Ligon**, **Narsireddy Anugu, Theo A. ten Brummelaar,** Georgia State Univ. (United States)

13095-2 • 11:00 AM - 11:20 AM
**CHARA/SPICA: a new 6T visible combiner for the CHARA Array**
*Author(s):* **Denis Mourard**, **Anthony Meilland**, **Philippe Berio**, **Julien Dejonghe**, **Daniel Lecron**, **Frédéric Morand**, **David Salabert**, **Fatmé Allouche,** Observatoire de la Côte d'Azur (France); **Narsireddy Anugu,** CHARA Array (United States); **Laurent Bourgès,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Orlagh Creevey,** Observatoire de la Côte d'Azur (France); **Sébastien Deheuvels,** Institut de Recherche en Astrophysique et Planétologie (France); **Armando Domiciano de Souza**, **Nayeem Ebrahimkutty,** Observatoire de la Côte d'Azur (France); **Douglas R. Gies,** CHARA Array (United States); **Romina Ibanez Bustos**, **Juraj Jonak**, **Roxanne Ligi,** Observatoire de la Côte d'Azur (France); **Guillaume Mella,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Nicolas Nardetto,** Observatoire de la Côte d'Azur (France); **Karine Perraut,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Sylvain Rousseau**, **Mathieu**

**Vrard,** Observatoire de la Côte d'Azur (France); **Gail H. Schaefer,** CHARA Array (United States); **Alain Spang,** Observatoire de la Côte d'Azur (France); **Markus Wittkowski,** European Southern Observatory (Germany)

13095-3 • 11:20 AM - 11:40 AM
**Integrating a mobile telescope into the CHARA array**
*Author(s):* **Rainer Köhler**, **Edgar R. Ligon,** Georgia State Univ. (United States); **Matthew D. Anderson,** Georgia Tech Research Institute (United States); **Narsireddy Anugu**, **Theo A. ten Brummelaar**, **Victor Castillo**, **Christopher D. Farrington**, **Douglas R. Gies**, **Steven Golden,** Georgia State Univ. (United States); **Ludovic Grossard,** XLIM (France); **Karolina Kubiak,** Georgia State Univ. (United States); **François Reynaud,** XLIM (France); **Stephen T. Ridgway,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Gail H. Schaefer**, **Nicholas J. Scott**, **Laszlo Sturmann**, **Nils H. Turner, Craig J. Woods,** Georgia State Univ. (United States)

13095-4 • 11:40 AM - 12:00 PM
**Silmaril: final design and on-sky performance**
*Author(s):* **Cyprien Lanthermann**, **Theo A. ten Brummelaar,** CHARA Array (United States); **Peter G. Tuthill,** The Univ. of Sydney (Australia); **Narsireddy Anugu**, **Edgar R. Ligon**, **Gail H. Schaefer**, **Douglas R. Gies,** CHARA Array (United States); **Shashank Dholakia, Adam Taras,** The Univ. of Sydney (Australia)

## Lunch Break 12:00 PM - 01:30 PM

## SESSION 2: CURRENT AND PLANNED FACILITIES II

17 June 2024 • 01:30 PM - 03:10 PM | Room G416/417, North - 4F
*Session Chair(s):* **Jens Kammerer**, Space Telescope Science Institute (Germany)

13095-5 • 01:30 PM - 02:00 PM
**The LBTI: pioneering the ELT era** *(Invited Paper)*
*Author(s):* **Jacob Isbell, Steve Ertel,** The Univ. of Arizona (United States)

13095-6 • 02:00 PM - 02:20 PM
**The GLINT nulling interferometer: more achromatic nulls for high-contrast imaging**
*Author(s):* **Eckhart A. Spalding,** The Univ. of Sydney (Australia); **Elizabeth Arcadi**, **Glen Douglas**, **Simon Gross,** Macquarie Univ. (Australia); **Olivier Guyon,** Subaru Telescope, NAOJ (United States); **Marc-Antoine Martinod,** KU Leuven (Belgium); **Barnaby Norris**, **Stephanie A. Rossini-Bryson**, **Peter G. Tuthill,** The Univ. of Sydney (Australia); **Kyohoon Ahn**, **Vincent Deo,** Subaru Telescope, NAOJ (United States); **Mona El Morsy,** The Univ. of Texas at San Antonio (United States); **Sergio Leon-Saval,** The Univ. of Sydney (Australia); **Julien Lozi**, **Sébastien Vievard,** Subaru Telescope, NAOJ (United States); **Michael Withford,** Macquarie Univ. (Australia); **Adam Taras,** The Univ. of Sydney (Australia)

13095-7 • 02:20 PM - 02:40 PM
**Status of FIRST spectro-interferometer on SCExAO: sensitivity study and characterization of 5-telescopes visible photonics integrated circuits**
*Author(s):* **Manon Lallement**, **Elsa Huby**, **Sylvestre Lacour,** Observatoire de Paris (France); **Sébastien Vievard,** Subaru Telescope, NAOJ (United States); **Guillermo Martin,** Univ. Grenoble Alpes (France), Institut de Planétologie et d'Astrophysique de Grenoble (France), CNRS (France); **Harry-Dean Kenchington Goldsmith,** Observatoire de Paris (France); **Kévin Barjot,** Physikalisches Institut, Univ. zu Köln (Germany); **Olivier Guyon**, **Julien Lozi**, **Vincent Deo**, **Kyohoon Ahn,** Subaru Telescope, NAOJ (United States); **Miles Lucas,** Institute for Astronomy, Univ. of Hawai'i (United States); **Cécil Pham**, **Cédric Cassagnettes,** Teem Photonics (France); **Daniel Rouan**, **Vincent Lapeyrere**, **Guy Perrin,** Observatoire de Paris (France); **Nick Cvetojevic**, **Frantz Martinache,** Observatoire de la Côte d'Azur (France); **Franck Marchis,** SETI Institute (United States); **Takayuki Kotani,** AstroBiology Ctr., NINS (Japan); **Gaspard Duchene,** Univ. of California, Berkeley (United States)

13095-8 • 02:40 PM - 03:10 PM
**An update on the Navy Precision Optical Interferometer** *(Invited Paper)*
*Author(s):* **Henrique H. R. Schmitt**, **James Clark**, **Ellyn Baines**, **Bradley Kingsley**, **Wyatt Clark**, **Jordan Stone,** U.S. Naval Research Lab. (United States); **David Mozurkewich,** Seabrook Engineering (United States); **Anders M. Jorgensen,** New Mexico Institute of Mining and Technology (United States); **Ty Martinez,** U.S. Naval Research Lab. (United States); **Merrick DeWitt,** Computational Physics, Inc. (United States)

## Coffee Break 03:10 PM - 03:40 PM

## SESSION 3: CURRENT AND PLANNED FACILITIES III

17 June 2024 • 03:40 PM - 05:30 PM | Room G416/417, North - 4F
*Session Chair(s):* **Alexander Chaushev**, Univ. of California, Irvine (United States)

13095-9 • 03:40 PM - 04:10 PM
**The VLTI in the GRAVITY+ era** *(Invited Paper)*
*Author(s):* **Julien Woillez,** European Southern Observatory (Germany)

13095-10 • 04:10 PM - 04:30 PM
**GRAVITY+ Wide: Towards hundreds of z  2 AGN, larger throughput and improved vibrational control**
*Author(s):* **Maximilian H. Fabricius,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Romain Laugier,** KU Leuven (Netherlands); **Christian Straubmeier,** Univ. zu Köln (Germany); **Frank Eisenhauer,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Jean-Baptiste Le Bouquin,** Univ. Grenoble Alpes (France); **Laura Kreidberg,** Max-Planck-Institut für Astronomie (Germany); **Paulo J. V. Garcia,** Univ. do Porto (Portugal); **Sebastian Hönig,** Univ. of Southampton (United Kingdom); **Thibaut Paumard,** Observatoire de Paris à Meudon (France); **Matthias Subroweit,** Univ. zu Köln (Germany); **Antonia Drescher**, **Taro Shimizu,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Julien Woillez,** European Southern Observatory (Germany); **Matthew Horrobin,** Univ. zu Köln (Germany); **Pierre Bourget**, **Nicolas Schuhler,** European Southern Observatory (Germany); **Felix Widmann**, **Jinyi Shangguan**, **Stefan Gillessen**, **Thomas Ott,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Frédéric Gonté,** European Southern Observatory (Germany); **Senol Yazici,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Guy Perrin,** Observatoire de Paris à Meudon (France); **Wolfgang Brandner,** Max-Planck-Institut für Astronomie (Germany); **Karine Perraut,** Univ. Grenoble Alpes (France); **Denis Defrère,** KU Leuven (Netherlands); **Guillaume Bourdarot**, **Helmut Feuchtgruber**, **Reinhard Genzel**, **Michael Hartl**, **Dieter Lutz**, **Nikhil More**, **Christian Rau**, **Sinem Uysal**, **Ekkehard Wieprecht,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Jonas Sauter,** Max-Planck-Institut für Astronomie (Germany); **Patrick Wessely**, **Lukas Wimmer**, **Jonas Graf**, **Tilo Jilg**, **Vishaal Gopinath**, **Ralf Bender**, **Frank Haussmann**, **Christian Rehm,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Roberto Abuter, Robert Frahm,** European Southern Observatory (Germany)

13095-11 • 04:30 PM - 04:50 PM
**MATISSE, the VLTI mid-infrared spectro-interferometric imager: achievements and perspectives**
*Author(s):* **Bruno Lopez**, **Romain G. Petrov**, **Stéphane Lagarde,** Observatoire de la Côte d'Azur (France); **Walter Jaffe,** Leiden Univ. (Netherlands); **Gerd Weigelt,** Max-Planck-Institut für Radioastronomie (Germany); **Roy van Boekel,** Max-Planck-Institut für Astronomie (Germany); **Antoine Mérand**, **Julien Woillez,** European Southern Observatory (Germany); **Philippe Berio**, **Florentin Millour**, **Alexis Matter,** Observatoire de la Côte d'Azur (France); **Claudia Paladini**, **Thomas Rivinius,** European Southern Observatory (Chile); **Andreas Glindemann,** European Southern Observatory (Germany); **Anthony Meilland,** Observatoire de la Côte d'Azur (France); **Michiel Hogerheijde,** Leiden Univ. (Netherlands); **Jean-Charles Augereau,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Jozsef Varga,** Konkoly Observatory (Hungary); **Paul Boley,** Thüringer Landessternwarte Tautenburg (Germany); **James Leftley, Mathis Houllé,** Observatoire de la Côte d'Azur (France)

13095-12 • 04:50 PM - 05:10 PM
**Pushing high angular resolution and high contrast observations on the VLTI from Y to L band with the Asgard instrumental suite: integration status and plans**
*Author(s):* **Marc-Antoine Martinod**, **Denis Defrère,** KU Leuven (Belgium); **Michael J. Ireland,** The Australian National Univ. (Australia); **Stefan Kraus,** Univ. of Exeter (United Kingdom); **Frantz Martinache,** Observatoire de la Côte d'Azur (France); **Peter G. Tuthill,** The Univ. of Sydney (Australia); **Fatmé Allouche,** Observatoire de la Côte d'Azur (France); **Emilie Bouzerand,** ETH Zurich (Switzerland); **Julia Bryant,** The Univ. of Sydney (Australia); **Josh Carter,** The Australian National Univ. (Australia); **Sorabh Chhabra,** Univ. of Exeter (United Kingdom); **Benjamin Courtney-Barrer,** The Australian National Univ. (Australia); **Fred Crous,** The Univ. of Sydney (Australia); **Nick Cvetojevic,** Observatoire de la Côte d'Azur (France); **Colin Dandumont,** Liège Univ. (Belgium); **Steve Ertel,** The Univ. of Arizona (United States); **Tyler Gardner,** Univ. of Exeter (United Kingdom); **Germain Garreau,** KU Leuven (Belgium); **Adrian M. Glauser,** ETH Zurich (Switzerland); **Xavier Haubois,** European Southern Observatory (Chile); **Lucas Labadie,** Univ. zu Köln (Germany); **Stéphane Lagarde,** Observatoire de la Côte d'Azur (France); **Daniel Lancaster,** Univ. of Exeter (United Kingdom); **Romain Laugier,** KU Leuven (Belgium); **Alexandra Mazzoli,** Liège Univ. (Belgium); **Anthony Meilland,** Observatoire de la Côte d'Azur (France); **Kwinten Missiaen,** KU Leuven (Belgium); **Sebastien Morel,** Observatoire de la Côte d'Azur (France); **Daniel J. Mortimer,** Max-Planck-Institut für Astronomie (Germany); **Barnaby Norris,** The Univ. of Sydney (Australia); **Jyotirmay Paul,** Univ. of Exeter (United Kingdom); **Gert Raskin,** KU Leuven (Belgium); **Sylvie Robbe-Dubois,** Observatoire de la Côte d'Azur (France); **Gordon Robertson,** The Univ. of Sydney (Australia); **Ahmed Sanny,** Univ. zu Köln (Germany); **Nicolas Schuhler,** European Southern Observatory (Chile); **Owain Snaith,** Univ. of Exeter (United Kingdom); **Adam Taras,** The Univ. of Sydney (Australia)

13095-13 • 05:10 PM - 05:30 PM
**Status of Asgard/BIFROST: short-wavelength, high-spectral dispersion interferometry at VLTI**
*Author(s):* **Stefan Kraus**, **Sorabh Chhabra**, **Jyotirmay Paul**, **Owain Snaith**, **Daniel Lancaster,** Univ. of Exeter (United Kingdom); **Daniel J. Mortimer,** Univ. of Exeter (United Kingdom), Max-Planck-Institut für Astronomie (Germany); **Narsireddy Anugu,** CHARA Array (United States); **Michael J. Ireland,** The Australian National Univ. (Australia); **Frantz Martinache,** Observatoire de la Côte d'Azur (France); **Denis Defrère,** KU Leuven (Belgium); **Xavier Haubois**, **Nicolas Schuhler**, **Antoine Mérand,** European Southern Observatory (Chile); **Andrea Bianco**, **Michele Frangiamore,** INAF - Osservatorio Astronomico di Brera (Italy); **John D. Monnier,** Univ. of Michigan (United States); **Marc-Antoine Martinod,** KU Leuven (Belgium); **Joshua Carter,** The Australian National Univ. (Australia); **Isabelle Codron**, **Yi Lu, Tyler Gardner,** Univ. of Exeter (United Kingdom)

## SESSION PS1: POSTERS - CURRENT AND PLANNED FACILITIES

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13095-65 • 05:30 PM - 07:00 PM
**CMAP: a mobile 7th telescope at the CHARA Array**
*Author(s):* **Nicholas J. Scott**, **Douglas R. Gies**, **Gail H. Schaefer**, **Edgar R. Ligon**, **Narsireddy Anugu**, **Christopher D. Farrington**, **Theo A. ten Brummelaar**, **Rainer Köhler**, **Nils Turner**, **Craig J Woods**, **Victor Castillo, Steve Golden,** CHARA Array (United States)

13095-66 • 05:30 PM - 07:00 PM
**Chara Array integrated optics testbench (CHARIOT) for on-sky experiments**
*Author(s):* **Alyssa V. Mayer,** Leibniz-Institut für Astrophysik Potsdam (Germany), Humboldt-Univ. zu Berlin (Germany); **Aline N. Dinkelaker**, **Kalaga Madhav,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Lucas Labadie**, **Kévin Barjot,** Univ. zu Köln (Germany); **Nicholas J. Scott**, **Narsireddy Anugu,** Mount Wilson Institute (United States), CHARA Array (United States); **Aurélien Benoit**, **Robert R. Thomson,** Heriot-Watt Univ. (United Kingdom); **Robert J. Harris,** Ctr. for Advanced Instrumentation, Durham Univ. (United Kingdom); **Christopher D. Farrington**, **Rainer Koehler**, **Karolina Kubiak**, **Edgar R. Ligon, Gail H. Schaefer,** Mount Wilson Institute (United States), CHARA Array (United States)

13095-68 • 05:30 PM - 07:00 PM
**Recent and upcoming upgrades for MIRC-X and MYSTIC on the CHARA Array**
*Author(s):* **Noura Ibrahim**, **John D. Monnier**, **Mayra Gutierrez,** Univ. of Michigan (United States); **Stefan Kraus,** Univ. of Exeter (United Kingdom); **Benjamin Setterholm,** Univ. of Michigan (United States); **Sorabh Chhabra**, **Daniel J. Mortimer,** Univ. of Exeter (United Kingdom); **Jean-Baptiste Le Bouquin,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Narsireddy Anugu**, **Theo ten Brummelaar,** CHARA Array, Georgia State Univ. (United States); **Isabelle Codron**, **Claire L. Davies,** Univ. of Exeter (United Kingdom); **Jacob Ennis,** Univ. of Michigan (United States); **Tyler Gardner,** Univ. of Exeter (United Kingdom); **Aaron Labdon,** European Southern Observatory (Chile); **Cyprien Lanthermann, Gail H. Schaefer,** CHARA Array, Georgia State Univ. (United States)

13095-69 • 05:30 PM - 07:00 PM
**Multi-staged development of a dual-aperture fiber nulling instrument at the Large Binocular Telescope**
*Author(s):* **Ji Wang,** The Ohio State Univ. (United States)

13095-70 • 05:30 PM - 07:00 PM
**Fringe tracking and realtime control for the GLINT photonic nulling interferometer**
*Author(s):* **Stephanie A. Rossini-Bryson**, **Barnaby Norris**, **Peter G. Tuthill**, **Eckhart A. Spalding,** The Univ. of Sydney (Australia); **Simon Gross**, **Elizabeth Arcadi**, **Glen Douglass,** Macquarie Univ. (Australia); **Marc-Antoine Martinod,** The Univ. of Sydney (Australia); **Olivier Guyon,** National Astronomical Observatory of Japan (United States); **Michael Withford,** Macquarie Univ. (Australia); **Vincent Deo**, **Julien Lozi,** National Astronomical Observatory of Japan (United States); **Mona El Morsy,** The Univ. of Texas at San Antonio (United States)

13095-71 • 05:30 PM - 07:00 PM
**A new photonic integrated circuit for the FIRST instrument: towards high throughput with a compact photonic chip**
*Author(s):* **Harry-Dean Kenchington Goldsmith**, **Elsa Huby**, **Sylvestre Lacour,** Observatoire de Paris (France); **Guillermo Martin,** Univ. Grenoble Alpes (France), Institut de Planétologie et d'Astrophysique de Grenoble (France), CNRS (France); **Manon Lallement,** Univ. Grenoble Alpes (France), Observatoire de Paris (France), CNRS (France); **Sébastien Vievard,** Subaru Telescope, NAOJ (United States); **Olivier Guyon**, **Vincent Deo,** National Astronomical Observatory of Japan (United States); **Kévin Barjot,** Observatoire de Paris (France)

13095-72 • 05:30 PM - 07:00 PM
**GRAVITY+ adaptive optics tests**
*Author(s):* **Florentin Millour,** Univ. Côte d'Azur (France); **Frank Eisenhauer,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Jean-Baptiste Le Bouquin,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Thibaut Paumard,** Observatoire de Paris à Meudon (France); **Denis Defrère,** KU Leuven (Belgium); **Paulo J. V. Garcia,** Univ. do Porto (Portugal); **Ferreol Soulez,** Ctr. de Recherche Astrophysique de Lyon (France); **Sebastian Hoenig,** Univ. of Southampton (United Kingdom); **Fatmé Allouche**, **Christophe Bailet,** Univ. Côte d'Azur (France); **Anthony Berdeu,** Observatoire de Paris (France); **Alain Delboulbé,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Philippe Berio**, **Olivier Boebion,** Univ. Côte d'Azur (France); **Henri Bonnet,** European Southern Observatory (Germany); **Guillaume Bourdarot,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Roderick Dembet**, **Clémence Edouard,** Observatoire de Paris (France); **Stefan Gillessen,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Tiago Gomes,** Univ. do Porto (Portugal); **Carole Gouvret,** Univ. Côte d'Azur (France); **Sylvain Guieu,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Dieter Lutz**, **Michael Hartl,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Yves Magnard,** Institut de Planétologie et d'Astrophysique de Grenoble (France)

13095-73 • 05:30 PM - 07:00 PM
**The Asgard/BIFROST pre-injection optics and fiber injection module: optomechanical design & lab results**
*Author(s):* **Jyotirmay Paul,** Univ. of Exeter (United Kingdom); **Daniel J. Mortimer,** Univ. of Exeter (United Kingdom), Max-Planck-Institut für Astronomie (Germany); **Daniel Lancaster**, **Sorabh Chhabra**, **Owain Snaith**, **Sidney Skellett**, **Arthur Kitching**, **Stefan Kraus,** Univ. of Exeter (United Kingdom); **John D. Monnier,** Univ. of Michigan (United States); **Michael Ireland,** Australian National Universiyty (Australia)

13095-74 • 05:30 PM - 07:00 PM
**Vanaheim: a dual-field calibration unit for the integration & testing of the Asgard/BIFROST instrument**
*Author(s):* **Daniel Lancaster**, **Stefan Kraus**, **Sorabh Chhabra**, **Jyotirmay Paul,** Univ. of Exeter (United Kingdom); **Adam Taras,** The Univ. of Sydney (Australia); **Michael J. Ireland,** The Australian National Univ. (Australia)

13095-75 • 05:30 PM - 07:00 PM
**Software framework for the Asgard/BIFROST 4-telescope interferometer, a VLTI visitor instrument**
*Author(s):* **Owain Snaith**, **Stefan Kraus,** Univ. of Exeter (United Kingdom); **Narsireddy Anugu,** CHARA Array, Georgia State Univ. (United States); **Sébastien Morel,** Observatoire de la Côte d'Azur (France); **Michael J. Ireland,** The Australian National Univ. (Australia)

13095-76 • 05:30 PM - 07:00 PM
**Progress of the 100m-baseline optical interferometer in China**
*Author(s):* **Teng Xu,** Nanjing Institute of Astronomical Optics & Technology (China); **Yonghui Hou,** Nanjing Institute of Astronomical Optics & Technology (China), Nanjing Univ. (China); **Fanghua Jiang**, **Guohua Zhou**, **Yue Sun**, **Xuhao Wu**, **Xiaofei Li**, **Hemin Sun**, **Wei Wei**, **Massinissa Hadjara, Zhongwen Hu,** Nanjing Institute of Astronomical Optics & Technology (China)

13095-77 • 05:30 PM - 07:00 PM
**The experimental system for the 100m-baseline optical interferometer of China**
*Author(s):* **Xuhao Wu,** Nanjing Institute of Astronomical Optics & Technology (China)

13095-85 • 05:30 PM - 07:00 PM
**The on- and off-axis light injection module for Asgard/BIFROST at VLTI**
*Author(s):* **Daniel J. Mortimer,** Max-Planck-Institut für Astronomie (Germany), Univ. of Exeter (United Kingdom); **Sorabh Chhabra,** Univ. of Exeter (United Kingdom); **Michael J. Ireland,** The Australian National Univ. (Australia); **Jyotirmay Paul**, **Stefan Kraus, Owain Snaith,** Univ. of Exeter (United Kingdom)

## Tuesday 18 June 2024

### TUESDAY PLENARY

18 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/tuesday-plenary

13173-502 • 08:30 AM - 09:15 AM
**The present and future of Japan's space program** (Plenary Presentation)
*Author(s):* **Saku Tsuneta,** National Astronomical Observatory of Japan (Japan)

13173-503 • 09:15 AM - 10:00 AM
**NASA astrophysics: from today to the Habitable Worlds Observatory** (Plenary Presentation)
*Author(s):* **Mark Clampin,** NASA Goddard Space Flight Ctr. (United States); **John M. O'Meara,** W. M. Keck Observatory (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 4: CURRENT AND PLANNED FACILITIES IV

18 June 2024 • 10:30 AM - 12:10 PM | Room G416/417, North - 4F
*Session Chair(s):* **Jens Kammerer**, Space Telescope Science Institute (Germany); **Stephanie E. Sallum**, Univ. of California, Irvine (United States); **Joel Sanchez-Bermudez**, Univ. Nacional Autónoma de México (Mexico)

13095-14 • 10:30 AM - 10:50 AM
**Status of the Asgard/NOTT nulling interferometer**
*Author(s):* **Denis Defrère**, **Germain Garreau**, **Romain Laugier**, **Marc-Antoine Martinod**, **Muhammad Salman**, **Kwinten Missiaen**, **Gert Raskin,** KU Leuven (Belgium); **Olivier Absil,** Liège Univ. (Belgium); **Jean-Philippe Berger,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Azzurra Bigioli,** KU Leuven (Belgium); **Emilie Bouzerand,** ETH Zurich (Switzerland); **Benjamin Courtney-Barrer,** European Southern Observatory (Chile); **Colin Dandumont,** Ctr. Spatial de Liège (Belgium); **Steve Ertel,** The Univ. of Arizona (United States); **Simon Gross,** Macquarie Univ. (Australia); **Xavier Haubois,** European Southern Observatory (Chile); **Michael J. Ireland,** The Australian National Univ. (Australia); **Adrian M. Glauser,** ETH Zurich (Switzerland); **Noel James,** KU Leuven (Belgium); **Andras Joo,** Konkoly Observatory (Hungary); **Stefan Kraus,** Univ. of Exeter (United Kingdom); **Lucas Labadie,** Univ. zu Köln (Germany); **Stéphane Lagarde,** Univ. Côte d'Azur (France); **Alain Leger,** Univ. Paris Cité (France); **Jérôme Loicq,** Technische Univ. Delft (Netherlands); **Yisbel Marin,** VTT Technical Research Ctr. of Finland Ltd. (Finland); **Guillermo Martin,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Frantz Martinache,** Univ. Côte d'Azur (France); **Alexandra Mazzolli,** Ctr. Spatial de Liège (Belgium); **Gyorgy Medgyesi,** Konkoly Observatory (Hungary); **Bertrand Mennesson,** Jet Propulsion Lab. (United States); **György Mezo,** Konkoly Observatory (Hungary); **Sébastien Morel,** Univ. Côte d'Azur (France); **Johan Morren,** KU Leuven (Belgium); **Marc Ollivier,** Univ. Paris Cité (France); **Ahmed Sanny,** Univ. zu Köln (Germany); **Nicolas Schuhler,** European Southern Observatory (Chile); **Bart Vandenbussche,** KU Leuven (Belgium); **Julien Woillez,** European Southern Observatory (Germany)

13095-15 • 10:50 AM - 11:20 AM
**Recent progress with the Magdalena Ridge Observatory Interferometer project** *(Invited Paper)*
*Author(s):* **Michelle J. Creech-Eakman**, **V. D. Romero,** Magdalena Ridge Observatory (United States); **Christopher A. Haniff**, **David F. Buscher**, **John S. Young,** Univ. of Cambridge (United Kingdom); **Andres Olivares, Chris Salcido,** Magdalena Ridge Observatory (United States)

13095-16 • 11:20 AM - 11:40 AM
**Performance verification results for the Magdalena Ridge Observatory Interferometer (MROI)**
*Author(s):* **Christopher A. Haniff**, **John S. Young**, **David F. Buscher**, **Eugene B. Seneta**, **Martin Fisher,** Univ. of Cambridge (United Kingdom); **Andres Olivares**, **Chris Salcido**, **James J. D. Luis**, **Hamed Momemi, Michelle J. Creech-Eakman,** Magdalena Ridge Observatory, New Mexico Institute of Mining and Technology (United States)

13095-17 • 11:40 AM - 12:10 PM
**Stellar Intensity Interferometery: from Narrabri to CTA** *(Invited Paper)*
*Author(s):* **Peter G. Tuthill,** The Univ. of Sydney (Australia)

## Lunch/Exhibition Break 12:10 PM - 01:40 PM

## SESSION 5: CURRENT AND PLANNED FACILITIES V

18 June 2024 • 01:40 PM - 02:30 PM | Room G416/417, North - 4F
*Session Chair(s):* **Jens Kammerer**, Space Telescope Science Institute (Germany); **Stephanie E. Sallum**, Univ. of California, Irvine (United States); **Joel Sanchez-Bermudez**, Univ. Nacional Autónoma de México (Mexico)

13095-18 • 01:40 PM - 02:00 PM
**A new version of the Stellar Intensity Interferometry Instrument for the ASTRI Mini-Array telescopes**
*Author(s):* **Luca Zampieri,** INAF - Osservatorio Astronomico di Padova (Italy); **Michele Fiori,** Univ. degli Studi di Padova (Italy)

13095-19 • 02:00 PM - 02:30 PM
**Planet Formation Imager (PFI): project update and future directions** *(Invited Paper)*
*Author(s):* **John D. Monnier,** Univ. of Michigan (United States); **Stefan Kraus,** Univ. of Exeter (United Kingdom); **Michael Ireland,** The Australian National Univ. (Australia)

## SESSION 6: CRITICAL SUBSYSTEMS I

18 June 2024 • 02:30 PM - 03:30 PM | Room G416/417, North - 4F
*Session Chair(s):* **Elsa Huby**, Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France)

13095-20 • 02:30 PM - 02:50 PM
**GRAVITY for MATISSE: how MATISSE reached exoplanet science with the help of the GRAVITY fringe tracker**
*Author(s):* **Julien Woillez**, **Roberto Abuter,** European Southern Observatory (Germany); **Fatmé Allouche**, **Philippe Berio,** Observatoire de la Côte d'Azur, Univ. Côte d'Azur, CNRS (France); **Roderick Dembet,** European Southern Observatory (Germany); **Frank Eisenhauer,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Robert Frahm**, **Frédéric Gonté,** European Southern Observatory (Germany); **Xavier Haubois,** European Southern Observatory (Chile); **Mathis Houllé,** Observatoire de la Côte d'Azur, Univ. Côte d'Azur, CNRS (France); **Walter Jaffe,** Leiden Observatory (Netherlands); **Sylvestre Lacour,** European Southern Observatory (Germany); **Stéphane Lagarde**, **James Leftley**, **Bruno Lopez**, **Alexis Matter**, **Anthony Meilland**, **Florentin Millour,** Observatoire de la Côte d'Azur, Univ. Côte d'Azur, CNRS (France); **Mathias Nowak,** Kavli Institute for Cosmology, Cambridge, Univ. of Cambridge (United Kingdom); **Claudia Paladini,** European Southern Observatory (Chile); **Romain G. Petrov,** Observatoire de la Côte d'Azur, Univ. Côte d'Azur, CNRS (France); **Thomas Rivinius**, **Nicolas Schuhler,** European Southern Observatory (Chile); **Gérard Zins,** European Southern Observatory (Germany)

13095-21 • 02:50 PM - 03:10 PM
**VLTI Unit Telescope coudé train vibration control upgrade for GRAVITY+**
*Author(s):* **Romain Laugier,** KU Leuven (Belgium); **Julien Woillez,** European Southern Observatory (Germany); **Denis Defrère,** KU Leuven (Belgium); **Benjamin Courtney-Barrer,** European Southern Observatory (Germany); **Muhammad Salman,** KU Leuven (Belgium); **Babak Sedghi,** European Southern Observatory (Germany); **Azzurra Bigioli,** KU Leuven (Belgium); **Frank Eisenhauer,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Frédéric Gonté**, **Nicolas Schuhler**, **Miguel Riquelme**, **Pierre Bourget,** European Southern Observatory (Germany); **Philippe Neuville,** KU Leuven (Belgium); **Sylvestre Lacour,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France), Univ. PSL, Sorbonne Univ., CNRS (France), European Southern Observatory (Germany); **Mathias Nowak,** Institute of Astronomy, Univ. of Cambridge (United Kingdom), Kavli Institute for Cosmology, Cambridge (United Kingdom), Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris, Univ. PSL, CNRS (France)

13095-22 • 03:10 PM - 03:30 PM
**GRAVITY+ Wavefront Sensors: fully AO assisted interferometry on 8m class telescope at VLTI**
*Author(s):* **Guillaume Bourdarot,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Jean-Baptiste Le Bouquin,** Univ. Grenoble Alpes (France), Institut de Planétologie et d'Astrophysique de Grenoble (France); **Sebastian Hoenig,** Univ. of Southampton (United Kingdom); **Paulo J. V. Garcia,** Instituto Superior Técnico, Univ. de Lisboa (Portugal); **Laura Kreidberg,** Max-Planck-Institut für Astronomie (Germany); **Thibaut Paumard,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France), Sorbonne Univ., Univ. Paris Cité, CNRS (France); **Christian Straubmeier,** Univ. zu Köln (Germany); **Frank Eisenhauer**, **Senol Yazici**, **Helmut Feuchtgruber,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Philippe Berio,** Observatoire de la Côte d'Azur, Univ. Côte d'Azur, CNRS (France); **Florentin Millour,** Univ. Côte d'Azur (France); **Ekkehard Wieprecht**, **Nikhil More,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Fatmé Allouche,** Univ. Côte d'Azur (France); **Frank Haussmann**, **Christian Rau**, **Jonas Graf**, **Michael Hartl**, **Vishaal Gopinath**, **Felix Widmann,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Clémence Edouard,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Sylvie Robbe-Dubois**, **Olivier Lai,** Univ. Côte d'Azur (France); **Dieter Lutz,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Frédéric Gonté**, **Sylvain Oberti**, **Johann Kolb**, **Henri Bonnet,** European Southern Observatory (Germany); **Olivier Boebion**, **Stéphane Lagarde,** Univ. Côte d'Azur (France); **Antonia Drescher**, **Thomas Ott**, **Stefan Gillessen, Taro Shimizu,** Max-Planck-Institut für extraterrestrische Physik (Germany)

## Coffee Break 03:30 PM - 04:00 PM

## SESSION 7: CRITICAL SUBSYSTEMS II

18 June 2024 • 04:00 PM - 05:00 PM | Room G416/417, North - 4F
*Session Chair(s):* **Jens Kammerer**, Space Telescope Science Institute (Germany); **Stephanie E. Sallum**, Univ. of California, Irvine (United States); **Joel Sanchez-Bermudez**, Univ. Nacional Autónoma de México (Mexico)

13095-23 • 04:00 PM - 04:20 PM
**New GRAVITY+ observing modes to push for fainter and more precise observations**
*Author(s):* **Antonia Drescher**, **Michaela Benthaus**, **Guillaume Bourdarot,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Wolfgang Brandner,** Max-Planck-Institut für Astronomie (Germany); **Denis Defrère,** KU Leuven (Belgium); **Frank Eisenhauer**, **Maximilian H. Fabricius**, **Helmut Feuchtgruber,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Paulo J. V. Garcia,** Univ. de Lisboa (Portugal), Univ. do Porto (Portugal); **Reinhard Genzel**, **Stefan Gillessen,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Frédéric Gonté,** European Southern Observatory (Germany); **Jonas Graf**, **Michael Hartl**, **Frank Haussmann,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Sebastian Hönig,** Univ. of Southampton (United Kingdom); **Laura Kreidberg,** Max-Planck-Institut für Astronomie (Germany); **Jean-Baptiste Le Bouquin,** Univ. Grenoble Alpes (France); **Dieter Lutz**, **Felix Mang,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Florentin Millour,** Observatoire de la Côte d'Azur, Univ. Côte d'Azur, CNRS (France); **Nikhil More**, **Thomas Ott,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Thibaut Paumard,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France), Univ. PSL, Sorbonne Univ., CNRS (France); **Karine Perraut,** Univ. Grenoble Alpes (France), Institut de Planétologie et d'Astrophysique de Grenoble (France), CNRS (France); **Guy Perrin,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France), Univ. PSL, Sorbonne Univ., CNRS (France); **Christian Rau**, **Jinyi Shangguan**, **Taro Shimizu,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Christian Straubmeier**, **Matthias Subroweit,** Univ. zu Köln (Germany); **Sinem Uysal,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Sebastiano von Fellenberg,** Max-Planck-Institut für Radioastronomie (Germany); **Felix Widmann**, **Ekkehard Wieprecht,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Julien Woillez,** European Southern Observatory (Germany); **Senol Yazici,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13095-25 • 04:20 PM - 04:40 PM
**Asgard/NOTT: Lab assembly and first experimental results**
*Author(s):* **Germain Garreau,** KU Leuven (Belgium); **Azzurra Bigioli,** Vaisala SAS (France); **Muhammad Salman**, **Kwinten Missiaen**, **Johan Morren**, **Gert Raskin**, **Romain Laugier**, **Marc-Antoine Martinod,** KU Leuven (Belgium); **Simon Gross,** Macquarie Univ. (Australia); **Michael J. Ireland,** The Australian National Univ. (Australia); **András Péter Joó,** Konkoly Observatory (Hungary); **Ahmed Sanny,** Macquarie Univ. (Australia); **Lucas Labadie,** Univ. zu Köln (Germany); **Stephen Madden,** The Australian National Univ. (Australia); **Alexandra Mazzoli,** Ctr. Spatial de Liège (Belgium); **Denis Defrère,** KU Leuven (Belgium)

13095-26 • 04:40 PM - 05:00 PM
**Development status of the L′-band 4-telescope integrated optics nulling beam combiner for NOTT**
*Author(s):* **Ahmed Sanny,** Univ. zu Köln (Germany), Macquarie Univ. (Australia); **Lucas Labadie,** Univ. zu Köln (Germany); **Simon Gross**, **Michael Withford,** Macquarie Univ. (Australia); **Romain Laugier**, **Marc-Antoine Martinod**, **Germain Garreau, Denis Defrère,** KU Leuven (Belgium)

## SESSION PS2: POSTERS - CURRENT AND PLANNED FACILITIES II

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13095-78 • 05:30 PM - 07:00 PM
**Performance of MAGIC Stellar Intensity Interferometer and expansion to MAGIC + CTAO-LST1 Stellar Intensity Interferometer**
*Author(s):* **Alejo Cifuentes,** Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); **Victor A. Acciari,** Instituto de Astrofísica de Canarias (Spain); **Fernando Barnes,** Univ. de La Laguna (Spain); **Gayoung Chon,** Max-Planck-Institut für Physik (Germany); **Eduardo Colombo,** Instituto de Astrofísica de Canarias (Spain); **Juan Cortina**, **Carlos Delgado**, **Carlos Díaz,** Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); **Michele Fiori,** Univ. degli Studi di Padova (Italy); **David Fink,** Max-Planck-Institut für Physik (Germany); **Tarek Hassan,** Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); **Irene Jiménez Martínez,** Max-Planck-Institut für Physik (Germany); **Iñigo Jorge,** Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); **Daniel Kerszberg,** Institut de Física d'Altes Energies (Spain), Sorbonne Université, CNRS/IN2P3, Laboratoire de Physique Nucléaire et de Hautes Energies, LPNHE (France); **Etienne Lyard,** Observatoire de Genève (Switzerland); **Gustavo Martínez,** Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); **Razmik Mirzoyan,** Max-Planck-Institut für Physik (Germany); **Miguel Polo,** Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); **Nicolas Produit,** Observatoire de Genève (Switzerland); **Juan José Rodríguez-Vázquez,** Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); **Prasenjit Saha,** Univ. Zürich (Switzerland); **Thomas Schweizer**, **Derek Strom,** Max-Planck-Institut für Physik (Germany); **Roland Walter,** Observatoire de Genève (Switzerland); **Caroline W. Wunderlich,** Univ. di Pisa (Italy), Istituto Nazionale di Fisica Nucleare (Italy)

13095-79 • 05:30 PM - 07:00 PM
**Fringe Tracking with the FOURIER beam combiner at the MROI**
*Author(s):* **Anders M. Jorgensen,** New Mexico Institute of Mining and Technology (United States); **John S. Young**, **Eugene B. Seneta, David F. Buscher,** Univ. of Cambridge (United Kingdom)

## SESSION PS3: POSTERS - CRITICAL SUBSYSTEMS

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13095-80 • 05:30 PM - 07:00 PM
**Portable in-vacuum computerized beam-relay subsystem for the Magdalena Ridge Observatory Interferometer**
*Author(s):* **Ian S. Schofield,** New Mexico Institute of Mining and Technology (United States); **David F. Buscher,** Univ. of Cambridge (United Kingdom); **Juan Altamirano**, **Hamed Momeni,** New Mexico Institute of Mining and Technology (United States); **Christopher A. Haniff,** Univ. of Cambridge (United Kingdom); **Jeffrey C. Mason, Michelle J. Creech-Eakman,** New Mexico Institute of Mining and Technology (United States)

13095-81 • 05:30 PM - 07:00 PM
**Designing an automated alignment system in fluctuating thermal environments for opto-mechanical components at MROI**
*Author(s):* **Hamed Momeni,** Magdalena Ridge Observatory (United States); **Jeffrey C. Mason,** New Mexico Institute of Mining and Technology (United States); **Christopher A. Haniff**, **David F. Buscher,** Univ. of Cambridge (United Kingdom); **Michelle J. Creech-Eakman,** New Mexico Institute of Mining and Technology (United States); **Chris Salcido,** Magdalena Ridge Observatory (United States); **Juan Altamirano,** New Mexico Institute of Mining and Technology (United States); **James J. D. Luis,** Magdalena Ridge Observatory (United States); **Siavash Norouzi,** Ronais Software LLC (United States); **Ian S. Schofield,** Magdalena Ridge Observatory (United States); **John S. Young**, **Eugene B. Seneta,** Univ. of Cambridge (United Kingdom); **Rafael Santoro, Andres Olivares,** Magdalena Ridge Observatory (United States)

13095-82 • 05:30 PM - 07:00 PM
**Integration and site acceptance testing of light sources and sensors for automated beam train alignment at the MROI**
*Author(s):* **James J. D. Luis**, **Juan Altamirano,** New Mexico Institute of Mining and Technology (United States); **David F. Buscher,** Univ. of Cambridge (United Kingdom); **Michelle J. Creech-Eakman,** New Mexico Institute of Mining and Technology (United States); **Christopher A. Haniff,** Univ. of Cambridge (United Kingdom); **Jeffrey C. Mason**, **Hamed Momeni**, **Siavash Norouzi**, **Andres Olivares**, **Chris Salcido**, **Rafael Santoro, Ian S. Schofield,** New Mexico Institute of Mining and Technology (United States)

13095-83 • 05:30 PM - 07:00 PM
**Asgard/NOTT: water vapor and $CO_2$ atmospheric dispersion compensation system**
*Author(s):* **Romain Laugier**, **Denis Defrère,** KU Leuven (Belgium); **Michael J. Ireland,** The Australian National Univ. (Australia); **Germain Garreau,** KU Leuven (Belgium); **Olivier Absil,** Liège Univ. (Belgium); **Alexis Matter**, **Romain G. Petrov,** Observatoire de la Côte d'Azur, Univ. Côte d'Azur, CNRS (France); **Philippe Berio,** Univ. Côte d'Azur (France); **Peter G. Tuthill,** The Univ. of Sydney (Australia); **Lucas Labadie,** Univ. zu Köln (Germany); **Marc-Antoine Martinod, Johan Morren,** KU Leuven (Belgium)

13095-84 • 05:30 PM - 07:00 PM
**Spectrographs for the Asgard/BIFROST beam combiner for the VLTI: optical & optomechanical design and first lab results**
*Author(s):* **Sorabh Chhabra**, **Stefan Kraus,** Univ. of Exeter (United Kingdom); **Michele Frangiamore**, **Andrea Bianco**, **Andrea Vanella,** INAF - Osservatorio Astronomico di Brera (Italy); **Michael J. Ireland,** The Australian National Univ. (Australia); **Francisco Garzon,** Instituto de Astrofísica de Canarias (Spain); **Manuela Arno,** INAF - Osservatorio Astronomico di Brera (Italy); **Daniel Lancaster,** Univ. of Exeter (United Kingdom); **Daniel J. Mortimer,** Max-Planck-Institut für Astronomie (Germany); **John D. Monnier,** Univ. of Michigan (United States); **Jyotirmay Paul,** Univ. of Exeter (United Kingdom); **Gordon Robertson,** The Univ. of Sydney (Australia); **Owain Snaith,** Univ. of Exeter (United Kingdom)

13095-86 • 05:30 PM - 07:00 PM
**Opto-mechanical design of GRAVITY+ wavefront sensor**
*Author(s):* **Nikhil More**, **Reinhard Genzel**, **Frank Eisenhauer**, **Dieter Lutz**, **Stefan Gillessen**, **Josef Schubert**, **Michael Hartl**, **Frank Haussmann,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Christian Rehm,** ISKON Ing. (Germany); **Harald Weisz,** WEISZ Ing.-Bureau für den Maschinenbau (Germany); **Senol Yazici**, **Helmut Feuchtgruber**, **Christian Rau**, **Sinem Uysal**, **Guillaume Bourdarot**, **Ekkehard Wieprecht**, **Thomas Ott**, **Maximilian H. Fabricius**, **Felix Widmann**, **Antonia Drescher**, **Jinyi Shangguan**, **Taro Shimizu,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Frédéric Gonté**, **Julien Woillez,** European Southern Observatory (Germany); **Nicolas Schuhler,** European Southern Observatory (Chile); **Pierre Bourget**, **Sylvain Oberti,** European Southern Observatory (Germany); **Christian Straubmeier,** Univ. zu Köln (Germany); **Florentin Millour,** Univ. Côte d'Azur (France); **Jean-Baptiste Le Bouquin,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Laura Kreidberg,** Max-Planck-Institut für Astronomie (Germany); **Thibaut Paumard,** CNRS (France); **Paulo J. V. Garcia**, **Tiago Gomes,** Univ. do Porto (Portugal); **Sebastian Hoenig,** Univ. of Southampton (United Kingdom); **Denis Defrére,** Institute of Astronomy, KU Leuven (Belgium)

13095-87 • 05:30 PM - 07:00 PM
**BrG studies at high-spectral resolution with GRAVITY+: the design of a new high-resolution Germanium grism**
*Author(s):* **Joel Sanchez-Bermudez,** Univ. Nacional Autónoma de México (Mexico); **Rebeca García-López,** Univ. College Dublin (Ireland); **Salvador Cuevas ,** Univ. Nacional Autónoma de México (Mexico)

13095-88 • 05:30 PM - 07:00 PM
**Characterization and On-Sky Performance Assessment of the CHARA Delay Lines**
*Author(s):* **Narsireddy Anugu**, **Theo A. ten Brummelaar**, **Tim Buschmann**, **Brad Hines**, **Matthew D. Anderson**, **Christopher D. Farrington**, **Douglas R. Gies**, **Karolina Kubiak**, **Rainer Koehler**, **Cyprien Lanthermann**, **Edgar R. Ligon**, **Olli Majoinen,** CHARA Array (United States); **John D. Monnier,** Univ. of Michigan (United States); **Denis Mourard,** Univ. Côte d'Azur (France); **Stephen T. Ridgway,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Gail H. Schaefer**, **Nicholas J. Scott**, **Judit Sturmann**, **Laszlo Sturmann**, **Nils H. Turner, Norman L. Vargas,** CHARA Array (United States)

13095-89 • 05:30 PM - 07:00 PM
**Hierarchical Fringe Tracking**
*Author(s):* **Romain G. Petrov**, **Fatmé Allouche,** Univ. Côte d'Azur (France); **Amokrane Berdja,** Dictuc S.A. (Chile); **Massinissa Hadjara,** Chinese Academy of Sciences South America Ctr. for Astronomy (Chile); **Stéphane Lagarde,** Univ. Côte d'Azur (France)

13095-90 • 05:30 PM - 07:00 PM
**End to end simulation of Hierarchical Fringe Tracking**
*Author(s):* **Romain G. Petrov**, **Fatmé Allouche,** Univ. Côte d'Azur (France); **Massinissa Hadjara,** Chinese Academy of Sciences South America Ctr. for Astronomy (Chile); **Amokrane Berdja,** Dictuc S.A. (Chile)

## Wednesday 19 June 2024

### WEDNESDAY PLENARY

19 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/wednesday-plenary

13173-504 • 08:30 AM - 09:15 AM
**Euclid mission: first year of operations** (Plenary Presentation)
*Author(s):* **René J. Laureijs,** European Space Research and Technology Ctr. (Netherlands)

13173-505 • 09:15 AM - 10:00 AM
**The ultraviolet explorer: new views of the UV universe** (Plenary Presentation)
*Author(s):* **Fiona A. Harrison,** Caltech (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 8: TECHNOLOGIES I

19 June 2024 • 10:30 AM - 12:00 PM | Room G416/417, North - 4F
*Session Chair(s):* **Alexander Chaushev**, Univ. of California, Irvine (United States)

13095-27 • 10:30 AM - 11:00 AM
**Astrophotonic technologies** *(Invited Paper)*
*Author(s):* **Aline N. Dinkelaker,** Leibniz-Institut für Astrophysik Potsdam (Germany)

13095-28 • 11:00 AM - 11:20 AM
**Wavefront sensing and control for a Photonic Lantern Nuller for exoplanet characterization**
*Author(s):* **Yinzi Xin**, **Daniel Echeverri**, **Nemanja Jovanovic**, **Dimitri Mawet,** Caltech (United States); **Sergio Leon-Saval,** The Univ. of Sydney (Australia); **Rodrigo Amezcua-Correa**, **Stephanos Yerolatsitis,** Univ. of Central Florida (United States); **Michael P. Fitzgerald,** Univ. of California, Los Angeles (United States); **Pradip Gatkine,** Caltech (United States); **Yoo Jung Kim**, **Jonathan Lin,** Univ. of California, Los Angeles (United States); **Barnaby Norris,** The Univ. of Sydney (Australia); **Garreth Ruane,** Jet Propulsion Lab. (United States); **Stephanie Sallum,** Univ. of California, Irvine (United States)

13095-29 • 11:20 AM - 11:40 AM
**Spectral characterization of 3-port photonic lantern for spectroastrometry**
*Author(s):* **Yoo Jung Kim**, **Michael P. Fitzgerald**, **Jonathan Lin,** Univ. of California, Los Angeles (United States); **Daniel M. Levinstein,** Univ. of California, Irvine (United States); **Yinzi Xin,** Caltech (United States); **Stephanie Sallum,** Univ. of California, Irvine (United States); **Julien Lozi,** Subaru Telescope, NAOJ (United States); **Nemanja Jovanovic,** Caltech (United States); **Sergio Leon-Saval,** The Univ. of Sydney (Australia); **Kyohoon Ahn,** Subaru Telescope, NAOJ (United States); **Christopher Betters,** The Univ. of Sydney (Australia); **Vincent Deo,** Subaru Telescope, NAOJ (United States); **Pradip Gatkine,** Caltech (United States); **Olivier Guyon**, **Manon Lallement,** Subaru Telescope, NAOJ (United States); **Dimitri Mawet,** Caltech (United States); **Barnaby Norris,** The Univ. of Sydney (Australia); **Sébastien Vievard,** Subaru Telescope, NAOJ (United States)

13095-30 • 11:40 AM - 12:00 PM
**Kernel nulling at VLTI with photonic lanterns for optimal fibre injection**
*Author(s):* **Adam Taras**, **Barnaby Norris,** The Univ. of Sydney (Australia); **Sorabh Chhabra,** Univ. of Exeter (United Kingdom); **Nick Cvetojevic**, **Vincent Foriel,** Observatoire de la Côte d'Azur (France); **Michael J. Ireland,** The Australian National Univ. (Australia); **Stefan Kraus,** Univ. of Exeter (United Kingdom); **Sergio Leon-Saval,** The Univ. of Sydney (Australia); **Frantz Martinache**, **David Mary,** Observatoire de la Côte d'Azur (France); **Jyotirmay Paul,** Univ. of Exeter (United Kingdom); **Eckhart Spalding**, **Peter G. Tuthill, David Sweeney,** The Univ. of Sydney (Australia)

## Lunch/Exhibition Break 12:00 PM - 01:30 PM

## SESSION 9: TECHNOLOGIES II

19 June 2024 • 01:30 PM - 02:20 PM | Room G416/417, North - 4F
*Session Chair(s):* **Nic Scott**, CHARA Array (United States)

13095-145 • 01:30 PM - 02:00 PM
**Heterodyne IR interferometry and technologies for kilometric baseline interferometry** *(Invited Paper)*
*Author(s):* **Guillaume Bourdarot,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13095-31 • 02:00 PM - 02:20 PM
**Silicon photonic aperture synthesis for long baseline near-infrared interferometry**
*Author(s):* **Ross Cheriton,** National Research Council Canada (Canada); **Volodymyr Artyshchuk,** National Research Council Canada (Canada), Carleton Univ. (Canada); **Erin Tonita,** National Research Council Canada (Canada), Univ. of Ottawa (Canada); **Glen Herriot**, **Brent Carlson**, **Thushara Gunaratne**, **Zoran Ljusic**, **Alexis Hill**, **Jean-Pierre Véran**, **John Weber**, **Jianhao Zhang**, **Maziyar Milanizadeh**, **Md Saad-Bin-Alam**, **Jens H. Schmid**, **Dan-Xia Xu**, **Pavel Cheben, Siegfried Janz,** National Research Council Canada (Canada)

## SESSION 10: APERTURE MASKING INTERFEROMETRY I

19 June 2024 • 02:20 PM - 03:30 PM | Room G416/417, North - 4F
*Session Chair(s):* **Joel Sanchez-Bermudez**, Univ. Nacional Autónoma de México (Mexico)

13095-32 • 02:20 PM - 02:50 PM
**25 Years of Aperture Masking Interferometry in Astronomy: From Keck to the James Webb Space Telescope** *(Invited Paper)*
*Author(s):* **Stephanie E. Sallum,** Univ. of California, Irvine (United States)

13095-33 • 02:50 PM - 03:10 PM
**Design and simulation of non-redundant aperture masks for SCALES**
*Author(s):* **Mackenzie Lach**, **Stephanie Sallum,** Univ. of California, Irvine (United States); **Andrew Skemer,** Univ. of California, Santa Cruz (United States)

13095-34 • 03:10 PM - 03:30 PM
**Jewel masks: non-redundant Fizeau beam combination without the guilt**
*Author(s):* **Adam Taras**, **Peter G. Tuthill, Grace Piroscia,** The Univ. of Sydney (Australia)

## Coffee Break 03:30 PM - 04:00 PM

## SESSION 11: APERTURE MASKING INTERFEROMETRY II

19 June 2024 • 04:00 PM - 05:20 PM | Room G416/417, North - 4F
*Session Chair(s):* **Jens Kammerer**, Space Telescope Science Institute (Germany); **Stephanie E. Sallum**, Univ. of California, Irvine (United States); **Joel Sanchez-Bermudez**, Univ. Nacional Autónoma de México (Mexico)

13095-35 • 04:00 PM - 04:20 PM
**Polarimetric, non-redundant aperture masking with next generation VAMPIRES: new instrumental capabilities, scientific outcomes, and image reconstruction techniques**
*Author(s):* **Lucinda Lilley**, **Barnaby Norris**, **Peter G. Tuthill,** The Univ. of Sydney (Australia); **Miles Lucas,** Institute for Astronomy, Univ. of Hawai'i (United States); **Manxuan Zhang,** Univ. of California, Santa Barbara (United States); **Eckhart A. Spalding,** The Univ. of Sydney (Australia); **Maxwell Millar-Blanchaer,** Univ. of California, Santa Barbara (United States); **Julien Lozi**, **Olivier Guyon,** Subaru Telescope, NAOJ (United States); **Michael Bottom,** Institute for Astronomy, Univ. of Hawai'i (United States); **Boris S. Safonov,** Sternberg Astronomical Institute (Russian Federation), M. V. Lomonosov Moscow State Univ. (Russian Federation); **Kyohoon Ahn,** Subaru Telescope, NAOJ (United States); **Jaren Ashcraft,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Vincent Deo, Sébastien Vievard,** Subaru Telescope, NAOJ (United States)

13095-36 • 04:20 PM - 04:40 PM
**Imaging the inner regions of protoplanetary disks with non-redundant masking**
*Author(s):* **Christina Vides**, **Stephanie Sallum,** Univ. of California, Irvine (United States); **Josh Eisner,** The Univ. of Arizona (United States); **Andrew Skemer, Ruth Murray-Clay,** Univ. of California, Santa Cruz (United States)

13095-37 • 04:40 PM - 05:00 PM
**Aperture masking interferometry with JWST: calibration and observing strategies**
*Author(s):* **Benjamin J. S. Pope,** The Univ. of Queensland (Australia); **Louis Desdoigts,** The Univ. of Sydney (Australia); **Dori Blakely,** Univ. of Victoria (Canada); **Peter G. Tuthill,** The Univ. of Sydney (Australia); **Shrishmoy Ray,** The Univ. of Queensland (Australia)

13095-38 • 05:00 PM - 05:20 PM
**Differentiable modelling and data analysis for the JWST aperture masking interferometer**
*Author(s):* **Louis Desdoigts,** The Univ. of Sydney (Australia); **Benjamin J. S. Pope,** The Univ. of Queensland (Australia); **Peter G. Tuthill,** The Univ. of Sydney (Australia)

## SESSION PS4: POSTERS - TECHNOLOGIES

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13095-91 • 05:30 PM - 07:00 PM
**Dual-aperture fiber nulling for high spatial and spectral resolution studies of exoplanets**
*Author(s):* **Anusha Pai Asnodkar**, **Ji Wang,** The Ohio State Univ. (United States); **Colby Jurgenson,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Jonathan Crass,** The Ohio State Univ. (United States)

13095-92 • 05:30 PM - 07:00 PM
**Dual channel imaging system in H-alpha and HeI 1083nm lines using a universal tunable filter**
*Author(s):* **Kiyoshi Ichimoto,** Ritsumeikan Univ. (Japan); **Weifung Huang**, **Goichi Kimura**, **Satoru Ueno, Sartomi Tokuda,** Kyoto Univ. Hida Observatory (Japan)

13095-93 • 05:30 PM - 07:00 PM
**Achieving high-resolution and high contrast imaging of exo-planets using a hybrid optical telescope**
*Author(s):* **Jeff Kuhn,** Univ. of Hawai'i (United States); **Stuart A. Jefferies,** Georgia State Univ. (United States), Univ. of Hawai'i (United States); **Sudhakar Prasad,** Univ. of Minnesota, Twin Cities (United States); **Leti Garcia,** Georgia State Univ. (United States); **Douglas A. Hope**, **Megan Birch,** Georgia Tech Research Institute (United States); **Fabien Baron**, **Daniel Johns**, **Dmitriy Shcherbik, Ty Tidrick,** Georgia State Univ. (United States)

13095-94 • 05:30 PM - 07:00 PM
**Characterizing circumstellar disk accretion signatures with Photonic Lanterns and Spectro-astrometry**
*Author(s):* **Daniel M. Levinstein**, **Stephanie Sallum,** Univ. of California, Irvine (United States); **Yoo Jung Kim**, **Jonathan Lin,** Univ. of California, Los Angeles (United States); **Julien Lozi,** Subaru Telescope, NAOJ (United States); **Nemanja Jovanovic,** Caltech (United States); **Michael P. Fitzgerald,** Univ. of California, Los Angeles (United States); **Sébastien Vievard,** Subaru Telescope, NAOJ (United States)

13095-95 • 05:30 PM - 07:00 PM
**Laboratory demonstration of an all-fiber-based focal plane nulling interferometer**
*Author(s):* **Jordan I. Diaz Alvarez**, **Rebecca Jensen-Clem**, **Daren Dillon**, **Philip M. Hinz**, **Matthew C. DeMartino**, **Kevin Bundy,** Univ. of California, Santa Cruz (United States); **Stephen Eikenberry, Peter J. Delfyett,** Univ. of Central Florida (United States)

13095-96 • 05:30 PM - 07:00 PM
**Study on a co-phasing sensing technology based on integrated photonic chip merging arrayed waveguide grating with multi-axial combining**
*Author(s):* **Xinyang Chen,** Shanghai Astronomical Observatory (China); **Yinlei Hao,** Zhejiang Univ. (China); **Chaoyan Wang**, **Kexin Li,** Shanghai Astronomical Observatory (China); **Teng Xu,** Nanjing Institute of Astronomical Optics & Technology (China); **Yuanyuan Ding,** Shanghai Astronomical Observatory (China)

13095-97 • 05:30 PM - 07:00 PM
**Cross-aperture nulling with a phase-knife mask based on geometric phase**
*Author(s):* **Eugene Serabyn, Kurt Liewer,** Jet Propulsion Lab. (United States)

13095-98 • 05:30 PM - 07:00 PM
**Precision speckle interferometry with CMOS detector**
*Author(s):* **Ivan A. Strakhov**, **Boris S. Safonov, Dmitry V. Cheryasov,** Sternberg Astronomical Institute (Russian Federation)

## SESSION PS5: POSTERS - APERTURE MASKING INTERFEROMETRY

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13095-100 • 05:30 PM - 07:00 PM
**Commissioning and calibration of the JWST Aperture Masking Interferometry Mode**
*Author(s):* **Rachel Cooper**, **Anand Sivaramakrishnan**, **Deepashri Thatte,** Space Telescope Science Institute (United States); **Thomas Vandal,** L'Institut Trottier de recherche sur les exoplanètes (Canada); **Jens Kammerer,** European Southern Observatory (Germany); **Anthony Soulain,** Univ. Grenoble Alpes (France), Institut de Planétologie et d'Astrophysique de Grenoble (France), CNRS (France); **Joel Sanchez-Bermudez,** Univ. Nacional Autónoma de México (Mexico); **Neil Cook,** L'Institut Trottier de recherche sur les exoplanètes (Canada); **Loic Albert,** L'Institut Trottier de recherche sur les exoplanètes, Univ. de Montréal (Canada); **Andre Martel, Kevin Volk,** Space Telescope Science Institute (United States)

13095-101 • 05:30 PM - 07:00 PM
**Wavefront error recovery and companion identification with the James Webb Space Telescope**
*Author(s):* **Matthew De Furio,** The Univ. of Texas at Austin (United States); **Marie Ygouf,** Jet Propulsion Lab. (United States); **Alexandra Greenbaum,** IPAC, Caltech (United States); **Graca Rocha,** Jet Propulsion Lab. (United States); **Michael Meyer,** Univ. of Michigan (United States); **Charles Beichman,** NASA Exoplanet Science Institute (United States), Jet Propulsion Lab. (United States), IPAC (United States); **Jorge Llop-Sayson,** Caltech (United States); **Gael Roudier,** Jet Propulsion Lab. (United States); **Stephanie Sallum,** Univ. of California, Irvine (United States); **Jarron Leisenring,** Steward Observatory, The Univ. of Arizona (United States); **Anand Sivaramakrishnan,** Johns Hopkins Univ. (United States)

13095-102 • 05:30 PM - 07:00 PM
**Simultaneous sub-aperture wavefront sensing improves calibration with holographic aperture masking**
*Author(s):* **Jordan M. Stone**, **Henrique H. R. Schmitt**, **Ellyn Baines**, **Freddie Santiago, Noor Qadri,** U.S. Naval Research Lab. (United States)

13095-142 • 05:30 PM - 07:00 PM
**On-sky tests of an upgraded holographic mask in the OSIRIS imager**
*Author(s):* **Eric Exley, Stephanie Sallum,** Univ. of California, Irvine (United States)

# Thursday 20 June 2024

## THURSDAY PLENARY

20 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/thursday-plenary

13173-506 • 08:30 AM - 09:15 AM
**Navigating the radio astronomy renaissance: challenges and opportunities for a sustainable future** (Plenary Presentation)
*Author(s):* **Jessica T. Dempsey,** ASTRON (Netherlands)

13173-507 • 09:15 AM - 10:00 AM
**The x-ray imaging and spectroscopy mission (XRISM): development and expected science** (Plenary Presentation)
*Author(s):* **Makoto S. Tashiro,** Saitama Univ. (Japan)

**Coffee Break 10:00 AM - 10:30 AM**

## SESSION 12: DATA PROCESSING, ANALYSIS, ACCESS, AND DISCOVERY I

20 June 2024 • 10:30 AM - 12:00 PM | Room G416/417, North - 4F
*Session Chair(s):* **Joel Sanchez-Bermudez**, Univ. Nacional Autónoma de México (Mexico)

13095-39 • 10:30 AM - 11:00 AM
**I2C@2024: An Interferometric Imaging Contest in 2024** *(Invited Paper)*
*Author(s):* **Florentin Millour**, **Jeremy Perdigon**, **Mathis Houllé, Alexis Matter,** Univ. Côte d'Azur (France)

13095-40 • 11:00 AM - 11:20 AM
**The ExoGRAVITY project: in-depth atmospheric characterization and dynamical analysis of directly imaged exoplanetary systems**
*Author(s):* **Jens Kammerer, ExoGRAVITY Collaboration,** European Southern Observatory (Germany)

13095-41 • 11:20 AM - 11:40 AM
**Precision interferometry with MIRC-X/MYSTIC for exoplanets**
*Author(s):* **John D. Monnier,** Univ. of Michigan (United States); **Tyler Gardner,** Univ. of Exeter (United Kingdom); **Linling Shuai**, **Emily Rauscher**, **Hayley Beltz**, **isaac Malsky,** Univ. of Michigan (United States); **Jean-Baptiste Le Bouquin,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Gail H. Schaefer,** CHARA Array (United States); **Stefan Kraus,** Univ. of Exeter (United Kingdom); **Benjamin Setterholm,** Univ. of Michigan (United States); **Narsireddy Anugu**, **Theo A. ten Brummelaar,** CHARA Array (United States); **Sorabh Chhabra**, **Isabelle Codron**, **Claire L. Davies,** Univ. of Exeter (United Kingdom); **Jacob Ennis**, **Mayra Gutierrez**, **Noura Ibrahim,** Univ. of Michigan (United States); **Aaron Labdon,** European Southern Observatory (Chile); **Cyprien Lanthermann,** CHARA Array (United States); **Daniel J. Mortimer,** Univ. of Exeter (United Kingdom)

13095-42 • 11:40 AM - 12:00 PM
**Pushing the limits of Kernel Phase Interferometry for protoplanet discovery**
*Author(s):* **Alexander Chaushev**, **Stephanie Sallum,** Univ. of California, Irvine (United States); **Julien Lozi,** Subaru Telescope, NAOJ (United States); **Jeffrey Chilcote,** Univ. of Notre Dame (United States); **Tyler Groff,** NASA Goddard Space Flight Ctr. (United States); **Olivier Guyon,** Subaru Telescope, NAOJ (United States); **Jeremy Kasdin,** Princeton Univ. (United States); **Barnaby Norris,** The Univ. of Sydney (Australia); **Andrew Skemer,** Univ. of California, Santa Cruz (United States)

## Lunch/Exhibition Break 12:00 PM - 01:30 PM

## SESSION 13: DATA PROCESSING, ANALYSIS, ACCESS, AND DISCOVERY II

20 June 2024 • 01:30 PM - 03:10 PM | Room G416/417, North - 4F
*Session Chair(s):* **Jens Kammerer**, Space Telescope Science Institute (Germany)

13095-43 • 01:30 PM - 01:50 PM
**Image reconstruction in optical/near-infrared interferometry with Information Field Theory**
*Author(s):* **Felix Mang,** Max-Planck-Institut für extraterrestrische Physik (Germany), Technische Univ. München (Germany); **Guillaume Bourdarot,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Wolfgang Brandner,** Max-Planck-Institut für Astronomie (Germany); **Antonia Drescher,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Frank Eisenhauer,** Max-Planck-Institut für extraterrestrische Physik (Germany), Technische Univ. München (Germany); **Torsten Enßlin,** Max-Planck-Institut für Astrophysik (Germany); **Helmut Feuchtgruber**, **Gert Finger**, **Natascha M. Förster Schreiber,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Paulo J. V. Garcia,** Univ. do Porto (Portugal); **Reinhard Genzel,** Max-Planck-Institut für extraterrestrische Physik (Germany), Univ. of California, Berkeley (United States); **Stefan Gillessen**, **Michael Hartl,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Jakob Knollmüller,** Technische Univ. München (Germany), Excellence Cluster ORIGINS (Germany); **Jean-Baptiste Le Bouquin,** Institut de Planétologie et d'Astrophysique de Grenoble, Univ. Grenoble Alpes, CNRS (France); **Dieter Lutz**, **Nikhil More**, **Thomas Ott,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Thibaut Paumard,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France), Univ. PSL, Sorbonne Univ., Univ. de Paris, CNRS (France); **Karine Perraut,** Institut de Planétologie et d'Astrophysique de Grenoble, Univ. Grenoble Alpes, CNRS (France); **Guy Perrin,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France), Univ. PSL, Sorbonne Univ., Univ. de Paris, CNRS (France); **Sebastian Rabien**, **Diogo C. Ribeiro**, **Matteo Sadun Bordoni**, **Jinyi Shangguan**, **Taro Shimizu,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Julia Stadler,** Max-Planck-Institut für Astrophysik (Germany), Max-Planck-Institut für extraterrestrische Physik (Germany); **Christian Straubmeier,** Univ. zu Köln (Germany); **Eckhard Sturm**, **Linda Tacconi,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Sebastiano von Fellenberg,** Max-Planck-Institut für Radioastronomie (Germany), Max-Planck-Institut für extraterrestrische Physik (Germany); **Felix Widmann**, **Ekkehard Wieprecht,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Julien Woillez,** European Southern Observatory (Germany)

13095-44 • 01:50 PM - 02:10 PM
**Machine learning for sparse interferometric image reconstruction**
*Author(s):* **Joel Sanchez-Bermudez,** Univ. Nacional Autónoma de México (Mexico)

13095-45 • 02:10 PM - 02:30 PM
**Generic data reduction for nulling interferometry package: the grip of a single data reduction package on all the nulling interferometers**
*Author(s):* **Marc-Antoine Martinod**, **Denis Defrere**, **Romain Laugier,** KU Leuven (Belgium); **Steve Ertel,** Large Binocular Telescope Observatory (United States); **Olivier Absil,** Liège Univ. (Belgium); **Barnaby Norris,** The Univ. of Sydney (Australia); **Germain Garreau,** KU Leuven (Belgium); **Bertrand Mennesson,** Jet Propulsion Lab. (United States)

13095-46 • 02:30 PM - 02:50 PM
**CHARA/Silmaril Instrument Software and Data Reduction Pipeline: Characterization of the Instrument in the Lab and On-Sky**
*Author(s):* **Narsireddy Anugu**, **Theo A. ten brummelaar**, **Cyprien Lanthermann**, **Gail H. Schaefer,** CHARA Array (United States); **Peter G. Tuthill,** The Univ. of Sydney (Australia); **Douglas R. Gies**, **Edgar R. Ligon,** CHARA Array (United States); **Gerard T. van Belle,** Lowell Observatory (United States); **Jean-Baptiste Le Bouquin,** Institut de Planétologie et d'Astrophysique de Grenoble (France)

13095-47 • 02:50 PM - 03:10 PM
**GRAVITY data curation: opening science-ready data products to the community**
*Author(s):* **Paulo J. V. Garcia**, **Nuno Morujão,** Univ. do Porto (Portugal); **Alexis Matter,** Observatoire de la Côte d'Azur, Univ. Côte d'Azur, CNRS (France); **James Leftley,** Observatoire de la Côte d'Azur (France); **Isabelle Percheron,** European Southern Observatory (Germany)

## Coffee Break 03:10 PM - 03:40 PM

## SESSION 14: SPACE INTERFEROMETRY TECHNOLOGY I

20 June 2024 • 03:40 PM - 04:50 PM | Room G416/417, North - 4F
*Session Chair(s):* **Gerard T. van Belle**, Lowell Observatory (United States)

13095-48 • 03:40 PM - 04:10 PM
**The Large Interferometer For Exoplanets (LIFE): A space mission for mid-infrared nulling interferometry** *(Invited Paper)*
*Author(s):* **Adrian M. Glauser**, **Sascha P. Quanz**, **Daniel Angerhausen,** ETH Zurich (Switzerland); **Andrea Fortier,** ETH Zurich (Switzerland), Univ. Bern (Switzerland); **Michael J. Ireland,** The Australian National Univ. (Australia); **Jens Kammerer,** European Southern Observatory (Germany); **Tim Lichtenberg,** Kapteyn Astronomical Institute (Netherlands); **Hendrik Linz,** Max-Planck-Institut für Astronomie (Germany); **Lena Noack,** Freie Univ. Berlin (Germany); **Sarah Rugheimer,** York Univ. (Canada)

13095-49 • 04:10 PM - 04:30 PM
**Spatial Filtering for the Large Interferometer For Exoplanets (LIFE) Mission**
*Author(s):* **Michael J. Ireland**, **Stephen Madden, Ludovic Rapp,** The Australian National Univ. (Australia)

13095-50 • 04:30 PM - 04:50 PM
**Analytical and numerical instrumental noise simulations for the Large Interferometer For Exoplanets (LIFE) (THESIS)**
*Author(s):* **Philipp A. Huber**, **Felix A. Dannert,** ETH Zurich (Switzerland); **Romain Laugier,** KU Leuven (Belgium); **Thomas Birbacher**, **Adrian M. Glauser**, **Jonah T Hansen, Sascha P. Quanz,** ETH Zurich (Switzerland)

## MICHELSON AND FIZEAU PRIZE AWARDS

20 June 2024 • 04:50 PM - 05:20 PM | Room G416/417, North - 4F
*Session Chair(s):* **Gerard T. van Belle**, Lowell Observatory (United States)
The conference chairs will announce the winners of the Michelson and Fizeau Prizes.

## SESSION PS6: POSTERS - DATA PROCESSING, ANALYSIS, ACCESS, AND DISCOVERY

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13095-103 • 05:30 PM - 07:00 PM
**Planet search around seven white dwarfs in the Hyades cluster using Kernel Phase Interferometry**
*Author(s):* **Chelsea Adelman, Stephanie Sallum,** Univ. of California, Irvine (United States)

13095-104 • 05:30 PM - 07:00 PM
**OiModeler: a new modular software for modelling panchromatic optical-interferometric data**
*Author(s):* **Anthony Meilland**, **Alexis Matter,** Observatoire de la Côte d'Azur, Univ. Côte d'Azur, CNRS (France); **Marten Scheuck,** Max-Planck-Institut für Astronomie (Germany); **Jozsef Varga,** HUN-REN, Konkoly Observatory (Hungary); **Anthony Soulain,** Univ. Grenoble Alpes (France), Institut de Planétologie et d'Astrophysique de Grenoble (France), CNRS (France)

13095-105 • 05:30 PM - 07:00 PM
**Designing the data reduction pipeline for FOURIER: the first light near-IR science beam combiner at the Magdalena Ridge Observatory Interferometer**
*Author(s):* **David Frothingham**, **Ryan P. Norris,** New Mexico Institute of Mining and Technology (United States); **David F. Buscher**, **John S. Young,** Univ. of Cambridge (United Kingdom); **Anders M. Jorgensen,** New Mexico Institute of Mining and Technology (United States); **Eugene B. Seneta,** Univ. of Cambridge (United Kingdom); **Daniel J. Mortimer,** Max-Planck-Institut für Astronomie (Germany)

13095-106 • 05:30 PM - 07:00 PM
**PMOIRED: first two years of enabling science with sparse uv spectro-interferometric data**
*Author(s):* **Antoine Mérand,** European Southern Observatory (Germany)

13095-107 • 05:30 PM - 07:00 PM
**Toward a global improvement of the VLTI/MATISSE interferometrics observables: impacts of atmospheric parameters on visibilities**
*Author(s):* **Julien Drevon**, **Claudia Paladini,** European Southern Observatory (Chile); **Pierre Cruzalèbes,** Observatoire de la Côte d'Azur (France), CNRS (France); **Florentin Millour,** CNRS (France)

13095-108 • 05:30 PM - 07:00 PM
**Piston error detection and closed-loop control based on fringe contrast measurement applied to a kind of interferometric imaging telescope with four apertures**
*Author(s):* **Yuanyuan Ding**, **Xinyang Chen**, **Congcong Zhang**, **Lixin Zheng**, **Chaoyan Wang**, **Dan Zhou**, **Lurun Shen**, **Jianqing Cai**, **Qi Wang, Zhendong Chen,** Shanghai Astronomical Observatory (China)

13095-147 • 05:30 PM - 07:00 PM
**Thesis: optimizing gravitational wave detection sensitivity in ALIGO: investigating scattering noise origins, noise subtraction, data reduction, and detector characterization for improved precision**
*Author(s):* **Kaylah McGowan,** Fisk Univ. (United States), Vanderbilt Univ. (United States), LIGO Scientific Collaboration (United States); **Gabriela Gonzalez,** Louisiana State Univ. (United States), LIGO Scientific Collaboration (United States); **Karan Jani,** Vanderbilt Univ. (United States), LIGO Scientific Collaboration (United States); **Kelly Holley-Bockelmann,** Vanderbilt Univ. (United States), NASA LISA (United States); **Shania Nichols,** Louisiana State Univ. (United States)

## SESSION PS7: POSTERS - SPACE INTERFEROMETRY TECHNOLOGY

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13095-109 • 05:30 PM - 07:00 PM
**Compact optical delay lines concept for space interferometry**
*Author(s):* **Leonid Pogorelyuk,** Rensselaer Polytechnic Institute (United States); **John D. Monnier,** Univ. of Michigan (United States); **Nicholas Belsten**, **Mason Black**, **Kerri Cahoy,** Massachusetts Institute of Technology (United States); **Alex Jin,** Rensselaer Polytechnic Institute (United States)

13095-110 • 05:30 PM - 07:00 PM
**Spectroscopic imaging method for next-generation space infrared interferometers**
*Author(s):* **Reiki Kojima, Taro Matsuo,** Nagoya Univ. (Japan)

13095-111 • 05:30 PM - 07:00 PM
**Prospects for using drones to test formation-flying cubesat concepts, and other astronomical applications**
*Author(s):* **John D. Monnier**, **Prachet Jain**, **Mayra Gutierrez**, **Chi Han**, **Sara Hezi**, **Shashank Kalluri**, **Hirsch Kabaria**, **Brendan Kompas**, **Vaishnavi Harikumar**, **Julien Skifstad**, **Janani Peri**, **Emmanuel Hernandez**, **Ramya Bhaskarapanthula, James Cutler,** Univ. of Michigan (United States)

13095-112 • 05:30 PM - 07:00 PM
**End-to-end public simulation tools for a far-infrared space-based double Fourier interferometer**
*Author(s):* **Locke D. Spencer**, **Berke V. Ricketti**, **Jeremy P. Scott,** Univ. of Lethbridge (Canada); **Aláine F. Lee,** Univ. of Hawai'i (United States); **Colm Bracken,** National Univ. of Ireland, Maynooth (Ireland); **David Leisawitz,** NASA Goddard Space Flight Ctr. (United States); **Lee G. Mundy,** Univ. of Maryland, College Park (United States)

13095-113 • 05:30 PM - 07:00 PM
**Single spacecraft nulling interferometer for exoplanets: preliminary concept**
*Author(s):* **Jérôme Loicq,** Technische Univ. Delft (Netherlands); **Denis Defrère**, **Romain Laugier,** KU Leuven (Belgium); **Rudolf Saathof**, **Jasper Bouwmeester**, **Pierre Piron**, **Sandra Potin,** Technische Univ. Delft (Netherlands); **Colin Dandumont,** Liège Univ. (Belgium); **Vincent Moreau,** AMOS S.A. (Belgium); **Pascal Hallibert**, **David Alaluf**, **Isabel Escudero Sanz**, **Theresa Lueftinger,** European Space Agency (Netherlands); **Bertrand Mennesson,** Jet Propulsion Lab. (United States); **William Danchi,** NASA Goddard Space Flight Ctr. (United States); **Sascha P. Quanz, Adrian M. Glauser,** ETH Zurich (Switzerland); **Adrian M. Glauser,** ETH Zurich (Switzerland); **Benoît Borguet,** AMOS S.A. (Belgium)

13095-114 • 05:30 PM - 07:00 PM
**Demonstrating complex visibility measurements and image reconstruction using a double-Fourier interferometer testbed**
*Author(s):* **Jeremy P. Scott**, **Locke D. Spencer**, **Chris S. Benson, Berke V. Ricketti,** Univ. of Lethbridge (Canada)

13095-115 • 05:30 PM - 07:00 PM
**Beam metrology and control systems for the Nulling Interferometry Cryogenic Experiment**
*Author(s):* **Thomas Birbacher**, **Adrian M. Glauser**, **Mohanakrishna Ranganathan,** ETH Zurich (Switzerland); **Suvrath Mahadevan,** The Pennsylvania State Univ. (United States); **Sascha P. Quanz,** ETH Zurich (Switzerland)

## SESSION PS8: POSTERS - FUTURE OF INTERFEROMETRY

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13095-116 • 05:30 PM - 07:00 PM
**SPINER: SPectro-INterferometry with Echelle grating at high Resolution**
*Author(s):* **Anthony Meilland**, **Florentin Millour**, **Stéphane Lagarde, Julien Dejonghe,** Univ. Côte d'Azur, CNRS (France)

# Friday 21 June 2024

## SESSION 15: SPACE INTERFEROMETRY TECHNOLOGY II

21 June 2024 • 09:00 AM - 10:00 AM | Room G416/417, North - 4F
*Session Chair(s):* **Edgar R. Ligon**, CHARA Array (United States)

13095-51 • 09:00 AM - 09:20 AM
**The Pyxis Interferometer: updates and future plans**
*Author(s):* **Jonah T. Hansen**, **Michael J. Ireland**, **Samuel Wade**, **Tony Travouillon**, **Joice Mathew**, **Nick Herrald**, **Grace McGinness, Julien Tom Bernard,** The Australian National Univ. (Australia)

13095-52 • 09:20 AM - 09:40 AM
**The Nulling Interferometer Cryogenic Experiment: the warm phase**
*Author(s):* **Mohanakrishna Ranganathan**, **Adrian M. Glauser**, **Thomas Birbacher,** ETH Zurich (Switzerland); **Suvrath Mahadevan,** The Pennsylvania State Univ. (United States); **Sascha P. Quanz,** ETH Zurich (Switzerland)

13095-53 • 09:40 AM - 10:00 AM
**Fringe tracking controller modeling for a stellar imaging CubeSat optical interferometer**
*Author(s):* **Mason Black,** Massachusetts Institute of Technology (United States); **Leonid Pogorelyuk,** Rensselaer Polytechnic Institute (United States); **Jonathan Ashcom,** MIT Lincoln Lab. (United States); **Kerri Cahoy,** Massachusetts Institute of Technology (United States)

### Coffee Break 10:00 AM - 10:30 AM

## SESSION 16: SPACE INTERFEROMETRY TECHNOLOGY III

21 June 2024 • 10:30 AM - 11:40 AM | Room G416/417, North - 4F
*Session Chair(s):* **Cyprien Lanthermann**, CHARA Array (United States)

13095-54 • 10:30 AM - 11:00 AM
**Artemis-enabled Stellar Imager (AeSI): a lunar long-baseline UV/optical imaging interferometer** *(Invited Paper)*
*Author(s):* **Gioia Rau**, **Kenneth G. Carpenter,** NASA Goddard Space Flight Ctr. (United States); **Tabetha Boyajian,** Louisiana State Univ. (United States); **Michelle J. Creech-Eakman,** New Mexico Institute of Mining and Technology (United States); **Julianne Foster,** Ball Aerospace (United States); **Margarita Karovska,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **David Leisawitz,** NASA Goddard Space Flight Ctr. (United States); **Jon Morse,** AstronetX PBC (United States); **David Mozurkewich,** Seabrook Engineering (United States); **Noah Petro,** NASA Goddard Space Flight Ctr. (United States); **Sarah Peacock,** Univ. of Maryland, Baltimore County (United States), NASA Goddard Space Flight Ctr. (United States); **Paul Scowen**, **Breann Sitarski,** NASA Goddard Space Flight Ctr. (United States); **Gerard T. van Belle,** Lowell Observatory (United States); **Erik Wilkinson,** Ball Aerospace (United States)

13095-55 • 11:00 AM - 11:20 AM
**Mid infrared (L-band : 3.4 - 4.1 µm) electro-optic couplers and splitters in lithium niobate for nulling interferometry applications**
*Author(s):* **Myriam Bonduelle,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Nadège Courjal**, **Roland Salut**, **Laurent Robert,** FEMTO-ST (France); **Germain Garreau**, **Denis Defrère,** KU Leuven (Belgium); **Guillermo Martin,** Institut de Planétologie et d'Astrophysique de Grenoble (France)

13095-56 • 11:20 AM - 11:40 AM
**Laboratory demonstration of terahertz intensity interferometry**
*Author(s):* **Hiroshi Matsuo**, **Hajime Ezawa,** National Astronomical Observatory of Japan (Japan), The Graduate Univ. for Advanced Studies (Japan); **Ayako Niwa**, **Tomohiro Koseki,** Univ. of Tsukuba (Japan), National Astronomical Observatory of Japan (Japan); **Norio Okada,** National Astronomical Observatory of Japan (Japan)

## SESSION 17: FUTURE OF INTERFEROMETRY I

21 June 2024 • 11:40 AM - 12:30 PM | Room G416/417, North - 4F
*Session Chair(s):* **Jens Kammerer**, Space Telescope Science Institute (Germany)

13095-57 • 11:40 AM - 12:10 PM
**Astrophotonics: the visible path forward in interferometry** *(Invited Paper)*
*Author(s):* **Elsa Huby,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France)

13095-58 • 12:10 PM - 12:30 PM
**Towards quantum-enhanced long-baseline optical/near-IR interferometry**
*Author(s):* **Jayadev K. Rajagopal,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **J. Gabriel Richardson,** The Univ. of Arizona (United States); **Stephen T. Ridgway**, **Ryan Lau**, **Mark Rawlings,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Aqil Sajjad,** The Univ. of Arizona (United States); **Stuartt Corder,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Isack Padilla,** The Univ. of Arizona (United States); **Fredrik Rantakyro**, **Brittany McClinton,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Amit Ashok, Saikat Guha,** The Univ. of Arizona (United States)

## Lunch Break 12:30 PM - 02:00 PM

## SESSION 18: FUTURE OF INTERFEROMETRY II

21 June 2024 • 02:00 PM - 03:30 PM | Room G416/417, North - 4F
*Session Chair(s):* **Joel Sanchez-Bermudez**, Univ. Nacional Autónoma de México (Mexico)

13095-59 • 02:00 PM - 02:20 PM
**Demonstrating table-top interferometric imaging using a path-entangled single photon towards quantum telescopy**
*Author(s):* **Matthew R. Brown,** Univ. of Oregon (United States); **Markus Allgaier,** Univ. of Oregon (United States), University of North Dakota (United States); **Valerian Thiel,** Univ. of Oregon (United States); **John D. Monnier,** Univ. of Michigan (United States); **Michael G. Raymer, Brian J. Smith,** Univ. of Oregon (United States)

13095-60 • 02:20 PM - 02:40 PM
**Towards stellar temporal intensity interferometry**
*Author(s):* **Peng Kian Tan,** Ctr. for Quantum Technologies (Singapore), National Univ. of Singapore (Singapore)

13095-61 • 02:40 PM - 03:10 PM
**Providing user support and community development** *(Invited Paper)*
*Author(s):* **Mercedes Filho,** Univ. do Porto (Portugal)

13095-64 • 03:10 PM - 03:30 PM
**The Big Fringe Telescope**
*Author(s):* **Gerard T. van Belle,** Lowell Observatory (United States); **Anders M. Jorgensen,** New Mexico Institute of Mining and Technology (United States)

## Coffee Break 03:30 PM - 04:00 PM

## SESSION 19: FUTURE OF INTERFEROMETRY III

21 June 2024 • 04:00 PM - 04:40 PM | Room G416/417, North - 4F
*Session Chair(s):* **Stephanie E. Sallum**, Univ. of California, Irvine (United States)

13095-62 • 04:00 PM - 04:20 PM
**The European Interferometry Initiative: twenty years of supporting and growing the optical/infrared interferometry community in Europe**
*Author(s):* **David F. Buscher,** Univ. of Cambridge (United Kingdom); **Paulo J. V. Garcia,** Univ. do Porto (Portugal); **Claudia Paladini,** European Southern Observatory (Germany); **Foteini Lykou,** Konkoly Observatory (Hungary); **Denis Defrère,** KU Leuven (Netherlands); **Antoine Mérand,** European Southern Observatory (Germany); **Thomas Henning,** Max-Planck-Institut für Astronomie (Germany); **Guy Perrin,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Stefan Kraus,** Univ. of Exeter (United Kingdom); **Sebastian Hönig,** Univ. of Southampton (United Kingdom)

13095-63 • 04:20 PM - 04:40 PM
**Considerations for a next-generation Great Observatory class space-based interferometer for far-infrared astronomy**
*Author(s):* **Berke V. Ricketti**, **Jeremy P. Scott**, **Chris S. Benson**, **Locke D. Spencer,** Univ. of Lethbridge (Canada); **Alaine F. Lee,** Univ. of Hawai'i (United States); **Hannah Rana,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Giorgio Savini,** Univ. College London (United Kingdom); **Colm Bracken,** National Univ. of Ireland, Maynooth (Ireland); **Gerard T. van Belle,** Lowell Observatory (United States); **Conor A. Nixon,** NASA Goddard Space Flight Ctr. (United States); **Duncan Farrah,** Univ. of Hawai'i at Manoa (United States); **Matteo Bonato,** INAF - Istituto di Radioastronomia (Italy); **David Leisawitz,** NASA Goddard Space Flight Ctr. (United States); **Lee G. Mundy,** Univ. of Maryland, College Park (United States); **David J. Wilner,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Tupper Hyde,** NASA Goddard Space Flight Ctr. (United States)

## SESSION 20: THESIS PRIZE, OPEN DISCUSSION, AND WRAP UP

21 June 2024 • 04:40 PM - 05:00 PM | Room G416/417, North - 4F

*Session Chair(s):* **Stephanie E. Sallum**, Univ. of California, Irvine (United States)

The conference chairs will award the Thesis Prize, and lead an open discussion and conference wrap-up.

# CONFERENCE 13096

# Ground-based and Airborne Instrumentation for Astronomy X

**16 - 20 June 2024 | Room G401/402, North - 4F**

***Conference Chair(s):*** **Julia J. Bryant,** The Univ. of Sydney (Australia); **Kentaro Motohara,** National Astronomical Observatory of Japan (Japan); **Joël R. D. Vernet,** European Southern Observatory (Germany)

***Program Committee:*** **Rebecca A. Bernstein,** Carnegie Obervatories (United States); **Bruno V. Castilho,** Lab. Nacional de Astrofísica (Brazil); **Armando Gil de Paz,** Univ. Complutense de Madrid (Spain); **Marc F. Kassis,** W. M. Keck Observatory (United States); **Livia Origlia,** Istituto Nazionale di Astrofisica (Italy); **Encarnacion Romero Colmenero,** South African Astronomical Observatory (South Africa); **Ruben Sanchez-Janssen,** UK Astronomy Technology Ctr. (United Kingdom); **Erin C. Smith,** NASA Ames Research Ctr. (United States); **Naoyuki Tamura,** Subaru Telescope, NAOJ (Japan); **Friedrich Wöger,** National Solar Observatory (United States); **Shelley A. Wright,** Univ. of California, San Diego (United States)

## Sunday 16 June 2024

### SESSION 1: INSTRUMENTS OVERVIEW OF EXISTING LARGE FACILITIES I

16 June 2024 • 08:30 AM - 10:00 AM | Room G401/402, North - 4F
*Session Chair(s):* **Kentaro Motohara**, National Astronomical Observatory of Japan (Japan)

13096-1 • 08:30 AM - 09:00 AM
**Current and future instrumentation at Gemini Observatory** *(Invited Paper)*
*Author(s):* **Andreas Seifahrt,** Gemini Observatory (United States), NSF's National Optical-Infrared Astronomy Research Lab. (United States), Association of Universities for Research in Astronomy, Inc. (United States); **Ruben Diaz,** Gemini Observatory (Chile), NSF's National Optical-Infrared Astronomy Research Lab. (United States), Association of Universities for Research in Astronomy, Inc. (United States); **Hwihyun Kim,** Gemini Observatory (United States), NSF's National Optical-Infrared Astronomy Research Lab. (United States), Association of Universities for Research in Astronomy, Inc. (United States)

13096-2 • 09:00 AM - 09:30 AM
**Instrumentation at the Subaru Telescope** *(Invited Paper)*
*Author(s):* **Takashi Hattori**, **Naoyuki Tamura**, **Yosuke Minowa**, **Hirofumi Okita, Julien Rousselle,** Subaru Telescope, NAOJ (United States)

13096-3 • 09:30 AM - 10:00 AM
**The Paranal instrumentation programme** *(Invited Paper)*
*Author(s):* **Luca Pasquini**, **Adrian Russell**, **Andrea Capardi**, **Norbert Hubin, Joël D.R. Vernet,** European Southern Observatory (Germany)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 2: INSTRUMENTS OVERVIEW OF EXISTING LARGE FACILITIES II

16 June 2024 • 10:20 AM - 12:20 PM | Room G401/402, North - 4F
*Session Chair(s):* **Joël D.R. Vernet**, European Southern Observatory (Germany)

13096-4 • 10:20 AM - 10:50 AM
**The instrumentation program at the Large Binocular Telescope Observatory in 2024** *(Invited Paper)*
*Author(s):* **Joseph Shields**, **Jason Chu**, **Albert Conrad,** Large Binocular Telescope Observatory (United States); **Jonathan Crass,** The Ohio State Univ. (United States); **Justin R. Crepp,** Univ. of Notre Dame (United States); **Steve Ertel,** The Univ. of Arizona (United States); **Jacopo Farinato,** INAF (Italy); **Ilya Ilyin,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Olga Kuhn,** Large Binocular Telescope Observatory (United States); **Luca Marafatto**, **Fernando Pedichini**, **Roberto Piazzesi,** INAF (Italy); **Richard W. Pogge,** The Ohio State Univ. (United States); **Jennifer Power**, **Sam Ragland**, **Robert Reynolds**, **James Riedl**, **Mark Smithwright,** Large Binocular Telescope Observatory (United States); **Klaus Strassmeier,** Leibniz-Institut für Astrophysik Potsdam (Germany); **David Thompson,** Large Binocular Telescope Observatory (United States)

13096-17 • 10:50 AM - 11:20 AM

**Prime Focus Spectrograph (PFS) for Subaru Telescope: progressing final steps to science operation** *(Invited Paper)*
*Author(s):* **Naoyuki Tamura**, **Yuki Moritani**, **Kiyoto Yabe,** Subaru Telescope, NAOJ (United States), Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); **Yuki Ishizuka**, **Yukiko Kamata,** National Astronomical Observatory of Japan (Japan); **Ali Allaoui,** Lab. d'Astrophysique de Marseille, Aix-Marseille Univ. (France), Ctr. National de la Recherche Scientifique (France), Ctr. National d'Études Spatiales (France); **Akira Arai,** Subaru Telescope, NAOJ (United States); **Stéphane Arnouts,** Lab. d'Astrophysique de Marseille, Aix-Marseille Univ. (France), Ctr. National d'Études Spatiales (France); **Robert H. Barkhouser,** Johns Hopkins Univ. (United States); **Rudy Barette,** Lab. d'Astrophysique de Marseille, Aix-Marseille Univ. (France), Ctr. National de la Recherche Scientifique (France), Ctr. National d'Études Spatiales (France); **Eddie Bergeron,** Space Telescope Science Institute (United States); **Patrick Blanchard,** Aix-Marseille Univ. (France); **Neven Caplar,** Univ. of Washington (United States); **Michael Carle**, **Pierre-Yves Chabaud,** Aix-Marseille Univ. (France); **Yin-Chang Chang**, **Hsin-Yo Chen,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Chueh-Yi Chou,** Academia Sinica (Taiwan); **Judith G. Cohen,** Caltech (United States); **Ricardo L. da Costa,** Lab. Nacional de Astrofisica (Brazil); **Thibaut Crauchet,** Aix-Marseille Univ. (France); **Rodorigo P. de Almeida**, **Antonio Cesar de Oliveira**, **Ligia S. de Oliveira,** Lab. Nacional de Astrofísica (Brazil); **Kjetil Dohlen,** Lab. d'Astrophysique de Marseille (France); **Leandro Henrique H. dos Santos,** Lab. Nacional de Astrofísica (Brazil); **Richard S. Ellis,** Univ. 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(United States); **Shu-Fu Hsu**, **Pin-Jie Huang,** Academia Sinica (Taiwan); **Miho N. Ishigaki,** National Astronomical Observatory of Japan (Japan); **Marc Jaquet,** Aix-Marseille Univ. (France); **Eric Jeschke,** Subaru Telescope, NAOJ (United States); **Christian Kragh K. Jespersen,** Princeton Univ. (United States); **Yipeng Jeng,** Shanghai Jiao Tong Univ. (China); **Russell Kackley,** Subaru Telescope, NAOJ (United States); **Jennifer L. Karr,** Academia Sinica (Taiwan); **Satoshi Kawanomoto,** National Astronomical Observatory of Japan (Japan); **Masahiko Kimura,** Academia Sinica (Taiwan); **Michitaro Koike,** National Astronomical Observatory of Japan (Japan); **Eiichiro Komatsu,** Max-Planck-Institut für Astrophysik (Germany); **Shintaro Koshida**, **Yusei Koyama,** Subaru Telescope, NAOJ (United States); **Vincent Le Brun,** Aix-Marseille Univ. (France); **Arnaud Le Fur,** Princeton Univ. (United States); **David Le Mignant,** Aix-Marseille Univ. (France); **Gerald Lemson,** Johns Hopkins Univ. (United States); **Yen-Ting Lin**, **Hung-Hsu Ling,** Academia Sinica (Taiwan); **Craig P. Loomis**, **Robert H. Lupton,** Princeton Univ. (United States); **Fabrice Madec,** Aix-Marseille Univ. (France); **Danilo Marchesini,** Tufts Univ. (United States); **Lucas S. Marrara,** Lab. Nacional de Astrofísica (Brazil); **Dmitry Medvedev,** Johns Hopkins Univ. (United States); **Sogo Mineo,** National Astronomical Observatory of Japan (Japan); **Arik Mitschang,** Johns Hopkins Univ. (United States); **Satoshi Miyazaki,** National Astronomical Observatory of Japan (United States); **Kumiko Morihana,** Subaru Telescope, NAOJ (United States); **Takahiro Morishima,** National Astronomical Observatory of Japan (Japan); **Hitoshi Murayama,** Univ. of California, Berkeley (United States), Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan), Lawrence Berkeley National Lab. (United States); **Graham J. 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13096-6 • 11:20 AM - 11:50 AM
**Innovations and advances in instrumentation at the W. M. Keck Observatory, vol. III** *(Invited Paper)*
*Author(s):* **Marc F. Kassis,** W. M. Keck Observatory (United States)

13096-7 • 11:50 AM - 12:20 PM
**Southern African Large Telescope (SALT) instrumentation update** *(Invited Paper)*
*Author(s):* **Lisa A. Crause,** South African Astronomical Observatory (South Africa); **Matthew A. Bershady**, **Marsha Wolf,** Univ. of Wisconsin-Madison (United States); **Richard McCracken,** Heriot-Watt Univ. (United Kingdom); **Moses Mogotsi**, **Lee Townsend**, **Rudolph Kuhn**, **Encarni Romero-Colmenero, Petri Väisänen,** South African Astronomical Observatory (South Africa)

## Lunch Break 12:20 PM - 01:40 PM

## SESSION 3: HIGH-DISPERSION SPECTROGRAPHS I

16 June 2024 • 01:40 PM - 03:30 PM | Room G401/402, North - 4F
*Session Chair(s):* **Joël D.R. Vernet**, European Southern Observatory (Germany)

13096-8 • 01:40 PM - 02:10 PM

**IGRINS-2 for Gemini Telescope: development and early performance** *(Invited Paper)*

*Author(s):* **Heeyoung Oh**, **Chan Park**, **Sanghyuk Kim,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Hwihyun Kim,** Gemini Observatory (United States), NOIRLab, The National Science Foundation (United States); **Ueejeong Jeong**, **Hye-In Lee**, **Woojin Park**, **Young-Sam Yu**, **Yunjong Kim**, **Moo-Young Chun**, **Jae Sok Oh**, **Sungho Lee**, **Jeong-Gyun Jang**, **Bi-Ho Jang**, **Hyeon Cheol Seong**, **Jae-Joon Lee**, **Hyun-Jeong Kim,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Francisco Ramos**, **Pablo Prado**, **Brian Chinn**, **Ignacio Arriagada**, **Ruben Diaz,** Gemini Observatory (Chile), NOIRLab, The National Science Foundation (United States); **John White**, **Edo Tapia**, **Siyi Xu**, **Hyewon Suh**, **Jennifer Miller**, **Hawi Stecher**, **Emma Kurz,** Gemini Observatory (United States), NOIRLab, The National Science Foundation (United States); **Carlos Quiroz,** Gemini Observatory (Chile), NOIRLab, The National Science Foundation (United States); **Charlie Figura**, **Zachary D. Hartman**, **Teo Mocnik**, **Mark G. Rawlings**, **Emanuele P. Farina,** Gemini Observatory (United States), NOIRLab, The National Science Foundation (United States); **Bryan Miller,** Gemini Observatory (Chile), NOIRLab, The National Science Foundation (United States); **Andrew Stephens,** Gemini Observatory (United States), NOIRLab, The National Science Foundation (United States); **Valentina Oyarzún**, **Andres Olivares,** Gemini Observatory (Chile), NOIRLab, The National Science Foundation (United States); **Kathleen Labrie**, **Paul Hirst,** Gemini Observatory (United States), NOIRLab, The National Science Foundation (United States); **Thomas L. Hayward,** Gemini Observatory (Chile), NOIRLab, The National Science Foundation (United States); **Cynthia B. Brooks**, **Gregory N. Mace**, **Hanshin Lee**, **John M. Good**, **Daniel T. Jaffe,** The Univ. of Texas at Austin (United States); **Kang-Min Kim**, **In-Soo Yuk**, **Narae Hwang, Byeong-Gon Park,** Korea Astronomy and Space Science Institute (Korea, Republic of)

13096-9 • 02:10 PM - 02:30 PM

**System design of the Keck Planet Finder**

*Author(s):* **Steven R. Gibson**, **Andrew W. Howard,** Caltech (United States); **Kodi Rider,** Space Sciences Lab. (United States); **Samuel P. Halverson,** Jet Propulsion Lab. (United States); **Josh Walawender**, **Marc F. Kassis,** W. M. Keck Observatory (United States); **Jerry Edelstein,** Space Sciences Lab. (United States); **Arpita Roy,** Schmidt Futures (United States); **Steve Baca,** W. M. Keck Observatory (United States); **Ashley D. Baker,** Caltech (United States); **Sarah Blunt,** Northwestern Univ. (United States); **Charles A. Beichman,** NASA Exoplanet Science Institute, Caltech (United States); **Bruce Berriman,** IPAC, Caltech (United States); **Matthew Brown**, **Thomas Brown**, **Kelleen Casey**, **Dwight Chan**, **Jason Chin**, **James Chong**, **Mark Devenot,** W. M. Keck Observatory (United States); **Fei Dai,** Caltech (United States); **William Deich,** Univ. of California Observatories (United States); **Hamza Elwir,** W. M. Keck Observatory (United States); **Matthew Fraysse,** Space Sciences Lab. (United States); **Benjamin Fulton,** IPAC, Caltech (United States); **Colby Gottschalk,** W. M. Keck Observatory (United States); **Jason Grillo,** Space Sciences Lab. (United States); **David Hale,** Caltech (United States); **Grant Hill,** W. M. Keck Observatory (United States); **Bradford P. Holden,** Univ. of California Observatories (United States); **Howard Isaacson,** Univ. of California, Berkeley (United States); **Sharon Jelinsky,** Space Sciences Lab. (United States); **Stephen Kaye,** Caltech (United States); **Joe Killian**, **Kyle Lanclos**, **Chien-Hsiu Lee,** W. M. Keck Observatory (United States); **Xinyue Lei,** Macquarie Univ. (Australia); **Obie Levine**, **Scott Lilley**, **Eduardo Marin**, **Benjamin McCarney**, **Steven Milner**, **Craig Nance**, **Daniel Orr,** W. M. Keck Observatory (United States); **Roberto Ortiz-Soto,** Space Sciences Lab. (United States); **Joel Payne,** W. M. Keck Observatory (United States); **Jacob Pember,** KU Leuven (Belgium), Macquarie Univ. (Australia); **Gert Raskin,** KU Leuven (Belgium); **Constance Rockosi,** Univ. of California Observatories (United States); **Ryan Rubenzahl,** Caltech (United States); **Dale Sandford**, **Maureen Savage,** Univ. of California Observatories (United States); **Christian Schwab,** Macquarie Univ. (Australia); **Andreas Seifahrt,** The Univ. of Chicago (United States); **Martin M. Sirk,** Space Sciences Lab. (United States); **Brett Smith,** W. M. Keck Observatory (United States); **Christopher Smith,** Space Sciences Lab. (United States); **Roger Smith,** Caltech (United States); **Rob Storesund,** W. M. Keck Observatory (United States); **Julian Stürmer,** Ruprecht-Karls-Univ. Heidelberg (Germany); **Nick Suominen**, **Jerez Tehero**, **Jim Thorne,** W. M. Keck Observatory (United States); **Dakotah Tyler,** Univ. of California, Los Angeles (United States); **John Valliant**, **Adam Vandenberg**, **Tod Von Boeckmann**, **Keith Wages,** W. M. Keck Observatory (United States); **Cindy Wang,** IPAC (United States); **Truman Wold, Sherry Yeh,** W. M. Keck Observatory (United States)

13096-10 • 02:30 PM - 02:50 PM

**Astrocomb for the Near Infra-Red Planet Searcher (NIRPS)**

*Author(s):* **Ewelina Obrzud**, **Lionel Bischof**, **Lina M. Beltrán**, **Séverine Denis,** CSEM SA (Switzerland); **Tobias Schmidt**, **François Bouchy**, **Francesco Pepe,** Univ. de Genève (Switzerland); **Christopher Bonzon, Steve Lecomte,** CSEM SA (Switzerland)

13096-11 • 02:50 PM - 03:10 PM

**High-resolution spectroscopy of young giant exoplanets with VLT/HiRISE: status and performance after commissioning**

*Author(s):* **Arthur Vigan**, **Mona El Morsy**, **Maxime Lopez,** Lab. d'Astrophysique de Marseille (France); **Gilles P. P. Otten,** Lab d'Astrophysique de Marseille (France); **José Garcia**, **Jean Costes,** Lab. d'Astrophysique de Marseille (France); **Eduard Muslimov,** Lab d'Astrophysique de Marseille (France); **Alexandre Viret**, **Yannick Y. Charles,** Lab. d'Astrophysique de Marseille (France); **Gérard Zins,** European Southern Observatory (Germany); **Graham Murray,** Durham Univ. (United Kingdom); **Anne Costille,** Lab. d'Astrophysique de Marseille (France); **Jérôme Paufique**, **Ulf Seemann,** European Southern Observatory (Germany); **Mathis Houllé,** Observatoire de la Côte d'Azur (France); **Heiko Anwand-Heerwart,** Georg-August-Univ. Göttingen (Germany); **Mark Phillips,** Univ. of Exeter (United Kingdom)

13096-12 • 03:10 PM - 03:30 PM
**NIRPS first light and early science: breaking the 1 m/s RV accuracy barrier at infrared wavelengths**
*Author(s):* **Étienne Artigau**, **Frédérique Baron**, **René Doyon,** Univ. de Montréal (Canada); **François Bouchy**, **François Wildi,** Univ. de Genève (Switzerland); **Charles Cadieux,** Univ. de Montréal (Canada); **Franceso Pepe,** Univ. de Genève (Switzerland); **Lison Malo**, **David Lafrenière,** Univ. de Montréal (Canada); **Hugues Auger**, **Denis Brousseau,** Univ. Laval (Canada); **Zalpha Challita,** Lab. d'Astrophysique de Marseille (France); **Neil J. Cook,** Univ. de Montréal (Canada); **Olivier Hernandez,** Planétarium, Espace pour la vie Montréal (Canada); **Anne-Sophie Poulin-Girard,** Univ. Laval (Canada); **Jonathan Saint-Antoine**, **Philippe Vallée,** Univ. de Montréal (Canada); **Simon Thibault,** Univ. Laval (Canada); **Gregg Wade,** Royal Military College of Canada (Canada); **Guillaume Allain**, **Sébastien Bovay,** Univ. Laval (Canada); **Bruno Chazelas**, **Uriel Conod**, **Xavier Dumusque**, **Yolanda Frensch**, **Ludovic Genolet**, **Nicolas Blind**, **Nolan Grieves**, **Christophe Lovis**, **Danuta Sosnowska**, **Alex Segovia**, **Michaël Sordet,** Univ. de Genève (Switzerland); **Bruno L. Canto Martins**, **Jose Renan De Medeiros**, **Izan C. Leão**, **Allan M. Martins,** UFRN (Brazil); **Andres Carmona**, **Xavier Delfosse**, **Xavier Bonfils**, **Thierry Forveille,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Isabelle Boisse,** Lab. d'Astrophysique de Marseille (France); **Alexandre Cabral,** Univ. de Lisboa (Portugal); **Bachar Wehbé**, **Nuno Santos**, **Ana Rita Silva**, **Elisa Delgado-Mena**, **Susana Barros**, **Pedro Figueira,** Instituto de Astrofísica e Ciências do Espaço (Portugal); **Jonay I. González Hernández**, **Rafael Rebolo-López**, **José Luis Rasilla**, **Alejandro Suárez Mascareño**, **Vera Passegger,** Instituto de Astrofísica de Canarias (Spain); **Gaspare Lo Curto**, **Louise Nielsen**, **Gérard Zins**, **Claudio Melo,** European Southern Observatory (Chile); **Yuri Messias**, **Roseane Lima Gomes,** UFRN (Brazil); **Romain Allart,** Univ. de Montréal (Canada); **Lucile Mignon,** Univ. de Genève (Switzerland); **Eduardo Cristo**, **João Gomes da Silva,** Instituto de Astrofísica e Ciências do Espaço (Portugal); **Khaled Al Moulla,** Univ. de Genève (Switzerland); **Alexandrine L'Heureux**, **Olivia Lim**, **Stefan Pelletier**, **Luc Bazinet**, **Frédéric Genest**, **Caroline Piaulet**, **Leslie Moranta**, **Pierrot Lamontagne**, **Laurie Dauplaise,** Univ. de Montréal (Canada); **Lena Parc,** Univ. de Genève (Switzerland); **Vigneshwaran Krishnamurthy,** McGill Univ. (Canada); **Yann Carteret**, **Vincent Bourrier**, **David Ehrenreich,** Univ. de Genève (Switzerland); **Marion Cointepas,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Dany Mounzer**, **Vincent Bruniquel**, **Valentina Vaulato**, **Avidaan Srivastava,** Univ. de Genève (Switzerland); **Thomas Vandal,** Univ. de Montréal (Canada); **João Faria,** Univ. de Genève (Switzerland)

## Coffee Break 03:30 PM - 04:00 PM

## SESSION 4: IFS I

16 June 2024 • 04:00 PM - 05:30 PM | Room G401/402, North - 4F
*Session Chair(s):* **Livia Origlia**, INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13096-13 • 04:00 PM - 04:30 PM
**Hector: performance of the new integral field spectrograph instrument for the Anglo-Australian Telescope** *(Invited Paper)*
*Author(s):* **Julia Bryant,** Astralis, The Univ. of Sydney (Australia); **Sree Oh,** Yonsei Univ. (Korea, Republic of); **Madusha Gunawardhana,** The Univ. of Sydney (Australia); **Gabriella Quattropani,** Macquarie Univ. (Australia); **Gurashish Bhatia**, **Joss Bland-Hawthorn,** The Univ. of Sydney (Australia); **David Brodrick,** The Australian National Univ. (Australia); **Rebecca Brown**, **Robert Content,** Macquarie Univ. (Australia); **Scott Croom,** The Univ. of Sydney (Australia); **Fred Crous,** Astralis, The Univ. of Sydney (Australia); **Tony Farrell**, **Peter Gillingham**, **Ellen Houston**, **Jon Lawrence**, **Helen McGregor,** Macquarie Univ. (Australia); **Seong-Sik Min,** The Univ. of Sydney (Australia); **Mahesh Mohanan,** Macquarie Univ. (Australia); **Barnaby Norris,** The Univ. of Sydney (Australia); **Matthew Owers**, **Naveen Pai**, **David Robertson**, **Will Saunders**, **Sam Vaughan**, **Sudharshan Venkatesan,** Macquarie Univ. (Australia); **Adeline Wang,** The Univ. of Sydney (Australia); **Ross Zhelem, Jessica Zheng,** Macquarie Univ. (Australia)

13096-14 • 04:30 PM - 04:50 PM
**VIRUS: assessing batch component and on-sky performance for a massively multiplexed instrument**
*Author(s):* **Briana L. Indahl,** Lab. for Atmospheric and Space Physics (United States); **Gary J. Hill,** The Univ. of Texas at Austin (United States), The Univ. of Texas McDonald Observatory (United States); **Greg Ziemann,** The Univ. of Texas McDonald Observatory (United States); **Trent Peterson,** Southwest Research Institute (United States); **Phillip J. MacQueen,** The Univ. of Texas at Austin (United States); **Andreas Kelz**, **Thomas Jahn,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Jan Snigula,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Niv Drory**, **Brian L. Vattiat**, **Hanshin Lee**, **John M. Good,** The Univ. of Texas McDonald Observatory (United States); **Karl Gebhardt,** The Univ. of Texas at Austin (United States)

13096-15 • 04:50 PM - 05:10 PM
**VIRUS2: a next generation replicated integral field spectrograph with wide field and broad wavelength coverage**
*Author(s):* **Gary J. Hill**, **Hanshin Lee**, **Brian L. Vattiat**, **John M. Good**, **Niv Drory,** The Univ. of Texas at Austin (United States); **Briana L. Indahl,** Lab. for Atmospheric and Space Physics, Univ. of Colorado Boulder (United States)

13096-16 • 05:10 PM - 05:30 PM
**Liger at W.M. Keck Observatory: overall design and fabrication status**
*Author(s):* **Shelley A. Wright,** Univ. of California, San Diego (United States); **Tucker Jones,** Univ. of California, Davis (United States); **James E. Larkin,** Univ. of California, Los Angeles (United States); **Renate Kupke,** Univ. of California, Santa Cruz (United States); **Marc F. Kassis,** W. M. Keck Observatory (United States); **Aaron Brown,** Univ. of California, San Diego (United States); **Lee Armus,** IPAC (United States), NASA (United States); **Maren Cosens,** Carnegie Observatories (United States); **Devin Chu**, **Tuan Do,** Univ. of California, Los Angeles (United States); **Chris Fassnacht,** Univ. of California, Davis (United States); **Deanne Fisher,** Swinburne Univ. of Technology (Australia); **Michael P. Fitzgerald**, **Andrea Ghez,** Univ. of California, Los Angeles (United States); **Jenny Greene,** Princeton Univ. (United States); **Aurelien Hees,** Observatoire de Paris (France); **Theodara Karalidi,** Univ. of Central Florida (United States); **Patrick Kelly,** Univ. of Minnesota, Twin Cities (United States); **Evan Kirby,** Univ. of Notre Dame (United States); **Evan Kress**, **Chris Johnson,** Univ. of California, Los Angeles (United States); **Jessica Lu,** Univ. of California, Berkeley (United States); **Kenneth Magnone,** Univ. of California, Los Angeles (United States); **Jérôme Maire,** Univ. of California, San Diego (United States); **Mark Marley,** The Univ. of Arizona (United States); **Anne Medling,** The Univ. of Toledo (United States); **Rosalie McGurk,** W. M. Keck Observatory (United States); **Max Millar-Blanchaer,** Univ. of California, Santa Barbara (United States); **Quinn Minor,** The City Univ. of New York (United States); **Anna Nierenberg,** Univ. of California, Merced (United States); **Naveen Reddy,** Univ. of California, Riverside (United States); **Jean-Baptiste Ruffio,** Univ. of California, San Diego (United States); **David Sand,** The Univ. of Arizona (United States); **Ryan Sanders,** Univ. of Kentucky (United States); **Karin Sandstrom,** Univ. of California, San Diego (United States); **Alice Shapley**, **Ji-Man Sohn,** Univ. of California, Los Angeles (United States); **Arun Surya,** Indian Institute of Astrophysics (India); **Tommaso Treu**, **Eric Wang,** Univ. of California, Los Angeles (United States); **Michael Wong,** Univ. of California, Berkeley (United States); **James Wiley,** Univ. of California, San Diego (United States); **Sherry Yeh,** W. M. Keck Observatory (United States)

## Monday 17 June 2024

### MONDAY PLENARY

17 June 2024 • 08:20 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/monday-plenary

13173-500 • 08:30 AM - 09:15 AM
**Moving TMT forward: Japan's contributions and transformative approach toward community engagement** (Plenary Presentation)
*Author(s):* **Tomonori Usuda,** National Astronomical Observatory of Japan (United States); **Yuko Kakazu,** Thirty Meter Telescope (United States)

13173-501 • 09:15 AM - 10:00 AM
**From dark skies to bright futures: the evolution of astronomy in Africa and the hosting of the historic International Astronomical Union General Assembly 2024** (Plenary Presentation)
*Author(s):* **Charles Mpho Takalana,** The African Astronomical Society (South Africa)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 5: MULTI OBJECT SPECTROGRAPHS I

17 June 2024 • 10:20 AM - 11:50 AM | Room G401/402, North - 4F
*Session Chair(s):* **Julia Bryant**, The Univ. of Sydney (Australia)

13096-5 • 10:20 AM - 10:50 AM
**The instrumentation plan of the 10.4m GTC telescope** *(Invited Paper)*
*Author(s):* **Romano L. M. Corradi**, **Antonio Luis Cabrera Lavers, Gianluca Lombardi,** Gran Telescopio de Canarias, S.A. (Spain)

13096-18 • 10:50 AM - 11:10 AM
**Ocotillo: a fiber-fed spectrograph for the ARC 3.5m telescope**
*Author(s):* **Sarah E. Tuttle**, **Caleb Wang**, **Travis Mandeville**, **José Sánchez-Gallego**, **Conor Sayres,** Univ. of Washington (United States); **Nancy Chanover,** New Mexico State Univ. (United States); **William Ketzebeck**, **Russet McMillian, Jamey Eriksen,** Apache Point Observatory (United States)

13096-19 • 11:10 AM - 11:30 AM
**4MOST: the 4-metre Multi-Object Spectroscopic Telescope Project at the start of commissioning**
*Author(s):* **Roelof S. de Jong**, **Olga Bellido-Tirado**, **Joar G. Brynnel**, **Aida Ezzati Amini**, **Steffen Frey**, **Christine Füßlein**, **Domenico Giannone**, **Diana Johl**, **Silke Kuba**, **Ulrike Lemke**, **Genoveva Micheva**, **Allar Saviauk**, **Matthias Steinmetz**, **Jakob C. Walcher**, **Roland Winkler,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Karin Lind,** Stockholm Univ. (Sweden); **Jonathan Loveday,** Univ. of Sussex (United Kingdom); **Vincenzo Mainieri**, **Jean-François Pirard,** European Southern Observatory (Germany); **Wolfgang Gaessler,** Max-Planck-Institut für Astronomie (Germany); **Florence Laurent,** Ctr. de Recherche Astrophysique de Lyon (France); **Andrea Merloni,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Ramón Navarro,** NOVA (Netherlands), ASTRON (Netherlands); **Alban Remillieux,** Ctr. de Recherche Astrophysique de Lyon (France); **Florian Rothmaier,** Landessternwarte Heidelberg (Germany); **Scott Smedley,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Nicholas Walton,** IoA (United Kingdom)

13096-20 • 11:30 AM - 11:50 AM
**The final design of the Gemini Infrared Multi-Object Spectrograph: Gemini's New Adaptive Optics Facility Instrument**
*Author(s):* **Suresh Sivanandam,** Dunlap Institute for Astronomy & Astrophysics (Canada); **Scott Chapman,** Dalhousie Univ. (Canada), The Univ. of British Columbia (Canada), National Research Council Canada (Canada); **Paul Hickson,** The Univ. of British Columbia (Canada); **Simon Thibault,** Univ. Laval (Canada); **Adam Muzzin,** York Univ. (Canada); **Alan McConnachie,** National Research Council Canada (Canada); **Ruben Diaz,** Gemini Observatory (Chile); **Andre Anthony**, **Jennifer Dunn,** National Research Council Canada (Canada); **Marcin Sawicki,** Saint Mary's Univ. (Canada); **Scott Christie,** Dunlap Institute for Astronomy & Astrophysics (Canada); **Shawn Barbod,** Gemini Observatory (United States); **Jae-Joon Lee,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Kim Venn,** Univ. of Victoria (Canada); **Martin Tschimmel,** Gemini Observatory (Chile); **Mark Barnet**, **Gavin Hay,** Dunlap Institute for Astronomy & Astrophysics (Canada); **Scott Roberts,** National Research Council Canada (Canada); **Gaetano Sivo,** Gemini Observatory (Chile); **Julia Scharwächter**, **Masen Lamb,** Gemini Observatory (United States); **Shaojie Chen**, **Saugata Dutt**, **Patrick Nkwari,** Dunlap Institute for Astronomy & Astrophysics (Canada); **Olivier Lardière**, **Jenny Atwood,** National Research Council Canada (Canada); **Sarik Jeram,** Dunlap Institute for Astronomy & Astrophysics (Canada)

## Lunch Break 11:50 AM - 01:10 PM

## SESSION 6: INSTRUMENTS WITH NEW CONCEPT/TECHNOLOGIES I

17 June 2024 • 01:10 PM - 03:30 PM | Room G401/402, North - 4F
*Session Chair(s):* **Shelley A. Wright**, Univ. of California, San Diego (United States)

13096-24 • 01:10 PM - 01:30 PM
**Preliminary results of the Potsdam Arrayed Waveguide Spectrograph**
*Author(s):* **Eloy Hernandez**, **Alan Günther**, **Stella Vješnica**, **Svend-Marian Bauer**, **Andreas Stoll**, **Hakan Önel**, **Kalaga Madhav, Martin M. Roth,** Leibniz-Institut für Astrophysik Potsdam (Germany)

13096-21 • 01:30 PM - 02:00 PM
**ORCAS Keck mission and Instrument development** *(Invited Paper)*
*Author(s):* **Eliad Peretz,** NASA Goddard Space Flight Ctr. (United States); **Maxwell Millar-Blanchaer,** Univ. of California, Santa Barbara (United States); **Bert Pasquale,** NASA Goddard Space Flight Ctr. (United States); **Peter Wizinowich**, **Eduardo Marin**, **Scott Lilley**, **Luke Gers**, **Shui Hung Kwok**, **Jason Chin**, **Sam Ragland**, **Ed Wetherell**, **Brett Smith**, **John O'Meara**, **Marc F. Kassis,** W. M. Keck Observatory (United States); **Greg Aldering,** Lawrence Berkeley National Lab (United States); **Susana Deustua,** National Institute of Standarts and Technology (United States); **Rogier Windhorst,** Arizona State University, (United States); **Christian Marois,** University of Victoria, (Canada); **Saul Perlmutter,** Lawrence Berkeley National Lab (United States); **Sara Seager,** Massachusetts Institute of Technology (United States); **Breann Sitarski,** NASA Goddard Space Flight Ctr. (United States); **Guillaume Filion**, **Jean-Thomas Landry**, **Étienne Gauvin,** OMP Inc. (Canada); **Jules Fowler**, **Rebecca Jensen-Clem,** Univ. of California, Santa Cruz (United States); **Eric L. Nielsen,** New Mexico State Univ. (United States); **Imke de Pater,** Univ. of California, Berkeley (United States); **Peter Plavchan,** George Mason Univ. (United States); **Steph Sallum,** Univ. of California, Irvine (United States); **Shobita Satyapal,** George Mason Univ. (United States); **John Mather**, **Peter Kurczynski**, **Kayla Carmical,** NASA Goddard Space Flight Ctr. (United States); **Jack Grossman,** Univ. of California, Berkeley (United States); **Andrew Lewis**, **Maya K Wertheim**, **Vivian Palmer, Kevin Hall,** NASA Goddard Space Flight Ctr. (United States)

13096-22 • 02:00 PM - 02:30 PM
**WST - Widefield Spectroscopic Telescope: addressing the instrumentation challenges of a new 12m class telescope dedicated to widefield Multi-object and Integral Field Spectroscopy** *(Invited Paper)*
*Author(s):* **David Lee,** UK Astronomy Technology Ctr. (United Kingdom); **Joël D. R. Vernet,** European Southern Observatory (Germany); **Roland Bacon**, **Alexandre Jeanneau,** Observatoire de Lyon (France); **Ernesto Oliva**, **Anna Brucalassi**, **Andrea Tozzi**, **José A. Araiza-Durán,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Andrea Bianco,** INAF - Osservatorio Astronomico di Brera (Italy); **Jan Kragt,** ASTRON (Netherlands); **Bianca Garilli,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Kjetil Dohlen,** Lab. d'Astrophysique de Marseille (France); **Jean-Paul Kneib**, **Ricardo Araujo**, **Maxime Rombach,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Eloy Hernandez**, **Roelof S. de Jong**, **Andreas Kelz,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Stephen Watson**, **Tom Louth**, **Ian Bryson,** UK Astronomy Technology Ctr. (United Kingdom); **Elizabeth George**, **Norbert Hubin,** European Southern Observatory (Germany); **Julia Bryant,** Sydney Institute for Astronomy, The Univ. of Sydney (Australia); **Jon Lawrence,** Macquarie Univ. (Australia); **Ramon Navarro,** ASTRON (Netherlands)

13096-23 • 02:30 PM - 02:50 PM
**Spectroscopy below the diffraction limit with FIRST at the Subaru Telescope**
*Author(s):* **Elsa Huby,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Sébastien Vievard,** National Astronomical Observatory of Japan (United States); **Gaspard Duchene,** Observatoire des Sciences de l'Univers de Grenoble (France); **Olivier Guyon,** National Astronomical Observatory of Japan (United States); **Sylvestre Lacour**, **Guy Perrin,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Kevin Barjot,** Univ. zu Köln (Germany); **Vincent Deo,** National Astronomical Observatory of Japan (United States); **Nemanja Jovanovic,** Caltech (United States); **Harry-Dean Kenchington Goldsmith,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Takayuki Kotani,** National Astronomical Observatory of Japan (Japan); **Manon Lallement**, **Vincent Lapeyrère,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Julien Lozi,** National Astronomical Observatory of Japan (United States); **Franck Marchis,** SETI Institute (United States); **Guillermo Martin,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Daniel Rouan,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France)

13096-25 • 02:50 PM - 03:10 PM
**Visible Photonic Lantern integration, characterization and on-sky testing on Subaru/SCExAO**
*Author(s):* **Sébastien B. Vievard,** Subaru Telescope, NAOJ (United States), AstroBiology Ctr., NINS (Japan); **Manon Lallement,** Subaru Telescope, NAOJ (United States), Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France), Observatoire de Paris (France); **Sergio G. Leon-Saval,** The Univ. of Sydney (Australia); **Olivier Guyon,** Subaru Telescope, NAOJ (United States); **Nemanja Jovanovic,** Caltech (United States); **Elsa Huby**, **Sylvestre Lacour,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France), Observatoire de Paris (France); **Julien Lozi**, **Vincent Deo**, **Kyohoon Ahn,** Subaru Telescope, NAOJ (United States); **Miles Lucas,** Institute for Astronomy, Univ. of Hawai'i System (United States); **Steph Sallum,** Univ. of California, Irvine (United States); **Michael P. Fitzgerald,** Univ. of California, Los Angeles (United States); **Christopher Betters**, **Barnaby Norris,** The Univ. of Sydney (Australia); **Rodrigo Amezcua-Correa**, **Stephanos Yerolatsitis,** CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States); **Pradip Gatkine,** Caltech (United States); **Takayuki Kotani**, **Motohide Tamura,** AstroBiology Ctr., NINS (Japan); **Guy Perrin,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France), Observatoire de Paris (France); **Jon Lin**, **Yoo-Jung Kim,** Univ. of California, Los Angeles (United States); **Guillermo Martin,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Harry-Dean Kenchington Goldsmith,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France), Observatoire de Paris (France)

13096-26 • 03:10 PM - 03:30 PM
**On-sky demonstration of Quantum-Inspired Imaging (QI2) through atmospheric turbulence**
*Author(s):* **Stephen S. Eikenberry**, **Rodrigo Amezcua-Correa**, **Daniel Cruz-Delgado**, **Stephanos Yerolatsitis**, **Miguel A. Bandres,** Univ. of Central Florida (United States); **Sergio G. Leon-Saval,** The Univ. of Sydney (Australia); **Kerri Donaldson-Hanna**, **Robert Conwell**, **Matthew Cooper**, **Tara Crowe**, **Caleb Dobias**, **Genevieve Markees**, **Christina D. Moraitis**, **Miguel Romer**, **Aiden Akers**, **Vincent Miller, Sarah Thibaut,** Univ. of Central Florida (United States)

## Coffee Break 03:30 PM - 04:00 PM

## SESSION 7: MULTI OBJECT SPECTROGRAPHS II

17 June 2024 • 04:00 PM - 05:10 PM | Room G401/402, North - 4F
*Session Chair(s):* **Naoyuki Tamura**, Subaru Telescope, NAOJ (United States)

13096-27 • 04:00 PM - 04:30 PM
**MOONS: Multi Object spectroscopy for the VLT: overview and final instrument performance ahead of commissioning** *(Invited Paper)*
*Author(s):* **Oscar Gonzalez,** UK Astronomy Technology Ctr. (United Kingdom); **Michele Cirasuolo,** European Southern Observatory (Germany); **Martin Black**, **William Taylor, Stephen Chittick,** UK Astronomy Technology Ctr. (United Kingdom)

13096-28 • 04:30 PM - 04:50 PM
**On-sky performance of SAMOS: a DMD-based multi-object spectrograph and imager for the SOAR 4.1 meter telescope**
*Author(s):* **John J. Piotrowski,** Johns Hopkins Univ. (United States), Carnegie Observatories (United States); **Massimo Robberto,** Space Telescope Science Institute (United States); **Stephen Smee,** Johns Hopkins Univ. (United States); **Robert Barkhouser,** LCS Optics (United States); **Megan Donahue,** Michigan State Univ. (United States); **Mario Gennaro,** Space Telescope Science Institute (United States); **Albert Harding**, **Stephen C. Hope**, **Dana Koeppe,** Johns Hopkins Univ. (United States); **Zoran Ninkov,** Rochester Institute of Technology (United States); **Jeffrey Poston**, **Lyle Schwartz,** Johns Hopkins Univ. (United States); **Andrei Tokovinin,** Cerro Tololo Inter-American Observatory (Chile)

13096-29 • 04:50 PM - 05:10 PM
**An update on the design and construction of the Magellan InfraRed Multi-Object Spectrograph (MIRMOS)**
*Author(s):* **Nicholas P. Konidaris**, **Gwen C. Rudie**, **Andrew B. Newman**, **Maren Cosens,** Carnegie Observatories (United States); **Stephen A. Smee,** Johns Hopkins Univ. (United States); **Leon Aslan,** Carnegie Observatories (United States); **Robert Barkhouser,** LCS Optics (United States); **Andrea Bianco,** INAF - Osservatorio Astronomico di Brera (Italy); **Christoph Birk**, **Julia Brady,** Carnegie Observatories (United States); **Michele Frangiamore,** INAF - Osservatorio Astronomico di Brera (Italy); **Gumy Mathias,** CSEM SA (Switzerland); **Tyson S. Hare,** Carnegie Observatories (United States); **Stephen C. Hope,** Johns Hopkins Univ. (United States); **Daniel D. Kelson**, **Gerrad Killion,** Carnegie Observatories (United States); **Alicia Lanz,** Capella Space (United States); **Solange Ramírez,** Carnegie Observatories (United States); **Rupf Cryil**, **Peter Spanoudakis,** CSEM SA (Switzerland); **Andrea Vanella,** INAF - Osservatorio Astronomico di Brera (Italy); **Jason E Williams,** Carnegie Observatories (United States)

## SESSION PS1: POSTERS - PERFORMANCE AND RESULTS FROM RECENTLY COMMISSIONED INSTRUMENTS

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13096-75 • 05:30 PM - 07:00 PM
**Preliminary characterization and verification of 4MOST in Europe**
*Author(s):* **Genoveva Micheva**, **Olga Bellido-Tirado**, **Joar G. Brynnel**, **Steffen Frey**, **Roelof S. de Jong**, **Allar Saviauk**, **Roland Winkler,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Florence Laurent,** Ctr. de Recherche Astrophysique de Lyon, Univ. de Lyon (France); **Walter Seifert**, **Ingo Stilz**, **Florian Rothmaier**, **Alexander Pramskiy**, **Andreas Quirrenbach,** Landessternwarte Heidelberg, Zentrum für Astronomie der Univ. Heidelberg (Germany); **Michael Lehmitz**, **Wolfgang Gaessler,** Max-Planck-Institut für Astronomie (Germany); **Ioannis Politopoulos,** ASTRON (Netherlands), NOVA (Netherlands); **Jonathan Irwin**, **Michael Irwin,** Institute of Astronomy, Univ. of Cambridge (United Kingdom); **Gérard Zins,** European Southern Observatory (Germany); **Wenli Xu,** Wenli Xu Optical System Engineering (Germany)

13096-77 • 05:30 PM - 07:00 PM
**The VLT/CRIRES+ calibration system and infrared Fabry-Perot Etalon: first years of operation**
*Author(s):* **Ulf Seemann, and the CRIRES+ Consortium,** European Southern Observatory (Germany)

13096-78 • 05:30 PM - 07:00 PM
**The on-sky performance of the DESI fiber system performance**
*Author(s):* **Claire L. Poppett,** Lawrence Berkeley National Lab. (United States)

13096-79 • 05:30 PM - 07:00 PM
**Implementation of the 36 µm machined image slicer integral field unit for DKIST/DL-NIRSP**
*Author(s):* **Tetsu Anan**, **Sarah Jaeggli,** National Solar Observatory (United States); **Haosheng Lin,** Univ. of Hawai'i (United States); **Thomas Schad**, **Maxim Kramar**, **Friedrich Wöger**, **Stacey Sueoka**, **Luke Johnson**, **Isabelle Scholl,** National Solar Observatory (United States); **Morgan Bonnet,** Univ. of Hawai'i (United States)

13096-80 • 05:30 PM - 07:00 PM
**Detector upgrade in EMIR@GTC: on-sky performances**
*Author(s):* **Francisco Garzón López,** Instituto de Astrofísica de Canarias (Spain); **Sergio Fernandez-Acosta,** Gran Telescopio de Canarias, S.A. (Spain); **Peter Hammersley,** European Southern Observatory (Germany); **Enrique Joven,** Instituto de Astrofísica de Canarias (Spain); **Anthony Russo,** Gran Telescopio de Canarias, S.A. (Spain); **Josefina Rosich,** Instituto de Astrofísica de Canarias (Spain)

13096-81 • 05:30 PM - 07:00 PM
**Roadmap towards operations of GHOST@Gemini's precision radial velocity mode**
*Author(s):* **Venu Kalari**, **Ruben Diaz, Andreas Seifahrt,** Gemini Observatory (Chile), NSF's National Optical-Infrared Astronomy Research Lab. (United States)

13096-82 • 05:30 PM - 07:00 PM
**GNIRS integral field spectroscopy modes: on-sky performance**
*Author(s):* **Rubén J. Diaz,** Gemini Observatory (Chile); **Mark G. Rawlings,** Gemini Observatory (United States); **Ray M. Sharples,** Ctr. for Advanced Instrumentation, Durham Univ. (United Kingdom); **Emanuele P. Farina**, **Brian C. Lemaux**, **Andrew W. Stephens,** Gemini Observatory (United States); **Damián Mast,** CONICET, Univ. Nacional de Córdoba (Argentina); **John White**, **Eduardo Tapia,** Gemini Observatory (United States); **Ariadna Calcines,** Ctr. for Advanced Instrumentation (United Kingdom); **Cornelis M. Dubbeldam,** Ctr. for Advanced Instrumentation, Durham Univ. (United Kingdom); **Jennifer Miller,** Gemini Observatory (United States); **Cyril J. Bourgenot,** Ctr. for Advanced Instrumentation (United Kingdom); **David A. Ryder**, **Ken Parkin**, **Paul A. White,** Ctr. for Advanced Instrumentation, Durham Univ. (United Kingdom); **Turner E. H. James,** Gemini Observatory (Chile); **Thomas R. Geballe**, **Hawi Stecher**, **Jennifer E. Andrews**, **Zachary D. Hartman**, **Hyewon Suh**, **Siyi Xu, Cicero X. Lu,** Gemini Observatory (United States)

13096-83 • 05:30 PM - 07:00 PM
**IGRINS-2 electronics system and detector characterization**
*Author(s):* **Ueejeong Jeong**, **Moo-Young Chun**, **Hye-In Lee**, **Bi-Ho Jang**, **Sanghyuk Kim**, **Hyeon Cheol Seong**, **Heeyoung Oh**, **Woojin Park**, **Young Sam Yu**, **Chan Park,** Korea Astronomy and Space Science Institute (Korea, Republic of); **John White**, **Edo Tapia**, **Hwihyun Kim,** Gemini Observatory (United States), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Yunjong Kim**, **Jae Sok Oh**, **Jeong-Gyun Jang,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Francisco Ramos**, **Pablo Prado,** Gemini Observatory (Chile), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Brian Chinn**, **Simon Chan,** Gemini Observatory (United States), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Ruben Diaz,** Gemini Observatory (Chile), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Hyewon Suh,** Gemini Observatory (United States), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Gregory N. Mace**, **Daniel T. Jaffe,** The Univ. of Texas at Austin (United States); **Kang-Min Kim**, **In-Soo Yuk**, **Hyun-Jeong Kim**, **Sungho Lee**, **Jae-Joon Lee**, **Narae Hwang, Byeong-Gon Park,** Korea Astronomy and Space Science Institute (Korea, Republic of)

13096-84 • 05:30 PM - 07:00 PM
**Six-year progress of the InfraRed Doppler (IRD) instrument for the Subaru Telescope**
*Author(s):* **Masayuki Kuzuhara**, **Takayuki Kotani**, **Motohide Tamura**, **Teruyuki Hirano,** AstroBiology Ctr., NINS (Japan); **Bun'ei Sato,** Tokyo Institute of Technology (Japan); **Masashi Omiya,** AstroBiology Ctr., NINS (Japan); **Wako Aoki,** National Astronomical Observatory of Japan (Japan); **Akihiko Fukui**, **Norio Narita,** The Univ. of Tokyo (Japan); **Stevanus Nugroho,** AstroBiology Ctr., NINS (Japan); **Masaomi Tanaka,** Tohoku Univ. (Japan); **Hajime Kawahara,** Institute of Space and Astronautical Science (Japan), Japan Aerospace Exploration Agency (Japan); **Hiroki Harakawa**, **Tomoyuki Kudo**, **Sébastien Vievard,** Subaru Telescope, NAOJ (United States); **Takashi Kurokawa**, **Takuma Serizawa,** Tokyo Univ. of Agriculture and Technology (Japan); **Jun Nishikawa**, **Akitoshi Ueda,** National Astronomical Observatory of Japan (Japan); **Nobuhiko Kusakabe,** AstroBiology Ctr., NINS (Japan)

13096-85 • 05:30 PM - 07:00 PM
**Assessing Earth's atmospheric impact on near-infrared radial velocity measurements with IRD/Subaru**
*Author(s):* **Yui Kasagi,** The Graduate Univ. for Advanced Studies, SOKENDAI (Japan); **Takayuki Kotani**, **Teruyuki Hirano,** AstroBiology Ctr., NINS (Japan), National Astronomical Observatory of Japan (Japan), The Graduate Univ. for Advanced Studies, SOKENDAI (Japan); **Masayuki Kuzuhara**, **Masashi Omiya**, **Takuya Takarada,** AstroBiology Ctr., NINS (Japan), National Astronomical Observatory of Japan (Japan); **Hiroki Harakawa**, **Tomoyuki Kudo,** Subaru Telescope, NAOJ (United States); **Jun Nishikawa,** National Astronomical Observatory of Japan (Japan), The Graduate Univ. for Advanced Studies, SOKENDAI (Japan), AstroBiology Ctr., NINS (Japan); **Motohide Tamura,** The Univ. of Tokyo (Japan), AstroBiology Ctr., NINS (Japan), National Astronomical Observatory of Japan (Japan); **Bun'ei Sato,** Tokyo Institute of Technology (Japan)

13096-86 • 05:30 PM - 07:00 PM
**Recent upgrades to the Keck Planet Imager and Characterizer**
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13096-87 • 05:30 PM - 07:00 PM
**Fringing analysis and forward modeling of Keck Planet Imager and Characterizer (KPIC) spectra**
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13096-88 • 05:30 PM - 07:00 PM
**Validation of the LOFAR2.0 timing distribution system**
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13096-89 • 05:30 PM - 07:00 PM
**The LOFAR2.0 upgrade: validation results of the qualification model**
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13096-91 • 05:30 PM - 07:00 PM
**Laboratory integration and test results for the SDSS V/Local Volume Mapper spectrographs system**
*Author(s):* **Pavan Bilgi**, **Nick Konidaris**, **Solange Ramirez**, **Stefanie Wachter**, **Julia Brady**, **Anthony Hebert,** Carnegie Observatories (United States); **José Sánchez-Gallego,** Univ. of Washington (United States); **Tobias Feger**, **Scott Case,** Macquarie Univ. (Australia); **Soojong Pak, Changgon Kim,** Kyung Hee Univ. (Korea, Republic of)

13096-92 • 05:30 PM - 07:00 PM
**MOONS: multi object spectroscopy for the VLT: performance of the rotating front-end**
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13096-93 • 05:30 PM - 07:00 PM
**Performance of MOONS cryostat and control system**
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13096-94 • 05:30 PM - 07:00 PM
**Prime Focus Spectrograph (PFS) for Subaru Telescope: recovery of VPHG efficiency**
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13096-95 • 05:30 PM - 07:00 PM
**Prime Focus Spectrograph (PFS) for Subaru telescope: integration and test of the last spectrograph modules**
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13096-96 • 05:30 PM - 07:00 PM
**Sky-subtraction for the Subaru Prime Focus Spectrograph**
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13096-97 • 05:30 PM - 07:00 PM
**Prime Focus Spectrograph (PFS) for Subaru Telescope: the optimization of convergence for Cobra positioners**
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13096-98 • 05:30 PM - 07:00 PM
**Prime Focus Spectrograph (PFS) for Subaru Telescope: performance verification of the science-grade fiber optics cable**
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13096-99 • 05:30 PM - 07:00 PM
**Prime Focus Spectrograph (PFS) for Subaru Telescope: Spectrograph System final integration and performance at LAM and Subaru**
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13096-100 • 05:30 PM - 07:00 PM
**Investigating the pupil dependence of the polarimetric sensitivity on SALT**
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13096-101 • 05:30 PM - 07:00 PM
**Early commissioning results of slit mask integral field units on the Southern African Large Telescope**
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**STELES: a high-resolution spectrograph for the SOAR telescope**

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13096-104 • 05:30 PM - 07:00 PM

**SOXS NIR: optomechanical integration and alignment, optical performance verification before full instrument assembly**

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**Characterisation and assessment of the SOXS Spectrograph UV-VIS Detector System**

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**The status of the NIR arm of the SOXS Instrument toward the PAE**

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**The integration of the SOXS control electronics towards the PAE**

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**Improving SPIRou sensitivity by reducing thermal background**

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**The performance of the Mosaic CMOS Wide Field Camera for Transneptunian Automatic Occultation Survey (TAOS II)**
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13096-110 • 05:30 PM - 07:00 PM
**Upgrading the visible high-contrast imager SCExAO/VAMPIRES**
*Author(s):* **Miles Lucas,** Institute for Astronomy, Univ. of Hawai'i (United States); **Barnaby Norris,** Sydney Institute for Astronomy, The Univ. of Sydney (Australia); **Olivier Guyon,** Subaru Telescope, NAOJ (United States); **Michael Bottom,** Institute for Astronomy, Univ. of Hawai'i (United States); **Vincent Deo**, **Sébastien Vievard**, **Julien Lozi**, **Kyohoon Ahn,** Subaru Telescope, NAOJ (United States); **Jaren N. Ashcraft,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Thayne Currie,** University of Texas San Antonio (United States); **David Doelman,** University of Leiden (Netherlands); **Tomoyuki Kudo,** Subaru Telescope (United States); **Lucinda Lilley,** Sydney Institute for Astronomy, University of Sydney (Australia); **Lucie Leboulleux,** University Grenoble Alpes, CNRS, IPAG (France); **Maxwell Millar-Blanchaer,** Univ. of California, Santa Barbara (United States); **Boris Safonov,** Sternberg Astronomical Institute (Russian Federation); **Peter Tuthill,** Sydney Institute for Astronomy, University of Sydney (Australia); **Taichi Uyama,** Department of Physics and Astronomy, California State University, Northridge (United States); **Manxuan Zhang,** Univ. of California, Santa Barbara (United States)

13096-111 • 05:30 PM - 07:00 PM
**Developing an instrumental polarization characterization routine for SCExAO VAMPIRES**
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13096-112 • 05:30 PM - 07:00 PM
**WINERED fully commissioned at the Magellan Clay telescope**
*Author(s):* **Shogo Otsubo**, **Yuki Sarugaku**, **Tomomi Takeuchi,** Kyoto Sangyo Univ. (Japan); **Yuji Ikeda,** Photocross., Co. Ltd. (Japan); **Noriyuki Matsunaga,** The Univ. of Tokyo (Japan); **Andrew McWilliam**, **Charlie Hull,** Carnegie Observatories (United States); **Tomohiro Yoshikawa,** Edechs (Japan); **Haruki Katoh,** Kyoto Sangyo Univ. (Japan); **Sohei Kondo,** Kiso Observatory, The Univ. of Tokyo (Japan); **Satoshi Hamano**, **Daisuke Taniguchi,** National Astronomical Observatory of Japan (Japan); **Hideyo Kawakita,** Kyoto Sangyo Univ. (Japan)

13096-113 • 05:30 PM - 07:00 PM
**All-sky transparency mapping for the Vera C. Rubin Observatory with DREAM**
*Author(s):* **Remko Stuik,** Leiden Observatory (Netherlands); **Sjoerd Timmer**, **Paul Vreeswijke,** Institute for Mathemathics, Astrophysics and Particle Physics, Radboud Univ. Nijmegen (Netherlands); **Kevin Fanning,** SLAC National Accelerator Laboratory (United States); **Henk Hoekstra,** Leiden Observatory (Netherlands); **Brian Stalder**, **Petr Kubánek**, **Michael Logue**, **Wouter van Reeven**, **Tiago Ribeiro**, **Patrick Ingraham,** Vera C. Rubin Observatory (United States); **Steven Bloemen,** Institute for Mathematics, Astrophysics and Particle Physics, Radboud Univ. Nijmegen (Netherlands); **Konrad Kuijken,** Leiden Observatory (Netherlands)

13096-114 • 05:30 PM - 07:00 PM
**The Multi Frequency Instrument 2 (MFI2): mechanical design, manufacture, integration, and commissioning of the MFI2 for the QUIJOTE facility in Tenerife (Canary Islands)**
*Author(s):* **Haroldo Lorenzo-Hernández**, **Antonio Zamora-Jiménez**, **Afrodisio Vega-Moreno**, **Roger Hoyland**, **María Gomez-Reñasco**, **David Díaz-Martín**, **Angeles Pérez-de-Taoro**, **Marta Aguiar-González,** Instituto de Astrofísica de Canarias (Spain); **José Alberto Rubiño-Martín,** Universidad de La Laguna (Spain), Instituto de Astrofísica de Canarias (Spain); **Ricardo T. Génova-Santos**, **Jesús Salvador Rodríguez-Díaz**, **Carlos López-Caraballo**, **Rafael Rebolo-López,** Instituto de Astrofísica de Canarias (Spain); **Mateo Fernández-Torreiro,** Laboratoire de Physique Subatomique et de Cosmologie (France), Instituto de Astrofísica de Canarias (Spain); **Alessandro Fasano**, **Debabrata Adak**, **Ángela Arriero-López, Ana Almeida,** Instituto de Astrofísica de Canarias (Spain)

13096-115 • 05:30 PM - 07:00 PM
**MORISOT: enabling fully robotic spectroscopy at the MONET/South Telescope**
*Author(s):* **Leon Meerwart**, **Tim-Oliver Husser**, **Sebastian Schäfer**, **Lennart Schmidt**, **Frederick V. Hessman, Maxim Weber,** Georg-August-Univ. Göttingen (Germany)

13096-116 • 05:30 PM - 07:00 PM
**OPASpec: a double spectrograph for the Original PolyOculus Array**
*Author(s):* **Christina D. Moraitis, Stephen S. Eikenberry,** Univ. of Central Florida (United States)

13096-117 • 05:30 PM - 07:00 PM
**The future of polarimetry at the NOIRLab Gemini North Observatory facility**
*Author(s):* **Mark G. Rawlings,** Gemini Observatory (United States); **Ruben J. Diaz,** Gemini Observatory (Chile); **Jennifer L. Hoffman,** Univ. of Denver (United States); **John K. White**, **Rippa J. Mathew**, **Felix Krämer,** Gemini Observatory (United States); **Darren L. DePoy,** Texas A&M Univ. (United States); **Dmitry Monin,** NRC-Herzberg Astronomy & Astrophysics (Canada); **John S. Pazder,** National Research Council - IMTI (Canada); **Garima Singh, Teo Mocnik,** Gemini Observatory (United States)

13096-118 • 05:30 PM - 07:00 PM
**Characterizing half-wave plates for the NIRC2 polarimetry mode on the Keck Observatory**
*Author(s):* **William Melby**, **Maxwell Millar-Blanchaer, Rebecca Zhang,** Univ. of California, Santa Barbara (United States)

13096-119 • 05:30 PM - 07:00 PM
**Upgrades to the NIRC2 Instrument at WMKO**
*Author(s):* **Carlos Alvarez,** W. M. Keck Observatory (United States); **Timothee Greffe**, **David Hale,** Caltech (United States); **Riley Rosener,** The Univ. of Chicago (United States); **Vanshika Kansal,** Swinburne Univ. of Technology (Australia); **Kyle Lanclos,** W. M. Keck Observatory (United States); **William Deich,** University of California Observatories (United States); **Paul Richards**, **Matthew Brown**, **Maxwell Service,** W. M. Keck Observatory (United States); **Roger Smith**, **Dimitri Mawet,** Caltech (United States); **Marc F. Kassis, Randall Campbell,** W. M. Keck Observatory (United States)

13096-122 • 05:30 PM - 07:00 PM
**Upgrading the submillimeter array: wSMA and beyond**
*Author(s):* **Paul K. Grimes**, **Garrett K. Keating**, **Raymond Blundell**, **Robert Christensen**, **Mark Gurwell**, **Attila Kovacs**, **Timothy Norton**, **Scott Paine**, **Ramprasad Rao**, **Edward Tong**, **Jonathan Weintroub**, **David Wilner**, **Robert W. Wilson**, **Lingzhen Zeng, Qizhou Zhang,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13096-123 • 05:30 PM - 07:00 PM
**Improving polarimetric accuracy of RoboPol to 0.05 % using a half-wave plate calibrator system**
*Author(s):* **Siddharth Maharana,** South African Astronomical Observatory (South Africa); **Dmitry Blinov,** Institute of Astrophysics (Greece); **A. N. Ramaprakash,** Inter-Univ. Ctr. for Astronomy and Astrophysics (India); **Vasiliki Pavlidou,** Institute of Astrophysics (Greece); **Konstantinos Tassis,** Institute of Astrophysics, FORTH (Greece)

13096-124 • 05:30 PM - 07:00 PM
**Development of the new digital back-end system (OCTAVE-DAS) and correlator system for VERA, JVN, and EAVN**
*Author(s):* **Tomoaki Oyama**, **Yusuke Kono**, **Aya Yamauchi**, **Takaaki Jike**, **Syunsaku Suzuki**, **Kazuhiro Hada**, **Yu Asakura, Noriyuki Kawaguchi,** National Astronomical Observatory of Japan (Japan)

13096-126 • 05:30 PM - 07:00 PM
**Commissioning the WEAVE fibre-fed muti-object spectrograph on the William Herschel Telescope**
*Author(s):* **Chris R. Benn,** Isaac Newton Group of Telescopes (Spain)

13096-127 • 05:30 PM - 07:00 PM
**The DDRAGO wide-field imager for the COLIBRÍ telescope**
*Author(s):* **Rosalía Langarica**, **Alan M. Watson**, **Fernando Ángeles,** Univ. Nacional Autónoma de México (Mexico); **Jean-Luc Atteia,** Univ. de Toulouse (France), Institut de Recherche en Astrophysique et Planétologie, CNRS (France); **Stéphane Basa,** Aix-Marseille Univ. (France), Lab. d'Astrophysique de Marseille, CNRS (France); **Jérémie Boy,** Institut de Recherche en Astrophysique et Planétologie (France); **Salvador Cuevas,** Univ. Nacional Autónoma de México (Mexico); **François Dolon,** Aix-Marseille Univ. (France), Observatoire de Haute-Provence, CNRS (France); **Damien Dornic,** Aix-Marseille Univ. (France), Institut National de Physique Nucléaire et de Physique des Particules du CNRS (France), Ctr. de Physique des Particules de Marseille (France); **Alejandro Farah,** Univ. Nacional Autónoma de México (Mexico); **Johan Floriot,** Aix-Marseille Univ. (France); **Jorge Fuentes-Fernández,** Univ. Nacional Autónoma de México (Mexico); **Arthur Langlois,** Institut de Recherche en Astrophysique et Planétologie (France); **William H. Lee,** Univ. Nacional Autónoma de México (Mexico); **Simona Lombardo,** Aix-Marseille Univ. (France), Lab. d'Astrophysique de Marseille, CNRS (France); **Margarita Pereyra,** Univ. Nacional Autónoma de México (Mexico); **Samuel Ronayette,** Univ. Paris-Saclay (France), CEA (France); **Jaime Ruíz-Díaz-Soto**, **Silvio Tinoco,** Univ. Nacional Autónoma de México (Mexico); **Hervé Valentín,** Univ. de Toulouse (France), Institut de Recherche en Astrophysique et Planétologie, CNRS (France)

13096-128 • 05:30 PM - 07:00 PM
**Future exoplanet direct imaging instruments: simulating spatial light modulator-based pixelated focal-plane coronagraphy**
*Author(s):* **Liurong Lin**, **Axel Potier**, **Ruben Tandon, Jonas G. Kühn,** Univ. Bern (Switzerland)

13096-129 • 05:30 PM - 07:00 PM
**Discovery space and science with the PLACID stellar coronagraph**
*Author(s):* **Ruben Tandon**, **Liurong Lin**, **Axel Potier,** Univ. Bern (Switzerland); **Laurent Jolissaint**, **Audrey Baur,** University of Applied Sciences HEIG-VD (Switzerland); **Derya Öztürk Çetni,** Atatürk University Astronomical Research and Application Center (ATASAM) (Turkey); **Jonas G. Kühn,** Univ. Bern (Switzerland)

13096-130 • 05:30 PM - 07:00 PM
**A high throughput imager at near-ultraviolet wavelengths for a ground-based telescope**
*Author(s):* **Hiroshi Akitaya**, **Tomoki Morokuma,** Chiba Institute of Technology (Japan); **Koji S. Kawabata,** Hiroshima Univ. (Japan)

13096-131 • 05:30 PM - 07:00 PM
**An upgraded 0.4-meter telescope fleet for Las Cumbres Observatory's educational and science programs**
*Author(s):* **Daniel R. Harbeck**, **Brook Taylor**, **Annie Kirby**, **Mark Bowman**, **Stephen Foale**, **Kal Kadlec**, **Curtis McCully**, **Matthew Daily**, **Jon De Vera**, **Dave Douglas**, **Mark Willis**, **Ian Baker**, **Nikolaus Volgenau**, **Patrick Conway**, **Brian Haworth**, **Jesus Estrada**, **Edward Gomez**, **Sandy Seale**, **Alice Hopkinson**, **Fernando Rios**, **Prerana Kotapali**, **Lisa Storrie-Lombardi, Wayne Rosing,** Las Cumbres Observatory (United States)

13096-132 • 05:30 PM - 07:00 PM
**kSIRIUS: a simultaneous JHKs camera for the Kagoshima University 1m telescope using newly developed Japanese InGaAs array detectors**
*Author(s):* **Takahiro Nagayama,** Kagoshima Univ. (Japan); **Hidehiko Nakaya,** National Astronomical Observatory of Japan (Japan)

13096-133 • 05:30 PM - 07:00 PM
**WINTER commissioning and early performance: a new time-domain near-IR facility**
*Author(s):* **Danielle Frostig,** Massachusetts Institute of Technology (United States); **Kevin B. Burdge**, **Kishalay De,** California Institute of Technology (United States); **Gábor Furész,** Massachusetts Institute of Technology (United States); **Kari Haworth,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Jill Juneau,** Massachusetts Institute of Technology (United States); **Viraj R. Karambelkar**, **Mansi M. Kasliwal,** Caltech (United States); **Nathan P. Lourie**, **Andrew Malonis**, **Geoffrey Mo**, **Robert A. Simcoe**, **Cruz Soto,** Massachusetts Institute of Technology (United States); **Robert D. Stein,** Caltech (United States)

13096-134 • 05:30 PM - 07:00 PM
**The Argus Array prototype: Argus Pathfinder commissioning and performance results**
*Author(s):* **Alan Vasquez Soto**, **Hank Corbett**, **Nicholas Law**, **Lawrence Machia**, **Ramses Gonzalez**, **Jonathan Carney**, **Nathan Galliher**, **Shannon Fitton**, **William Marshall, Thomas Procter,** The Univ. of North Carolina at Chapel Hill (United States)

13096-135 • 05:30 PM - 07:00 PM
**Panoramic SETI: on-sky results and false alarm rates**
*Author(s):* **Jérôme Maire**, **Shelley Wright**, **Aaron Brown,** Univ. of California, San Diego (United States); **Jamie Holder,** Univ. of Delaware (United States); **Paul Horowitz,** Harvard Univ. (United States); **Rachel Kepler,** Univ. of California, San Diego (United States); **Nikolas Korzoun,** Univ. of Delaware (United States); **Tom Lafleur,** Lafleur Designs (United States); **Wei Liu,** Univ. of California, Berkeley (United States); **Sophie Nathanson,** Univ. of California, San Diego (United States); **Rick Raffanti,** Techne Instruments, Inc. (United States); **Nicolas Rault-Wang,** Univ. of California, Berkeley (United States); **Bretton Simpson,** Univ. of California, San Diego (United States); **Remington P. S. Stone,** Univ. of California Observatories (United States); **Dan Werthimer,** Univ. of California, Berkeley (United States); **David A. Williams,** Univ. of California, Santa Cruz (United States)

13096-136 • 05:30 PM - 07:00 PM
**Cryoscope Pathfinder: wide-field optical performance validation in the lab**
*Author(s):* **Nicholas Earley**, **Roger Smith**, **Jason R. Fucik**, **Lauren Fahey, Mitsuko Roberts,** Caltech (United States)

13096-137 • 05:30 PM - 07:00 PM
**Instrument performance of the Gamma-Ray Polarimeter Experiment (GRAPE) test flight**
*Author(s):* **Karla Oñate Melecio,** The Univ. of New Hampshire (United States); **Mark McConnell,** The Univ. of New Hampshire (United States), Southwest Research Institute (United States); **James Bundock,** The Univ. of New Hampshire (United States); **Camden Ertley,** Southwest Research Institute (United States); **Jason Legere**, **Emily Mello,** The Univ. of New Hampshire (United States); **Kevin Mello,** Southwest Research Institute (United States); **Dominic Puopolo**, **Jimmy Zaid, Merlin Kole,** The Univ. of New Hampshire (United States)

13096-139 • 05:30 PM - 07:00 PM
**Measuring and correcting atmospheric turbulence through Quantum-Inspired Imaging (QI2)**
*Author(s):* **Tara Crowe**, **Miguel Romer,** CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States); **Stephen S. Eikenberry,** CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States), Univ. of Central Florida (United States); **Rodrigo Amezcua-Correa**, **Daniel Cruz-Delgado**, **Stephanos Yerolatsitis**, **Miguel A. Bandres,** CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States); **Sergio G. Leon-Saval,** The Univ. of Sydney (Australia); **Kerri Donaldson-Hanna,** Univ. of Central Florida (United States); **Robert Conwell**, **Matthew Cooper**, **Caleb Dobias**, **Genevieve Markees,** CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States); **Christina Moraitis,** CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States), Univ. of Central Florida (United States); **Aiden Akers**, **Vincent Miller, Sarah Thibaut,** CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States)

13096-140 • 05:30 PM - 07:00 PM
**Integration and testing of a cryogenic receiver for the Exoplanet Climate Infrared Telescope**
*Author(s):* **Annalies Kleyheeg,** Brown Univ. (United States); **Lee Bernard,** Arizona State Univ. (United States); **Andrea Bocchieri,** Istituto Nazionale di Fisica Nucleare (Italy); **Nathaniel Butler,** Arizona State Univ. (United States); **Quentin Changeat,** Univ. College London (United Kingdom); **Azzurra D'Alessandro,** Sapienza Univ. di Roma (Italy); **Billy Edwards,** Univ. College London (United Kingdom); **John Gamaunt,** Arizona State Univ. (United States); **Qian Gong,** NASA Goddard Space Flight Ctr. (United States); **John Hartley,** StarSpec Technologies Inc. (Canada); **Kyle Helson,** NASA Goddard Space Flight Ctr. (United States); **Logan Jensen,** Arizona State Univ. (United States); **Dan Kelly,** NASA Goddard Space Flight Ctr. (United States); **Kanchita Klangboonkrong,** Brown Univ. (United States); **Ed Leong,** NASA Goddard Space Flight Ctr. (United States); **Nikole Lewis,** Cornell Univ. (United States); **Steven Li,** StarSpec Technologies Inc. (Canada); **Michael Line,** Arizona State Univ. (United States); **Steve Maher**, **Ryan McClelland**, **Laddawan Miko,** NASA Goddard Space Flight Ctr. (United States); **Lorenzo Mugnai,** Cardiff Univ. (United Kingdom); **Peter Nagler,** NASA Goddard Space Flight Ctr. (United States); **C. Barth Netterfield,** Univ. of Toronto (Canada); **Vivien Parmentier,** Univ. of Oxford (United Kingdom); **Enzo Pascale,** Sapienza Univ. di Roma (Italy); **Jennifer Patience,** Arizona State Univ. (United States); **Tim Rehm,** Brown Univ. (United States); **Javier Romualdez,** StarSpec Technologies Inc. (Canada); **Subhajit Sarkar,** Cardiff Univ. (United Kingdom); **Paul Scowen,** NASA Goddard Space Flight Ctr. (United States); **Greg Tucker,** Brown Univ. (United States); **Augustyn Waczynski,** NASA Goddard Space Flight Ctr. (United States); **Ingo Waldmann,** Univ. College London (United Kingdom)

13096-141 • 05:30 PM - 07:00 PM
**Automating the alert response of the NUTTelA-TAO telescope and multicolor optical observation of the early afterglow**
*Author(s):* **Zhanat Maksut,** Nazarbayev Univ. (Kazakhstan); **Bruce Grossan,** Space Sciences Lab., Univ. of California, Berkeley (United States)

13096-142 • 05:30 PM - 07:00 PM
**REMIR cryogenics, back to the future**
*Author(s):* **Fabrizio Vitali**, **Francesco D'Alessio,** INAF - Osservatorio Astronomico di Roma (Italy); **Matteo Accardo**, **Veronika Wimmer,** European Southern Observatory (Germany); **Emilio Molinari,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Gerd Jacob**, **Armin Silber,** European Southern Observatory (Germany); **Ivo Saviane,** European Southern Observatory (Chile); **Dino Fugazza,** INAF - Osservatorio Astronomico di Brera (Italy); **Alberto Riva,** INAF - Osservatorio Astrofisico di Torino (Italy); **Bianca Salmaso,** INAF - Osservatorio Astronomico di Brera (Italy)

13096-144 • 05:30 PM - 07:00 PM
**Optimized spectroscopy for rapid stellar flare follow-up**
*Author(s):* **Thomas Procter**, **Nathan Galliher**, **Nicholas Law**, **Hank Corbett**, **Jonathan Carney**, **Ramses Gonzalez,** The Univ. of North Carolina at Chapel Hill (United States); **Ward S. Howard,** Univ. of Colorado Boulder (United States); **Lawrence Machia**, **William Marshall, Alan Vasquez Soto,** The Univ. of North Carolina at Chapel Hill (United States)

13096-145 • 05:30 PM - 07:00 PM
**Unravelling the performance of the SHARK-NIR Four Quadrant Phase Mask in a controlled environment**
*Author(s):* **Paolo Cerpelloni,** INAF - Osservatorio Astronomico di Padova (Italy); **Elena Carolo,** INAF - Osservatorio Astronomico di Padova (Italy), Adaptive Optics National Lab. in Italy (ADONI) (Italy); **Gabriele Umbriaco,** Univ. degli Studi di Padova (Italy), INAF - Osservatorio Astronomico di Padova (Italy), Univ. degli Studi di Padova (Italy); **Davide Greggio**, **Luca Marafatto**, **Daniele Vassallo**, **Alessandro Ballone,** INAF - Osservatorio Astronomico di Padova (Italy), Adaptive Optics National Lab. in Italy (ADONI) (Italy); **Pierre Baudoz,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France), Univ. PSL (France), Ctr. National de la Recherche Scientifique (France); **Maria Bergomi**, **Simone Di Filippo**, **Marco Dima,** INAF - Osservatorio Astronomico di Padova (Italy), Adaptive Optics National Lab. in Italy (ADONI) (Italy); **Luigi Lessio,** INAF - Osservatorio Astronomico di Padova (Italy); **Jacopo Farinato,** INAF - Osservatorio Astronomico di Padova (Italy), Adaptive Optics National Lab. in Italy (ADONI) (Italy); **Gabriele Rodeghiero,** INAF Osservatorio Astronomico d'Abruzzo (Italy)

13096-146 • 05:30 PM - 07:00 PM
**Narrow-band filters for the optical multiband imagers MuSCAT3&4**
*Author(s):* **Akihiko Fukui,** The Univ. of Tokyo (Japan); **Kiyoe Kawauchi,** Ritsumeikan Univ. (Japan); **Norio Narita**, **Yuya Hayashi**, **Mayuko Mori**, **Yugo Kawai**, **Noriharu Watanabe,** The Univ. of Tokyo (Japan); **Daniel R. Harbeck**, **Lisa Storrie-Lombardi**, **Mark Willis**, **Ian D. Baker, Mark Elphick,** Las Cumbres Observatory (United States)

13096-147 • 05:30 PM - 07:00 PM
**Design of the electronics for the WFST camera**
*Author(s):* **Qi Feng**, **Hui Wang**, **Hong-fei Zhang**, **Jian Wang**, **Zhi-yue Wang**, **Zhe Geng**, **Jun Zhang**, **Feng Zeng,** Univ. of Science and Technology of China (China); **Ying-fan Guo,** Univ of Science and Technology of China (China)

13096-148 • 05:30 PM - 07:00 PM
**StarDICE: a photometric calibration experiment to anchor standard stars on the NIST flux scale at the milli-magnitude level**
*Author(s):* **Thierry Souverin**, **Jérémy Neveu**, **Marc Betoule**, **Sébastien Bongard**, **Laurent Le Guillou**, **Eduardo Sepulveda,** Lab. Physique Nucléaire et Hautes Énergies (France); **Kélian Sommer**, **Bertrand Plez,** Lab. Univers et Particules de Montpellier (France); **Claire Juramy,** Lab. Physique Nucléaire et Hautes Énergies (France); **Marc Moniez**, **Sylvie Dagoret-Campagne,** Lab. de Physique des 2 Infinis Irène Joliot-Curie (France); **Delphine Hardin,** Lab. Physique Nucléaire et Hautes Énergies (France); **Johann Cohen Tanugi,** Lab. Univers et Particules de Montpellier (France), Lab. de Physique de Clermont (France); **Fabrice Feinstein,** Ctr. de Physique des Particules de Marseille (France); **Nicolas Regnault,** Lab. Physique Nucléaire et Hautes Énergies (France); **Auguste Le Van Suu**, **Pierre-Éric Blanc,** Observatoire de Haute-Provence (France); **Éric Nuss,** Lab. Univers et Particules de Montpellier (France); **Marc Ferrari,** Observatoire de Haute-Provence (France); **François Hazenberg,** Lab. Physique Nucléaire et Hautes Énergies (France)

13096-149 • 05:30 PM - 07:00 PM
**Infrared photometry with InGaAs detectors: first light with SPECULOOS**
*Author(s):* **Peter P. Pedersen**, **Didier P. Queloz,** Univ. of Cambridge (United Kingdom), ETH Zurich (Switzerland); **Lionel Garcia,** Flatiron Institute (United States); **Yannick Schacke,** ETH Zurich (Switzerland); **Laetitia Delrez,** University of Liège (Belgium); **Brice-Olivier Demory,** Univ. Bern (Switzerland); **Elsa Ducrot,** CEA (France), Univ. Paris-Saclay (France); **Georgina Dransfield,** Univ. of Birmingham (United Kingdom); **Michael Gillon,** Liège Univ. (Belgium); **Matthew J. Hooton**, **Clàudia Janó-Muñoz,** Univ. of Cambridge (United Kingdom); **Emmanuël Jehin,** Liège Univ. (Belgium); **Daniel Sebastian,** Univ. of Birmingham (United Kingdom); **Mathilde Timmermans,** Liège Univ. (Belgium); **Samantha Thompson,** Univ. of Cambridge (United Kingdom); **Amaury H.M. J. Triaud,** Univ. of Birmingham (United Kingdom); **Julien de Wit,** Massachusetts Institute of Technology (United States); **Sebastián Zúñiga-Fernández,** Liège Univ. (Belgium)

13096-150 • 05:30 PM - 07:00 PM
**Upgrading the DESI Focal Plane after the first year of operations and lessons learned for future instruments**
*Author(s):* **Claire L. Poppett,** Lawrence Berkeley National Lab. (United States)

13096-151 • 05:30 PM - 07:00 PM
**Performance test for HIDES-F wavelength calibration using a laser frequency comb**
*Author(s):* **Masashi Omiya,** AstroBiology Ctr., NINS (Japan); **Hideyuki Izumiura,** National Astronomical Observatory of Japan (Japan); **Yutaro Hosoi,** Tokyo Institute of Technology (Japan); **Hajime Inaba**, **Sho Okubo,** National Institute of Advanced Industrial Science and Technology (Japan); **Bun'ei Sato,** Tokyo Institute of Technology (Japan); **Eiji Kambe**, **Yuki Moritani**, **Hiroki Harakawa,** National Astronomical Observatory of Japan (United States); **Takuya Takarada,** AstroBiology Ctr., NINS (Japan)

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**Status of the laser frequency comb for high precision calibration of ESPRESSO and HARPS**
*Author(s):* **Antonio Ramon Manescau Hernandez,** European Southern Observatory (Germany)

13096-153 • 05:30 PM - 07:00 PM
**A Shack-Hartmann wavefront sensor for the New Robotic Telescope**
*Author(s):* **Chloe Miossec**, **Helen Jermak**, **Iain Steele**, **Richard Ashley**, **Beth Garton, Stuart Bates,** Liverpool John Moores Univ. (United Kingdom)

13096-154 • 05:30 PM - 07:00 PM
**Blue notes of CHαS: an OIII/H-β channel for the Circumgalactic H-α Spectrograph + other instrument upgrades**
*Author(s):* **Meghna Sitaram**, **David Schiminovich**, **Ignacio Cevallos-Aleman,** Columbia Univ. (United States); **Nicole Melso,** The Univ. of Arizona (United States); **Bárbara Cruvinel Santiago,** Stanford Univ. (United States); **Brian Smiley**, **Skylar Bogdanowitsch,** Columbia Univ. (United States); **Nazende I. Kerkeser,** The Univ. of Arizona (United States); **Madison Li,** Barnard College (United States); **Gianni Popko, Mia Yiannias,** Columbia Univ. (United States)

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**Stacks, maps, and all that CHaS: refined image processing methods to map the nearby universe with the Circumgalactic H-alpha Spectrograph**
*Author(s):* **Ignacio Cevallos-Aleman**, **David Schiminovich**, **Meghna Sitaram,** Columbia Univ. (United States); **Nicole Melso,** The Univ. of Arizona (United States); **Barbara Cruvinel Santiago,** Stanford Univ. (United States); **Nazende I. Kerkeser,** The Univ. of Arizona (United States); **Gianni Popko, Mia Yiannias,** Columbia Univ. (United States)

13096-157 • 05:30 PM - 07:00 PM
**GAOES-RV: a high-dispersion echelle spectrograph for radial velocimetry with the 3.8 m Seimei Telescope**
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13096-158 • 05:30 PM - 07:00 PM
**Upgrade of the Veloce high resolution spectrograph at the Anglo-Australian Telescope**
*Author(s):* **Brian W. Taylor**, **David Brodrick**, **James Cameron**, **Mark Downing**, **Gaston Gausachs**, **Luke Gers**, **James Gilbert**, **Alexey Grigoriev**, **Dionne Haynes**, **Roger Haynes**, **Andrew Kruse**, **Warrick Schofield**, **Ian Price**, **Annino Vaccarella**, **Israel Vaughn,** The Australian National Univ. (Australia); **Chris Tinney,** The Univ. of New South Wales (Australia); **Lu Wang,** The Australian National Univ. (Australia)

13096-159 • 05:30 PM - 07:00 PM
**NIRPS near-infrared spectrograph: AITV phase at ESO3.6m/LaSilla**
*Author(s):* **Lison Malo**, **Frédérique Baron,** Univ. de Montréal (Canada); **Anne-Sophie Poulin-Girard,** Univ. Laval (Canada); **Philippe Vallée**, **Jonathan St-Antoine,** Univ. de Montréal (Canada); **Michaël Sordet,** Observatoire de Genève (Switzerland); **Vladimir Reshetov,** NRC-Herzberg Astronomy & Astrophysics (Canada); **René Doyon,** Univ. de Montréal (Canada); **François Bouchy,** Observatoire de Genève (Switzerland); **Simon Thibault,** Univ. Laval (Canada); **François Wildi,** Observatoire de Genève (Switzerland); **Denis Brousseau,** Univ. Laval (Canada); **Étienne Artigau,** Univ. de Montréal (Canada); **Ivan Wevers**, **Dan Kerley,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Ludovic Genolet,** Observatoire de Genève (Switzerland); **Neil J. Cook,** Univ. de Montréal (Canada); **Hugues Auger,** Univ. Laval (Canada); **Danuta Sosnowska,** Observatoire de Genève (Switzerland); **Gaspare Lo Curto,** European Southern Observatory (Chile); **Gérard Zins,** European Southern Observatory (Germany); **Emanuela Pompei,** European Southern Observatory (Chile); **Norbert Hubin,** European Southern Observatory (Germany)

13096-160 • 05:30 PM - 07:00 PM
**The Keck Cosmic Reionization Mapper project: adding red spectroscopy to the Keck Cosmic Web Imager Integral Field Spectrograph**

*Author(s):* **Rosalie C. McGurk,** W. M. Keck Observatory (United States); **Mateusz Matuszewski**, **James D. Neill**, **Chris Martin**, **Robert Bertz,** Caltech (United States); **Marc F. Kassis,** W. M. Keck Observatory (United States); **Constance Rockosi,** University of California Santa Cruz (United States)

13096-161 • 05:30 PM - 07:00 PM
**Investigating the polarimetric capabilities for the Giant Magellan Telescope**
*Author(s):* **Hill Tailor,** Wyant College of Optical Sciences (United States); **Ramya Anche**, **Grant Williams,** The Univ. of Arizona (United States), Steward Observatory (United States); **Daewook Kim,** Wyant College of Optical Sciences (United States)

## Tuesday 18 June 2024

### TUESDAY PLENARY

18 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/tuesday-plenary

13173-502 • 08:30 AM - 09:15 AM
**The present and future of Japan's space program** (Plenary Presentation)
*Author(s):* **Saku Tsuneta,** National Astronomical Observatory of Japan (Japan)

13173-503 • 09:15 AM - 10:00 AM
**NASA astrophysics: from today to the Habitable Worlds Observatory** (Plenary Presentation)
*Author(s):* **Mark Clampin,** NASA Goddard Space Flight Ctr. (United States); **John M. O'Meara,** W. M. Keck Observatory (United States)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 8: INSTRUMENTS FOR EXTREMELY LARGE TELESCOPES I

18 June 2024 • 10:20 AM - 12:00 PM | Room G401/402, North - 4F
*Session Chair(s):* **Friedrich Wöger**, National Solar Observatory (United States)

13096-31 • 10:20 AM - 10:50 AM
**The First-Light Instrument Suite at TMT: capabilities and status update** *(Invited Paper)*
*Author(s):* **Alastair Heptonstall**, **David Andersen**, **Hiroshi Terada**, **Kanaka Warad,** Thirty Meter Telescope (United States); **Michael P. Fitzgerald,** Univ. of California, Los Angeles (United States); **Quinn Konopacky,** Univ. of California, San Diego (United States); **James E. Larkin,** Univ. of California, Los Angeles (United States); **Dimitri Mawet,** Caltech (United States); **Eric Peng,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Charles Steidel,** Caltech (United States); **Shelley Wright,** Univ. of California, San Diego (United States)

13096-32 • 10:50 AM - 11:10 AM
**Next-generation diffraction-limited fiber-fed high-resolution infrared spectrographs for Keck and TMT: HISPEC and MODHIS status update**
*Author(s):* **Dimitri Mawet,** Caltech (United States); **Michael P. Fitzgerald,** Univ. of California, Los Angeles (United States); **Quinn Konopacky,** Univ. of California, San Diego (United States); **Nemanja Jovanovic**, **Ashley D. Baker**, **Jocelyn Ferrara**, **Rob Bertz,** Caltech (United States); **Marc F. Kassis,** W. M. Keck Observatory (United States); **Larry Lingvay,** Caltech (United States); **Hiroshi Terada,** Thirty Meter Telescope (United States)

13096-33 • 11:10 AM - 11:40 AM
**Science instruments for the Giant Magellan Telescope** *(Invited Paper)*
*Author(s):* **Rafael Millan-Gabet**, **Gustavo Rahmer**, **Rebecca Bernstein**, **Aline Souza**, **William Schoenell**, **Richard Demers,** GMTO Corp. (United States); **Andrew Szentgyorgyi**, **Daniel Fabricant,** Smithsonian Astrophysical Observatory (United States); **Rafael Ribeiro,** Instituto Steiner (Brazil); **Robert Sharp,** The Australian National Univ. (Australia); **Daniel T. Jaffe,** The Univ. of Texas at Austin (United States); **Sungho Lee,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Jon Lawrence,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Jeffrey D. Crane,** Carnegie Observatories (United States); **Jared R. Males,** The Univ. of Arizona (United States); **Bijan Nemati,** Tellus1 Scientific, LLC (United States)

13096-34 • 11:40 AM - 12:00 PM
**High-contrast imaging at first-light of the GMT: the preliminary design of GMagAO-X**
*Author(s):* **Jared R. Males**, **Laird M. Close**, **Sebastiaan Y. Haffert**, **Maggie Kautz**, **Victor Gasho**, **Olivier Guyon**, **Adam Fletcher**, **Douglas Kelly**, **Oliver Durney**, **John Ford**, **Thomas Salanski**, **Jamison Noenickx**, **Logan Pearce,** Steward Observatory (United States); **Alycia Weinberger,** Carnegie Institution for Science (United States); **Brendan Bowler**, **Adam Kraus,** The Univ. of Texas at Austin (United States); **Natasha Batalha,** NASA Ames Research Ctr. (United States)

## Lunch/Exhibition Break 12:00 PM - 01:20 PM

## SESSION 9: INSTRUMENTS FOR EXTREMELY LARGE TELESCOPES II

18 June 2024 • 01:20 PM - 03:40 PM | Room G401/402, North - 4F
*Session Chair(s):* **Ruben Sanchez-Janssen**, UK Astronomy Technology Ctr. (United Kingdom)

13096-35 • 01:20 PM - 01:40 PM
**Innovations in the design and construction of the GMT-Consortium Large Earth Finder (G-CLEF), a first-light instrument for the Giant Magellan Telescope (GMT)**
*Author(s):* **Andrew Szentgyorgyi,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Sagi Ben-Ami,** Weizmann Institute of Science (Israel); **Jae Sok Oh**, **Chan Park,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Daniel Baldwin,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Jacob Bean,** The Univ. of Chicago (United States); **Alex Bichkovsky,** Weizmann Institute of Science (Israel); **Patricia Brennan**, **Daniel Catropa,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Chueh-Yi Chou,** Academia Sinica Institute of Astronomy and Astrophysics (Taiwan); **Moo-Young Chun,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Laird Close,** Steward Observatory (United States); **Jeffrey D. Crane,** Carnegie Observatories (United States); **Peter Doherty**, **Daniel Durusky**, **Jason Eastman,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Harland Epps,** Lick Observatory (United States); **Ian Evans,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Vitor N. Hartmann,** Univ. de São Paulo (Brazil); **Ofir Hershko,** Weizmann Institute of Science (Israel); **Bi-Ho Jang**, **Jeong-Gyun Jang**, **Ueejeong Jeong,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Andres Jordan,** Univ. Adolfo Ibáñez (Chile); **Colby Jurgenson**, **Jan Kansky,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Jihun Kim**, **Kang-Min Kim**, **Sanghyuk Kim**, **Yunjong Kim**, **Sungho Lee,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Matthew Leung,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Hung-Hsu Ling,** Academia Sinica Institute of Astronomy and Astrophysics (Taiwan); **Henrique Lupinari,** Univ. de São Paulo (Brazil); **Jared R. Males,** Steward Observatory (United States); **Kenneth McCracken,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Claudia Mendes de Oliveira,** Univ. de São Paulo (Brazil); **Rafael Millan-Gabet,** GMTO Corp. (United States); **Mark Mueller,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Heeyoung Oh,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Cem Onyuksel,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Byeong-Gon Park**, **Sung-Joon Park**, **Woojin Park,** Korea Astronomy and Space Science Institute (Korea, Republic of); **William Podgorski,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Andreas Seifahrt,** The Univ. of Chicago (United States); **Matthew Smith,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Yahel Sofer Rimalt,** Weizmann Institute of Science (Israel); **Shiang-Yu Wang,** Academia Sinica Institute of Astronomy and Astrophysics (Taiwan); **Abigail Unger,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Alan Uomoto,** Carnegie Observatories (United States); **Young-Sam Yu,** Korea Astronomy and Space Science Institute (Korea, Republic of)

13096-36 • 01:40 PM - 02:00 PM

**Enhancing astronomical exploration with the GMT/MANIFEST**

*Author(s):* **Tayyaba Zafar**, **Umme Tania Ahmed**, **Michael Goodwin,** Macquarie Univ. (Australia); **Alexandar Ji,** The Univ. of Chicago (United States); **Scott Croom,** The Univ. of Sydney (Australia); **Sarah Martell,** The Univ. of New South Wales (Australia); **Steven Finkelstein,** The Univ. of Texas at Austin (United States); **Anilkumar Mailvaganam**, **Tamal Mukherjee**, **Jon Lawrence**, **Jessica Zheng,** Macquarie Univ. (Australia); **Vitor N. Hartmann**, **Thais Silva,** Instituto Steiner (Brazil); **Sree Oh,** Yonsei Univ. (Korea, Republic of); **Jose Luis Carrillo-Martinez,** Macquarie Univ. (Australia); **Matthew Colless,** Research School of Astronomy and Astrophysics, Australian National University (Australia); **Andrew M Hopkins,** Macquarie Univ. (Australia); **Magda Arnaboldi,** European Southern Observatory, Karl-Schwarzschild-Strasse 2, 85748 (Germany); **Celine Peroux,** European Southern Observatory (Germany); **Warren R. Brown,** Center for Astrophysics, Harvard & Smithsonian, (United States); **Carlie Conroy,** Center for Astrophysics (United States)

13096-37 • 02:00 PM - 02:20 PM

**The MICADO first light imager for the ELT: overview and current status**

*Author(s):* **Eckhard Sturm**, **Richard Davies,** Max-Planck-Institut für extraterrestrische Physik (Germany); **João Alves,** Univ. Wien (Austria); **Yann Clénet,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France), Observatoire de Paris (France); **Florian Kerber,** European Southern Observatory (Germany); **Jari Kotilainen,** Univ. of Turku (Finland); **Anna Monna,** Univ.-Sternwarte München (Germany); **Harald Nicklas,** Institut für Astrophysik und Geophysik, Georg-August-Univ. Göttingen (Germany); **Jörg-Uwe Pott,** Max-Planck-Institut für Astronomie (Germany); **Sebastian Rabien,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Eline Tolstoy,** Kapteyn Astronomical Institute, Univ. of Groningen (Netherlands); **Benedetta Vulcani,** INAF - Osservatorio Astronomico di Padova (Italy)

13096-38 • 02:20 PM - 02:40 PM

**Final design and status of the Mid-Infrared ELT Imager and Spectrograph, METIS**

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13096-39 • 02:40 PM - 03:00 PM

**ANDES, the high resolution spectrograph for the ELT: science goals, project overview and future developments**

*Author(s):* **Alessandro Marconi,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

13096-40 • 03:00 PM - 03:20 PM

**HARMONI at ELT: project status and instrument overview**

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13096-41 • 03:20 PM - 03:40 PM

**MOSAIC at the ELT: a unique instrument for the largest ground-based telescope**

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## Coffee Break 03:40 PM - 04:10 PM

## SESSION 10: SOLAR INSTRUMENTS

18 June 2024 • 04:10 PM - 05:20 PM | Room G401/402, North - 4F
*Session Chair(s):* **Marc F. Kassis**, W. M. Keck Observatory (United States)

13096-42 • 04:10 PM - 04:40 PM
**DKIST instrumentation system commissioning** *(Invited Paper)*
*Author(s):* **Friedrich Wöger**, **Thomas Rimmele**, **Alexandra Tritschler**, **David Harrington,** National Solar Observatory (United States); **Roberto Casini**, **Alfred de Wijn,** National Ctr. for Atmospheric Research (United States); **Haosheng Lin,** Institute for Astronomy, Univ. of Hawai'i (United States); **Sarah Jaeggli**, **Tetsu Anan**, **André Fehlmann**, **Thomas Schad,** National Solar Observatory (United States); **Matthias Schubert,** Leibniz-Institut für Sonnenphysik (KIS) (Germany)

13096-43 • 04:40 PM - 05:00 PM
**Building large Fabry-Pérot etalons for the Visible Tunable Filter**
*Author(s):* **Clemens Halbgewachs**, **Thomas J. Kentischer**, **Jörg Baumgartner**, **Andreas Fischer**, **Matthias Schubert,** Leibniz-Institut für Sonnenphysik (KIS) (Germany); **Michael Sigwarth,** Thüringer Landessternwarte Tautenburg (Germany)

13096-44 • 05:00 PM - 05:20 PM
**ngGONG: future ground-based facilities for research in heliophysics and space weather operational forecast**
*Author(s):* **Alexei Pevtsov**, **Valentin M. Pillet**, **Mark Warner**, **Sanjay Gosain, Luca Bertello,** National Solar Observatory (United States)

## SESSION PS2: POSTERS - INSTRUMENTATION FOR EXTREMELY LARGE TELESCOPES

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13096-162 • 05:30 PM - 07:00 PM
**ANDES, the high resolution spectrograph for the ELT: UBV Spectrograph preliminary design**
*Author(s):* **Michael Weber**, **Manfred Woche**, **Daniel Sablowski**, **Klaus G. Strassmeier**, **Katja Poppenhaeger**, **Julian D. Alvarado-Gomez**, **Svend-Marian Bauer**, **Olga Bellido-Tirado**, **Joar G. Brynnel**, **Frank Dionies**, **Christine Füßlein**, **Domenico Giannone**, **Arto Järvinen**, **Silva Järvinen**, **Jonathan Kern**, **Hakan Önel,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Christian Schwab,** Leibniz-Institut für Astrophysik Potsdam (Germany), Macquarie Univ. (Australia); **Jörg Weingrill,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Markus Roth**, **Michael Sigwarth,** Thueringer Landessternwarte Tautenburg (Germany); **Bruno Chazelas**, **Audrey Lanotte**, **Pablo Santos Diaz,** Univ. de Genève (Switzerland); **Ludovic Genolet**, **Michaël Sordet**, **Ian Hughes**, **Christophe Lovis,** Observatoire de Genève (Switzerland); **Manuel Amate Plasencia**, **José Peñate Castro**, **Afrodisio Vega-Moreno**, **Roberto M. Luís Simoes**, **Jonay I. González-Hernández,** Instituto de Astrofísica de Canarias (Spain); **María R. Zapatero Osorio,** Centro de Astrobiología, Consejo Superior de Investigaciones Científicas (Spain); **Pedro J. Amado**, **Rocío Calvo-Ortega**, **Roberto Varas González,** Instituto de Astrofísica de Andalucía (Spain); **Wolfgang Gaessler**, **Michael Lehmitz,** Max-Planck-Institut für Astronomie (Germany); **Adrian Kaminski**, **Ingo Stilz,** Zentrum für Astronomie der Univ. Heidelberg (Germany); **Alessio Zanutta,** INAF - Osservatorio Astronomico di Brera (Italy); **Paolo Di Marcantonio,** INAF - Osservatorio Astronomico di Trieste (Italy); **Alessandro Marconi,** INAF - Osservatorio Astrofisico di Arcetri (Italy), Department of Physics and Astronomy, University of Florence (Italy); **Marcello Scalera**, **Matteo Aliverti**, **Lorenzo Cabona**, **Giorgio Pariani,** INAF - Osservatorio Astronomico di Brera (Italy); **Ernesto Olivia,** Department of Physics and Astronomy, University of Florence (Italy); **Igor Coretti,** INAF - Osservatorio Astronomico di Trieste (Italy); **Edoardo M.A. Redaelli,** INAF - Osservatorio Astronomico di Brera (Italy)

13096-163 • 05:30 PM - 07:00 PM
**ANDES, the high-resolution spectrograph for the ELT: a novel high performances light distribution system for calibration units**
*Author(s):* **Mirsad Sarajlic**, **Christopher Broeg,** Univ. Bern (Switzerland); **Philipp Huke,** Institute for Laser and Optics, Hochschule Emden-Leer (Germany); **Omar Gabella,** Lab. Univers et Particules de Montpellier, Univ. de Montpellier (France); **Léa Bonhomme**, **Driss Kouach,** Observatoire Midi-Pyrénées, CNRS, Univ. Paul Sabatier (France); **Claude LeMen,** Institut de Recherche en Astrophysique et Planétologie, CNRS, Univ. Paul Sabatier (France); **Jennifer Zimara,** Institut für Astrophysik, Georg-August-Univ. Göttingen (Germany); **Wolfgang Gaessler**, **Michael Lehmitz,** Max-Planck-Institut für Astronomie (Germany); **Christoph Mordasini,** Univ. Bern (Switzerland); **Alessio Zanutta,** INAF - Osservatorio Astronomico di Brera (Italy); **Paolo Di Marcantonio,** INAF - Osservatorio Astronomico di Trieste (Italy); **Alessandro Marconi,** Department of Physics and Astronomy, University of Florence (Italy), INAF - Osservatorio Astrofisico di Arcetri (Italy)

13096-164 • 05:30 PM - 07:00 PM
**ANDES, the high resolution spectrograph for the ELT: the front-end and its seeing limited arms**
*Author(s):* **Alexandre Cabral**, **Bachar Whebe**, **Manuel Abreu,** Univ. de Lisboa (Portugal); **Matteo Aliverti,** INAF - Osservatorio Astronomico di Brera (Italy); **Manuel Monteiro**, **João Coelho,** Instituto de Astrofísica e Ciências do Espaço (Portugal); **Alessio Zanutta**, **Edoardo Redaelli,** INAF - Osservatorio Astronomico di Brera (Italy); **Ernesto Oliva,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Paolo Di Marcantonio,** Osservatorio Astrosico di Trieste (Italy); **Nuno Santos,** Instituto de Astrofísica e Ciências do Espaço, Univ. do Porto (Portugal); **Alessandro Marconi,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

13096-165 • 05:30 PM - 07:00 PM

**ANDES, the high resolution spectrograph for the ELT: system architecture design of Phase-B-one**

*Author(s):* **Alessio Zanutta,** INAF - Osservatorio Astronomico di Brera (Italy); **Abreu Manuel,** Instituto de Astrofísica e Ciências do Espaço, Universidade de Lisboa (Portugal), Departamento de Física, Faculdade de Ciências, Universidade de Lisboa (Portugal); **Matteo Aliverti,** INAF - Osservatorio Astronomico di Brera (Italy); **Andrea Balestra,** INAF - Osservatorio Astronomico di Padova (Italy); **Olga Bellido-Tirado,** Leibniz Institute for Astrophysics Potsdam (Germany); **Anna Brucalassi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Lorenzo Cabona,** INAF - Osservatorio Astronomico di Brera (Italy); **Alexandre Cabral,** Instituto de Astrofísica e Ciências do Espaço, Universidade de Lisboa (Portugal), Departamento de Física, Faculdade de Ciências, Universidade de Lisboa (Portugal); **Bruno Chazelas,** Observatoire Astronomique de l'Université de Genève (Switzerland); **Igor Coretti**, **Paolo Di Marcantonio,** INAF - Osservatorio Astronomico di Trieste (Italy); **Monica Ebert**, **Wolfgang Gaessler,** Max-Planck-Institut für Astronomie (Germany); **Xiao Gao,** UK Astronomy Technology Centre (United Kingdom); **Vincent Geers,** UK Astronomy Technology Centre, Royal Observatory (United Kingdom); **Enrico Giro,** INAF - Osservatorio Astronomico di Trieste (Italy); **Oscar Gonzalez,** UK Astronomy Technology Centre (United Kingdom); **Philipp Huke,** Institute for Laser and Optics (Germany), Institut für Astrophysik und Geophysik, Georg-August-Universität (Germany); **Marco Landoni,** INAF - Osservatorio Astronomico di Brera (Italy); **Werner Laun,** Max-Planck-Institut für Astronomie (Germany); **David Lee,** UK Astronomy Technology Centre (United Kingdom); **Michael Lehmitz,** Max-Planck-Institut für Astronomie (Germany); **David Lunney**, **Mike MacIntosh,** UK Astronomy Technology Centre (United Kingdom); **Alessandro Marconi,** INAF - Osservatorio Astrofisico di Arcetri (Italy), Department of Physics and Astronomy, University of Florence (Italy); **Manuel Monteiro,** Instituto de Astrofísica e Ciências do Espaço, Universidade do Porto (Portugal); **David Montgomery,** UK Astronomy Technology Centre (United Kingdom); **Ernesto Oliva,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Livia Origlia,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio di Bologna (Italy); **Giorgio Pariani,** INAF - Osservatorio Astronomico di Brera (Italy); **Enrico Pinna,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Edoardo Redaelli**, **Marco Riva,** INAF - Osservatorio Astronomico di Brera (Italy); **Ralf-Rainer Rohloff,** Max-Planck-Institut für Astronomie (Germany); **Pablo Diaz,** Observatoire Astronomique de l'Université de Genève (Switzerland); **Marcello Scalera,** INAF - Osservatorio Astronomico di Brera (Italy); **Walter Seifert,** Landessternwarte, Zentrum für Astronomie der Universität Heidelberg (Germany); **Chiara Selmi**, **Andrea Tozzi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Chris Waring,** UK Astronomy Technology Centre (United Kingdom); **Michael Weber,** Leibniz Institute for Astrophysics Potsdam (Germany); **Bachar Wehbe,** Instituto de Astrofísica e Ciências do Espaço (Portugal), Departamento de Física (Portugal); **Jörg Weingrill,** Leibniz Institute for Astrophysics Potsdam (Germany); **Marco Xompero,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Wenli Xu,** Optical System Engineering (Germany)

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**ANDES, the high resolution spectrograph for the ELT: extending to the K-band**

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**ANDES, the high resolution spectrograph for the ELT: RIZ spectrograph preliminary optical design**

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**ANDES, the high resolution spectrograph for the ELT: the exposure time calculator**

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**ANDES, the high resolution spectrograph for the ELT: opto-mechanical design of the cameras for the YJH spectrograph**

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**ANDES, the high resolution spectrograph for the ELT: evolution of the fiber-link subsystem after the system architecture review**
*Author(s):* **Anna Brucalassi**, **Andrea Tozzi**, **Ernesto Oliva**, **José A. Araiza-Durán,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Davide Savio,** Univ. degli Studi di Firenze (Italy); **Debora Ferruzzi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Paolo Di Marcantonio,** INAF - Osservatorio Astronomico di Trieste (Italy); **Alessandro Marconi,** Univ. degli Studi di Firenze (Italy); **Graham Murray,** Durham University, Physics dept. CfAI (United Kingdom), Northern Light Optical Ltd. Salvus Hause (United Kingdom); **Nikolai Piskunov**, **Eric Stempels,** Observational Astrophysics, Department of Physics and Astronomy, Uppsala University (Sweden); **Alessio Zanutta,** INAF - Osservatorio Astronomico di Brera (Italy)

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**ANDES, the high resolution spectrograph for the ELT: RIZ Spectrograph preliminary design**
*Author(s):* **Bruno Chazelas**, **Audrey Lanotte**, **Pablo Santos Diaz**, **Ludovic Genolet**, **Michaël Sordet**, **Ian Hughes**, **Christophe Lovis,** Univ. de Genève (Switzerland); **Manuel Amate Plasencia**, **Jose Peñate Castro**, **Afrodisio Vega-Moreno**, **Fabio Tenegi**, **Jonay Isai Gonzales,** Instituto de Astrofísica de Canarias (Spain); **Maria-Rosa Zapatero Osorio**, **Javier Piqueras,** Centro de Astrobiología (Spain); **Tomás Belenguer Dávila**, **Luis Miguel González Fernández,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Rocío Calvo-Ortega**, **Roberto Varas González**, **Pedro J. Amado,** Instituto de Astrofísica de Andalucía (Spain); **Jonathan Kern**, **Frank Dionies**, **Svend-Marian Bauer**, **Hakan Önel**, **Arto Järvinen**, **Joar G. Brynnel**, **Christine Füßlein**, **Olga Bellido-Tirado**, **Jörg Weingrill**, **Domenico Giannone,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Wolfgang Gaessler**, **Michael Lehmitz,** Max-Planck-Institut für Astronomie (Germany); **Adrian Kaminski, Ingo Stilz,** Landessternwarte Heidelberg (Germany)

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**ANDES, the high resolution spectrograph for the ELT: RIZ & UBV spectrographs' preliminary design, analysis, and integration of the Vacuum Vessel and Thermal Enclosure**
*Author(s):* **Pablo Santos Diaz**, **Ludovic Genolet**, **Ian Hughes**, **Bruno Chazelas**, **Audrey Lanotte**, **Christophe Lovis,** Univ. de Genève (Switzerland); **Jonathan Kern**, **Frank Dionies**, **Michael Weber**, **Christine Füßlein,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Afrodisio Vega**, **Jose Peñate Castro**, **Roberto Simoes**, **Fabio Tenegi,** Instituto de Astrofisica de Canarias (Spain); **Yevgeniy Ivanisenko,** Univ. de Genève (Switzerland); **Michael Sigwarth,** TLS - Thüringer Landessternwarte (Germany); **Rocio Calvo Ortega**, **Roberto Varas Gonzalez,** Instituto de Astrofisica de Andalucia (Spain); **Joar Brynnel, Jorg Weingrill,** Leibniz-Institut für Astrophysik Potsdam (Germany)

13096-173 • 05:30 PM - 07:00 PM
**ANDES, the high resolution spectrograph for the ELT: the integral field unit module**
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13096-174 • 05:30 PM - 07:00 PM
**Off-axis Hartmann wavefront sensing for the GMT-Consortium Large Earth Finder (G-CLEF) red camera optics**
*Author(s):* **Matthew C. H. Leung**, **Colby A. Jurgenson**, **Andrew Szentgyorgyi**, **Brian McLeod**, **Cem Onyuksel**, **Joseph Zajac**, **David Charbonneau**, **William Podgorski**, **Abigail Unger**, **Mark Mueller**, **Matthew Smith**, **Daniel Baldwin, V. Ashley Villar,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13096-175 • 05:30 PM - 07:00 PM
**G@M: coupling the G-CLEF spectrograph to the Magellan telescope**
*Author(s):* **Yahel Sofer Rimalt**, **Sagi Ben-Ami,** Weizmann Institute of Science (Israel); **Andrew Szentgyorgyi,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Ofir Hershko**, **Alex Bichkovsky**, **Enrico Segre,** Weizmann Institute of Science (Israel); **Mark Mueller**, **Cem Onyuksel**, **Colby Jurgenson,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **William Podgorski,** Smithsonian Astrophysical Observatory (United States); **Laird Close,** Steward Observatory, University of Arizona (United States)

13096-176 • 05:30 PM - 07:00 PM
**Design and fabrication of composite structures in the GMT-consortium large earth finder (G-CLEF)**
*Author(s):* **Mark A. Mueller**, **Andrew Szentgyorgyi,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Sagi Ben-Ami,** Weizmann Institute of Science (Israel); **Daniel Baldwin**, **Patricia Brennan**, **Daniel Catropa**, **Michael Eisenhower**, **Colby Jurgenson**, **Kenneth McCracken**, **William Podgorski, Matthew Smith,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13096-177 • 05:30 PM - 07:00 PM
**Assembly, integration, and verification of the GMT-Consortium Large Earth Finder (G-CLEF) red channel camera optics**
*Author(s):* **Colby A. Jurgenson**, **Andrew Szentgyorgyi**, **Matt Smith**, **Cem Onyuksel**, **Matthew Leung**, **Abigail Unger**, **Joseph Zajak**, **William Podgorski**, **Mark Mueller,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Sagi Ben-Ami,** Weizmann Institute of Science (Israel)

13096-178 • 05:30 PM - 07:00 PM
**Design, assembly, and test of G-CLEF's Exposure Meter II: optical design and prototype test**
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**A capacitive displacement sensor based resolver for the cryogenic rotary mechanisms of the GMTIFS**
*Author(s):* **David E. Chandler**, **Robert Sharp**, **John Hart**, **Nicholas Herrald**, **Ian Price**, **Warrick Schofield, Phillippa Cox,** The Australian National Univ. (Australia)

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**GMTIFS internal flexure budget and cold stop stability**
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**GMTNIRS: preliminary optical design for the calibration system of a near-infrared spectrograph**
*Author(s):* **Woojin Park**, **Heeyoung Oh**, **Ueejeong Jeong**, **Jeong-Gyun Jang**, **Bi-Ho Jang**, **Sungho Lee,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Hanshin Lee,** The Univ. of Texas at Austin (United States); **Sanghyuk Kim**, **Chan Park**, **Moo-Young Chun,** Korea Astronomy and Space Science Institute (Korea, Republic of); **John M. Good**, **Gregory N. Mace**, **Cynthia B. Brooks,** The Univ. of Texas at Austin (United States); **Alycia J. Weinberger,** Carnegie Institution for Science (United States); **Daniel T. Jaffe,** The Univ. of Texas at Austin (United States)

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**HARMONI at ELT: prototyping and testing the alignment procedure of the spectrograph three-mirror-anastigmat collimator**
*Author(s):* **Matthias Tecza**, **Edgar Castillo-Domínguez**, **James Kariuki**, **Alec York**, **Zeynep Ozer**, **Eduard Muslimov**, **Ian Lewis**, **Niranjan Thatte**, **Fraser Clarke,** Univ. of Oxford (United Kingdom); **John Capone,** NASA Goddard Space Flight Ctr. (United States)

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**HARMONI at ELT: calibration module functional and design description**
*Author(s):* **Heribert Argelaguet Vilaseca**, **Javier Piqueras Lopez**, **Alberto Estrada Piqueras**, **Alonso Alvarez Ureña**, **Irene Ferro**, **Gonzalo José Carracedo Carballal**, **Santiago Arribas Mocoroa**, **Miguel Pereira Santaella,** Centro de Astrobiología (Spain), INTA Instituto Nacional de Técnica Aeroespacial (Spain), Consejo Superior de Investigaciones Científicas (Spain); **Ma Manuela Fernandez Rodriguez,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Noah Schwartz,** Science and Technology Facilities Council (United Kingdom), UK Research and Innovation (United Kingdom)

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**HARMONI at ELT: tolerance analysis and expected as-build imaging performance of the infrared spectrograph**
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**HARMONI at ELT: electronic cabinets design**
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**HARMONI at ELT: predicted science performance in reference science cases**
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**HARMONI at ELT: HIPOTEC electronics and control system**
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**Web platform for calculations of SNR and exposure time with Specsim for TMT-MODHIS and Keck-HISPEC**
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**The InfraRed Imaging Spectrograph (IRIS) for TMT: new Imager optical design with H4RG-15 detectors**
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**METIS high-contrast imaging: from final design to manufacturing and testing**
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**The METIS Imager: final opto-mechanics design and manufacturing**
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**The design and performance of the wheel systems in the common fore optics of the ELT/METIS**
*Author(s):* **Shiang-Yu Wang**, **Chueh-Yi Chou**, **Masahiko Kimura**, **Hsin-Yo Chen**, **Pin-Jie Huang**, **Yin-Chang Chang,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Niels Tromp**, **Daan Zaalberg**, **Ivan Lloro**, **Dennis Dolkens**, **Mirka Maresca**, **Jeff Lynn,** ASTRON (Netherlands); **Jean-Christophe Barrière**, **Olivier Corpace,** CEA-Paris-Saclay (France); **Olivier Absil**, **Gilles Orban de Xivry,** Liège Univ. (Belgium); **Gert Raskin, Muhammad Salman,** Institute of Astronomy, KU Leuven (Belgium)

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**Progress of the Warm Calibration Unit (WCU) subsystem of METIS towards the full subsystem integration: an overview of the post-FDR status**
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**Final optical design of relay optics and alignment optics of the Warm Calibration Unit in METIS/ELT: analysis, performances, and the procurement of the optics**
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**AIT Support Equipment design for METIS**
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**Challenges to the manufacturing of the warm support structure for the METIS instrument at the ESO/ELT telescope**
*Author(s):* **António Amorim,** Univ. de Lisboa (Portugal); **Mercedes Filho**, **Paulo Garcia,** Univ. do Porto (Portugal); **Frederico Carvalho,** FCiências.ID (Portugal); **Dirk Lesman,** Leiden Univ. (Netherlands)

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**METIS: the imager: from design to verification**
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**Counting down towards system level AIT for METIS**
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**A look into alternative mechanical designs for the MORFEO-MICADO thermal duct mechanical: developments and alternatives**
*Author(s):* **Domenico D'Auria,** INAF (Italy), Univ. degli Studi di Napoli Federico II (Italy); **Vincenzo Cianniello**, **Vincenzo De Caprio**, **Christian Eredia**, **Enrico Cascone**, **Marco Riva, Paolo Ciliegi,** INAF (Italy)

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**The MICADO first light imager for the ELT: proof of concept and performance testing of the relay optics alignment procedure**
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**The MICADO first light imager for the ELT: Sparse Aperture Masks, design and simulations**
*Author(s):* **Elsa Huby**, **Pierre Baudoz**, **Sylvestre Lacour**, **Manon Le Teuff**, **Yann Clénet,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Richard Davies,** Max-Planck-Institut für extraterrestrische Physik (Germany)

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**The MICADO first light imager for the ELT: starting manufacturing of the relay optics**
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**The MICADO first light imager for the ELT: through the MAIT phase of the cryogenic main selection mechanism**
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**The MICADO first light imager for the ELT: USM Big Test Cryostat: design, performances and test activities**
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**The MICADO first light imager for the ELT: ongoing realization of the MICADO calibration assembly**
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**SHARP: a near-IR multi-mode spectrograph conceived for MORFEO@ELT**
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**MORFEO @ ELT: testing of the kinematics connection for the optomechanical elements**
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**MORFEO LGSO optical design**
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**Main structure general overview: mechanical design update from PDR towards the final design phase**
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13096-212 • 05:30 PM - 07:00 PM
**General overview of MORFEO instrument control hardware during the final design phase**
*Author(s):* **Enrico Cascone**, **Christian Eredia**, **Vincenzo Cianniello**, **Domenico D'Auria**, **Vincenzo De Caprio**, **Andrea Di Dato,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Matteo Aliverti,** INAF – OAB, Italy (Italy); **Marco Bonaglia,** INAF-OAA, Italy (Italy); **Simonetta Chinellato,** INAF-OAPd, ITALY (Italy); **Ivan Di Antonio**, **Gianluca De Rico,** INAF-OAAb (Italy); **Jacopo Farinato,** INAF-OAPd (Italy); **Italo Foppiani,** INAF-OAS (Italy); **Tommaso Lapucci,** INAF-OAA (Italy); **Luca Marafatto,** INAF-OAPd (Italy); **Edoardo Radaelli**, **Marco Riva,** INAF – OAB (Italy); **Marco Xompero,** INAF-OAA (Italy); **Andrea Di Rocco**, **Ludovico Teodori, Paolo Ciliegi,** INAF-OAS (Italy)

13096-213 • 05:30 PM - 07:00 PM
**MORFEO@ELT: Thermal Control System design and prototyping toward FDR**
*Author(s):* **Matteo Aliverti,** INAF - Osservatorio Astronomico di Brera (Italy); **Mirko Colapietro,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Giorgio Pariani,** INAF - Osservatorio Astronomico di Brera (Italy); **Demetrio Magrin,** INAF - Osservatorio Astronomico di Padova (Italy); **Edoardo Maria Alberto Redaelli**, **Simone Doniselli,** INAF - Osservatorio Astronomico di Brera (Italy); **Bernardo Salasnich,** INAF - Osservatorio Astronomico di Padova (Italy); **Marco Riva,** INAF - Osservatorio Astronomico di Brera (Italy); **Paolo Ciliegi**, **Ugo Di Giammatteo**, **Andrea Di Rocco, Ludovico Teodori,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13096-214 • 05:30 PM - 07:00 PM
**Positioner using optical relay for the MOSAIC Instrument**
*Author(s):* **Markus Thurneysen,** Haute Ecole Spécialisée de Suisse Occidentale (Switzerland), Haute école du paysage, d'ingénierie et d'architecture de Genève (Switzerland); **Jean-Paul Kneib**, **Michaela Hirschmann,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Ricardo Araujo,** Haute Ecole Spécialisée de Suisse Occidentale (Switzerland), Haute école du paysage, d'ingénierie et d'architecture de Genève (Switzerland); **Jürgen Schmoll,** Durham Univ. (United Kingdom); **Maxime Rombach, Malak Galal,** Ecole Polytechnique Fédérale de Lausanne (Switzerland)

13096-215 • 05:30 PM - 07:00 PM
**MOSAIC@ELT: the optical design of the NIR spectrograph**
*Author(s):* **Johan D. Floriot,** Aix-Marseille Univ. (France), Ctr. National d'Études Spatiales (France), Lab. d'Astrophysique de Marseille, CNRS (France); **Ana Perez,** Univ. Complutense de Madrid (Spain); **Eric Prieto**, **Zalpha Challita,** Aix-Marseille Univ. (France), Ctr. National d'Études Spatiales (France), Lab. d'Astrophysique de Marseille, CNRS (France); **Marisa L. Garcia-Vargas,** Univ. Complutense de Madrid (Spain); **Laurent Martin**, **Tony Pamplona**, **Kacem El Hadi,** Aix-Marseille Univ. (France), Ctr. National d'Études Spatiales (France), Lab. d'Astrophysique de Marseille, CNRS (France); **Jesus Gallego Maestro,** Univ. Complutense de Madrid (Spain); **Mathieu Puech,** Galaxies Etoiles Physique Instrumentation (France), Observatoire de Paris (France), Univ. PSL, CNRS (France); **Roser Pello,** Aix-Marseille Univ. (France), Ctr. National d'Études Spatiales (France), Lab. d'Astrophysique de Marseille, CNRS (France); **Franck Ducret,** Aix-Marseille Univ. (France), Ctr. National d'Études Spatiales (France), Lab. d'Astrophysique de Marseille, CNRS (France); **Gerardo Veredas,** Univ. Complutense de Madrid (Spain)

13096-216 • 05:30 PM - 07:00 PM
**MOSAIC on the ELT: towards final design and AIT development of an athermal camera prototype for the NIR-spectrograph**
*Author(s):* **Tony Pamplona**, **Zalpha Challita**, **Johan Floriot**, **Laurent Martin**, **Franck Ducret**, **Kacem El Hadi,** Lab. d'Astrophysique de Marseille (France); **Gerardo Veredas**, **Ana Perez,** Univ. Complutense de Madrid (Spain); **Marisa L. García-Vargas,** Univ. Complutense de Madrid (Spain), FRACTAL S.L.N.E. (Spain); **Éric Prieto,** Lab. d'Astrophysique de Marseille (France); **Jesús Gallego Maestro,** Univ. Complutense de Madrid (Spain); **Mathieu Puech,** Observatoire de Paris à Meudon (France), Galaxies Etoiles Physique Instrumentation (France); **Roser Pello,** Lab. d'Astrophysique de Marseille (France)

13096-218 • 05:30 PM - 07:00 PM
**MOSAIC at the ELT: front-end and instrument AITV planification**
*Author(s):* **Kacem El Hadi,** Lab. d'Astrophysique de Marseille (France); **Diane Chapuis,** 4EPFL – LASTRO – Astrobot (Switzerland); **Laurent Martin**, **Johan Floriot**, **Fabrice Madec**, **Zalpha Challita,** Lab. d'Astrophysique de Marseille (France); **Myriam Rodrigues,** Galaxies Etoiles Physique Instrumentation, Observatoire de Paris (France), Univ. PSL (France); **Marie Larrieu**, **Michel Dupieux,** Institut de Recherche en Astrophysique et Planétologie (France); **Franck Ducret**, **Éric Prieto,** Lab. d'Astrophysique de Marseille (France); **Thierry Contini,** Institut de Recherche en Astrophysique et Planétologie (France); **Mathieu Puech,** Galaxies Etoiles Physique Instrumentation, Observatoire de Paris (France), Univ. PSL (France); **Roser Pello,** Lab. d'Astrophysique de Marseille (France)

13096-219 • 05:30 PM - 07:00 PM
**Atmosphyre: modelling atmospheric chromatic dispersion for multi-object spectrographs**
*Author(s):* **Jay Stephan, Ruben Sanchez-Janssen,** UK Astronomy Technology Ctr. (United Kingdom)

13096-220 • 05:30 PM - 07:00 PM
**IFU for wide field optical spectrograph (WFOS) on TMT**
*Author(s):* **Shinobu Ozaki,** National Astronomical Observatory of Japan (Japan); **Yoko Tanaka,** Subaru Telescope, NAOJ (United States); **Toshihiro Tsuzuki**, **Bungo Ikenoue,** National Astronomical Observatory of Japan (Japan); **Takashi Hattori,** Subaru Telescope, NAOJ (United States); **Tsuyoshi Ishigaki**, **Rin Sasaki,** Iwate Univ. (Japan); **Charles Steidel**, **Reston Nash**, **Jason R. Fucik,** Caltech (United States); **Eric Peng,** National Optical-Infrared Astronomy Research Lab., The National Science Foundation (United States); **George Jacoby,** National Optical-Infrared Astronomy Research Lab. (United States); **Alastair Heptonstall,** TMT International Observatory (United States)

13096-221 • 05:30 PM - 07:00 PM
**Optical design and analysis of calibration system for the Wide Field Optical Spectrograph on the Thirty Meter Telescope (TMT)**
*Author(s):* **Amirul Hasan**, **Devika K. Divakar**, **Sriram S.**, **Sivarani Thirupathi,** Indian Institute of Astrophysics (India); **Bernard-Alexis Delabre,** Thirty Meter Telescope (United Kingdom); **Jason R. Fucik,** Caltech (United States); **Sudarshan K.**, **Ajin P.**, **Ramya Sethuram,** Indian Institute of Astrophysics (India); **Chuck Steidel,** Caltech (United States); **Alastair Heptonstall,** Thirty Meter Telescope (United States); **Reston Nash,** Caltech (United States)

13096-223 • 05:30 PM - 07:00 PM
**The Large Fiber Array Spectroscopic Telescope: fiber-feed fabrication and characterization**
*Author(s):* **On To Sonja Choi**, **Roger Angel**, **Chad F. Bender**, **Joel Berkson**, **Erich Bugueno**, **Gilberto Lopez**, **James Dibelka**, **Nick Didato**, **John Ford**, **Warren B. Foster**, **Nestor Garcia**, **Kevin Gilliam**, **Peter Gray,** The Univ. of Arizona (United States); **Samuel P. Halverson,** Jet Propulsion Lab. (United States); **Yiyang Huang**, **Dean Ketelsen**, **Daewook Kim**, **Andy Monson**, **Chang-Jin Oh**, **Jason Patrou,** The Univ. of Arizona (United States); **Christian Schwab,** Macquarie Univ. (Australia); **Melanie Sisco**, **Richard Wortley, Andrew Young,** The Univ. of Arizona (United States)

13096-224 • 05:30 PM - 07:00 PM
**Sensitivity and performance of LBTI/NOMIC spectroscopy: prospects for 10- and 30-meter class mid-IR exoplanet science**
*Author(s):* **Brittany E. Miles**, **Steve Ertel**, **Kevin Wagner, Dániel Apai,** Steward Observatory (United States)

13096-225 • 05:30 PM - 07:00 PM
**Design of the configurable slit unit for the wide field optical spectrometer (WFOS)**
*Author(s):* **Reston Nash**, **Jake Zimmer**, **Jason R. Fucik**, **Charles Steidel,** Caltech (United States); **Eric Peng,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **David Andersen,** Thirty Meter Telescope (United States); **George Jacoby,** Sirius Strategies, LLC (United States); **John Miles**, **Warren Skidmore, Alastair Heptonstall,** Thirty Meter Telescope (United States)

13096-226 • 05:30 PM - 07:00 PM
**Integrated FEA modeling technique: a study on embedded models for the ELT class of instrumentation**
*Author(s):* **Vincenzo Cianniello**, **Vincenzo De Caprio**, **Domenico D'Auria**, **Enrico Cascone**, **Christian Eredia,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Marco Riva,** INAF - Osservatorio Astronomico di Brera (Italy)

13096-227 • 05:30 PM - 07:00 PM
**FE model evolution of the main support structure interfaces to the ELT Nasmyth Platform: from PDR to FDR**
*Author(s):* **Vincenzo Cianniello**, **Vincenzo De Caprio**, **Christian Eredia**, **Enrico Cascone**, **Domenico D'Auria,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Marco Riva,** INAF - Osservatorio Astronomico di Brera (Italy); **Paolo Ciliegi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13096-228 • 05:30 PM - 07:00 PM
**Optical design of multi-field integral field unit (IFU) spectrographs for the ORCAS Keck Instrument Development II (ORKID II) instrument**
*Author(s):* **Bert A. Pasquale**, **Guangjun Gao**, **Eliad Peretz**, **Peter Kurczynski**, **Victor J. Chambers**, **Lenward Seals,** NASA Goddard Space Flight Ctr. (United States); **Max Millar-Blanchaer,** Univ. of California, Santa Barbara (United States); **Peter Wizinowich**, **Marc F. Kassis,** W. M. Keck Observatory (United States); **Peter Plavchan,** George Mason Univ. (United States); **Molly Adams,** Northwestern Univ. (United States)

13096-229 • 05:30 PM - 07:00 PM
**A fisherman-around-the-pond fiber positioning system and algorithm for high-resolution MOS on large telescopes**
*Author(s):* **Manjunath Bestha**, **Sivarani Thirupathi**, **Sriram S.**, **Amirul Hasan**, **Arun Surya**, **Ajin Prakash**, **Devika K. Divakar**, **Sudharsan Yadav**, **Parvathy Menon,** Indian Institute of Astrophysics (India); **Athira Unni,** Univ. of California, Irvine (United States)

13096-230 • 05:30 PM - 07:00 PM
**The Large Fiber Array Spectroscopic Telescope: toward a spectrometer design for highly arrayed telescopes**
*Author(s):* **Christian Schwab,** Macquarie Univ. (Australia); **Roger Angel**, **Chad F. Bender**, **Joel Berkson**, **Erich Bugueno**, **Gilberto Chavez Lopez**, **On To Sonja Choi**, **James Dibelka**, **Nick Didato,** The Univ. of Arizona (United States); **John Ford,** Steward Observatory (United States); **Warren B. Foster**, **Nestor Garcia**, **Kevin Gilliam**, **Peter Gray,** The Univ. of Arizona (United States); **Samuel P. Halverson,** Jet Propulsion Lab. (United States); **Yiyang Huang**, **Dean Ketelsen**, **Daewook Kim**, **Andy Monson**, **Chang-Jin Oh**, **Jason Patrou,** The Univ. of Arizona (United States); **Jacob Pember,** Macquarie Univ. (Australia); **Melanie Sisco**, **Richard Wortley, Andrew Young,** The Univ. of Arizona (United States)

13096-406 • 05:30 PM - 07:00 PM
**Detection limits of thermal-infrared observations with adaptive optics**
*Author(s):* **Jonas Sauter**, **Wolfgang Brandner,** Max-Planck-Institut für Astronomie (Germany); **Jochen Heidt,** Landessternwarte (Germany); **Bernhard Brandl,** Leiden Observatory (Netherlands); **Faustine Cantalloube,** Université Grenoble (France)

## SESSION PS3: POSTERS - GROUND-BASED INSTRUMENTATION IN SUPPORT OF SPACE MISSIONS

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13096-231 • 05:30 PM - 07:00 PM
**The final mechanical design of the GIRMOS integral-field spectrograph cryostat**
*Author(s):* **Saugata Dutt**, **Suresh Sivanandam,** Dunlap Institute for Astronomy & Astrophysics (Canada); **Simon Paquin,** OMP Inc. (Canada); **Shaojie Chen**, **Gavin Hay,** Dunlap Institute for Astronomy & Astrophysics (Canada); **Daniel Hofstadter**, **Badi Ebrahimifard,** Hofstadter Analytical Services, LLC (United States); **Marc-André Boucher,** OMP Inc. (Canada); **Vladimir Reshetov,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Patrick Nkwari,** Dunlap Institute for Astronomy & Astrophysics (Canada); **Simon Thibault,** Univ. Laval (Canada); **Sarik Jeram,** Dunlap Institute for Astronomy & Astrophysics (Canada); **Jean-Thomas Jean-Thomas Landry,** OMP Inc. (Canada); **Mark Barnet,** Dunlap Institute for Astronomy & Astrophysics (Canada)

13096-233 • 05:30 PM - 07:00 PM
**GIRMOS image slicer: test plan and characterization**
*Author(s):* **Béatrice Lessard-Hamel**, **Denis Brousseau**, **Hugues Auger**, **Tristan Chabot**, **Simon Thibault,** Univ. Laval (Canada); **Simon Paquin,** OMP (Canada); **Rajbir Singh,** Univ. Laval (Canada)

13096-234 • 05:30 PM - 07:00 PM
**SPIP @TBL: integration and tests of the near-infrared spectrograph unit and synergy with SPIRou@CFHT**
*Author(s):* **Zalpha Challita,** Lab. d'Astrophysique de Marseille (France); **Marielle Lacombe**, **Sébastien Baratchart**, **Emilien Carrié,** Observatoire Midi-Pyrénées (France); **François Olchewsky**, **Claude Le Men,** Institut de Recherche en Astrophysique et Planétologie (France); **Yoan Micheau**, **Léa Bonhomme**, **Driss Kouach,** Observatoire Midi-Pyrénées (France); **Jean-François Donati**, **Claire Moutou**, **Pascal Fouqué,** Institut de Recherche en Astrophysique et Planétologie (France); **Frédérique Baron**, **Philippe Vallée,** Univ. de Montréal (Canada); **Denis Brousseau**, **Simon Thibault,** Univ. Laval (Canada); **Jonathan Saint-Antoine,** Univ. de Montréal (Canada); **Hugues Auger,** Univ. Laval (Canada); **Lison Malo, René Doyon,** Univ. de Montréal (Canada)

13096-235 • 05:30 PM - 07:00 PM
**SPIP, a velocimeter/spectropolarimeter for Pic du Midi: Teledyne H4RG detector failure**
*Author(s):* **Marielle Lacombe**, **Sébastien Baratchart**, **Emilien Carrié,** Observatoire Midi-Pyrénées, CNRS (France); **François Olchewsky,** Institut de Recherche en Astrophysique et Planétologie (France); **Zalpha Challita,** Lab. d'Astrophysique de Marseille, Aix-Marseille Univ (France), Ctr. National de la Recherche Scientifique (France), Ctr. National d'Études Spatiales (France); **Frédérique Baron**, **Philippe Vallée**, **Jonathan Saint-Antoine,** Univ. de Montréal (Canada); **Léa Bonhomme,** Observatoire Midi-Pyrénées, CNRS (France); **Michel Dupieux**, **Claude LeMen,** Institut de Recherche en Astrophysique et Planétologie (France); **Driss Kouach**, **Yoan Micheau**, **Cyril Panatier**, **Maxime Viau**, **Eric Chéreau**, **Laurent Guesdon**, **René Dorignac**, **Pierre Nougué-Cazenave,** Observatoire Midi-Pyrénées, CNRS (France); **Lison Malo,** Univ. de Montréal (Canada); **Jean-François Donati,** Institut de Recherche en Astrophysique et Planétologie (France); **Jean-François Donati, Claire Moutou,** Institut de Recherche en Astrophysique et Planétologie (France); **Claire Moutou,** Institut de Recherche en Astrophysique et Planétologie (France); **René Doyon,** Univ. de Montréal (Canada)

13096-236 • 05:30 PM - 07:00 PM
**Instrument modelling of a spatial heterodyne spectrometer**
*Author(s):* **Ayan Sahoo,** Indian Institute of Science Education and Research Kolkata (India); **Joice Mathew**, **Brad Tucker, Andrew Battisti,** The Australian National Univ. (Australia)

13096-237 • 05:30 PM - 07:00 PM
**Light scrambling and focal ratio degradation of thin multimode fibers with different core geometries**
*Author(s):* **Man-Yin Leo Lee**, **Zhiheng Lin**, **Chit-Ho Hui**, **Renbin Yan**, **YiuHung Cheung**, **Horace Tsz-Hong Hung,** The Chinese Univ. of Hong Kong (Hong Kong, China); **Matthew A. Bershady,** Univ. of Wisconsin-Madison (United States); **Sabyasachi Chattopadhyay,** South African Astronomical Observatory (South Africa); **Michael P. Smith,** Univ. of Wisconsin-Madison (United States)

13096-238 • 05:30 PM - 07:00 PM
**The South Africa Near-Infrared Doppler (SAND) instrument: design and fabrications**
*Author(s):* **Aoi Takahashi,** AstroBiology Ctr., NINS (Japan), National Astronomical Observatory of Japan (Japan); **Takayuki Kotani,** AstroBiology Ctr., NINS (Japan), National Astronomical Observatory of Japan (Japan), The Graduate Univ. for Advanced Studies, SOKENDAI (Japan); **Riku Urago,** AstroBiology Ctr., NINS (Japan), National Astronomical Observatory of Japan (Japan); **Takeru Nakajima,** The Univ. of Tokyo (Japan), National Astronomical Observatory of Japan (Japan); **Kou Hosokawa**, **Shotaro Tada,** The Graduate Univ. for Advanced Studies (Japan), National Astronomical Observatory of Japan (Japan); **Masayuki Kuzuhara**, **Takuya Takarada,** AstroBiology Ctr., NINS (Japan), National Astronomical Observatory of Japan (Japan); **Motohide Tamura,** AstroBiology Ctr., NINS (Japan), The Univ. of Tokyo (Japan), National Astronomical Observatory of Japan (Japan); **Jun Nishikawa**, **Akitoshi Ueda,** National Astronomical Observatory of Japan (Japan), The Graduate Univ. for Advanced Studies (Japan), AstroBiology Ctr., NINS (Japan); **Teruyuki Hirano,** AstroBiology Ctr., NINS (Japan), National Astronomical Observatory of Japan (Japan), The Graduate Univ. for Advanced Studies (Japan); **Takahiro Nagayama,** Kagoshima Univ. (Japan); **Takuma Kokusho**, **Eiko Kozaki,** Nagoya Univ. (Japan); **Takahiro Sumi**, **Daisuke Suzuki**, **Hibiki Yama,** Osaka Univ. (Japan); **Tomoyasu Yamamuro,** OptCraft (Japan)

13096-239 • 05:30 PM - 07:00 PM
**MARVEL: optical tolerances for manufacturing, alignment, and operational stability of the spectrograph**
*Author(s):* **Jacob Pember**, **Gert Raskin,** KU Leuven (Belgium); **Christian Schwab,** Macquarie Univ. (Australia)

13096-240 • 05:30 PM - 07:00 PM
**MARVEL: an update on the four-telescope dedicated radial velocity facility at the Mercator Observatory**
*Author(s):* **Jacob Pember,** KU Leuven (Belgium), Macquarie Univ. (Australia); **David Adams,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Ioannis Argyriou,** KU Leuven (Belgium); **David Atkinson,** UK Astronomy Technology Ctr. (United Kingdom); **Gerardo Ávila,** Baader Planetarium GmbH (Germany); **Alexis Brandeker,** Stockholm Univ. (Sweden); **Jurek Brzeski,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Lars Buchhave,** Technical Univ. of Denmark (Denmark); **Denis Defrère,** KU Leuven (Belgium); **Timothy Chin,** Australian Astronomical Optics, Macquarie Univ. (Australia); **David Coutts,** Macquarie Univ. (Australia); **Wim De Meester**, **Joris De Ridder,** KU Leuven (Belgium); **Tobias Feger,** Australian Astronomical Optics (Australia); **Alistair Glasse,** UK Astronomy Technology Ctr. (United Kingdom); **Manuel Güdel,** Univ. Wien (Austria); **Mariam Haidar**, **Nicholas Jannsen**, **Johan Morren,** KU Leuven (Belgium); **Benjamin Montet,** The Univ. of New South Wales (Australia); **Jesus Pérez Padilla**, **Wim Pessemier,** KU Leuven (Belgium); **Benjamin Pope,** The Univ. of Queensland (Australia); **Saskia Prins,** KU Leuven (Belgium); **Andreas Quirrenbach,** Ruprecht-Karls-Univ. Heidelberg (Germany); **Kwinten Missiaen,** KU Leuven (Belgium); **Don Pollacco,** The Univ. of Warwick (United Kingdom); **Gert Raskin**, **Maddalena Reggiani**, **Hugues Sana,** KU Leuven (Belgium); **Christian Schwab,** Macquarie Univ. (Australia); **Dries Seynaeve,** KU Leuven (Belgium); **Robyn Sharman,** UK Astronomy Technology Ctr. (United Kingdom); **Andrew Tkachenko,** KU Leuven (Belgium); **Julian Stürmer,** Landessternwarte Heidelberg (Germany); **Samuel P. Halverson,** Jet Propulsion Lab. (United States); **Joel Harman**, **Suzanne Kovacs,** UK Astronomy Technology Ctr. (United Kingdom); **Celestina Saavedra Lacombe,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Ignasi Ribas,** Institut de Ciències de l'Espai (Spain); **Alan Stokes,** UK Astronomy Technology Ctr. (United Kingdom); **Giovanna Tinetti,** Univ. College London (United Kingdom); **Chris Waring,** UK Astronomy Technology Ctr. (United Kingdom); **Helen McGregor**, **David Robertson**, **Jon Lawrence**, **Nirmala Kunwar**, **Zhemin Cai,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Ailidh Kinney,** UK Astronomy Technology Ctr. (United Kingdom); **Enric Pallé,** Instituto de Astrofísica de Canarias (Spain); **Lee Barrett,** UK Astronomy Technology Ctr. (United Kingdom); **Kaustubh Hakim**, **Romain Laugier**, **Bart Vandenbussche**, **Hans Van Winckel,** KU Leuven (Belgium); **Lew Waller,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Duncan Wright,** Univ. of Southern Queensland (Australia); **Ross Zhelem,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Yanjun Zhou,** Univ. of Southern Queensland (Australia); **Markus Janson,** Stockholm Univ. (Sweden); **Rob Wittenmyer,** Univ. of Southern Queensland (Australia)

## Wednesday 19 June 2024

### WEDNESDAY PLENARY

19 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/wednesday-plenary

13173-504 • 08:30 AM - 09:15 AM
**Euclid mission: first year of operations** (Plenary Presentation)
*Author(s):* **René J. Laureijs,** European Space Research and Technology Ctr. (Netherlands)

13173-505 • 09:15 AM - 10:00 AM
**The ultraviolet explorer: new views of the UV universe** (Plenary Presentation)
*Author(s):* **Fiona A. Harrison,** Caltech (United States)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 11: AO INSTRUMENT I

19 June 2024 • 10:20 AM - 12:00 PM | Room G401/402, North - 4F
*Session Chair(s):* **Marc F. Kassis**, W. M. Keck Observatory (United States)

13096-45 • 10:20 AM - 10:40 AM

**SCALES status report**

*Author(s):* **Deno Stelter,** Univ. of California Observatories (United States); **Andrew J. Skemer,** Univ. of California, Santa Cruz (United States); **Stephanie Sallum,** Univ. of California, Irvine (United States); **Nicholas MacDonald**, **Renate Kupke**, **Jerry Cabak**, **William Deich**, **Aaron Hunter**, **Christopher Ratliff**, **Cristian A. Rodriguez,** Univ. of California Observatories (United States); **Ravinder Banyal**, **Thirupathi Sivarani,** Indian Institute of Astrophysics (India); **Michael P. Fitzgerald,** Univ. of California, Los Angeles (United States); **Olivier Absil,** Liège Univ. (Belgium); **Carlos Alvarez,** W. M. Keck Observatory (United States); **Natatsha Batalha,** NASA Ames Research Ctr. (United States); **Marc-Andre Boucher,** OMP Inc. (Canada); **Cyril J. Bourgenot,** Durham Univ. (United Kingdom); **Zack Briesemeister,** NASA (United States); **Katherine de Kleer,** Caltech (United States); **Imke de Pater,** University of California, Berkeley (United States); **Devika K. Divakar,** Indian Institute of Astrophysics (India); **Etienne Gauvin,** OMP Inc. (Canada); **Michael Gonzales,** Univ. of California Observatories (United States); **Thomas Greene,** NASA Ames Research Ctr. (United States); **Armirul Hasan,** Indian Institute of Astrophysics (India); **Phil Hinz,** Univ. of California Observatories (United States); **Becky Jensen-Clem,** Univ. of California, Santa Cruz (United States); **Chris Johnson,** Univ. of California, Los Angeles (United States); **Govinda K. V.,** Indian Institute of Astrophysics (India); **Marc F. Kassis,** W. M. Keck Observatory (United States); **Isabel J. Kain,** Univ. of California, Santa Cruz (United States); **Mackenzie R. Lach,** Univ. of California, Irvine (United States); **Jean-Thomas Landry,** OMP Inc. (Canada); **Michael Liu,** University of Hawaii (United States); **Jim Lyke,** W. M. Keck Observatory (United States); **Kenneth Magone,** Univ. of California, Los Angeles (United States); **Eduardo Marin,** W. M. Keck Observatory (United States); **Raquel A. Martinez,** Univ. of California, Irvine (United States); **Dimitri Mawet,** Caltech (United States); **Rosalie McGurk,** W. M. Keck Observatory (United States); **Brittany Miles,** The Univ. of Arizona (United States); **Ajin Parkash,** Indian Institute of Astrophysics (India); **Dale Sandford,** Univ. of California Observatories (United States); **Ramya Sethuram,** Indian Institute of Astrophysics (India); **Patrick Sheehan,** National Radio Astronomical Observatory (United States); **Jordan Stone,** Naval Research Lab (United States); **Arun Surya**, **Hari Varshney,** Indian Institute of Astrophysics (India); **Eric Wang,** Univ. of California, Los Angeles (United States)

13096-46 • 10:40 AM - 11:00 AM

**Project overview and update on ULTIMATE-Subaru: the next-generation wide-field adaptive optics instrument for the Subaru telescope**

*Author(s):* **Yosuke Minowa**, **Yusei Koyama,** Subaru Telescope, NAOJ (United States); **Kentaro Motohara,** National Astronomical Observatory of Japan (Japan); **Yoshito Ono,** Subaru Telescope, NAOJ (United States); **Shin Oya,** National Astronomical Observatory of Japan (Japan); **Masayuki Akiyama,** Tohoku Univ. (Japan); **Sadman Ali**, **Takamasa Bando**, **Takashi Hattori**, **Yutaka Hayano,** Subaru Telescope, NAOJ (United States); **Masayuki Hirabayashi,** National Astronomical Observatory of Japan (Japan); **Junichi Katakura,** Subaru Telescope, NAOJ (United States); **Tadayuki Kodama,** Tohoku Univ. (Japan); **Masahiro Konishi,** The Univ. of Tokyo (Japan); **Masaki Morita**, **Yoshiyuki Obuchi,** National Astronomical Observatory of Japan (Japan); **Hirofumi Okita,** Subaru Telescope, NAOJ (United States); **Naohisa Sato**, **Hideki Takami,** National Astronomical Observatory of Japan (Japan); **Ichi Tanaka**, **Yoko Tanaka,** Subaru Telescope, NAOJ (United States); **Koki Terao,** Tohoku Univ. (United States); **Chihiro Tokoku**, **Fumihiro Uraguchi**, **Kenshi Yanagisawa,** National Astronomical Observatory of Japan (Japan); **Hiroshige Yoshida,** Subaru Telescope, NAOJ (United States); **Michitoshi Yoshida,** National Astronomical Observatory of Japan (Japan); **Céline D'Orgeville**, **Noelia Martínez Rey**, **Joshua Carter**, **David E. Chandler**, **Jesse Cranney**, **Roger Haynes**, **Dionne Haynes**, **Nicholas Herrald**, **Andrew Kruse**, **Hajime Ogane**, **Lu Wang,** The Australian National Univ. (Australia); **Shiang-Yu Wang**, **Chi-Yi Chou, Masahiko Kimura,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan)

13096-47 • 11:00 AM - 11:20 AM

**MAVIS: imager and spectrograph**

*Author(s):* **Simon C. Ellis**, **Anthony Horton**, **Ross Zhelem**, **Timothy Chin**, **Nuwanthika Fernando**, **Nuria Lorente,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Richard M. McDermid,** Macquarie Univ. (Australia); **Helen McGregor**, **David Robertson**, **Scott Smedley**, **Sana Syed**, **Lewis Waller**, **Jessica Zheng**, **Christian Schwab,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Johan Kosmalski,** European Southern Observatory (Germany); **Giovanni Cresci**, **Davide Greggio,** INAF (Italy); **David Brodrick**, **Jennifer Burgess**, **Dionne Haynes, François Rigaut,** The Australian National Univ. (Australia)

13096-48 • 11:20 AM - 11:40 AM

**Completed optical design and performance analysis of the Evanescent Wave Coronagraph prototype for the Thai National Telescope**

*Author(s):* **Pimnipa Pongam**, **Weerapot Wanajaroen,** National Astronomical Research Institute of Thailand (Thailand); **Thierry Lepine,** Lab. Hubert Curien, Institut d'Optique Graduate School (France); **Mary Angelie Alagao**, **Thansita Thomrungpiyathan**, **Patcharadanai Sombatsatien**, **Apichayaporn Ratkata**, **Supachai Awiphan,** National Astronomical Research Institute of Thailand (Thailand); **Anthony Berdeu,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Michel Tallon**, **Éric Thiébaut**, **Maud Langlois,** Ctr. de Recherche Astrophysique de Lyon, Ecole Normale Supérieure de Lyon, Univ. Claude Bernard Lyon 1, Univ. de Lyon (France); **Saran Poshyachinda**, **Wiphu Rujopakarn, Christophe Buisset,** National Astronomical Research Institute of Thailand (Thailand)

13096-49 • 11:40 AM - 12:00 PM

**First-light with ORKID, a pathfinder diffraction-limited visible-light camera at the WM Keck Observatory**

*Author(s):* **Maxwell A. Millar-Blanchaer,** Univ. of California, Santa Barbara (United States); **Eliad Peretz,** NASA Goddard Space Flight Ctr. (United States); **Peter Wizinowich**, **Eduardo Marin,** W. M. Keck Observatory (United States); **Jules Fowler,** Univ. of California, Santa Cruz (United States); **Jack Grossman,** Univ. of California, Santa Barbara (United States); **Bert Pasquale,** NASA Goddard Space Flight Ctr. (United States); **Sam Ragland,** Large Binocular Telescope Observatory (United States); **Shui Kwok**, **Jacques-Robert Delorme**, **Scott Lilley**, **Kevin Tsubota, Edward Wetherell,** W. M. Keck Observatory (United States)

**Lunch/Exhibition Break 12:00 PM - 01:20 PM**

## SESSION 12: HIGH-DISPERSION SPECTROGRAPHS II

19 June 2024 • 01:20 PM - 03:30 PM | Room G401/402, North - 4F
*Session Chair(s):* **Livia Origlia**, INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13096-50 • 01:20 PM - 01:50 PM
**Performance characterization of the iLocater spectrograph** *(Invited Paper)*
*Author(s):* **Jonathan Crass**, **Michael Engelman,** The Ohio State Univ. (United States); **Brian Sands,** Univ. of Notre Dame (United States); **Daniel Pappalardo**, **Marshall C. Johnson**, **Richard W. Pogge,** The Ohio State Univ. (United States); **Justin R. Crepp,** Univ. of Notre Dame (United States); **Jeffrey W. Kruk,** NASA Goddard Space Flight Ctr. (United States); **Christian Schwab**, **Jacob Pember,** Macquarie Univ. (Australia); **Jerry Mason,** The Ohio State Univ. (United States); **Hali Jakeman Flores, Joseph Thomes,** NASA Goddard Space Flight Ctr. (United States)

13096-51 • 01:50 PM - 02:10 PM
**Commissioning of a single mode radial velocity spectrograph at Palomar**
*Author(s):* **Gautam Vasisht,** Jet Propulsion Lab. (United States); **Rebecca Oppenheimer,** American Museum of Natural History (United States); **Charles A. Beichman,** NASA Exoplanet Science Institute (United States); **Dimitri Mawet,** Caltech (United States)

13096-52 • 02:10 PM - 02:30 PM
**Mitigating differential limb coupling as an RV error term in diffraction-limited spectrographs on large telescopes**
*Author(s):* **Ashley D. Baker,** Caltech (United States); **Garreth Ruane,** Jet Propulsion Lab. (United States); **Nemanja Jovanovic**, **Dimitri Mawet**, **Mitsuko Roberts,** Caltech (United States); **Samuel P. Halverson,** Jet Propulsion Lab. (United States); **Alberto Franco-Ordovás,** Caltech (United States); **Michael P. Fitzgerald,** Univ. of California, Los Angeles (United States); **Quinn Konopacky,** Univ. of California, San Diego (United States)

13096-53 • 02:30 PM - 02:50 PM
**MARVEL: development and strategies of the calibration system**
*Author(s):* **Mariam Haidar**, **Gert Raskin,** KU Leuven (Belgium); **Julian Stuermer,** Landessternwarte Heidelberg (Germany); **Christian Schwab,** Macquarie Univ. (Australia); **Jacob Pember,** KU Leuven (Belgium); **David W. Coutts,** Macquarie Univ. (Australia); **Hans Van Winckel**, **Bart Vandenbussche, Joris De Ridder,** KU Leuven (Belgium)

13096-54 • 02:50 PM - 03:10 PM
**RISTRETTO: reflected-light exoplanet spectroscopy at the diffraction limit of the VLT**
*Author(s):* **Christophe Lovis,** Observatoire de Genève (Switzerland); **Nicolas Blind**, **Bruno Chazelas**, **Muskan Shinde**, **Maddalena Bugatti**, **Nathanaël Restori**, **Isaac Dinis**, **Ludovic Genolet**, **Ian Hughes**, **Michaël Sordet**, **Robin Schnell,** Univ. de Genève (Switzerland); **Martin Turbet,** Ctr. National de la Recherche Scientifique (France); **Nicolas Billot,** Univ. de Genève (Switzerland); **Thierry Fusco**, **Benoît Neichel**, **Jean-François Sauvage,** Lab. d'Astrophysique de Marseille (France); **Pablo Santos Diaz**, **Mathilde Houelle,** Univ. de Genève (Switzerland); **Joshua Blackman,** Univ. Bern (Switzerland); **Audrey Lanotte,** Univ. de Genève (Switzerland); **Jonas G. Kühn,** Univ. Bern (Switzerland); **Janis Hagelberg,** Univ. de Genève (Switzerland); **Olivier Guyon,** The Univ. of Arizona (United States); **Christoph Mordasini,** Univ. Bern (Switzerland); **David Ehrenreich,** Univ. de Genève (Switzerland); **Brice-Olivier Demory,** Univ. Bern (Switzerland); **Emeline Bolmont,** Univ. de Genève (Switzerland)

13096-55 • 03:10 PM - 03:30 PM
**BLUVES: calibrating astronomical spectrographs in the UV with laser frequency combs**
*Author(s):* **Tobias Schmidt,** Observatoire de Genève (Switzerland); **Markus Ludwig,** Deutsches Elektronen-Synchrotron (Germany); **Furkan Ayhan,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Thibault Wildi**, **Thibault Voumard,** Deutsches Elektronen-Synchrotron (Germany); **Roman Blum,** CSEM SA (Switzerland); **Zhichao Ye,** Chalmers Univ. of Technology (Sweden); **François Wildi**, **Francesco Alfonso Pepe,** Observatoire de Genève (Switzerland); **Mahmoud Gaafar,** Deutsches Elektronen-Synchrotron (Germany); **Ewelina Obrzud**, **Davide Grassani,** CSEM SA (Switzerland); **François Moreau,** Observatoire de Haute-Provence (France); **Bruno Chazelas,** Observatoire de Genève (Switzerland); **Rico Sottile,** Observatoire de Haute-Provence (France); **Victor Torres Company,** Chalmers Univ. of Technology (Sweden); **Sylvain Karlen**, **Steve Lecomte,** CSEM SA (Switzerland); **Victor Brasch,** Q.ANT GmbH (Germany); **Luis Guillermo Villanueva,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **François Bouchy,** Observatoire de Genève (Switzerland); **Tobias Herr,** Deutsches Elektronen-Synchrotron (Germany)

**Coffee Break 03:30 PM - 04:00 PM**

## SESSION 13: INSTRUMENTS WITH NEW CONCEPT/TECHNOLOGIES II

19 June 2024 • 04:00 PM - 05:20 PM | Room G401/402, North - 4F
*Session Chair(s):* **Armando Gil de Paz**, Univ. Complutense de Madrid (Spain)

13096-56 • 04:00 PM - 04:20 PM
**An ultra-compact optical spectrograph utilizing waveguide spectral lenses**
*Author(s):* **Jian Ge**, **Chaoyan Wang**, **Pengjun Zhang**, **Dan Zhou**, **Jiapeng Zhu**, **Congcong Zhang**, **Jianqing Cai**, **Yixin Zhang,** Shanghai Astronomical Observatory (China); **Ziyang Zhang**, **Zhenming Ding**, **Xinhong Jiang,** Westlake Univ. (China); **Lingxiao Li,** Institute of Optics and Electronics (China)

13096-57 • 04:20 PM - 04:40 PM
**Design, testing, and construction of Henrietta: a new exoatmosphere spectrograph for Las Campanas Observatory**
*Author(s):* **Jason E. Williams**, **Nicholas P. Konidaris**, **Gerrad Killion**, **Julia Brady**, **Christoph Birk**, **Tyson S. Hare**, **Daniel D. Kelson**, **Andrew B. Newman**, **Gwen C. Rudie,** Carnegie Observatories (United States); **Dave Rumph,** Caltech (United States); **Johanna K. Teske,** Carnegie Institution for Science (United States)

13096-58 • 04:40 PM - 05:00 PM
**The Programmable Liquid-crystal Active Coronagraphic Imager for the DAG telescope (PLACID) instrument: on-site status update ahead of first light**
*Author(s):* **Jonas G. Kühn,** Univ. Bern (Switzerland); **Audrey Baur**, **Laurent Jolissaint,** Haute Ecole d'Ingénierie et de Gestion du Canton de Vaud (Switzerland); **Liurong Lin**, **Axel Potier, Ruben Tandon,** Univ. Bern (Switzerland)

13096-59 • 05:00 PM - 05:20 PM
**Development of novel high-efficiency & wideband medium-dispersion grisms for MOIRCS at Subaru Telescope**
*Author(s):* **Ichi Tanaka,** Subaru Telescope, NAOJ (United States); **Noboru Ebizuka,** RIKEN (Japan); **Chihiro Tokoku,** National Astronomical Observatory of Japan (Japan); **Takashi Hattori**, **Yusei Koyama,** Subaru Telescope, NAOJ (United States); **Kentaro Motohara,** National Astronomical Observatory of Japan (United States); **Michael Lemmen**, **Brian Elms,** Subaru Telescope, NAOJ (United States); **Koji Omata,** National Astronomical Observatory of Japan (Japan); **Yosuke Minowa,** Subaru Telescope, NAOJ (United States); **Tadayuki Kodama,** Tohoku Univ. (Japan)

## SESSION PS4: POSTERS - DESIGN/PROTOTYPING OF INSTRUMENTATION FOR CURRENT OBSERVATORIES

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13096-241 • 05:30 PM - 07:00 PM
**4MOST Low Resolution Spectrographs AIT at AIP**
*Author(s):* **Florence Laurent,** Ctr. de Recherche Astrophysique de Lyon, Univ. de Lyon, CNRS (France), Univ. Claude Bernard Lyon 1 (France), Ecole Normale Supérieure de Lyon (France); **Didier Boudon**, **Eric Daguisé**, **Karen Disseau,** Ctr. de Recherche Astrophysique de Lyon (France); **Steffen Frey,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Rémi Giroud**, **Aurélien Jarno**, **Jens-Kristian Krogager**, **Jean-Emmanuel Migniau**, **Matthew Lehnert**, **Arlette Pecontal**, **Emmanuel Pécontal**, **Alban Remillieux**, **Johan Richard,** Ctr. de Recherche Astrophysique de Lyon (France); **Pasko Roje**, **Carlos E. Rodriguez Alvarez, Deborah Sobiella,** Leibniz-Institut für Astrophysik Potsdam (Germany)

13096-242 • 05:30 PM - 07:00 PM
**FEA of the MUSE opto-mechanical model and comparison with on-site measurements**
*Author(s):* **Zhemin Cai**, **Jessica Zheng**, **Michael Goodwin**, **David Robertson**, **Helen McGregor,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Rémi Giroud**, **Johan Richard**, **Florence Laurent, Alexandre Jeanneau,** Ctr. de Recherche Astrophysique de Lyon (France)

13096-243 • 05:30 PM - 07:00 PM
**The optical design of CUBES for the ESO VLT**
*Author(s):* **Lawrence Bissell,** UK Astronomy Technology Ctr. (United Kingdom), Science and Technology Facilities Council (United Kingdom); **Walter Seifert,** Landessternwarte Heidelberg (Germany), Zentrum für Astronomie der Univ. Heidelberg (Germany); **Ariadna Calcines Rosario,** Durham Univ. (United Kingdom); **Hans Dekker,** Consultant Astronomical Instrumentation (Germany); **Julian Stürmer,** Landessternwarte Heidelberg (Germany), Zentrum für Astronomie der Univ. Heidelberg (Germany); **Matteo Genoni,** INAF - Osservatorio Astronomico di Brera (Italy); **Bruno Castilho,** Laboratorio Nacional de Astrofisica (Brazil); **Gerardo Avila,** Optical Lab Baader Planetarium GmbH (Germany)

13096-244 • 05:30 PM - 07:00 PM
**GHOST opto-mechanical design of bench spectrograph**
*Author(s):* **Andre Anthony,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13096-245 • 05:30 PM - 07:00 PM
**Final design and opto-mechanical analysis of the GIRMOS calibration system and field lens assembly**
*Author(s):* **Paul Hickson,** The Univ. of British Columbia (Canada); **Mark Barnet**, **Shaojie Chen,** Univ. of Toronto (Canada); **Olivier Lardière,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Suresh Sivanandam,** Univ. of Toronto (Canada); **Saakshi Turakhia,** The Univ. of British Columbia (Canada)

13096-246 • 05:30 PM - 07:00 PM
**Overview of the mechanical design for the GIRMOS imager subsystem**
*Author(s):* **Vladimir Reshetov**, **Jeffrey Crane**, **Jenny Atwood**, **Alan McConnachie**, **Tim Hardy**, **Scott MacDonald**, **Jordan Lothrop, Jonathan Stocks,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13096-247 • 05:30 PM - 07:00 PM
**Overview and status of the fiber delivery subsystem (FIB) of Keck/HISPEC, the diffraction-limited y-K band spectrograph for exoplanet characterization**
*Author(s):* **Nemanja Jovanovic**, **Greg Sercel,** Caltech (United States); **Takayuki Kotani,** AstroBiology Ctr., NINS (Japan); **Ashley D. Baker**, **Svarun Soda,** Caltech (United States); **Aoi Takahashi**, **Motohide Tamura,** AstroBiology Ctr., NINS (Japan); **Jeb Bailey,** Caltech (United States); **Jonathan Lin**, **Yoo Jung Kim,** UCLA (United States); **Sebastien Vievard,** Subaru Telescope (United States); **Chris Betters**, **Sergio Leon-Saval,** University of Sydney (Australia); **Jocelyn Ferrara,** Caltech (United States); **Truman Wold**, **Jonathan Steiner, Jim Thorne,** Keck Observatory (United States)

13096-248 • 05:30 PM - 07:00 PM
**Overview and status of the spectrograph subsystem of Keck/HISPEC, the diffraction-limited y-K band spectrograph for exoplanet characterization**
*Author(s):* **Rose K. Gibson**, **Michael P. Fitzgerald,** Univ. of California, Los Angeles (United States); **Jason R. Fucik,** Caltech (United States); **Evan Kress**, **Eric Wang**, **Chris Johnson,** Univ. of California, Los Angeles (United States); **Timothee Greffe**, **Jake Zimmer**, **James Neill,** Caltech (United States); **Takayuki Kotani,** National Astronomical Observatory of Japan (Japan); **Ashley D. Baker**, **Nemanja Jovanovic,** Caltech (United States); **Samuel P. Halverson,** Jet Propulsion Lab. (United States); **Dimitri Mawet,** Caltech (United States)

13096-249 • 05:30 PM - 07:00 PM
**Calibration system overview of a high-resolution, fiber-fed spectrograph Keck/HISPEC**
*Author(s):* **Ben Sappey**, **Quinn Konopacky,** Univ. of California, San Diego (United States); **Nemanja Jovanovic**, **Ashley D. Baker,** Caltech (United States); **Samuel P. Halverson,** Jet Propulsion Lab. (United States); **Rose K. Gibson,** Univ. of California, Los Angeles (United States); **Jérôme Maire,** Univ. of California, San Diego (United States); **Stephanie Leifer,** The Aerospace Corp. (United States); **Jocelyn Ferrara**, **Rob Bertz,** Caltech (United States); **Dimitri P. Mawet**, **Jean-Baptiste Ruffio,** California Institute of Technology (United States); **Michael P. Fitzgerald,** Univ. of California, Los Angeles (United States); **Charles A. Beichman,** California Institute of Technology (United States); **Garreth J. Ruane,** Jet Propulsion Lab. (United States); **Marc F. Kassis,** W. M. Keck Observatory (United States); **Kenneth G. Magnone,** Univ. of California, Los Angeles (United States); **Christian I. Johnson,** Space Telescope Science Institute (United States)

13096-250 • 05:30 PM - 07:00 PM
**Overview and status of the front-end instrument (FEI) Keck/HISPEC, the diffraction-limited y-K band spectrograph for exoplanet characterization**
*Author(s):* **Nemanja Jovanovic**, **Ashley D. Baker**, **Mitsuko Roberts**, **Alberto Franco,** Caltech (United States); **Garreth Ruane,** Jet Propulsion Lab. (United States); **James Brugger**, **Tim Greffe**, **Don Neill**, **David Brearly**, **Ray Zarzaca**, **Jocelyn Ferrara,** Caltech (United States); **Truman Wold**, **Jonathan Steiner**, **Jim Thorne**, **Eduardo Marin**, **Dimitri Mawet,** W. M. Keck Observatory (United States); **Robert Bertz,** Caltech (United States)

13096-251 • 05:30 PM - 07:00 PM
**Liger at W.M. Keck Observatory: optical design and alignment strategy for the Liger integral field spectrograph**
*Author(s):* **Renate Kupke,** Univ. of California, Santa Cruz (United States); **Shelley Wright**, **Aaron M. Brown,** Univ. of California, San Diego (United States); **Maren Cosens,** Carnegie Institution for Science (United States); **Michael P. Fitzgerald**, **Chris Johnson,** Univ. of California, Los Angeles (United States); **Tucker Jones,** Univ. of California, Davis (United States); **Marc F. Kassis,** W. M. Keck Observatory (United States); **Evan Kress**, **James E. Larkin**, **Kenneth Magnone,** Univ. of California, Los Angeles (United States); **Jérôme Maire,** Univ. of California, San Diego (United States); **Rosalie McGurk,** W. M. Keck Observatory (United States); **Arun Surya,** Indian Institute of Astrophysics (India); **Eric Wang,** Univ. of California, Los Angeles (United States); **James Wiley,** Univ. of California, San Diego (United States); **Sherry Yeh,** W. M. Keck Observatory (United States)

13096-252 • 05:30 PM - 07:00 PM
**Design of the antenna processing subrack, a new beamformer for LOFAR**
*Author(s):* **Gijs Schoonderbeek**, **Paulus Kruger**, **Jeroen Herrewijnen**, **Boudewijn Hut**, **Sieds Damstra**, **Paula Fusiara**, **Henri Meulman**, **Mark Ruiter**, **Agnes Mika,** ASTRON (Netherlands); **Federico Perini, Jader Monari,** INAF (Italy)

13096-253 • 05:30 PM - 07:00 PM
**Configurable slit unit for low-resolution imaging spectrometer 2 (LRIS-2) on W. M. Keck Observatory**
*Author(s):* **Jake Zimmer**, **Reston Nash**, **Charles Steidel,** Caltech (United States); **Brad Holden,** Lick Observatory, Univ. of California Observatories (United States); **Jason R. Fucik,** Caltech (United States)

13096-254 • 05:30 PM - 07:00 PM
**LRIS-2 Preliminary Design: Opto-Mechanical Design and Analysis for the Camera Lens Mount**
*Author(s):* **Rishi Pahuja**, **Reston Nash**, **Jason R. Fucik**, **Steven R. Gibson,** Caltech (United States); **Bradford P. Holden,** Univ. of California Observatories (United States); **Charles Steidel, Larry Lingvay,** Caltech (United States)

13096-255 • 05:30 PM - 07:00 PM
**Visible natural guide star wavefront sensor linear stage encoder verification study**
*Author(s):* **Scott MacDonald**, **Olivier Lardière**, **Tim Hardy**, **Jenny Atwood**, **Glen Herriot, Adam Densmore,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13096-256 • 05:30 PM - 07:00 PM
**Compensation of defective pixels by mechanical shift of an NIR array detector used in the NINJA echelle spectrograph**
*Author(s):* **Kenshi Yanagisawa**, **Chihiro Tokoku**, **Kentaro Motohara**, **Shinobu Ozaki,** National Astronomical Observatory of Japan (Japan); **Yoshito Ono**, **Yosuke Minowa,** Subaru Telescope, NAOJ (United States); **Takashi Moriya**, **Masami Ouchi**, **Nozomu Tominaga**, **Masayuki Tanaka,** National Astronomical Observatory of Japan (Japan); **Yutaka Hayano**, **Yusei Koyama**, **Sadman Shariar Ali,** Subaru Telescope, NAOJ (United States); **Masaomi Tanaka**, **Masayuki Akiyama,** Tohoku Univ. (Japan); **Tohru Nagao**, **Yoshiki Matsuoka,** Ehime Univ. (Japan); **Kosuke Kushibiki,** Institute of Astronomy, The Univ. of Tokyo (Japan); **Akino Yasuda**, **Tomoya Yukino,** The Univ. of Tokyo (Japan); **Riku Sato,** Waseda Univ. (Japan); **Kensho Tanaka,** The Univ. of Tokyo (Japan); **Michitoshi Yoshida,** National Astronomical Observatory of Japan (Japan)

13096-257 • 05:30 PM - 07:00 PM
**Exo-NINJA at Subaru: fiber-fed spectro-imaging of exoplanets and circumstellar disks at R~4000**
*Author(s):* **Mona El Morsy,** The Univ. of Texas at San Antonio (United States); **Julien Lozi,** Subaru Telescope, NAOJ (United States); **Olivier Guyon,** Subaru Telescope, NAOJ (United States), The Univ. of Arizona (United States); **Thayne Currie,** The Univ. of Texas at San Antonio (United States), Subaru Telescope, NAOJ (United States), National Institutes of Natural Sciences (Japan); **Sébastien Vievard,** Subaru Telescope, NAOJ (United States), National Institutes of Natural Sciences (Japan), AstroBiology Ctr., NINS (Japan); **Julia Bryant,** The Univ. of Sydney (Australia), Astralis (Australia); **Chihiro Tokoku,** National Astronomical Observatory of Japan (Japan); **Vincent Deo,** Subaru Telescope, NAOJ (United States), National Institutes of Natural Sciences (Japan); **Kyohoon Ahn,** Subaru Telescope, NAOJ (United States), National Institutes of Natural Sciences (United States); **Fred Crous**, **Adeline Haobing Wang, Zinat Sathi,** The Univ. of Sydney (Australia), Astralis (Australia)

13096-258 • 05:30 PM - 07:00 PM
**Prime focus spectrograph (PFS) for Subaru Telescope: the algorithm to optimize pointing centers for open-use programs**
*Author(s):* **Wanqiu He**, **Masayuki Tanaka**, **Miho N. Ishigaki**, **Masato Onodera**, **Naoyuki Tamura**, **Kiyoto Yabe**, **Yuhei Takagi**, **Yuki Moritani,** National Astronomical Observatory of Japan (Japan); **Eric Jeschke,** National Astronomical Observatory of Japan (United States)

13096-259 • 05:30 PM - 07:00 PM
**Twilight observing with SCALES**
*Author(s):* **Isabel J. Kain,** Univ. of California, Santa Cruz (United States); **Carlos Alvarez**, **John O'Meara**, **Marc F. Kassis**, **Peter Wizinowich**, **James Lyke**, **Randall Campbell,** W. M. Keck Observatory (United States); **Imke de Pater**, **Edward M. Molter,** Univ. of California, Berkeley (United States); **Katherine de Kleer,** Caltech (United States); **Erin Redwing,** Univ. of California, Berkeley (United States); **Stephanie Sallum,** Univ. of California, Irvine (United States); **Andrew Skemer,** Univ. of California, Santa Cruz (United States); **MacKenzie R. Lach,** Univ. of California, Irvine (United States)

13096-260 • 05:30 PM - 07:00 PM
**Updated characterization of diamond-turned optics for SCALES**
*Author(s):* **Isabel J. Kain,** Univ. of California, Santa Cruz (United States); **Philip Hinz,** Univ. of California Observatories (United States); **Marius Doetz**, **Benjamin Bulla,** son-x GmbH (Germany); **Renate Kupke**, **Daren Dillon,** Univ. of California Observatories (United States); **Andrew Skemer,** Univ. of California, Santa Cruz (United States); **Deno Stelter**, **Michael Gonzales**, **Nicholas MacDonald,** Univ. of California Observatories (United States); **Aditi Gangadharan,** Univ. of California, Santa Cruz (United States); **Cristian A. Rodriguez**, **Christopher Ratliff,** Univ. of California Observatories (United States); **Steph Sallum, Mackenzie R. Lach,** Univ. of California, Irvine (United States)

13096-261 • 05:30 PM - 07:00 PM
**Performance analysis of SCALES final optical design**
*Author(s):* **Arun Surya,** Indian Institute of Astrophysics (India); **Renate Kupke**, **Deno Stelter**, **Philip Hinz,** Univ. of California, Santa Cruz (United States); **Amirul Hasan,** Indian Institute of Astrophysics (India); **Andrew Skemer,** Univ. of California, Santa Cruz (United States); **Steph Sallum,** Univ. of California, Irvine (United States); **Sivarani Thirupathi, Ravinder Banyal,** Indian Institute of Astrophysics (India)

13096-262 • 05:30 PM - 07:00 PM
**Optical design and analysis of calibration system for SCALES instrument**
*Author(s):* **Amirul Hasan**, **Ravinder K. Banyal,** Indian Institute of Astrophysics (India); **Renate Kupke**, **Andrew J. Skemer,** Univ. of California Observatories, Univ. of California, Santa Cruz (United States); **Ajin Prakash**, **Sivarani Thirupathi,** Indian Institute of Astrophysics (India); **Deno Stelter,** Univ. of California, Santa Cruz (United States), Univ. of California Observatories (United States); **Ramya Sethuram**, **Arun Surya,** Indian Institute of Astrophysics (India); **Nicholas MacDonald,** Univ. of California Observatories, Univ. of California, Santa Cruz (United States); **Steph Sallum**, **Mackenzie R. Lach,** Univ. of California, Irvine (United States); **Scott Lilley,** W. M. Keck Observatory (United States)

13096-263 • 05:30 PM - 07:00 PM
**Implementation and testing of a hybrid fast/slow readout mode for the H2RG detectors in SCALES**
*Author(s):* **Peyton Benac**, **Michael P. Fitzgerald**, **Eric Wang**, **Chris Johnson**, **Kenneth Magnone,** Univ. of California, Los Angeles (United States); **Andy J. Skemer**, **Phil Hinz,** Univ. of California, Santa Cruz (United States); **Nicholas MacDonald**, **Dale Sandford**, **Deno Stelter,** Univ. of California Observatories (United States); **Brittany Miles,** The Univ. of Arizona (United States); **Thomas Greene,** NASA Ames Research Ctr. (United States); **Steph Sallum,** Univ. of California, Irvine (United States); **Markus Loose,** Markury Scientific, Inc. (United States); **Richard Blank,** AstroBlank Scientific, LLC (United States)

13096-264 • 05:30 PM - 07:00 PM
**Cryogenic test results of SCALES linear and rotary stages**
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**Static optic mount design and fabrication for infrared astronomy on SCALES instrument**
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**Improving constraints on planet formation with custom high-resolution accretion-tracing observing modes designed for SCALES**
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**Final alignment and image quality test for the acquisition and guiding system of SOXS**
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**Integration and verification of the SOXS Instrument**
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**PoET, the Paranal solar ESPRESSO Telescope: a spatially resolved Sun in a high resolution spectrograph**
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**Final design of Cerberus, a three-headed instrument for the OARPAF telescope**
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**A study on the performance of half-wave plates designed for sub-mm studies**
*Author(s):* **Charlotte Braithwaite**, **Carole Tucker**, **Erminia Calabrese**, **Giulio Fabbian**, **Serena Giardiello,** Cardiff Univ. (United Kingdom); **Giampaolo Pisano,** Sapienza Univ. di Roma (Italy); **Giorgio Savini,** Univ. College London (United Kingdom)

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**IBIS 2.0 interferometric bidimensional spectrometer 2.0: overview and current status**
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**A novel application of spectroscopy: Dark Matter Quest Spectrograph**
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**Airglow and the Subaru Night Sky Spectrograph (SuNSS)**
*Author(s):* **Christian Kragh Jespersen**, **Robert H. Lupton**, **James E. Gunn**, **Paul Price,** Princeton Univ. (United States); **Yuki Moritani,** Kavli Institute for the Physics and Mathematics of the Universe (Japan); **Michael A Strauss,** Princeton Univ. (United States); **Naoyuki Tamura,** Kavli Institute for the Physics and Mathematics of the Universe (Japan)

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**Progress on FORS-Up: the first instrument using ELT technologies**
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**Liger at W.M. Keck Observatory: imager mechanical analysis, fabrication status, and characterization plan**
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**Characterization of Hollow Cathode Lamps and atomic emission line sources as calibrators for astronomical spectroscopy**
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**Calibration strategies in spectral extraction algorithms for lenslet based Integral Field Spectrographs**
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**The construction of the MAAT IFU for the GTC OSIRIS spectrograph**
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**Heimdallr and Solarstein: alignment, calibration, and correction in the Asgard suite at VLTI**
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**Navigating instruments operational challenges and extending traditional maintenance frontiers**
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**RISTRETTO: manufacturing of a single-mode visible high resolution spectrograph**
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**The calibration system for the iLocater spectrograph**
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**Liger at W.M. Keck Observatory: assembly, integration, and testing**
*Author(s):* **Aaron M. Brown**, **Shelley Wright**, **James Wiley,** Univ. of California, San Diego (United States); **Maren Cosens,** Carnegie Observatories (United States); **Renate Kupke,** Univ. of California, Santa Cruz (United States); **Marc F. Kassis**, **Rosalie McGurk**, **Sherry Yeh,** W. M. Keck Observatory (United States); **James E. Larkin**, **Michael P. Fitzgerald**, **Eric Wang**, **Evan Kress**, **Kenneth Magnone**, **Chris Johnson,** Univ. of California, Los Angeles (United States); **Tucker Jones,** Univ. of California, Davis (United States)

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**Development of a new near-infrared spectrometer for the IRSF telescope**
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**Current progress of the new sub-millimeter survey instrument at JCMT: an upgrade to SCUBA-2/POL-2 with 14544 MKIDs detectors at 850 µm**
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**VSTPOL: making the VST a large survey telescope for optical polarimetry**
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**VSTPOL: the control electronics design for the new polarimetric mode of the VST**
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**Conceptual design of a new echelle spectrograph for the ARC 3.5-m Telescope at APO**
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**The Near-Infrared Gatherer of Helium Transits (NIGHT)**
*Author(s):* **Casper Farret Jentink**, **Francesco Pepe**, **Christophe Lovis**, **Sébastien Bovay**, **François Wildi**, **Bruno Chazelas**, **Michaël Sordet,** Observatoire de Genève (Switzerland); **Étienne Artigau**, **René Doyon**, **Frédérique Baron,** L'Institut Trottier de recherche sur les exoplanètes, Univ. de Montréal (Canada); **Vincent Bourrier,** Observatoire de Genève (Switzerland); **Romain Allart,** L'Institut Trottier de recherche sur les exoplanètes, Univ. de Montréal (Canada); **François Cochard,** Contractor (France)

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**Systems design, assembly, integration, and lab testing of WALOP-South Polarimeter**

*Author(s):* **Siddharth Maharana,** South African Astronomical Observatory (South Africa); **Anamparambu N. Ramaprakash,** Inter-Univ. Ctr. for Astronomy and Astrophysics (India), Institute of Astrophysics, Foundation for Research and Technology-Hellas (Greece), Owens Valley Radio Observatory, Caltech (United States); **Chaitanya Rajarshi**, **Pravin Khodade**, **Bhushan Joshi**, **Pravin Chordia**, **Abhay Kohok**, **Ramya Anche**, **Deepa Modi,** Inter-Univ. Ctr. for Astronomy and Astrophysics (India); **John Andrew Kypriotakis,** Institute of Astrophysics, Foundation for Research and Technology-Hellas (Greece); **Amit Deokar**, **Aditya Kinjawadekar,** Inter-Univ. Ctr. for Astronomy and Astrophysics (India); **Stephen Potter,** South African Astronomical Observatory (South Africa); **Dmitry Blinov,** Institute of Astrophysics, Foundation for Research and Technology-Hellas (Greece); **Hans K. Eriksen,** Institute of Theoretical Astrophysics, Univ. of Oslo (Norway); **Myrto Falalaki,** Institute of Astrophysics (Greece); **Hitesh Gajjar,** South African Astronomical Observatory (South Africa); **Tuhin Ghosh,** National Institute of Science Education and Research (India); **Eirik Gjerløw,** Institute of Theoretical Astrophysics, Univ. of Oslo (Norway); **Sebastian Kiehlmann,** Institute of Astrophysics, Foundation for Research and Technology-Hellas (Greece); **Ioannis Liodakis,** Institute of Astrophysics (Greece); **Nikolaos Mandarakas,** Institute of Astrophysics, Foundation for Research and Technology-Hellas (Greece); **Georgia V. Panopoulou,** Chalmers Univ. of Technology (Sweden); **Vasiliki Pavlidou,** Institute of Astrophysics, Foundation for Research and Technology-Hella (Greece); **Timothy J. Pearson,** Owens Valley Radio Observatory, Caltech (United States); **Vincent Pelgrims,** Univ. Libre de Bruxelles (Belgium); **Anthony C. S. Readhead**, **Raphael Skalidis,** Owens Valley Radio Observatory, Caltech (United States); **Konstantinos Tassis,** Institute of Astrophysics, Foundation for Research and Technology-Hellas (Greece); **Namita Uppal,** Institute of Astrophysics (Greece); **Ingunn K. Wehus,** Institute of Theoretical Astrophysics, Univ. of Oslo (Norway)

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**SDSS-V BOSS spectrograph modifications for Las Campanas Observatory**

*Author(s):* **Graham Murray,** Durham Univ. (United Kingdom), Northern Light Optical Ltd. (United Kingdom); **Julia Brady,** Carnegie Observatories (United States); **Gregory Bredthauer,** Semiconductor Technology Associates, Inc. (United States); **Timothy Butterley,** Durham Univ. (United Kingdom); **Charlie Hull**, **Juna A. Kollmeier,** Carnegie Observatories (United States); **Rishi Pahuja,** Univ. of Washington (United States); **Solange Ramírez,** Carnegie Observatories (United States); **José Sánchez-Gallego,** Univ. of Washington (United States); **Alan Uomoto, Stefanie Wachter,** Carnegie Observatories (United States)

13096-294 • 05:30 PM - 07:00 PM

**A subminiature integrated optical fiber positioning device**

*Author(s):* **Hongzhuan Hu**, **Jianping Wang**, **Zhigang Liu**, **Zengxiang Zhou**, **Chao Zhai**, **Yonggang Gu**, **Ping Zhang, Jiaru Chu,** Univ. of Science and Technology of China (China)

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**Design and status update of the AMASE-P project**

*Author(s):* **Renbin Yan,** The Chinese Univ. of Hong Kong (Hong Kong, China); **Matthew A. Bershady,** Univ. of Wisconsin-Madison (United States); **Sabyasachi Chattopadhyay,** South African Astronomical Observatory (South Africa); **YiuHung Cheung**, **Chit-Ho Hui**, **Man-Yin Leo Lee**, **Zhiheng Lin,** The Chinese Univ. of Hong Kong (Hong Kong, China); **Michael P. Smith,** Univ. of Wisconsin-Madison (United States); **Egan Loubser,** South African Astronomical Observatory (South Africa); **Kevin A. Bundy,** University of California, Santa Cruz (United States), University of California Observatories (United States); **Horace Tsz-Hong Hung,** The Chinese Univ. of Hong Kong (Hong Kong, China); **Xihan Ji,** University of Cambridge (United Kingdom); **Yeeching Lam**, **Zesen Lin**, **Yiwei Liu**, **Yutong Qiao,** The Chinese Univ. of Hong Kong (Hong Kong, China); **Marsha J. Wolf,** Univ. of Wisconsin-Madison (United States); **Kyle B. Westfall,** University of California Observatories (United States); **Ricky Wai-Kiu Wong**, **Jichen Zhang, Ruoyu Zhou,** The Chinese Univ. of Hong Kong (Hong Kong, China)

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**CUBES, the Cassegrain U-Band Efficient Spectrograph: towards final design review.**

*Author(s):* **Matteo Genoni**, **Hans Dekker**, **Stefano Covino,** INAF - Osservatorio Astronomico di Brera (Italy); **Roberto Cirami,** INAF-Osservatorio Astronomico di Trieste (Italy); **Marcello Agostino Scalera,** INAF - Osservatorio Astronomico di Brera (Italy); **Lawrence Bissel,** STFC - United Kingdom Astronomy Technology Centre (UK ATC) (United Kingdom); **Walter Seifert,** Landessternwarte - Zentrum für Astronomie der Universitat Heidelberg (Germany); **Ariadna Calcines,** Durham University - Centre for Advanced Instrumentation - Department of Physics (United Kingdom); **Gerardo Avila,** Optical Lab Baader Planetarium GmbH (Germany); **Julian Stürmer**, **Christopher Ritz,** Landessternwarte - Zentrum für Astronomie der Universitat Heidelberg (Germany); **David Lunney**, **Chris Miller**, **Stephen Watson**, **Chris Waring,** STFC - United Kingdom Astronomy Technology Centre (UK ATC) (United Kingdom); **Bruno Vaz Castilho**, **Marcio De Arruda**, **Orlando Verducci,** LNA/MCTI (Brazil); **Igor Coretti,** INAF-Osservatorio Astronomico di Trieste (Italy); **Luca Oggioni**, **Giorgio Pariani**, **Edoardo M. A. Redaelli**, **Matteo D' Ambrogio,** INAF - Osservatorio Astronomico di Brera (Italy); **Giorgio Calderone,** INAF-Osservatorio Astronomico di Trieste (Italy); **Ingo Stilz,** Landessternwarte - Zentrum für Astronomie der Universitat Heidelberg (Germany); **Rodolfo Smiljanic,** Nicolaus Copernicus Astronomical Center - Polish Academy of Sciences (Poland); **Guido Cupani**, **Mariagrazia Franchini,** INAF-Osservatorio Astronomico di Trieste (Italy); **Andrea Scaudo,** INAF - Osservatorio Astronomico di Brera (Italy); **Vincent Geers,** STFC - United Kingdom Astronomy Technology Centre (UK ATC) (United Kingdom); **Vincenzo De Caprio**, **Domenico D' Auria**, **Mina Sibalic,** INAF-Osservatorio Astronomico di Capodimonte (Italy); **Cyrielle Opitom,** Institute for Astronomy, University of Edinburgh (United Kingdom); **Gabriele Cescutti,** Dipartimento di Fisica-Sezione di Astronomia Università di Trieste (Italy); **Valentina D' Odorico,** INAF-Osservatorio Astronomico di Trieste (Italy); **Ruben Sanchez-Janssen,** STFC - United Kingdom Astronomy Technology Centre (UK ATC) (United Kingdom); **Andreas Quirrenbach,** Landessternwarte - Zentrum für Astronomie der Universitat Heidelberg (Germany); **Beatriz Barbuy,** Universidade de São Paulo (Brazil); **Stefano Cristiani,** INAF-Osservatorio Astronomico di Trieste (Italy)

13096-297 • 05:30 PM - 07:00 PM
**Development of near-infrared scanning Fabry-Perot spectrometer for 3D spectroscopy: design concept and basic performance evaluation**
*Author(s):* **Hidenori Takahashi,** The Univ. of Tokyo (Japan); **Hiroaki Maezawa,** 3-way Technology Corp. (Japan); **Hiroyuki Hashiba,** Kyowa Seiko Co., Ltd. (Japan); **Hidemi Hishino,** Shinyou Seiki Co. Ltd. (Japan)

13096-298 • 05:30 PM - 07:00 PM
**The simplest magnetograph: a novel approach for a compact instrument for measuring solar magnetic fields**
*Author(s):* **Alexander Pevtsov**, **Austin Monaghan**, **Luca Bertello, Alexei Pevtsov,** National Solar Observatory (United States)

13096-299 • 05:30 PM - 07:00 PM
**VROOMM: a new high-resolution Echelle Spectrograph for Observatoire du Mont Mégantic**
*Author(s):* **Étienne Artigau**, **Jonathan Saint-Antoine**, **Philippe Vallée,** Univ. de Montréal (Canada), Observatoire du Mont-Mégantic (Canada); **Denis Brousseau,** Univ. Laval (Canada), Ctr. d'optique, photonique et laser (Canada); **René Doyon**, **Frédérique Baron,** Univ. de Montréal (Canada), Observatoire du Mont-Mégantic (Canada); **Simon Thibault,** Univ. Laval (Canada), Ctr. d'optique, photonique et laser (Canada); **Lison Malo,** Univ. de Montréal (Canada), Observatoire du Mont-Mégantic (Canada); **Laurie Dauplaise,** Univ. de Montréal (Canada); **Olivier Daigle,** Nüvü Cameras (Canada); **Sylvie Beaulieu,** Observatoire du Mont-Mégantic (Canada); **Neil Cook,** Univ. de Montréal (Canada), Observatoire du MontMégantic (Canada); **Jason Rowe,** Bishop's Univ. (Canada); **Stan Metchev,** Western Univ. (Canada); **Marta Bryan,** Univ. de Montréal (Canada); **Ryan Cloutier,** McMaster Univ. (Canada)

13096-300 • 05:30 PM - 07:00 PM
**A compact R=200,000 NIR cross-dispersed echelle spectrograph realized by germanium immersion grating and all-cordierite reflective optical system**
*Author(s):* **Yuki Sarugaku**, **Shogo Otsubo**, **Tomomi Takeuchi**, **Hideyo Kawakita**, **Hideo Sagawa,** Kyoto Sangyo Univ. (Japan); **Yuji Ikeda,** Photocross Co., Ltd. (Japan), Kyoto Sangyo Univ. (Japan); **Hitoshi Tokoro**, **Tomoyasu Yamamuro,** Photocross Co., Ltd. (Japan); **Sohei Kondo,** The Univ. of Tokyo (Japan); **Chikako Yasui, Satoshi Hamano,** National Astronomical Observatory of Japan (Japan)

13096-301 • 05:30 PM - 07:00 PM
**Atmospheric turbulence monitoring using a robust non-tracking Differential Image Motion Monitor (DIMM)**
*Author(s):* **Jaya Chand,** Durham Univ. (United Kingdom)

13096-302 • 05:30 PM - 07:00 PM
**Precision near-infrared solar spectroscopy with a frequency comb calibrated laser heterodyne radiometer**
*Author(s):* **Connor Fredrick,** Univ. of Colorado Boulder (United States), National Institute of Standards and Technology (United States); **Ryan Cole,** National Institute of Standards and Technology (United States), Bates College (United States); **Winter Parts,** The Pennsylvania State Univ. (United States); **Carolyn Chinatti**, **Max Kingston,** Carleton College (United States); **Kanishk Pandey**, **Suvrath Mahadevan,** The Pennsylvania State Univ. (United States); **Ryan Terrien,** Carleton College (United States); **Scott Diddams,** Univ. of Colorado Boulder (United States)

13096-303 • 05:30 PM - 07:00 PM
**Cryoscope Pathfinder: mounting of low temperature optics**
*Author(s):* **Rishi Pahuja**, **Roger Smith**, **Jason R. Fucik**, **Bob Weber**, **Peter Zarzaca**, **Nicholas Earley, Robert Bertz,** Caltech (United States)

13096-304 • 05:30 PM - 07:00 PM
**Structural, thermal, and opto-mechanical design and analysis of the HISPEC front-end instrument**
*Author(s):* **Alberto Franco**, **Nemanja Jovanovic**, **Ashley D. Baker**, **Mitsuko Roberts**, **James Brugger,** Caltech (United States); **David Brearly**, **Ray Zarzaca,** California Institute of Technology (United States); **Jocelyn Ferrara,** Caltech (United States); **Garreth J. Ruane**, **Truman Wold,** California Institute of Technology (United States); **Jonathan Steiner**, **James Thorne**, **Eduardo Marin,** W. M. Keck Observatory (United States); **Dimitri P. Mawet,** California Institute of Technology (United States); **Rob Bertz, Timothee Greffe,** Caltech (United States)

13096-305 • 05:30 PM - 07:00 PM
**Design of a 1x3 mosaic infrared camera in the K-band based on HgCdTe detectors**
*Author(s):* **Wen-qing Qu**, **Jiang-yuan Wei**, **Hao-ran Ma**, **Yu Ning**, **Zhe Geng**, **Yu Zhang**, **Feng Zeng**, **Hong-fei Zhang, Jian Wang,** Univ. of Science and Technology of China (China)

13096-306 • 05:30 PM - 07:00 PM
**Implementation of a seeing measurement device for the PoET solar telescope**
*Author(s):* **Bachar Wehbé**, **Manuel Abreu,** Univ. de Lisboa (Portugal), Instituto de Astrofísica e Ciências do Espaço (Portugal); **André Silva,** Instituto de Astrofísica e Ciências do Espaço (Portugal); **Alexandre Cabral,** Univ. de Lisboa (Portugal), Instituto de Astrofísica e Ciências do Espaço (Portugal); **Nuno Santos,** Instituto de Astrofísica e Ciências do Espaço (Portugal)

13096-307 • 05:30 PM - 07:00 PM
**FPGA-controlled CMOS image sensor for multiple sub-frame readout**
*Author(s):* **Zhi-Wei Zhang**, **Bo-Jhou Wang**, **Shiang-Yu Wang**, **Hung-Hsu Ling,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Stephen M. Amato**, **John C. Geary,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Yin-Chang Chang**, **Chung-Kai Huang,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Matthew J. Lehner,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan), Univ. of Pennsylvania (United States); **Charles Alcock,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13096-308 • 05:30 PM - 07:00 PM
**KOSMOS II: updating a spectrograph for the Apache Point Observatory ARC 3.5m telescope**
*Author(s):* **Kal Kadlec**, **Sarah E. Tuttle**, **Rishi Pahuja,** Univ. of Washington (United States), Apache Point Observatory (United States); **Debby Tran,** Univ. of Washington (United States); **Conor Sayres**, **José Sánchez-Gallego,** Univ. of Washington (United States), Apache Point Observatory (United States); **James Davenport,** Univ. of Washington (United States); **William Ketzeback**, **Ed Leon**, **Russet McMillan,** Apache Point Observatory (United States); **Riley A. DeColibus,** Apache Point Observatory (United States), New Mexico State Univ. (United States); **Jack Dembicky**, **Candace Gray**, **Amanda Townsend**, **Shane Thomas**, **Jamey Eriksen**, **Tracey Fernandez,** Apache Point Observatory (United States); **John C. Wilson,** Apache Point Observatory (United States), Univ. of Virginia (United States); **Nancy Chanover,** Apache Point Observatory (United States), New Mexico State Univ. (United States)

13096-309 • 05:30 PM - 07:00 PM
**The first Cherenkov Camera of the ASTRI Mini-Array gamma-ray project toward the integration with the ASTRI-1 telescope**
*Author(s):* **Giuseppe Sottile**, **Pierluca Sangiorgi**, **Carmelo Gargano**, **Fabio Lo Gerfo**, **Mattia Corpora**, **Osvaldo Catalano,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Palermo (Italy); **Domenico Impiombato,** INAF - Osservatorio Astronomico di Padova (Italy); **Davide Mollica**, **Milvia Capalbi**, **Teresa Mineo**, **Giovanni Contino**, **Francesco Russo**, **Maria Cettina Maccarone**, **Giovanni La Rosa**, **Salvatore Giarrusso,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Palermo (Italy); **Giuseppe Leto**, **Alessandro Grillo**, **Salvatore Garozzo**, **Davide Marano,** INAF - Osservatorio Astrofisico di Catania (Italy); **Vito Conforti**, **Fulvio Gianotti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Salvatore Scuderi,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Giovanni Pareschi,** INAF - Osservatorio Astronomico di Brera (Italy); **Gino Tosti,** Univ. degli Studi di Perugia (Italy)

13096-310 • 05:30 PM - 07:00 PM
**Calibration unit design for the multi-aperture spectroscopic telescope (MAST)**
*Author(s):* **Hanindyo Kuncarayakti,** Univ. of Turku (Finland); **Jani Achrén,** Incident Angle Oy (Finland); **Sagi Ben-Ami,** Weizmann Institute of Science (Israel); **Seppo Mattila,** Univ. of Turku (Finland); **Yahel Sofer Rimalt**, **Ido Irani**, **Oren Ironi, Ofer Yaron,** Weizmann Institute of Science (Israel)

13096-311 • 05:30 PM - 07:00 PM
**Differential high precision photometry with narrowband filters using HIRAX: instrument overview**
*Author(s):* **Ashley D. Baker,** Caltech (United States); **Tahamid Uzair,** Massachusetts General Hospital (United States); **Nemanja Jovanovic,** Caltech (United States); **Samuel P. Halverson,** Jet Propulsion Lab. (United States); **Andrew Howard**, **Dimitri Mawet, Lauren Fahey,** Caltech (United States)

13096-313 • 05:30 PM - 07:00 PM
**MOSES: the MONET star and exoplanet spectrograph**
*Author(s):* **Sebastian Schäfer**, **Lennart Schmidt**, **Heiko M. Anwand-Heerwart,** Georg-August-Univ. Göttingen (Germany); **Damien Jones,** Prime Optics (Australia); **Ansgar Reiners,** Georg-August-Univ. Göttingen (Germany)

13096-314 • 05:30 PM - 07:00 PM
**Second-generation Fabry-Pérot unit for CARMENES**
*Author(s):* **Hanna Lina Pleteit**, **Michael Debus**, **Sebastian Schäfer, Ansgar Reiners,** Georg-August-Univ. Göttingen (Germany)

13096-316 • 05:30 PM - 07:00 PM
**Development of a full disc solar spectropolarimeter for TauSoL**
*Author(s):* **Markus Roth**, **Hans-Peter Doerr**, **Hemanth Pruthvi**, **Michael Sigwarth, Dirk Soltau,** Thüringer Landessternwarte Tautenburg (Germany)

13096-317 • 05:30 PM - 07:00 PM
**The polarimetric performance of HARPS3 and its impact on the Terra Hunting Experiment scheduling**
*Author(s):* **Patrick Dorval,** Uppsala Univ. (Sweden); **Ioannis Politopoulos,** ASTRON (Netherlands); **Belinda Nicholson,** Univ. of Southern Queensland (Australia); **Rik ter Horst,** ASTRON (Netherlands); **Casper Farret Jentink,** Observatoire Astronomique de l'Universite de Geneve (Switzerland); **Baptiste Klein,** Univ. of Oxford (United Kingdom); **Jan Kragt,** ASTRON (Netherlands); **Annelies Mortier,** University of Birmingham (United Kingdom); **Ramón Navarro,** NOVA (Netherlands); **Tim Naylor,** Univ. of Exeter (United Kingdom); **Jan Rinze Peterzon,** ASTRON (Netherlands); **Nikolai Piskunov,** Uppsala Univ. (Sweden); **Federica Rescignio,** Univ. of Exeter (United Kingdom); **Samantha Thompson,** Univ. of Cambridge (United Kingdom)

13096-319 • 05:30 PM - 07:00 PM
**Polarimetric observations of the Sun in He I 1083 nm line with $LiNbO_3$ Fabry-Perot filtergraph and rotating waveplate**
*Author(s):* **Yoshinori Suematsu,** National Astronomical Observatory of Japan (Japan); **Tomoya Iju,** Kyoto Univ. (Japan); **Kazuya Shinoda**, **Masaoki Hagino,** National Astronomical Observatory of Japan (Japan); **Satoru Ueno**, **Shin'ichi Nagata, Kiyoshi Ichimoto,** Kyoto Univ. (Japan)

13096-320 • 05:30 PM - 07:00 PM
**Development and design of Second Earth Initiative Spectrograph (2ES)**
*Author(s):* **Julian Stürmer,** Landessternwarte Heidelberg (Germany); **Lars Buchhave,** DTU Space (Denmark); **Andreas Seifahrt,** The Univ. of Chicago (United States); **Niels C. Jessen**, **Søren M. Pedersen,** DTU Space (Denmark); **Stan Letchev,** Max-Planck-Institut für Astronomie (Germany); **Rafael Brahm**, **Andrés Jordan,** Uni. Adolfo Ibáñez (Chile); **Thomas Henning**, **Laura Kreidberg,** Max-Planck-Institut für Astronomie (Germany); **Andreas Quirrenbach,** Landessternwarte Heidelberg (Germany); **Ansgar Reiners,** Universität Göttingen (Germany)

13096-321 • 05:30 PM - 07:00 PM
**A novel freeform slicer IFU for the Magellan InfraRed Multi-Object Spectrograph (MIRMOS)**
*Author(s):* **Maren Cosens**, **Nicholas P. Konidaris**, **Gwen P. Rudie**, **Andrew B. Newman**, **Leon Aslan,** Carnegie Institution for Science (United States); **Robert Barkhouser,** LCS Optics LLC (United States); **Andrea Bianco,** INAF - Osservatorio Astronomico di Brera (Italy); **Christoph Birk**, **Julia Brady,** Carnegie Institution for Science (United States); **Michele Frangiamore,** INAF - Osservatorio Astronomico di Brera (Italy); **Tyson S. Hare,** Carnegie Institution for Science (United States); **Stephen C. Hope,** Johns Hopkins Univ. (United States); **Daniel D. Kelson**, **Gerrad Killion,** Carnegie Institution for Science (United States); **Alicia Lanz,** Capella Space (United States); **Solange Ramírez,** Carnegie Institution for Science (United States); **Stephen A. Smee,** Johns Hopkins Univ. (United States); **Andrea Vanella,** INAF - Osservatorio Astronomico di Brera (Italy); **Jason E. Williams,** Carnegie Institution for Science (United States)

13096-322 • 05:30 PM - 07:00 PM
**A focal plane demonstrator for FOBOS**
*Author(s):* **Kevin A. Bundy,** Univ. of California, Santa Cruz (United States); **Kyle B. Westfall**, **Nicholas MacDonald,** Univ. of California Observatories (United States); **Claire Poppett,** Space Sciences Lab., Univ. of California, Berkeley (United States); **Jon Lawrence**, **Celestina Lambert,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Renbin Yan,** The Chinese Univ. of Hong Kong (China); **Ed Wishow,** Space Sciences Lab., Univ. of California, Berkeley (United States); **Michael Goodwin,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Steven Hui,** The Chinese Univ. of Hong Kong (China)

13096-404 • 05:30 PM - 07:00 PM
**Development and initial testing of a fiber-fed Fourier transform spectrograph for solar spectroscopy**
*Author(s):* **Pornapa Artsang**, **Pakakaew Rittipruk,** National Astronomical Research Institute of Thailand (Thailand); **Panomsak Meemon,** Suranaree Univ. of Technology (Thailand); **Sirinrat Sithajan**, **Supachai Awiphan**, **Ponlawat Yoifoi, Christophe Buisset,** National Astronomical Research Institute of Thailand (Thailand)

13096-405 • 05:30 PM - 07:00 PM
**Theoretical analysis of fiber arrangements for improved coupling efficiency in the VBT high-resolution Echelle spectrograph**
*Author(s):* **Nitish Singh**, **Sriram Sripadmanaban**, **Bharat Kumar Yerra, Prasanna G. Deshmukh,** Indian Institute of Astrophysics (India)

## Thursday 20 June 2024

### THURSDAY PLENARY

20 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/thursday-plenary

13173-506 • 08:30 AM - 09:15 AM
**Navigating the radio astronomy renaissance: challenges and opportunities for a sustainable future** (Plenary Presentation)
*Author(s):* **Jessica T. Dempsey,** ASTRON (Netherlands)

13173-507 • 09:15 AM - 10:00 AM
**The x-ray imaging and spectroscopy mission (XRISM): development and expected science** (Plenary Presentation)
*Author(s):* **Makoto S. Tashiro,** Saitama Univ. (Japan)

**Coffee Break 10:00 AM - 10:20 AM**

### SESSION 14: WIDE FIELD IMAGER

20 June 2024 • 10:20 AM - 12:10 PM | Room G401/402, North - 4F
*Session Chair(s):* **Armando Gil de Paz**, Univ. Complutense de Madrid (Spain)

13096-60 • 10:20 AM - 10:50 AM
**Building the LSST camera** *(Invited Paper)*
*Author(s):* **Travis Lange**, **Martin Nordby**, **Hannah Pollek**, **Shawn Osier**, **Boyd Bowdish**, **Diane Hascall**, **Margaux Lopez**, **Scott P. Newbry**, **Juan Carlos Lazarte**, **Gregg Thayer**, **Homer Neal**, **Michael Silva**, **David Kiehl**, **Andrew Hau**, **Tom Nieland**, **Nico Linton**, **Mark Freytag**, **Stephen Cisneros**, **Chris Mendez**, **Stuart Marshall**, **Yousuke Utsumi**, **Anthony Johnson**, **Andrew P. Rasmussen**, **Aaron Roodman**, **Stephen A. Tether**, **Alan Eisner**, **Max Turri**, **Dmitry Onoprienko**, **Owen Saxton**, **James Chiang**, **Seth W. Digel**, **Andrew K. Bradshaw**, **Kevin A. Reil,** SLAC National Accelerator Lab. (United States); **Vincent Riot**, **Justin E. Wolfe,** Lawrence Livermore National Lab. (United States); **Bill Wahl,** Brookhaven National Lab. (United States); **Pierre Antilogus,** Institut National de Physique Nucléaire et de Physique des Particules du CNRS (France); **Claire Juramy,** Lab. Physique Nucléaire et Hautes Énergies (France); **Françoise Virieux**, **Alexandre Boucaud**, **Camille Parisel**, **Eric Aubourg**, **Eric Lagorio**, **Pierre Karst**, **Aurelien Marini**, **Didier Laporte**, **Francis Vezzu**, **Guillaume Daubard**, **Patrick Breugnon,** Institut National de Physique Nucléaire et de Physique des Particules du CNRS (France); **Tony Tyson,** Univ. of California, Davis (United States); **Tim Bond,** GMTO Corp. (United States); **David C. Shelley,** SLAC National Accelerator Lab. (United States)

13096-61 • 10:50 AM - 11:10 AM
**The Keck Wide Field Imager and deployable secondary mirror**
*Author(s):* **Matthew V. Radovan,** Univ. of California Observatories (United States); **Rob Bertz,** Caltech Optical Observatories (United States); **Jeffrey Cooke,** Swinburne Univ. of Technology (Australia); **Richard Dekany**, **Jason R. Fucik**, **Shanti Krishnan**, **Larry Lingvay,** Caltech Optical Observatories (United States); **Gregory Poole**, **Ray Seikel,** Swinburne Univ. of Technology (Australia); **Roger Smith,** Caltech Optical Observatories (United States); **Nao Suzuki,** Lawrence Berkeley National Lab. (United States); **Tony Travouillon,** The Australian National Univ. (Australia); **Bas Huisman, Arjo Bos,** TNO (Netherlands)

13096-62 • 11:10 AM - 11:30 AM
**First scientific operation of JPCam, the 1.2 Gpixel camera for the Javalambre-Physics of the Accelerating Universe Astrophysical Survey (J-PAS)**
*Author(s):* **Antonio Marín-Franch**, **Carlos López-Sanjuan**, **Héctor Vázquez-Ramó**, **Javier Zaragoza-Cardiel**, **Sergio Rueda-Teruel**, **Guillermo López-Alegre**, **Rafael Bello**, **Javier Hernández-Fuertes**, **César Iñiguez**, **David Muniesa-Gallardo**, **Javier Cenarro**, **David Cristobal-Hornillos**, **Alessandro Ederoclite**, **Antonio Hernán-Caballero**, **Fabiola Hernández-Pérez**, **Raul Infante-Sanz**, **Teet Kuutma**, **Mariano Moles**, **Andrés del Pino**, **Stylianos Pyrzas**, **Jesús Varela**, **Mohammad Akhlaghi**, **María Almarcegui**, **Samuel Bielsa de Toledo**, **Juan Castillo**, **Tamara Civera**, **Mario Cervera-Cortés**, **Sergio Chueca**, **Mikel Domíngez-Martínez**, **David Garcés-Cubel**, **Ángel López-Sáinz**, **David Lozano-Pérez**, **Nuria Martínez-Olivar**, **Alberto Moreno-Signes**, **Jorge Muñoz-Maudos**, **Alejandro Muñoz-Teruel**, **Héctor Rueda-Asensio**, **Fernando Rueda-Teruel**, **Héctor Vives-Arias**, **Axel Yanes-Díaz**, **Miguel Chioare Díaz-Martín**, **Ramón Iglesias-Marzoa**, **Francisco Galindo-Guil**, **Elvis Lacruz-Calderón**, **Jose Luis Lamadrid-Gutierrez**, **Fátima López-Martínez**, **Natalio Maicas-Sacristán,** Ctr. de Estudios de Física del Cosmos de Aragón (Spain); **Keith Taylor,** Instruments4, CA 91011, USA (United States); **Fernando Santoro,** Magdalena Ridge Observatory (United States); **Jordi Cepa,** IAC (Spain); **Carlos Fermino,** EFE Tecnologias Industriais (Brazil); **Matt Bastable**, **Gordon Haddow**, **Ian Palmer**, **Chris Simpson**, **Antonino Spatola**, **Helen Sweeney**, **Christophe Tatard**, **Josh Breading,** Teledyne-e2v (United Kingdom); **Ulf brauneck,** Schott Suisse SA (Switzerland); **Joan Manel Casalta,** Sener Aeroespacial (Spain); **Raul Abramo,** Universidade de Sao Paulo (Brazil); **Jailson Alcaniz,** Observatorio Nacional (Brazil); **Txitxo Benitez,** IAA (Spain); **Bonoli Silvia,** DIPC (Spain); **Saulo Carneiro,** Universidade Federal da Bahia (Brazil); **Renato Dupke,** Observatorio Nacional (Brazil); **Claudia Mendes de Oliveira**, **Laerte Sodre,** Universidade de Sao Paulo (Brazil); **José Vilchez,** IAA (Spain)

13096-63 • 11:30 AM - 11:50 AM
**Photometric performance of an Antarctic astronomical optical observational array prototype in the first year**
*Author(s):* **Xinyu Yao,** Shanghai Astronomical Observatory (China); **Zhenghong Liu,** Univ. of Chinese Academy of Sciences (China); **Jian Ge**, **Jie Zhu**, **Dan Zhou**, **Zhenghong Tang,** Shanghai Astronomical Observatory (China); **Xiang Pan,** Polar Research Institute of China (China); **Lixin Zheng**, **Jianjun Cao**, **Guoping Chen**, **Yong Yu,** Shanghai Astronomical Observatory (China); **Peng Jiang**, **Chenwei Yang,** Polar Research Institute of China (China); **Yu Chen, Shanyu Wang,** Univ. of Chinese Academy of Sciences (China)

13096-90 • 11:50 AM - 12:10 PM
**LSST camera verification testing & characterization**
*Author(s):* **Aaron J. Roodman**, **Andrew K. Bradshaw**, **Yousuke Utsumi**, **Stuart Marshall**, **Homer Neal**, **Andrew Rasmussen**, **Seth Digel**, **Jim Chiang**, **Eric Charles**, **Tony Johnson**, **Richard Dubois**, **Gregg Thayer**, **Max Turri**, **Dmitry Onoprienko**, **Alan Eisner**, **Owen Saxton**, **Stephen Tether**, **Theo Schutt**, **Shuang Liang**, **Martin Nordby,** SLAC National Accelerator Lab. (United States); **Vincent Riot**, **Justin Wolfe,** Lawrence Livermore National Lab. (United States); **Tim Bond,** GMTO Corp. (United States); **Kevin Reil**, **Travis Lange**, **Hannah Pollek**, **Chris Mendez,** SLAC National Accelerator Lab. (United States); **Steve Kahn,** Univ. of California, Berkeley (United States); **Brian Qiu**, **Boyd Bowdish**, **Margaux Lopez**, **Diane Hascall**, **Scott P. Newbry**, **Shawn Osier**, **Juan Carlos Lazarte**, **Mark Freytag**, **Stephen Cisneros,** SLAC National Accelerator Lab. (United States); **Adrian Shestakov**, **Duncan Wood**, **Steve Ritz**, **Renee Nichols,** Univ. of California, Santa Cruz (United States); **Alex Broughton,** Univ. of California, Irvine (United States); **Paul O'Connor**, **John Banovetz,** Brookhaven National Lab. (United States); **Anthony Tyson**, **Craig Lage**, **Adam Snyder**, **Daniel Polin,** Univ. of California, Davis (United States); **Johnny Esteves,** Univ. of Michigan (United States); **Myriam Migliore**, **Celine Combet**, **Aurélien Barrau**, **Johan Bregeon,** Lab. de Physique Subatomique et Cosmologie (France); **Pierre Antilogus**, **Pierre Astier**, **Claire Juramy,** Lab. Physique Nucléaire et Hautes Énergies (France); **Thibault Guillemin,** Lab. d'Annecy de Physique des Particules (France); **Francoise Virieux,** Lab. Physique Nucléaire et Hautes Énergies (France); **Alexandre Boucaud**, **Camille Parisel**, **Eric Aubourg,** Astroparticule et Cosmologie (France); **Eric Lagorio,** Lab. de Physique Subatomique et Cosmologie (France); **Pierre Karst**, **Aurelien Marini,** Ctr. de Physique des Particules de Marseille (France); **Didier Laporte,** Lab. Physique Nucléaire et Hautes Énergies (France); **Francis Vezzu,** Lab. de Physique Subatomique et Cosmologie (France); **Guillaume Daubard,** Lab. Physique Nucléaire et Hautes Énergies (France); **Guillaume Dargaud,** Lab. de Physique Subatomique et Cosmologie (France); **Patrick Breugnon,** Ctr. de Physique des Particules de Marseille (France); **Merlin Fisher-Levine,** Princeton Univ. (United States)

## Lunch/Exhibition Break 12:10 PM - 01:30 PM

## SESSION 15: WIDE-BAND SPECTROGRAPHS

20 June 2024 • 01:30 PM - 02:30 PM | Room G401/402, North - 4F
*Session Chair(s):* **Kentaro Motohara**, National Astronomical Observatory of Japan (Japan)

13096-65 • 01:30 PM - 01:50 PM
**Walking with SOXS towards the transient sky**
*Author(s):* **Pietro Schipani,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Sergio Campana**, **Riccardo Claudi**, **Matteo Aliverti**, **Andrea Baruffolo,** INAF (Italy); **Sagi Ben-Ami,** Weizmann Institute of Science (Israel); **Giulio Capasso,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Rosario Cosentino,** Fundación Galileo Galilei - INAF (Spain); **Mirko Colapietro,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Francesco D'Alessio**, **Paolo D'Avanzo,** INAF (Italy); **Ofir Hershko,** Weizmann Institute of Science (Israel); **Hanindyo Kuncarayakti,** Univ. of Turku (Finland); **Marco Landoni**, **Matteo Munari,** INAF (Italy); **Giuliano Pignata,** Univ. de Tarapacá (Chile); **Kalyan Radhakrishnan,** INAF (Italy); **Adam Rubin,** European Southern Observatory (Germany); **Salvatore Scuderi**, **Fabrizio Vitali,** INAF (Italy); **David Young,** Queen's Univ. Belfast (United Kingdom); **Matteo Accardo,** European Southern Observatory (Germany); **Jani Achrén,** Incident Angle Oy (Finland); **José A. Araiza-Durán,** INAF (Italy); **Lair Arcavi,** Tel Aviv Univ. (Israel); **Laura Asquini**, **Federico Battaini,** INAF (Italy); **Alex Bichkovsky,** Weizmann Institute of Science (Israel); **Anna Brucalassi,** INAF (Italy); **Rachel Bruch,** Weizmann Institute of Science (Israel); **Enrico Cappellaro,** INAF (Italy); **Massimo Della Valle,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Simone Di Filippo**, **Rosario Di Benedetto,** INAF (Italy); **Sergio D'Orsi,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Avishay Gal-Yam,** Weizmann Institute of Science (Israel); **Matteo Genoni,** INAF (Italy); **Marcos Hernandez,** Fundación Galileo Galilei - INAF (Spain); **Derek Ives**, **Hans-Ulrich Kaeufl,** European Southern Observatory (Germany); **Jari Kotilainen,** Finnish Ctr. for Astronomy with ESO (Finland); **Gianluca Li Causi**, **Luigi Lessio,** INAF (Italy); **Laurent Marty,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Seppo Mattila,** Univ. of Turku (Finland); **Leander Mehrgan**, **Luca Pasquini**, **Emanuela Pompei,** European Southern Observatory (Germany); **Michael Rappaport,** Weizmann Institute of Science (Israel); **Davide Ricci**, **Marco Riva**, **Bernardo Salasnich,** INAF (Italy); **Salvatore Savarese,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Ivo Saviane**, **Markus Schoeller**, **Armin Silber,** European Southern Observatory (Germany); **Stephen Smartt,** Univ. of Oxford (Italy); **Ricardo Zanmar Sanchez,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Maximilian Stritzinger,** Aarhus Univ. (Denmark); **Antonio Sulich,** INAF (Italy); **Hector Pérez Ventura,** Fundación Galileo Galilei - INAF (Spain); **Lorenzo Cabona,** INAF (Italy)

13096-66 • 01:50 PM - 02:10 PM
**A new spectrograph of bi-channel with ultra-wide band and high flux for MOST (SCUTUM) telescope**
*Author(s):* **Hangxin Ji**, **Jun Li**, **Songxin Dai**, **Haoran Yu**, **Shuling Zhang**, **Yi Chen,** Nanjing Institute of Astronomical Optics & Technology (China); **Jinyu Pan**, **Qimeng Xu,** Nanjing Institute of Astronomical Optics & Technology (China), Univ. of Chinese Academy of Sciences (China); **Yongtian Zhu, Zhongwen Hu,** Nanjing Institute of Astronomical Optics & Technology (China)

13096-67 • 02:10 PM - 02:30 PM
**Development of ProtoPol: a medium resolution echelle spectro-polarimeter for PRL 1.2m and 2.5m telescopes, Mt Abu, India**
*Author(s):* **Mudit K. Srivastava,** Physical Research Lab. (India); **Arijit Maiti,** Physical Research Lab (India); **Vipin Kumar,** Institute of Physics I, Univ. zu Köln (Germany); **Bhavesh Mistry**, **Ankita Patel**, **Vaibhav Dixit, Kevikumar Lad,** Physical Research Lab. (India)

## SESSION 16: AO INSTRUMENT II

20 June 2024 • 02:30 PM - 03:30 PM | Room G401/402, North - 4F
*Session Chair(s):* **Kentaro Motohara**, National Astronomical Observatory of Japan (Japan)

13096-68 • 02:30 PM - 02:50 PM
**SHARK-NIR commissioning and early science runs**
*Author(s):* **Domenico Barbato**, **Jacopo Farinato**, **Andrea Baruffolo**, **Maria Bergomi,** INAF - Osservatorio Astronomico di Padova (Italy); **Andrea Bianco,** INAF - Osservatorio Astronomico di Brera (Italy); **Federico Biondi,** Max-Planck-Institut für extraterrestrische Physik (Italy); **Florian Briegel,** Max-Planck-Institut für Astronomie (Germany); **Elena Carolo,** INAF - Osservatorio Astronomico di Padova (Italy); **Alexis Carlotti,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Simonetta Chinellato,** INAF - Osservatorio Astronomico di Padova (Italy); **Albert Conrad,** Steward Observatory, The Univ. of Arizona (United States); **Marco De Pascale**, **Simone Di Filippo**, **Marco Dima**, **Valentina D'Orazi,** INAF - Osservatorio Astronomico di Padova (Italy); **Steve Ertel,** The Univ. of Arizona (United States); **Tania Sofia Gomes Machado**, **Davide Greggio,** INAF - Osservatorio Astronomico di Padova (Italy); **Juan Carlos Guerra,** The Univ. of Arizona (United States); **Thomas Henning,** Max-Planck-Institut für Astronomie (Germany); **John M. Hill,** The Univ. of Arizona (United States); **Fulvio Laudisio**, **Luigi Lessio**, **Alessandro Lorenzetto**, **Demetrio Magrin**, **Luca Marafatto**, **Dino Mesa,** INAF - Osservatorio Astronomico di Padova (Italy); **Doug Miller,** The Univ. of Arizona (United States); **Lars Mohr,** Max-Planck-Institut für Astronomie (Germany); **Manny Montoya**, **Jennifer Power,** The Univ. of Arizona (United States); **Kalyan Radhakrishnan**, **Davide Ricci,** INAF - Osservatorio Astronomico di Padova (Italy); **Gabriele Umbriaco,** Univ. degli Studi di Bologna (Italy); **Daniele Vassallo**, **Valentina Viotto,** INAF - Osservatorio Astronomico di Padova (Italy); **Greg Taylor,** The Univ. of Arizona (United States); **Alessio Zanutta,** INAF - Osservatorio Astronomico di Brera (Italy); **Simone Antoniucci,** INAF - Osservatorio Astronomico di Roma (Italy); **Carmelo Arcidiacono,** INAF - Osservatorio Astronomico di Padova (Italy); **Francesca Bachiotti,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Pierre Baudoz,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France); **Angela Bongiorno,** INAF - Osservatorio Astronomico di Roma (Italy); **Laird Close,** The Univ. of Arizona (United States); **Simone Esposito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Paul Grenz**, **Olivier Guyon**, **Jarron M. Leisenring,** The Univ. of Arizona (United States); **Fernando Pedichini**, **Roberto Piazzesi,** INAF - Osservatorio Astronomico di Roma (Italy); **Enrico Pinna,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Elisa Portaluri,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Alfio Puglisi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Roberto Ragazzoni,** INAF - Osservatorio Astronomico di Padova (Italy); **Fabio Rossi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Joseph V. Shields,** The Univ. of Arizona (United States)

13096-69 • 02:50 PM - 03:10 PM
**The high-contrast performance of the Keck Planet Imager and Characterizer**
*Author(s):* **Jason J. Wang,** Northwestern Univ. (United States); **Dimitri Mawet,** Caltech (United States), Jet Propulsion Lab. (United States); **Jean-Baptiste Ruffio,** Univ. of California, San Diego (United States); **Jerry W. Xuan**, **Katelyn Horstman**, **Yinzi Xin,** Caltech (United States); **Jacques-Robert Delorme,** W. M. Keck Observatory (United States); **Nemanja Jovanovic,** Caltech (United States); **Luke Finnerty,** Univ. of California, Los Angeles (United States)

13096-70 • 03:10 PM - 03:30 PM
**FRIDA: diffraction-limited imaging and integral-field spectroscopy for the GTC**
*Author(s):* **Alan M. Watson,** Univ. Nacional Autónoma de México (Mexico); **José A. Acosta-Pulido**, **Marta Aguiar Gonzalez,** Instituto de Astrofísica de Canarias (Spain); **Luis C. Álvarez-Núñez,** Univ. Nacional Autónoma de México (Mexico); **Víctor J. S. Béjar,** Instituto de Astrofísica de Canarias (Spain); **Nicolás Cardiel,** Univ. Complutense de Madrid (Spain); **Oscar Chapa**, **Salvador Cuevas,** Univ. Nacional Autónoma de México (Mexico); **Stephen S. Eikenberry,** Univ. of Central Florida (United States); **Carlos Espejo**, **Rubén Flores-Meza**, **Jorge Fuentes-Fernández,** Univ. Nacional Autónoma de México (Mexico); **José R. Fujarte,** Ctr. de Ingenieria y Desarrollo Industrial (Mexico); **Jesús Gallego Maestro,** Univ. Complutense de Madrid (Spain); **José L. Garcés Medina,** Univ. Nacional Autónoma de México (Mexico); **Francisco Garzón López,** Instituto de Astrofísica de Canarias (Spain); **Peter Hammersley,** European Southern Observatory (Germany); **Enrique Jovén Álvarez,** Instituto de Astrofísica de Canarias (Spain); **Carolina Keiman**, **Gerardo Lara**, **José A. López,** Univ. Nacional Autónoma de México (Mexico); **Enol Matilla,** Instituto de Astrofísica de Canarias (Spain); **Carlos A. Ortega,** Ctr. de Ingenieria y Desarrollo Industrial (Mexico); **Sergio Pascual Ramírez,** Univ. Complutense de Madrid (Spain); **Jesús Patrón Recio**, **Almudena Prieto,** Instituto de Astrofísica de Canarias (Spain); **Berenice Rodríguez,** Ctr. de Ingenieria y Desarrollo Industrial (Mexico); **Beatriz Sánchez,** Univ. Nacional Autónoma de México (Mexico); **José E. Sánchez,** Ctr. de Ingenieria y Desarrollo Industrial (Mexico)

### Coffee Break 03:30 PM - 04:00 PM

## SESSION 17: IFS II

20 June 2024 • 04:00 PM - 05:30 PM | Room G401/402, North - 4F
*Session Chair(s):* **Ruben Sanchez-Janssen**, UK Astronomy Technology Ctr. (United Kingdom)

13096-71 • 04:00 PM - 04:30 PM

**The construction and commissioning of the SDSS-V/Local Volume Mapper Instrument** *(Invited Paper)*

*Author(s):* **Nicholas P. Konidaris**, **Guillermo Blanc,** Carnegie Observatories (United States); **Thomas M. Herbst,** Max-Planck-Institut für Astronomie (Germany); **José Sánchez-Gallego,** Univ. of Washington (United States); **Cynthia S. Froning,** Southwest Research Institute (United States); **Stefanie Wachter**, **Juna A. Kollmeier**, **Solange Ramírez,** Carnegie Observatories (United States); **Niv Drory,** The Univ. of Texas at Austin (United States); **Hojae Ahn,** Kyung Hee Univ. (Korea, Republic of); **Leon Aslan,** Carnegie Observatories (United States); **Felipe Besser,** Las Campanas Observatory (Chile); **Pavan Bilgi,** Carnegie Observatories (United States); **Dmitry Bizyaev,** Apache Point Observatory (United States); **Peter Bizenberger,** Max-Planck-Institut für Astronomie (Germany); **Julia Brady,** Carnegie Observatories (United States); **Rebecca Brown,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Florian Briegel,** Max-Planck-Institut für Astronomie (Germany); **Scott Case,** Australian Astronomical Optics, Macquarie Univ. (Australia); **John Donor,** Texas Christian Univ. (United States); **Tobias Feger,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Mauricio Flores,** Las Campanas Observatory (Chile); **Wolfgang Gaessler,** Max-Planck-Institut für Astronomie (Germany); **Carlos Godoy,** Las Campanas Observatory (Chile); **Maximilian Häberle,** Max-Planck-Institut für Astronomie (Germany); **Ellen Houston,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Charlie Hull,** Carnegie Observatories (United States); **Amy Jones,** Space Telescope Science Institute (United States); **Evelyn Johnston,** Univ. Diego Portales (Chile); **Changgon Kim,** Kyung Hee Univ. (Korea, Republic of); **Vince Kowal,** Carnegie Observatories (United States); **Yevgen Kripak,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Kathryn Kreckel,** Zentrum für Astronomie der Univ. Heidelberg (Germany); **Markus Kuhlberg,** Max-Planck-Institut für Astronomie (Germany); **Alicia Lanz,** Capella Space (United States); **Michael P. Lesser,** The Univ. of Arizona (United States); **Richard Mathar,** Max-Planck-Institut für Astronomie (Germany); **Francisco Morales,** FRISO Architecture (Chile); **Soojong Pak,** Kyung Hee Univ. (Korea, Republic of); **Povilas Palunas,** Las Campanas Observatory (Chile); **Christopher Ritz**, **Hans-Walter Rix,** Max-Planck-Institut für Astronomie (Germany); **David Robertson,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Marcelo Rodriguez,** Las Campanas Observatory (Chile); **Ralf-Rainer Rohloff,** Max-Planck-Institut für Astronomie (Germany); **Mingyeong Yang,** Kyung Hee Univ. (Korea, Republic of); **Abner Zapata,** Las Campanas Observatory (Chile); **Ross Zhelem,** Australian Astronomical Optics, Macquarie Univ. (Australia)

13096-72 • 04:30 PM - 04:50 PM

**TARSIS, the 8 arcmin^2 IFU for the Calar Alto 3.5m telescope**

*Author(s):* **Armando Gil de Paz,** Univ. Complutense de Madrid (Spain); **Jorge Iglesias-Páramo,** Instituto de Astrofísica de Andalucía (Spain); **Esperanza Carrasco Licea,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Jesús Gallego Maestro,** Universidad Complutense de Madrid (Spain); **Marísa L. García-Vargas,** FRACTAL S.L.N.E. (Spain); **Luis Hernández,** Observatorio de Calar Alto, Instituto de Astrofísica de Andalucía (Spain); **Gracia E. Martín Garzón,** Univ. de Almería (Spain); **José Oñorbe,** Univ. de Sevilla (Spain); **Javier Piqueras,** Centro de Astrobiología (Spain), INTA Instituto Nacional de Técnica Aeroespacial (Spain), Consejo Superior de Investigaciones Científicas (Spain); **José M. Vílchez,** Instituto de Astrofísica de Andalucía (Spain), Consejo Superior de Investigaciones Científicas (Spain); **Patricia Sánchez-Blázquez,** Univ. Complutense de Madrid (Spain); **Carolina Kehrig,** Instituto de Astrofísica de Andalucía (Spain), Consejo Superior de Investigaciones Científicas (Spain); **Alfredo Montaña,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Francisco M. Montenegro-Montes,** Universidad Complutense de Madrid (Spain); **Ana Pérez-Calpena,** FRACTAL S.L.N.E. (Spain); **Simon Tulloch,** QUCAM (Spain); **Miguel Abril,** Instituto de Astrofísica de Andalucía (Spain); **Sergio Pascual**, **Nicolás Cardiel**, **África Castillo-Morales,** Univ. Complutense de Madrid (Spain); **Yolanda Jiménez-Teja,** Instituto de Astrofísica de Andalucía (Spain); **Vicente González-Ruíz,** Univ. de Almería (Spain); **David Pérez Medialdea, Rocío Calvo-Ortega,** Instituto de Astrofísica de Andalucía (Spain)

13096-73 • 04:50 PM - 05:10 PM

**Designs and novel architectures for Narrowband Integral Field Spectrographs (NB-IFS) for astrophysics**

*Author(s):* **David Schiminovich,** Columbia Univ. (United States); **Nicole D. Melso,** Steward Observatory, The Univ. of Arizona (United States); **Ignacio Cevallos-Aleman, Meghna Sitaram,** Columbia Univ. (United States)

13096-74 • 05:10 PM - 05:30 PM
**The Blue Multi Unit Spectroscopic Explorer (BlueMUSE) on the VLT: science drivers and overview of instrument design**
*Author(s):* **Johan Richard**, **Rémi Giroud**, **Florence Laurent,** Ctr. de Recherche Astrophysique de Lyon (France); **Davor Krajnovic,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Alexandre Jeanneau**, **Roland Bacon,** Ctr. de Recherche Astrophysique de Lyon (France); **Manuel Abreu,** Instituto de Astrofísica e Ciências do Espaço (Portugal); **Angela Adamo,** Stockholm Univ. (Sweden); **Ricardo Araujo,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Nicolas Bouché,** Ctr. de Recherche Astrophysique de Lyon (France); **Jarle Brinchmann,** Instituto de Astrofísica e Ciências do Espaço (Portugal); **Zhemin Cai,** Australian Astronomical Optics (Australia); **Norberto Castro Rodriguez,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Luca Cortese,** Australian Astronomical Optics (Australia); **Ariadna Calcines,** Ctr. for Advanced Instrumentation, Durham Univ. (United Kingdom); **Diane Chapuis,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Adelaide Claeyssens,** Stockholm Univ. (Sweden); **Emanuele Daddi,** CEA-IRFU (France); **Christopher Davison,** Ctr. for Advanced Instrumentation, Durham Univ. (United Kingdom); **Michael Goodwin,** Australian Astronomical Optics, Macquarie Univ. (Australia), Astralis (Australia); **Robert J Harris,** Ctr. for Advanced Instrumentation (United Kingdom); **Matthew Hayes,** Stockholm Univ. (Sweden); **Mathilde Jauzac,** Ctr. for Advanced Instrumentation, Durham Univ. (United Kingdom); **Andreas Kelz,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Jean-Paul Kneib,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Audrey Lanotte,** Univ. de Genève (Switzerland); **Jon Lawrence,** Australian Astronomical Optics, Macquarie Univ. (Australia), Astralis (Australia); **Vianney Le Bouteillier**, **Rémy Lebreton,** CEA-IRFU (France); **Matthew Lehnert,** Ctr. de Recherche Astrophysique de Lyon (France); **Angel Lopez Sanchez,** Australian Astronomical Optics, Macquarie Univ. (Australia), Astralis (Australia); **Helen Mc Gregor,** Australian Astronomical Optics (Australia); **Anna Mc Leod,** Ctr. for Advanced Instrumentation (United Kingdom); **Manuel Monteiro,** Instituto de Astrofísica e Ciências do Espaço (Portugal); **Simon Morris,** Ctr. for Advanced Instrumentation, Durham Univ. (United Kingdom); **Cyrielle Opitom,** Institute for Astronomy, University of Edinburgh, Royal Observatory (United Kingdom); **Arlette Pécontal,** Ctr. de Recherche Astrophysique de Lyon (France); **David Robertson,** Australian Astronomical Optics, Macquarie Univ. (Australia), Astralis (Australia); **Jesse van der Sande,** School of Physics, University of New South Wales (Australia); **Russel Smith,** Ctr. for Advanced Instrumentation (United Kingdom); **Matthias Steinmetz,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Mark Swinbank,** Ctr. for Advanced Instrumentation, Durham Univ. (United Kingdom); **Tanya Urrutia,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Anne Verhamme,** Univ. de Genève (Switzerland); **Peter M Weilbacher,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Martin Wendt,** Univ Potsdam, Inst Phys \& Astron (Germany); **François Wildi,** Univ. de Genève (Switzerland); **Jessica Zheng,** Australian Astronomical Optics (Australia)

## SESSION PS5: POSTERS - RAPID-RESPONSE INSTRUMENTS

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13096-323 • 05:30 PM - 07:00 PM
**Assembly, integration, and verification phase of the SCORPIO instrument for Gemini South**
*Author(s):* **Massimo Robberto,** Space Telescope Science Institute (United States); **Peter W. A. Roming**, **Scott Sutherland**, **Todd J. Veach**, **Kelly D. Smith**, **Linda Theis**, **Adam Thorton**, **Tyler Barnes**, **Paul Schlueter**, **Rebecca R. Thibodeaux**, **Andrew L. Peterson**, **Alexa K. Mathias**, **Trent Peterson**, **Jeff Desmarais**, **Thomas Lechner,** Southwest Research Institute (United States); **Dana Koeppe,** Johns Hopkins Univ. (United States); **Marísa Luisa L. García-Vargas**, **Manuel Maldonado Medina**, **Ana Pérez Calpena**, **Ernesto Sánchez Blanco**, **Gerardo Veredas,** FRACTAL S.L.N.E. (Spain); **David Henderson**, **Brian Chinn**, **Alena Cicakova**, **Laura Funk**, **Pablo Prado**, **Rodolfo Angeloni**, **Ruben Diaz**, **Thomas L. Hayward**, **Kathleen Labrie**, **Francisco Ramos**, **Rolando Rogers**, **Jose Varas**, **Sergio Troncoso**, **Ignacio Arriagada**, **Lindsay Magill**, **Oyku Galvan,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Alexander van der Horst**, **Landon Gelman,** The George Washington Univ. (United States); **Stephen Smee**, **Stephen C. Hope**, **Aidan Gray**, **Robert H. Barkhouser,** Johns Hopkins Univ. (United States); **Andreas Seifahrt,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Cynthia S. Froning,** Southwest Research Institute (United States)

13096-324 • 05:30 PM - 07:00 PM
**Instrumentation at the SAAO for autonomous rapid-response observing**
*Author(s):* **Nicolas Erasmus,** South African Astronomical Observatory (South Africa); **Stephen B. Potter,** South African Astronomical Observatory (South Africa), Univ. of Johannesburg (South Africa); **Carel H.D. R. van Gend**, **Egan Loubser**, **Kathryn Rosie**, **Keegan Titus**, **Sunil Chandra**, **Hannah L. Worters**, **Hitesh Gajjar**, **Moloko Hlakola,** South African Astronomical Observatory (South Africa); **Roufurd Julie,** South African Radio Astronomy Observatory (South Africa)

13096-325 • 05:30 PM - 07:00 PM
**Minimization of residuals in the CFHT astrometric camera pointing model**
*Author(s):* **Windell Jones**, **Marc R. Baril, Tom Vermeulen,** Canada-France-Hawaii Telescope Corp. (United States)

13096-326 • 05:30 PM - 07:00 PM
**A low-resolution high-throughput spectrograph for the New Robotic Telescope**
*Author(s):* **Beth Garton**, **Iain Steele**, **Helen Jermak, Chloe Miossec,** Astrophysics Research Institute (United Kingdom)

## SESSION PS6: POSTERS - DESIGN/PROTOTYPING OF INSTRUMENTATION FOR CURRENT OBSERVATORIES

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13096-327 • 05:30 PM - 07:00 PM
**Fibre system for the Devasthal Optical Telescope High-Resolution Spectrograph**
*Author(s):* **Tobias Feger**, **Jurek Brzeski**, **Ali Ghari Zadeh**, **Sana Syed**, **Christian Schwab**, **Timothy Chin**, **Rolf Muller**, **Slavko Mali**, **Lew Waller,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Jacob Pember,** KU Leuven (Belgium); **Julian Stürmer,** Landessternwarte Heidelberg (Germany); **Gert Raskin,** KU Leuven (Belgium); **Helen McGregor**, **Celestina S. Lacombe**, **Jessica Zheng, Jon Lawrence,** Australian Astronomical Optics, Macquarie Univ. (Australia)

13096-328 • 05:30 PM - 07:00 PM
**Opto-mechanical design and thermal analysis of the Devasthal Optical Telescope High-Resolution Spectrograph**
*Author(s):* **Nirmala Kunwar**, **Zhemin Cai**, **Jurek Brzeski,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Joel Harman,** UK Astronomy Technology Ctr. (United Kingdom); **Johan Morren,** KU Leuven (Belgium); **Tobias Feger,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Jacob Pember,** KU Leuven (Belgium); **Timothy Chin**, **Lew Waller,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Gert Raskin,** KU Leuven (Belgium); **Christian Schwab**, **Helen McGregor**, **Celestina S. Lacombe**, **Jon Lawrence, Slavko Mali,** Australian Astronomical Optics, Macquarie Univ. (Australia)

13096-329 • 05:30 PM - 07:00 PM
**Mechanical design of the pick-up arm for TIFR-ARIES multi-object optical to near infrared spectrometer (TA-MOONS)**
*Author(s):* **Harshit Shah**, **Joe P. Ninan**, **Satheesha S. Poojary**, **Devendra K. Ojha,** Tata Institute of Fundamental Research (India); **Krishna Reddy**, **Saurabh Sharma,** Aryabhatta Research Institute of Observational Sciences (India); **Bhaswati Mookerjea**, **Manoj Puravankara**, **Savio D'Costa**, **Milind B. Naik**, **Pradeep R. Sandimani**, **Shailesh B. Bhagat**, **Rajesh B. Jadhav**, **Yogesh K. Arora**, **Varghese Reji,** Tata Institute of Fundamental Research (India); **Nandish Nanjappa**, **Tarun Bangia,** Aryabhatta Research Institute of Observational Sciences (India); **Krushna Jadhav,** T (India); **Mukesh Jaiswar,** Aryabhatta Research Institute of Observational Sciences (India); **Sanjay Gharat,** Tata Institute of Fundamental Research (India)

13096-330 • 05:30 PM - 07:00 PM
**A simulation and test system for CCD detector system of Wide Field Survey Telescope**
*Author(s):* **Ying-fan Guo**, **Hui Wang**, **Hong-fei Zhang**, **Qi Feng**, **Jia-ming Li, Jian Wang,** Univ. of Science and Technology of China (China)

13096-331 • 05:30 PM - 07:00 PM
**Application of FGPA-based high-speed fiber position detection in LAMOST**
*Author(s):* **Qiyun Shen**, **Wenfei Liu**, **Yingfu Wang**, **Jiahao Zhou**, **Ziming Liu**, **Rongfeng Chen**, **Jiacheng Xie**, **Hongzhuan Hu**, **Jianping Wang**, **Jiaru Chu**, **Zhigang Liu**, **Ping Zhang, Zengxiang Zhou,** Univ. of Science and Technology of China (China)

13096-332 • 05:30 PM - 07:00 PM
**Optical design of the TIFR-ARIES multi-object optical to near infrared spectrometer (TA-MOONS)**
*Author(s):* **Satheesha Poojary,** Tata Institute of Fundamental Research (India); **Krishna Reddy,** Aryabhatta Research Institute of Observational Sciences (India); **Joe P. Ninan**, **Harshit Shah**, **Devendra K. Ojha,** Tata Institute of Fundamental Research (India); **Saurabh Sharma,** Aryabhatta Research Institute of Observational Sciences (India); **Arun Surya,** Indian Institute of Astrophysics (India); **Purvi Udhwani,** Aryabhatta Research Institute of Observational Sciences (India); **Varghese Reji**, **Bhaswati Mookerjea**, **Manoj Puravankara**, **Savio DCosta**, **Milind B. Naik**, **Rajesh B. Jadhav,** Tata Institute of Fundamental Research (India); **Krushna Jadhav,** ; **Pradeep Sandimani, Shailesh Bhagat,** Tata Institute of Fundamental Research (India)

13096-333 • 05:30 PM - 07:00 PM
**Customizing a filter around 1.4 µm water-vapor-absorption window for Dome A, Antarctica**
*Author(s):* **Haoran Zhang, Bin Ma,** Sun Yat-Sen Univ. (China)

13096-334 • 05:30 PM - 07:00 PM
**Design of VIOLA: Vipa Instrument for Oxygen Loaded Atmospheres**
*Author(s):* **Surangkhana Rukdee,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13096-335 • 05:30 PM - 07:00 PM
**HighSpec: high-resolution spectrograph for the MAST telescope array**
*Author(s):* **Yahel Sofer Rimalt**, **Sagi Ben-Ami**, **Eran Ofek**, **Na'ama Hallakoun**, **Ido Irani**, **Oren Ironi,** Weizmann Institute of Science (Israel); **Jani Achren,** Incident Angle Oy (Finland); **Alex Bichkovsky**, **Arie Blumenzweig**, **Ofir Hershko,** Weizmann Institute of Science (Israel); **Hanindyo Kuncarayakti**, **Seppo Mattila,** Tuorla Observatory, University of Turku (Finland); **Tsevi Mazeh,** Tel Aviv University (Israel); **Gleb Mikhnevich**, **David Polishook, Ofer Yaron,** Weizmann Institute of Science (Israel)

13096-336 • 05:30 PM - 07:00 PM
**Upgrading the AZT24 telescope at the Campo Imperatore high-altitude observatory: design and installation of a new, seeing-enhanced NIR imager**
*Author(s):* **Mauro Dolci**, **Enzo Brocato,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Gabriele Rodeghiero,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Stefano Di Frischia**, **Piero D'Incecco**, **Matteo Canzari**, **Simone Benedetti**, **Fiore De Luise**, **Matteo Di Carlo**, **Amico Di Cianno**, **Nicola Napoleone**, **Anna M. Piersimoni**, **Elisa Portaluri**, **Gabriella Raimondo**, **Leonardo Tartaglia**, **Angelo Valentini, Gaetano Valentini,** INAF - Osservatorio Astronomico d'Abruzzo (Italy)

13096-337 • 05:30 PM - 07:00 PM
**MAVIS: mechanical design and prototyping of the adaptive optics module toward the FDR**
*Author(s):* **Matteo Aliverti**, **Simone Doniselli,** INAF - Osservatorio Astronomico di Brera (Italy); **Gaston Gausachs,** The Australian National Univ. (Australia); **Mirko Colapietro,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Davide Greggio**, **Valentina Viotto,** INAF - Osservatorio Astronomico di Padova (Italy); **Brian Taylor**, **Antony Galla**, **Dionne Haynes,** The Australian National Univ. (Australia); **Luca Marafatto**, **Maria Bergomi,** INAF - Osservatorio Astronomico di Padova (Italy); **David Brodrick, Francois Rigaut,** The Australian National Univ. (Australia)

13096-338 • 05:30 PM - 07:00 PM
**MAVIS: control electronics design of the Adaptive Optics Module**
*Author(s):* **Mirko Colapietro**, **Salvatore Savarese**, **Pietro Schipani**, **Sergio D'Orsi**, **Giulio Capasso**, **Laurent Marty**, **Ricardo Zanmar Sanchez,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Matteo Aliverti,** INAF - Osservatorio Astronomico di Brera (Italy); **Elia Costa**, **Bernardo Salasnich**, **Valentina Viotto**, **Maria Bergomi,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Marco Bonaglia**, **Enrico Pinna,** INAF - Osservatorio Astrofisico di Arcetri (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Annino Vaccarella,** Advanced Instrumentation Technology Ctr., The Australian National Univ. (Australia), Astralis Instrumentation Consortium (Australia); **Lew Waller,** Australian Astronomical Optics, Macquarie Univ. (Australia), Astralis (Australia); **Brian Taylor**, **David Brodrick**, **Gaston Gausachs, Francois Rigaut,** Advanced Instrumentation Technology Ctr., The Australian National Univ. (Australia), Astralis Instrumentation Consortium (Australia)

13096-340 • 05:30 PM - 07:00 PM
**Next generation low resolution Wide Field Multi-Object Optical Spectrometer for W.M. Keck Observatory**
*Author(s):* **Jason R. Fucik**, **Charles C. Steidel,** Caltech (United States); **Bradford P. Holden,** Univ. of California Observatories (United States); **Richard Dekany**, **Lauren Fahey**, **Jocelyn Ferrara**, **Steven R. Gibson**, **Timothee Greffe,** Caltech (United States); **Marc F. Kassis,** W. M. Keck Observatory (United States); **Larry Lingvay**, **Reston B. Nash**, **Rishi Pahuja**, **Roger Smith**, **Bob Weber, Jake Zimmer,** Caltech (United States)

13096-341 • 05:30 PM - 07:00 PM
**Opto-mechanical design of the KSPEC spectrograph**
*Author(s):* **Helen M. McGregor**, **Ross Zhelem**, **Rebecca Brown**, **Jessica Zheng**, **Jon Lawrence**, **Tony Farrell, Lewis Waller,** Australian Astronomical Optics, Macquarie Univ. (Australia)

13096-342 • 05:30 PM - 07:00 PM
**Thermal stabilization of the HISPEC spectrometers**
*Author(s):* **Michael P. Fitzgerald,** Univ. of California, Los Angeles (United States); **Ashley D. Baker,** Caltech (United States); **Charles A. Beichman,** NASA Exoplanet Science Institute (United States), Caltech (United States); **Rob Bertz**, **Jocelyn Ferrara**, **Jason R. Fucik**, **Timothee Greffe,** Caltech (United States); **Samuel P. Halverson,** Jet Propulsion Lab. (United States); **Takeru Hayashi**, **Chris Johnson,** Univ. of California, Los Angeles (United States); **Nemanja Jovanovic,** Caltech (United States); **Sonia Karkar**, **Marc F. Kassis,** W. M. Keck Observatory (United States); **Quinn Konopacky,** Univ. of California, San Diego (United States); **Takayuki Kotani,** National Astronomical Observatory of Japan (Japan); **Evan Kress**, **Kenneth Magnone,** Univ. of California, Los Angeles (United States); **Dimitri Mawet**, **James Neill**, **Rishi Pahuja,** Caltech (United States); **Eric Wang,** Univ. of California, Los Angeles (United States); **Jake Zimmer,** Caltech (United States)

13096-343 • 05:30 PM - 07:00 PM
**ÉBANO, an angular-scanning wide-field spectrograph**
*Author(s):* **Jorge Fuentes-Fernández**, **Sebastián F. Sánchez**, **Alejandro Farah**, **Jaime Ruiz-Díaz-Soto, Leonardo Garcés-Medina,** Univ. Nacional Autónoma de México (Mexico)

13096-344 • 05:30 PM - 07:00 PM
**Detailed design and prototyping results of the HISPEC "red" collimator: an exercise in compact cryogenic optical design**
*Author(s):* **Rose K. Gibson**, **Michael P. Fitzgerald,** Univ. of California, Los Angeles (United States); **Jason R. Fucik,** Caltech (United States); **Evan Kress**, **Eric Wang**, **Chris Johnson,** Univ. of California, Los Angeles (United States); **Timothee Greffe**, **Jake Zimmer**, **Don Neill,** Caltech (United States); **Takayuki Kotani,** National Astronomical Observatory of Japan (Japan); **Ashley D. Baker**, **Nemanja Jovanovic,** Caltech (United States); **Samuel P. Halverson,** Jet Propulsion Lab. (United States); **Dimitri Mawet,** Caltech (United States)

13096-345 • 05:30 PM - 07:00 PM
**Optical design of FALCON: a wide-field spectrograph and imager for the Magellan Baade 6.5 meter telescope**
*Author(s):* **John J. Piotrowski,** Carnegie Observatories (United States), Johns Hopkins Univ. (United States); **Stephen A. Shectman, Jeffrey D. Crane,** Carnegie Observatories (United States)

13096-346 • 05:30 PM - 07:00 PM
**MAAT: an IFU for GTC optimized using spectrograph wavefront measurements and superoptimization**
*Author(s):* **Robert Content,** Australian Astronomical Optics, Macquarie Univ. (Australia), Astronomical Design Robert Content (Canada); **Francisco Prada**, **Enrique Pérez,** Instituto de Astrofísica de Andalucía (Spain); **David Jones,** Instituto de Astrofísica de Canarias (Spain); **Manuela Abril**, **Sergio Fernández**, **Gabriel Gómez**, **Kilian Henríquez,** Gran Telescopio de Canarias, S.A. (Spain); **Ariel Goobar,** Stockholm Univ. (Sweden); **Jens Hjorth,** Niels Bohr Institute, Univ. of Copenhagen (Denmark); **M. Ángeles Perez García,** Univ. de Salamanca (Spain); **Jon Lawrence,** Australian Astronomical Optics - MQ (Australia)

## SESSION PS7: POSTERS - INSTRUMENTS DESIGNED WITH ADAPTIVE OPTICS INCORPORATED IN THE OVERALL SYSTEM

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13096-347 • 05:30 PM - 07:00 PM
**Transport, handling, and integration of the adaptive optics system for GTC: from the laboratory to the telescope**
*Author(s):* **Eduardo David González Carretero**, **Óscar Tubío Araújo**, **Marcos Reyes García-Talavera**, **Roberto Manuel Luis Simoes,** Instituto de Astrofísica de Canarias (Spain); **Víctor Jesús Sánchez Béjar,** Instituto de Astrofísica de Canarias (Spain), Univ. de La Laguna (Spain); **Jesús Patrón Recio**, **Fabio Tenegi Sanginés**, **Icíar Montilla Garcia**, **José Marco de La Rosa**, **Josefina Rosich Minguell**, **Manuel Luis Aznar**, **Marta Puga Antolín,** Instituto de Astrofísica de Canarias (Spain); **Roberto López López, José A. Acosta Pulido,** Instituto de Astrofísica de Canarias (Spain), Univ. de La Laguna (Spain)

13096-348 • 05:30 PM - 07:00 PM
**FRIDA integral field unit laboratory acceptance tests**
*Author(s):* **Salvador Cuevas Cardona**, **Luis Álvarez-Núñez,** Univ. Nacional Autónoma de México (Mexico); **Stephen S. Eikenberry,** Univ. of Central Florida (United States); **Oscar Chapa,** Univ. Nacional Autónoma de México (Mexico)

13096-349 • 05:30 PM - 07:00 PM
**Overview of the final design of the imaging system for the Gemini Infrared Multi-Object Spectrograph**
*Author(s):* **Jeffrey Crane**, **Jenny Atwood**, **Jennifer Dunn**, **Tim Hardy**, **Scott MacDonald**, **Alan McConnachie**, **Sanjana Rawat**, **Vladimir Reshetov, Jonathan Stocks,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13096-351 • 05:30 PM - 07:00 PM
**GPI 2.0: upgrade status of the Gemini Planet Imager**
*Author(s):* **Jeffrey K. Chilcote,** Univ. of Notre Dame (United States); **Quinn Konopacky,** Univ. of California, San Diego (United States); **Randall Hamper,** Univ. of Notre Dame (United States); **Bruce A. Macintosh,** Univ. of California Observatories (United States); **Christian Marois,** Univ. of Victoria (Canada); **Dmitry Savransky,** Cornell Univ. (United States); **Rémi Soummer,** Space Telescope Science Institute (United States); **Jean-Pierre Véran,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Guido Agapito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Arlene Aleman,** Univ. of Notre Dame (United States); **Marco Bonaglia,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Marc-André Boucher,** OMP Inc. (Canada); **Joel Burke,** Univ. of Notre Dame (United States); **Robert J. De Rosa,** European Southern Observatory (Chile); **Clarissa Do Ó,** Univ. of California, San Diego (United States); **Jennifer Dunn,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Matthew Engstrom,** Univ. of Notre Dame (United States); **Simone Esposito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Guillaume Filion,** OMP Inc. (Canada); **Joeleff Fitzsimmons**, **Daniel Kerley,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Jean-Thomas Landry,** OMP Inc. (Canada); **Olivier Lardière,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Daniel Levinstein,** Univ. of California, San Diego (United States); **Mary Anne Limbach,** Univ. of Michigan (United States); **Jérôme Maire,** Univ. of California, San Diego (United States); **Bryony Nickson,** Space Telescope Science Institute (United States); **Eric L. Nielsen,** New Mexico State Univ. (United States); **Jayke Nguyen,** Univ. of California, San Diego (United States); **Meiji Nguyen,** Space Telescope Science Institute (United States); **Saavidra Perera,** Univ. of California, San Diego (United States); **Dillon Peng,** Univ. of Notre Dame (United States); **Marshall D. Perrin**, **Emiel Por**, **Laurent Pueyo,** Space Telescope Science Institute (United States); **Carlos Quiroz**, **Fredrik Rantakyrö,** Gemini Observatory (Chile); **Brian Sands,** Univ. of Notre Dame (United States); **Oyku Galvan**, **Garima Singh, Teo Mocnik,** Gemini Observatory (United States)

13096-352 • 05:30 PM - 07:00 PM
**Infrastructure upgrade of Antu, Kueyen, and Melipal for the implementation of laser guide stars for the GRAVITY+ project**
*Author(s):* **Tucker Booth**, **Malte Scherbarth**, **Frédéric Gonté**, **Jose Abad,** European Southern Observatory (Germany); **Bernardo Aguilera,** Linkes Chile S.A. (Chile); **Patricio Alarcon,** European Southern Observatory (Chile); **Ivan Alvarez**, **Luis Alvial**, **Eduardo Atton**, **Alexis Beltran**, **Israel Barraza,** Linkes Chile S.A. (Chile); **Pablo Barriga,** European Southern Observatory (Chile); **Helen Bedigan,** European Southern Observatory (Germany); **Christopher Binimelis**, **Oscar Briones**, **Rodrigo Candia,** Linkes Chile S.A. (Chile); **Luis Caniguante**, **Robin Capocci**, **Cesar Cardenas,** European Southern Observatory (Chile); **Daniza Cardenas**, **Abdon Chala**, **Reinaldo Contreras,** Linkes Chile S.A. (Chile); **Ralf Conzelmann,** European Southern Observatory (Germany); **Alain Delboulbé,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Francoise Delplancke,** European Southern Observatory (Germany); **Juan Dias,** Linkes Chile S.A. (Chile); **Alejandro Doberti,** European Southern Observatory (Chile); **Max Engelhardt,** European Southern Observatory (Germany); **Jorge Fernandez,** Linkes Chile S.A. (Chile); **Eloy Fuenteseca,** European Southern Observatory (Chile); **Fernando Garcia**, **Christian Garrido**, **Paul Garrido,** Linkes Chile S.A. (Chile); **Ivan Guidolin**, **Pablo Gutierrez**, **Ronald Guzman**, **Wolfgang Hackenberg,** European Southern Observatory (Germany); **Yerko Juica,** Linkes Chile S.A. (Chile); **Jean-Paul Kirchbauer,** European Southern Observatory (Germany); **Demostenes Kirkmann,** Linkes Chile S.A. (Chile); **Peter Krempl,** European Southern Observatory (Germany); **Juan Lorenzo**, **Alfredo Mella**, **Jhorvis Meza**, **Felipe Miranda**, **Sebastian Nunes,** Linkes Chile S.A. (Chile); **Sylvain Oberti,** European Southern Observatory (Germany); **Francisco Olivares,** European Southern Observatory (Chile); **Mario Opazo,** Linkes Chile S.A. (Chile); **Miguel Riquelme,** European Southern Observatory (Chile); **Jordan Rivera**, **Miguel Robles,** Linkes Chile S.A. (Chile); **Fernando Salgado,** European Southern Observatory (Chile); **Sylvain Rochat,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Edson Rojas,** Linkes Chile S.A. (Chile); **Nicolas Schuler,** European Southern Observatory (Chile); **Izzy Tambay,** Linkes Chile S.A. (Chile); **Richard Tamblay,** European Southern Observatory (Chile); **Esteban Unmanzor**, **Herman Vega**, **Francisco Villanueva**, **Ricardo Whilem,** Linkes Chile S.A. (Chile); **Julien Woillez,** European Southern Observatory (Germany); **Juan Zúñiga, Luis Zúñiga,** Linkes Chile S.A. (Chile)

13096-353 • 05:30 PM - 07:00 PM
**HARMONI at ELT: high-contrast imaging performance estimation for FDR**
*Author(s):* **Alexis Carlotti**, **Laurent Jocou**, **Thibaut Moulin**, **Yves Magnard**, **Patrick Rabou**, **Sylvain Guieu**, **Fabrice Pancher**, **Adrien Hours**, **Alexis Bidot**, **Steven Martos**, **Laurence Gluck**, **Laurence Michaud,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Jean-François Sauvage,** Lab. d'Astrophysique de Marseille (France), ONERA (France); **Kjetil Dohlen**, **Arthur Vigan,** Lab. d'Astrophysique de Marseille (France); **Mickaël Bonnefoy,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Niranjan Thatte,** Univ. of Oxford (United Kingdom); **Élodie Choquet**, **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **David Mouillet,** Institut de Planétologie et d'Astrophysique de Grenoble (France)

13096-355 • 05:30 PM - 07:00 PM
**Characterizing exoplanet atmospheres with SCALES medium-spectral-resolution angular/spectral differential imaging**
*Author(s):* **Aditi Desai**, **Stephanie Sallum**, **Raquel Martinez,** Univ. of California, Irvine (United States); **Andrew Skemer,** Univ. of California, Santa Cruz (United States)

13096-357 • 05:30 PM - 07:00 PM
**Upgrading SPHERE with the second stage AO system SAXO+: non-common path aberrations estimation and correction**
*Author(s):* **Johan Mazoyer**, **Charles Goulas,** Observatoire de Paris (France); **Clémentine Béchet,** Ctr. de Recherche Astrophysique de Lyon (France); **Anthony Boccaletti,** Observatoire de Paris (France); **Markus Feldt,** Max-Planck-Institut für Astronomie (Germany); **Raphaël Galicher,** Observatoire de Paris (France); **Nicolas Galland,** Institut d'Optique Graduate School (France); **Florian Ferreira,** Observatoire de Paris (France); **Caroline Kulcsar,** Institut d'Optique Graduate School (France); **Magali Loupias**, **Maud Langlois**, **Julien Milli,** Ctr. de Recherche Astrophysique de Lyon (France); **Henri-Francois Raynaud,** Institut d'Optique Graduate School (France); **Laura Schreiber,** INAF (Italy); **Eric Thiébaut**, **Isabelle Tallon-Bosc**, **Michel Tallon,** Ctr. de Recherche Astrophysique de Lyon (France); **Fabrice Vidal,** Observatoire de Paris (France)

13096-358 • 05:30 PM - 07:00 PM
**The RISTRETTO simulator: exoplanet reflected spectra**
*Author(s):* **Maddalena Bugatti**, **Christophe Lovis**, **Francesco Alfonso Pepe**, **Nicolas Blind**, **Nicolas Billot**, **Bruno Chazelas,** Univ. de Genève (Switzerland); **Martin Turbet,** Institut Pierre et Simon Laplace (France)

13096-359 • 05:30 PM - 07:00 PM
**NirvanaVIS, exploiting ground-layer AO correction for speckle holography at visible wavelengths**
*Author(s):* **Maria Bergomi**, **Carmelo Arcidiacono**, **Davide Greggio**, **Luca Marafatto**, **Kalyan K. Radhakrishnan**, **Marco Dima,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Gabriele Umbriaco,** Univ. degli Studi di Bologna (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Roberto Ragazzoni,** INAF - Osservatorio Astronomico di Padova (Italy), Univ. degli Studi di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Silvio Di Rosa**, **Jacopo Farinato**, **Valentina Viotto,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Thomas Bertram**, **Peter Bizenberger**, **Florian Briegel**, **Lars Mohr, Thomas M. Herbst,** Max-Planck-Institut für Astronomie (Germany)

13096-360 • 05:30 PM - 07:00 PM
**Experimental investigation on the tilt angle performance of 4 K two-stage pulse tube cryocoolers for cosmic microwave background (CMB) telescopes**
*Author(s):* **Xihuan Hao**, **Brent Zerkle**, **Joe Cosco, Rich Dausman,** Bluefors Cryocooler Technologies Inc. (United States)

13096-361 • 05:30 PM - 07:00 PM
**The Exoplanet Climate Infrared Telescope (EXCITE) spectrograph opto-mechanical design**
*Author(s):* **Johnathan Gamaunt**, **Logan Jensen**, **Lee Bernard**, **Nathaniel Butler,** Arizona State Univ. (United States); **Tim Rehm,** Brown Univ. (United States); **Peter Nagler,** NASA Goddard Space Flight Ctr. (United States); **Michael Line**, **Jennifer Patience,** Arizona State Univ. (United States); **Kanchita Klangboonkrong**, **Annalies Kleyheeg**, **Greg Tucker,** Brown Univ. (United States); **Subhajit Sarkar,** Cardiff Univ. (United Kingdom); **Nikole Lewis,** Cornell Univ. (United States); **Paul Scowen**, **Kyle Helson**, **Daniel Kelly**, **Edward Leong**, **Stephen Maher**, **Ryan McClelland**, **Qian Gong**, **Laddawan Miko,** NASA Goddard Space Flight Ctr. (United States); **Vivien Parmentier,** Univ. of Oxford (United Kingdom); **Andrea Bocchieri,** Istituto Nazionale di Fisica Nucleare (Italy); **Azzurra D'Alessandro,** Sapienza Univ. di Roma (Italy); **Lorenzo Mugnai,** Cardiff Univ. (United Kingdom); **Enzo Pascale,** Sapienza Univ. di Roma (Italy); **John Hartley**, **Steven Li**, **Javier Romualdez,** StarSpec Technologies Inc. (Canada); **Calvin Netterfield,** Univ. of Toronto (Canada); **Quentin Changeat**, **Billy Edwards**, **Ingo Waldmann,** Univ. College London (United Kingdom); **Augustyn Waczynski,** NASA Goddard Space Flight Ctr. (United States)

13096-362 • 05:30 PM - 07:00 PM
**ALTAIR, the gemini SCAO: challenges and performances review**
*Author(s):* **Christophe S. Clergeon,** Gemini Observatory (United States)

13096-363 • 05:30 PM - 07:00 PM
**Sixth order segmented vector vortex phase masks and shaped pupils for future telescopes**
*Author(s):* **Jun Nishikawa,** National Astronomical Observatory of Japan (Japan), The Graduate Univ. for Advanced Studies (Japan), AstroBiology Ctr., NINS (Japan); **Naoshi Murakami,** Hokkaido Univ. (Japan); **Yosuke Tanaka,** Tokyo Univ. of Agriculture and Technology (Japan), AstroBiology Ctr., NINS (Japan); **Hiromi Muramatsu,** Tokyo Univ. of Agriculture and Technology (Japan); **Kenta Yoneta,** National Astronomical Observatory of Japan (Japan); **Mizuki Asano,** Hokkaido Univ. (Japan)

13096-364 • 05:30 PM - 07:00 PM
**ULTIMATE-Subaru: sensitivity performance of the NIR wide-field imaging camera with ground layer adaptive optics**
*Author(s):* **Sadman S. Ali**, **Yusei Koyama,** Subaru Telescope, NAOJ (United States); **Kentaro Motohara,** National Astronomical Observatory of Japan (Japan); **Yoshito Ono**, **Yosuke Minowa, Ichi Tanaka,** Subaru Telescope, NAOJ (United States)

13096-366 • 05:30 PM - 07:00 PM
**Optical wavefront error assessed via phase diversity and a spatial light modulator**
*Author(s):* **Manuel Silva-López,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Francisco J. Bailén**, **David Orozco Suárez,** Instituto de Astrofísica de Andalucía (Spain); **Alberto Álvarez-Herrero,** INTA Instituto Nacional de Técnica Aeroespacial (Spain)

13096-368 • 05:30 PM - 07:00 PM
**GeMS + Flamingos-2 at Gemini South: near-infrared spectroscopy with multi-conjugate adaptive optics**
*Author(s):* **Manuel Gomez-Jimenez,** National Optical-Infrared Astronomy Research Lab. (Chile); **Joan Font**, **Ruben Diaz**, **Aurea Garcia Rissmann, Vincent Garrel,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile)

## SESSION PS8: POSTERS - MULTI-MESSENGER ASTRONOMICAL INSTRUMENTS

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13096-369 • 05:30 PM - 07:00 PM
**Status of the dual-beam spectrograph upgrade project for transient follow-up with SALT**
*Author(s):* **Janus D. Brink,** South African Astronomical Observatory (South Africa), Southern African Large Telescope (South Africa); **Deon Lategan,** South African Large Telescope (South Africa); **Kathryn Rosie,** South African Astronomical Observatory (South Africa); **David A. H. Buckley,** Southern African Large Telescope (South Africa); **Roufurd Julie,** South African Radio Astronomy Observatory (South Africa)

13096-370 • 05:30 PM - 07:00 PM
**SuperSMART: The Superconducting Spectrograph for Medium resolution in an ARray of Telescopes**
*Author(s):* **Kieran S. O'Brien, Beni Hofmann,** Durham Univ. (United Kingdom)

13096-371 • 05:30 PM - 07:00 PM
**Conceptual design of an integral field unit for the Canada France Hawaii telescope**
*Author(s):* **Marc R. Baril**, **Andrew I. Sheinis,** Canada-France-Hawaii Telescope Corp. (United States); **Jennifer Sobeck,** California Institute of Technology (United States); **Peter Frinchaboy,** Texas Christian University (United States); **Benoît Epinat, Kevin K. Ho,** Canada-France-Hawaii Telescope Corp. (United States)

## SESSION PS9: POSTERS - NEW TECHNOLOGIES WHICH MAY BE TRANSFORMATIVE IN FUTURE INSTRUMENT DESIGN

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13096-372 • 05:30 PM - 07:00 PM
**R&D for a high resolution SiPM based camera for the Cherenkov Telescope Array within the CTA+ project**
*Author(s):* **Serena Loporchio, Francesco Giordano,** Univ. degli Studi di Bari Aldo Moro (Italy)

13096-373 • 05:30 PM - 07:00 PM
**Prime focus spectrograph (PFS) for Subaru Telescope: modeling of the 2D point spread function using commissioning data**
*Author(s):* **Kota Hayashi,** Kavli Institute for the Physics and Mathematics of the Universe (Japan), The Univ. of Tokyo (Japan); **Neven Caplar,** Univ. of Washington (United States); **Kiyoto Yabe,** Subaru Telescope, NAOJ (United States); **Robert H. Lupton**, **James E. Gunn,** Princeton Univ. (United States); **Masahiro Takada,** Kavli Institute for the Physics and Mathematics of the Universe (Japan); **Naoyuki Tamura**, **Yuki Moritani,** Subaru Telescope, NAOJ (United States); **Satoshi Kawanomoto,** National Astronomical Observatory of Japan (Japan); **Naoki Yasuda,** Kavli Institute for the Physics and Mathematics of the Universe (Japan)

13096-374 • 05:30 PM - 07:00 PM
**The MSE pathfinder instrument for the Canada France Hawaii telescope: science requirements to deliverables**
*Author(s):* **Peter Frinchaboy,** Texas Christian Univ. (United States); **Andrew I. Sheinis,** Canada-France-Hawaii Telescope Corp. (United States); **Adam S. Bolton,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Samuel C. Barden,** Canada-France-Hawaii Telescope Corp. (United States); **Jennifer Marshall,** Texas A&M Univ. (United States); **Jennifer Sobeck, Viraja C. Khatu,** Canada-France-Hawaii Telescope Corp. (United States)

13096-375 • 05:30 PM - 07:00 PM
**Structural design analysis of wind screen for Antarctic 2m-class optical telescope**
*Author(s):* **Zhimin Ren**, **Haikun Wen**, **Guoping Li**, **Wei Zhou,** Nanjing Institute of Astronomical Optics & Technology (China); **Xiuyong Zhao, Jiawei Wan,** China Energy Science and Technology Research Institute Co. Ltd. (China)

13096-376 • 05:30 PM - 07:00 PM
**FiberPol-6D: spectropolarimetric integral field mode for SAAO 1.9 m Telescope using fibers**
*Author(s):* **Siddharth Maharana**, **Sabyasachi Chattopadhyay,** South African Astronomical Observatory (South Africa); **Matthew A. Bershady,** Univ. of Wisconsin-Madison (United States)

13096-377 • 05:30 PM - 07:00 PM
**Investigations on assembly and coverage for modular focal planes of multiplexed telescopes**
*Author(s):* **Maxime Rombach**, **Xiangyu Xu,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Ricardo Araujo**, **Markus Thurneysen,** Haute école du paysage, d'ingénierie et d'architecture de Genève (Switzerland); **Stefane Caseiro**, **Corentin Magnenat,** MPS (Switzerland); **Joseph H. Silber,** Lawrence Berkeley National Lab. (United States); **Malak Galal,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **David Schlegel,** Lawrence Berkeley National Lab. (United States); **Jean-Paul Kneib,** Ecole Polytechnique Fédérale de Lausanne (Switzerland)

13096-378 • 05:30 PM - 07:00 PM
**Test results of a novel fiber positioning module for very high density systems**
*Author(s):* **Ricardo Araujo**, **Maxime Rombach**, **Jean-Paul Kneib**, **Malak Galal,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Stefane Caseiro**, **Corentin Magenat,** MPS Micro Precision Systems AG (Switzerland); **Markus Thurneysen,** HEPIA, Haute Ecole Spécialisée de Suisse Occidentale (Switzerland)

13096-380 • 05:30 PM - 07:00 PM
**Developing a low-cost, compact radio-over-fiber (RFoF) linkage for radio telescope arrays**
*Author(s):* **Albert Wai Kit Lau**, **Keith Vanderlinde**, **Juan Mena-Parra, Chris Lansdale,** Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada)

13096-381 • 05:30 PM - 07:00 PM
**OH-suppressed multimode diffraction-limited spectrograph for celestial Positronium detection: preliminary test results**
*Author(s):* **Qingshan Yu**, **Sergio G. Leon-Saval,** Sydney Institute for Astronomy, The Univ. of Sydney (Australia); **Simon C. Ellis,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Joss Bland-Hawthorn**, **Christopher Betters**, **Gordon Robertson,** Sydney Institute for Astronomy, The Univ. of Sydney (Australia); **Liguo Luo, Göran Edvell,** The Univ. of Sydney (Australia)

13096-382 • 05:30 PM - 07:00 PM
**Optical performance prediction of the AMASE-P system**
*Author(s):* **Yiuhung Cheung**, **Chit-Ho Hui**, **Renbin Yan,** The Chinese Univ. of Hong Kong (Hong Kong, China); **Matthew A. Bershady,** Univ. of Wisconsin-Madison (United States); **Sabyasachi Chattopadhyay,** South African Astronomical Observatory (South Africa); **Man-Yin Leo Lee**, **Ziming Peng,** The Chinese Univ. of Hong Kong (Hong Kong, China); **Michael P. Smith,** Univ. of Wisconsin-Madison (United States); **Yiwei Liu,** The Chinese Univ. of Hong Kong (Hong Kong, China); **Egan Loubser,** South African Astronomical Observatory (South Africa)

13096-383 • 05:30 PM - 07:00 PM
**Monolithic all-fiber Fabry-Perot comb for precision astronomy**
*Author(s):* **Kalaga Madhav, Aashia Rahman,** Leibniz-Institut für Astrophysik Potsdam (Germany)

13096-384 • 05:30 PM - 07:00 PM
**Photonic lantern testing on Lick Observatory's 3m Shane telescope**
*Author(s):* **Matthew DeMartino**, **Kevin A. Bundy,** Univ. of California, Santa Cruz (United States); **Stephen S. Eikenberry,** CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States); **Jordan Diaz**, **Aditya Sengupta**, **Rebecca Jensen-Clem, Phil Hinz,** Univ. of California, Santa Cruz (United States)

13096-386 • 05:30 PM - 07:00 PM
**Skipper CCD mosaic on the SOAR integral field spectrograph**
*Author(s):* **Marco A. Bonati**, **Braulio Cancino**, **Peter Moore,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Edgar Marrufo**, **Brandon Roach,** The Univ. of Chicago (United States); **Vanessa Bawden De P. Macanhan De Arruda**, **Luciano Fraga,** Lab. Nacional de Astrofísica (Brazil); **Alex Drilica-Wagner,** The Univ. of Chicago (United States), Fermi National Accelerator Laboratory (United States); **Stephen Holland,** Lawrence Berkeley National Laboratory (United States); **Abhishek Bakshi**, **Javier Tiffenberg,** Fermi National Accelerator Laboratory (United States); **Rossano Rivera**, **Priscila Pires**, **Ron Harris**, **Victor Aguirre**, **Marcelo Taiba**, **Rodrigo Leiva**, **Rodrigo Alvarez**, **Alejandro Gutierrez**, **Fabian Collao**, **Ignacio Rocco**, **Juan Pablo Burgos**, **Mauricio Araya**, **Eduardo Aguirre**, **Sebastian Nunez**, **Diego Fabrega**, **Luis Godoy**, **Victor Robledo**, **Victor Pinto**, **Luis gonzalez**, **Cristian Miranda, Alan Leyton,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile)

13096-388 • 05:30 PM - 07:00 PM
**On-sky demonstration of astrophotonic CO2 correlation sensing using silicon ring resonator filters**
*Author(s):* **Ross Cheriton,** National Research Council Canada (Canada); **Volodymyr Artyshchuk,** National Research Council Canada (Canada), Carleton Univ. (Canada); **Erin Tonita,** National Research Council Canada (Canada), Univ. of Ottawa (Canada); **Adam Densmore,** National Research Council Canada (Canada); **Suresh Sivanandam,** Univ. of Toronto (Canada); **Kathyrn Jackson**, **Olivier Lardière**, **Jean-Pierre Véran**, **Martin Vachon**, **Shurui Wang**, **John Weber**, **Maziyar Milanizadeh**, **Jianhao Zhang**, **Md. Saad-Bin-Alam**, **Jens H. Schmid**, **Dan-Xia Xu**, **Pavel Cheben, Siegfried Janz,** National Research Council Canada (Canada)

13096-389 • 05:30 PM - 07:00 PM
**Cryoscope Pathfinder: thermal management and electronics in extremely cold environment**
*Author(s):* **Timothee Greffe**, **Roger M. Smith**, **Rishi Pahuja,** Caltech (United States); **Michael Ashley,** The Univ. of New South Wales (Australia); **Jake Zimmer,** California Institute of Technology (United States)

13096-390 • 05:30 PM - 07:00 PM
**Assembly, integration, and laboratory testing of the EXCITE spectrograph**
*Author(s):* **Lee Bernard**, **John Gamaunt**, **Logan Jensen**, **Nathaniel Butler**, **Michael Line,** Arizona State Univ. (United States); **Kanchita Klangboonkrong,** Brown Univ. (United States); **Jennifer Patience,** Arizona State Univ. (United States); **Annalies Kleyheeg**, **Tim Rehm**, **Greg Tucker,** Brown Univ. (United States); **Subhajit Sarkar,** Cardiff Univ. (United Kingdom); **Nikole Lewis,** Cornell Univ. (United States); **Paul Scowen**, **Peter Nagler**, **Kyle Helson**, **Dan Kelly**, **Ed Leong**, **Steve Maher**, **Ryan McClelland**, **Qian Gong**, **Laddawan Miko**, **Augustyn Waczynski,** NASA Goddard Space Flight Ctr. (United States); **Vivien Parmentier,** Univ. of Oxford (United Kingdom); **Andrea Bocchieri**, **Azzurra D'Alessandro**, **Enzo Pascale,** Sapienza Univ. di Roma (Italy); **Lorenzo Mugnai,** Cardiff Univ. (United Kingdom); **John Hartley**, **Steven Li**, **Javier Romualdez,** StarSpec Technologies Inc. (Canada); **Calvin Netterfield,** University of Toronto (Canada); **Quentin Changeat**, **Billy Edwards**, **Ingo Waldmann,** Univ. College London (United Kingdom); **Conor Earley,** Arizona State Univ. (United States)

13096-391 • 05:30 PM - 07:00 PM
**Compact Arrayed Waveguide Stacked Multi-Object Spectrograph (CAWSMOS): design concept and preliminary results**
*Author(s):* **Kalaga Madhav**, **Eloy Hernandez**, **Stella Vješnica**, **Alan Günther**, **Svend-Marian Bauer**, **Hakan Önel, Martin M. Roth,** Leibniz-Institut für Astrophysik Potsdam (Germany)

13096-392 • 05:30 PM - 07:00 PM
**FlyEye ground-based telescope: unveiling new frontiers in astronomical science**
*Author(s):* **Carmelo Arcidiacono**, **Matteo Simioni**, **Roberto Ragazzoni,** INAF - Osservatorio Astronomico di Padova (Italy); **Piero Gregori**, **Paolo Lorenzi**, **Francesco Cerutti**, **Roberto Ziano**, **Matteo Bisiani**, **Roberta Pellegrini**, **Andrea Guazzora,** OHB Italia S.p.A. (Italy); **Silvano Pieri,** Studio S.O.M.E. di Pieri Stefano SAS (Italy); **Marco Dima**, **Silvio Di Rosa**, **Simone Zaggia**, **Jacopo Farinato**, **Demetrio Magrin**, **Andrea Grazian, Marco Gullieuszik,** INAF - Osservatorio Astronomico di Padova (Italy)

13096-393 • 05:30 PM - 07:00 PM
**Additive manufacturing, reverse engineering, and metrology to support mechanical design: future developments among the INAF facilities**
*Author(s):* **Vincenzo Cianniello**, **Vincenzo De Caprio**, **Christian Eredia**, **Enrico Cascone, Domenico D'Auria,** INAF - Osservatorio Astronomico di Capodimonte (Italy)

13096-394 • 05:30 PM - 07:00 PM
**An advanced fiber-optic switching solution for astronomical spectroscopy**
*Author(s):* **Claire L. Poppett,** Lawrence Berkeley National Lab. (United States)

13096-395 • 05:30 PM - 07:00 PM
**In-situ evaluation of DMD contrast ratio and efficiency using SAMOS: a DMD-based multi-object spectrograph and imager**
*Author(s):* **John J. Piotrowski,** Johns Hopkins Univ. (United States), Carnegie Observatories (United States); **Stephen Smee,** Johns Hopkins Univ. (United States); **Massimo Robberto,** Space Telescope Science Institute (United States); **Dmitry Vorobiev,** Lab. for Atmospheric and Space Physics (United States); **Stephen C. Hope,** Johns Hopkins Univ. (United States)

13096-396 • 05:30 PM - 07:00 PM
**Arrayed waveguide grating based photonic spectrograph for the astronomical J band**
*Author(s):* **Vishaal Gopinath,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Oliver Pfuhl**, **Steffan Lewis**, **Samuel Lévêque**, **Norbert Hubin,** European Southern Observatory (Germany); **Frank Eisenhauer, Guillaume Bourdarot,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13096-397 • 05:30 PM - 07:00 PM
**Spectrum-flattened micro-resonator-based frequency comb for precision astronomical spectroscopy**
*Author(s):* **Yuanjie Wu**, **Arne Kordts**, **Tilo Steinmetz**, **Karsten Winkler**, **Klaus Stockwald**, **Marc Fischer,** Menlo Systems GmbH (Germany); **Ronald Holzwarth,** Menlo Systems GmbH (Germany), Max-Planck-Institut für Quantenoptik (Germany)

13096-398 • 05:30 PM - 07:00 PM
**Preliminary prototypes of solid telescopes for CubeSat**
*Author(s):* **Alberto Riva**, **Mario Gai**, **Federico Landini**, **Deborah Busonero**, **Alberto Vecchiato**, **Gerardo Capobianco, Valeria Caracci,** INAF - Osservatorio Astrofisico di Torino (Italy)

13096-399 • 05:30 PM - 07:00 PM
**GATES: a network for synoptic space weather observations**
*Author(s):* **Fallon Konow,** Univ. degli Studi di Roma "Tor Vergata" (Italy), Sapienza Univ. di Roma (Italy), Georgia State Univ. (United States); **Francesco Berrilli,** Univ. degli Studi di Roma "Tor Vergata" (Italy); **Daniele Calchetti,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Stuart M. Jefferies,** Georgia State Univ. (United States); **Dario Del Moro,** Univ. degli Studi di Roma "Tor Vergata" (Italy); **Neil Murphy,** Jet Propulsion Lab. (United States), Caltech (United States); **Ermanno Pietropaolo,** Univ. degli Studi dell'Aquila (Italy); **Wayne Rodgers,** Eddy Co. (United States); **Giorgio Viavattene,** Agenzia Spaziale Italiana (Italy); **Luca Giovannelli,** Univ. degli Studi di Roma "Tor Vergata" (Italy)

13096-400 • 05:30 PM - 07:00 PM
**Flat-top optical fibers as scramblers for EPRV measurements**
*Author(s):* **Genevieve Markees**, **Stephen S. Eikenberry**, **Rodrigo Amezcua-Correa**, **Miguel A. Bandres,** Univ. of Central Florida (United States); **Sergio G. Leon-Saval,** The Univ. of Sydney (Australia); **Jose Antonio-Lopez**, **Stephanos Yerolatsitis, Caleb Dobias,** Univ. of Central Florida (United States)

13096-401 • 05:30 PM - 07:00 PM
**Identifying instrumental optical aberrations directly from focal plane speckle data**
*Author(s):* **Arturo O. Martinez,** NASA Ames Research Ctr. (United States), Bay Area Environmental Research Institute (United States); **Douglas A. Hope,** Georgia Tech Research Institute (United States), Georgia State Univ. (United States); **Stuart M. Jefferies,** Georgia State Univ. (United States), Univ. of Hawai'i (United States); **Nicholas J. Scott**, **Fabien R. Baron,** Georgia State Univ. (United States); **Steve B. Howell,** NASA Ames Research Ctr. (United States)

13096-402 • 05:30 PM - 07:00 PM
**VIPA high-resolution spectrometer development strategy with the OHP/PAPYRUS XAO system**
*Author(s):* **Alexis Carlotti**, **David Mouillet**, **Jean-Jacques Correia**, **Laurent Jocou**, **Patrick Rabou**, **Stéphane Curaba**, **Alain Delboulbé**, **Alexis Bidot**, **Didier Maurel**, **Steven Martos**, **Thierry Forveille,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Romain Fétick**, **Jean-François Sauvage,** Lab. d'Astrophysique de Marseille (France), ONERA (France); **Arthur Vigan,** Lab. d'Astrophysique de Marseille (France); **Arnaud Striffling,** Lab. d'Astrophysique de Marseille (France), ONERA (France); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France)

# CONFERENCE 13097

# Adaptive Optics Systems IX

**16 - 21 June 2024 | Room G301/302, North - 3F**

***Conference Chair(s):*** **Kathryn J. Jackson,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Dirk Schmidt,** National Solar Observatory (United States); **Elise Vernet,** European Southern Observatory (Germany)

***Program Committee:*** **Clémentine Béchet,** Observatoire de Lyon (France); **Angela Cortes,** European Southern Observatory (Germany); **Mark R. Chun,** Univ. of Hawaii, Institute for Astronomy (United States); **Jennifer S. Dunn,** NRC - Herzberg Astronomy & Astrophysics (Canada); **Olivier Guyon,** The Univ. of Arizona (United States); **Cedric Taïssir Heritier,** DOTA, ONERA, F-13661 Salon cedex Air (France); **Masen Lamb,** NSF's NOIRLab /Gemini Observatory (Canada); **Jared R. Males,** Steward Observatory (United States); **Noelia Martinez-Rey,** The Australian National Univ. (Australia); **Yoshito H. Ono,** Subaru Telescope, NAOJ (United States); **Fernando Quirós-Pacheco,** GMTO Corp. (United States); **Sam Ragland,** Large Binocular Telescope Observatory (United States); **Gaetano Sivo,** NOIRLab / Gemini Observatory (Chile); **Bernadett Stadler,** Austrian Academy of Sciences, RICAM (Austria); **Matthew J. Townson,** Northumbria Univ. (United Kingdom); **Marcos A. van Dam,** Flat Wavefronts (New Zealand); **Valentina Viotto,** INAF - Osservatorio Astronomico di Padova (Italy); **Lianqi Wang,** Thirty Meter Telescope (United States)

## Sunday 16 June 2024

### OPENING

16 June 2024 • 09:00 AM - 09:05 AM | Room G301/302, North - 3F

13097-801 • 09:00 AM - 09:05 AM
**Chair Welcome**

### SESSION 1: AO SYSTEMS IN COMMISSIONING I

16 June 2024 • 09:05 AM - 10:25 AM | Room G301/302, North - 3F
*Session Chair(s):* **Olivier Guyon**, Subaru Telescope, NAOJ (United States)

13097-1 • 09:05 AM - 09:35 AM
**AO3k at Subaru: first on-sky results of the facility extreme-AO** *(Invited Paper)*
*Author(s):* **Julien Lozi**, **Kyohoon Ahn**, **Hannah Blue,** Subaru Telescope, NAOJ (United States); **Alicia Chun,** The Univ. of Chicago (United States); **Christophe S. Clergeon,** Gemini Observatory (United States); **Vincent Deo,** Subaru Telescope, NAOJ (United States); **Olivier Guyon,** Subaru Telescope, NAOJ (United States), AstroBiology Ctr., NINS (Japan), Univ. of Arizona (United States); **Takashi Hattori**, **Yosuke Minowa,** Subaru Telescope, NAOJ (United States); **Shogo Nishiyama,** Miyagi Univ. of Education (Japan); **Yoshito H. Ono, Sebastien Vievard,** Subaru Telescope, NAOJ (United States)

13097-2 • 09:35 AM - 09:50 AM
**Commissioning a non-linear curvature wavefront sensor on the Subaru Telescope for the AO3k system**
*Author(s):* **Kyohoon Ahn,** Subaru Telescope, NAOJ (United States); **Olivier Guyon,** Subaru Telescope, NAOJ (United States), Steward Observatory, The Univ. of Arizona (United States), Wyant College of Optical Sciences (United States); **Julien Lozi**, **Sebastien Vievard**, **Vincent Deo,** Subaru Telescope, NAOJ (United States); **Michael Bottom,** Institute for Astronomy, Univ. of Hawai'i (United States); **Yoshito H. Ono**, **Yusuke Minowa**, **Takashi Hattori**, **Yutaka Hayano,** Subaru Telescope, NAOJ (United States); **Miles Lucas,** Institute for Astronomy (United States); **Manon Lallement,** Subaru Telescope, NAOJ (United States), Observatoire de Paris (France), Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France)

Session Break • 09:50 AM - 09:55 AM

13097-3 • 09:55 AM - 10:10 AM
**REVOLT: an on-sky adaptive optics technology research platform on a 1.2m telescope**
*Author(s):* **Kate Jackson**, **Jean-Pierre Véran**, **Maaike A. M. van Kooten**, **Jennifer S. Dunn**, **Olivier Lardière,** NRC-Herzberg Astronomy & Astrophysics (Canada); Tarun Kumar, Univ. of Victoria (Canada); Uriel Conod, The Univ. of British Columbia (Canada); Edward Chapin, NRC-Herzberg Astronomy & Astrophysics (Canada)

13097-4 • 10:10 AM - 10:25 AM
**First light results of REVOLT-COPPER: a pyramid wavefront sensor on a 1.2m telescope**
*Author(s):* **Maaike A. M. van Kooten**, **Jean-Pierre Véran**, **Kate Jackson**, **Olivier Lardière**, **Edward Chapin**, **Jennifer S. Dunn, Dan Kerley,** NRC-Herzberg Astronomy & Astrophysics (Canada)

## Coffee Break 10:25 AM - 10:55 AM

## SESSION 2: AO SYSTEMS IN COMMISSIONING II

16 June 2024 • 10:55 AM - 11:40 AM | Room G301/302, North - 3F
*Session Chair(s):* **Dirk Schmidt**, National Solar Observatory (United States)

13097-6 • 10:55 AM - 11:10 AM
**Laser guide star sensor integrated extreme adaptive optics (LASSIE) project at Starfire Optical Range**
*Author(s):* **Lauren Schatz**, **Jeff Richey**, **Peter Stevenson**, **Lirong Sun**, **Nathan Episcopo**, **Tod Laurvick**, **Jeremiah Gaulding**, **Mala Mateen, Robert L. Johnson,** Air Force Research Lab. (United States)

13097-7 • 11:10 AM - 11:25 AM
**CAL2: Project update of the NRC Canada facility-class focal plane wavefront sensor for the Gemini Planet Imager 2 upgrade**
*Author(s):* **Christian Marois**, **Olivier Lardière**, **Joeleff Fitzsimmons,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Marc-André Boucher,** OMP Inc. (Canada); **Colin H. Bradley,** Univ. of Victoria (Canada); **Denis Brousseau,** Univ. Laval (Canada); **Krzysztof Caputa,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Mathieu Demers,** OMP Inc. (Canada); **Jennifer S. Dunn,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Saugata Dutt,** Univ. of Toronto (Canada); **Qiang Fu,** King Abdullah Univ. of Science and Technology (Saudi Arabia); **Oyku Galvan,** Gemini Observatory (United States); **Darryl Gamroth,** Rubus Technology (Canada); **Benjamin L. Gerard,** Lawrence Livermore National Lab. (United States); **Tim Hardy,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Wolfgang Heidrich,** King Abdullah Univ. of Science and Technology (Saudi Arabia); **Glen Herriot,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Rebecca M. Jensen-Clem,** Univ. of California, Santa Cruz (United States); **Adam B. Johnson,** Univ. of Victoria (Canada); **Jean-Thomas Landry,** OMP Inc. (Canada); **Duan Li,** Cornell Univ. (United States); **Christopher Mann,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Patrick Nkwari,** Univ. of Toronto (Canada); **Sanjana Rawat,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Dmitry Savransky,** Cornell Univ. (United States); **Garima Singh,** Gemini Observatory (United States); **Suresh Sivanandam,** Univ. of Toronto (United States); **Simon Thibault,** Univ. Laval (Canada); **William R. Thompson**, **Maaike van Kooten, Jean-Pierre Véran,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13097-8 • 11:25 AM - 11:40 AM
**MagAO-X: commissioning results and status of ongoing upgrades**
*Author(s):* **Jared R. Males**, **Laird M. Close**, **Sebastiaan Y. Haffert**, **Alexander D. Hedglen,** Steward Observatory (United States); **Joseph D. Long,** Flatiron Institute (United States); **Maggie Y. Kautz**, **Kyle Van Gorkom**, **Olivier Guyon,** Steward Observatory (United States); **Lauren Schatz,** Air Force Research Lab. (United States); **Jennifer Lumbres**, **Avalon L. McLeod**, **Jay Kueny**, **Eden A. McEwen**, **Warren B. Foster**, **Logan A. Pearce**, **Jialin Li,** Steward Observatory (United States); **Alycia J. Weinberger,** Carnegie Institution for Science (United States); **Joshua Liberman**, **Katie Twitchell**, **Roswell Roberts, Isabella Doty,** Steward Observatory (United States)

## Lunch Break 11:40 AM - 01:10 PM

## SESSION 3: AO SYSTEMS IN COMMISSIONING III

16 June 2024 • 01:10 PM - 02:15 PM | Room G301/302, North - 3F
*Session Chair(s):* **Gaetano Sivo**, Gemini Observatory (Chile)

13097-9 • 01:10 PM - 01:25 PM
**Early results from AO assisted visible observations with the new high contrast imager SHARK-VIS at the Large Binocular Telescope.**
*Author(s):* **Fernando Pedichini**, **Simone Antoniucci**, **Gianluca Li Causi**, **Roberto Piazzesi**, **Vincenzo Testa**, **Piero Vaccari,** INAF - Osservatorio Astronomico di Roma (Italy); **Jacopo Farinato**, **Maria Bergomi**, **Dino Mesa**, **Valentina D'Orazi,** INAF Osservatorio Astronomico di Padova (Italy); **Simone Esposito**, **Enrico Pinna,** INAF Osservatorio Astrofisico di Arcetri (Italy); **Andrew Cardwell**, **Juan Carlos Guerra**, **Jennnifer Power,** LBTO Observatory (United States); **Steve Ertel, Manny Montoya,** Steward Observatory (United States)

13097-10 • 01:25 PM - 01:40 PM
**CaNaPy LGS-AO Facility: commissioning and first light**
*Author(s):* **Felipe Pedreros Bustos,** European Southern Observatory (Germany); **David Alaluf,** European Space Agency (Netherlands); **Roberto Biasi,** Microgate S.r.l. (Italy); **Domenico Bonaccini Calia**, **Julienne Böttger,** European Southern Observatory (Germany); **Mauro Centrone,** INAF - Osservatorio Astronomico di Roma (Italy); **Ralf Conzelmann,** European Southern Observatory (Germany); **Marco Faccini,** INAF - Osservatorio Astronomico di Roma (Italy); **Tomas Fordey**, **Ivan Guidolin**, **Wolfgang Hackenberg**, **Pierre Haguenauer,** European Southern Observatory (Germany); **Joschua Hellemeier,** INAF - Osservatorio Astronomico di Roma (Italy), The Australian National Univ. (Australia); **Norbert Hubin**, **Petr Janout,** European Southern Observatory (Germany); **David R. Jenkins,** European Southern Observatory (Germany), European Space Agency (Netherlands); **Andreas Jost,** European Southern Observatory (Germany); **Noelia Martínez Rey,** The Australian National Univ. (Australia); **Timothy J. Morris**, **James Osborn,** Durham Univ. (United Kingdom); **Christian Patauner**, **Dietrich Pescoller,** Microgate S.r.l. (Italy); **Alfio Puglisi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Marcos Reyes García-Talavera,** Instituto de Astrofísica de Canarias (Spain); **Luca Sabatini,** INAF - Osservatorio Astronomico di Roma (Italy); **Laura Salvi,** Microgate S.r.l. (Italy); **Bernadett Stadler,** Johann Radon Institute for Computational and Applied Mathematics (Austria); **Matteo Tordi,** Microgate S.r.l. (Italy)

13097-11 • 01:40 PM - 01:55 PM
**On-sky performance of KalAO the swift adaptive optics imager on 1.2m Euler Swiss telescope in La Silla, Chile**
*Author(s):* **Janis Hagelberg**, **Nathanaël Restori**, **François Wildi,** Observatoire de Genève (Switzerland); **Olivier Guyon,** Subaru Telescope, NAOJ (United States), Steward Observatory, The Univ. of Arizona (United States), AstroBiology Ctr., NINS (Japan); **Bruno Chazelas**, **Damien Ségransan**, **Malik Algelly**, **Luc Weber,** Observatoire de Genève (Switzerland); **Vincent Deo,** Subaru Telescope, NAOJ (United States); **Christoph Baranec,** Institute for Astronomy, Univ. of Hawai'i at Manoa (United States); **Fabien Alesina**, **Nicolas Blind**, **Sebastien Bovay**, **Nicolas Buchschacher**, **Anthony Carvalho**, **Adrien Crausaz**, **Ian Hughes**, **Benjamin Küng**, **Samuel Rihs**, **Robin Schnell**, **Gilles Simon**, **Michaël Sordet**, **Francesco Pepe**, **Stephane Udry,** Observatoire de Genève (Switzerland); **Xavier Bonfils,** Institut de Planétologie et d'Astrophysique de Grenoble, Univ. Grenoble Alpes (France); **François Bouchy**, **Christophe Lovis**, **Léonie Dezempte**, **Mohammad Rashidi,** Observatoire de Genève (Switzerland); **Arnaud Sevin,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, CNRS (France), Observatoire de Paris (France), Univ. PSL (France)

13097-12 • 01:55 PM - 02:10 PM
**Commissioning MAPS, the MMT AO exoPlanet characterization System**
*Author(s):* **Katie M. Morzinski**, **Manny Montoya,** The Univ. of Arizona (United States); **Jenny L. Patience,** Arizona State Univ. (United States); **Cameron Ard,** The Univ. of Arizona (United States); **Narsireddy Anugu,** Georgia State Univ. (United States); **Olivier Durney**, **Andrew Gardner**, **Olivier Guyon**, **Buell Jannuzi**, **Jess A. Johnson**, **Craig Kulesa**, **Jarron Leisenring**, **Jared R. Males,** The Univ. of Arizona (United States); **Suresh Sivanandam**, **Robin Swanson**, **Jacob Taylor,** Univ. of Toronto (Canada); **Dan Vargas**, **Amali Vaz, Grant West,** The Univ. of Arizona (United States)

Session Break • 02:10 PM - 02:15 PM

## SESSION 4: AO SYSTEMS IN COMMISSIONING IV

16 June 2024 • 02:15 PM - 03:00 PM | Room G301/302, North - 3F
*Session Chair(s):* **Mark R. Chun**, Institute for Astronomy (United States)

13097-13 • 02:15 PM - 02:30 PM
**GTC adaptive optics integration in telescope and commissioning results**
*Author(s):* **Marcos Reyes García-Talavera**, **Icíar Montilla Garcia**, **Marta Puga**, **Roberto López**, **Eduardo González**, **Roberto Luis Simoes**, **Óscar Tubío**, **José Marco**, **Josefina Rosich**, **Manuel Luis Aznar**, **Jesús Patrón**, **Víctor Sánchez-Béjar,** Instituto de Astrofísica de Canarias (Spain); **Gianluca Lombardi**, **Héctor de Paz**, **Daniel Reverte**, **Luis Alberto Rodríguez García**, **Antonio Cabrera**, **Manuel Huertas López**, **Sergio Fernández**, **María Martín**, **Pedro González**, **Alejandro Leal, Sara Navarro,** Gran Telescopio de Canarias, S.A. (Spain)

13097-14 • 02:30 PM - 02:45 PM
**The wide field adaptive optics system on 1m New Vacuum Solar Telescope**
*Author(s):* **Lanqiang Zhang**, **Nanfei Yan**, **Hua Bao**, **Xuejun Rao**, **Youming Guo,** Institute of Optics and Electronics (China); **Xian Ran**, **Jinsheng Yang**, **Cheng Wang**, **Xinlong Fan**, **Dingkang Tong**, **Libo Zhong**, **Mei Li**, **Xiaojun Zhang**, **ningping Shi**, **Donghong Zhang**, **Zhongyi Feng, Changhui Rao,** Institute of Optics and Electronics, CAS (China)

13097-15 • 02:45 PM - 03:00 PM
**Commissioning results from the Robo-AO-2 facility for rapid visible/near-infrared AO imaging**
*Author(s):* **Christoph Baranec**, **James Ou,** Univ. of Hawai'i (United States); **Reed L. Riddle,** Caltech (United States); **Ruihan Zhang**, **Luke Mckay**, **Rachel Rampy**, **Morgan Bonnet**, **Iven Hamilton,** Univ. of Hawai'i (United States); **Greg Ching**, **Jessica Young,** Univ. of Hawai'i (United States); **Maissa Salama**, **Paul Barnes**, **Shane Jacobson**, **Peter Onaka**, **Mark R. Chun,** Univ. of Hawai'i (United States); **Keith Powell,** Unaffiliated (Italy); **Zachary Werber,** Univ. of Hawai'i (United States)

**Coffee Break 03:00 PM - 03:30 PM**

## SESSION 5: UPCOMING AO SYSTEMS

16 June 2024 • 03:30 PM - 04:35 PM | Room G301/302, North - 3F
*Session Chair(s):* **Fernando Quirós-Pacheco**, GMTO Corp. (United States)

13097-16 • 03:30 PM - 04:00 PM
**A visible-light multi-conjugate adaptive optics system for the W. M. Keck Observatory** *(Invited Paper)*
*Author(s):* **Jessica R. Lu,** Univ. of California, Berkeley (United States); **Rich Dekany,** Caltech (United States); **Peter L. Wizinowich**, **Antonin Bouchez,** W. M. Keck Observatory (United States); **Brooke DiGia**, **Brianna Peck,** Univ. of California, Berkeley (United States); **Kodi Rider,** Space Sciences Lab., Univ. of California, Berkeley (United States); **Philip M. Hinz,** Univ. of California, Santa Cruz (United States); **Eduardo Marin,** W. M. Keck Observatory (United States); **Max Millar-Blanchaer,** Univ. of California, Santa Barbara (United States); **Lianqi Wang,** Thirty Meter Telescope (United States)

13097-17 • 04:00 PM - 04:15 PM
**MAVIS progress toward the Final Design Review**
*Author(s):* **François Rigaut**, **David Brodrick,** The Australian National Univ. (Australia); **Richard McDermid,** Astrophysics and Space Technologies Research Ctr., Macquarie Univ. (Australia); **Jennifer Burgess,** ANU Enterprise Pty Ltd. (Australia); **Giovanni Cresci,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Simon Ellis,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Trevor Mendel,** The Australian National Univ. (Australia); **Jessica R. Zheng**, **Nuria Lorente**, **Ross Zhelem**, **Summer Luo**, **Timothy Chin**, **Anthony Horton**, **Helen McGregor**, **Lew Waller**, **Scott Smedley**, **Nuwanthika Fernando,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Antony Galla**, **Brian W. Taylor**, **Israel Vaughn**, **Julien Bernard**, **Nicolas Doucet**, **Annino Vaccarella,** The Australian National Univ. (Australia); **Davide Greggio,** INAF - Osservatorio Astronomico di Padova (Italy); **Dionne M. Haynes**, **Gaston Gausachs**, **Jesse Cranney,** The Australian National Univ. (Australia); **Pierre Haguenauer**, **Stefan Ströbele,** European Southern Observatory (Germany); **Cédric Plantet**, **Enrico Pinna**, **Guido Agapito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Luca Marafatto**, **Marco Bonaglia,** INAF - Osservatorio Astronomico di Padova (Italy); **Andrea Bianco**, **Alessio Zanutta**, **Matteo Aliverti,** INAF - Osservatorio Astronomico di Brera (Italy); **Mirko Colapietro**, **Pietro Schipani**, **Sergio D'Orsi**, **Salvatore Savarese,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Kalyan Radhakrishnan**, **Rosanna Sordo**, **Andrea Baruffolo**, **Andrea Balestra**, **Bernardo Salasnich**, **Daniela Fantinel,** INAF - Osservatorio Astronomico di Padova (Italy); **Damien Gratadour,** The Australian National Univ. (Australia); **Daniele Vassallo**, **Oleksandra Rebrysh**, **Maria Bergomi**, **Marco Gullieuszik**, **Simonetta Chinellato**, **Valentina Viotto**, **Elia Costa,** INAF - Osservatorio Astronomico di Padova (Italy); **Benoît Neichel**, **Romain Fétick,** Lab. d'Astrophysique de Marseille (France); **Roger Haynes**, **Sam Wade**, **Tristan Monnier,** The Australian National Univ. (Australia); **Max Hewlett,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Mojtaba Taheri,** Lab. d'Astrophysique de Marseille (France)

13097-18 • 04:15 PM - 04:30 PM

**GNAO: the new AO facility for Gemini North, facility overview at preliminary design**

*Author(s):* **Gaetano Sivo,** Gemini Observatory (Chile), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Julia Scharwächter,** Gemini Observatory (United States), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Masen P. Lamb,** NSF's National Optical-Infrared Astronomy Research Lab. (United States), Gemini Observatory (United States), Univ. of Victoria (Canada); **Manuel Lazo,** Gemini Observatory (Chile), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Célia Blain,** Gemini Observatory (United States), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Stephen Goodsell,** Gemini Observatory (United States), NSF's National Optical-Infrared Astronomy Research Lab. (United States), Durham Univ. (United Kingdom); **Martin Tschimmel,** Gemini Observatory (Chile), NSF's National Optical-Infrared Astronomy Research Lab. 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National de la Recherche Scientifique (France); **Delphine Barbon-Dubosc,** ONERA (France), Univ. de Toulouse (France); **François Dolon,** Observatoire de Haute-Provence (France); **Nisrine Arab, Matthieu Grau,** ALPAO S.A.S. (France)

Session Break • 04:30 PM - 04:35 PM

## SESSION 6: OPERATIONAL AO SYSTEMS & FUTURE PLANS

16 June 2024 • 04:35 PM - 05:35 PM | Room G301/302, North - 3F

*Session Chair(s):* **Angela Cortes**, European Southern Observatory (Germany)

13097-19 • 04:35 PM - 04:50 PM

**Adaptive optics at W. M. Keck Observatory**

*Author(s):* **Peter L. Wizinowich**, **Antonin Bouchez**, **Eduardo Marin,** W. M. Keck Observatory (United States); **Sylvain Cetre,** Wakea Consulting (France); **Jason Chin,** W. M. Keck Observatory (United States); **Carlos M. Correia,** Space ODT (Portugal); **Marcos A. van Dam,** Flat Wavefronts (New Zealand); **Jacques-Robert R. Delorme**, **Charlotte E. Guthery**, **Sonia Karkar**, **Scott J. Lilley**, **Jim Lyke**, **Paul Richards**, **Maxwell Service**, **Avinash Surendran**, **Kevin Tsubota**, **Ed Wetherell**, **Luke Gers,** W. M. Keck Observatory (United States); **Michael Bottom,** University of Hawaii (United States); **Richard Dekany,** Caltech (United States); **Andrea Ghez,** UCLA (United States); **Phillip Hinz,** UCSC (United States); **Michael Liu,** University of Hawaii (United States); **Jessica Liu,** UCB (United States); **Rebecca Jensen-Clem,** UCSC (United States); **Max Millar-Blanchaer,** UCSB (United States); **Eliad Peretz,** NASA Goddard (United States); **Steph Sallum,** UCI (United States); **Tomasso Treu,** UCLA (United States); **Shelley Wright,** UCSD (United States); **Shui Kwok, Jonathan Steiner,** W. M. Keck Observatory (United States)

13097-20 • 04:50 PM - 05:05 PM
**Emerging adaptive optics facility at the Large Binocular Telescope Observatory**
*Author(s):* **Sam Ragland**, **Guido Brusa**, **Alessandro Cavallaro**, **Juan Carlos Guerra**, **Michael Lefebvre**, **Douglas Miller**, **Mark Smithwright**, **Gregory Taylor**, **Xianyu Zhang,** Large Binocular Telescope Observatory (United States); **Guido Agapito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Matthieu Bec**, **Maria Bergomi,** Large Binocular Telescope Observatory (United States); **Laird M. Close,** The Univ. of Arizona (United States); **Al Conrad**, **Heejoo Choi,** Large Binocular Telescope Observatory (United States); **Jonathan Crass,** Univ. of Notre Dame (United States); **Simone Esposito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Jacopo Farinato,** INAF - Osservatorio Astronomico di Padova (Italy); **Tom Herbst,** Max-Planck-Institut für Astronomie (Germany); **Daewook Kim**, **Brandon Mechtley,** Large Binocular Telescope Observatory (United States); **Fernando Pedichini,** INAF - Osservatorio Astronomico di Roma (Italy); **Eliad Peretz,** NASA Goddard Space Flight Ctr. (United States); **Roberto Piazzesi,** INAF - Osservatorio Astronomico di Roma (Italy); **Enrico Pinna,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Jennifer Power,** Large Binocular Telescope Observatory (United States); **Kalyan Radhakrishnan,** INAF - Osservatorio Astronomico di Padova (Italy); **Armando Riccardi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Joseph Shields, Christian Veillet,** Large Binocular Telescope Observatory (United States)

13097-21 • 05:05 PM - 05:20 PM
**Adaptive optics at Gemini Observatories: past, present, and future**
*Author(s):* **Célia Blain,** Gemini Observatory (United States); **Aurea Garcia Rissmann,** Gemini Observatory (Chile); **Christophe S. Clergeon,** Gemini Observatory (United States); **Gaetano Sivo,** Gemini Observatory (Chile); **Garima Singh**, **Julian C. Christou,** Gemini Observatory (United States); **Masen P. Lamb,** Gemini Observatory (Canada); **Ruben Diaz,** Gemini Observatory (Chile); **Stephen Goodsell,** Gemini Observatory (United Kingdom); **Vincent Garrel,** Gemini Observatory (Chile)

13097-22 • 05:20 PM - 05:35 PM
**PROVIDENCE: toward a 2.2m adaptive telescope for Optical SSA**
*Author(s):* **Thierry Fusco**, **Cyril Petit**, **Nicolas Vedrenne,** ONERA (France); **Johan Floriot,** Lab. d'Astrophysique de Marseille (France); **François Dolon,** Observatoire de Haute-Provence (France); **Stephane Basa,** Lab. d'Astrophysique de Marseille (France); **Jean-François Sauvage,** ONERA (France); **Marc Ferrari,** Observatoire de Haute-Provence (France); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France)

## Monday 17 June 2024

### MONDAY PLENARY

17 June 2024 • 08:20 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/monday-plenary

13173-500 • 08:30 AM - 09:15 AM
**Moving TMT forward: Japan's contributions and transformative approach toward community engagement** (Plenary Presentation)
*Author(s):* **Tomonori Usuda,** National Astronomical Observatory of Japan (United States); **Yuko Kakazu,** Thirty Meter Telescope (United States)

13173-501 • 09:15 AM - 10:00 AM
**From dark skies to bright futures: the evolution of astronomy in Africa and the hosting of the historic International Astronomical Union General Assembly 2024** (Plenary Presentation)
*Author(s):* **Charles Mpho Takalana,** The African Astronomical Society (South Africa)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 7: MODELING, SIMULATION & ANALYSIS OF AO SYSTEMS

17 June 2024 • 10:30 AM - 11:35 AM | Room G301/302, North - 3F
*Session Chair(s):* **Kathryn J. Jackson**, NRC-Herzberg Astronomy & Astrophysics (Canada)

13097-23 • 10:30 AM - 11:00 AM
**Chromatic effects in adaptive optics** *(Invited Paper)*
*Author(s):* **Nicholas Devaney,** Univ. of Galway (Ireland); **Bruno Femenía Castellá,** Deutsches Zentrum für Luft- und Raumfahrt e.V. (Germany)

13097-24 • 11:00 AM - 11:15 AM
**Maintaining consistency of simulation results over an AO system's lifetime**
*Author(s):* **Miska Le Louarn,** European Southern Observatory (Germany)

13097-25 • 11:15 AM - 11:30 AM
**High fidelity simulations and control of contactless adaptive mirrors**
*Author(s):* **Bernadett Stadler,** Johann Radon Institute for Computational and Applied Mathematics (Austria); **Daniel Jodlbauer,** Johannes Kepler Univ. Linz (Austria); **Roberto Biasi**, **Mauro Manetti,** Microgate S.r.l. (Italy); **Andreas Obereder,** MathConsult GmbH (Austria); **Ronny Ramlau,** Johannes Kepler Univ. Linz (Austria); **Matteo Tintori,** A.D.S. International S.r.l. (Italy)

Session Break • 11:30 AM - 11:35 AM

## SESSION 8: Wavefront Sensing with Machine Learning

17 June 2024 • 11:35 AM - 12:05 PM | Room G301/302, North - 3F
*Session Chair(s):* **Bernadett Stadler**, Johann Radon Institute for Computational and Applied Mathematics (Austria)

Conference Discussion • 11:35 AM - 11:50 AM

13097-27 • 11:50 AM - 12:05 PM
**Closed–loop experimental validation using neural networks in a non-modulated pyramidal wavefront sensor**
*Author(s):* **Camilo Weinberger,** Pontificia Univ. Católica de Valparaíso (Chile); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Jorge Tapia, Esteban Vera,** Pontificia Univ. Católica de Valparaíso (Chile)

**Lunch Break 12:05 PM - 01:25 PM**

## SESSION 9: Calibration of AO Systems I

17 June 2024 • 01:25 PM - 02:15 PM | Room G301/302, North - 3F
*Session Chair(s):* **Jennifer S. Dunn**, NRC-Herzberg Astronomy & Astrophysics (Canada)

Conference Discussion • 01:25 PM - 01:40 PM

13097-29 • 01:40 PM - 01:55 PM
**Open loop calibration and closed loop non perturbative estimation of the lateral errors of an adaptive optics system: examples with GRAVITY+ and CHARA experimental data**
*Author(s):* **Anthony Berdeu,** Observatoire de Paris à Meudon (France); **Henri Bonnet,** European Southern Observatory (Germany); **Jean-Baptiste Le Bouquin,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Philippe Bério,** Observatoire de la Côte d'Azur (France); **Thibaut Paumard,** Observatoire de Paris à Meudon (France); **Frank Eisenhauer,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Christian Straubmeier,** Univ. zu Köln (Germany); **Paulo J. V. Garcia,** Ctr. de Astrofísica e Gravitação (Portugal); **Sebastian Hönig,** Univ. of Southampton (United Kingdom); **Florentin Millour,** Observatoire de la Côte d'Azur (France); **Denis Defrère,** KU Leuven (Belgium); **Ferréol Soulez,** Ctr. de Recherche Astrophysique de Lyon (France); **Denis Mourard,** Observatoire de la Côte d'Azur (France); **Gail Schaefer**, **Narsireddy Anugu,** CHARA Array (United States); **Guillaume Bourdarot,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13097-30 • 01:55 PM - 02:10 PM
**On-sky, real-time optical gain calibration on MagAO-X using incoherent speckles**
*Author(s):* **Eden A. McEwen,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Jared R. Males,** Steward Observatory, The Univ. of Arizona (United States); **Olivier Guyon,** Wyant College of Optical Sciences, The Univ. of Arizona (United States), Steward Observatory, The Univ. of Arizona (United States), Subaru Telescope, NAOJ (United States); **Sebastiaan Y. Haffert,** Steward Observatory, The Univ. of Arizona (United States); **Joseph D. Long,** Flatiron Institute (United States); **Laird M. Close**, **Kyle Van Gorkom,** Steward Observatory, The Univ. of Arizona (United States); **Jennifer Lumbres,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Alexander D. Hedglen,** Northrop Grumman Corp. (United States); **Lauren Schatz,** Starfire Optical Range, Kirtland Air Force Base (United States); **Maggie Y. Kautz**, **Jay Kueny,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Avalon L. McLeod,** Draper Lab. (United States); **Warren B. Foster**, **Jialin Li**, **Logan A. Pearce,** Steward Observatory, The Univ. of Arizona (United States); **Alycia J. Weinberger,** Carnegie Institution for Science (United States); **Roz Roberts,** Steward Observatory, The Univ. of Arizona (United States); **Katie Twitchell,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Isabella Doty,** Univ. of Rochester (United States)

Session Break • 02:10 PM - 02:15 PM

## SESSION 10: CALIBRATION OF AO SYSTEMS II

17 June 2024 • 02:15 PM - 03:00 PM | Room G301/302, North - 3F
*Session Chair(s):* **Yoshito H. Ono**, Subaru Telescope, NAOJ (United States)

13097-31 • 02:15 PM - 02:30 PM
**ESCAPE: Efficient Synthesis of Calibrations for Adaptive optics through Pseudo-synthetic and Empirical methods**
*Author(s):* **Jacob Taylor**, **Robin Swanson**, **Suresh Sivanandam,** Dunlap Institute for Astronomy & Astrophysics (Canada); **Masen P. Lamb,** Gemini Observatory (United States); **Parker Levesque,** Dunlap Institute for Astronomy & Astrophysics (Canada)

13097-32 • 02:30 PM - 02:45 PM
**New calibration process to measure atmospheric turbulence with Fourier filtering wavefront sensors: application to the non-modulated pyramid and the Zernike wavefront sensor**
*Author(s):* **Mahawa Cissé,** Lab. d'Astrophysique de Marseille (France); **Vincent Chambouleyron,** Univ. of California, Santa Cruz (United States); **Olivier Fauvarque,** Ifremer (France); **Nicolas Levraud,** Lab. d'Astrophysique de Marseille (France); **Charlotte Z. Bond,** UK Astronomy Technology Ctr. (United Kingdom); **Jean-François Sauvage,** ONERA (France); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Thierry Fusco,** ONERA (France), Univ. Paris-Saclay (France)

13097-33 • 02:45 PM - 03:00 PM
**Enhancing phase retrieval with domain adaptation: Bridging the gap between simulations and real data**
*Author(s):* **Maxime Quesnel**, **Gilles Orban de Xivry,** Liège Univ. (Belgium); **Jyotirmay Paul,** Univ. of Exeter (United Kingdom); **Olivier Absil**, **Gilles Louppe,** Liège Univ. (Belgium); **Vincent Deo**, **Sébastien Vievard, Olivier Guyon,** Subaru Telescope, NAOJ (United States)

## Coffee Break 03:00 PM - 03:30 PM

## SESSION 11: WAVEFRONT RECONSTRUCTION & CONTROL ALGORITHMS I

17 June 2024 • 03:30 PM - 04:20 PM | Room G301/302, North - 3F
*Session Chair(s):* **Marcos A. van Dam**, Flat Wavefronts (New Zealand)

13097-34 • 03:30 PM - 03:45 PM
**Advanced control of ALPAO DMs leads to significant AO performance improvements**
*Author(s):* **Idir Boudjema**, **Baptiste Sinquin**, **Armin Schimpf**, **Hisham Forriere**, **Bruno Martin, Julien Charton,** ALPAO S.A.S. (France)

13097-35 • 03:45 PM - 04:10 PM
**A review of super-resolution enabling tomographic reconstructors in adaptive optics**
*Author(s):* **Carlos M. Correia,** Univ. do Porto (Portugal), Instituto Superior Técnico (Portugal); **Pierre Jouve,** Lab. d'Astrophysique de Marseille (France); **Cédric Taïssir Héritier,** ONERA (France); **Guido Agapito,** INAF (Italy); **Tom Major,** Space ODT (Portugal); **Jesse Cranney,** The Australian National Univ. (Australia); **Yoshito H. Ono,** Subaru Telescope, NAOJ (Japan); **Sylvain Oberti,** European Southern Observatory (Germany); **Avinash Surendran,** W. M. Keck Observatory (United States)

Session Break • 04:10 PM - 04:20 PM

## SESSION 12: WAVEFRONT RECONSTRUCTION & CONTROL ALGORITHMS II

17 June 2024 • 04:20 PM - 05:05 PM | Room G301/302, North - 3F
*Session Chair(s):* **Bernadett Stadler**, Johann Radon Institute for Computational and Applied Mathematics (Austria)

13097-37 • 04:20 PM - 04:35 PM
**Reinforcement learning control on PAPYRUS: from simulations towards on-sky**
*Author(s):* **Raissa Camelo,** Lab. d'Astrophysique de Marseille (France); **Jalo Nousiainen,** European Southern Observatory (Germany), Lappeenranta-Lahti Univ. of Technology (Finland); **Cedric Taïssir Heritier,** Lab. d'Astrophysique de Marseille (France), ONERA (France); **Morgan Gray, Benoît Neichel,** Lab. d'Astrophysique de Marseille (France)

13097-38 • 04:35 PM - 04:50 PM
**Upgrading SPHERE with the second stage AO system SAXO+: first performance results of a data-driven predictive minimum-variance control strategy**
*Author(s):* **Nicolas Galland**, **Henri-François Raynaud,** Lab. Charles Fabry, Institut d'Optique Graduate School, Univ. Paris-Saclay, CNRS (France); **Markus Kasper,** European Southern Observatory (Germany); **Charles Goulas,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris, Univ. Paris Diderot, Sorbonne Univ., CNRS (France); **Clémentine Béchet,** Ctr. de Recherche Astrophysique de Lyon , Univ. de Lyon, Univ. Claude Bernard Lyon 1, CNRS (France); **Florian Ferreira,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris, Univ. Paris Diderot, Sorbonne Univ., CNRS (France); **Michel Tallon,** Ctr. de Recherche Astrophysique de Lyon, Univ. de Lyon, Univ. Claude Bernard Lyon 1, CNRS (France); **Fabrice Vidal,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris, Univ. Paris Diderot, Sorbonne Univ., CNRS (France); **Maud Langlois,** Ctr. de Recherche Astrophysique de Lyon, Univ. de Lyon, Univ. Claude Bernard Lyon 1, CNRS (France); **Anthony Boccaletti,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris, Univ. Paris Diderot, Sorbonne Univ., CNRS (France); **Gaël Chauvin,** Observatoire de la Côte d'Azur, Univ. Côte d'Azur, CNRS (France); **Emiliano Diolaiti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Raffaele Gratton,** INAF - Osservatorio Astronomico di Padova (Italy); **Magali Loupias,** Ctr. de Recherche Astrophysique de Lyon, Univ. de Lyon, Univ. Claude Bernard Lyon 1, CNRS (France); **Julien Milli,** Institut de Planétologie et d'Astrophysique de Grenoble, Univ. Grenoble Alpes, CNRS (France); **François Wildi,** Observatoire de Genève (Switzerland); **Caroline Kulcsár,** Lab. Charles Fabry, Institut d'Optique Graduate School, Univ. Paris-Saclay, CNRS (France)

13097-39 • 04:50 PM - 05:05 PM
**Closed-loop wavefront control with a neural network reconstructor for the unmodulated pyramid wavefront sensor on MagAO-X**
*Author(s):* **Rico Landman,** Leiden Observatory (Netherlands); **Sebastiaan Y. Haffert**, **Jared R. Males**, **Laird M. Close**, **Kyle Van Gorkom,** Steward Observatory (United States); **Olivier Guyon,** Steward Observatory (United States), Wyant College of Optical Sciences (United States), National Astronomical Observatory of Japan (Japan); **Alexander D. Hedglen**, **Maggie Y. Kautz,** Wyant College of Optical Sciences (United States); **Joseph D. Long,** Flatiron Institute (United States); **Jennifer Lumbres,** Wyant College of Optical Sciences (United States); **Lauren Schatz,** Air Force Research Lab. (United States)

## POSTER AWARD CEREMONY

17 June 2024 • 05:05 PM - 05:20 PM | Room G301/302, North - 3F
Poster awards will be announced by the conference chairs.

## SESSION PS1: POSTERS - AO SYSTEMS & SUBSYSTEMS TESTING

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-108 • 05:30 PM - 07:00 PM
**Characteristics and performances of the small and large field adaptive optics system AOC at the C2PU telescope**
*Author(s):* **Lyu Abe**, **Olivier Lai**, **François-Xavier Schmider**, **Marcel Carbillet**, **Éric Aristidi**, **Jean-Pierre Rivet**, **Frantz Martinache**, **Farrokh Vakili, Julien Dejonghe,** Observatoire de la Côte d'Azur (France)

13097-110 • 05:30 PM - 07:00 PM
**MAVIS: the Verification Test Bench**
*Author(s):* **Oleksandra Rebrysh,** INAF - Osservatorio Astronomico di Padova (Italy), Univ. degli Studi di Padova (Italy); **Davide Greggio,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Stefan Ströbele,** European Southern Observatory (Germany); **Hana Benhizia,** The Australian National Univ. (Australia), Astralis (Australia); **Luca Marafatto**, **Valentina Viotto,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **François Rigaut**, **David Brodrick**, **Dionne Haynes,** The Australian National Univ. (Australia), Astralis (Australia); **Enrico Pinna**, **Guido Agapito,** INAF - Osservatorio Astrofisico di Arcetri (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Israel Vaughn, Gaston Gausachs,** The Australian National Univ. (Australia), Astralis (Australia)

13097-113 • 05:30 PM - 07:00 PM
**Adaptive optics for free-space quantum communication: ongoing studies in Padova**
*Author(s):* **Edoardo Rossi**, **Francesco Picciariello**, **Ilektra Karakosta-Amarantidou**, **Alessia Scriminich**, **Giuseppe Vallone**, **Paolo Villoresi, Francesco Vedovato,** Univ. degli Studi di Padova (Italy)

13097-114 • 05:30 PM - 07:00 PM
**STILES: the AoCascading and AoPetalometer testbenches, final design and procurement status**
*Author(s):* **Paolo Grani**, **Nicolò Azzaroli**, **Marco Bonaglia**, **Runa Briguglio**, **Lorenzo Busoni**, **Simone Esposito**, **Enrico Pinna, Armando Riccardi,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

## SESSION PS2: POSTERS - ARTIFICIAL BEACONS FOR WAVEFRONT SENSING

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-160 • 05:30 PM - 07:00 PM
**ULTIMATE-START: development of a propagation model for 4-Beam Laser Guide Stars**
*Author(s):* **Akimasa Ojika,** Kwansei Gakuin Univ. (Japan); **Yosuke Minowa**, **Yoshito H. Ono,** Subaru Telescope, NAOJ (United States); **Masayuki Akiyama,** Tohoku Univ. (Japan)

13097-161 • 05:30 PM - 07:00 PM
**An optical feasibility study for STARLITE: Superluminous Tomographic Atmospheric Reconstruction with Laser-beacons for Imaging Terrestrial Exoplanets**
*Author(s):* **Adam B. Johnson,** Univ. of Victoria (Canada); **Christian Marois**, **William R. Thompson**, **Kate Jackson**, **Jean-Pierre Véran**, **Maaike A. M. van Kooten**, **Olivier Lardière**, **Darryl Gamroth,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Colin H. Bradley,** Univ. of Victoria (Canada)

13097-163 • 05:30 PM - 07:00 PM
**Subaru Laser Guide Star System upgrade and on-sky characterization**
*Author(s):* **Yosuke Minowa**, **Yoshito H. Ono**, **Yoshiyuki Doi**, **Yoko Tanaka**, **Takamasa Bando**, **Hiroshige Yoshida**, **Koki Terao**, **Hirofumi Okita**, **Matthew Wung**, **Lucio Ramos,** Subaru Telescope, NAOJ (United States); **Hajime Ogane,** The Australian National Univ. (Australia); **Akimasa Ojika,** Kwansei Gakuin Univ. (Japan); **Masayuki Akiyama,** Tohoku Univ. (Japan)

13097-164 • 05:30 PM - 07:00 PM
**How to design your next generation Laser Guide Star Facility: assessing sodium photon return availability for the GLAO Laser Guide Star Facility in ULTIMATE-Subaru**
*Author(s):* **Noelia Martínez Rey,** The Australian National Univ. (Australia); **Pierre Haguenauer,** European Southern Observatory (Germany); **Yosuke Minowa**, **Yoshito H. Ono,** Subaru Telescope, NAOJ (United States); **David Chandler**, **Dionne Haynes,** The Australian National Univ. (Australia); **Yusei Koyama,** Subaru Telescope, NAOJ (Japan); **Celine D'Orgeville,** The Australian National Univ. (Australia)

13097-165 • 05:30 PM - 07:00 PM
**On-sky demonstration of Semiconductor Sodium Guidestar Laser**
*Author(s):* **Steve E. Rako**, **Gregory J. Fetzer,** Arete Associates (United States); **Philip M. Hinz,** Univ. of California, Santa Cruz (United States); **Juan Chilla,** Coherent Corp. (United States); **Céline d'Orgeville,** The Australian National Univ. (Australia); **Nathan Woody,** Arete Associates (United States); **Daren Dillon,** Univ. of California (United States)

13097-166 • 05:30 PM - 07:00 PM
**Project for the development of the adaptive optical system with Rayleigh LGS for the INASAN 2-meter telescope**
*Author(s):* **Evgeniy Kopylov,** Institute of Astronomy (Russian Federation); **Andrey Larichev**, **Nikita Iroshnikov,** M. V. Lomonosov Moscow State Univ. (Russian Federation); **Mikhail Sachkov,** Institute of Astronomy (Russian Federation)

13097-167 • 05:30 PM - 07:00 PM
**LGS AO Specifications for 2-m telescop the Terskol Observatory INASAN**
*Author(s):* **Evgeniy Kopylov,** Institute of Astronomy (Russian Federation); **Lidiya Bol'basova,** V.E. Zuev Institute of Atmospheric Optics (Russian Federation); **Andrey Larichev**, **Nikita Iroshnikov,** M. V. Lomonosov Moscow State Univ. (Russian Federation); **Mikhail Sachkov,** Institute of Astronomy (Russian Federation)

13097-168 • 05:30 PM - 07:00 PM
**Progress and first experimental results of the Advanced Laser Guide Star Adaptive Optics facility for Satellite Communication (ALASCA)**
*Author(s):* **Domenico Bonaccini Calia,** European Southern Observatory (Germany); **David Alaluf,** European Space Agency (Netherlands); **Roberto Biasi,** Microgate S.r.l. (Italy); **Mauro Centrone,** INAF - Osservatorio Astronomico di Roma (Italy); **Martin Enderlein,** TOPTICA Projects GmbH (Germany); **Marco Faccini,** INAF - Osservatorio Astronomico di Roma (Italy); **Oliver J. D. Farley,** Durham Univ. (United Kingdom); **Daniele Gallieni,** A.D.S. International S.r.l. (Italy); **David Gooding,** Lumi Space Ltd. (United Kingdom); **Joschua Hellemeier,** The Australian National Univ. (Australia); **Sebastian Hepp,** TOPTICA Projects GmbH (Germany); **Petr Janout**, **David R. Jenkins,** European Southern Observatory (Germany); **Frank Lison,** TOPTICA Projects GmbH (Germany); **James Luis,** Lumi Space Ltd. (United Kingdom); **Noelia Martínez Rey,** The Australian National Univ. (Australia); **James Osborn,** Durham Univ. (United Kingdom); **Christian Patauner,** Microgate S.r.l. (Italy); **Felipe Pedreros Bustos,** European Southern Observatory (Germany); **Dietrich Pescoller,** Microgate S.r.l. (Italy); **Marcos Reyes García-Talavera,** Instituto de Astrofísica de Canarias (Spain); **Luca Sabatini,** INAF - Osservatorio Astronomico di Roma (Italy); **Laura Salvi,** Microgate S.r.l. (Italy); **Ewan Schafer,** Lumi Space Ltd. (United Kingdom); **Bernadett Stadler,** Johannes Kepler Univ. Linz (Austria); **Zoran Sodnik,** European Space Agency (Netherlands); **Matteo Tintori,** A.D.S. International S.r.l. (Italy); **Matteo Tordi,** Microgate S.r.l. (Italy); **Hira Virdee,** Lumi Space Ltd. (United Kingdom)

## SESSION PS3: POSTERS - PROTOTYPING, PATHFINDERS AND CONSTRUCTION PROJECTS I

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

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13097-244 • 05:30 PM - 07:00 PM
**Prototyping activities of laser/natural guide star wavefront sensors for ULTIMATE-Subaru GLAO**
*Author(s):* **Hajime Ogane**, **Joshua Carter**, **David Chandler**, **Dionne M. Haynes**, **Nicholas Herrald**, **Noelia Martínez Rey,** The Australian National Univ. (Australia); **Lu Wang,** The Australian National Univ. (Australia); **Yosuke Minowa**, **Yoshito H. Ono**, **Yoko Tanaka**, **Koki Terao**, **Hiroshige Yoshida,** Subaru Telescope, NAOJ (United States); **Celine D'Orgeville,** The Australian National Univ. (Australia)

13097-246 • 05:30 PM - 07:00 PM
**Performance update of the combined GNAO+GIRMOS imaging system based on the newly derived adaptive optics bench**
*Author(s):* **Masen P. Lamb,** NSF's National Optical-Infrared Astronomy Research Lab. (United States), Univ. of Victoria (Canada), Gemini Observatory (United States); **Gaetano Sivo,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile), Gemini Observatory (Chile); **Julia Scharwaechter,** NSF's National Optical-Infrared Astronomy Research Lab. (United States), Gemini Observatory (United States); **Suresh Sivanandam,** Dunlap Institute for Astronomy & Astrophysics (Canada), Univ. of Toronto (Canada); **Martin Tschimmel,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile), Gemini Observatory (Chile); **Alan Mcconnachie,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Adam Muzzin,** York University (Canada); **Pierre Jouve,** Laboratoire d'Astrophysiqe de Marseille (France); **Carlos Correia,** Space ODT (Portugal)

13097-247 • 05:30 PM - 07:00 PM
**Preliminary closed loop performance of the adaptive optics for the Evanescent Wave Coronagraph prototype**
*Author(s):* **Apichayaporn Ratkata,** National Astronomical Research Institute of Thailand (Thailand); **Anthony Berdeu,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Patcharadanai Sombatsatien**, **Krittapat Bannajak,** National Astronomical Research Institute of Thailand (Thailand); **Michel Tallon,** Univ. de Lyon, Univ. Claude Bernard Lyon 1, Ecole Normale Supérieure de Lyon, Ctr. de Recherche Astrophysique de Lyon (France); **Mary Angelie M. Alagao,** National Astronomical Research Institute of Thailand (Thailand); **Éric Thiébaut**, **Maud Langlois,** Univ. de Lyon, Univ. Claude Bernard Lyon 1, Ecole Normale Supérieure de Lyon, Ctr. de Recherche Astrophysique de Lyon (France); **Thansita Thomrungpiyathan**, **Supachai Awiphan,** National Astronomical Research Institute of Thailand (Thailand); **Thierry Lepine,** Institut d'Optique Graduate School, Lab. Hubert Curien, CNRS (France); **Saran Poshyachinda**, **Wiphu Rujopakarn, Christophe Buisset,** National Astronomical Research Institute of Thailand (Thailand)

13097-248 • 05:30 PM - 07:00 PM
**Alignment procedure for a wide FOV MCAO testbench**
*Author(s):* **Noelia Feijóo Amoedo**, **Luzma Montoya**, **Nicolás Rodríguez**, **Yolanda Martín**, **Jorge Quintero Nehrkorn**, **Ángela Hernández-Delgado**, **Miguel Núñez Cagigal, Haresh Chulani,** Instituto de Astrofísica de Canarias (Spain)

13097-249 • 05:30 PM - 07:00 PM
**MATTO: updates from the MAD Multi-conjugate Adaptive Techniques Test Optics design**
*Author(s):* **Simone Di Filippo**, **Davide Greggio**, **Valentina Viotto**, **Luca Marafatto**, **Carmelo Arcidiacono**, **Alessandro Ballone**, **Andrea Baruffolo**, **Federico Battaini**, **Maria Bergomi**, **Elena Carolo**, **Paolo Cerpelloni**, **Simonetta Chinellato**, **Marco Dima**, **Jacopo Farinato,** INAF - Osservatorio Astronomico di Padova (Italy); **Tania Sofia Gomes Machado,** INAF - Osservatorio Astronomico di Padova (Italy), Univ. degli Studi di Padova (Italy); **Demetrio Magrin**, **Kalyan Radhakrishnan**, **Oleksandra Rebrysh**, **Gabriele Umbriaco**, **Daniele Vassallo, Roberto Ragazzoni,** INAF - Osservatorio Astronomico di Padova (Italy)

13097-314 • 05:30 PM - 07:00 PM
**Coronagraphy robust to segmented aberrations: low-wind effect mitigation on Subaru/SCExAO, and perspective for HWO**
*Author(s):* **Lucie Leboulleux,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Olivier Guyon**, **Julien Lozi**, **Miles Lucas**, **Sébastien Vievard**, **Vincent Deo**, **Kyohoon Ahn,** National Astronomical Observatory of Japan (United States); **Alexis Carlotti**, **Alain Delboulbé,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Mamadou N'Diaye,** Observatoire de la Côte d'Azur (France); **Marie-Hélène Sztefek, Philippe Delorme,** Institut de Planétologie et d'Astrophysique de Grenoble (France)

## SESSION PS4: POSTERS - WAVEFRONT SENSING/ALTERNATIVE SENSORS

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-268 • 05:30 PM - 07:00 PM
**KARAOCE: KID array and adaptive optics for characterizing exoplanets**
*Author(s):* **Michiel Darcis**, **David S. Doelman,** SRON Netherlands Institute for Space Research (Netherlands), Leiden Observatory (Netherlands); **Rico Landman**, **Remko Stuik**, **Bernhard Brandl**, **Matthew Kenworthy,** Leiden Observatory (Netherlands); **Pieter de Visser,** SRON Netherlands Institute for Space Research (Netherlands)

13097-269 • 05:30 PM - 07:00 PM
**Characterising an event-based detector for applications to wavefront sensing**
*Author(s):* **Monique Cockram, Noelia Martínez Rey,** The Australian National Univ. (Australia)

13097-270 • 05:30 PM - 07:00 PM
**Modelling of a novel point diffraction interferometer wavefront sensor design for laser guide star wavefront phase retrieval**
*Author(s):* **Erin Holdorf**, **Noelia Martínez Rey**, **Jesse Cranney,** The Australian National Univ. (Australia); **Domenico Bonaccini Calia,** European Southern Observatory (Germany)

13097-271 • 05:30 PM - 07:00 PM
**New developments on the Ingot WFS laboratory testing**
*Author(s):* **Tania Sofia Gomes Machado,** Univ. degli Studi di Padova (Italy), INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Simone Di Filippo**, **Kalyan Kumar Radhakrishnan Santhakumari**, **Maria Bergomi**, **Davide Greggio,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Elisa Portaluri,** INAF - Osservatorio Astronomico d'Abruzzo (Italy), INAF - Osservatorio Astronomico di Padova (Italy); **Carmelo Arcidiacono,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Dheeraj Malik,** Univ. degli Studi di Padova (Italy); **César Nesme,** Centrale Méditerranée (France); **Alessandro Ballone,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Federico Battaini,** INAF - Osservatorio Astronomico di Padova (Italy); **Marco Dima**, **Valentina Viotto,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Roberto Ragazzoni,** Univ. degli Studi di Padova (Italy), INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Jacopo Farinato**, **Demetrio Magrin**, **Luca Marafatto,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Luigi Lessio,** INAF - Osservatorio Astronomico di Padova (Italy); **Gabriele Umbriaco,** Univ. degli Studi di Padova (Italy), INAF - Osservatorio Astronomico di Padova (Italy)

13097-272 • 05:30 PM - 07:00 PM
**Phase retrieval of elongated laser guide star by Sphere Packing Coded Apertures**
*Author(s):* **Bastian Romero**, **Nelson Díaz**, **Jorge Tapía, Esteban Vera,** Pontificia Univ. Católica de Valparaíso (Chile)

13097-273 • 05:30 PM - 07:00 PM
**Deep learning assisted Axicon Wavefront Sensor for wavefront estimation without optical modulation requirements**
*Author(s):* **Jorge Tapia**, **Camilo Weinberger, Esteban Vera,** Pontificia Univ. Católica de Valparaíso (Chile)

13097-274 • 05:30 PM - 07:00 PM
**Performance of the nonlinear curvature wavefront sensor as a function of scintillation strength**
*Author(s):* **Stanimir Letchev**, **Justin Crepp**, **Caleb G. Abbott**, **Ryan Hersey**, **Matthew Engstrom, Nicholas Baggett,** Univ. of Notre Dame (United States)

## SESSION PS5: POSTERS - WAVEFRONT SENSING/FOCAL PLANE WAVEFRONT SENSING

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-276 • 05:30 PM - 07:00 PM
**Near-infrared focal plane wavefront sensing techniques**
*Author(s):* **Rafael M. Salgueiro**, **Carlos M. Correia,** Univ. do Porto (Portugal); **Arseniy Kuznetsov,** European Southern Observatory (Germany); **Nuno Morujão,** Univ. do Porto (Portugal); **Peter L. Wizinowich,** W. M. Keck Observatory (United States); **Paulo J. V. Garcia,** Univ. do Porto (Portugal)

13097-277 • 05:30 PM - 07:00 PM
**Revisiting optical transfer function-based focal plane wavefront sensors for correcting non-common path aberrations**
*Author(s):* **Patrice Martinez,** Observatoire de la Côte d'Azur (France); **Radhika Dharmadhikari,** Indian Institute of Astrophysics (India); **Alain Spang,** Observatoire de la Côte d'Azur (France)

13097-278 • 05:30 PM - 07:00 PM
**Differential optical transfer function (dOTF) wavefront sensing with the SPEED test bed**
*Author(s):* **Radhika Dharmadhikari,** Indian Institute of Astrophysics (India); **Patrice Martinez**, **Carole Gouvret**, **Aurélie Marcotto**, **Alain Spang**, **Mathilde Beaulieu, Charles Sallard,** Observatoire de la Côte d'Azur (France)

## SESSION PS6: POSTERS - WAVEFRONT SENSING/PYRAMID SENSORS

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-281 • 05:30 PM - 07:00 PM
**Joint deep learning optics and reconstruction for unmodulated pyramid wavefront sensing**
*Author(s):* **Nicolas Alegría**, **Rodrigo Muñoz**, **Camilo Weinberger**, **Felipe Guzman, Esteban Vera,** Pontificia Univ. Católica de Valparaíso (Chile)

13097-282 • 05:30 PM - 07:00 PM
**Conceptual design of Roof-Pyramid WaveFront Sensor for GMACS on GMT**
*Author(s):* **Tiago Giorgetti,** Univ. de São Paulo (Brazil), Instituto Steiner (Brazil); **Oswaldo Horikawa**, **Rodrigo L. Stoetereau,** Univ. de São Paulo (Brazil); **Alexandre J.T. S. Mello,** Univ. Tecnológica Federal do Paraná (Brazil); **Rafael A. Ribeiro,** Univ. de São Paulo (Brazil), Instituto Steiner (Brazil)

## SESSION PS7: POSTERS - WAVEFRONT SENSING / SHACK-HARTMANN SENSORS

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-283 • 05:30 PM - 07:00 PM
**The focal-plane actualized shifted technique realized for a Shack Hartmann Wavefront Sensor (fastrSHWFS)**
*Author(s):* **Benjamin L. Gerard**, **Aaron J. Lemmer**, **Bautista R. Fernandez**, **Xiaoxing Xia**, **S. Mark Ammons**, **Brian J. Bauman, Poyneer A. Poyneer,** Lawrence Livermore National Lab. (United States)

13097-284 • 05:30 PM - 07:00 PM
**Impact of microlenses shape on the performance of the HARMONI Laser Guide Star Sensor**
*Author(s):* **Paul Rouquette,** Aix-Marseille Univ., Ctr. National d'Études Spatiales, Lab. d'Astrophysique de Marseille, CNRS (France); **Pierre Jouve**, **Cédric Taïssir Héritier,** ONERA (France); **Anne Costille**, **Benoît Neichel**, **Kjetil Dohlen,** Aix-Marseille Univ., Ctr. National d'Études Spatiales, Lab. d'Astrophysique de Marseille, CNRS (France); **Thierry Fusco,** ONERA (France)

13097-285 • 05:30 PM - 07:00 PM
**Image translation for improving sky-coverage in adaptive optics**
*Author(s):* **Jeffrey Smith**, **Charles Gretton**, **Jesse Cranney**, **Taisei Fujii, Damien Gratadour,** The Australian National Univ. (Australia)

## SESSION PS8: POSTERS - WAVEFRONT SENSING TECHNIQUES & TECHNOLOGIES

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-286 • 05:30 PM - 07:00 PM
**Performance of a commercial EMCCD camera designed for use as a Rayleigh-beacon wavefront sensor: evaluation of performance before and after correction of issues by the factory**
*Author(s):* **Michael J. Steinbock,** Air Force Research Lab. (United States); **Marjorie Guruléx**, **Sarah Strickland,** Boeing LTS Inc. (United States); **Robert L. Johnson,** Air Force Research Lab. (United States)

13097-287 • 05:30 PM - 07:00 PM
**Precise centroiding and extraction of tip/tilt information from nonlinear curvature wavefront sensor measurements**
*Author(s):* **Caleb G. Abbott**, **Justin Crepp**, **Stanimir Letchev, Connor Smith,** Univ. of Notre Dame (United States)

13097-289 • 05:30 PM - 07:00 PM
**HAPA: Hybrid Atmospheric Phase Analysis: a wavefront sensing technique for improving the adaptive optics correction of fainter stars**
*Author(s):* **Ruihan Zhang,** Institute for Astronomy, Univ. of Hawai'i at Manoa (United States); **Christoph Baranec,** Institute for Astronomy, Univ. of Hawai'i (United States); **Marcos A. van Dam,** Flat Wavefronts (New Zealand); **Mark R. Chun,** Institute for Astronomy, Univ. of Hawai'i (United States)

13097-290 • 05:30 PM - 07:00 PM
**An asymmetric Lyot wavefront sensor for the ELT/METIS vortex coronagraph**
*Author(s):* **Gilles Orban de Xivry**, **Olivier Absil**, **Christian Delacroix**, **Prashant Pathak**, **Maxime Quesnel,** Liège Univ. (Belgium); **Thomas Bertram,** Max-Planck-Institut für Astronomie (Germany)

13097-291 • 05:30 PM - 07:00 PM
**Vortex coronagraph: revisiting the phase retrieval properties via Zernike analysis**
*Author(s):* **Gilles Orban de Xivry, Olivier Absil,** Liège Univ. (Belgium)

13097-292 • 05:30 PM - 07:00 PM
**Improving coronagraphic performance with active atmospheric dispersion control on MagAO-X**
*Author(s):* **Katie Twitchell,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Sebastiaan Y. Haffert**, **Jared R. Males**, **Laird M. Close**, **Kyle Van Gorkom,** Steward Observatory, The Univ. of Arizona (United States); **Maggie Y. Kautz**, **Jennifer Lumbres**, **Jay Kueny,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Olivier Guyon,** Steward Observatory, The Univ. of Arizona (United States), Astrobiology Ctr., National Institutes of Natural Sciences (Japan), Subaru Telescope, NAOJ (United States); **Alexander D. Hedgelen,** Northrop Grumman Corp. (United States); **Jialin Li,** Steward Observatory, The Univ. of Arizona (United States); **Lauren Schatz,** Starfire Optical Range, Kirtland Air Force Base (United States); **Eden A. McEwan,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Avalon L. McLeod,** Draper Lab. (United States); **Warren B. Foster,** Steward Observatory, The Univ. of Arizona (United States); **Joseph D. Long,** Flatiron Institute (United States); **Logan A. Pearce,** Steward Observatory, The Univ. of Arizona (United States); **Alycia J. Weinberger,** Carnegie Institution for Science (United States)

13097-293 • 05:30 PM - 07:00 PM
**GPI 2.0: exploring the impact of different readout modes on the wavefront sensor's EMCCD**
*Author(s):* **Clarissa R. Do Ó**, **Saavidra Perera**, **Jérôme Maire**, **Jayke S. Nguyen,** Univ. of California, San Diego (United States); **Vincent Chambouleyron,** Univ. of California, Santa Cruz (United States); **Quinn M. Konopacky,** Univ. of California, San Diego (United States); **Jeffrey Chilcote,** Univ. of Notre Dame (United States); **Joeleff Fitzsimmons,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Randall Hamper,** Univ. of Notre Dame (United States); **Dan Kerley,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Bruce Macintosh,** Univ. of California, Santa Cruz (United States); **Christian Marois,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Friedrik Rantakyrö,** Gemini Observatory (United States); **Dmitry Savransky,** Cornell Univ. (United States); **Jean-Pierre Véran,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Guido Agapito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **S. Mark Ammons,** Lawrence Livermore National Lab. (United States); **Marco Bonaglia,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Marc-André Boucher,** OMP Inc. (Canada); **Jennifer S. Dunn,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Simone Esposito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Guillaume Filion**, **Jean Thomas Landry,** OMP Inc. (Canada); **Olivier Lardière,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Duan Li,** Cornell Univ. (United States); **Alexander B. Madurowicz,** Stanford Univ. (United States); **Dillon Peng,** Univ. of Notre Dame (United States); **Lisa Poyneer,** Lawrence Livermore National Lab. (United States); **Eckhart Spalding,** Univ. of Notre Dame (United States)

13097-294 • 05:30 PM - 07:00 PM
**Initial performance testing for the wavefront sensor image acquisition system of the ULTIMATE-Subaru ground-layer adaptive optics**
*Author(s):* **Koki Terao**, **Yosuke Minowa**, **Yoshito H. Ono**, **Hiroshige Yoshida**, **Yoko Tanaka,** Subaru Telescope, NAOJ (United States); **Masayuki Akiyama,** Tohoku Univ. (Japan); **Celine D'Orgeville**, **Noelia Martínez Rey, Hajime Ogane,** The Australian National Univ. (Australia)

13097-295 • 05:30 PM - 07:00 PM
**Characterizing the performance of C-RED One cameras for implementation in RISTRETTO and SAXO+ projects**
*Author(s):* **Muskan Shinde,** Observatoire de Genève (Switzerland), Univ. de Genève (Switzerland); **Nicolas Blind, Christophe Lovis,** Observatoire de Genève (Switzerland)

13097-296 • 05:30 PM - 07:00 PM
**10kHz coronagraphic low-order wavefront sensing and control with a MEMS deformable mirror in MagAO-X: performance in lab and on-sky**
*Author(s):* **Jialin Li**, **Jared R. Males,** Steward Observatory (United States), The Univ. of Arizona (United States); **Avalon L. McLeod,** Draper Lab. (United States); **Laird M. Close,** Steward Observatory (United States), The Univ. of Arizona (United States); **Sebastiaan Y. Haffert,** Steward Observatory (United States), The Univ. of Arizona (Netherlands), Leiden Observatory, Leiden Univ. (Netherlands); **Olivier Guyon,** Steward Observatory (United States), Wyant College of Optical Sciences, The Univ. of Arizona (United States), Subaru Telescope, NAOJ (United States); **Jay Kueny,** Wyant College of Optical Sciences (United States), The Univ. of Arizona (United States); **Warren B. Foster**, **Kyle Van Gorkom,** Steward Observatory (United States), The Univ. of Arizona (United States); **Alexander D. Hedglen,** Northrop Grumman Corp. (United States); **Maggie Y. Kautz,** Wyant College of Optical Sciences (United States), The Univ. of Arizona (United States); **Joseph D. Long,** Flatiron Institute (United States); **Jennifer Lumbres**, **Eden A. McEwen,** Wyant College of Optical Sciences (United States), The Univ. of Arizona (United States); **Lauren Schatz,** Air Force Research Lab. (United States); **Isabella Doty,** Univ. of Rochester (United States); **Roz Roberts,** Steward Observatory (United States), The Univ. of Arizona (United States); **Katie Twitchell,** Wyant College of Optical Sciences, (United States), The Univ. of Arizona (United States)

13097-297 • 05:30 PM - 07:00 PM
**Implementation and characterization of the vector vortex coronagraph on the SEAL testbed**
*Author(s):* **Ashai Moreno**, **Vincent Chambouleyron**, **Rebecca M. Jensen-Clem**, **Daren Dillon**, **Philip M. Hinz, Bruce Macintosh,** Univ. of California, Santa Cruz (United States)

## Tuesday 18 June 2024

### TUESDAY PLENARY

18 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/tuesday-plenary

13173-502 • 08:30 AM - 09:15 AM
**The present and future of Japan's space program** (Plenary Presentation)
*Author(s):* **Saku Tsuneta,** National Astronomical Observatory of Japan (Japan)

13173-503 • 09:15 AM - 10:00 AM
**NASA astrophysics: from today to the Habitable Worlds Observatory** (Plenary Presentation)
*Author(s):* **Mark Clampin,** NASA Goddard Space Flight Ctr. (United States); **John M. O'Meara,** W. M. Keck Observatory (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 13: ASTRONOMY WITH ADAPTIVE OPTICS I

18 June 2024 • 10:30 AM - 11:55 AM | Room G301/302, North - 3F
*Session Chair(s):* **Masen P. Lamb**, NSF's National Optical-Infrared Astronomy Research Lab. (United States)

13097-40 • 10:30 AM - 11:00 AM
**Exoplanet Imaging Data Challenge II: benchmarking the various image processing methods exoplanet spectral characterization**
*(Invited Paper)*
*Author(s):* **Faustine Cantalloube,** Lab. d'Astrophysique de Marseille (France); **Olivier Absil**, **Valentin Christiaens**, **Carlos Cantero**, **Anthony Cioppa**, **Marc Van Droogenbroeck,** Liège Univ. (Belgium); **Markus Bonse,** ETH Zurich (Switzerland); **Carl-Henrik Dahlqvist,** Liège Univ. (Belgium); **Philippe Delorme,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Rebecca M. Jensen-Clem,** Univ. of California, Santa Cruz (United States); **Sandrine Juillard,** Liège Univ. (Belgium); **Johan Mazoyer,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Julien Milli,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Evert Nasedkin,** Max-Planck-Institut für Astronomie (Germany); **Sebastien Pierard,** Liège Univ. (Belgium); **Matthias Samland,** Max-Planck-Institut für Astronomie (Germany)

13097-41 • 11:00 AM - 11:15 AM
**Challenge of Direct Imaging of Exoplanet Within Structures: Disentangling Real Signal from Point Source from Background Light**
*Author(s):* **Jialin Li**, **Laird M. Close**, **Jared R. Males,** Steward Observatory (United States), The Univ. of Arizona (United States); **Sebastiaan Y. Haffert,** Steward Observatory (United States), The Univ. of Arizona (Netherlands), Leiden Observatory, Leiden Univ. (Netherlands); **Katherine B. Follette,** Amherst College (United States); **Kevin R. Wagner**, **Daniel Apai,** Steward Observatory (United States), The Univ. of Arizona (United States); **Ya-Lin Wu,** National Taiwan Normal Univ. (Taiwan); **Alycia J. Weinberger,** Carnegie Institution for Science (United States); **Laura Perez,** Univ. de Chile (Chile); **Joseph D. Long,** Flatiron Institute (United States); **Maggie Y. Kautz,** Wyant College of Optical Sciences (United States), The Univ. of Arizona (United States); **Logan A. Pearce,** Steward Observatory, The Univ. of Arizona (United States), The Univ. of Arizona (United States); **Jay Kueny**, **Eden A. McEwen,** Wyant College of Optical Sciences (United States), The Univ. of Arizona (United States); **Olivier Guyon,** Steward Observatory (United States), Wyant College of Optical Sciences (United States), Subaru Telescope, NAOJ (United States); **Alexander D. Hedglen,** Northrop Grumman Corp. (United States); **Kyle Van Gorkom**, **Warren B. Foster,** Steward Observatory (United States), The Univ. of Arizona (United States); **Jennifer Lumbres,** Wyant College of Optical Sciences (United States), The Univ. of Arizona (United States); **Lauren Schatz,** Air Force Research Lab. - Kirtland AFB (United States); **Roz Roberts,** Steward Observatory (United States), The Univ. of Arizona (United States)

Session Break • 11:15 AM - 11:20 AM

13097-42 • 11:20 AM - 11:35 AM
**The VLT/ERIS vortex coronagraph: design, pointing control, and on-sky performance**
*Author(s):* **Gilles Orban de Xivry**, **Olivier Absil,** Liège Univ. (Belgium); **Jean Hayoz**, **Felix Dannert,** ETH Zurich (Switzerland); **Robert De Rosa,** European Southern Observatory (Chile); **Andrea Baruffolo,** INAF - Osservatorio Astronomico di Padova (Italy); **Markus Bonse,** ETH Zurich (Switzerland); **Ric Davies,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Adrian M. Glauser,** ETH Zurich (Switzerland); **Paolo Grani,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Elsa Huby,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France); **Matt Kenworthy,** Leiden Univ. (Netherlands); **Alfio Puglisi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Sascha P. Quanz,** ETH Zurich (Switzerland); **Bernardo Salasnich,** INAF - Osservatorio Astronomico di Padova (Italy); **William Taylor,** UK Astronomy Technology Ctr. (United Kingdom); **Gérard Zins,** European Southern Observatory (Germany)

13097-43 • 11:35 AM - 11:50 AM
**PAPYRUS at OHP: from an adaptive optics platform to an instrumental platform**
*Author(s):* **Jean-François Sauvage**, **Romain Fétick**, **Arnaud Striffling**, **Mahawa Cissé,** ONERA (France); **Mathieu Motte**, **Idir Boudjema**, **Eduard Muslimov,** Lab. d'Astrophysique de Marseille (France); **Jean-François Sauvage**, **Cédric Taïssir Héritier,** ONERA (France); **Alexis Carlotti**, **Laurent Jocou,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Thierry Fusco,** ONERA (France); **Armin Schimpf**, **Bruno Martin,** ALPAO S.A.S. (France); **Sylvain Cetre,** Wakea Consulting (France); **Marc Ferrari,** OSU Institut Pythéas (France); **Jérôme Schmitt,** Observatoire de Haute-Provence (France); **Edoardo Bellone de Grecis,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

Session Break • 11:50 AM - 11:55 AM

## SESSION 14: ASTRONOMY WITH ADAPTIVE OPTICS II

18 June 2024 • 11:55 AM - 12:25 PM | Room G301/302, North - 3F
*Session Chair(s):* **Yoshito H. Ono**, Subaru Telescope, NAOJ (United States)

13097-44 • 11:55 AM - 12:25 PM
**Astronomical adaptive optics activities in Japan** *(Invited Paper)*
*Author(s):* **Hideki Takami,** National Astronomical Observatory of Japan (Japan), The National Institute of Information and Communications Technology (NICT) (Japan)

**Lunch/Exhibition Break 12:25 PM - 01:40 PM**

## SESSION 15: NEW APPLICATIONS OF ADAPTIVE OPTICS

18 June 2024 • 01:40 PM - 02:30 PM | Room G301/302, North - 3F
*Session Chair(s):* **Gaetano Sivo**, Gemini Observatory (Chile)

13097-45 • 01:40 PM - 01:55 PM
**Off-limb solar prominences observed near the diffraction limit of with adaptive optics**
*Author(s):* **Dirk Schmidt,** National Solar Observatory (United States); **Vasyl Yurchyshyn**, **Nicolas Gorceix**, **Phil Goode,** Big Bear Solar Observatory (United States); **Thomas Rimmele,** National Solar Observatory (United States)

13097-46 • 01:55 PM - 02:10 PM
**Extreme precision radial velocity with extreme-AO and photonics: challenges and opportunities**
*Author(s):* **Olivier Guyon,** Steward Observatory (United States), Subaru Telescope, NAOJ (United States); **Sébastien Vievard,** Subaru Telescope, NAOJ (United States); **Manon Lallement,** Observatoire de Paris (France); **Sergio G. Leon-Saval,** The Univ. of Sydney (Australia); **Takayuki Kotani**, **Motohide Tamura,** AstroBiology Ctr., NINS (Japan); **Vincent Deo**, **Julien Lozi,** Subaru Telescope, NAOJ (United States); **Rodrigo Amezcua-Correa**, **Stephanos Yerolatsitis,** CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States); **Sylvestre Lacour,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France), Observatoire de Paris (France); **Elsa Huby,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France)

13097-47 • 02:10 PM - 02:25 PM
**Scintillation correction on the VLT using tomographic wavefront sensing**
*Author(s):* **Kathryn Hartley**, **Richard W. Wilson**, **James Osborn,** Durham Univ. (United Kingdom); **Pierre Haguenauer,** European Southern Observatory (Germany); **Timothy J. Morris,** Durham Univ. (United Kingdom)

Session Break • 02:25 PM - 02:30 PM

## SESSION 16: NEW PROPOSED CONCEPTS

18 June 2024 • 02:30 PM - 03:15 PM | Room G301/302, North - 3F
*Session Chair(s):* **Sam Ragland**, Large Binocular Telescope Observatory (United States)

13097-48 • 02:30 PM - 02:45 PM
**Tip tilt correction using differential timing of LGSs**
*Author(s):* **Kathryn Barrett**, **James Osborn, Mark Swinbank,** Durham Univ. (United Kingdom)

13097-49 • 02:45 PM - 03:00 PM
**Retrieval of the atmospheric tip-tilt from laser guide stars: exploring the Time-delay method**
*Author(s):* **Domenico Bonaccini Calia,** European Southern Observatory (Germany); **Noelia Martínez Rey,** The Australian National Univ. (Australia); **Bernadett Stadler,** Industrial Mathematics Institute (Austria); **Guido Agapito,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

13097-50 • 03:00 PM - 03:15 PM
**Wavefront control with spectrally dispersed photonic lanterns**
*Author(s):* **Jonathan Lin**, **Michael Fitzgerald**, **Yoo Jung Kim,** Univ. of California, Los Angeles (United States); **Daniel Levinstein,** Univ. of California, Irvine (United States); **Yinzi Xin,** Caltech (United States); **Kyohoon Ahn,** Subaru Telescope, NAOJ (United States); **Christopher H. Betters,** The Univ. of Sydney (Australia); **Vincent Deo,** Subaru Telescope, NAOJ (United States); **Olivier Guyon,** Subaru Telescope, NAOJ (United States), The Univ. of Arizona (United States); **Sergio G. Leon-Saval,** The Univ. of Sydney (Australia); **Julien Lozi**, **Sébastien Vievard,** Subaru Telescope, NAOJ (United States); **Steph Sallum,** Univ. of California, Irvine (United States); **Nemanja Jovanovic,** Caltech (United States)

## Coffee Break 03:15 PM - 03:45 PM

## SESSION 17: COMMUNITY DEVELOPMENT: FUTURE NEEDS & STRATEGIES

18 June 2024 • 03:45 PM - 04:45 PM | Room G301/302, North - 3F
*Session Chair(s):* **Mark R. Chun**, Institute for Astronomy (United States)

13097-51 • 03:45 PM - 04:15 PM
**Gender equity and diversity in astronomy and adaptive optics: what has changed since 2014 and what more can be done** *(Invited Paper)*
*Author(s):* **Céline d'Orgeville,** Advanced Instrumentation Technology Ctr., The Australian National Univ. (Australia), Astralis Instrumentation Consortium (Australia); **Roger Haynes,** The Australian National Univ. (Australia); **Lisa Kewley,** Ctr. for Astrophysics | Harvard & Smithsonian (United States), The Australian National Univ. (Australia); **Noelia Martínez Rey,** The Australian National Univ. (Australia); **Elena Masciadri,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **François Rigaut, Joanna Sikora,** The Australian National Univ. (Australia)

13097-52 • 04:15 PM - 04:30 PM
**US adaptive optics roadmap to achieve Astro2020**
*Author(s):* **Julian C. Christou,** Gemini Observatory (United States); **Peter L. Wizinowich,** W. M. Keck Observatory (United States)

13097-53 • 04:30 PM - 04:45 PM
**Cassiopée: toward technological development for XAO on ELT. Step1: requirements**
*Author(s):* **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Thierry Fusco,** ONERA (France); **Jean-Luc Gach**, **Philippe Feautrier,** First Light Imaging S.A.S. (France); **Julien Charton**, **Piero Bruno,** ALPAO S.A.S. (France); **Francisco A. Oyarzun**, **Mathieu Motte**, **Jonathan Dray**, **Mahawa Cissé,** Lab. d'Astrophysique de Marseille (France); **Romain Fétick**, **Cédric Taïssir Heritier, Jean-Francois Sauvage,** ONERA (France)

## SESSION 18: DISCUSSION SESSION

18 June 2024 • 04:45 PM - 05:30 PM | Room G301/302, North - 3F
*Session Chair(s):* **Peter L. Wizinowich**, W. M. Keck Observatory (United States); **Benoît Neichel**, Lab. d'Astrophysique de Marseille (France)

13097-802 • 04:45 PM - 05:30 PM
**Maximizing the scientific impact of adaptive optics in astronomy**

## SESSION PS9: POSTERS - CHARACTERIZATION & FORECASTING OF WAVEFRONT DISTURBANCES

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-298 • 05:30 PM - 07:00 PM
**SHARPEST: atmospheric turbulence characterization for future AO systems at the Subaru Telescope**
*Author(s):* **Hajime Ogane,** The Australian National Univ. (Australia); **Yoshito H. Ono**, **Yosuke Minowa**, **Koki Terao,** Subaru Telescope, NAOJ (United States); **Shin Oya,** National Astronomical Observatory of Japan (Japan); **Takumi Akasawa,** Tohuku Univ. (Japan); **Riki Homan, Masayuki Akiyama,** Astronomical Institute, Tohoku Univ. (Japan)

13097-299 • 05:30 PM - 07:00 PM
**Optical turbulence forecast for the European Solar Telescope (EST): the challenge of the day-time regime**
*Author(s):* **Elena Masciadri**, **Alessio Turchi, Luca Fini,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

13097-300 • 05:30 PM - 07:00 PM
**TURBO: A robotic, 24-hour, urban turbulence monitoring station in Barcelona**
*Author(s):* **Ryan Griffiths**, **Lily Westerby-Griffin**, **James Osborn**, **Oliver J. D. Farley,** Ctr. for Advanced Instrumentation (United Kingdom); **Matt Townson,** Northumbria Univ. (United Kingdom); **Richard W. Wilson,** Ctr. for Advanced Instrumentation (United Kingdom); **Alejandro Rodriguez-Gomez**, **Adolfo Comeron-Tejero,** Univ. Politècnica de Catalunya (Spain); **David Alaluf,** European Space Agency (Belgium)

13097-301 • 05:30 PM - 07:00 PM
**A machine learning approach to AO parameter estimation on the wavefront sensor**
*Author(s):* **Fabio Rossi**, **Alessio Turchi, Guido Agapito,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

13097-302 • 05:30 PM - 07:00 PM
**Realizations and future projects of the High Contrast Imaging Balloon System (HiCIBaS) platform**
*Author(s):* **Nicolas Payeur, Simon Thibault,** Univ. Laval (Canada)

13097-304 • 05:30 PM - 07:00 PM
**Characterizing water vapour seeing for METIS HCI**
*Author(s):* **Prashant Pathak,** Indian Institute of Technology Kanpur (India); **Olivier Absil,** Liège Univ. (Belgium); **Benjamin Courtney-Barrer,** European Southern Observatory (Germany); **Christian Delacroix**, **Gilles Orban de Xivry,** Liège Univ. (Belgium); **Julien Woillez,** European Southern Observatory (Germany); **Alexis Matter**, **Philippe Bério,** Observatoire de la Côte d'Azur (France); **Roy van Boekel,** Max-Planck-Institut für Astronomie (Germany)

13097-307 • 05:30 PM - 07:00 PM
**Twinkle: deployment, operations and utilisation of the Shack Hartmann Image Motion Monitor (SHIMM) for atmospheric turbulence monitoring**
*Author(s):* **David Gooding**, **Ewan Schafer**, **James Luis**, **Hira Virdee**, **Peter Bartram,** Lumi Space Ltd. (United Kingdom); **James Osborn, Ryan Griffiths,** Durham Univ. (United Kingdom)

13097-308 • 05:30 PM - 07:00 PM
**Estimating atmospheric coherence time from Gemini Planet Imager AO Telemetry**
*Author(s):* **Zhenxi Du**, **Saavidra Perera,** Univ. of California, San Diego (United States); **Daniel Levinstein,** Univ. of California, Irvine (United States); **Quinn M. Konopacky,** Univ. of California, San Diego (United States); **Alex Madurowicz**, **Bruce Macintosh,** Univ. of California, Santa Cruz (United States); **Lisa Poyneer,** Lawrence Livermore National Lab. (United States); **Richard W. Wilson, Ollie J. D. Farley,** Durham Univ. (United Kingdom)

13097-309 • 05:30 PM - 07:00 PM
**Astroclimate of the Terskol Observatory**
*Author(s):* **Evgeniy Kopylov,** Institute of Astronomy (Russian Federation); **Lidiya Bol'basova,** V.E. Zuev Institute of Atmospheric Optics (Russian Federation); **Sergey A. Potanin,** M. V. Lomonosov Moscow State Univ. (Russian Federation); **Maxim Shikhovtsev,** Institute of Solar-Terrestrial Physics (Russian Federation); **Mikhail Sachkov,** Institute of Astronomy (Russian Federation)

13097-310 • 05:30 PM - 07:00 PM
**Turbulence monitoring at the Large Binocular Telescope: current status and ongoing developments**
*Author(s):* **Christian Veillet**, **Juan Carlos Guerra,** Large Binocular Telescope Observatory (United States); **Elena Masciadri,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Sam Ragland,** Large Binocular Telescope Observatory (United States)

13097-311 • 05:30 PM - 07:00 PM
**Metrology of atmospheric conditions with the ANAtOLIA station for Astronomical Observations and Optical Communications**
*Author(s):* **Aziz Ziad**, **Christophe Giordano,** Observatoire de la Côte d'Azur (France); **Alessandro Aresta,** Airbus Defence and Space (France); **Éric Aristidi**, **Christophe Bailet,** Observatoire de la Côte d'Azur (France); **Chiara Bertolin,** Norwegian Univ. of Science and Technology (Norway); **Marcel Carbillet,** Observatoire de la Côte d'Azur (France); **Stefano Cavazzani,** Norwegian Univ. of Science and Technology (Norway); **Damien Ceus,** Reuniwatt (France); **Thibaud Charbonnel**, **Yan Fanteï-Caujolle**, **Adrien Gillioën,** Observatoire de la Côte d'Azur (France); **Yenny Gonzalez-Ramos,** CIMEL Electronique (France); **Abdenour Irbah,** Lab. Atmosphères, Milieux, Observations Spatiales (France), Univ. de Versailles Saint-Quentin-en Yvelines (France); **Arnaud Le Kernec,** Thales Alenia Space (France); **Olivier Liandrat,** Reuniwatt (France); **Jérôme Riedi,** Institut de Combustion, Aérothermique, Réactivité et Environnement (France); **Nicolas Schmutz,** Reuniwatt (France); **Damien Vedani,** Observatoire de la Côte d'Azur (France); **Stéphane Victori,** CIMEL Electronique (France)

13097-312 • 05:30 PM - 07:00 PM
**Atmospheric characterization with a stereo SCIDAR system at the Starfire Optical Range**
*Author(s):* **Colton M. Bigler,** Air Force Research Lab. (United States); **Denis Oesch,** Leidos, Inc. (United States); **Robert L. Johnson,** Air Force Research Lab. (United States)

13097-313 • 05:30 PM - 07:00 PM
**Research on the forecasting system of atmospheric optical properties at astronomical observatories: a case study of the Ali Observatory above the Tibetan Plateau**
*Author(s):* **Xuan Qian**, **Yongqiang Yao,** National Astronomical Observatories (China); **Hongshuai Wang,** Kaiyang Space Technology Co., Ltd. (China)

## SESSION PS10: POSTERS - CONTROL SYSTEMS SOFT- & HARDWARE

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-115 • 05:30 PM - 07:00 PM
**SPIDERS: A pathfinder 4th generation planet imager**
*Author(s):* **William R. Thompson,** National Research Council Canada (Canada); **Adam B. Johnson,** Univ. of Victoria (Canada); **Olivier Lardière**, **Christian Marois,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Darryl Gamroth,** Rubus Technologies Inc. (Canada); **Christopher Mann**, **Angus Bews,** National Research Council Canada (Canada); **Garima Singh,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Tim Hardy**, **Jean-Pierre Véran**, **Maaike A. M. van Kooten**, **Joeleff Fitzsimmons,** National Research Council Canada (Canada); **Mamadou N'Diaye,** Observatoire de la Côte d'Azur (France); **Frédéric Grandmont,** ABB Inc. (Canada); **Suresh Sivanandam,** Univ. of Toronto (Canada); **Simon Thibault,** Univ. Laval (Canada); **Wolfgang Heidrich**, **Qiang Fu,** King Abdullah Univ. of Science and Technology (Saudi Arabia); **Krzysztof Caputa,** National Research Council of Canada (Canada)

13097-116 • 05:30 PM - 07:00 PM
**Evolving the METIS soft real-time control system out of the simulation environment**
*Author(s):* **Horst Steuer**, **Markus Feldt**, **Thomas Bertram,** Max-Planck-Institut für Astronomie (Germany); **Carlos M. Correia,** Univ. do Porto (Portugal); **Andreas Obereder,** MathConsult GmbH (Austria); **Hugo Coppejans**, **Martin Kulas**, **Silvia Scheithauer**, **M. Concepción Cardenas Vazquez**, **Daniel J. Mortimer,** Max-Planck-Institut für Astronomie (Germany); **Gilles Orban de Xivry, Olivier Absil,** Liège Univ. (Belgium)

13097-117 • 05:30 PM - 07:00 PM
**Upgrading SPHERE with the second stage AO system SAXO+: RTC preliminary design**
*Author(s):* **Florian Ferreira**, **Arnaud Sevin**, **Damien Gratadour,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Gaël Chauvin,** Observatoire de la Côte d'Azur (France); **Emiliano Diolaiti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Raffaele Gratton,** INAF - Osservatorio Astronomico di Padova (Italy); **Magali Loupias,** Univ. de Lyon (France); **Julien Milli,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **François Wildi,** Observatoire de Genève (Switzerland); **Anthony Boccaletti,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France)

13097-119 • 05:30 PM - 07:00 PM
**A single brain for multiple bodies: common real-time control upgrade for the SEAL lab and the Shane-AO instrument based on the CACAO software architecture**
*Author(s):* **Nour Skaf**, **Rebecca Jensen-Clem**, **Philip M. Hinz**, **Vincent Chambouleyron**, **Sylvain Cetre,** Univ. of California, Santa Cruz (United States); **Vincent Deo**, **Olivier Guyon,** Subaru Telescope, NAOJ (United States); **Jared R. Males,** The Univ. of Arizona (United States); **Aaron M. Hunter**, **Rachel Bowens-Rubin, Dominic F. Sanchez,** Univ. of California, Santa Cruz (United States)

13097-120 • 05:30 PM - 07:00 PM
**The CACAO real-time computer for adaptive optics: updates, performance, and development plans**
*Author(s):* **Vincent Deo**, **Olivier Guyon,** Subaru Telescope, NAOJ (United States); **Jared Males,** The Univ. of Arizona (United States); **Bartomeu Pou Mulet,** Barcelona Supercomputing Ctr. - Ctr. Nacional de Supercomputación (Spain); **Nour Skaf,** Univ. of California, Santa Cruz (United States); **Katie M. Morzinski,** The Univ. of Arizona (United States); **Janis Hagelberg,** Observatoire de Genève (Switzerland); **Sébastien Vievard**, **Julien Lozi**, **Kyohoon Ahn,** Subaru Telescope, NAOJ (United States); **Arnaud Sevin**, **Damien Gratadour,** Observatoire de Paris (France); **Brian Carcich,** Latchmoor Services, Inc. (United States); **Sanford Selznick,** Ascending Node Technologies, LLC (United States); **Joseph D. Long,** The Univ. of Arizona (United States)

13097-121 • 05:30 PM - 07:00 PM
**Matilda: a software library for fast matrix-vector multiplications in adaptive optics real-time control**
*Author(s):* **Dirk Schmidt,** National Solar Observatory (United States)

## SESSION PS11: POSTERS - MODELING, ANALYSIS & SIMULATION OF AO SYSTEMS I

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-122 • 05:30 PM - 07:00 PM
**Effects of the LGS geometry on the Shack-Hartmann wavefront sensor and the Pyramid wavefront sensor**
*Author(s):* **Francisco A. Oyarzun,** Aix-Marseille Univ. (France), Ctr. National d'Études Spatiales (France), Lab. d'Astrophysique de Marseille, CNRS (France); **Vincent Chambouleyron,** Univ. of California, Santa Cruz (United States); **Cedric Taïssir Heritier,** Aix-Marseille Univ. (France); **Thierry Fusco,** ONERA (France); **Benoît Neichel,** Aix-Marseille Univ. (France)

13097-123 • 05:30 PM - 07:00 PM
**Interfacing adaptive optics simulations with the optical model: a powerful tool for MORFEO**
*Author(s):* **Giorgio Pariani,** INAF - Osservatorio Astronomico di Brera (Italy); **Guido Agapito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Demetrio Magrin,** INAF - Osservatorio Astronomico di Padova (Italy); **Matteo Munari,** INAF - Osservatorio Astrofisico di Catania (Italy); **Lorenzo Busoni,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Marco Riva,** INAF - Osservatorio Astronomico di Brera (Italy); **Paolo Ciliegi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13097-124 • 05:30 PM - 07:00 PM
**Simultaneous segmented primary mirror phasing and low order wavefront sensing in a cascaded adaptive optics system**
*Author(s):* **Benjamin Calvin**, **Michael Fitzgerald,** Univ. of California, Los Angeles (United States); **Rebecca M. Jensen-Clem**, **Maissa Salama**, **Vincent Chambouleyron, Daren Dillon,** Univ. of California, Santa Cruz (United States)

13097-125 • 05:30 PM - 07:00 PM
**Small-ELF project: performance of XAO, cophasing and dark hole coronography for high contrast exoplanet direct detection**
*Author(s):* **Maud Langlois**, **Valentin Fonteneau**, **Camille Graf**, **Gil Moretto,** Ctr. de Recherche Astrophysique de Lyon (France); **Jeff Kuhn,** Univ. of Hawai'i (United States); **Nicolas Lodieu**, **Rafael Rebolo,** Instituto de Astrofísica de Canarias (Spain); **Ye Zhou,** Dynamic Structures (Canada)

13097-126 • 05:30 PM - 07:00 PM
**HARMONI at ELT: SCAO performance analysis**
*Author(s):* **Charlotte Z. Bond,** UK Astronomy Technology Ctr. (United Kingdom); **Jean-François Sauvage,** ONERA (France); **Romain Fétick,** Lab. d'Astrophysique de Marseille (France); **Noah Schwartz,** UK Astronomy Technology Ctr. (United Kingdom); **Mojtaba Taheri**, **Cédric Taïssir Héritier,** Lab. d'Astrophysique de Marseille (France); **Thierry Fusco,** ONERA (France); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Fraser Clarke, Niranjan Thatte,** Univ. of Oxford (United Kingdom)

13097-128 • 05:30 PM - 07:00 PM
**GMT adaptive secondary mirror positioner model and testing**
*Author(s):* **Peter M. Thompson**, **Frank M. Groark**, **Hugo Chiquito**, **Glenn Brossus,** GMTO Corp. (United States); **Roberto Biasi,** AdOptica – Microgate (Italy), Microgate S.r.l (Italy); **Mauro Manetti,** AdOptica – Microgate (Italy), A.D.S. International S.r.l. (Italy); **Matteo Tintori**, **Pierluigi Fumi, Omar Barachetti,** AdOptica (Italy), A.D.S. International S.r.l. (Italy)

## SESSION PS12: POSTERS - PROTOTYPING, PATHFINDERS AND CONSTRUCTION PROJECTS/ELT

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-129 • 05:30 PM - 07:00 PM
**ANDES, the high resolution spectrograph for the ELT: design of the adaptive optics system**
*Author(s):* **Enrico Pinna**, **Chiara Selmi**, **Nicolò Azzaroli,** INAF - Osservatorio Astrofisico di Arcetri (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Edoardo Redaelli,** INAF - Osservatorio Astronomico di Brera (Italy); **Jean-François Sauvage,** Lab. d'Astrophysique de Marseille (France); **Veronica Baldini,** INAF - Osservatorio Astronomico di Trieste (Italy); **Jennifer S. Dunn,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Giorgio Calderone,** INAF - Osservatorio Astronomico di Trieste (Italy); **Anne-Laure L. Cheffot**, **Runa Briguglio,** INAF - Osservatorio Astrofisico di Arcetri (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Nicolas Blind,** Univ. de Genève (Switzerland); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Jean-Pierre Véran,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Mamadou N'Diaye**, **Adrien Simonnin,** Observatoire de la Côte d'Azur (France); **Igor Coretti,** INAF - Osservatorio Astronomico di Trieste (Italy); **Thierry Fusco,** Lab d'Astrophysique de Marseille (France); **Pierre Jouve**, **Faustine Cantalloube,** Lab. d'Astrophysique de Marseille (France); **Marco Bonaglia,** INAF - Osservatorio Astrofisico di Arcetri (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Antonio Sulich,** INAF - Osservatorio Astronomico di Trieste (Italy); **Jonathan Stocks,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Bruno Chazelas,** Univ. de Genève (Switzerland); **Paolo Di Marcantonio**, **Roberto Cirami,** INAF - Osservatorio Astronomico di Trieste (Italy); **Matteo Aliverti**, **Marco Riva**, **Simone Doniselli,** INAF - Osservatorio Astronomico di Brera (Italy); **Luca Carbonaro,** INAF - Osservatorio Astrofisico di Arcetri (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **André Beaudoin,** Univ. de Montréal (Canada); **Kate Jackson,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Esther Soria Hernandez,** Instituto de Astrofísica de Canarias (Spain)

13097-130 • 05:30 PM - 07:00 PM
**Precision alignment and verification of the MORFEO Paraxial Prototype**
*Author(s):* **Gabriele Umbriaco,** Univ. degli Studi di Bologna (Italy); **Gabriele Rodeghiero,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Jacopo Farinato,** INAF - Osservatorio Astronomico di Padova (Italy); **Paolo Ciliegi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Marco Riva**, **Edoardo Redaelli,** INAF - Osservatorio Astronomico di Brera (Italy); **Lorenzo Busoni,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Italo Foppiani,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Giuseppe Cosentino**, **Luca Rosignoli,** Univ. degli Studi di Bologna (Italy); **Luca Marafatto**, **Demetrio Magrin,** INAF - Osservatorio Astronomico di Padova (Italy); **Giorgio Pariani**, **Matteo Aliverti,** INAF - Osservatorio Astronomico di Brera (Italy); **Matteo Munari,** INAF - Osservatorio Astrofisico di Catania (Italy); **Vincenzo Cianniello, Vincenzo De Caprio,** INAF - Osservatorio Astronomico Di Capodimonte (Italy)

13097-131 • 05:30 PM - 07:00 PM
**Advancements in estimating differential pistons for the Extremely Large Telescope using deep learning**
*Author(s):* **Pierre Janin-Potiron,** Lab. d'Astrophysique de Marseille (France), CNRS (France); **Morgan Gray**, **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Maxime Dumont, Jean-François Sauvage,** Lab. d'Astrophysique de Marseille (France), ONERA (France)

13097-132 • 05:30 PM - 07:00 PM
**MOSAIC GLAO performance and system architecture: AO for the entire ELT focal plane**
*Author(s):* **Nazim A. Bharmal,** Durham Univ. (United Kingdom); **Raziye Artan**, **Charlotte Z. Bond,** UK Astronomy Technology Ctr. (United Kingdom); **David G. Bramall**, **Timothy Butterley**, **Christopher Davison**, **Simon L. Morris**, **Timothy J. Morris**, **Jurgen Schmoll,** Durham Univ. (United Kingdom); **Noah Schwartz**, **Jay Stephan, Phil Parr-Burman,** UK Astronomy Technology Ctr. (United Kingdom)

13097-133 • 05:30 PM - 07:00 PM
**MORFEO: status of the LOR WFS module subsystem**
*Author(s):* **Marco Bonaglia**, **Paolo Grani**, **Tommaso Lapucci**, **Lorenzo Busoni**, **Guido Agapito**, **Marco Xompero**, **Giulia Carlà**, **Edoardo Bellone de Grecis**, **Alfio Puglisi**, **Cédric Plantet**, **Nicolò Azzaroli,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Paolo Ciliegi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13097-134 • 05:30 PM - 07:00 PM
**ANDES, the high resolution spectrograph for the ELT: dealing with pupil fragmentation and low wind effects: measurement strategies and ultimate performance**
*Author(s):* **Pierre Jouve,** ONERA (France); **Anne Laure L. Cheffot,** INAF (Italy); **Jean-François Sauvage,** ONERA (France); **Enrico Pinna,** INAF (France); **Thierry Fusco,** ONERA (France); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Guido Agapito,** INAF (Italy)

13097-136 • 05:30 PM - 07:00 PM
**The MICADO first light imager for the ELT: testing the coronagraph prototypes**
*Author(s):* **Pierre Baudoz**, **Elsa Huby**, **Olivier Dupuis,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **David S. Doelman**, **Frans Snik,** Leiden Observatory (Netherlands); **Yann Clénet,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Richard Davies,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13097-137 • 05:30 PM - 07:00 PM
**Building an ELT simulator in the lab for subsystem testing of METIS/SCAO**
*Author(s):* **Daniel J. Mortimer**, **M. Concepción Cárdenas Vázquez**, **Thomas Bertram**, **Peter Bizenberger**, **Maximilian Häberle**, **Armin Huber,** Max-Planck-Institut für Astronomie (Germany); **Silvia Scheithauer,** Max Planck Institute for Astronomy (Germany)

13097-138 • 05:30 PM - 07:00 PM
**Final optical design of MORFEO for the ELT**
*Author(s):* **Demetrio Magrin,** INAF - Osservatorio Astronomico di Padova (Italy); **Giorgio Pariani,** INAF - Osservatorio Astronomico di Brera (Italy); **Matteo Munari,** INAF - Osservatorio Astrofisico di Catania (Italy); **Patrick Rabou,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Andrea Bianco,** INAF - Osservatorio Astronomico di Brera (Italy); **Maria Bergomi,** INAF - Osservatorio Astronomico di Padova (Italy); **Edoardo Redaelli**, **Matteo Aliverti**, **Marco Riva,** INAF - Osservatorio Astronomico di Brera (Italy); **Jacopo Farinato,** INAF - Osservatorio Astronomico di Padova (Italy); **Laurent Pinard**, **Christophe Michel**, **Benoît Sassolas,** Univ. de Lyon, Univ. Claude Bernard Lyon 1 (France), Institut National de Physique Nucléaire et de Physique des Particules du CNRS (France), Institut de Physique des 2 Infinis de Lyon (France); **Alessandro Ballone,** INAF - Osservatorio Astronomico di Padova (Italy); **Gabriele Rodeghiero,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Giulia Carlà,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Davide Greggio,** INAF - Osservatorio Astronomico di Padova (Italy); **Lorenzo Busoni,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Vincenzo De Caprio**, **Vincenzo Cianniello,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Mikio Kurita,** Kyoto University, Department of Astronomy (Japan); **Ludovico Teodori**, **Andrea Di Rocco, Paolo Ciliegi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13097-139 • 05:30 PM - 07:00 PM
**HARMONI at ELT: towards final designs and AIT strategies for SCAOS sub-system in NGSS**
*Author(s):* **Jean-François Sauvage,** ONERA (France); **Edgard Renault**, **William Bon**, **Alexandre Bozier,** Lab. d'Astrophysique de Marseille (France); **Marc Noirel,** Ecole Centrale de Marseille (France); **Zalpha Challita**, **Kjetil Dohlen**, **Kacem El Hadi,** Lab. d'Astrophysique de Marseille (France); **Thierry Fusco,** ONERA (France); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Niranjan Thatte**, **Fraser Clarke,** Univ. of Oxford (United Kingdom); **Pierre-Yves Madec,** European Southern Observatory (Germany)

13097-140 • 05:30 PM - 07:00 PM
**The MICADO first light imager for the ELT: FDR optical design of the SCAO wavefront sensor**
*Author(s):* **Mathieu Cohen**, **Fanny Chemla**, **Eric Gendron**, **Yann Clénet,** Observatoire de Paris (France); **Richard Davies,** Max-Planck-Institut für extraterrestrische Physik (Germany)

## SESSION PS13: POSTERS - PROTOTYPING, PATHFINDERS AND CONSTRUCTION PROJECTS/GMT

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-142 • 05:30 PM - 07:00 PM
**Integration and test of the Natural Guide star Wavefront Sensor Prototype for the Giant Magellan Telescope: the pyramid sensor**
*Author(s):* **Cédric Plantet**, **Simone Esposito**, **Anne-Laure L. Cheffot**, **Alfio Puglisi**, **Fabio Rossi**, **Tommaso Lapucci**, **Nicolò Azzoroli**, **Luca Carbonaro**, **Enrico Pinna,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Fernando Quirós-Pacheco,** GMTO Corp. (United States); **Antonin Bouchez,** W. M. Keck Observatory (United States); **Patricio Schurter,** GMTO Corp. (United States); **Bo Xin,** GMTO Corp. (United States); **Juan Pablo Haddad** , **Jordi Molgó** , **William Schoenell**, **Richard T. Demers,** GMTO Corp. (United States); **Laird Close**, **Sebastiaan Y. Haffert**, **Maggie Y. Kautz**, **Jared R. Males, Victor Gasho,** The Univ. of Arizona (United States)

13097-143 • 05:30 PM - 07:00 PM
**High-contrast imaging at first-light of the GMT: the wavefront sensing and control (WFSandC) architecture of GMagAO-X**
*Author(s):* **Sebastiaan Y. Haffert**, **Jared R. Males**, **Laird M. Close,** Steward Observatory (United States); **Maggie Y. Kautz,** Wyant College of Optical Sciences (United States); **Olivier Durney,** Steward Observatory (United States); **Olivier Guyon,** Steward Observatory (United States), Wyant College of Optical Sciences (United States), National Astronomical Observatory of Japan (United States)

13097-144 • 05:30 PM - 07:00 PM
**The Wavefront sensor for the Giant Magellan Telescope laser tomography adaptive optics**
*Author(s):* **Tony D. Travouillon**, **Hajime Ogane**, **Noelia Martínez Rey**, **Céline D'Orgeville**, **Jesse Cranney**, **David Chandler**, **Israel Vaughn,** The Australian National Univ. (Australia); **Marcos A. van Dam,** Flat Wavefronts (New Zealand); **Richard T. Demers,** GMTO Corp. (United States); **Antonin Bouchez,** W. M. Keck Observatory (United States)

## SESSION PS14: POSTERS - PROTOTYPING, PATHFINDERS AND CONSTRUCTION PROJECTS/TMT

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-145 • 05:30 PM - 07:00 PM
**Design update of the laser guide star system for NFIRAOS using the C-Blue One Camera**
*Author(s):* **Jeffrey Crane**, **Jenny Atwood**, **Glen Herriot**, **Kate Jackson**, **Jordan Lothrop**, **Emma Rautio-Roe, Jean-Pierre Véran,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13097-146 • 05:30 PM - 07:00 PM
**TMT International Observatory Laser Guide Star Facility Preliminary Design Completion**
*Author(s):* **Melissa Trubey**, **Corinne Boyer**, **Lianqi Wang**, **Ben Irarrazaval**, **John Miles**, **Konstantinos Vogiatzis**, **Angelic Ebbers, Fernando Santoro,** Thirty Meter Telescope (United States)

## SESSION PS15: POSTERS - WAVEFRONT MODULATING DEVICES

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-147 • 05:30 PM - 07:00 PM
**Development of large deformable mirrors for ground-based large observatories**
*Author(s):* **Marie Laslandes**, **Julien Charton, Armin Schimpf,** ALPAO S.A.S. (France)

13097-149 • 05:30 PM - 07:00 PM
**SLM characterization for MORFEO and HARMONI AO test devices**
*Author(s):* **Edoardo Bellone de Grecis,** INAF - Osservatorio Astrofisico di Arcetri (Italy), Univ. degli Studi di Firenze (Italy); **Paul Rouquette,** Lab. d'Astrophysique de Marseille (France)

13097-150 • 05:30 PM - 07:00 PM
**A new SLM technology for fast achromatic and unpolarized wavefront correction**
*Author(s):* **Julien Charton,** ALPAO S.A.S. (France); **Hadrien M. L. Robert**, **Yevhenii Shaidiuk, Marek Piliarik,** Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

13097-151 • 05:30 PM - 07:00 PM
**Design and performance of high voltage driving electronics for actuating thousand-element MEMS deformable mirror used for space-borne coronagraph**
*Author(s):* **Hui Zhao**, **Jinkun Zheng**, **Xianghui Yang,** Xi'an Institute of Optics and Precision Mechanics (China); **Yao Tang,** Xi'an Univ. of Posts & Telecommunications (China); **Yongqiang Duan**, **Guorui Ren**, **Yongjie Xie**, **Chuang Li,** Xi'an Institute of Optics and Precision Mechanics (China); **YongLin Bai,** Xi'an Institute of Optics and Precision Mechanics of CAS (China); **Xi Zhang, Jiangpei Dou,** Nanjing Institute of Astronomical Optics & Technology (China)

13097-152 • 05:30 PM - 07:00 PM
**Performance estimation of integrated wavefront correctors for single-mode fiber coupling**
*Author(s):* **Dhwanil Patel**, **Momen Diab,** Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada); **Ross Cheriton,** National Research Council Canada (Canada); **Jacob Taylor**, **Libertad Rojas, Suresh Sivanandam,** Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada)

13097-153 • 05:30 PM - 07:00 PM
**Design and characterization of a fast tip-tilt carbon fiber steering mirror**
*Author(s):* **Benjamin Gonzalez Barraza,** Pontificia Univ. Católica de Valparaíso (Chile); **Pedro Mardones,** Univ. Técnica Federico Santa María (Chile); **Claudio Lobos,** Univ. de Valparaíso (Chile); **Esteban Vera,** Pontificia Univ. Católica de Valparaíso (Chile)

## SESSION PS16: POSTERS - WAVEFRONT MODULATING DEVICES/ADAPTIVE SECONDARY MIRRORS

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-154 • 05:30 PM - 07:00 PM
**ULTIMATE-Subaru: adaptive secondary mirror development status**
*Author(s):* **Shin Oya,** National Astronomical Observatory of Japan (Japan), The Graduate Univ. for Advanced Studies (Japan); **Yosuke Minowa**, **Hirofumi Okita,** Subaru Telescope, NAOJ (United States), The Graduate Univ. for Advanced Studies (Japan); **Yoshito H. Ono, Hideki Takami,** Subaru Telescope, NAOJ (United States)

## SESSION PS17: POSTERS - WAVEFRONT MODULATING DEVICES/ADAPTIVE SECONDARY MIRRORS/GMT

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-155 • 05:30 PM - 07:00 PM
**Fabrication of the first GMT ASM reference body**
*Author(s):* **In-Ung Song**, **Ho-Soon Yang,** Korea Research Institute of Standards and Science (Korea, Republic of); **Chang-Jin Oh**, **Andrew Lowman, Daniel Caywood,** The Univ. of Arizona (United States)

## SESSION PS18: POSTERS - WAVEFRONT MODULATING DEVICES/ADAPTIVE SECONDARY MIRRORS/TNO

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-157 • 05:30 PM - 07:00 PM
**Close-loop results of adaptive secondary mirrors with TNO's hybrid variable reluctance actuators**
*Author(s):* **Ruihan Zhang**, **Mark R. Chun,** Institute for Astronomy, Univ. of Hawai'i (United States); **Max Baeten**, **Stefan Kuiper,** TNO (Netherlands); **Rachel Bowens-Rubin**, **Philip M. Hinz,** Univ. of California, Santa Cruz (United States); **Ellen Lee**, **Michael S. Connelley,** Institute for Astronomy, Univ. of Hawai'i (United States); **Olivier Lai,** Observatoire de la Côte d'Azur (France)

## SESSION PS19: POSTERS - WAVEFRONT MODULATING DEVICES/TMT

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-158 • 05:30 PM - 07:00 PM
**TMT NFIRAOS Deformable Mirror electronics detailed design**
*Author(s):* **Krzysztof Caputa**, **Jenny Atwood**, **Tim Hardy**, **Glen Herriot**, **Zoran Ljusic**, **Malcolm Smith, Erning Zhao,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13097-159 • 05:30 PM - 07:00 PM
**TMT NFIRAOS Deformable Mirror diagnostics and real time detection of failed actuators**
*Author(s):* **Krzysztof Caputa**, **Glen Herriot**, **Zoran Ljusic, Erning Zhao,** NRC-Herzberg Astronomy & Astrophysics (Canada)

## Wednesday 19 June 2024

### WEDNESDAY PLENARY

19 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/wednesday-plenary

13173-504 • 08:30 AM - 09:15 AM
**Euclid mission: first year of operations** (Plenary Presentation)
*Author(s):* **René J. Laureijs,** European Space Research and Technology Ctr. (Netherlands)

13173-505 • 09:15 AM - 10:00 AM
**The ultraviolet explorer: new views of the UV universe** (Plenary Presentation)
*Author(s):* **Fiona A. Harrison,** Caltech (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 19: FOCAL PLANE WAVEFRONT SENSING

19 June 2024 • 10:30 AM - 11:35 AM | Room G301/302, North - 3F
*Session Chair(s):* **Masen P. Lamb**, NSF's National Optical-Infrared Astronomy Research Lab. (United States)

13097-54 • 10:30 AM - 11:00 AM
**The photonic lantern wavefront sensor and imager: focal plane wavefront sensing and optimal imaging at the diffraction limit and beyond** *(Invited Paper)*
*Author(s):* **Barnaby R. M. Norris**, **Sergio G. Leon-Saval**, **Jin Wei**, **Christopher H. Betters**, **Adam Taras,** The Univ. of Sydney (Australia); **Jonathan Lin,** Univ. of California, Los Angeles (United States); **Yinzi Xin**, **Yoo Jung Kim,** Caltech (United States); **Steph Sallum,** Univ. of California, Irvine (United States); **Julien Lozi**, **Sebastian Vievard**, **Manon Lallement**, **Daniel Levinstein**, **Olivier Guyon,** Subaru Telescope, NAOJ (United States); **Pradip Gatkine**, **Nemanja Jovanovic**, **Dimitri Mawet,** Caltech (United States); **Michael Fitzgerald,** Univ. of California, Los Angeles (United States)

13097-55 • 11:00 AM - 11:15 AM
**Demonstrating the photonic lantern as a second-stage wavefront sensor**
*Author(s):* **Aditya Sengupta**, **Jordan Diaz,** Univ. of California, Santa Cruz (United States); **Benjamin L. Gerard,** Lawrence Livermore National Lab. (United States); **Rebecca M. Jensen-Clem**, **Daren Dillon**, **Matthew DeMartino**, **Kevin Bundy,** Univ. of California, Santa Cruz (United States); **Sylvain Cetre,** Durham Univ. (United Kingdom); **Vincent Chambouleyron,** Univ. of California, Santa Cruz (United States)

13097-56 • 11:15 AM - 11:30 AM
**On-sky demonstration of high-order focal plane wavefront control with a second stage AO system on MagAO-X**
*Author(s):* **Sebastiaan Y. Haffert,** Steward Observatory (United States); **Joshua Liberman,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Jared R. Males,** Steward Observatory (United States); **Jay Kueny,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Laird M. Close**, **Kyle Van Gorkom,** Steward Observatory (United States); **Olivier Guyon,** Wyant College of Optical Sciences, The Univ. of Arizona (United States), Steward Observatory (United States), National Astronomical Observatory of Japan (United States); **Alexander D. Hedglen,** Northrop Grumman Corp. (United States); **Maggie Y. Kautz,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Jialin Li,** Steward Observatory (United States); **Joseph D. Long,** Flatiron Institute (United States); **Jennifer Lumbres**, **Eden A. McEwen,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Logan A. Pearce,** Steward Observatory (United States); **Lauren Schatz,** Starfire Optical Range, Kirtland Air Force Base (United States); **Katie Twitchell,** Wyant College of Optical Sciences, The Univ. of Arizona (United States)

Session Break • 11:30 AM - 11:35 AM

### SESSION 20: PYRAMID WAVEFRONT SENSORS

19 June 2024 • 11:35 AM - 12:05 PM | Room G301/302, North - 3F
*Session Chair(s):* **Lianqi Wang**, Thirty Meter Telescope (United States)

13097-57 • 11:35 AM - 11:50 AM
**The elusive PyWFS: can up to 4x the (spatial) bandwidth and amplitude+phase measurements be made with pyramid sensors?**
*Author(s):* **Carlos M. Correia,** Univ. do Porto (Portugal), Instituto Superior Técnico (Portugal); **Cédric Taïssir Heritier,** ONERA (France); **Christophe Vérinaud,** European Southern Observatory (Germany); **Tom Major,** Space ODT (Portugal); **Kate Jackson**, **Maaike A. M. van Kooten, Jean-Pierre Véran,** National Research Council Canada (Canada)

13097-58 • 11:50 AM - 12:05 PM
**Using a pyramid wavefront sensor off-zero: from theory to practice**
*Author(s):* **Arnaud Striffling,** ONERA (France), Institut de Planétologie et d'Astrophysique de Grenoble (France), Lab. d'Astrophysique de Marseille (France); **Cédric Taïssir Héritier**, **Romain Fétick,** ONERA (France), Lab. d'Astrophysique de Marseille (France); **Olivier Fauvarque,** Ifremer (France); **Jean-François Sauvage,** ONERA (France), Lab. d'Astrophysique de Marseille (France); **Alexis Carlotti,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Thierry Fusco,** ONERA (France), Lab. d'Astrophysique de Marseille (France)

## Lunch/Exhibition Break 12:05 PM - 01:20 PM

## SESSION 21: ZERNIKE WAVEFRONT SENSORS

19 June 2024 • 01:20 PM - 02:10 PM | Room G301/302, North - 3F
*Session Chair(s):* **Kathryn J. Jackson**, NRC-Herzberg Astronomy & Astrophysics (Canada)

13097-59 • 01:20 PM - 01:35 PM
**Evaluating various reconstruction techniques for the Zernike Wavefront Sensor: from simulations to on-sky tests**
*Author(s):* **Vincent Chambouleyron**, **Maissa Salama,** Univ. of California, Santa Cruz (United States); **Mahawa Cissé,** Lab. d'Astrophysique de Marseille (France); **Sebastiaan Y. Haffert,** Steward Observatory, The Univ. of Arizona (United States); **Vincent Deo,** Subaru Telescope, NAOJ (United States); **Charlotte E. Guthery,** W. M. Keck Observatory (United States); **J. Kent Wallace,** Jet Propulsion Lab., Caltech (United States); **Daren Dillon,** Univ. of California, Santa Cruz (United States); **Jacques-Robert R. Delorme,** W. M. Keck Observatory (United States); **Rebecca M. Jensen-Clem**, **Philip M. Hinz, Bruce Macintosh,** Univ. of California, Santa Cruz (United States)

13097-60 • 01:35 PM - 01:50 PM
**Baldr - A Zernike Wavefront Sensor for VLTI/Asgard**
*Author(s):* **Benjamin Courtney-Barrer,** The Australian National Univ. (Australia), European Southern Observatory (Chile); **Gordon Robertson**, **Adam Taras,** The Univ. of Sydney (Australia); **Julien Tom Bernard,** The Australian National Univ. (Australia); **Fred Crous**, **Peter Tuthill**, **Connor Langford,** The Univ. of Sydney (Australia); **Mamadou N'Diaye**, **Nick Cvetojevic,** Observatoire de la Côte d'Azur (France); **Stefan Kraus,** Univ. of Exeter (United Kingdom); **Denis Defrère,** KU Leuven (Belgium); **Frantz Martinache,** Observatoire de la Côte d'Azur (France); **Michael Ireland,** The Australian National Univ. (Australia)

13097-61 • 01:50 PM - 02:05 PM
**On-sky closed-loop segment co-phasing using a vector-Zernike wavefront sensor controlling the primary mirror on Keck II**
*Author(s):* **Maissa Salama,** Univ. of California, Santa Cruz (United States); **Charlotte E. Guthery,** W. M. Keck Observatory (United States); **Vincent Chambouleyron**, **Rebecca M. Jensen-Clem,** Univ. of California, Santa Cruz (United States); **James K. Wallace**, **Mitchell Troy,** Jet Propulsion Lab. (United States), Caltech (United States); **Jacques-Robert R. Delorme,** W. M. Keck Observatory (United States); **Daren Dillon,** Univ. of California, Santa Cruz (United States); **Daniel Echeverri**, **Yeyuan (Yinzi) Xuan**, **Wen Hao (Jerry) Xuan**, **Nemanja Jovanovic**, **Dimitri Mawet,** Caltech (United States); **Peter L. Wizinowich,** W. M. Keck Observatory (United States); **Rachel Bowens-Rubin,** Univ. of California, Santa Cruz (United States)

Session Break • 02:05 PM - 02:10 PM

## SESSION 22: WAVEFRONT SENSING TESTBEDS I

19 June 2024 • 02:10 PM - 02:55 PM | Room G301/302, North - 3F
*Session Chair(s):* **Jared R. Males**, Steward Observatory (United States)

13097-63 • 02:10 PM - 02:25 PM
**High-contrast wavefront sensor testbed**
*Author(s):* **Mala Mateen,** U.S. Space Force (United States); **Michael Hart, Johanan L. Codona,** Hart Scientific Inc. (United States)

13097-64 • 02:25 PM - 02:40 PM
**A compact three-sided reflective pyramid wavefront sensor: optical design and closed-loop adaptive optics testbed characterization**
*Author(s):* **Dominic F. Sanchez**, **Philip M. Hinz, Yuhui Wang,** Univ. of California, Santa Cruz (United States)

13097-65 • 02:40 PM - 02:55 PM
**GPI 2.0: integration of the pyramid wavefront sensor**
*Author(s):* **Saavidra Perera**, **Jérôme Maire**, **Clarissa R. Do Ó**, **Jayke S. Nguyen,** Univ. of California, San Diego (United States); **Vincent Chambouleyron,** Univ. of California, Santa Cruz (United States); **Daniel Levinstein,** Univ. of California, Irvine (United States); **Quinn M. Konopacky,** Univ. of California, San Diego (United States); **Jeffrey Chilcote**, **Brian Sands**, **Matthew Engstrom**, **Randall Hamper,** Univ. of Notre Dame (United States); **Joeleff Fitzsimmons**, **Dan Kerley,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Bruce Macintosh,** Univ. of California, Santa Cruz (United States); **Christian Marois,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Fredrik Rantakyrö,** Gemini Observatory (United States); **Dmitry Savransky,** Cornell Univ. (United States); **Jean-Pierre Véran,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Guido Agapito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **S. Mark Ammons,** Lawrence Livermore National Lab. (United States); **Marco Bonaglia,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Marc-André Boucher,** OMP Inc. (Canada); **Joel Burke,** Univ. of Notre Dame (United States); **Daren Dillon,** Univ. of California, Santa Cruz (United States); **Jennifer S. Dunn,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Simone Esposito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Guillaume Filion,** OMP Inc. (Canada); **Oyku Galvan,** Gemini Observatory (United States); **Jean-Thomas Landry,** OMP Inc. (Canada); **Olivier Lardière,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Duan Li,** Cornell Univ. (United States); **Alexander B. Madurowicz,** Stanford Univ. (United States); **Teo Mocnik,** Gemini Observatory (United States); **Dillon Peng,** Univ. of Notre Dame (United States); **Lisa Poyneer,** Lawrence Livermore National Lab. (United States); **Carlos Quiroz**, **Garima Singh,** Gemini Observatory (United States); **Eckhart Spalding,** The Univ. of Sydney (Australia)

## Coffee Break 02:55 PM - 03:25 PM

## SESSION 23: WAVEFRONT SENSING TESTBEDS II

19 June 2024 • 03:25 PM - 04:00 PM | Room G301/302, North - 3F
*Session Chair(s):* **Olivier Guyon**, Subaru Telescope, NAOJ (United States)

13097-66 • 03:25 PM - 03:40 PM
**Results from the GMT wide-field phasing testbed**
*Author(s):* **Brian A. McLeod**, **Jan Kansky,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Fernando Quirós-Pacheco**, **Antonin Bouchez,** GMTO Corp. (United States); **Daniel Catropa,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Richard T. Demers,** GMTO Corp. (United States); **Stuart McMuldroch**, **William Podgorski, Mark Witinski,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13097-67 • 03:40 PM - 03:55 PM
**A multi-spectral pyramid wavefront sensor with MKID Technology for extreme adaptive optics**
*Author(s):* **Aurelie Magniez**, **Lisa Bardou,** Durham Univ. (United Kingdom); **Charlotte Z. Bond,** UK Astronomy Technology Ctr. (United Kingdom); **Deli Geng**, **Timothy J. Morris**, **Kieran O'Brien,** Durham Univ. (United Kingdom); **Noah Schwartz,** UK Astronomy Technology Ctr. (United Kingdom); **Benjamin Shaw,** Durham Univ. (United Kingdom); **Pieter de Visser,** SRON Netherlands Institute for Space Research (Netherlands)

Session Break • 03:55 PM - 04:00 PM

## SESSION 24: ALTERNATIVE WAVEFRONT SENSORS

19 June 2024 • 04:00 PM - 05:15 PM | Room G301/302, North - 3F
*Session Chair(s):* **Fernando Quirós-Pacheco**, GMTO Corp. (United States)

13097-68 • 04:00 PM - 04:30 PM
**The Bi-O edge wavefront sensor: from theory to practice** *(Invited Paper)*
*Author(s):* **Christophe Vérinaud,** European Southern Observatory (Germany); **Cédric Taïssir Héritier,** Lab. d'Astrophysique de Marseille (France); **Markus Kasper,** European Southern Observatory (Germany); **Sebastiaan Haffert,** Steward Observatory (United States); **Frans Snik**, **David Doelman,** Leiden Observatory (Netherlands); **Alexis Carlotti,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Byron Engler**, **Miska Le Louarn,** European Southern Observatory (Germany); **Carlos M. Correia,** Univ. do Porto (Portugal)

13097-69 • 04:30 PM - 04:45 PM
**Experimental characterization of the birefringent point-diffraction interferometer wavefront sensor**
*Author(s):* **Ryo Tsukui,** LogistLab, Inc. (Japan); **Masaru Kino**, **Kodai Yamamoto,** Kyoto Univ. (Japan); **Mina Sato**, **Mie Tohnishi**, **Akihiro Matsutani,** Tokyo Institute of Technology (Japan); **Mikio Kurita,** Kyoto Univ. (Japan), LogistLab, Inc. (Japan)

13097-70 • 04:45 PM - 05:00 PM
**Pupil plane WFSs for LGS systems of giant telescopes: the case of Ingot**
*Author(s):* **Elisa Portaluri,** INAF - Osservatorio Astronomico d'Abruzzo (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Roberto Ragazzoni,** Univ. degli Studi di Padova (Italy), INAF - Osservatorio Astronomico di Padova (Italy); **Davide Greggio**, **Carmelo Arcidiacono**, **Maria Bergomi**, **Simone Di Filippo**, **Marco Dima**, **Jacopo Farinato,** INAF - Osservatorio Astronomico di Padova (Italy); **Tania Sofia Gomes Machado,** Univ. degli Studi di Padova (Italy); **Demetrio Magrin**, **Kalyan Kumar Radhakrishnan Santhakumari, Valentina Viotto,** INAF - Osservatorio Astronomico di Padova (Italy)

13097-71 • 05:00 PM - 05:15 PM
**WIVERN, wide-field wavefront sensing results using novel laser-based techniques in the lab**
*Author(s):* **Nazim A. Bharmal**, **Timothy J. Morris, Lazar G. Staykov,** Durham Univ. (United Kingdom)

## SESSION PS20: POSTERS - CALIBRATION OF AO SYSTEMS

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-169 • 05:30 PM - 07:00 PM
**ULTIMATE-Subaru GLAO Star Simulator: a Cassegrain mounted wave front sensor calibration source**
*Author(s):* **Nicholas Herrald**, **David Chandler**, **Celine D'Orgeville**, **Dionne Haynes**, **Noelia Martínez Rey,** The Australian National Univ. (Australia); **Yosuke Minowa,** Subaru Telescope, NAOJ (United States); **Hajime Ogane,** The Australian National Univ. (Australia); **Yoshito H. Ono**, **Yoko Tanaka,** Subaru Telescope, NAOJ (United States); **Josh Carter, Lu Wang,** The Australian National Univ. (Australia)

13097-170 • 05:30 PM - 07:00 PM
**Phase diversity application on the EST MCAO testbench**
*Author(s):* **Nicolás Rodríguez,** Instituto de Astrofísica de Canarias (Spain); **José Manuel González Cava,** Univ. de La Laguna (Spain); **Luzma Montoya,** Instituto de Astrofísica de Canarias (Spain); **Juan Albino Méndez,** Univ. de La Laguna (Spain); **Yolanda Martín, Miguel Núñez Cagigal,** Instituto de Astrofísica de Canarias (Spain)

13097-171 • 05:30 PM - 07:00 PM
**SPRINT for WFAO systems**
*Author(s):* **Guido Agapito**, **Cédric Plantet,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Cédric Taïssir Heritier,** ONERA (France)

13097-172 • 05:30 PM - 07:00 PM
**A novel approach to capacitive sensor calibration for deformable mirrors based on local measurements**
*Author(s):* **Luca Oggioni,** INAF - Osservatorio Astronomico di Brera (Italy); **Chiara Selmi**, **Runa Briguglio,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Giorgio Pariani,** INAF - Osservatorio Astronomico di Brera (Italy); **Nicolò Azzaroli, Marco Xompero,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

13097-173 • 05:30 PM - 07:00 PM
**Conceptual design of the NFIRAOS Science Calibration Unit**
*Author(s):* **Peter W. G. Byrnes**, **Jenny Atwood,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Jean-Thomas Landry,** OMP Inc. (Canada); **Paolo Spano,** Officina Stellare S.p.A (Italy); **Glen Herriot,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Marc-Andre Boucher,** OMP Inc. (Canada)

13097-174 • 05:30 PM - 07:00 PM
**Highlights of the design of an ELT-class calibration unit for MCAO systems**
*Author(s):* **Gianluca Di Rico**, **Gabriele Rodeghiero**, **Ivan Di Antonio**, **Benedetta Di Francesco**, **Mauro Dolci**, **Angelo Valentini**, **Lorenzo Busoni**, **Demetrio Magrin**, **Bernardo Salasnich**, **Marco Riva,** INAF - Istituto Nazionale di Astrofisica (Italy); **Sylvain Oberti,** European Southern Observatory (Germany); **Nicholas Devaney**, **Alexander Gonhcarov,** Univ. of Galway (Ireland); **Paolo Ciliegi,** INAF - Istituto Nazionale di Astrofisica (Italy)

13097-175 • 05:30 PM - 07:00 PM
**Adaptive optics telemetry tools for REVOLT: a deep dive into telemetry**
*Author(s):* **Maaike A. M. van Kooten**, **Kate Jackson**, **Jean-Pierre Véran**, **Jennifer S. Dunn**, **Olivier Lardière**, **Edward Chapin**, **Eric Steinbring**, **Dan Kerley,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Tarun Kumar,** Univ. of Victoria (Canada); **Mojtaba Taheri,** Lab. d'Astrophysique de Marseille (France); **David R. Andersen,** Thirty Meter Telescope (United States)

13097-176 • 05:30 PM - 07:00 PM
**Distortion of Visible Daytime Multi-Conjugate Adaptive Optics Control**
*Author(s):* **Puttiwat Kongkaew**, **Timothy J. Morris, James Osborn,** Durham Univ. (United Kingdom)

13097-177 • 05:30 PM - 07:00 PM
**Handing over from the ELT: online METIS mis-registration calibration with crazy fast control matrix updates**
*Author(s):* **Carlos M. Correia,** Univ. do Porto (Portugal), Ctr. for Astrphysics and Gravitation (Portugal); **Horst Steuer**, **Markus Feldt,** Max-Planck-Institut für Astronomie (Germany); **Andreas Obereder,** MathConsult GmbH (Austria); **Martin Kulas**, **Hugo Coppejans,** Max-Planck-Institut für Astronomie (Germany); **Gilles Orban de Xivry**, **Olivier Absil,** Liège Univ. (Belgium); **Thomas Bertram,** Max-Planck-Institut für Astronomie (Germany)

13097-178 • 05:30 PM - 07:00 PM
**MAVIS: calibration unit design and development**
*Author(s):* **Dionne M. Haynes**, **Israel Vaughn**, **Antony Galla**, **Jesse Cranney**, **Trevor Mendel**, **David Brodrick**, **François Rigaut**, **Hana Benhizia**, **Gaston Gausachs**, **Annino Vaccarella**, **Tristan Monnier**, **Roger Haynes,** The Australian National Univ. (Australia); **Jennifer Burgess,** ANU Enterprise Pty Ltd. (Australia); **Richard McDermid,** Macquarie Univ. (Australia); **Ross Zhelem**, **Simon Ellis**, **Anthony Horton,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Kalyan Radhakrishnan**, **Davide Greggio**, **Bernardo Salasnich**, **Elia Costa**, **Oleksandra Rebrysh,** INAF - Osservatorio Astronomico di Padova (Italy); **Enrico Pinna,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Matteo Aliverti,** INAF - Osservatorio Astronomico di Brera (Italy); **Stefan Ströbele**, **Pierre Haguenauer**, **Ulf Seemann,** European Southern Observatory (Germany); **Gregory Jolley,** The Australian National Univ. (Australia); **Luca Marafatto,** INAF - Osservatorio Astronomico di Padova (Italy); **Christian Schwab,** Macquarie Univ. (Australia)

13097-179 • 05:30 PM - 07:00 PM
**HARMONI at ELT: laboratory results of novel method for combining multiple light sources for AO calibrations**
*Author(s):* **Noah Schwartz,** UK Astronomy Technology Ctr. (United Kingdom); **Kjetil Dohlen**, **Edgard Renault**, **William Ceria,** Lab. d'Astrophysique de Marseille (France); **Jean-François Sauvage,** ONERA (France); **Timothy J. Morris,** Durham Univ. (United Kingdom)

13097-180 • 05:30 PM - 07:00 PM
**Optimizing Keck adaptive optics: correcting residual errors with focal-plane wavefront sensing**
*Author(s):* **Charlotte E. Guthery,** W. M. Keck Observatory (United States); **Michael Bottom,** Institute for Astronomy (United States); **Antonin Bouchez**, **Jacques R. Delorme**, **Sonia Karkar**, **Paul Richards, Peter L. Wizinowich,** W. M. Keck Observatory (United States)

13097-181 • 05:30 PM - 07:00 PM
**MCAO anisoplanatic modes and its effect on GeMS field distortion**
*Author(s):* **Vincent Garrel**, **Aurea Garcia-Rismann**, **Cristian Moreno, Valentina Oyarzún,** Gemini Observatory (Chile)

## SESSION PS21: POSTERS - COMMISSIONING OF AO SYSTEMS

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-182 • 05:30 PM - 07:00 PM
**Enabling the next generation of Keck AO with the real time controller upgrade**
*Author(s):* **Eduardo Marin**, **Jason Chin,** W. M. Keck Observatory (United States); **Sylvain Cetre,** Wakea Consulting (France); **Peter L. Wizinowich,** W. M. Keck Observatory (United States); **Sam Ragland,** Large Binocular Telescope Observatory (United States); **Ed Wetherell**, **Avinash Surendran**, **Antonin Bouchez**, **Jacques-Robert R. Delorme**, **Scott J. Lilley**, **James E. Lyke**, **Maxwell Service**, **Kevin Tsubota,** W. M. Keck Observatory (United States); **Carlos M. Correia,** Space ODT (Portugal); **Marcos A. van Dam,** Flat Wavefronts (New Zealand); **Roberto Biasi**, **Christian Patauner**, **Dietrich Pescoller,** Microgate S.r.l. (Italy); **Karl Glazebrook**, **Andrew Jameson**, **Will Gauvin,** Swinburne Univ. of Technology (Australia); **François Rigaut**, **Damien Gratadour, Julien Bernard,** The Australian National Univ. (Australia)

13097-183 • 05:30 PM - 07:00 PM
**Implementation and first on-sky results of a new post-AO 1000 actuator deformable mirror on MagAO-X**
*Author(s):* **Jay Kueny,** The Univ. of Arizona (United States); **Kyle Van Gorkom,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Jared R. Males,** Steward Observatory, The Univ. of Arizona (United States); **Maggie Y. Kautz,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Laird M. Close,** Steward Observatory, The Univ. of Arizona (United States); **Eden A. McEwen,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Alexander D. Hedglen,** Northrop Grumman Corp. (United States); **Sebastiaan Y. Haffert,** Steward Observatory, The Univ. of Arizona (United States); **Warren B. Foster**, **Avalon L. McLeod,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Jennifer Lumbres,** Wyant College of Optical Sciences, The Univ. Arizona (United States); **Lauren Schatz,** Starfire Optical Range, Kirtland Air Force Base (United States); **Olivier Guyon,** Steward Observatory, The Univ. of Arizona (United States), Wyant College of Optical Sciences, The Univ. of Arizona (United States), Subaru Telescope, National Observatory of Japan, National Institutes of Natural Sciences (United States); **Jialin Li,** Steward Observatory, The Univ. of Arizona (United States)

13097-184 • 05:30 PM - 07:00 PM
**Diffraction-limited visible imaging with piezoelectric deformable secondary mirror**
*Author(s):* **Jiahui Zhou,** Institute of Optics and Electronics (China); **Youming Guo,** Institute of Optics and Electronics, Chinese Academy of Sciences (China); **Kaiyu Chen**, **Wenyu Han**, **Xuejun Rao**, **Xinlong Fan, Changhui Rao,** Institute of Optics and Electronics (China)

13097-185 • 05:30 PM - 07:00 PM
**Development of an MCAO system for the Kodaikanal Tower Telescope**
*Author(s):* **Saraswathi Kalyani Subramanian,** Indian Institute of Astrophysics (India), Univ. of Calcutta (India); **Sridharan Rengaswamy,** Indian Institute of Astrophysics (India)

13097-186 • 05:30 PM - 07:00 PM
**The crucial role of the Laser Pointing Camera in the CANAPY-ALASCA project**
*Author(s):* **Mauro Centrone,** INAF - Osservatorio Astronomico di Roma (Italy); **Domenico Bonaccini Calia,** European Southern Observatory (Germany); **Antonio Cerruto,** Astrel Instruments (Italy); **Marco Faccini,** INAF - Osservatorio Astronomico di Roma (Italy); **Felipe Pedreros Bustos,** European Southern Observatory (Germany); **Andrea Ricciardi,** Astrel Instruments (Italy); **Luca Serafino Sabatini,** INAF - Osservatorio Astronomico di Roma (Italy); **Roberto Biasi**, **Laura Salvi,** Microgate S.r.l. (Italy); **David Alaluf, Zoran Sodnik,** European Space Agency (Netherlands), European Space Research and Technology Ctr. (Netherlands)

13097-187 • 05:30 PM - 07:00 PM
**Performance analysis of on-sky data using the Gran Telescopio Canarias Adaptive Optics System with natural guide stars**
*Author(s):* **Icíar Montilla Garcia,** Instituto de Astrofísica de Canarias (Spain); **Héctor de Paz**, **Sergio Fernández-Acosta,** Gran Telescopio de Canarias, S.A. (Spain); **Eduardo David González Carretero,** Instituto de Astrofísica de Canarias (Spain); **Manuel Huertas López**, **Gianluca Lombardi,** Gran Telescopio de Canarias, S.A. (Spain); **Roberto López López**, **Manuel Luis Aznar**, **Roberto Luis Simoes**, **José Marco,** Instituto de Astrofísica de Canarias (Spain); **Sara Navarro Umpierrez,** Gran Telescopio de Canarias, S.A. (Spain); **Jesús Patrón Recio**, **Marta Puga Antolín,** Instituto de Astrofísica de Canarias (Spain); **Daniel Reverte,** Gran Telescopio de Canarias, S.A. (Spain); **Marcos Reyes García-Talavera**, **Josefina Rosich**, **Víctor Sánchez-Béjar, Óscar Tubío,** Instituto de Astrofísica de Canarias (Spain)

## SESSION PS22: POSTERS - MODELING, ANALYSIS & SIMULATION OF AO SYSTEMS II

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-188 • 05:30 PM - 07:00 PM
**Laser guide star enhanced extreme adaptive optics**
*Author(s):* **Jeff Richey**, **Lauren Schatz,** Air Force Research Lab. (United States); **Terry Brennan,** Prime Plexus LLC (United States); **Robert L. Johnson,** Air Force Research Lab. (United States)

13097-189 • 05:30 PM - 07:00 PM
**RISTRETTO: a comparative performance analysis of the unmodulated Pyramid wavefront sensor (PyWFS) and the Zernike wavefront sensor (ZWFS)**
*Author(s):* **Muskan Shinde,** Observatoire de Genève, Univ. de Genève (Switzerland); **Nicolas Blind, Christophe Lovis,** Observatoire de Genève (Switzerland)

13097-190 • 05:30 PM - 07:00 PM
**Seven years of sodium history at Paranal, temporal evolution, statistics and modelling.**
*Author(s):* **Pierre Haguenauer, Ronald Holzloehner,** European Southern Observatory (Germany)

13097-191 • 05:30 PM - 07:00 PM
**Upgrading SPHERE with the second stage AO system SAXO+: exploration of the parameter space with end-to-end numerical simulations**
*Author(s):* **Charles Goulas**, **Fabrice Vidal**, **Raphaël Galicher**, **Florian Ferreira**, **Johan Mazoyer,** Observatoire de Paris (France), Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Julien Milli,** Institut de Planétologie et d'Astrophysique de Grenoble (France), Univ. Grenoble Alpes (France); **Maud Langlois**, **Clémentine Béchet,** Observatoire de Lyon, Ctr. de Recherche Astrophysique de Lyon (France); **Emiliano Diolaiti**, **Laura Schreiber,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Markus Feldt,** Max-Planck-Institut für Astronomie (Germany); **Eric Gendron,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France); **Caroline Kulcsár**, **Henri-François G. Raynaud**, **Nicolas Galland,** Lab. Charles Fabry, Institut d'Optique Graduate School (France); **Isabelle Tallon**, **Michel Tallon**, **Éric Thiébaut,** Ctr. de Recherche Astrophysique de Lyon, Observatoire de Lyon (France); **Isaac Bernardino Dinis,** Univ. de Genève (Switzerland); **Markus Kasper**, **Miska Lelouarn,** European Southern Observatory (Germany); **Anthony Boccaletti,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France); **Gaël Chauvin,** Observatoire de la Côte d'Azur (France); **François Wildi,** Univ. de Genève (Switzerland); **Magali Loupias,** Ctr. de Recherche Astrophysique de Lyon, Observatoire de Lyon (France); **David Mouillet,** Institut de Planétologie et d'Astrophysique de Grenoble, Univ. Grenoble Alpes (France); **Raffaele Gratton,** INAF - Osservatorio Astronomico di Padova (Italy)

13097-192 • 05:30 PM - 07:00 PM
**Using multiple wavefront sensors and deformable mirrors to improve AO performance for exoplanet imaging**
*Author(s):* **Mathieu Motte,** Lab. d'Astrophysique de Marseille (France); **Romain Fétick**, **Cédric Taïssir Heritier**, **Mahawa Cissé,** ONERA (France); **Christophe Lovis**, **Nicolas Blind,** Univ. de Genève (Switzerland); **Jean-François Sauvage,** ONERA (France); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Thierry Fusco,** ONERA (France)

13097-193 • 05:30 PM - 07:00 PM
**Optical modeling for the evaluation of HOWFSC on embedded processors**
*Author(s):* **Kian Milani,** Steward Observatory (United States); **Nicholas Belsten,** Massachusetts Institute of Technology (United States); **Shanti Rao,** Caltech (United States); **Leonid Pogorelyuk,** Massachusetts Institute of Technology (United States); **Ewan S. Douglas,** Steward Observatory (United States); **Kerri Cahoy**, **Brandon Eickert,** Massachusetts Institute of Technology (United States); **Christopher Mendillo,** University of Massachusetts Lowell (United States)

13097-194 • 05:30 PM - 07:00 PM
**GNAO: Design and performance analysis of AOB**
*Author(s):* **Pierre Jouve**, **Thierry Fusco,** ONERA (France); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Carlos M. Correia,** SpaceODT (Portugal); **Cédric Taïssir Heritier**, **Jean-François Sauvage,** ONERA (France); **Jon Lawrence,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Andrew Rakich,** Mersenne Optical Consulting (New Zealand); **Jessica R. Zheng**, **Timothy Chin,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Julien Charton,** ALPAO S.A.S. (France); **Nicolas Vedrenne,** ONERA (France); **Piero Bruno,** ALPAO S.A.S. (France); **François Rigaut,** The Australian National Univ. (Australia); **Célia Blain,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Gaetano Sivo**, **Manuel Lazo,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Stephen Goodsell,** NSF's National Optical-Infrared Astronomy Research Lab. (United States), Durham Univ. (United Kingdom); **Suresh Sivanandam,** Dunlap Institute for Astronomy & Astrophysics (Canada); **Julia Scharwaechter,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Masen P. Lamb,** Univ. of Toronto (Canada)

13097-195 • 05:30 PM - 07:00 PM
**GPI 2.0: end-to-end simulations of the AO-coronagraph system**
*Author(s):* **Jayke S. Nguyen**, **Jérôme Maire**, **Saavidra Perera**, **Clarissa R. Do Ó,** Univ. of California, San Diego (United States); **Daniel Levinstein,** Univ. of California, Irvine (United States); **Quinn M. Konopacky,** Univ. of California, San Diego (United States); **Jeffrey Chilcote,** Univ. of Notre Dame (United States); **Joeleff Fitzsimmons,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Randall Hamper,** Univ. of Notre Dame (United States); **Dan Kerley,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Bruce Macintosh,** Univ. of California Observatories (United States); **Christian Marois,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Fredrik Rantakyrö,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Dmitry Savransky,** Cornell Univ. (United States); **Jean-Pierre Véran,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Guido Agapito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **S. Mark Ammons,** Lawrence Livermore National Lab. (United States); **Marco Bonaglia,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Marc-André Boucher,** OMP Inc. (Canada); **Jennifer S. Dunn,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Simone Esposito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Guillaume Filion**, **Jean Thomas Landry,** OMP Inc. (Canada); **Olivier Lardière,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Duan Li,** Cornell Univ. (United States); **Alex Madurowicz,** Univ. of California, Santa Cruz (United States); **Meiji Nguyen**, **Bryony Nickson,** Space Telescope Science Institute (United States); **Dillon Peng,** Univ. of Notre Dame (United States); **Emiel Por,** Space Telescope Science Institute (United States); **Lisa Poyneer,** Lawrence Livermore National Lab. (United States); **Remi Soummer,** Space Telescope Science Institute (United States); **Vincent Chambouleyron,** Univ. of California Observatories (United States); **Oyku Galvan**, **Garima Singh**, **Teo Mocnik**, **Carlos Quiroz,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Brian Sands**, **Matthew Engstrom, Joel Burke,** Univ. of Notre Dame (United States)

13097-196 • 05:30 PM - 07:00 PM
**How much precision is lost for reduced precision? How different numerical precision affects AO control**
*Author(s):* **Bernadett Stadler,** Johann Radon Institute for Computational and Applied Mathematics (Austria); **Daniel Jodlbauer, Ronny Ramlau,** Johannes Kepler Univ. Linz (Austria)

13097-197 • 05:30 PM - 07:00 PM
**Upgrading SPHERE with the second stage AO system SAXO+: high contrast performances analysis and design choices**
*Author(s):* **Maud Langlois,** Ctr. de Recherche Astrophysique de Lyon (France); **Clementine Béchet,** Ctr. de Recherche Astronomique de Lyon (France); **Laura Schreiber,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Charles Goulas,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France), Observatoire de Paris (France); **Michel Tallon,** Ctr. de Recherche Astrophysique de Lyon (France); **Florian Ferreira,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Julien Milli,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Magali Loupias,** Ctr. de Recherche Astronomique de Lyon (France); **Isaac Bernardino Dinis,** Univ. de Genève (Switzerland); **Emiliano Diolaiti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Anthony Boccaletti,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Gaël Chauvin,** Observatoire de la Côte d'Azur (France); **Markus Feldt,** Max-Planck-Institut für Astronomie (Germany); **Raffaele Gratton,** INAF - Osservatorio Astronomico di Padova (Italy); **Markus Kasper,** European Southern Observatory (Germany); **Caroline Kulcsár,** Institut d'Optique Graduate School (France); **Johan Mazoyer,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Mamadou N'Diaye,** Observatoire de la Côte d'Azur (France); **Henri-François Raynaud,** Institut d'Optique Graduate School (France); **Sylvain Rousseau,** Observatoire de la Côte d'Azur (France); **Eric Stadler,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Isabelle Tallon-Bosc,** Ctr. de Recherche Astronomique de Lyon (France); **Éric Thiébaut,** Ctr. de Recherche Astrophysique de Lyon (France); **Fabrice Vidal,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Francois Wildi,** Univ. de Genève (Switzerland)

13097-199 • 05:30 PM - 07:00 PM
**Simplified model of the different modes of the GRAVITY+ adaptive optics system for performance prediction**
*Author(s):* **Anthony Berdeu,** Observatoire de Paris à Meudon (France); **Jean-Baptiste Le Bouquin**, **Laurent Bourgès**, **Jean-Philippe Berger,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Thibaut Paumard,** Observatoire de Paris à Meudon (France); **Frank Eisenhauer,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Christian Straubmeier,** Univ. zu Köln (Germany); **Paulo J. V. Garcia,** Ctr. de Astrofísica e Gravitação (Portugal); **Sebastian Hönig,** Univ. of Southampton (United Kingdom); **Florentin Millour,** Observatoire de la Côte d'Azur (France); **Denis Defrère,** KU Leuven (Belgium); **Ferréol Soulez,** Ctr. de Recherche Astrophysique de Lyon (France); **Taro Shimizu, Guillaume Bourdarot,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13097-201 • 05:30 PM - 07:00 PM
**Efficient asterism selection for wide field adaptive optics systems with TIPTOP**
*Author(s):* **Fabio Rossi**, **Guido Agapito**, **Cédric Plantet,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **François Rigaut,** The Australian National Univ. (Australia)

13097-202 • 05:30 PM - 07:00 PM
**Characterizing the performance of the SPHERE exoplanet imager at the Very Large Telescope using deep learning**
*Author(s):* **Ludo Bissot**, **Olivier Absil,** Liège Univ. (Belgium); **Julien Milli,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Faustine Cantalloube**, **Élodie Choquet,** Lab. d'Astrophysique de Marseille (France); **Philippe Delorme,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Gilles Louppe,** Liège Univ. (Belgium); **David Mouillet,** Institut de Planétologie et d'Astrophysique de Grenoble (France)

13097-203 • 05:30 PM - 07:00 PM
**Analyzing misalignment tolerances for implicit electric field conjugation**
*Author(s):* **Joshua Liberman,** The Univ. of Arizona (United States); **Sebastiaan Y. Haffert,** Leiden Observatory, Leiden Univ. (Netherlands); **Kyle Van Gorkom**, **Jared R. Males**, **Ewan S. Douglas**, **Kian Milani**, **Maggie Y. Kautz**, **Jay Kueny**, **Olivier Guyon**, **Laird M. Close**, **Jialin Li**, **Eden A. McEwen**, **Joseph D. Long, Logan A. Pearce,** The Univ. of Arizona (United States)

13097-204 • 05:30 PM - 07:00 PM
**Temporal control of the ground-layer adaptive optics system in ULTIMATE-Subaru**
*Author(s):* **Yoshito H. Ono**, **Yosuke Minowa,** Subaru Telescope, NAOJ (United States); **Shin Oya,** National Astronomical Observatory of Japan (Japan); **Koki Terao,** Subaru Telescope, NAOJ (United States); **Masayuki Akiyama,** Tohoku Univ. (Japan); **Celine D'Orgeville**, **Noelia Martínez Rey**, **Jesse Cranney, Hajime Ogane,** The Australian National Univ. (Australia)

13097-198 • 05:30 PM - 07:00 PM
**CaNaPy, pathfinder for future generation Laser Guide Star Adaptive Optics in Large and Extremely Large Telescopes**
*Author(s):* **Noelia Martínez Rey,** The Australian National Univ. (Australia); **Guido Agapito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Domenico Bonaccini Calia**, **Felipe Pedreros Bustos,** European Southern Observatory (Germany); **Bernadett Stadler,** Johannes Kepler Univ. Linz (Austria)

13097-205 • 05:30 PM - 07:00 PM
**CaNaPy: comparing predicted performance and on-sky results for the LGS uplink pre-compensation**
*Author(s):* **Noelia Martínez Rey,** The Australian National Univ. (Australia); **David Alaluf,** European Space Agency (Netherlands); **Roberto Biasi,** Microgate S.r.l. (Italy); **Domenico Bonaccini Calia**, **Julienne Böttger,** European Southern Observatory (Germany); **Mauro Centrone**, **Marco Faccini,** INAF - Osservatorio Astronomico di Roma (Italy); **Tomas Fordey**, **Wolfgang Hackenberg**, **Pierre Haguenauer,** European Southern Observatory (Germany); **Joschua Hellemeier,** INAF - Osservatorio Astronomico di Roma (Italy); **Petr Janout**, **David R. Jenkins,** European Southern Observatory (Germany); **Timothy J. Morris**, **James Osborn,** Ctr. for Advanced Instrumentation, Durham Univ. (United Kingdom); **Christian Patauner,** Microgate S.r.l. (Italy); **Felipe Pedreros Bustos,** European Southern Observatory (Germany); **Dietrich Pescoller,** Microgate S.r.l. (Italy); **Alfio Puglisi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Marcos Reyes García-Talavera,** Instituto de Astrofísica de Canarias (Spain); **Luca Sabatini,** INAF - Osservatorio Astronomico di Roma (Italy); **Laura Salvi,** Microgate S.r.l. (Italy); **Bernadett Stadler,** Johann Radon Institute for Computational and Applied Mathematics (Austria); **Matteo Tordi,** Microgate S.r.l. (Italy)

13097-207 • 05:30 PM - 07:00 PM
**Congratulations, it's twins: a digital twin for your high-contrast instrument? Part 1**
*Author(s):* **Vincent Chambouleyron,** Univ. of California, Santa Cruz (United States); **Sebastiaan Y. Haffert,** Steward Observatory, The Univ. of Arizona (United States); **Jared R. Males,** Steward Observatory (United States); **Olivier Guyon,** Steward Observatory (United States), Wyant College of Optical Sciences, The Univ. of Arizona (United States), Subaru Telescope, NAOJ (United States); **Rebecca M. Jensen-Clem, Bruce Macintosh,** Univ. of California, Santa Cruz (United States)

13097-208 • 05:30 PM - 07:00 PM
**Congratulations, it's twins: a digital twin for your high-contrast instrument? Part 2**
*Author(s):* **Sebastiaan Y. Haffert,** Steward Observatory (United States); **Vincent Chambouleyron,** Univ. of California, Santa Cruz (United States); **Vincent Deo,** Subaru Telescope, NAOJ (United States); **Jared R. Males,** Steward Observatory (United States); **Olivier Guyon,** Steward Observatory (United States), Wyant College of Optical Sciences (United States), Subaru Telescope, NAOJ (United States); **Rebecca M. Jensen-Clem, Bruce Macintosh,** Univ. of California, Santa Cruz (United States)

13097-206 • 05:30 PM - 07:00 PM
**Unveiling the power of multi-object adaptive optics for multiplexing and integral field spectroscopy with TMT: exploring free parameters, performance, and science overview**
*Author(s):* **Uriel Conod,** The Univ. of British Columbia (Canada), NRC-Herzberg Astronomy & Astrophysics (Canada); **Joseph Ke,** The Univ. of British Columbia (Canada); **Kate Jackson,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Scott Chapman,** Dalhousie Univ. (Canada), The Univ. of British Columbia (Canada), National Research Council Canada (Canada)

## SESSION PS23: POSTERS - PROTOTYPING, PATHFINDERS AND CONSTRUCTION PROJECTS II

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-214 • 05:30 PM - 07:00 PM
**Multi-object adaptive optics for GIRMOS: final design and science performance**
*Author(s):* **Uriel Conod,** The Univ. of British Columbia (Canada), NRC-Herzberg Astronomy & Astrophysics (Canada); **Kate Jackson**, **Olivier Lardière**, **André Anthony,** National Research Council Canada (Canada); **Joseph Ke,** The Univ. of British Columbia (Canada); **Masen P. Lamb,** Gemini Observatory (Chile); **Scott Chapman,** Dalhousie Univ. (Canada), The Univ. of British Columbia (Canada), National Research Council Canada (Canada); **Suresh Sivanandam**, **Scott Christie,** Dunlap Institute for Astronomy & Astrophysics (Canada); **Gaetano Sivo,** Gemini Observatory (Chile); **Jean-Pierre Véran,** National Research Council Canada (Canada)

13097-209 • 05:30 PM - 07:00 PM
**Phase-induced amplitude apodization complex mask coronagraph (PIAACMC) without PIAA: redesigning a phase-induced amplitude apodization to a conventional pupil amplitude apodization**
*Author(s):* **Charles Sallard**, **Patrice Martinez**, **Carole Gouvret**, **Aurélie Marcotto**, **Alain Spang**, **Mathilde Beaulieu, Julien Dejonghe,** Observatoire de la Côte d'Azur (France)

13097-210 • 05:30 PM - 07:00 PM
**Upgrading SPHERE with the second stage AO system SAXO+: conceptual design of the opto-mechanical module**
*Author(s):* **Emiliano Diolaiti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Eric Stadler,** Institut de Planétologie et d'Astrophysique de Grenoble, CNRS (France), Univ. Grenoble Alpes (France); **Laura Schreiber**, **Fausto Cortecchia**, **Matteo Lombini,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Yves Magnard**, **Patrick Rabou**, **Sylvain Rochat,** Institut de Planétologie et d'Astrophysique de Grenoble, CNRS (France), Univ. Grenoble Alpes (France); **Adriano De Rosa**, **Giuseppe Malaguti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Didier Maurel,** Institut de Planétologie et d'Astrophysique de Grenoble, CNRS (France), Univ. Grenoble Alpes (France); **Gianluca Morgante**, **Filomena Schiavone**, **Luca Terenzi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Gaël Chauvin,** Observatoire de la Côte d'Azur (France); **Florian Ferreira,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, CNRS (France), Observatoire de Paris (France); **Raffaele Gratton,** INAF - Osservatorio Astronomico di Padova (Italy); **Maud Langlois,** Ctr. de Recherche Astrophysique de Lyon, CNRS (France), Univ. Claude Bernard Lyon 1 (France); **Miska Le Louarn,** European Southern Observatory (Germany); **Magali Loupias,** Ctr. de Recherche Astrophysique de Lyon, CNRS (France), Univ. Claude Bernard Lyon 1 (France); **Johan Mazoyer,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, CNRS (France), Observatoire de Paris (France); **Julien Milli**, **David Mouillet,** Institut de Planétologie et d'Astrophysique de Grenoble, CNRS (France), Univ. Grenoble Alpes (France); **Mamadou N'Diaye**, **Sylvain Rousseau,** Observatoire de la Côte d'Azur (France); **Michel Tallon,** Ctr. de Recherche Astrophysique de Lyon, CNRS (France), Univ. Claude Bernard Lyon 1 (France); **Fabrice Vidal,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, CNRS (France), Observatoire de Paris (France); **François Wildi,** Observatoire de Genève (Switzerland); **Gérard Zins,** European Southern Observatory (Germany); **Anthony Boccaletti,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, CNRS (France), Observatoire de Paris (France)

13097-212 • 05:30 PM - 07:00 PM
**MAVIS: optical and mechanical design of the MAVIS LGS WFS carousel**
*Author(s):* **Brian W. Taylor**, **Tony Galla,** The Australian National Univ. (Australia); **Davide Greggio,** INAF - Osservatorio Astronomico di Padova (Italy); **Guido Agapito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **David Brodrick**, **Jesse Cranney**, **Gaston Gausachs,** The Australian National Univ. (Australia); **Pierre Haguenauer,** European Southern Observatory (Germany); **Cédric Plantet,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Stefan Ströbele,** European Southern Observatory (Germany); **Valentina Viotto,** INAF - Osservatorio Astronomico di Padova (Italy); **François Rigaut,** The Australian National Univ. (Australia)

13097-213 • 05:30 PM - 07:00 PM
**RISTRETTO: a VLT XAO for characterising Proxima b in the visible**
*Author(s):* **Nicolas Blind**, **Muskan Shinde**, **Isaac Bernardino Dinis**, **Bruno Chazelas**, **Nathanaël Restori**, **Christophe Lovis**, **Audrey Lanotte,** Observatoire de Genève (Switzerland); **Jean-Francois Sauvage,** Lab. d'Astrophysique de Marseille (France); **Jonas Kuehn,** Univ. Bern (Switzerland); **Olivier Guyon,** Steward Observatory, The Univ. of Arizona (United States)

13097-215 • 05:30 PM - 07:00 PM
**Gemini 2.0: Gemini North wide-field ground layer adaptive optics**
*Author(s):* **Christophe S. Clergeon**, **Natalia McCarthy, Christy Cunningham,** Gemini Observatory (United States)

13097-216 • 05:30 PM - 07:00 PM
**Compact adaptive optics instrument: an update on the hardware implementation, real-time control system, and predicted performance**
*Author(s):* **Alex B. Walter,** Jet Propulsion Lab. (United States)

13097-135 • 05:30 PM - 07:00 PM
**HARMONI at ELT: adaptive optics modes integration plans at FDR**
*Author(s):* **Jean-François Sauvage,** ONERA (France); **Charlotte Z. Bond,** UK Astronomy Technology Ctr. (United Kingdom); **Cédric Taïssir Héritier,** ONERA (France); **Lisa Bardou,** Durham Univ. (United Kingdom); **Alexis Carlotti,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Romain Fétick,** ONERA (France); **Noah Schwartz,** UK Astronomy Technology Ctr. (United Kingdom); **Timothy J. Morris,** Durham Univ. (United Kingdom); **Thierry Fusco,** ONERA (France); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Niranjan Thatte**, **Fraser Clarke,** Univ. of Oxford (United Kingdom); **David Le Mignant**, **Kacem El Hadi,** Lab. d'Astrophysique de Marseille (France); **Jerome Paufique**, **Joel Vernet,** European Southern Observatory (Germany); **Zalpha Challita,** Lab. d'Astrophysique de Marseille (France)

## SESSION PS24: POSTERS - STATUS OF OPERATIONAL AO SYSTEMS, AND FUTURE PLANS

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-217 • 05:30 PM - 07:00 PM
**Improvement of Doppler measurement thanks to adaptive optics: the case of JOVIAL+AOC**
*Author(s):* **François-Xavier Schmider,** Observatoire de la Côte d'Azur (France); **Patrick Gaulme,** Thüringer Landessternwarte Tautenburg (Germany); **Ivan Gonçalves,** Institut de Recherche en Astrophysique et Planétologie (France), Univ. Paul Sabatier (France); **Lyu Abe**, **Marcel Carbillet**, **Olivier Lai**, **Jean-Pierre Rivet, Julien Dejonghe,** Observatoire de la Côte d'Azur (France)

13097-218 • 05:30 PM - 07:00 PM
**Astronomical adaptive optics advances in IOE, CAS**
*Author(s):* **Changhui Rao**, **Lanqiang Zhang**, **Hao Xian**, **Xuejun Rao**, **Hua Bao**, **Youming Guo**, **Shengqian Wang**, **Min Li**, **Xinlong Fan, Jinlong Huang,** Institute of Optics and Electronics (China)

13097-219 • 05:30 PM - 07:00 PM
**A quarter century of adaptive optics science operations at Keck Observatory**
*Author(s):* **James E. Lyke,** W. M. Keck Observatory (United States)

13097-220 • 05:30 PM - 07:00 PM
**Development status of multi-conjugate adaptive optics system for monitoring of solar system planets**
*Author(s):* **Makoto Watanabe,** Okayama Univ. of Science (Japan); **Shin Oya,** National Astronomical Observatory of Japan (Japan); **Hinako Noda**, **Takumi Iuchi**, **Akira Kameyama,** Okayama Univ. of Science (Japan); **Koji S. Kawabata,** Hiroshima Univ. (Japan)

13097-221 • 05:30 PM - 07:00 PM
**GeMS: latest AO developments and plans for operations**
*Author(s):* **Aurea Garcia-Rissmann**, **Vincent Garrel**, **Joan Font**, **Manuel Gomez-Jimenez**, **Ruben Diaz**, **Ariel Lopez**, **Eleazar Rodrigo Carrasco, Fredrik Rantakyrö,** Gemini Observatory (Chile), NSF's National Optical-Infrared Astronomy Research Lab. (Chile)

13097-222 • 05:30 PM - 07:00 PM
**Enhanced seeing mode at the Large Binocular Telescope Observatory**
*Author(s):* **Sam Ragland**, **Doug Miller**, **Jennifer Power**, **Barry Rothberg, Dave Thompson,** Large Binocular Telescope Observatory (United States)

# Thursday 20 June 2024

## THURSDAY PLENARY

20 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/thursday-plenary

13173-506 • 08:30 AM - 09:15 AM
**Navigating the radio astronomy renaissance: challenges and opportunities for a sustainable future** (Plenary Presentation)
*Author(s):* **Jessica T. Dempsey,** ASTRON (Netherlands)

13173-507 • 09:15 AM - 10:00 AM
**The x-ray imaging and spectroscopy mission (XRISM): development and expected science** (Plenary Presentation)
*Author(s):* **Makoto S. Tashiro,** Saitama Univ. (Japan)

**Coffee Break 10:00 AM - 10:30 AM**

## SESSION 25: ELTS: AO SYSTEMS STATUS I

20 June 2024 • 10:30 AM - 11:20 AM | Room G301/302, North - 3F
*Session Chair(s):* **Elise Vernet**, European Southern Observatory (Germany)

13097-72 • 10:30 AM - 10:45 AM
**Progress report on the TMT Adaptive Optics Facility**
*Author(s):* **Corinne Boyer**, **Lianqi Wang**, **Melissa Trubey**, **Benjamin Irarrazaval**, **John Miles**, **Konstantinos Vogiatzis,** Thirty Meter Telescope (United States); **Jean-Pierre Véran, Jenny Atwood,** National Research Council Canada (Canada)

13097-73 • 10:45 AM - 11:00 AM
**NFIRAOS project update: preparing for construction**
*Author(s):* **Jenny Atwood**, **Peter W. G. Byrnes**, **Jeffrey Crane**, **Joeleff Fitzsimmons**, **Glen Herriot**, **Krzysztof Caputa**, **Dan Kerley**, **Jordan Lothrop**, **Samuel Barrett**, **Katherine Silversides**, **Malcolm Smith**, **Ivan Wevers**, **Erning Zhao**, **Adam Densmore**, **Kate Jackson**, **Olivier Lardière**, **Jean-Pierre Véran**, **Jennifer S. Dunn,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Corinne Boyer**, **Lianqi Wang,** Thirty Meter Telescope (United States); **Emma Rautio-Roe,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Margaret Hemphill,** Univ. of Victoria (Canada)

13097-74 • 11:00 AM - 11:15 AM
**HARMONI at ELT: status of the LTAO mode**
*Author(s):* **Cédric Taïssir Heritier,** ONERA (France), Lab. d'Astrophysique de Marseille (France); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Thierry Fusco**, **Jean-François Sauvage,** ONERA (France); **Carlos M. Correia,** Univ. do Porto (Portugal); **Niranjan Thatte,** Univ. of Oxford (United Kingdom); **Pierre-Yves Madec**, **Jérôme Paufique**, **Miska Le Louarn,** European Southern Observatory (Germany); **Timothy J. Morris**, **Lisa Bardou,** Durham Univ. (United Kingdom); **Anne Costille**, **Kjetil Dohlen,** Lab. d'Astrophysique de Marseille (France); **Fraser Clarke,** Univ. of Oxford (United Kingdom)

Session Break • 11:15 AM - 11:20 AM

## SESSION 26: ELTS: AO SYSTEMS STATUS II

20 June 2024 • 11:20 AM - 12:05 PM | Room G301/302, North - 3F
*Session Chair(s):* **Yoshito H. Ono**, Subaru Telescope, NAOJ (United States)

13097-75 • 11:20 AM - 11:35 AM

**MORFEO: the adaptive optics module for ELT**

*Author(s):* **Paolo Ciliegi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Guido Agapito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Matteo Aliverti,** INAF - Osservatorio Astronomico di Brera (Italy); **Francesca Annibali,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Carmelo Aridiacono,** INAF - Osservatorio Astronomico di Padova (Italy); **Nicolò Azzaroli,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Andrea Balestra**, **Alessandro Ballone**, **Andrea Baruffolo**, **Federico Battaini,** INAF - Osservatorio Astronomico di Padova (Italy); **Simone Benedetti,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Maria Bergomi,** INAF - Osservatorio Astronomico di Padova (Italy); **Andrea Bianco,** INAF - Osservatorio Astronomico di Brera (Italy); **Marco Bonaglia**, **Runa Briguglio**, **Lorenzo Busoni,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Michele Cantiello,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Giulio Capasso,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Giulia Carlà,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Elena Carolo,** INAF - Osservatorio Astronomico di Padova (Italy); **Enrico Cascone,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Gaël Chauvin,** Observatoire de la Côte d'Azur (France); **Simonetta Chinellato,** INAF - Osservatorio Astronomico di Padova (Italy); **Vincenzo Cianniello**, **Mirko Colapietro,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Jean Jacques Correia,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Giuseppe Cosentino,** Univ. degli Studi di Bologna (Italy); **Elia Costa,** INAF - Osservatorio Astronomico di Padova (Italy); **Domenico D'Auria**, **Vincenzo De Caprio,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Nicholas Devaney,** Univ. of Galway (Ireland); **Ivan Di Antonio**, **Amico Di Cianno,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Simone Di Filippo,** INAF - Osservatorio Astronomico di Padova (Italy); **Benedetta Di Francesco,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Ugo Di Giammatteo,** INAF - Osservatorio Astronomico di Roma (Italy); **Gianluca Di Rico,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Andrea Di Rocco,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Andrea Di Dato,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Mauro Dolci,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Christian Eredia,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Simone Esposito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Daniela Fantinel**, **Jacopo Farinato,** INAF - Osservatorio Astronomico di Padova (Italy); **Philippe Feautrier,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Italo Foppiani,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Matteo Genoni,** INAF - Osservatorio Astronomico di Brera (Italy); **Enrico Giro,** INAF - Osservatorio Astronomico di Padova (Italy); **Laurence Gluck,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Alexander Goncharov,** Univ. of Galway (Ireland); **Paolo Grani,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Davide Greggio**, **Marco Gullieuszik,** INAF - Osservatorio Astronomico di Padova (Italy); **Zoltan Hubert,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Salvatore Lampitelli,** INAF - Osservatorio Astronomico di Padova (Italy); **Tommaso Lapucci,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Fulvio Laudisio**, **Demetrio Magrin**, **Luca Marafatto,** INAF - Osservatorio Astronomico di Padova (Italy); **Christophe Michel,** Institut de Physique des 2 Infinis de Lyon (France); **Matteo Munari,** INAF - Osservatorio Astrofisico di Catania (Italy); **Sylvain Oberti,** European Southern Observatory (Germany); **Giorgio Pariani,** INAF - Osservatorio Astronomico di Brera (Italy); **Amedeo Petrella,** INAF - Osservatorio Astronomico di Padova (Italy); **Pettazzi Lorenzo,** European Southern Observatory (Germany); **Laurent Pinnard,** Institut de Physique des 2 Infinis de Lyon (France); **Cédric Plantet,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Elisa Portaluri,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Alfio Puglisi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Patrick Rabou,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Kalyan Radhakrishnan**, **Roberto Ragazzoni,** INAF - Osservatorio Astronomico di Padova (Italy); **Edoardo Redaelli**, **Marco Riva,** INAF - Osservatorio Astronomico di Brera (Italy); **Sylvain Rochat,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Gabriele Rodeghiero,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Luca Rosignoli,** Univ. degli Studi di Bologna (Italy); **Bernardo Salasnich**, **Danilo Selvestrel,** INAF - Osservatorio Astronomico di Padova (Italy); **Benoît Sassolas,** Institut de Physique des 2 Infinis de Lyon (France); **Salvatore Savarese,** INAF Osservatorio Astronomico di Capodimonte (Italy); **Marcello Scalera,** INAF - Osservatorio Astronomico di Brera (Italy); **Pietro Schipani,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Rosanna Sordo,** INAF - Osservatorio Astronomico di Padova (Italy); **Ludovico Teodori,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Gabriele Umbriaco,** Univ. degli Studi di Bologna (Italy); **Angelo Valentini,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Marco Xompero,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

13097-76 • 11:35 AM - 11:50 AM

**Adaptive optics development at Giant Magellan Telescope: recent progress**

*Author(s):* **Richard T. Demers,** GMTO Corp. (United States); **Antonin Bouchez,** W. M. Keck Observatory (United States); **Patricio Schurter**, **Bo Xin**, **Juan Pablo Haddad**, **Jordi Molgó** , **William Schoenell,** GMTO Corp. (United States); **Marcos A. van Dam,** Flat Wavefronts (New Zealand); **Daniel Catropa**, **Jan Kansky**, **Brian A. McLeod**, **William Podgorski,** Smithsonian Astrophysical Observatory (United States); **Laird M. Close,** Steward Observatory, The Univ. of Arizona (United States); **Sebastiaan Y. Haffert**, **Maggie Y. Kautz**, **Jared R. Males,** The Univ. of Arizona (United States); **Cédric Plantet**, **Alfio Puglisi**, **Fabio Rossi**, **Anne-Laure L. Cheffot**, **Nicolò Azzaroli**, **Tommaso Lapucci**, **Enrico Pinna**, **Simone Esposito,** INAF (Italy); **Bijan Nemati,** Tellus1 Scientific, LLC. (United States); **Céline D'Orgeville**, **Tony D. Travouillon**, **Noelia M. Rey,** The Australian National Univ. (Australia); **Joel Nissen,** Consultant (United States); **Rod Conan**, **Rodrigo Romano,** GMTO Corp. (United States); **Victor Gasho,** The Univ. of Arizona (United States); **Alexander D. Hedglen,** Northrop Grumman Corp. (United States); **Fernando Quirós-Pacheco,** GMTO Corp. (United States); **Stuart McMuldroch,** Cherenkov Telescope Array Observatory gGmbH (Italy)

13097-77 • 11:50 AM - 12:05 PM

**The Laser Guide Star System for the Giant Magellan Telescope Laser Tomography Adaptive Optics**

*Author(s):* **Noelia Martínez Rey**, **David Chandler**, **Jesse Cranney**, **Hajime Ogane**, **Rachael Rheinberger**, **Tony Travouillon**, **Israel Vaughn**, **Celine D'Orgeville,** The Australian National Univ. (Australia); **Richard T. Demers,** GMTO Corp. (United States); **Antonin Bouchez,** W. M. Keck Observatory (United States); **Marcos A. Van Dam,** Flat Wavefronts (New Zealand)

**Lunch/Exhibition Break 12:05 PM - 01:25 PM**

## SESSION 27: ELTS: AO SYSTEMS TESTING

20 June 2024 • 01:25 PM - 02:30 PM | Room G301/302, North - 3F
*Session Chair(s):* **Marcos A. van Dam**, Flat Wavefronts (New Zealand)

13097-78 • 01:25 PM - 01:40 PM
**The Giant Magellan Telescope's high contrast adaptive optics testbed: NGAO wavefront sensing and control laboratory results**
*Author(s):* **Fernando Quirós-Pacheco,** GMTO Corp. (United States); **Antonin Bouchez,** W. M. Keck Observatory (United States); **Patricio Schurter**, **Juan Pablo Haddad**, **Jordi Molgó**, **William Schoenell**, **Bo Xin**, **Richard T. Demers,** GMTO Corp. (United States); **Cédric Plantet**, **Anne-Laure L. Cheffot**, **Simone Esposito**, **Alfio Puglisi**, **Fabio Rossi**, **Nicolò Azzaroli**, **Luca Carbonaro**, **Tommaso Lapucci**, **Enrico Pinna,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Laird M. Close**, **Sebastiaan Y. Haffert**, **Maggie Y. Kautz**, **Jared R. Males**, **Avalon L. McLeod**, **Victor Gasho,** Ctr. for Astronomical Adaptive Optics (United States); **Marcos A. van Dam,** Flat Wavefronts (New Zealand)

13097-79 • 01:40 PM - 01:55 PM
**A 21,000 actuator DM for the Giant Magellan Telescope's extreme AO system GMagAO-X: DM testbed results with segment/petal phasing and AO control of all seven GMT segments**
*Author(s):* **Laird M. Close**, **Maggie Y. Kautz**, **Sebastiaan Y. Haffert**, **Jared R. Males,** Steward Observatory (United States); **Alexander D. Hedglen,** Northrop Grumman Corp. (United States); **Olivier Durney**, **Avalon L. McLeod**, **Victor Gasho**, **Olivier Guyon**, **Jamison Noenickx**, **John Ford**, **Doug Kelly,** Steward Observatory (United States); **Richard T. Demers,** GMTO Corp. (United States); **Antonin Bouchez,** W. M. Keck Observatory (United States); **Fernando Quirós-Pacheco,** GMTO Corp. (United States)

13097-80 • 01:55 PM - 02:10 PM
**How to make METIS SCAO work**
*Author(s):* **Thomas Bertram**, **Peter Bizenberger**, **Wolfgang Brandner**, **Florian Briegel**, **M. Concepción Cárdenas Vázquez**, **Hugo Coppejans**, **Markus Feldt**, **Maximilian Häberle**, **Armin Huber**, **Martin Kulas**, **Werner Laun**, **Lars Mohr**, **Daniel Mortimer**, **Vianak Naranjo**, **Ralf-Rainer Rohloff**, **Silvia Scheithauer**, **Horst Steuer**, **Roy van Boekel,** Max-Planck-Institut für Astronomie (Germany); **Carlos M. Correia,** Univ. do Porto (Portugal); **Bernhard Brandl,** Leiden Univ. (Netherlands); **Olivier Absil**, **Gilles Orban De Xivry,** Liège Univ. (Belgium); **Andreas Obereder,** MathConsult GmbH (Austria)

13097-81 • 02:10 PM - 02:25 PM
**The MICADO first light imager for the ELT: first steps of the SCAO system MAIT**
*Author(s):* **Yann Clénet,** Observatoire de Paris à Meudon (France); **Eric Gendron**, **Fabrice Vidal**, **Mathieu Cohen**, **Frédéric Chapron**, **Arnaud Sevin**, **Tristan Buey,** Observatoire de Paris (France); **Sylvain Guieu,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Sylvestre Taburet**, **Bruno Borgo**, **Jean-Michel Huey**, **Olivier Dupuis,** Observatoire de Paris (France); **Kévin Cloiseau,** Institut UTINAM (France); **Alexandre Blin,** Division technique de l'INSU (France); **Julien Gaudemard**, **Claude Collin**, **Julian Porras**, **Florian Ferreira**, **Jordan Raffard**, **Fanny Chemla**, **Vincent Lapeyrère**, **Camille Gennet,** Observatoire de Paris (France); **Eric Meyer**, **Nicolas Gautherot**, **Emmanuel Tisserand**, **Hervé Locatelli**, **François Meyer,** Institut UTINAM (France); **Gilles Fasola**, **Lahoucine Ghouchou,** Observatoire de Paris (France); **Amal Zidi,** Observatoire de Paris (France), Lab. Charles Fabry (France); **Caroline Kulcsár**, **Henri-François G. Raynaud,** Lab. Charles Fabry (France); **Benoît Sassolas**, **Laurent Pinard,** Lab. des Matériaux Avancés (France); **Damien Gratadour**, **Roderick Dembet**, **Pierre Baudoz**, **Elsa Huby,** Observatoire de Paris (France); **Sebastian Rabian**, **Eckhard Sturm, Richard Davies,** Max-Planck-Institut für extraterrestrische Physik (France)

Session Break • 02:25 PM - 02:30 PM

## SESSION 28: REALTIME CONTROL SYSTEMS I

20 June 2024 • 02:30 PM - 03:15 PM | Room G301/302, North - 3F
*Session Chair(s):* **Dirk Schmidt**, National Solar Observatory (United States)

13097-82 • 02:30 PM - 02:45 PM
**The MICADO first light imager for the ELT: overview of the MICADO SCAO RTC architecture, design choices, and MAIT progress**
*Author(s):* **Arnaud Sevin**, **Florian Ferreira**, **Damien Gratadour**, **Eric Gendron**, **Fabrice Vidal**, **Jordan Raffard**, **Yann Clénet,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Richard Davies,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13097-83 • 02:45 PM - 03:00 PM
**HEART: laboratory and on-sky validation of HEART RTC**
*Author(s):* **Jennifer S. Dunn**, **Dan Kerley**, **Jonathan Stocks**, **Edward Chapin**, **Jean-Pierre Véran**, **Kate Jackson, Maaike A. M. van Kooten,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13097-84 • 03:00 PM - 03:15 PM
**Future-proof seamless real-time computing for AO with COSMIC**
*Author(s):* **Florian Ferreira**, **Arnaud Sevin,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Julien Bernard,** The Australian National Univ. (Australia); **Julien Plante,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Cyril Cetre,** Thales Research & Technology (France); **Nicolas Doucet,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Bartomeu Pou,** Barcelona Supercomputing Center (Spain); **Damien Gratadour,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France)

**Coffee Break 03:15 PM - 03:45 PM**

## SESSION 29: REALTIME CONTROL SYSTEMS II

20 June 2024 • 03:45 PM - 04:20 PM | Room G301/302, North - 3F
*Session Chair(s):* **Dirk Schmidt**, National Solar Observatory (United States)

13097-85 • 03:45 PM - 04:00 PM
**Real-time adaptive optics control with a high level programming language**
*Author(s):* **William R. Thompson,** National Research Council Canada (Canada); **Darryl Gamroth,** Rubus Technologies Inc. (Canada); **Christian Marois, Olivier Lardière,** National Research Council Canada (Canada)

13097-86 • 04:00 PM - 04:15 PM
**The evolution of robotic adaptive optics: Robo-AO 2.0 and SIGHT**
*Author(s):* **Reed L. Riddle,** Caltech (United States); **Christoph Baranec,** Institute for Astronomy (United States), Univ. of Hawai'i (United States); **Richard G. Dekany,** Caltech (United States); **James Ou, Paul Barnes,** Institute for Astronomy (United States), Univ. of Hawai'i (United States)

Session Break • 04:15 PM - 04:20 PM

## SESSION 30: SENSING & CORRECTION OF WAVEFRONT FRAGMENTATION

20 June 2024 • 04:20 PM - 05:20 PM | Room G301/302, North - 3F
*Session Chair(s):* **Fernando Quirós-Pacheco**, GMTO Corp. (United States)

13097-87 • 04:20 PM - 04:35 PM
**Properties of petal mode and its measurement in an adaptive optic closed loop**
*Author(s):* **Nicolas Levraud**, **Mahawa Cissé,** ONERA (France); **Vincent Chambouleyron,** Univ. of California, Santa Cruz (United States); **Jean-François Sauvage,** ONERA (France); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Thierry Fusco,** ONERA (France)

13097-88 • 04:35 PM - 04:50 PM
**Petalling Mode Sensing for the Thirty Meter Telescope**
*Author(s):* **Lianqi Wang**, **Matthias Schoeck,** Thirty Meter Telescope (United States); **Jean-Pierre Véran,** National Research Council Canada (Canada); **Konstantinos Vogiatzis, Corinne Boyer,** Thirty Meter Telescope (United States)

13097-89 • 04:50 PM - 05:05 PM
**Spectral interferometric wavefront sensing: a solution for petalometry at Subaru/SCExAO**
*Author(s):* **Vincent Deo**, **Sébastien Vievard,** Subaru Telescope, NAOJ (United States); **Manon Lallement,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France); **Miles Lucas,** Institute for Astronomy, Univ. of Hawai'i (United States); **Elsa Huby,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France); **Kyohoon Ahn**, **Olivier Guyon**, **Julien Lozi,** Subaru Telescope, NAOJ (United States); **Harry-Dean Kenchington Goldsmith**, **Sylvestre Lacour,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France); **Guillermo Martin,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Barnaby R. M. Norris,** The Univ. of Sydney (Australia); **Guy Perrin,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris à Meudon (France); **Garima Singh,** Gemini Observatory (United States); **Peter Tuthill,** The Univ. of Sydney (Australia)

13097-90 • 05:05 PM - 05:20 PM **(CANCELLED)**
**Addressing low-wind effect with the Lyot-stop low-order wavefront sensor on SCExAO**
*Author(s):* **Garima Singh,** NOIRLab (United States), Gemini North Observatory (United States); **Sébastien Vievard**, **Vincent Deo**, **Julien Lozi**, **Kyohoon Ahn,** Subaru Telescope, NAOJ (United States); **Miles Lucas,** Institute for Astronomy (United States); **Olivier Guyon,** Subaru Telescope, NAOJ (United States)

## SESSION PS25: POSTERS - ASTRONOMY WITH AO

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-223 • 05:30 PM - 07:00 PM
**A numerical simulation study of an astrometry case for MORFEO at the ELT**
*Author(s):* **Carmelo Arcidiacono,** INAF - Osservatorio Astronomico di Padova (Italy); **Elisa Portaluri,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Marco Gullieuszik,** INAF - Osservatorio Astronomico di Padova (Italy); **Michele Cantiello,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Francesca Annibali**, **Paolo Ciliegi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Matteo Simioni,** INAF - Osservatorio Astronomico di Padova (Italy); **Guido Agapito,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **MORFEO Team,** INAF (Italy)

13097-224 • 05:30 PM - 07:00 PM
**Exoplanets detection by direct imaging exploiting statistical and machine learning**
*Author(s):* **Romain Mayer**, **David Mary,** Observatoire de la Côte d'Azur (France); **Élodie Choquet,** Lab. d'Astrophysique de Marseille (France)

13097-225 • 05:30 PM - 07:00 PM
**The MICADO first light imager for the ELT: MISTHIC simulation pipeline for the high contrast mode of MICADO**
*Author(s):* **Elsa Huby**, **Pierre Baudoz**, **Helen Baran**, **Fabrice Vidal**, **Yann Clénet,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Richard Davies,** Max-Planck-Institut für extraterrestrische Physik (Germany)

## SESSION PS26: POSTERS - NEW PROPOSED CONCEPTS & DEVICES

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-226 • 05:30 PM - 07:00 PM
**Enabling quantum free-space optical communication with adaptive optics**
*Author(s):* **Michael Copeland**, **Elisa Jager**, **Francis Bennet**, **Marcus Birch,** The Australian National Univ. (Australia); **Mikhael Sayat,** The Univ. of Auckland (New Zealand)

13097-227 • 05:30 PM - 07:00 PM
**Correcting atmospheric intensity fluctuations using a laser guide star**
*Author(s):* **Kathryn Hartley**, **James Osborn**, **Domenico Bonaccini Calia,** Durham Univ. (United Kingdom); **Felipe Pedreros Bustos,** European Southern Observatory (Germany); **Mauro Centrone**, **Marco Faccini,** INAF - Osservatorio Astronomico di Roma (Italy); **David Jenkins,** European Space Agency (Germany)

## SESSION PS27: POSTERS - NEW SYSTEMS & PROJECTS

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-228 • 05:30 PM - 07:00 PM
**Optical and opto-mechanical design of the Tao Aiuc high resolution Y-band spectrograph front-end and its expected AO performance**
*Author(s):* **Matias Marambio**, **Leonardo Vanzi**, **Mauricio Flores Cabrales,** Pontificia Univ. Católica de Chile (Chile); **Kentaro Motohara,** National Astronomical Observatory of Japan (Japan); **Mamoru Doi, Takeo Minezaki,** Institute of Astronomy, The Univ. of Tokyo (Japan)

13097-229 • 05:30 PM - 07:00 PM
**CIAO: an on-the-shelves adaptive optics system for stellar interferometry**
*Author(s):* **Guillaume Dovillaire**, **Cora Leveder, Rémy Juvénal,** Imagine Optic SA (France)

13097-230 • 05:30 PM - 07:00 PM
**Keck AO high order wavefront sensing and control: opto-mechanical design**
*Author(s):* **Scott J. Lilley**, **Peter L. Wizinowich**, **Jim Thorne**, **Marc Kassis**, **Jonathan Steiner**, **Ed Wetherell**, **Charlotte E. Guthery**, **Jacques R. Delorme**, **Eduardo Marin,** W. M. Keck Observatory (United States); **Dominic F. Sanchez**, **Philip M. Hinz,** Univ. of California, Santa Cruz (United States); **Mitsuko Roberts**, **Nemanja Jovanovic,** Caltech (United States); **Antonin Bouchez,** W. M. Keck Observatory (United States)

## SESSION PS28: POSTERS - POINT-SPREAD-FUNCTION RECONSTRUCTION

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-232 • 05:30 PM - 07:00 PM
**The MICADO first light imager for the ELT: off-axis performance of PSF reconstruction**
*Author(s):* **Matteo Simioni**, **Carmelo Arcidiacono**, **Andrea Grazian**, **Marco Gullieuszik,** INAF - Osservatorio Astronomico di Padova (Italy); **Elisa Portaluri,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Benedetta Vulcani**, **Anita Zanella,** INAF - Osservatorio Astronomico di Padova (Italy); **Fernando Pedichini**, **Roberto Piazzesi**, **Piero Vaccari,** INAF - Osservatorio Astronomico di Roma (Italy); **Daniel Jodlbauer**, **Roland Wagner,** Industrial Mathematics Institute, Johannes Kepler Univ. Linz (Austria), Johann Radon Institute for Computational and Applied Mathematics (Austria); **Johanna Hartke,** Finnish Ctr. for Astronomy with ESO, Univ. of Turku (Finland)

13097-234 • 05:30 PM - 07:00 PM
**The MICADO first light imager for the ELT: the PSF Reconstruction Software**
*Author(s):* **Andrea Grazian,** INAF - Osservatorio Astronomico di Padova (Italy); **Elisa Portaluri,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Matteo Simioni**, **Carmelo Arcidiacono**, **Marco Gullieuszik,** INAF - Osservatorio Astronomico di Padova (Italy); **Johanna Hartke,** Finnish Ctr. for Astronomy with ESO (Finland), Univ. of Turku (Finland); **Daniel Jodlbauer,** Johannes Kepler Univ. Linz (Austria), Johann Radon Institute for Computational and Applied Mathematics (Austria); **Fernando Pedichini**, **Roberto Piazzesi**, **Piero Vaccari,** INAF - Osservatorio Astronomico di Roma (Italy); **Benedetta Vulcani,** INAF - Osservatorio Astronomico di Padova (Italy); **Roland Wagner,** Johannes Kepler Univ. Linz (Austria), Johann Radon Institute for Computational and Applied Mathematics (Austria); **Anita Zanella,** INAF - Osservatorio Astronomico di Padova (Italy)

13097-235 • 05:30 PM - 07:00 PM
**Blind and robust reconstruction of adaptive optics point spread for asteroid deconvolution and moon detection**
*Author(s):* **Anthony Berdeu,** Observatoire de Paris à Meudon (France); **Férréol Soulez,** Ctr. de Recherche Astrophysique de Lyon (France); **Kate Minker**, **Benoit Carry,** Observatoire de la Côte d'Azur (France); **Guillaume Bourdarot,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13097-236 • 05:30 PM - 07:00 PM
**On-axis point spread function reconstruction performance validation for Keck NIRC2**
*Author(s):* **Sanchit Sabhlok**, **Shelley Wright,** Univ. of California, San Diego (United States); **Jessica R. Lu**, **Sean Terry,** Univ. of California, Berkeley (United States); **Peter L. Wizinowich,** W. M. Keck Observatory (United States); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Arseniy Kuznetsov,** Aix-Marseille Univ. (France), Ctr. National d'Études Spatiales, CNRS (France), Lab. d'Astrophysique de Marseille (France)

13097-237 • 05:30 PM - 07:00 PM
**A method for estimating the Point Spread Function using Gaussian Sum Approximation**
*Author(s):* **Pedro Escárate**, **Benjamin Osorio,** Pontificia Univ. Católica de Valparaíso (Chile); **Maria Coronel,** Univ. Tecnológica Metropolitana (Chile); **Rodrigo Carvajal,** Pontificia Univ. Católica de Valparaíso (Chile); **Juan C. Agüero,** Univ. Técnica Federico Santa María (Chile)

## SESSION PS29: POSTERS - POSTPROCESSING FOR AO CORRECTED INSTRUMENT DATA

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-239 • 05:30 PM - 07:00 PM
**Coherent differential imaging: squeezing additional imaging contrast behind the self-coherent camera on SPIDERS**
*Author(s):* **Christopher Mann**, **William R. Thompson**, **Christian Marois**, **Olivier Lardière, Jean-Pierre Véran,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13097-240 • 05:30 PM - 07:00 PM
**Design, scientific goals, and performance of the SCExAO survey for planets around accelerating stars**
*Author(s):* **Mona El Morsy,** The Univ. of Texas at San Antonio (United States); **Thayne Currie,** The Univ. of Texas at San Antonio (United States), Subaru Telescope, NAOJ, National Institutes of Natural Sciences (United States); **Danielle Bovie,** The Univ. of Texas at San Antonio (United States); **Olivier Guyon,** Subaru Telescope, NAOJ (United States), Wyant College of Optical Sciences, The Univ. of Arizona (United States), National Institutes of Natural Sciences (Japan); **Tyler Groff,** NASA Goddard Space Flight Ctr. (United States); **Julien Lozi,** Subaru Telescope, NAOJ (United States), National Institutes of Natural Sciences (Japan); **Timothy Brandt,** Univ. of California, Santa Barbara (United States); **Jeffrey Chilcote,** Univ. of Notre Dame (United States); **Kellen Lawson,** NASA Goddard Space Flight Ctr. (United States); **Sébastien Vievard,** Subaru Telescope, NAOJ (United States), National Institutes of Natural Sciences (Japan), AstroBiology Ctr., NINS (Japan); **Vincent Deo,** Subaru Telescope, NAOJ (United States), National Institutes of Natural Sciences (Japan); **Miles Lucas,** Institute for Astronomy, Univ. of Hawai'i (United States); **Nour Skaf,** Univ. of California, Santa Cruz (United States); **Kyohoon Anh,** Subaru Telescope, NAOJ (United States), National Institutes of Natural Sciences (Japan); **Barnaby R. M. Norris,** The Univ. of Sydney (Australia), Astralis (Australia); **Nemanja Jovanovic,** Caltech (United States)

13097-241 • 05:30 PM - 07:00 PM
**Women measuring stars: a comprehensive strategy for the exploitation of adaptive optics data**
*Author(s):* **Laura Schreiber**, **Emiliano Diolaiti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Giuliana Fiorentino,** INAF - Osservatorio Astronomico di Roma (Italy); **Carmela Lardo,** Univ. degli Studi di Bologna (Italy); **Claudia Mignone,** INAF - Osservatorio Astronomico di Roma (Italy); **Davide Ricci,** INAF- Osservatorio Astronomico di Padova (Italy)

13097-242 • 05:30 PM - 07:00 PM
**Advanced visualisation of adaptive optics telemetry data**
*Author(s):* **Beatriz Silva,** Univ. do Porto (Portugal); **Tiago Gomes**, **Carlos M. Correia, Paulo J. V. Garcia,** Univ. do Porto (Portugal), Instituto Superior Técnico (Portugal)

13097-243 • 05:30 PM - 07:00 PM
**On-sky performance metric parametrization@LBTO pyramid WFS**
*Author(s):* **Juan Carlos Guerra**, **Guido Brusa**, **Gregory Taylor,** Large Binocular Telescope Observatory (United States); **Enrico Pinna,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Doug Miller**, **Sam Ragland**, **Jennifer Power, Xianyu Zhang,** Large Binocular Telescope Observatory (United States)

## SESSION PS30: POSTERS - WAVEFRONT RECONSTRUCTION & CONTROL ALGORITHMS

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13097-36 • 05:30 PM - 07:00 PM
**Temporal tomography: a new approach to tomographic adaptive optics**
*Author(s):* **Ryan Dungee,** Univ. of Toronto (Canada); **Mark R. Chun,** Univ. of Hawai'i (United States)

13097-250 • 05:30 PM - 07:00 PM
**The future looks dark: improving high contrast imaging on Keck/NIRC2 with data-driven predictive wavefront control**
*Author(s):* **Jules Fowler**, **Rebecca M. Jensen-Clem,** Univ. of California, Santa Cruz (United States); **Charlotte E. Guthery,** W. M. Keck Observatory (United States); **Charlotte Z. Bond,** UK Astronomy Technology Ctr., The Royal Observatory, Edinburgh (United Kingdom); **Maaike A. M. van Kooten,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Sylvain Cetre,** W. M. Keck Observatory (United States)

13097-251 • 05:30 PM - 07:00 PM
**Contrast optimization in wide-field AO**
*Author(s):* **Nicolás Rodríguez**, **Noelia Feijóo**, **Luzma Montoya**, **Yolanda Martín**, **Haresh Chulani**, **Miguel Núñez Cagigal,** Instituto de Astrofísica de Canarias (Spain); **José Manuel González Cava, Juan Albino Méndez,** Univ. de La Laguna (Spain)

13097-252 • 05:30 PM - 07:00 PM
**Correction performances of two different control methods (ZMC and DGC methods) with CRAO**
*Author(s):* **Kenta Sakabe,** Kyoto Sangyo Univ. (Japan); **Yuji Ikeda,** Photocoding (Japan); **Shin Oya,** National Astronomical Observatory of Japan (Japan); **Reiki Kojima**, **Makoto Komaki,** Kyoto Sangyo Univ. (Japan); **Taiki Bessho,** Kyoto Sangyo Univ. (Japan), Photocross Inc. (Japan); **Jun Taruta, Hideyo Kawakita,** Kyoto Sangyo Univ. (Japan)

13097-253 • 05:30 PM - 07:00 PM
**Simulation of Wavefront-based Disturbance Observers for Large Telescopes**
*Author(s):* **Pascal Jaufmann**, **Aaron Buck**, **Marco Zaiser,** Univ. Stuttgart (Germany); **Jörg-Uwe Pott,** Max-Planck-Institut für Astronomie (Germany); **Oliver Sawodny,** Univ. Stuttgart (Germany)

13097-254 • 05:30 PM - 07:00 PM
**PO4AO: XAO control with model-based reinforcement learning**
*Author(s):* **Jalo Nousiainen,** Lappeenranta-Lahti Univ. of Technology (Finland); **Byron Engler, Markus Kasper,** European Southern Observatory (Germany)

13097-255 • 05:30 PM - 07:00 PM
**GTCAO low-frequency tip-tilt offload to M2**
*Author(s):* **José Marco**, **Josefina Rosich**, **Óscar Tubío,** Instituto de Astrofísica de Canarias (Spain); **Alastair Basden,** Durham Univ. (United Kingdom); **Icíar Montilla Garcia**, **Manuel Luis**, **Marta Puga**, **Roberto López**, **Roberto Simoes**, **Eduardo González**, **Jesús Patrón,** Instituto de Astrofísica de Canarias (Spain); **Héctor de Paz,** Gran Telescopio de Canarias, S.A. (Spain); **Manuel Huertas López,** Gran Telescopio de Canarias (Spain); **Sergio Fernández**, **Sara Navarro**, **Gianluca Lombardi,** Gran Telescopio de Canarias, S.A. (Spain); **Víctor Béjar, Marcos Reyes García-Talavera,** Instituto de Astrofísica de Canarias (Spain)

13097-256 • 05:30 PM - 07:00 PM
**Rolling shutter detector for adaptive optics wavefront sensing**
*Author(s):* **Fernando Gago** , **Enrico Marchetti, Marcos Suárez Valles,** European Southern Observatory (Germany)

13097-257 • 05:30 PM - 07:00 PM
**MAVIS: real-time wavefront estimation strategy**
*Author(s):* **Jesse Cranney,** The Australian National Univ. (Australia); **Guido Agapito**, **Cédric Plantet**, **Enrico Pinna**, **Valentina Viotto,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **François Rigaut**, **Nicolas Doucet**, **Julien Bernard**, **Damien Gratadour**, **Brian W. Taylor**, **Antony Galla**, **David Brodrick, Jennifer Burgess,** The Australian National Univ. (Australia)

13097-258 • 05:30 PM - 07:00 PM
**On how to gain 60nm RMS (for the instrument METIS) in AO control**
*Author(s):* **Andreas Obereder,** MathConsult GmbH (Austria), Johannes Kepler Univ. Linz (Austria); **Thomas Bertram,** Max-Planck-Institut für Astronomie (Germany); **Carlos M. Correia,** Univ. do Porto (Portugal); **Markus Feldt,** Max-Planck-Institut für Astronomie (Germany); **Stefan Raffetseder,** Johann Radon Institute for Computational and Applied Mathematics (Austria); **Horst Steuer,** Max-Planck-Institut für Astronomie (Germany); **Bernadett Stadler,** Johann Radon Institute for Computational and Applied Mathematics (Austria)

13097-259 • 05:30 PM - 07:00 PM
**Reinforcement learning control of adaptive optics for free-space optical communications**
*Author(s):* **Jonathan Dray,** Lab. d'Astrophysique de Marseille (France); **Francisco S. F. Ribeiro**, **Carlos M. Correia**, **Paulo J. V. Garcia,** Univ. do Porto (Portugal); **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Thierry Fusco,** Lab. d'Astrophysique de Marseille (France); **Armin Schimpf,** ALPAO S.A.S. (France); **Cyril Petit,** ONERA (France)

13097-261 • 05:30 PM - 07:00 PM
**Spatiotemporal Gaussian process modeling for predictive control in slope-based wavefront sensing on simulations and on-sky data**
*Author(s):* **Jalo Nousiainen,** Lappeenranta-Lahti Univ. of Technology (Finland); **Markus Kasper,** European Southern Observatory (Germany); **Tapio Helin,** Lappeenranta-Lahti Univ. of Technology (Finland); **Nuutti Hyvönen,** Aalto Univ. (Finland)

13097-262 • 05:30 PM - 07:00 PM
**GTCAO: a case study for optimizing LQG control of AO systems with fractional delays**
*Author(s):* **Lucas Marquis**, **Henri-François G. Raynaud**, **Nicolas Galland,** Lab. Charles Fabry (France); **Icíar Montilla Garcia**, **Jose Marco De La Rosa**, **Óscar Tubío**, **Marcos Reyes García-Talavera,** Instituto de Astrofísica de Canarias (Spain); **Caroline Kulcsár,** Lab. Charles Fabry (France)

13097-263 • 05:30 PM - 07:00 PM
**Upgrading SPHERE with the second stage AO system SAXO+: frequency-based data-driven controller for adaptive optics**
*Author(s):* **Isaac Bernardino Dinis,** Observatoire de Genève (Switzerland); **Vaibhav Gupta,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **François Wildi,** Observatoire de Genève (Switzerland); **Alireza Karimi,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Michel Tallon**, **Isabelle Bosc**, **Maud Langlois**, **Magali Loupias**, **Clémentine Béchet,** Univ. Claude Bernard Lyon 1 (France); **Charles Goulas,** Observatoire de Paris (France); **Éric Thiébaut,** Univ. Claude Bernard Lyon 1 (France); **Caroline Kulcsár,** Institut d'Optique Graduate School (France); **Markus Kasper,** European Southern Observatory (Germany); **Florian Ferreira,** Observatoire de Paris (France); **Henri-François Raynaud**, **Nicolas Galland,** Institut d'Optique Graduate School (France); **Anthony Boccaletti**, **Fabrice Vidal,** Observatoire de Paris (France); **Julien Milli**, **David Mouillet,** Univ. Grenoble Alpes (France); **Emiliano Diolaiti,** INAF - Istituto Nazionale di Astrofisica (Italy); **Gaël Chauvin,** Observatoire de la Côte d'Azur (France); **Raffaele Gratton,** INAF - Istituto Nazionale di Astrofisica (Italy); **Damien Ségransan,** Observatoire de Genève (Switzerland)

13097-264 • 05:30 PM - 07:00 PM
**AO functionalities improvements with the adaptive secondary mirrors at the Large Binocular Telescope**
*Author(s):* **Xianyu Zhang**, **Guido Brusa**, **Doug Miller**, **Juan Carlos Guerra**, **Greg Taylor,** Large Binocular Telescope Observatory (United States); **Armando Riccardi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Sam Ragland,** Large Binocular Telescope Observatory (United States)

13097-265 • 05:30 PM - 07:00 PM
**ULTIMATE-START: results of on-sky engineering observations of a prototype Shack-Hartmann wavefront sensor with the Subaru Telescope**
*Author(s):* **Masayuki Akiyama,** Tohoku Univ. (Japan); **Yoshito H. Ono**, **Yosuke Minowa**, **Koki Terao,** Subaru Telescope, NAOJ (United States); **Hajime Ogane,** The Australian National Univ. (Australia); **Riki Homan**, **Hiyori Tanabe**, **Masaya Ichinose,** Tohoku Univ. (Japan); **Shin Oya,** National Astronomical Observatory of Japan (Japan)

13097-266 • 05:30 PM - 07:00 PM
**Robust supervised learning for closed loop adaptive optics predictive control**
*Author(s):* **Robin Swanson,** Univ. of Toronto (Canada); **Jacob Taylor,** Dunlap Institute for Astronomy & Astrophysics (Canada); **Masen P. Lamb,** Gemini Observatory (Canada); **Suresh Sivanandam,** Dunlap Institute for Astronomy & Astrophysics (Canada)

13097-267 • 05:30 PM - 07:00 PM
**Unsupervised predictive control for the Gran Telescopío Canarias Adaptive Optics (GTCAO) system within the H2020 ORP project: progress and initial results**
*Author(s):* **Nicolas Galland**, **Lucas Marquis**, **Henri-François Raynaud**, **James Osborn,** Univ. Paris-Saclay (France), Institut d'Optique Graduate School (France), Lab. Charles Fabry, CNRS (France); **Jose Marco de la Rosa**, **Icíar Montilla Garcia**, **Oscar Tubío**, **Marcos Reyes García-Talavera,** Instituto de Astrofísica de Canarias (Spain); **Caroline Kulcsár,** Univ. Paris-Saclay (France), Institut d'Optique Graduate School (France), Lab. Charles Fabry, CNRS (France)

## Friday 21 June 2024

### SESSION 31: LASER GUIDE STAR TECHNOLOGY

21 June 2024 • 09:00 AM - 09:50 AM | Room G301/302, North - 3F
*Session Chair(s):* **Sam Ragland**, Large Binocular Telescope Observatory (United States)

13097-91 • 09:00 AM - 09:30 AM
**Recent advances in sodium laser beacon development** *(Invited Paper)*
*Author(s):* **Robert L. Johnson**, **Lee Kann**, **M. Olivia Garton**, **Steven Massey**, **Colton M. Bigler**, **Tanya Tavenner,** Air Force Research Lab. (United States); **Tod Laurvick,** Air Force Institute of Technology (United States); **Frank Lison**, **Martin Enderlein, Sebastian Hepp,** TOPTICA Photonics AG (Germany)

13097-92 • 09:30 AM - 09:45 AM
**A remotely pumped 130-W 1178-nm single-frequency linearly-polarized Raman fiber amplifier**
*Author(s):* **Daoping Wei**, **Ning Guo**, **Vladimir Karpov, Wallace R. L. Clements,** MPB Communications Inc. (Canada)

Session Break • 09:45 AM - 09:50 AM

### SESSION 32: WAVEFRONT MODULATING DEVICES

21 June 2024 • 09:50 AM - 10:20 AM | Room G301/302, North - 3F
*Session Chair(s):* **Elise Vernet**, European Southern Observatory (Germany)

13097-93 • 09:50 AM - 10:05 AM
**Experimental demonstration of photonic phase correctors based on grating coupler arrays and thermo-optic shifters**
*Author(s):* **Momen Diab,** Univ. of Toronto (Canada); **Ross Cheriton,** National Research Council Canada (Canada); **Jacob Taylor**, **Dhwanil Patel**, **Libertad Rojas**, **Mark Barnet**, **Polina Zavyalova,** Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada); **Dan-xia Xu**, **Pavel Cheben**, **Siegfried Janz**, **Jens Schmid,** National Research Council Canada (Canada); **Suresh Sivanandam,** Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada)

13097-94 • 10:05 AM - 10:20 AM
**Recent progress of astronomical piezoelectric deformable mirror technologies at IOE, CAS**
*Author(s):* **Xinlong Fan**, **Xiaojun Zhang**, **Chunlin Guan**, **Jinbo Mou**, **Guoyun Long**, **Gang He**, **Lixia Xue**, **Lin Cheng**, **Hong Zhou**, **Xinyang Li**, **Hao Xian, Changhui Rao,** Institute of Optics and Electronics (China)

**Coffee Break 10:20 AM - 10:50 AM**

### SESSION 33: ADAPTIVE SECONDARY MIRRORS

21 June 2024 • 10:50 AM - 12:05 PM | Room G301/302, North - 3F
*Session Chair(s):* **Elise Vernet**, European Southern Observatory (Germany)

13097-95 • 10:50 AM - 11:05 AM
**Adaptive secondary mirrors at the Large Binocular Telescope recent updates**
*Author(s):* **Guido Brusa**, **Xianyu Zhang**, **Michael Lefebvre,** Large Binocular Telescope Observatory (United States); **Matteo Tintori,** A.D.S. International S.r.l. (Italy); **Mark Smithwright**, **Juan Carlos Guerra**, **Doug Miller**, **Greg Taylor, Sam Ragland,** Large Binocular Telescope Observatory (United States)

13097-96 • 11:05 AM - 11:20 AM
**GMT adaptive secondary mirror manufacturing and test progress report**
*Author(s):* **Frank M. Groark**, **Peter M. Thompson**, **Glenn Brossus**, **Hugo Chiquito,** GMTO Corp. (United States); **Roberto Biasi,** Microgate S.r.l. (Italy); **Daniele Gallieni**, **Matteo Tintori,** A.D.S. International S.r.l. (Italy); **Mauro Manetti,** Microgate S.r.l. (Italy); **John Spanos,** GMTO Corp. (United States)

13097-97 • 11:20 AM - 11:35 AM
**Keck adaptive secondary mirror overview**
*Author(s):* **Philip M. Hinz**, **R. Deno Stelter**, **Matt Radovan**, **Aaron M. Hunter**, **Brad Holden**, **Maureen Savage**, **Renate Kupke**, **Daren Dillon,** Univ. of California, Santa Cruz (United States); **Jessica R. Lu,** Univ. of California, Berkeley (United States); **Mark R. Chun,** Univ. of Hawai'i (United States); **Peter L. Wizinowich,** W. M. Keck Observatory (United States); **Richard G. Dekany,** Caltech Optical Observatories (United States); **Antonin Bouchez,** W. M. Keck Observatory (United States)

13097-98 • 11:35 AM - 11:50 AM
**First laboratory and on-sky results of an adaptive secondary mirror with TNO-style actuators on the NASA Infrared Telescope Facility**
*Author(s):* **Ellen Lee**, **Mark R. Chun,** Institute for Astronomy (United States); **Olivier Lai,** Observatoire de la Côte d'Azur (France); **Ruihan Zhang,** Institute for Astronomy (United States); **Max Baeten,** TNO (Netherlands); **Arjo Bos,** TNO (Netherlands); **Matias Kidron**, **Fred Kamphues**, **Stefan Kuiper**, **Wouter Jonker,** TNO (Netherlands); **Michael S. Connelley**, **John Rayner**, **Alan Ryan,** Institute for Astronomy (United States); **Philip M. Hinz**, **Rachel Bowens-Rubin,** Univ. of California, Santa Cruz (United States); **Charles Lockhart, Michael Kelii,** Institute for Astronomy (United States)

13097-99 • 11:50 AM - 12:05 PM
**High density VCM deformable mirror**
*Author(s):* **Matteo Tintori**, **Daniele Gallieni,** A.D.S. International S.r.l. (Italy); **Roberto Biasi**, **Mauro Manetti**, **Gerald Angerer,** Microgate S.r.l. (Italy); **Pavel Kravets,** A.D.S. International S.r.l. (Italy)

## Lunch Break 12:05 PM - 01:25 PM

## FRANÇOIS RODDIER COMMEMORATION

21 June 2024 • 01:25 PM - 01:55 PM | Room G301/302, North - 3F
*Session Chair(s):* **Kathryn J. Jackson**, NRC-Herzberg Astronomy & Astrophysics (Canada); **Dirk Schmidt**, National Solar Observatory (United States); **Elise Vernet**, European Southern Observatory (Germany)
Join us for a special Commemoration session in honor of François Roddier.

## SESSION 34: ATMOSPHERIC TURBULENCE PROFILING

21 June 2024 • 01:55 PM - 03:15 PM | Room G301/302, North - 3F
*Session Chair(s):* **Noelia Martínez Rey**, The Australian National Univ. (Australia)

13097-100 • 01:55 PM - 02:10 PM
**Small telescope SCIDAR: turbulence profiling for ELT tomography**
*Author(s):* **Ollie J. D. Farley**, **Richard W. Wilson, Ryan Griffiths,** Durham Univ. (United Kingdom)

13097-101 • 02:10 PM - 02:25 PM
**Single Star SCIDAR: atmospheric parameters profiling using the power spectrum of scintillation**
*Author(s):* **Youssef Errazzouki,** Univ. Cadi Ayyad (Morocco); **Abdelfattah Habib,** Centre Régional des Métiers de l'Education et de la Formation (Morocco); **Abdelhadi Jabiri,** Univ. Cadi Ayyad (Morocco); **Mohamed Sabil,** l'Univ. Sultan Moulay Slimane (Morocco); **Zouhair Benkhaldoun,** Univ. Cadi Ayyad (Morocco); **Youssef Elazhari**, **Ossama Azagrouze,** Centre Régional des Métiers de l'Education et de la Formation (Morocco); **Chafi Jamal,** Univ. Cadi Ayyad (Morocco)

Session Break • 02:25 PM - 02:30 PM

13097-102 • 02:30 PM - 02:45 PM
**FATE: an operational automatic forecast system of the optical turbulence for the Very Large Telescope: ongoing progresses**
*Author(s):* **Elena Masciadri**, **Alessio Turchi**, **Luca Fini,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Alberto Ortolani**, **Valerio Capecchi**, **Francesco Pasi,** Lab. per la Meteorologia e la Modellistica Ambientale (Italy); **Angel Otarola, Steffen Mieske,** European Southern Observatory (Chile)

13097-103 • 02:45 PM - 03:00 PM
**A comparative analysis of novel turbulence profiling instrumentation at Paranal Observatory**
*Author(s):* **Ryan Griffiths**, **Lisa Bardou**, **Timothy Butterley**, **James Osborn**, **Richard W. Wilson,** Ctr. for Advanced Instrumentation (United Kingdom); **Edison Bustos**, **Andrei Tokovinin,** Cerro Tololo Inter-American Observatory, NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Miska Le Louarn,** European Southern Observatory (Germany); **Angel Otarola,** European Southern Observatory (Chile)

13097-104 • 03:00 PM - 03:15 PM
**How stationary is atmospheric turbulence?**
*Author(s):* **Nuno Morujão**, **Carlos M. Correia, Paulo J. V. Garcia,** Univ. do Porto (Portugal), CENTRA – Centro de Astrofísica e Gravitação (Portugal)

## Coffee Break 03:15 PM - 03:45 PM

## SESSION 35: POSTPROCESSING FOR SCIENCE DATA

21 June 2024 • 03:45 PM - 04:30 PM | Room G301/302, North - 3F
*Session Chair(s):* **Jared R. Males**, Steward Observatory (United States)

13097-105 • 03:45 PM - 04:00 PM

**Algorithms for off-axis PSF reconstruction for first light instruments on the ELT**

*Author(s):* **Roland Wagner**, **Daniel Jodlbauer,** Johannes Kepler Univ. Linz (Austria); **Simon Hubmer,** Johann Radon Institute for Computational and Applied Mathematics (Austria); **Ronny Ramlau,** Johannes Kepler Univ. Linz (Austria); **Jenny Niebsch,** Johann Radon Institute for Computational and Applied Mathematics (Austria)

13097-106 • 04:00 PM - 04:15 PM

**More data than you want, less data than you need: machine learning approaches to starlight subtraction with MagAO-X**

*Author(s):* **Joseph D. Long,** Flatiron Institute (United States); **Jared R. Males**, **Laird M. Close,** Steward Observatory, The Univ. of Arizona (United States); **Olivier Guyon,** Steward Observatory, The Univ. of Arizona (United States), Subaru Telescope, NAOJ (United States), AstroBiology Ctr., NINS (Japan); **Sebastiaan Y. Haffert,** Steward Observatory, The Univ. of Arizona (United States); **Alycia J. Weinberger,** Carnegie Institution for Science (United States); **Jay Kueny,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Kyle Van Gorkom,** Steward Observatory, The Univ. of Arizona (United States); **Eden A. McEwen,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Logan A. Pearce,** Steward Observatory, The Univ. of Arizona (United States); **Maggie Y. Kautz,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Jialin Li,** Steward Observatory, The Univ. of Arizona (United States); **Jennifer Lumbres,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Alexander D. Hedglen,** Northrop Grumman Corp. (United States); **Lauren Schatz,** Starfire Optical Range, Kirtland Air Force Base (United States); **Avalon L. McLeod,** Draper Lab. (United States); **Isabella Doty,** Univ. of Rochester (United States); **Warren B. Foster**, **Roswell Roberts,** Steward Observatory, The Univ. of Arizona (United States); **Katie Twitchell,** Wyant College of Optical Sciences, The Univ. of Arizona (United States)

13097-107 • 04:15 PM - 04:30 PM

**TipTop: toward a single tool for all ELT instrument's PSF prediction**

*Author(s):* **Benoît Neichel,** Lab. d'Astrophysique de Marseille (France); **Guido Agapito,** INAF (Italy); **Fabio Rossi**, **Cédric Plantet,** INAF (Italy); **Arseniy Kuznetsov,** European Southern Observatory (Germany); **Romain Fétick,** ONERA (France); **Joël Vernet,** European Southern Observatory (Germany); **Alice Concas,** European Southern Observatory (Germany); **Carlo Manara,** European Southern Observatory (Germany); **Anne-Laure L. Cheffot**, **Giulia Carlà,** INAF (Italy); **Jean-Francois Sauvage,** ONERA (France); **Simon Conseil,** Lab. d'Astrophysique de Marseille (France); **Michele Cirasuolo,** European Southern Observatory (Germany); **Thierry Fusco,** ONERA (France); **Carlos M. Correia,** Lab. d'Astrophysique de Marseille (France)

# CONFERENCE 13098

# Observatory Operations: Strategies, Processes, and Systems X

**17 - 20 June 2024 | Room G316/317, North - 3F**

***Conference Chair(s):*** **Chris R. Benn,** Isaac Newton Group of Telescopes (Spain); **Antonio Chrysostomou,** SKA Organisation (United Kingdom); **Lisa J. Storrie-Lombardi,** Las Cumbres Observatory (United States)

***Program Committee:*** **Rachel Akeson,** IPAC, Caltech (United States); **Claire J. Chandler,** National Radio Astronomy Observatory (United States); **Raffaele D'Abrusco,** Smithsonian Astrophysical Observatory/Chandra X-ray Ctr. (United States); **Daisuke Iono,** National Astronomical Observatory of Japan (Japan); **Alison B. Peck,** Gemini Observatory (United States); **Christian Veillet,** Large Binocular Telescope Observatory (United States)

## Monday 17 June 2024

### MONDAY PLENARY

17 June 2024 • 08:20 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/monday-plenary

13173-500 • 08:30 AM - 09:15 AM
**Moving TMT forward: Japan's contributions and transformative approach toward community engagement** (Plenary Presentation)
*Author(s):* **Tomonori Usuda,** National Astronomical Observatory of Japan (United States); **Yuko Kakazu,** Thirty Meter Telescope (United States)

13173-501 • 09:15 AM - 10:00 AM
**From dark skies to bright futures: the evolution of astronomy in Africa and the hosting of the historic International Astronomical Union General Assembly 2024** (Plenary Presentation)
*Author(s):* **Charles Mpho Takalana,** The African Astronomical Society (South Africa)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 1: SITE AND FACILITY OPERATIONS I

17 June 2024 • 10:30 AM - 11:50 AM | Room G316/317, North - 3F
*Session Chair(s):* **Lisa J. Storrie-Lombardi**, Las Cumbres Observatory (United States)

13098-1 • 10:30 AM - 10:50 AM
**How high-level integration tools, including artificial intelligence, enable operational and technological synergies in our observatories**
*Author(s):* **Axel Yanes-Díaz**, **Sergio Rueda Teruel**, **Rafa Bello**, **David Lozano Perez**, **Mario Cervera**, **Tamara Civera**, **Mikel Dominguez**, **Nuria Martinez Olivar**, **Sergio Chueca**, **César Iñiguez**, **Antonio Marín Franch**, **Fernando Rueda Teruel**, **Guillermo Lopez Alegre**, **Samuel Bielsa**, **Jorge Muñoz**, **Hector Rueda**, **Alejandro Muñoz Teruel**, **David Garces**, **María Almarcegui**, **Javier Cenarro Lagunas**, **Mariano Moles Villamate**, **Carlos Lopez Sanjuan**, **Hector Vazquez Ramio**, **Javier Zaragoza Cardiel**, **Luisa Valdivielso**, **Stylianos Pyrzas,** Ctr. de Estudios de Física del Cosmos de Aragón (Spain); **D. Cristobal-Hornillos,** ; **Jesús Varela**, **M. C. Díaz-Martín**, **Ramon Iglesias Marzoa**, **Natalio Maicas**, **Jose Luis Lamadrid**, **Fátima Lopez Martinez**, **Francisco José Galindo Guil**, **Elvis Lacruz-Calderón**, **Juan Castillo**, **Angel Lopez Sainz**, **Mohammad Akhlaghi**, **Javier Hernandez**, **David Muniesa**, **Alberto Moreno**, **Antonio Hernan Caballero**, **Héctor Vives Arias**, **Giacomo Lorenzetti**, **Alessandro Ederoclite**, **Andrés del Pino**, **Juan Antonio Fernández Ontiveros**, **Fabiola Carolina Hernández Pérez**, **Raul Infante**, **Teet Kuutma**, **Alejandro Lumbreras Calle**, **Sepideh Eskandarlou**, **A. Domínguez-Fernández**, **Francisco Arizo Borillo**, **Helena Domínguez Sánchez**, **Jairo Andres Alzate Trujillo**, **Ricardo Oscar Amorín Barbieri**, **David Fernández Gil**, **Adrián Hidalgo Pinilla**, **David Morate González**, **Rahna Payyasseri Thanduparackal**, **Jesús Vega Ferrero**, **Silvia Vaquero Valer**, **Inés Muñoz Igado**, **María Teresa Alegre Sánchez**, **Gema María Julián Caballero de España**, **Alicia Romero**, **María Carmen Espallargas Doñate, Ana López Colás,** Ctr. de Estudios de Física del Cosmos de Aragón (Spain)

13098-79 • 10:50 AM - 11:10 AM

**From summit to screen: harnessing modern cloud technologies to construct an integrated observatory**
*Author(s):* **David Heffernan**, **Joao Bento**, **David Copley**, **Helen E. Jermak**, **Chris Copperwheat, Iain Steele,** Liverpool John Moores Univ. (United Kingdom)

13098-3 • 11:10 AM - 11:30 AM
**Update on maintenance processes and performance of technical operations at the Paranal Observatory**
*Author(s):* **Maxime Boccas**, **Guillaume Blanchard**, **Pedro Campana**, **Victor Cea**, **Alejandro Doberti**, **Ivo Ferreira**, **Juan Pablo Gil**, **Sergio Gonzalez**, **Ismo Kastinen**, **Marcos A. Ortega**, **Fernando Salgado**, **Mario Tapia, Javier Valenzuela,** European Southern Observatory (Chile)

13098-4 • 11:30 AM - 11:50 AM
**Maintaining the Southern African large telescope**
*Author(s):* **Paul Rabe**, **Tasheen Naicker**, **Deon Lategan, Willem Van Der Westhuizen,** Southern African Large Telescope (South Africa)

## Lunch Break 11:50 AM - 01:40 PM

## SESSION 2: OBSERVATION PLANNING AND SCHEDULING I

17 June 2024 • 01:40 PM - 03:20 PM | Room G316/317, North - 3F
*Session Chair(s):* **Alison B. Peck**, The National Science Foundation (United States)

13098-6 • 01:40 PM - 02:00 PM
**The optimisation of short-term scheduling of science observations at Paranal observatory (VLT and ELT)**
*Author(s):* **Joseph P. Anderson**, **Elyar Sedaghati,** European Southern Observatory (Chile); **Aleksandar Cikota,** Gemini Observatory (Chile), European Southern Observatory (Chile); **Natalie T. Behara**, **Fuyan Bian**, **Angel C. Otarola, Steffen Mieske,** European Southern Observatory (Chile)

13098-8 • 02:00 PM - 02:20 PM
**A new dynamic scheduling system for the upgraded Sardinia Radio Telescope**
*Author(s):* **Sara Mulas**, **Franco Buffa,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Andrea Cabriolu,** Univ. degli Studi di Cagliari (Italy); **Matteo Murgia,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Andrea Orlati,** INAF - Istituto di Radioastronomia (Italy); **Maura Pilia**, **Sergio Poppi, Andrea Tarchi,** INAF - Osservatorio Astronomico di Cagliari (Italy)

13098-7 • 02:20 PM - 02:40 PM
**Optimizer for schedule creation, management, and simulation for SRT dynamic scheduling system**
*Author(s):* **Andrea Cabriolu,** Univ. degli Studi di Cagliari (Italy); **Matteo Murgia**, **Andrea Tarchi,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Gianni Fenu,** Univ. degli Studi di Cagliari (Italy); **Franco Buffa**, **Sergio Poppi**, **Maura Pilia**, **Sara Mulas,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Andrea Orlati,** INAF - Istituto di Radioastronomia (Italy); **Julian Ruestig, Torsten Ensslin,** Max-Planck-Institut für Astrophysik (Germany)

13098-9 • 02:40 PM - 03:00 PM
**Running a modern queue: lessons learned from the first 3 years of NEID operations**
*Author(s):* **Heidi Schweiker**, **Sarah Logsdon**, **Mark Everett**, **Jayadev Rajagopal**, **Erik Timmerman**, **Eli Golub,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Diego Gomez,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Pipa Fernandez**, **Jesus Higuera, Yatrik Patel,** NSF's National Optical-Infrared Astronomy Research Lab. (United States)

13098-10 • 03:00 PM - 03:20 PM
**An optimized scheduler for radial velocity measurements at Telescopio Nazionale Galileo**
*Author(s):* **Lorenzo Cabona**, **Laura Asquini**, **Monica Rainer,** INAF - Osservatorio Astronomico di Brera (Italy); **Davide Ricci,** INAF - Osservatorio Astronomico di Padova (Italy)

## Coffee Break 03:20 PM - 03:50 PM

## SESSION 3: SITE AND FACILITY OPERATIONS II

17 June 2024 • 03:50 PM - 05:30 PM | Room G316/317, North - 3F
*Session Chair(s):* **Lisa J. Storrie-Lombardi**, Las Cumbres Observatory (United States)

13098-11 • 03:50 PM - 04:10 PM
**Advancing quality control in the era of extremely large telescopes: ensuring the integrity of scientific data**
*Author(s):* **Willem-Jan de Wit,** European Southern Observatory (Chile)

13098-12 • 04:10 PM - 04:30 PM
**Adding cybersecurity in JAO organizational culture: do's and dont's**
*Author(s):* **Jorge Avarias**, **Felipe Leon**, **Ricardo Carrasco**, **Jose Lobos**, **Jorge Ibsen**, **Cristobal Achermann**, **Jose Parra, Rubén Soto,** Joint ALMA Observatory (Chile)

13098-13 • 04:30 PM - 04:50 PM
**The Magellan Telescopes instrumentation suite**
*Author(s):* **Francesco Di Mille**, **Povilas Palunas**, **David Osip**, **Guillermo Blanc**, **Marcelo Mora**, **Leopoldo Infante**, **Jorge Bravo**, **Emilio Cerda**, **Carlos Contreras**, **Nicole David**, **Matias Diaz**, **Juan Espoz**, **Mauricio Flores**, **Carla Fuentes**, **Juan Gallardo**, **Nicolas Gonzalez**, **Patricio Jones**, **Roger Leiton**, **Mauricio Martinez**, **Victor Merino**, **Hernan Nunez**, **Alberto Pasten**, **Gabriel E. Prieto**, **Andres Rivera**, **Hugo Rivera**, **Felipe Sanchez, Lionel Zumaran,** Las Campanas Observatory (Chile)

13098-14 • 04:50 PM - 05:10 PM
**Using all-sky cameras to measure atmospheric transparency at robotic telescope sites**
*Author(s):* **Nikolaus H. Volgenau**, **Emily Manne-Nicholas**, **Stephen Foale**, **Mark Bowman**, **Daniel R. Harbeck, Matt Daily,** Las Cumbres Observatory (United States)

13098-15 • 05:10 PM - 05:30 PM
**Targeting science availability at a better cost**
*Author(s):* **Andreas van Zyl**, **Cornelius Taljaard**, **Antonio Chrysostomou,** SKA Observatory (United Kingdom); **Rofhiwa Takalane**, **Evashan Pillay,** SKA-Mid (South Africa); **Humphrey Matlala,** SKA-Mid, SKA Observatory (South Africa); **Shari Breen,** SKA Observatory (United Kingdom); **Sharmilla Goedhart,** SKA-Mid (South Africa)

## Tuesday 18 June 2024

### TUESDAY PLENARY

18 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/tuesday-plenary

13173-502 • 08:30 AM - 09:15 AM
**The present and future of Japan's space program** (Plenary Presentation)
*Author(s):* **Saku Tsuneta,** National Astronomical Observatory of Japan (Japan)

13173-503 • 09:15 AM - 10:00 AM
**NASA astrophysics: from today to the Habitable Worlds Observatory** (Plenary Presentation)
*Author(s):* **Mark Clampin,** NASA Goddard Space Flight Ctr. (United States); **John M. O'Meara,** W. M. Keck Observatory (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 4: DIVERSITY AND INCLUSION

18 June 2024 • 10:30 AM - 11:30 AM | Room G316/317, North - 3F
*Session Chair(s):* **Lisa J. Storrie-Lombardi**, Las Cumbres Observatory (United States)

13098-16 • 10:30 AM - 10:50 AM
**Diversity, equity, and inclusion strategic programming and ongoing practices at NOIRLab**
*Author(s):* **Alysha Shugart,** NSF's National Optical-Infrared Astronomy Research Lab. (United States), Vera C. Rubin Observatory (Chile)

13098-17 • 10:50 AM - 11:10 AM
**Impact of dual anonymous peer review on ESO telescope time allocations**
*Author(s):* **Francesca Primas**, **Tereza Jerabkova, Ferdinando Patat,** European Southern Observatory (Germany)

13098-18 • 11:10 AM - 11:30 AM
**Research software engineering as a model for inclusive and sustainable careers in astronomy**
*Author(s):* **Nuria P. Lorente**, **Simon J. O'Toole**, **Elizabeth J. A. Davies**, **Tony J. Farrell**, **Brent Miszalski, Nuwanthika Fernando,** Australian Astronomical Optics, Macquarie Univ. (Australia)

### SESSION 5: DATA FLOW AND MANAGEMENT I

18 June 2024 • 11:30 AM - 12:10 PM | Room G316/317, North - 3F
*Session Chair(s):* **Lisa J. Storrie-Lombardi**, Las Cumbres Observatory (United States)

13098-19 • 11:30 AM - 11:50 AM
**Observers' data access portal: realtime streaming for astronomical data**
*Author(s):* **Tyler Coda,** W. M. Keck Observatory (United States); **Toba Oluyide**, **Meca Lynn,** IPAC (United States), NASA Exoplanet Science Institute (United States); **Jeff Mader,** W. M. Keck Observatory (United States); **Graham B. Berriman,** IPAC (United States), NASA Exoplanet Science Institute (United States); **M. Brodheim,** W. M. Keck Observatory (United States); **Chris R. Gelino, John Good,** IPAC (United States), NASA Exoplanet Science Institute (United States)

13098-20 • 11:50 AM - 12:10 PM
**The ESO science archive: a powerful resource for the worldwide science community**
*Author(s):* **Martino Romaniello**, **Magda Arnaboldi,** European Southern Observatory (Germany); **Mauro Barbieri,** Terma GmbH (Germany); **Nausicaa Delmotte**, **Adam Dobrzycki**, **Nathalie Fourniol**, **Wolfram Freudling**, **Jorge Grave,** European Southern Observatory (Germany); **Laura Mascetti,** Terma GmbH (Germany); **Alberto Micol**, **Joerg Retzlaff,** European Southern Observatory (Germany); **Nicolas Rosse**, **Tomas Tax**, **Myha Vuong,** Terma GmbH (Germany); **Olivier Hainaut**, **Marina Rejkuba, Michael Sterzik,** European Southern Observatory (Germany)

## Lunch/Exhibition Break 12:10 PM - 01:40 PM

## SESSION 6: DATA FLOW AND MANAGEMENT II

18 June 2024 • 01:40 PM - 03:00 PM | Room G316/317, North - 3F
*Session Chair(s):* **Lisa J. Storrie-Lombardi**, Las Cumbres Observatory (United States)

13098-21 • 01:40 PM - 02:00 PM
**Automatically created data reduction workflows: experience with the ESO data processing system (EDPS)**
*Author(s):* **Wolfram Freudling**, **Stefano Zampieri**, **Lodovico Coccato**, **Stanislaw Podgorski**, **Martino Romaniello**, **Andrea Modigliani, John Pritchard,** European Southern Observatory (Germany)

13098-22 • 02:00 PM - 02:20 PM
**Fostering scientific discoveries through data creators-ESO Archive collaboration**
*Author(s):* **Laura Mascetti,** European Southern Observatory (Germany), Terma GmbH (Germany); **Nausicaa A. R. Delmotte**, **Magda Arnaboldi**, **Vincenzo Forchi**, **Alberto Micol,** European Southern Observatory (Germany); **Mauro Barbieri,** European Southern Observatory (Germany), Terma GmbH (Germany); **Martino Romaniello, Lodovico Coccato,** European Southern Observatory (Germany)

13098-23 • 02:20 PM - 02:40 PM
**CIGALE: a modeling and SED plus spectral fitting code for very large galaxy samples**
*Author(s):* **Denis Burgarella,** Lab. d'Astrophysique de Marseille (France); **Véronique Buat,** Aix Marseille Univ, CNRS, CNES, LAM (France); **Médéric Boquien,** Univ. Côte d'Azur (France); **Yannick Roehlly,** Lab. d'Astrophysique de Marseille (France); **Jean-Charles Lambert,** Aix Marseille Univ (France)

13098-25 • 02:40 PM - 03:00 PM
**HERMES SOC activities at the ASI space science data center (SSDC)**
*Author(s):* **Simonetta Puccetti,** Agenzia Spaziale Italiana (Italy); **Matteo Perri,** INAF - Osservatorio Astronomico di Roma (Italy), Agenzia Spaziale Italiana (Italy); **Riccardo Campana**, **Ezequiel J. Marchesini,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Giulia Baroni,** INAF - Osservatorio Astronomico di Trieste (Italy); **Giuseppe Dilillo**, **Yuri Evangelista,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Andrea Sanna**, **Luciano Burderi,** Dipartimento di Fisica, Università degli Studi di Cagliari, SP Monserrato-Sestu km 0.7 (Italy); **Fabrizio Fiore,** INAF - Osservatorio Astronomico di Trieste (Italy)

## Coffee Break 03:00 PM - 03:30 PM

## SESSION 7: SITE AND FACILITY MANAGEMENT

18 June 2024 • 03:30 PM - 04:50 PM | Room G316/317, North - 3F
*Session Chair(s):* **Lisa J. Storrie-Lombardi**, Las Cumbres Observatory (United States)

13098-27 • 03:30 PM - 03:50 PM
**New methods for ALMA angular-scale-based observation scheduling, quality assessment, and beam shaping II: refinements**
*Author(s):* **Dirk Petry**, **Maria Diaz Trigo,** European Southern Observatory (Germany); **Rüdiger Kneissl,** European Southern Observatory (Chile), Joint ALMA Observatory (Chile); **Ignacio Toledo,** Joint ALMA Observatory (Chile); **Atsushi Miyazaki**, **Toshinobu Takagi,** Japan Space Forum (Japan); **Ashley Barnes,** European Southern Observatory (Germany); **Francesca Bonanomi,** Dept. of Astrophysics, University of Vienna (Austria)

13098-28 • 03:50 PM - 04:10 PM
**Deployment concept of the wide band sensitivity upgrade project in the ALMA Observatory**
*Author(s):* **Tzu-Chiang Shen**, **Alejandro Saez**, **Jose L. Ortiz**, **Giorgio Siringo**, **Octavio Hernandez**, **Stefan Gairing**, **Massimiliano Marchesi**, **Cristobal Jara**, **Johnny W. Reveco**, **Rubén Soto,** ALMA (Chile); **Kamaljeet Saini,** National Radio Astronomy Observatory (United States); **Silvio Rossi,** European Southern Observatory (Germany); **Seiichi Sakamoto,** National Astronomical Observatory of Japan (Japan); **Christophe Jacques,** National Radio Astronomy Observatory (United States); **GieHan Tan,** European Southern Observatory (Germany); **Todd R. Hunter,** National Radio Astronomy Observatory (United States); **Jaunde Santander-Vela**, **Carla Crovari**, **Theodoros Nakos**, **Jorge Ibsen**, **John Carpenter**, **Alvaro Gonzalez**, **Norikazu Mizuno**, **Kenichi Kikuchi**, **Sergio Martin**, **Juan Cortes, Liza Videla,** ALMA (Chile)

13098-78 • 04:10 PM - 04:30 PM
**LOFAR vs LOFAR2.0 operations: new challenges**
*Author(s):* **Emanuela Orru**, **Menno J Norden**, **Marco Iacobelli**, **Sander ter Veen, Aida Ahmadi,** ASTRON (Netherlands)

13098-30 • 04:30 PM - 04:50 PM
**ALMA software group: transitioning to hybrid working model**
*Author(s):* **Rubén Soto**, **Jonathan Antognini**, **Tomas Staig**, **Johnny Reveco, Jorge Ibsen,** ALMA (Chile)

## Wednesday 19 June 2024

### WEDNESDAY PLENARY

19 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/wednesday-plenary

13173-504 • 08:30 AM - 09:15 AM
**Euclid mission: first year of operations** (Plenary Presentation)
*Author(s):* **René J. Laureijs,** European Space Research and Technology Ctr. (Netherlands)

13173-505 • 09:15 AM - 10:00 AM
**The ultraviolet explorer: new views of the UV universe** (Plenary Presentation)
*Author(s):* **Fiona A. Harrison,** Caltech (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 8: OPERATIONS PLANNING AND SCHEDULING II

19 June 2024 • 10:30 AM - 12:10 PM | Room G316/317, North - 3F
*Session Chair(s):* **Lisa J. Storrie-Lombardi**, Las Cumbres Observatory (United States)

13098-31 • 10:30 AM - 10:50 AM
**Easy remote observations using web interfaces: controlling an Italian telescope from Japan, and more**
*Author(s):* **Davide Ricci**, **Lorenzo Cabona**, **Bernardo Salasnich,** INAF - Osservatorio Astronomico di Padova (Italy); **Luciano Nicastro,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Luca Fini,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Andrea Damonte,** INAF - Osservatorio Astronomico di Palermo "Giuseppe Salvatore Vaiana" (Italy); **Silvano Tosi,** Univ. degli Studi di Genova (Italy); **Takashi Shibata,** National Astronomical Observatory of Japan (Japan)

13098-32 • 10:50 AM - 11:10 AM
**A year in the life of the SKA**
*Author(s):* **Shari Breen,** SKA Observatory (United Kingdom); **Jimi A. Green,** SKA Observatory (Australia); **Sharmila Goedhart,** SKA Observatory (South Africa)

13098-33 • 11:10 AM - 11:30 AM
**Engineering performance management: design to operation**
*Author(s):* **Cornelius Taljaard,** SKA Observatory (United Kingdom)

13098-34 • 11:30 AM - 11:50 AM
**Approaches towards SKAO science operations from the aperture array verification systems**
*Author(s):* **James A. Green,** SKA Observatory (Australia); **Shari Breen,** SKA Observatory (United Kingdom); **Sharmila Goedhart,** SKA Observatory (South Africa); **Cathryn M. Trott**, **Jess Broderick**, **Daniel Price**, **Riley Keel**, **Charlotte Sobey,** SKA Observatory (Australia); **Sarrvesh Sridhar**, **Thomas Franzen**, **Nichol Cunningham, Vinod Arumugam,** SKA Observatory (United Kingdom)

13098-35 • 11:50 AM - 12:10 PM
**MeerKAT science operations and lessons learned**
*Author(s):* **Sharmilla Goedhart, Lindsay Magnus,** SKA Observatory (South Africa)

**Lunch/Exhibition Break 12:10 PM - 01:40 PM**

### SESSION 9: SITE AND FACILITY OPERATIONS IV

19 June 2024 • 01:40 PM - 03:20 PM | Room G316/317, North - 3F
*Session Chair(s):* **Elena Scire**, IPAC (United States)

13098-36 • 01:40 PM - 02:00 PM
**The intelligent observatory**
*Author(s):* **Stephen B. Potter,** South African Astronomical Observatory (South Africa), Univ. of Johannesburg (South Africa); **Sunil Chandra**, **Nicolas Erasmus,** South African Astronomical Observatory (South Africa); **Roufurd Julie,** South African Radio Astronomical Observatory (South Africa); **Moloko Hlakola**, **Carel H. D. R. van Gend, Hannah L. Worters,** South African Astronomical Observatory (South Africa)

13098-37 • 02:00 PM - 02:20 PM
**Intelligent stargazing: the observatory control system for meter class telescopes at South African Astronomical Observatory**
*Author(s):* **Sunil Chandra,** South African Astronomical Observatory (South Africa), North-West Univ. (South Africa); **Stephen B. Potter**, **Nicolas Erasmus**, **Carel H. D. R. van Gend**, **Moloka Hlakola,** South African Astronomical Observatory (South Africa); **Roufurd Julie,** South African Radio Astronomy Observatory (South Africa); **Christian Hettlage,** South African Astronomical Observatory (South Africa)

13098-38 • 02:20 PM - 02:40 PM
**Design of observatory control system of WFST**
*Author(s):* **Ze-yu Zhu**, **Zhi-hao Cao**, **Yu-chen Sun**, **Yu Zhang**, **Ruo-jin Xu**, **Feng Li**, **Qing-feng Zhu, Jian Wang,** Univ. of Science and Technology of China (China)

13098-67 • 02:40 PM - 03:00 PM
**NOIRLab - Gemini North primary mirror repairs after damage caused by collision with wash cart**
*Author(s):* **Slawomir Bucki,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Andy J. Adamson**, **Thomas Schneider**, **Katie Smither,** Gemini Observatory (United States); **Myung Cho**, **Gary A. Poczulp,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Charles Cavedoni**, **Clayton Ah Hee,** Gemini Observatory (United States); **Ron Harris,** NSF's National Optical-Infrared Astronomy Research Lab. (United States)

13098-40 • 03:00 PM - 03:20 PM
**DKIST science operations specialists' training program and document management**
*Author(s):* **Hillary H. Head**, **David C. Morris**, **Manuel Díaz Alfaro**, **Nuria Wright-Garba**, **Anthony Santini**, **Andres Parraguez**, **Alexandra Tritschler**, **Thomas Rimmele, Dave Boboltz,** National Solar Observatory (United States)

## Coffee Break 03:20 PM - 03:50 PM

## SESSION 10: OBSERVATORY BENCHMARKS AND METRICS

19 June 2024 • 03:50 PM - 05:30 PM | Room G316/317, North - 3F
*Session Chair(s):* **Lisa J. Storrie-Lombardi**, Las Cumbres Observatory (United States)

13098-41 • 03:50 PM - 04:10 PM
**Uncertainty estimation through quantile forest for prescriptive scheduling of data processing at ALMA**
*Author(s):* **Rodrigo A. Carrasco,** Pontificia Univ. Católica de Chile (Chile); **Luis Aburto,** Univ. Adolfo Ibáñez (Chile); **Jorge F. García,** ALMA (Chile); **Alfredo De Rodt, Gianfranco Speroni,** Univ. Adolfo Ibáñez (Chile)

13098-42 • 04:10 PM - 04:30 PM
**Commissioning and characterising MUSE AO degraded mode**
*Author(s):* **Fuyan Bian,** European Southern Observatory (Chile); **Johann Kolb,** European Southern Observatory (Germany); **Fernando Selman**, **Nicolas Dubost,** European Southern Observatory (Chile); **Giacomo Beccari,** European Southern Observatory (Germany); **Francisco Urbina,** Univ. de Chile (Chile); **Marco Berton, Enrico Congiu,** European Southern Observatory (Chile)

13098-43 • 04:30 PM - 04:50 PM
**Continuing to optimise the scientific operation of Murriyang, the 64-m Parkes Radio Telescope**
*Author(s):* **Jane Kaczmarek,** CSIRO Astronomy and Space Science (Australia)

13098-44 • 04:50 PM - 05:10 PM
**Astronomy operations with the Southern African Large Telescope**
*Author(s):* **Encarni Romero-Colmenero,** Southern African Large Telescope, South African Astronomical Observatory (South Africa); **Petri Vaisanen,** South African Astronomical Observatory (South Africa); **Lisa Crause**, **Rosalind E. Skelton**, **Alexei Kniazev**, **Lee Townsend**, **Moses K. Mogotsi**, **Danièl Groenewald**, **Enrico J. Kotze**, **Solohery Randriamampandry**, **Rudolf Kuhn**, **Christian Hettlage**, **Nhlavutelo Macebele**, **Chaka Mofokeng**, **Xola Ndaliso**, **Thea Koen**, **Veronica Van Wyk,** Southern African Large Telescope, South African Astronomical Observatory (South Africa); **Malcolm Scarrott, Anja Schroeder,** Southern African Large Telescope (South Africa)

13098-45 • 05:10 PM - 05:30 PM
**Integrating advanced analytics and AI for enhanced performance optimization and maintenance efficiency in the 4LGSF system at Paranal Observatory**
*Author(s):* **José Luis Alvarez**, **Leonardo Blanco**, **Juan Beltran**, **Alvaro Diaz**, **Guillermo Valdes**, **Cesar Cardenas, Chester Rojas,** European Southern Observatory (Chile)

## SESSION PS1: POSTERS - SITE AND FACILITY OPERATIONS

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13098-61 • 05:30 PM - 07:00 PM
**Design of a web-based remote control and automation system for NIR sky brightness radiometer**
*Author(s):* **Lu-cheng Zhu**, **Zhi-yue Wang**, **Jun Zhang**, **Qi Feng, Jian Wang,** Univ. of Science and Technology of China (China)

13098-62 • 05:30 PM - 07:00 PM
**Dome safety interlock system at Subaru Telescope**
*Author(s):* **Junichi Noumaru,** National Astronomical Observatory of Japan (Japan); **Shinji Oka**, **Naomi Yoshiyama**, **Lucio Ramos,** National Astronomical Observatory of Japan (United States); **Koichi Okamoto,** National Astronomical Observatory of Japan (Japan); **Lulu Blessing,** Systems Integration Group (United States)

13098-63 • 05:30 PM - 07:00 PM
**Logistics and outcomes of the Rubin Observatory LSST camera shipment**
*Author(s):* **Margaux Lopez**, **Diane Hascall**, **Guillem Megias Homar**, **Martin Nordby**, **Aaron J. Roodman, Kevin Reil,** SLAC National Accelerator Lab. (United States)

13098-64 • 05:30 PM - 07:00 PM
**Design of access control system of WFST**
*Author(s):* **Yu-chen Sun**, **Ze-yu Zhu**, **Zhi-hao Cao**, **Hong-fei Zhang**, **Feng Li, Jian Wang,** Univ. of Science and Technology of China (China)

13098-65 • 05:30 PM - 07:00 PM
**Control and evaluation of diffuser screen system of WFST**
*Author(s):* **Zhi-hao Cao**, **Ze-yu Zhu**, **Yu-chen Sun**, **Jian Wang, Feng Li,** Univ. of Science and Technology of China (China)

13098-66 • 05:30 PM - 07:00 PM
**Measuring heat removal from the Canada-France-Hawaii Telescope observatory building**
*Author(s):* **Thomas Benedict,** Canada-France-Hawaii Telescope Corp. (United States)

13098-68 • 05:30 PM - 07:00 PM
**An outdoor sport: an economical way of monitoring dust at an observatory**
*Author(s):* **Gregory A. Barrick, Helen Januszewski,** Canada-France-Hawaii Telescope Corp. (United States)

13098-69 • 05:30 PM - 07:00 PM
**Assessing sky conditions with astrometrically and photometrically calibrated all-sky images for autonomous observing**
*Author(s):* **Nicolas Erasmus,** South African Astronomical Observatory (South Africa); **John L. Tonry**, **Larry Denneau,** Institute for Astronomy (United States); **Moloko Hlakola**, **Carel H. D. R. van Gend,** South African Astronomical Observatory (South Africa); **Stephen B. Potter,** South African Astronomical Observatory (South Africa), Univ. of Johannesburg (South Africa); **Henry Weiland**, **Robert J. Siverd,** Institute for Astronomy (United States); **Roufurd Julie,** South African Radio Astronomy Observatory (South Africa)

13098-71 • 05:30 PM - 07:00 PM
**Finding the optimal location for AlUla Manara's ground-based telescope**
*Author(s):* **Thamer Alrefay**, **Thamer Aldaajani**, **Hatem Aldajani**, **Fawaz Alshehri**, **Abdullah Alghamdi, Abdulaziz Hadadi,** King Abdulaziz City for Science and Technology (Saudi Arabia)

13098-72 • 05:30 PM - 07:00 PM
**Development of the environment monitoring system for KASI-deep rolling imaging fast telescope observatory**
*Author(s):* **Yongseok Lee,** Korea Astronomy and Space Science Institute (Korea, Republic of), Kyung Hee Univ. School of Space Research (Korea, Republic of); **Changsu Choi**, **Jongwan Ko**, **Yunjong Kim**, **Woowon Byun**, **Gyusu Park,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Gayoung Lee**, **Yeonsik Kim,** Korea Astronomy and Space Science Institute (Korea, Republic of), Kyungpook National Univ. (Korea, Republic of); **Youngbeom Jeon,** Korea Astronomy and Space Science Institute (Korea, Republic of)

13098-74 • 05:30 PM - 07:00 PM
**The Daniel K. Inouye Solar Telescope (DKIST) daily operations report**
*Author(s):* **David C. Morris**, **Nuria Wright-Garba**, **Anthony Santini**, **Hillary H. Hope**, **Manuel Diaz Alfaro**, **Andres Parraguez**, **Alexandra Tritschler**, **Thomas Rimmele, David Boboltz,** National Solar Observatory (United States)

13098-76 • 05:30 PM - 07:00 PM
**Impact of moving the ALMA control room to Santiago**
*Author(s):* **Daniela Soto Martinez,** ALMA (Chile)

13098-77 • 05:30 PM - 07:00 PM
**Streamlining LOFAR operations with the new telescope manager specification system**
*Author(s):* **Sander ter Veen**, **Jan David Mol**, **Jorrit Schaap,** ASTRON (Netherlands); **Jörn Künsemöller,** Univ. Bielefeld (Germany); **Auke Klazema**, **Reinder Kraaij**, **Arno P. Schoenmakers**, **Fanna Lautenbach**, **Hannes Feldt**, **Corne Lukken,** ASTRON (Netherlands); **Stefano di Frischia,** INAF - Osservatorio Astronomico d'Abruzzo (Italy)

13098-80 • 05:30 PM - 07:00 PM
**Gemini visiting instrument program: status update**
*Author(s):* **Hwihyun Kim,** Gemini Observatory (United States), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Ruben J. Diaz,** Gemini Observatory (Chile), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Andreas Seifahrt,** Gemini Observatory (United States), NSF's National Optical-Infrared Astronomy Research Lab. (United States)

13098-81 • 05:30 PM - 07:00 PM
**Kealahou: the ongoing reimagining and reconstruction of CFHT's queued service observing system**
*Author(s):* **Cam Wipper**, **Chris Usher**, **Conrad Holmberg**, **Billy Mahoney, Tom A. Vermeulen,** Canada-France-Hawaii Telescope Corp. (United States)

13098-82 • 05:30 PM - 07:00 PM
**M1 handling tool's major failure at Paranal Observatory: a review**
*Author(s):* **Alejandro Doberti, Aldo Pizarro,** European Southern Observatory (Chile)

13098-83 • 05:30 PM - 07:00 PM
**Application of root cause analysis in a critical failure of the VLT deformable secondary mirror**
*Author(s):* **Rodrigo Huerta**, **Marcos A. Ortega**, **José Luis Alvarez**, **Luis Caniguante, Javier González,** European Southern Observatory (Chile)

13098-84 • 05:30 PM - 07:00 PM
**Advancements in science and operations at the Telescopio Nazionale Galileo**
*Author(s):* **Adriano Ghedina, Manuel D. Gonzalez,** Fundación Galileo Galilei - INAF (Spain)

13098-85 • 05:30 PM - 07:00 PM
**Good data in good and bad times: operations of the CARMENES radial-velocity survey at Calar Alto**
*Author(s):* **Andreas Quirrenbach,** Landessternwarte Heidelberg (Germany)

13098-86 • 05:30 PM - 07:00 PM
**The most recent results from wet washing the 2016 coating of the 6.5m MMT primary mirror in situ**
*Author(s):* **Ricardo Ortiz, William Goble,** MMT Observatory (United States)

13098-108 • 05:30 PM - 07:00 PM
**A portable atmospheric monitoring system for the Mexican sites of the ngVLA**
*Author(s):* **Daniel Ferrusca Rodriguez**, **Jesús Contreras,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Jetzael Cuazoson**, **Alfonso Trejo, Stanley E Kurtz,** Instituto de Radioastronomía y Astrofísica, Univ. Nacional Autónoma de México (Mexico)

13098-109 • 05:30 PM - 07:00 PM
**Implementation of safety functions through dedicated PLC modules for astronomical ground-based instrumentation**
*Author(s):* **Christian Eredia**, **Domenico D'Auria**, **Vincenzo Cianniello**, **Vincenzo De Caprio,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Paolo Ciliegi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio di Bologna (Italy); **Enrico Cascone,** INAF - Osservatorio Astronomico di Capodimonte (Italy)

13098-112 • 05:30 PM - 07:00 PM
**Aerial methods for quantification and identification of light pollution sources**
*Author(s):* **Pedro Escárate**, **Ivan Kopaitic, Sebastian Fingerhuth,** Pontificia Univ. Católica de Valparaíso (Chile)

13098-113 • 05:30 PM - 07:00 PM
**Monitoring of seeing and other atmospheric parameters affecting optical astronomical observations**
*Author(s):* **Yusufjon A. Tillayev,** Ulugh Beg Astronomical Institute of the Uzbek Academy of Sciences (Uzbekistan)

## SESSION PS2: POSTERS - OBSERVATION PLANNING AND SCHEDULING

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13098-87 • 05:30 PM - 07:00 PM
**DKIST science operations: preparation and support for the operations commissioning phase**
*Author(s):* **Andres Parraguez**, **Alexandra Tritschler, Thomas Rimmele,** National Solar Observatory (United States)

13098-88 • 05:30 PM - 07:00 PM
**Observation strategies of the Large Sky Survey Telescope in dealing with mega-constellations**
*Author(s):* **Tianzhu Hu,** Nanjing Institute of Astronomical Optics & Technology (China)

13098-89 • 05:30 PM - 07:00 PM
**ESO's new generation of exposure time calculators**
*Author(s):* **Henri M. J. Boffin**, **Jakob Vinther**, **Lars Lundin**, **Malgorzata Stellert**, **David Huerta**, **Gurvan Bazin, Yves Jung,** European Southern Observatory (Germany)

13098-90 • 05:30 PM - 07:00 PM
**The SKAO sensitivity calculator**
*Author(s):* **Andrew Biggs**, **Elizabeth S. Bartlett**, **Thaddeus Kenny**, **Brendan McCollam**, **Viivi Pursiainen**, **Stewart J. Williams,** UK Astronomy Technology Ctr. (United Kingdom); **Danilo Acosta**, **Sean Ellis, Rupert Lung,** CGI Inc. (United Kingdom)

13098-91 • 05:30 PM - 07:00 PM
**A strategy for forecasting the seeing of astronomical site at short and long time-scales**
*Author(s):* **Kang Huang,** Nanjing Institute of Astronomical Optics & Technology (China), Univ. of Chinese Academy of Sciences (China); **Yonghui Hou, Tianzhu Hu,** Nanjing Institute of Astronomical Optics & Technology (China)

13098-92 • 05:30 PM - 07:00 PM
**Blink: advanced satellite pass prediction and mitigation software for satellite and space debris streak prevention**
*Author(s):* **Nikita Patel**, **David Gooding**, **Ewan Schafer**, **Peter Bartram, Hira Virdee,** Lumi Space Ltd. (United Kingdom)

13098-93 • 05:30 PM - 07:00 PM
**Operational changes to SALT for NIRWALS**
*Author(s):* **Moses K. Mogotsi**, **Encarni Romero-Colmenero,** South African Astronomical Observatory (South Africa); **Marsha J. Wolf,** Univ. of Wisconsin-Madison (United States); **Janus D. Brink**, **Christian Hettlage**, **Anthony Koeslag**, **Enrico J. Kotze**, **Shamiel Adams, Sunnyboy Kabini,** South African Astronomical Observatory (South Africa)

13098-94 • 05:30 PM - 07:00 PM
**Scientific operation of the Large Millimeter Telescope**
*Author(s):* **Min Yun**, **F. Peter Schloerb,** Univ. of Massachusetts Amherst (United States); **David H. Hughes, Alfredo Montana,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)

13098-97 • 05:30 PM - 07:00 PM
**Scheduling ESA's near-earth asteroid telescope network for surveys and impactor detection**
*Author(s):* **Dora Föhring,** ESRIN, European Space Agency (Italy); **Pablo Ramirez Moreta,** European Space Astronomy Ctr., European Space Agency (Spain); **Luca Conversi,** ESRIN, European Space Agency (Italy); **Elmar Brendel,** European Space Operations Ctr., European Space Agency (Germany); **E. Dölling,** European Space Agency (United Kingdom); **Malte Hübner, Kevin Davies,** Terma GmbH (Germany)

## SESSION PS3: POSTERS - OPERATIONS BENCHMARKS AND METRICS

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13098-100 • 05:30 PM - 07:00 PM
**The Gaia grid of spectro-photometric standard stars**
*Author(s):* **Nicoletta Sanna,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Elena Pancino,** INAF - Osservatorio Astrofisico di Arcetri (Italy), ASI Science Data Ctr. (Italy); **Monica Rainer,** INAF - Osservatorio Astronomico di Brera (Italy); **Maria Tsantaki,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Silvia Marinoni, Giuseppe Altavilla,** INAF - Osservatorio Astronomico di Roma (Italy), ASI Science Data Ctr. (Italy)

13098-101 • 05:30 PM - 07:00 PM
**Cleaning a first-surface bare-aluminum coated optic: a method for comparing wash types**
*Author(s):* **Patrick Dunlop,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Ryan Ketterer,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Bob Stupak**, **Matthew Evatt, Christopher Stone,** NSF's National Optical-Infrared Astronomy Research Lab. (United States)

13098-102 • 05:30 PM - 07:00 PM
**Analysis of the correlation between the long-term variability of photometric zero-point curves and the quality of the primary mirror coatings in 4-m class telescopes**
*Author(s):* **Priscila Pires**, **Felipe Navarete**, **Guillermo Damke, Guillermo Dubo,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile)

13098-103 • 05:30 PM - 07:00 PM
**Operational tools and performance metrics of the JWST data processing pipeline**
*Author(s):* **Hien D. Tran**, **A Kovacs**, **B Hurst**, **B Hayden**, **D Kenny**, **F Hamilton**, **H Kennedy**, **J Shih**, **J Scott**, **K Kaleida**, **M Burger**, **M Ridgaway**, **P Brown**, **S Anderson**, **S Slowinski**, **T Bair, T Ellis,** Space Telescope Science Institute (United States)

13098-111 • 05:30 PM - 07:00 PM
**Decadal variation of weather and seeing from the Maunakea Atmospheric Monitor**
*Author(s):* **Daniel Devost**, **Billy Mahoney, Marc R. Baril,** Canada-France-Hawaii Telescope Corp. (United States)

## SESSION PS4: POSTERS - DATA FLOW AND MANAGEMENT

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13098-104 • 05:30 PM - 07:00 PM
**LOFAR data management at petabyte scale**
*Author(s):* **Aras Bozkurt**, **Emanuela Orru**, **Hanno Holties**, **Marco Iacobelli,** ASTRON (Netherlands); **Natalie Danezi,** SURF (Netherlands); **Roy de Goei**, **Yan Grange, Vlad Kondratiev,** ASTRON (Netherlands)

13098-107 • 05:30 PM - 07:00 PM
**The role of the virtual observatory in observatory operations**
*Author(s):* **Simon J. O'Toole,** Australian Astronomical Optics, Macquarie Univ. (Australia); **JJ M. Kavelaars,** Univ. of Victoria (Canada); **Marco Molinaro,** INAF - Osservatorio Astronomico di Trieste (Italy); **Ada Nebot,** Observatoire astronomique de Strasbourg (France)

# Thursday 20 June 2024

## THURSDAY PLENARY

20 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/thursday-plenary

13173-506 • 08:30 AM - 09:15 AM
**Navigating the radio astronomy renaissance: challenges and opportunities for a sustainable future** (Plenary Presentation)
*Author(s):* **Jessica T. Dempsey,** ASTRON (Netherlands)

13173-507 • 09:15 AM - 10:00 AM
**The x-ray imaging and spectroscopy mission (XRISM): development and expected science** (Plenary Presentation)
*Author(s):* **Makoto S. Tashiro,** Saitama Univ. (Japan)

**Coffee Break 10:00 AM - 10:30 AM**

## SESSION 11: TIME DOMAIN ASTRONOMY

20 June 2024 • 10:30 AM - 11:30 AM | Room G316/317, North - 3F
*Session Chair(s):* **Lisa J. Storrie-Lombardi**, Las Cumbres Observatory (United States)

13098-46 • 10:30 AM - 10:50 AM
**GERry: A code to optimise the hunt for the electromagnetic counter-parts to gravitational wave events**
*Author(s):* **David S. O'Neill,** The Univ. of Warwick (United Kingdom); **Joseph D Lyman,** The University of Warwick (United Kingdom); **Kendall Ackley**, **Danny Steeghs,** The Univ. of Warwick (United Kingdom); **Duncan Galloway,** Monash University (Australia); **Vik Dhillon,** University of Sheffield (United Kingdom); **Paul O'Brien,** University of Leicester (United Kingdom); **Gavin Ramsey,** Armagh Observatory & Planetarium (United Kingdom); **Kanthanakorn Noysena,** National Astronomical Research Institute of Thailand (Thailand); **Rubina Kotak,** University of Turku (Finland); **Rene Breton,** The University of Manchester (United Kingdom); **Laura Nuttall,** University of Portsmouth (United Kingdom); **Enric Pall é,** Instituto de Astrof ísica de Canarias (Spain); **Don Pollacco**, **Krzysztof Ulaczyk,** The Univ. of Warwick (United Kingdom); **Martin Dyer,** University of Sheffield (United Kingdom); **Felipe Jim énez-Ibarra,** Monash University (Australia); **Thomas Killestein,** University of Turku (Finland); **Amit Kumar,** The Univ. of Warwick (United Kingdom); **Lisa Kelsey,** University of Portsmouth (United Kingdom); **Ben Godson,** The Univ. of Warwick (United Kingdom); **Dan Jarvis,** University of Sheffield (United Kingdom)

13098-47 • 10:50 AM - 11:10 AM
**Study of a nano-satellite constellation for the multi-messenger astronomy**
*Author(s):* **Jean-Yves Heloret, Olivier Godet,** Institut de Recherche en Astrophysique et Planétologie (France)

13098-48 • 11:10 AM - 11:30 AM
**Time domain astronomy with the next-generation Gemini-North adaptive optics facility**
*Author(s):* **Julia Scharwächter,** Gemini Observatory (United States), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Gaetano Sivo,** Gemini Observatory (Chile), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Masen Lamb,** NSF's National Optical-Infrared Astronomy Research Lab. (United States), Univ. of Victoria (Canada); **John Blakeslee,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Alan W. McConnachie,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Hyewon Suh,** Gemini Observatory (United States), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Suresh Sivanandam,** Dunlap Institute for Astronomy & Astrophysics (Canada); **Adam Muzzin,** York Univ. (Canada); **Martin Tschimmel,** Gemini Observatory (Chile), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Paul Hickson,** The Univ. of British Columbia (Canada)

## SESSION 12: SITE AND FACILITY OPERATIONS V

20 June 2024 • 11:30 AM - 12:10 PM | Room G316/317, North - 3F
*Session Chair(s):* **Nikolaus H. Volgenau**, Las Cumbres Observatory (United States)

13098-49 • 11:30 AM - 11:50 AM
**Commissioning and facility operation of the enclosure of the COLIBRI telescope**
*Author(s):* **Erica E. Lugo-Ibarra**, **Alan M. Watson**, **Liliana Figueroa Carrillo**, **Edgar Omar Cadena Zepeda**, **María H. Pedrayes-López**, **Eduardo Lopez Angeles**, **Jose Luis Ochoa Abundis**, **William H. Lee,** Univ. Nacional Autónoma de México (Mexico); **François Dolon,** Observatoire de Haute-Provence (France); **Johan D. Floriot**, **Stéphane Basa,** Lab. d'Astrophysique de Marseille (France); **Elena Jimenez-Bailon,** Univ. Nacional Autónoma de México (Mexico)

13098-50 • 11:50 AM - 12:10 PM
**Enhancing ALMA routine operations through experience-based tool prototyping**
*Author(s):* **Emiliano Galuppo**, **Emilio Barrios**, **Hector Alarcon**, **Christian Garcia**, **Eduardo Chaparro**, **Patricio Alvarez**, **Daniela Soto Martinez, Ludwig von Dossow,** ALMA (Chile)

**Lunch/Exhibition Break 12:10 PM - 01:40 PM**

## SESSION 13: SITE AND FACILITY OPERATIONS VI

20 June 2024 • 01:40 PM - 03:20 PM | Room G316/317, North - 3F
*Session Chair(s):* **Lisa J. Storrie-Lombardi**, Las Cumbres Observatory (United States)

13098-51 • 01:40 PM - 02:00 PM
**The quest for an autonomous ASKAP: automating the next-generation of survey telescopes**
*Author(s):* **Vanessa Moss**, **Craig Haskins**, **Aidan Hotan**, **Zoe Taylor**, **Matt Austin**, **Eric Bastholm**, **Tim Galvin**, **Emil Lenc, Matthew Whiting,** CSIRO Astronomy and Space Science (Australia)

13098-52 • 02:00 PM - 02:20 PM
**Dogu Anatolu Gözlemevi (DAG) integrated dome and telescope on-site assembly**
*Author(s):* **Gianpietro Marchiori**, **Francesco Rampini**, **Manfredi Amalfi**, **Riccardo Bressan**, **Leonardo Ghedin**, **Cristina Battistel**, **Cristiana Manfrin**, **Lorenzo Vio**, **Tiziano Niero**, **Tommaso Marchiori,** EIE Group S.r.l. (Italy); **Olivier Pirnay**, **Eric Gabriel**, **Laurence Meant,** AMOS S.A. (Belgium); **Cahit Yesilyaprak,** Ataturk Univ. Astrophysics Research & Application Ctr. (ATASAM) (Turkey); **Onur Keskin,** Isik Üniv. (Turkey)

13098-53 • 02:20 PM - 02:40 PM
**Green operations Keck lessons learned**
*Author(s):* **Jeff Huber,** W. M. Keck Observatory (United States)

13098-54 • 02:40 PM - 03:00 PM
**The advanced Simons Observatory green energy initiative: toward an energy secure, decarbonized future for remote astronomical telescopes**
*Author(s):* **Benjamin L. Schmitt,** Univ. of Pennsylvania (United States)

13098-55 • 03:00 PM - 03:20 PM
**Advanced power quality measurement techniques at the electric power grid of astronomical observatories**
*Author(s):* **Michael Mann**, **Thorsten Döhring**, **Manfred Stollenwerk**, **Alessandro Priebsch,** Technische Hochschule Aschaffenburg (Germany); **Theodor Probulla**, **Richard M. Komžík, Peter Sivanic,** Slovak Academy of Sciences (Slovakia)

**Coffee Break 03:20 PM - 03:50 PM**

## SESSION 14: OPERATIONS PLANNING AND SCHEDULING III

20 June 2024 • 03:50 PM - 05:30 PM | Room G316/317, North - 3F
*Session Chair(s):* **Lisa J. Storrie-Lombardi**, Las Cumbres Observatory (United States)

13098-56 • 03:50 PM - 04:10 PM
**Correlating pathlength variability with atmospheric dynamics at ALMA**
*Author(s):* **Priscilla Nowajewski,** ALMA (Chile); **María José Molina-Montero,** AstraCodex (Costa Rica); **Bill Dent,** ALMA (Chile)

13098-57 • 04:10 PM - 04:30 PM
**Scientific text analysis with robots applied to observatory proposals**
*Author(s):* **Henri M. J. Boffin**, **Tereza Jerabkova**, **Ferdinando Patat, Francesca Primas,** European Southern Observatory (Germany)

13098-99 • 04:30 PM - 04:50 PM
**Lunar trailblazer ground system development**
*Author(s):* **Elena Scire**, **Lee Bennett**, **Judy Adler**, **Sergio Fajardo-Acosta,** IPAC, Caltech (United States); **Robert Fogg,** Jet Propulsion Lab. (United States); **Elise Furlan,** IPAC, Caltech (United States); **Jacob Llamas,** Caltech/IPAC (United States); **Peter Bahariance,** California Institute of Technology (United States), Pasadena City College (United States); **Yiyi Cai,** Caltech (United States); **Trinity Chung,** California Institute of Technology (United States), Pasadena City College (United States), Univ. of California, Berkeley (United States); **Garni Gharibian,** California Institute of Technology (United States), Pasadena City College (United States), Univ. of California, Los Angeles (United States); **Emily Hu,** Caltech (United States); **Julianna Jin,** Caltech (United States), Pasadena City College (United States); **Matteo Kimura,** Caltech (United States); **Aaron Lee,** California Institute of Technology (United States), Pasadena City College (United States), Univ. of California, Los Angeles (United States); **Michael Mansour,** Caltech (United States), Pasadena City College (United States); **Mahak Mathur**, **Andy Sun,** Caltech (United States); **Jasmine Terrones,** California Institute of Technology (United States), Massachusetts Institute of Technology (United States); **Jingchao Zhong,** California Institute of Technology (United States), Pasadena City College (United States), University of California, Berkeley (United States); **Bethany Ehlmann,** Caltech (United States)

13098-59 • 04:50 PM - 05:10 PM
**Managing the unexpected complexities of a remotely operated, multi-hemisphere, international observatory: Gemini queue, commissioning, ToOs, lasers, and more**
*Author(s):* **Atsuko Nitta**, **Andrew W. Stephens,** Gemini Observatory (United States), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Scot J. Kleinman,** Astromanager LLC (United States); **Kathleen Labrie**, **Andy J. Adamson**, **Paul Hirst,** Gemini Observatory (United States), NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Marie Lemoine-Busserolle**, **André-Nicolas Chené,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Joanna E. Thomas-Osip**, **Bryan W. Miller, Fredrik Rantakyrö,** Gemini Observatory (Chile), NSF's National Optical-Infrared Astronomy Research Lab. (United States)

13098-60 • 05:10 PM - 05:30 PM
**Time allocation and long term scheduling of ESO telescopes at La Silla Paranal Observatory**
*Author(s):* **Marina Rejkuba**, **Olivier R. Hainaut**, **Thomas Bierwirth**, **Michael Pruemm, Alexander Weiss,** European Southern Observatory (Germany)

# CONFERENCE 13099

# Modeling, Systems Engineering, and Project Management for Astronomy XI

**16 - 18 June 2024 | Room G213, North - 2F**

***Conference Chair(s):*** **Sébastien Elias Egner,** European Southern Observatory (Germany); **Scott Roberts,** NRC-Herzberg Astronomy & Astrophysics (Canada)

***Program Committee:*** **Melissa Archuleta,** National Radio Astronomy Observatory (United States); **Simonetta Chinellato,** INAF - Osservatorio Astronomico di Padova (Italy); **Hideyuki Kobayashi**, **Takeshi Okuda,** National Astronomical Observatory of Japan (Japan); **Hermine Schnetler,** UK Astronomy Technology Ctr. (United Kingdom); **Masahiro Sugimoto,** National Astronomical Observatory of Japan (Japan); **Gerhard Pieter Swart,** SKA Observatory (United Kingdom); **Gelys Trancho,** Thirty Meter Telescope (United States); **Mitchell Troy,** Jet Propulsion Lab. (United States)

## Sunday 16 June 2024

### SESSION 1: INTEGRATED AND OPTICS MODELLING I

16 June 2024 • 08:30 AM - 10:10 AM | Room G213, North - 2F
*Session Chair(s):* **Scott C. Roberts**, NRC-Herzberg Astronomy & Astrophysics (Canada); **Sébastien Elias Egner**, European Southern Observatory (Germany)

13099-1 • 08:30 AM - 08:50 AM
**Lentil: an open-source library for fast optical propagation**
*Author(s):* **Andrew G. Kee**, **Mitchell Troy**, **Carl R. Nissly**, **Jonathan A. Tesch**, **Siddarayappa Bikkannavar, David Redding,** Jet Propulsion Lab. (United States)

13099-2 • 08:50 AM - 09:10 AM
**The impact of micro-vibrations on the METIS instrument**
*Author(s):* **Dennis Dolkens**, **Mirka Lewinska-Maresca**, **Dirk Lesman,** ASTRON (Netherlands); **Babak Sedghi**, **Dan Pilbauer**, **Gerd H. Jakob**, **Michael Mueller,** European Southern Observatory (Germany); **Harald Baumeister**, **Armin Huber,** Max-Planck-Institut für Astronomie (Germany); **António Amorim,** Univ. de Lisboa (Portugal); **Alastair Macleod,** UK Astronomy Technology Ctr. (United Kingdom); **Michael Wiest,** Univ. zu Köln (Germany); **Felix C. M. Bettonvil, Bernhard R. Brandl,** Leiden Observatory, Leiden Univ. (Netherlands)

13099-3 • 09:10 AM - 09:30 AM
**Pyxel 2.0: collaborative detector and instrument modelling brought to the next level**
*Author(s):* **Thibaut Prod'homme**, **Frederic Lemmel**, **Constanze Seibert,** European Space Research and Technology Ctr. (Netherlands); **Bradley Kelman,** The Open Univ. (United Kingdom); **Hans Smit,** European Space Research and Technology Ctr. (Netherlands); **Benoît Serra,** European Southern Observatory (Germany); **Thibault Pichon,** CEA-IRFU (France)

13099-4 • 09:30 AM - 09:50 AM

**End-to-end simulation framework for astronomical spectrographs: SOXS, CUBES and ANDES**

*Author(s):* **Andrea Scaudo**, **Matteo Genoni,** INAF - Osservatorio Astronomico di Brera (Italy); **Gianluca Li Causi,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Marco Landoni**, **Sergio Campana,** INAF - Osservatorio Astronomico di Brera (Italy); **Lorenzo Cabona,** INAF - Osservatorio Astronomico di Padova (Italy); **Pietro Schipani,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Riccardo U. Claudi,** INAF - Osservatorio Astronomico di Padova (Italy); **Matteo Aliverti,** INAF - Osservatorio Astronomico di Brera (Italy); **Andrea Baruffolo,** INAF - Osservatorio Astronomico di Padova (Italy); **Sagi Ben-Ami,** Weizmann Institute of Science (Israel); **Federico Biondi,** INAF - Osservatorio Astronomico di Padova (Italy); **Giulio Capasso,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Rosario Cosentino,** Fundación Galileo Galilei - INAF (Spain); **Francesco D'Alessio,** INAF - Osservatorio Astronomico di Roma (Italy); **Paolo D'Avanzo,** INAF - Osservatorio Astronomico di Brera (Italy); **Ofir Hershko,** Weizmann Institute of Science (Israel); **Hanindyo Kuncarayakti,** Univ. of Turku (Finland); **Matteo Munari,** INAF - Osservatorio Astrofisico di Catania (Italy); **Kalyan Kumar Radhakrishnan Santhakumari,** INAF - Osservatorio Astronomico di Padova (Italy); **Salvatore Scuderi,** INAF - Osservatorio Astrofisico di Catania (Italy); **Fabrizio Vitali,** INAF - Osservatorio Astronomico di Roma (Italy); **David Young,** Queen's Univ. Belfast (United Kingdom); **Jani Achren,** Univ. of Turku (Finland); **José Antonio Araiza-Durán,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Iair Arcavi,** Tel Aviv Univ. (Israel); **Federico Battaini,** INAF - Osservatorio Astronomico di Padova (Italy); **Anna Brucalassi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Rachel J. Bruch,** Weizmann Institute of Science (Israel); **Enrico Cappellaro,** INAF - Osservatorio Astronomico di Padova (Italy); **Mirko Colapietro**, **Massimo Della Valle,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Marco De Pascale,** INAF - Osservatorio Astronomico di Padova (Italy); **Rosario Di Benedetto,** INAF - Osservatorio Astronomico di Roma (Italy); **Sergio D'Orsi,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Avishay Gal-Yam,** Weizmann Institute of Science (Israel); **Marcos Hernandez,** Fundación Galileo Galilei - INAF (Spain); **Jari Kotilainen,** Univ. of Turku (Finland); **Laurent Marty,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Seppo Mattila,** Univ. of Turku (Finland); **Michael Rappaport,** Weizmann Institute of Science (Israel); **Davide Ricci,** INAF - Osservatorio Astronomico di Padova (Italy); **Marco Riva,** INAF - Osservatorio Astronomico di Brera (Italy); **Bernardo Salasnich,** INAF - Osservatorio Astronomico di Padova (Italy); **Stephen Smartt,** Queen's Univ. Belfast (United Kingdom); **Ricardo Zanmar Sanchez,** INAF - Osservatorio Astrofisico di Catania (Italy); **Maximilian Stritzinger,** Aarhus Univ. (Denmark); **Héctor Ventura,** Fundación Galileo Galilei - INAF (Spain); **Guido Cupani**, **Matteo Porru**, **Mariagrazia Franchini**, **Roberto Cirami**, **Giorgio Calderone,** INAF - Osservatorio Astronomico di Trieste (Italy); **Stefano Covino,** INAF - Osservatorio Astronomico di Brera (Italy); **Rodolfo Smiljanic,** Nicolaus Copernicus Astronomical Ctr. (Poland); **Manuel Monteiro,** Univ. do Porto (Portugal); **Andrea Balestra**, **Rosanna Sordo,** INAF - Osservatorio Astronomico di Padova (Italy); **Elena Mason,** INAF - Osservatorio Astronomico di Trieste (Italy); **Sylvain Rousseau,** Observatoire de la Côte d'Azur (France); **Izan de Castro Leão,** Univ. Federal do Rio Grande do Norte (Brazil); **Alessio Zanutta,** INAF - Osservatorio Astronomico di Brera (Italy); **Allan de Meideros Martins,** Univ. Federal do Rio Grande do Norte (Brazil); **Danuta Sosnowska,** Univ. de Genève (Switzerland); **Thomas Marquart,** Uppsala Univ. (Sweden); **Isabelle Boisse,** Lab. d'Astrophysique de Marseille (France); **Sérgio Sousa,** Univ. do Porto (Portugal); **Jonay G. Hernandez,** Instituto de Astrofísica de Canarias (Spain); **Nikolai Piskunov**, **Johannes Puschnig,** Uppsala Univ. (Sweden); **Nicoletta Sanna,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Bruno C. Martins,** Univ. Federal do Rio Grande do Norte (Brazil); **Giuliano Pignata,** Univ. de Tarapacá (Chile); **Adam Rubin,** European Southern Observatory (Germany); **Paolo Di Marcantonio,** INAF - Osservatorio Astronomico di Trieste (Italy); **Alessandro Marconi,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

13099-5 • 09:50 AM - 10:10 AM

**HARMONI at ELT: modelling the optical performance of a diffraction limited integral field spectrograph**

*Author(s):* **Stephen P. Todd**, **Charlotte Z. Bond,** UK Astronomy Technology Ctr. (United Kingdom); **Fraser Clarke,** Univ. of Oxford (United Kingdom); **Éamonn J. Harvey,** UK Astronomy Technology Ctr. (United Kingdom); **Álvaro Menduiña-Fernández,** Civil Aviation Authority (United Kingdom); **Matthias Tecza,** Univ. of Oxford (United Kingdom)

## Coffee Break 10:10 AM - 10:40 AM

## SESSION 2: PROJECT MANAGEMENT

16 June 2024 • 10:40 AM - 12:20 PM | Room G213, North - 2F

*Session Chair(s):* **Takeshi Okuda**, Joint ALMA Observatory (Japan); **Melissa Archuleta**, National Radio Astronomy Observatory (United States)

13099-6 • 10:40 AM - 11:00 AM

**Management of the METIS project**

*Author(s):* **Felix Bettonvil,** Leiden Observatory, Leiden Univ. (Netherlands); **Silvia Scheithauer,** Max-Planck-Institut für Astronomie (Germany); **Jeffrey Lynn,** ASTRON (Netherlands); **Chad Salo,** Leiden Observatory, Leiden Univ. (Netherlands); **Adrian Glauser,** ETH Zurich (Switzerland); **Bernhard R. Brandl,** Leiden Observatory, Leiden Univ. (Netherlands); **Sander Kwast,** ASTRON (Netherlands)

13099-7 • 11:00 AM - 11:20 AM

**The grand unified theory of project portfolio management at the ANU Advanced Instrumentation Technology Centre**

*Author(s):* **Roger Haynes**, **Celine D'Orgeville**, **David Brodrick,** The Australian National Univ. (Australia); **Jennifer Burgess,** ANU Enterprise Pty Ltd. (Australia); **Antony Galla**, **Nian Jiang,** The Australian National Univ. (Australia); **Rachael Rhineberger,** ANU Enterprise Pty Ltd. (Australia)

13099-8 • 11:20 AM - 11:40 AM
**The Astralis Instrumentation Consortium: overview of the first 5 years of operation and plans for future**
*Author(s):* **Nian Jiang,** The Australian National Univ. (Australia), Astralis (Australia); **Summer Luo,** Australian Astronomical Optics, Macquarie Univ. (Australia), Astralis (Australia); **Celine D'Orgeville,** The Australian National Univ. (Australia), Astralis (Australia); **Julia Bryant,** Sydney Institute for Astronomy, The Univ. of Sydney (Australia), Astralis (Australia); **Mark Casali,** Australian Astronomical Optics, Macquarie Univ. (Australia), Astralis (Australia); **Roger Haynes,** The Australian National Univ. (Australia)

13099-9 • 11:40 AM - 12:00 PM
**Project Management and Systems Engineering Partnership as the Key to Developing Gemini's Ground Layer Adaptive Secondary System (GLASS)**
*Author(s):* **Natalia McCarthy**, **Christine Ricardo, Christophe Clergeon,** Gemini Observatory, NSF's National Optical-Infrared Astronomy Research Lab. (United States)

13099-10 • 12:00 PM - 12:20 PM
**Pumping up the volume (of development): engineering and programmatic challenges implementing the ALMA 2030 Roadmap and the Wideband Sensitivity Upgrade**
*Author(s):* **Juande Santander-Vela,** ALMA (Chile); **Carla Crovari**, **Theodoros Nakos**, **John Carpenter**, **Álvaro González,** Joint ALMA Observatory (Chile); **Todd R. Hunter,** National Radio Astronomy Observatory (United States); **Kenichi Kikuchi,** National Astronomical Observatory of Japan (Japan); **Christian Saldías**, **Tzu-Chiang Shen,** Joint ALMA Observatory (Chile); **Gie Han Tan,** European Southern Observatory (Germany)

## Lunch Break 12:20 PM - 01:40 PM

## SESSION 3: SYSTEMS ENGINEERING METHODS

16 June 2024 • 01:40 PM - 03:20 PM | Room G213, North - 2F
*Session Chair(s):* **Sébastien Elias Egner**, European Southern Observatory (Germany); **Scott C. Roberts**, NRC-Herzberg Astronomy & Astrophysics (Canada)

13099-11 • 01:40 PM - 02:00 PM
**Virtual and mixed reality tools to support the design of astronomical instrumentation in a concurrent design environment**
*Author(s):* **Christian Eredia**, **Vincenzo Cianniello**, **Domenico D'Auria**, **Vincenzo De Caprio, Enrico Cascone,** INAF - Osservatorio Astronomico di Capodimonte (Italy)

13099-12 • 02:00 PM - 02:20 PM
**Benefits and limitations of Model Based Systems Engineering (MBSE) application in full scale Space Project: a return from experience in the ESA PLATO mission**
*Author(s):* **Jose Lorenzo Alvarez**, **Sami Matias Niemi**, **Laurence O'Rourke**, **David Peña Hidalgo,** European Space Agency (Netherlands); **Andrea Balestra,** INAF - Osservatorio Astronomico di Padova (Italy); **Giacomo Dinuzzi,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

13099-13 • 02:20 PM - 02:40 PM
**Beyond spreadsheets: enhancing collaboration and traceability by streamlining systems engineering processes with Atlassian Jira**
*Author(s):* **Kayla Hardie**, **Josh Church**, **Jamie Dodge**, **Bart Fordham**, **Sarah Gajadhar**, **Nancy Han**, **John W. Miles**, **Fernando Santoro, Gelys Trancho,** Thirty Meter Telescope (United States)

13099-14 • 02:40 PM - 03:00 PM
**MBSE or no MBSE: is MBSE the final answer to system engineering?**
*Author(s):* **Marco Riva**, **Marcello Agostino Scalera**, **Matteo Genoni**, **Alessio Zanutta,** INAF - Osservatorio Astronomico di Brera (Italy); **Andrea Balestra,** INAF - Osservatorio Astronomico di Padova (Italy)

13099-15 • 03:00 PM - 03:20 PM
**CUBES, the next-generation spectrograph for VLT: a comprehensive MBSE approach to the project development. Focus on requirements management, activities modeling, PBS and BoM automatic generation**
*Author(s):* **Marcello Agostino Scalera**, **Matteo Genoni**, **Marco Riva,** INAF - Osservatorio Astronomico di Brera (Italy); **Andrea Balestra,** INAF - Osservatorio Astronomico di Padova (Italy)

## Coffee Break 03:20 PM - 03:50 PM

## SESSION 4: SYSTEMS ENGINEERING MANAGEMENT I

16 June 2024 • 03:50 PM - 05:10 PM | Room G213, North - 2F
*Session Chair(s):* **Sébastien Elias Egner**, European Southern Observatory (Germany); **Scott C. Roberts**, NRC-Herzberg Astronomy & Astrophysics (Canada)

13099-17 • 03:50 PM - 04:10 PM
**Lessons in cat herding: methods used for managing a large international collaborative engineering project, the Ariel mission payload**
*Author(s):* **Paul Eccleston**, **Rachel Drummond**, **Andrew Caldwell**, **Georgia Bishop**, **Lucile Desjonqueres**, **Alexander Davidson,** STFC Rutherford Appleton Lab. (United Kingdom); **Giovanna Tinetti,** Univ. College London (United Kingdom); **Salma Fahmy**, **Ludovic Puig, Jean-Christophe Salvignol,** European Space Research and Technology Ctr. (Netherlands)

13099-18 • 04:10 PM - 04:30 PM
**ELT system performance optimization by the 50% completion milestone**
*Author(s):* **Juan-Carlos González Herrera, Jason Spyromilio,** European Southern Observatory (Germany)

13099-19 • 04:30 PM - 04:50 PM
**Status of the ELT phasing and diagnostic station project**
*Author(s):* **Lorenzo Pettazzi**, **Thomas Pfrommer**, **Steffan Lewis**, **Jose Antonio Abad**, **Constanza Araujo Hauck**, **Helen Bedigan**, **Henri Bonnet**, **Pierre Bourget**, **Martin Brinkmann**, **Elsa Calmette**, **Angela Cortes**, **Byron Engler**, **Christoph Frank**, **Fernando Gago**, **Thomas Grudzien**, **Ivan Maria Guidolin**, **Andreas Haimerl**, **Peter Hammersley**, **Marcus Haug**, **Renate Hinterschuster**, **Stefan Huber**, **Paul D. Jolley**, **Aglae Kellerer**, **Mario Kiekebusch**, **Jean-Paul Kirchbauer**, **Johannes Kolmeder**, **Johan Kosmalski**, **Ulrich Lampater**, **Paolo La Penna**, **Serban Leveratto**, **Christian Lucuix**, **Ignacio Lopez Gil**, **Christopher Mandla**, **Enrico Marchetti**, **Christophe Moins**, **Jerome Paufique**, **Oliver Pfuhl**, **Dan Popovic**, **Babak Sedghi**, **Sebastien Tordo**, **Christophe Verinaud, Pablo Zuluaga Ramirez,** European Southern Observatory (Germany)

13099-20 • 04:50 PM - 05:10 PM
**ANDES, the high resolution spectrograph for the ELT: model-based systems engineering approach**
*Author(s):* **Alessio Zanutta**, **Marcello Agostino Scalera**, **Marco Riva**, **Lorenzo Cabona**, **Andrea Balestra,** INAF - Osservatorio Astronomico di Brera (Italy); **Paolo Di Marcantonio,** INAF - Osservatorio Astronomico di Trieste (Italy); **Marco Xompero, Alessandro Marconi,** INAF - Osservatorio Astronomico di Arcetri (Italy)

## Monday 17 June 2024

### MONDAY PLENARY

17 June 2024 • 08:20 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/monday-plenary

13173-500 • 08:30 AM - 09:15 AM
**Moving TMT forward: Japan's contributions and transformative approach toward community engagement** (Plenary Presentation)
*Author(s):* **Tomonori Usuda,** National Astronomical Observatory of Japan (United States); **Yuko Kakazu,** Thirty Meter Telescope (United States)

13173-501 • 09:15 AM - 10:00 AM
**From dark skies to bright futures: the evolution of astronomy in Africa and the hosting of the historic International Astronomical Union General Assembly 2024** (Plenary Presentation)
*Author(s):* **Charles Mpho Takalana,** The African Astronomical Society (South Africa)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 5: SERIES PRODUCTION/INFORMATION AND CONFIGURATION AND QUALITY MANAGEMENT

17 June 2024 • 10:30 AM - 12:10 PM | Room G213, North - 2F
*Session Chair(s):* **Masahiro Sugimoto**, National Astronomical Observatory of Japan (Japan)

13099-22 • 10:30 AM - 10:50 AM
**The TOU of the PLATO mission: Product Assurance Management during Flight Models production**
*Author(s):* **Simonetta Chinellato,** INAF - Osservatorio Astronomico di Padova (Italy); **Natalia Auricchio,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Joseph Huesler,** European Space Research and Technology Ctr. (Netherlands); **Giovanni Postiglione**, **Alberto Macri,** Leonardo S.p.A. (Italy); **Francesco Borsa,** INAF - Osservatorio Astronomico di Brera (Italy); **Flavia Calderone,** INAF - Osservatorio Astrofisico di Catania (Italy); **Jacopo Farinato**, **Demetrio Magrin**, **Luca Marafatto,** INAF - Osservatorio Astronomico di Padova (Italy); **Matteo Munari**, **Isabella Pagano,** INAF - Osservatorio Astrofisico di Catania (Italy); **Roberto Ragazzoni**, **Valentina Viotto,** INAF - Osservatorio Astronomico di Padova (Italy); **Andrea Novi**, **Carlotta Graziani**, **Massimo Marinai**, **Filippo Ruggiero,** Leonardo S.p.A. (Italy); **Mauro Ferrero**, **Roberta Orsi**, **Donata Valletti,** Thales Alenia Space (Italy); **Daniele Piazza**, **Timothy Bandy**, **Virginie Cessa,** Univ. Bern (Switzerland); **Alexis Brandeker,** Stockholm Univ. (Sweden); **Daniele Brienza**, **Mario Salatti, Raffaele Piazzolla,** Agenzia Spaziale Italiana (Italy)

13099-23 • 10:50 AM - 11:10 AM
**Rubin Systems Engineering Processes for Image Quality tracking, CMMS selection, FRACAS handling, and Hazard Mitigation Analysis**
*Author(s):* **Holger Drass,** Vera C. Rubin Observatory (Chile); **Cristian Silva,** NSF's National Optical-Infrared Astronomy Research Lab., Association of Universities for Research in Astronomy (Chile); **Charles Claver,** NSF's National Optical-Infrared Astronomy Research Lab., Association of Universities for Research in Astronomy (United States); **David Cabrera,** NSF's National Optical-Infrared Astronomy Research Lab., Association of Universities for Research in Astronomy (Chile); **Diane Hascall,** SLAC National Accelerator Lab. (United States); **Eduardo Serrano,** NSF's National Optical-Infrared Astronomy Research Lab., Association of Universities for Research in Astronomy (Chile); **Enrico Giro,** INAF - Osservatorio Astronomico di Padova (Italy); **Gabriele Rodeghiero,** INAF (Italy); **Jeff Barr**, **Kevin Siruno,** NSF's National Optical-Infrared Astronomy Research Lab., Association of Universities for Research in Astronomy (United States); **Luca Rosignoli,** INAF (Italy); **Matthew Rumore,** Brookhaven National Lab. (United States); **Mostafa Lutfi,** NSF's National Optical-Infrared Astronomy Research Lab., Association of Universities for Research in Astronomy (United States); **Pablo Zorzi,** NSF's National Optical-Infrared Astronomy Research Lab., Association of Universities for Research in Astronomy (Chile); **Rodolfo Canestrari,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Palermo (Italy); **Sandrine Thomas,** NSF's National Optical-Infrared Astronomy Research Lab., Association of Universities for Research in Astronomy (United States); **Wouter van Reeven,** NSF's National Optical-Infrared Astronomy Research Lab., Association of Universities for Research in Astronomy (Chile)

13099-24 • 11:10 AM - 11:30 AM
**Logistics and integration of series-production items for the ELT: a new challenge at ESO**
*Author(s):* **Sébastien E. Egner**, **Philippe Gitton**, **Lluis Cavaller Marques,** European Southern Observatory (Germany); **Carina Celedon**, **Andreia Centeio,** European Southern Observatory (Chile); **Emanuela Ciattaglia**, **Martin Dimmler**, **Nicola Di Lieto**, **Michael Esselborn**, **Andreas Förster**, **Juan-Carlos Gonzalez-Herrera**, **Ronald Guzmann**, **Robert Hamilton**, **Aglae Kellerer**, **Herve Kurlandczyk**, **Yannick Lammen**, **Juan Marrero Hernández**, **Tobias Müller**, **Ricardo Parra**, **Lorenzo Pettazzi**, **Dan Pilbauer**, **Andreas Reinacher**, **Jürgen Riesel, Dario Serrano,** European Southern Observatory (Germany)

13099-25 • 11:30 AM - 11:50 AM
**A comprehensive trade study of asset and maintenance management tools for the Thirty Meter Telescope**
*Author(s):* **Bart Fordham**, **Kayla Hardie**, **Josh Church**, **Louis A. Marchetti, Gelys Trancho,** Thirty Meter Telescope (United States)

13099-26 • 11:50 AM - 12:10 PM
**Estimated environment impact of the ELT instrument MOSAIC**
*Author(s):* **Annemieke W. Janssen,** ASTRON (Netherlands); **Kacem el Hadi,** Lab. d'Astrophysique de Marseille (France); **Nazim A. Bharmal,** Durham Univ. (United Kingdom); **Francois Wildi,** Univ. de Genève (Switzerland)

## Lunch Break 12:10 PM - 02:00 PM

## SESSION 6: MODELING AS A DRIVER OF OBSERVATORY DESIGN - JOINT SESSION WITH 13094 AND 13099

17 June 2024 • 02:00 PM - 04:50 PM | Room G403/404, North - 4F
*Session Chair(s):* **Breann N. Sitarski**, NASA Goddard Space Flight Ctr. (United States); **Bernhard Lopez**, Cherenkov Telescope Array Observatory gGmbH (Germany)

13094-25 • 02:00 PM - 02:20 PM
**An update on the DKIST's sitewide vibration surveillance and mitigation efforts**
*Author(s):* **Brialyn Onodera**, **Sebastien Poupar**, **David M. Harrington**, **Luke C. Johnson, Stacey R. Sueoka,** National Solar Observatory (United States)

13094-26 • 02:20 PM - 02:40 PM
**Thermal stabilization of the Large Millimeter Telescope**
*Author(s):* **F. Peter Schloerb**, **Kamal Souccar,** Univ. of Massachusetts Amherst (United States); **David M. Gale,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Xia Huang,** Univ. of Massachusetts Amherst (United States); **David H. Hughes**, **Emir Moreno**, **José Luis Hernández Rebollar,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Grant W. Wilson,** Univ. of Massachusetts Amherst (United States)

13094-27 • 02:40 PM - 03:00 PM
**Aerothermal support for TMT International Observatory Enclosure and Summit Facilities subsystems**
*Author(s):* **Konstantinos Vogiatzis**, **Hugh Thompson, Gelys Trancho,** Thirty Meter Telescope (United States)

13094-28 • 03:00 PM - 03:20 PM
**Modal vibration testing of the 26m John A. Galt radio telescope**
*Author(s):* **Peter W. G. Byrnes**, **Mohammad N. Islam**, **Timothy Robishaw, Parmeet Brar,** NRC-Herzberg Astronomy & Astrophysics (Canada)

Coffee Break • 03:20 PM - 03:50 PM

13099-28 • 03:50 PM - 04:10 PM
**A feedforward/feedback pointing control policy for Leighton Chajnantor Telescope against wind disturbance and beam offset**
*Author(s):* **Weirui Chen, Zheng Wang,** Southeast Univ. (China)

13099-29 • 04:10 PM - 04:30 PM
**GMT integrated FEM and its role in systems engineering**
*Author(s):* **Christoph Dribusch**, **Rodolphe Conan**, **Rodrigo Romano, Henry Fitzpatrick,** GMTO Corp. (United States)

13099-30 • 04:30 PM - 04:50 PM
**Dynamic simulations, jitter analysis, and vibration budget for tracking performance optimization of the Giant Magellan Telescope mount**
*Author(s):* **Alexei Ippa**, **Eberhard Sust**, **Ulrich Weis, Peter Eisenträger,** OHB Digital Connect GmbH (Germany)

## SESSION PS1: POSTERS - SERIES PRODUCTION/INFORMATION, CONFIGURATION AND QUALITY MANAGEMENT

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

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13099-47 • 05:30 PM - 07:00 PM
**Asset management for the ELT**
*Author(s):* **Sébastien E. Egner**, **Robert Hamilton**, **Fernando Gago**, **Ronald Guzman**, **Sergio Gonzalez**, **Dario Serrano**, **Nathalia Escarlate**, **Amelie Gnatz,** European Southern Observatory (Germany); **Javier Gonzalez,** European Southern Observatory (Chile); **Juan-Carlos Gonzalez Herrera**, **Herve Kurlandczyk**, **Matias Jaeger**, **Katia Montironi,** European Southern Observatory (Germany); **Alex Morales,** European Southern Observatory (Chile); **Judith Phillips,** European Southern Observatory (Germany); **Waldo Siclari,** European Southern Observatory (Chile)

13099-48 • 05:30 PM - 07:00 PM
**PLM-driven manufacturing of medium-sized telescope structures of CTAO**
*Author(s):* **Markus Garczarczyk**, **Maria Krause, Lars Hagge,** Deutsches Elektronen-Synchrotron (Germany)

13099-49 • 05:30 PM - 07:00 PM
**Product and quality assurance at production of ALMA receivers**
*Author(s):* **Marielle Bekema**, **Rob de Haan Stijkel**, **Albert Koops, Ronald Hesper,** NOVA (Netherlands)

13099-52 • 05:30 PM - 07:00 PM
**Managing the mass production for the LAD instrument onboard eXTP**
*Author(s):* **Gabriele Minervini,** INAF (Italy); **Andrea Argan**, **Marco Feroci,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Alessio Trois,** INAF (Italy); **Ettore Del Monte,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Daniele Brienza,** Agenzia Spaziale Italiana (Italy); **Giovanni Ambrosi**, **Matias Antonelli,** INFN (Italy); **Marco Barbera,** Università di Palermo (Italy); **David Baudin,** CEA Paris-Saclay (France); **Joerg Bayer,** Institut fur Astronomie und Astrophysik, Eberhard Karls Universitat (Germany); **Pierluigi Bellutti,** Fondazione Bruno Kessler (Italy); **Bruna Bertucci,** University of Perugia (Italy); **Xingzi Bi,** Innovation Academy for Microsatellites of CAS (China); **Walter Bonvicini,** INFN (Italy); **Enrico Bozzo,** Univ. de Genève (Switzerland); **Florent Bouyjou,** CEA Paris-Saclay (France); **Franck Cadoux,** Department of Nuclear and Particle Physics, University of Geneva (Switzerland); **Riccardo Campana,** INAF (Italy); **Jiewei Cao,** IHEP (China); **Elisabetta Cavazzuti,** ASI (Italy); **Francesco Ceraudo,** INAF (Italy); **Chen Tianxiang,** IHEP (China); **Chen Wen,** Innovation Academy for Microsatellites of CAS (China); **Daniela Cirrincione,** INFN (Italy); **Alfonso Collura**, **Fabio D'Anca,** INAF (Italy); **Nicolas De Angelis,** Department of Nuclear and Particle Physics (Switzerland); **Alessandra De Rosa**, **Sergio Di Cosimo**, **Giuseppe Didillo**, **Yuri Evangelista,** INAF (Italy); **Yannick Favre,** Department of Nuclear and Particle Physics (Switzerland); **Emanuele Fiandrini,** University of Perugia (Italy); **Francesco Ficorella,** Fondazione Bruno Kessler (Italy); **Na Gao,** IHEP (China); **Olivier Gevin,** CEA Paris-Saclay (France); **Manuel Guedel,** Universität Wien (Austria); **Huilin He,** IHEP (China); **Paul Hedderman,** Institut fur Astronomie und Astrophysik (Germany); **Merlin Kole,** Department of Nuclear and Particle Physics (Switzerland); **Vladimir Karas,** Astronomical Institute, Czech Academy of Sciences (Czech Republic); **Martin Komarek,** L.K. Engineering, s.r.o. (Czech Republic); **Richard Hinek,** L.K. Engineering (Czech Republic); **Daniel La Marra,** Department of Nuclear and Particle Physics (Switzerland); **Yupeng Xu,** IHEP (China); **Olivier Limousin,** CEA Paris-Saclay (France); **Rui Liu,** Innovation Academy for Microsatellites of CAS (China); **Ugo Lo Cicero,** INAF (Italy); **Jens Loehring,** ESA (Netherlands); **Giovanni Lombardi,** INAF (Italy); **Fang-Jun Lu,** IHEP (China); **Xingbo Han,** Innovation Academy for Microsatellites of CAS (China); **Tao Luo,** IHEP (China); **Martin Merkl,** L.K. Engineering (Czech Republic); **Aline Meuris,** CEA Paris-Saclay (France); **Malgorzata Michalska,** Space Research Center, Polish Academy of Sciences (Poland); **Gianluca Morgante,** INAF (Italy); **Hong Liang**, **Rui Liu,** Innovation Academy for Microsatellites of CAS (China); **Riccardo Munini,** INFN (Italy); **Lorenzo Mussolin,** University of Perugia (Italy); **Petr Novák,** Frentech Aerospace s.r.o. (Czech Republic); **Witold Nowosielski,** Space Research Center (Poland); **Alessio Nuti,** INAF (Italy); **Piotr Orleanski,** Space Research Center (Poland); **Roland Ottensamer,** Universität Wien (Austria); **Luigi Pacciani,** INAF (Italy); **Stephane Paltani,** Department of Astronomy (Switzerland); **Giancarlo Pepponi,** Fondazione Bruno Kessler (Italy); **Raffaele Piazzolla,** Agenzia Spaziale Italiana (Italy); **Antonino Picciotto,** Fondazione Bruno Kessler (Italy); **Samuel Pliego Caballero**, **Andreas Putz,** Institut fur Astronomie und Astrophysik (Germany); **Alexandre Rachevski**, **Irina Rashevskaya,** INFN (Italy); **Alina Samusenko,** Fondazione Bruno Kessler (Italy); **Andrea Santangelo,** Institut fur Astronomie und Astrophysik (Germany); **Stephane Schanne,** CEA Paris-Saclay (France); **Luisa Sciortino,** INAF (Italy); **Konrad Skup,** Space Research Center (Poland); **Libor Sveda**, **Jiri Svoboda,** Astronomical Institute (Czech Republic); **Michela Todaro,** INAF (Italy); **Chris Tenzer,** Institut fur Astronomie und Astrophysik (Germany); **Andrea Vacchi,** INFN (Italy); **Hao Xiong,** Institut fur Astronomie und Astrophysik (Germany); **Jian Wang,** North Night Vision Technology Co. Ltd (China); **Xianqi Wang,** Institut fur Astronomie und Astrophysik (Germany); **Berend Winter,** Mullard Space Science Laboratory, UCL (United Kingdom); **Xin Wu,** Department of Nuclear and Particle Physics (Switzerland); **Gianluigi Zampa**, **Nicola Zampa,** INFN (Italy); **Andrzej A. Zdziarski,** Nicolaus Copernicus Astronomical Center, Polish Academy of Sciences (Poland); **Shuang-Nan Zhang,** IHEP (China); **Nicola Zorzi,** Fondazione Bruno Kessler (Italy)

## SESSION PS2: POSTERS - RAMS

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

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13099-53 • 05:30 PM - 07:00 PM
**Cost-effective approach to quality assurance via failure modes and effects analysis for the development of GIRMOS for the Gemini North Telescope**
*Author(s):* **Mark Barnet**, **Suresh Sivanandam,** Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada); **Franics Frenzel,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Scott Christie,** Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada); **Shawn Barbod,** NSF's National Optical-Infrared Astronomy Research Lab., Association of Universities for Research in (Canada); **Ruben Diaz, Martin Tschimmel,** NSF's National Optical-Infrared Astronomy Research Lab., Association of Universities for Research in (Chile)

13099-54 • 05:30 PM - 07:00 PM
**A safety-driven point of view on the use of industrial technologies: trade-off on the implementation**
*Author(s):* **Domenico D'Auria,** INAF - Osservatorio Astronomico di Capodimonte (Italy), Univ. degli Studi di Napoli Federico II (Italy); **Simonetta Chinellato,** INAF (Italy); **Christian Eredia,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Rosanna Sordo**, **Enrico Giro,** INAF (Italy); **Vincenzo De Caprio**, **Vincenzo Cianniello**, **Enrico Cascone,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Marco Riva, Paolo Ciliegi,** INAF (Italy)

13099-55 • 05:30 PM - 07:00 PM
**The RAM(S) analysis of the CUBES spectrograph for the preliminary design phase and developments**
*Author(s):* **Domenico D'Auria,** INAF - Osservatorio Astronomico di Capodimonte (Italy), Univ. degli Studi di Napoli Federico II (Italy); **Vincenzo De Caprio,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Mina Sibalic,** INAF (Italy); **Vincenzo Cianniello**, **Christian Eredia,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Matteo Genoni**, **Roberto Cirami, Stefano Covino,** INAF (Italy)

13099-57 • 05:30 PM - 07:00 PM
**ANDES, the high resolution spectrograph for the ELT: RAM strategy during the preliminary design review**
*Author(s):* **Enrico Giro,** INAF - Osservatorio Astronomico di Padova (Italy); **Alessio Zanutta,** INAF - Osservatorio Astronomico di Brera (Italy); **Paolo Di Marcantonio,** INAF - Osservatorio Astronomico di Trieste (Italy); **Manuel Abreu,** Instituto de Astrofísica e Ciências do Espaço (Italy); **Matteo Aliverti,** INAF - Osservatorio Astronomico di Brera (Italy); **Andrea Balestra,** INAF - Osservatorio Astronomico di Padova (Germany); **Lorenzo Cabona,** INAF - Osservatorio Astronomico di Brera (Italy); **Bruno Chazelas,** Observatoire de Genève (Switzerland); **Igor Coretti,** INAF - Osservatorio Astronomico di Trieste (Italy); **Wolfgang Gaessler,** Max-Planck-Institut für Astrophysik (Germany); **Philipp Huke,** Georg-August-Univ. Göttingen (Germany); **Domenico Giannone,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Marco Landoni,** INAF - Osservatorio Astronomico di Brera (Italy); **Michael MacIntosh,** The Royal Observatory, Edinburgh (United Kingdom); **Ernesto Oliva,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Livia Origlia,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Giorgio Pariani**, **Edoardo Maria Alberto Redaelli**, **Marco Riva,** INAF - Osservatorio Astronomico di Brera (Italy); **Chiara Selmi**, **Marco Xompero,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Jennifer Zimara,** Georg-August-Univ. Göttingen (Germany); **Alessandro Marconi,** Univ. degli Studi di Firenze (Italy)

13099-58 • 05:30 PM - 07:00 PM
**MAVIS: system design, delivery, reliability, availability, maintainability, and safety: integrated framework and tools**
*Author(s):* **Roger Haynes**, **David Brodrick**, **Antony Galla**, **Dionne M. Haynes**, **Francois Rigaut,** The Australian National Univ. (Australia); **Jennifer Burgess,** ANU Enterprise Pty Ltd. (Australia); **Summer Luo,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Rosanna Sordo**, **Salvatore Savarese**, **Simonetta Chinellato,** INAF - Padova Observatory (Italy); **Brad Van Fleet,** Relyence Corp. (United States)

13099-59 • 05:30 PM - 07:00 PM
**The state of the safety for the CUBES spectrograph at the preliminary design phase**
*Author(s):* **Mina Sibalic,** INAF (Italy); **Vincenzo De Caprio,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Domenico D'Auria,** INAF - Osservatorio Astronomico di Capodimonte (Italy), Univ. degli Studi di Napoli Federico II (Italy); **Matteo Genoni,** INAF - Osservatorio Astronomico di Brera, Italy (Italy); **Roberto Cirami,** INAF - Osservatorio Astronomico di Trieste (Italy); **Stefano Covino,** INAF - Osservatorio Astronomico di Brera (Italy)

## SESSION PS3: POSTERS - MANAGING UPGRADES

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

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13099-60 • 05:30 PM - 07:00 PM
**Challenges and Progress on the wideband SMA (wSMA) upgrade for the Submillimeter Array**
*Author(s):* **Robert D. Christensen,** The Submillimeter Array, Smithsonian Astrophysical Observatory (United States); **Edward Tong**, **Paul K. Grimes**, **Lingzhen Leng**, **Steve P. Leiker**, **John Test, Nigel Atkins,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13099-61 • 05:30 PM - 07:00 PM
**Method for minimally disruptive electronic system upgrades at Telescopio Nazionale Galileo**
*Author(s):* **Hector Perez Ventura**, **Manuel Gonzalez, Marcos Hernandez,** Fundación Galileo Galilei - INAF (Spain)

## SESSION PS4: POSTERS - MANUFACTURING, ASSEMBLY, INTEGRATION, TESTING AND OPERATING SYSTEMS

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

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13099-62 • 05:30 PM - 07:00 PM
**NFIRAOS Integration Phase: Planning for capacity, integration and other logistics**
*Author(s):* **Jenny Atwood,** NRC-Herzberg Astronomy & Astrophysics (Canada); **David R. Andersen,** Thirty Meter Telescope (United States); **Glen Herriot**, **Peter W. G. Byrnes, Jean-Pierre Veran,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13099-63 • 05:30 PM - 07:00 PM
**SOXS System engineering from design to installation: challenges and results**
*Author(s):* **Riccardo U. Claudi**, **Kalyan Kumar Radhakrishnan Santhakumari**, **Federico Battaini**, **Simone Di Filippo**, **Lorenzo Cabona,** INAF - Osservatorio Astronomico di Padova (Italy); **Sergio Campana,** INAF - Osservatorio Astronomico di Brera (Italy); **Pietro Schipani,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Matteo Aliverti,** INAF - Osservatorio Astronomico di Brera (Italy); **José Antonio Araiza-Durán,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Laura Asquini,** INAF - Osservatorio Astronomico di Brera (Italy); **Andrea Baruffolo,** INAF - Osservatorio Astronomico di Padova (Italy); **Sagi Ben Ami,** Weizmann Institute of Science (Israel); **Anna Brucalassi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Rachel Bruch,** Weizmann Institute of Science (Israel); **Giulio Capasso**, **Mirko Colapietro,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Rosario Cosentino,** Fundación Galileo Galilei - INAF (Spain); **Francesco D'Alessio,** INAF - Osservatorio Astronomico di Roma (Italy); **Paolo D'Avanzo,** INAF - Osservatorio Astronomico di Brera (Italy); **Sergio D'Orsi,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Matteo Genoni,** INAF - Osservatorio Astronomico di Brera (Italy); **Ofir Hershko,** Weizmann Institute of Science (Israel); **Hanindyo Kuncarayakty,** Tuorla Observatory, Dep. of Physics and Astronomy (Finland); **Marco Landoni,** INAF - Osservatorio Astronomico di Brera (Italy); **Gianluca Li Causi,** INAF - Istituto di Astrofisica e Planetologia Spaziali, Via Fosso del Cavaliere, I-00133 Roma (Italy); **Luca Marafatto,** INAF - Osservatorio Astronomico di Padova (Italy); **Eugenio Martinetti**, **Antonio Micciché**, **Matteo Munari**, **Gaetano Nicotra,** INAF Osservatorio Astrofisico di Catania (Italy); **Giuliano Pignata,** Instituto de Alta Investigación Universidad de Tarapacá (Chile) (Chile); **Michael Rappaport,** Weizmann Institute of Science (Israel); **Davide Ricci,** INAF - Osservatorio Astronomico di Padova (Italy); **Adam Rubin,** ESO, Karl Schwarzschild Strasse 2, D--85748, Garching bei M\"unchen, Germany (Germany); **Bernardo Salasnich,** INAF - Osservatorio Astronomico di Padova (Italy); **Salvatore Scuderi,** INAF - Osservatorio Astronomico di Brera (Italy); **Stephen Smartt,** Astrophysics Research Centre, Queen's University, Belfast, (United Kingdom); **Fabrizio Vitali,** INAF - Osservatorio Astronomico di Roma (Italy); **David Young,** Astrophysics Research Centre (United Kingdom); **Ricardo Zanmar Sanchez,** INAF Osservatorio Astrofisico di Catania (Italy); **Jani Achren,** Incident Angle Oy, Capsiankatu 4 A 29, 20320 Turku, Finland (Finland); **Iair Arcavi,** Tel Aviv University, Department of Astrophysics, 69978 Tel Aviv, Israel (Israel); **Enrico Capellaro,** INAF - Osservatorio Astronomico di Padova (Italy); **Massimo Della Valle,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Avishay Gal-Yam,** Weizmann Institute of Science (Israel); **Seppo Matila,** Tuorla Observatory (Finland); **Marco Riva,** INAF - Osservatorio Astronomico di Brera (Italy)

13099-64 • 05:30 PM - 07:00 PM
**Overcoming obstacles to the assembly, integration, and testing of the WSS/METIS**
*Author(s):* **Mercedes Filho,** Univ. do Porto (Portugal); **António Amorim**, **Frederico Carvalho,** Univ. de Lisboa (Portugal); **Paulo Garcia,** Univ. do Porto (Portugal)

13099-66 • 05:30 PM - 07:00 PM
**NOVA MAX: manufacturing and assembly facility for ELT-era instrumentation**
*Author(s):* **Thomas Wijnen,** Holland Pavilion (Netherlands), NOVA (Netherlands); **Niels Tromp**, **Eddy Elswijk**, **Ramon Navarro**, **Michiel Rodenhuis**, **Menno Schuil**, **Menno de Haan, Gerard van Egmond,** NOVA (Netherlands)

13099-67 • 05:30 PM - 07:00 PM
**Rubin operations: enabling collaborative ground-up budget planning across a multi-team organization**
*Author(s):* **Ranpal Gill,** Vera C. Rubin Observatory (United States); **Phil Marshall,** SLAC National Accelerator Lab. (United States); **Cathy Petry,** Vera C. Rubin Observatory (United States); **Christine Soldahl,** SLAC National Accelerator Lab. (United States)

## SESSION PS5: POSTERS - MBSE

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13099-68 • 05:30 PM - 07:00 PM
**MBSE in the context of PLATO camera system development**
*Author(s):* **Giacomo Dinuzzi,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Andrea Balestra,** INAF - Osservatorio Astronomico di Padova (Italy); **Francesco Santoli,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Francesco Mazzei,** INAF (Italy)

13099-69 • 05:30 PM - 07:00 PM
**Model Based Systems Engineering for the Gemini North Adaptive Optics Bench – Phase A**
*Author(s):* **Michael Goodwin,** Macquarie Univ. (Australia), Astralis (Australia); **Piero Bruno**, **Sylvain Cetre**, **Julien Charton,** ALPAO S.A.S. (France); **Timothy Chin,** Macquarie Univ. (Australia), Astralis (Australia); **Carlos Correia,** Lab. d'Astrophysique de Marseille (France); **Tony J. Farrell,** Macquarie Univ. (Australia), Astralis (Australia); **Thierry Fusco,** ONERA (France); **Jon Lawrence,** Macquarie Univ. (Australia), Astralis (Australia); **Pierre Jouve,** Lab. d'Astrophysique de Marseille (France); **Helen McGregor,** Macquarie Univ. (Australia), Astralis (Australia); **Benoit Neichel,** Lab. d'Astrophysique de Marseille (France); **Andrew Rakich,** Macquarie Univ. (Australia), Astralis (Australia); **Francois Rigaut,** The Australian National Univ. (Australia), Astralis (Australia); **Jean-Franois Sauvage,** ONERA (France); **Lew Waller**, **Tiger Wang**, **Ali Ghari Zadeh, Jessica Zheng,** Macquarie Univ. (Australia), Astralis (Australia)

13099-70 • 05:30 PM - 07:00 PM
**MORFEO@ELT system engineering after PDR, MBSE, and beyond**
*Author(s):* **Marco Riva,** INAF - Osservatorio Astronomico di Brera (Italy)

13099-71 • 05:30 PM - 07:00 PM
**ANDES, the high resolution spectrograph for the ELT: description of an innovative methodology for the verification of the internal and external interfaces using the MBSE approach**
*Author(s):* **Marcello Agostino Scalera**, **Alessio Zanutta**, **Marco Riva,** INAF - Osservatorio Astronomico di Brera (Italy); **Andrea Balestra,** INAF - Osservatorio Astronomico di Padova (Italy); **Paolo Di Marcantonio,** INAF - Osservatorio Astronomico di Trieste (Italy); **Alessandro Marconi,** INAF - Osservatorio Astronomico di Arcetri (Italy); **Matteo Aliverti**, **Lorenzo Cabona**, **Giorgio Pariani,** INAF - Osservatorio Astronomico di Brera (Italy); **Ernesto Oliva,** Department of Physics and Astronomy, University of Florence (Italy); **Igor Coretti,** INAF - Osservatorio Astronomico di Trieste (Italy); **Redaelli Edoardo M.A.,** INAF - Osservatorio Astronomico di Brera (Italy)

13099-72 • 05:30 PM - 07:00 PM
**Innovative MBSE-based approach to the definition and management of cables and connectors applied to the development of astronomical instruments**
*Author(s):* **Marcello Agostino Scalera**, **Marco Riva**, **Alessio Zanutta**, **Matteo Genoni,** INAF - Osservatorio Astronomico di Brera (Italy); **Andrea Balestra,** INAF - Osservatorio Astronomico di Padova (Italy); **Paolo Ciliegi, Andrea Di Rocco,** INAF - OAS Bologna (Italy)

13099-73 • 05:30 PM - 07:00 PM
**Concept study support of research projects**
*Author(s):* **Asuka Shiomi**, **Daisuke Kaneko, Kazuhisa Mitsuda,** High Energy Accelerator Research Organization, KEK (Japan)

## SESSION PS6: POSTERS - PROJECT MANAGEMENT

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

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13099-74 • 05:30 PM - 07:00 PM
**ANDES, the high-resolution spectrograph for the ELT: project management for the preliminary design phase**
*Author(s):* **Paolo Di Marcantonio,** INAF - Osservatorio Astronomico di Trieste (Italy); **Eric H. C. Stempels,** Uppsala Univ. (Sweden); **Enrico Giro,** INAF - Osservatorio Astronomico di Padova (Italy); **Valentina Alberti,** INAF - Osservatorio Astronomico di Trieste (Italy); **Manuel Amate,** Instituto de Astrofísica de Canarias (Spain); **Veronica Baldini,** INAF - Osservatorio Astronomico di Trieste (Italy); **Frédérique Baron,** Univ. de Montréal (Canada); **Joar G. Brynnel,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Alexandre Cabral,** Univ. de Lisboa (Portugal); **Bruno Chazelas,** Observatoire de Genève (Switzerland); **Lise Christensen,** Niels Bohr Institute (Denmark); **Christine Füßlein,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Wolfgang Gaessler,** Max-Planck-Institut für Astronomie (Germany); **Elena Gallo,** Univ. of Michigan (United States); **Philipp Huke,** Hochschule Emden-Leer (Germany); **Yevgeniy Ivanisenko,** Observatoire de Genève (Switzerland); **Heidi Korhonen,** Max-Planck-Institut für Astronomie (Germany); **Driss Kouach,** Observatoire Midi-Pyrénées (France); **Izan de Castro Leão,** UFRN (Brazil); **David Lunney,** UK Astronomy Technology Ctr. (United Kingdom); **Alessandro Marconi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Piotr Maslowski,** Nicolaus Copernicus Univ. (Poland); **Manuel Monteiro,** Univ. do Porto (Portugal); **Nathan Neri,** INAF - Osservatorio Astronomico di Trieste (Italy); **Enrico Pinna**, **Chiara Selmi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Francesca Sortino,** INAF - Osservatorio Astronomico di Brera (Italy); **Rossella Spiga**, **Andrea Tozzi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Bachar Wehbe,** Univ. de Lisboa (Portugal); **Alessio Zanutta,** INAF - Osservatorio Astronomico di Brera (Italy); **Jennifer Zimara,** Georg-August-Univ. Göttingen (Germany)

13099-75 • 05:30 PM - 07:00 PM
**Tailoring project management for operational ground based observatories**
*Author(s):* **Laura Funk,** Association of Universities for Research in Astronomy, Inc. (United States); **Christian Veillet,** Large Binocular Telescope Observatory (United States)

13099-76 • 05:30 PM - 07:00 PM
**Lessons learned: ALMA band-1 receiver project management**
*Author(s):* **Yu Chieh Huang**, **Patrick Michel Koch**, **Yuh-Jing Hwang**, **Chau-Ching Chiong**, **Hsi-Wei Yen,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Paul Ho**, **You Hua Chu**, **Ue Li Pen**, **Chin Ting Ho, Chao Ching Wang,** Institute of Astronomy and Astrophysics (Taiwan)

13099-77 • 05:30 PM - 07:00 PM
**Project management for ground-based telescope array development**
*Author(s):* **Ji Hoon Kim**, **Myungshin Im**, **Hyungmok Lee, Seo-Won Chang,** Seoul National Univ. (Korea, Republic of)

13099-78 • 05:30 PM - 07:00 PM
**Emergency protocol activation at INTA as test house for PLATO: saving PLATO CAMs under unexpected events**
*Author(s):* **Amaia Santiago**, **Gonzalo Ramos Zapata**, **Fernando Conde**, **María del Rosario Canchal**, **Elisa Borreguero**, **Francisco Montoro**, **María Teresa Rodrigo**, **Ángel L. Valverde**, **Mª Ángeles Sierra**, **Lucia Espinosa,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Jesús Saíz,** Blasai (Spain); **Nicolas Gorius,** INAF - Osservatorio Astrofisico di Catania (Italy); **Claudio Arena,** INAF Istituto Nazionale di Astrofisica (Italy); **Natalia Auricchio,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Bart Vandenbussche,** KU Leuven (Belgium); **Philipp Eigmüller**, **Carsten Paproth,** Deutsches Zentrum für Luft- und Raumfahrt e.V. (Germany); **Francesca Molendini**, **Joseph Huesler, José Lorenzo,** European Space Agency (Netherlands)

13099-79 • 05:30 PM - 07:00 PM
**VSTPOL: project management and system engineering activities for the new wide-field polarimetric mode of the VST**
*Author(s):* **Salvatore Savarese**, **Mirko Colapietro**, **Pietro Schipani**, **Francesco Perrotta**, **Sergio D'Orsi**, **Laurent Marty**, **Giulio Capasso**, **Ricardo Zanmar Sanchez,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Demetrio Magrin**, **Jacopo Farinato,** INAF - Osservatorio Astronomico di Padova (Italy); **Gabriele Umbriaco,** Univ. degli Studi di Bologna (Italy); **Stefano Covino,** INAF - Osservatorio Astronomico di Brera (Italy)

13099-80 • 05:30 PM - 07:00 PM
**Variations of parametric cost model for ground and space telescopes**
*Author(s):* **H. Philip Stahl,** NASA Marshall Space Flight Ctr. (United States)

13099-81 • 05:30 PM - 07:00 PM
**Preliminary parametric cost model for x-ray grazing incidence optics for space flight**
*Author(s):* **Nathan Snyder**, **H. Philip Stahl**, **Jessica Gaskin**, **Courtney Perez, Robbie Holcombe,** NASA Marshall Space Flight Ctr. (United States)

13099-82 • 05:30 PM - 07:00 PM
**The MIRTA project: mapping and sharing skills and tools at the Italian National Institute for Astrophysics**
*Author(s):* **Fabrizio Vitali,** INAF - Osservatorio Astronomico di Roma (Italy); **Deborah Busonero,** INAF - Osservatorio Astrofisico di Torino (Italy); **Giulio Capasso,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Ugo Lo Cicero,** INAF - Osservatorio Astronomico di Palermo "Giuseppe Salvatore Vaiana" (Italy); **Marco Molinaro,** INAF - Osservatorio Astronomico di Trieste (Italy); **Simona Righini,** INAF - Istituto di Radioastronomia (Italy); **Francesco Santoli,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

13099-83 • 05:30 PM - 07:00 PM
**Not business as usual: increasing operational lifetime and attracting new science through utilization of project management principles for observatories**
*Author(s):* **Oyku Galvan,** NSF's National Optical-Infrared Astronomy Research Lab., Association of Universities for Research in (United States)

## SESSION PS7: POSTERS - SYSTEM MODELLING END-TO-END

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13099-85 • 05:30 PM - 07:00 PM
**HARMONI at ELT: a virtual instrument to get ready for the real one**
*Author(s):* **Aurélien Jarno**, **Laure Piqueras**, **Johan Richard, Arlette Pécontal,** Ctr. de Recherche Astrophysique de Lyon, Univ. de Lyon, Ecole Normale Supérieure de Lyon, CNRS (France)

13099-86 • 05:30 PM - 07:00 PM
**Modeling CUBES: from instrument simulation to data reduction prototype**
*Author(s):* **Andrea Scaudo,** INAF - Osservatorio Astronomico di Brera (Italy); **Guido Cupani**, **Matteo Porru,** INAF - Osservatorio Astronomico di Trieste (Italy); **Matteo Genoni,** INAF - Osservatorio Astronomico di Brera (Italy); **Giorgio Calderone,** INAF - Osservatorio Astronomico di Trieste (Italy); **Rodolfo Smiljanic,** Nicolaus Copernicus Astronomical Ctr. (Poland); **Marco Landoni,** INAF - Osservatorio Astronomico di Brera (Italy); **Roberto Cirami,** INAF - Osservatorio Astronomico di Trieste (Italy); **Stefano Covino,** INAF - Osservatorio Astronomico di Brera (Italy)

13099-87 • 05:30 PM - 07:00 PM
**End-to-end simulation for on-sky coupling to single-mode fibers of large optical telescopes**
*Author(s):* **Nan Zhou, Zhongwen Hu,** Nanjing Institute of Astronomical Optics & Technology, National Astronomical Observatories (China)

13099-88 • 05:30 PM - 07:00 PM
**Sensitivity analysis of coupled variables in integrated STOP models**
*Author(s):* **Rosemary K. Davidson,** Massachusetts Institute of Technology (United States); **Matthew R. Bolcar,** NASA Goddard Space Flight Ctr. (United States); **David W. Miller,** Massachusetts Institute of Technology (United States)

13099-89 • 05:30 PM - 07:00 PM
**Opto-mechanical analysis framework for the tolerancing of the METIS CFO**
*Author(s):* **Dennis Dolkens**, **Niels Tromp**, **Daan Zaalberg**, **Mirka Lewinska-Maresca**, **Marijn Versteeg**, **Jan Kragt**, **Rik ter Horst**, **Eddy Elswijk**, **Elfi Dijkstra**, **Menno de Haan**, **Sander Kwast**, **Dirk Lesman**, **Ivan Lloro**, **Jeffrey Lynn,** ASTRON (Netherlands); **Remko Stuik**, **Felix C. M. Bettonvil, Bernhard Brandl,** Leiden Observatory, Leiden Univ. (Netherlands)

13099-90 • 05:30 PM - 07:00 PM
**Verifying the pointing error budget of the MeerKAT+ telescopes using a mounted optical telescope**
*Author(s):* **Tobias Glaubach,** Max-Planck-Institut für Radioastronomie (Germany); **Daniel Bok,** OHB Digital Connect GmbH (Germany); **Rafael Castenholz**, **Niclas Esser,** Max-Planck-Institut für Radioastronomie (Germany); **Steffen Hartmann,** OHB Digital Connect GmbH (Germany); **Stefan Heyminck,** Max-Planck-Institut für Radioastronomie (Germany); **Alexei Ippa,** OHB Digital Connect GmbH (Germany); **Christian Leinz,** Max-Planck-Institut für Radioastronomie (Germany); **Stefan Thoms**, **Martin Timpe,** OHB Digital Connect GmbH (Germany); **Tobias Winchen, Gundolf Wieching,** Max-Planck-Institut für Radioastronomie (Germany)

13099-91 • 05:30 PM - 07:00 PM
**Wind disturbance characterization for the MeerKAT extension dish structure**
*Author(s):* **Alexei Ippa**, **Daniel Bok**, **Martin Timpe**, **Steffen Hartmann, Arne Petersen,** OHB Digital Connect GmbH (Germany)

13099-92 • 05:30 PM - 07:00 PM
**Slitless spectroscopy simulations of Milky Way dwarf satellite galaxies using TMT-WFOS**
*Author(s):* **Devika K. Divakar**, **Sivarani Thirupathi**, **Arun Surya**, **Ramya Sethuram,** Indian Institute of Astrophysics (India); **Charles Steidel**, **Jason Fucik,** Caltech (United States); **Manjunath Bestha, Prasanna G. Deshmukh,** Indian Institute of Astrophysics (India)

13099-93 • 05:30 PM - 07:00 PM
**JASMINE image simulator for high-precision astrometry and photometry**
*Author(s):* **Takafumi Kamizuka,** The Univ. of Tokyo (Japan); **Hajime Kawahara,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Ryou Ohsawa,** National Astronomical Observatory of Japan (Japan); **Hirokazu Kataza,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Daisuke Kawata,** Univ. College London (United Kingdom), National Astronomical Observatory of Japan (Japan); **Yoshiyuki Yamada,** Kyoto Univ. (Japan); **Teruyuki Hirano,** AstroBiology Ctr., NINS (Japan); **Kohei Miyakawa,** National Astronomical Observatory of Japan (Japan); **Masataka Aizawa,** Shanghai Jiao Tong Univ. (China); **Masashi Omiya,** AstroBiology Ctr., NINS (Japan); **Taihei Yano,** National Astronomical Observatory of Japan (Japan); **Ryouhei Kano,** National Astronomical Observatory of Japan (Japan), Japan Aerospace Exploration Agency (Japan); **Takehiko Wada,** National Astronomical Observatory of Japan (Japan); **Wolfgang Loeffler**, **Michael Biermann,** Zentrum für Astronomie der Universität Heidelberg (Germany); **Pau Ramos,** National Astronomical Observatory of Japan (Japan); **Naoki Isobe**, **Fumihiko Usui,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Kohei Hattori,** The Institute of Statistical Mathematics (Japan), National Astronomical Observatory of Japan (Japan); **Satoshi Yoshikawa,** Tokyo Univ. of Marine Science and Technology (Japan); **Takayuki Tatekawa,** Kochi College (Japan), Waseda Univ. (Japan); **Hideyuki Izumiura**, **Akihiko Fukui**, **Makoto Miyoshi**, **Daisuke Tatsumi,** National Astronomical Observatory of Japan (Japan); **Naoteru Gouda,** National Astronomical Observatory of Japan (Japan), The Graduate Univ. for Advanced Studies (Japan)

13099-94 • 05:30 PM - 07:00 PM
**Spectral performance budget for ATHENA's Wide Field Imager**
*Author(s):* **Astrid Mayr**, **Johannes Müller-Seidlitz**, **Valentin Emberger**, **Robert Andritschke**, **Jonas Reiffers**, **Anna Schweingruber**, **Sebastian Albrecht, Hermine Schnetler,** Max-Planck-Institut für extraterrestrische Physik (Germany)

## SESSION PS8: POSTERS - SYSTEM MODELLING OPTICS

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13099-95 • 05:30 PM - 07:00 PM
**Theoretical limits on polarization differential imaging for the GSMTs imposed by polarization aberrations**
*Author(s):* **Jaren N. Ashcraft**, **Ramya M. Anche**, **Ewan S. Douglas,** Steward Observatory (United States); **Maxwell Millar-Blanchaer,** Univ. of California, Santa Barbara (United States); **Justin Hom,** Steward Observatory (United States)

13099-96 • 05:30 PM - 07:00 PM
**Introducing RayZaler: a free opto-mechanical simulation framework**
*Author(s):* **Gonzalo José Carracedo Carballal,** Centro de Astrobiología, INTA Instituto Nacional de Técnica Aeroespacial, Consejo Superior de Investigaciones Científicas (Spain); **Javier Piqueras López,** Centro de Astrobiología (Spain)

13099-97 • 05:30 PM - 07:00 PM
**Analysis of the PSF moments of the Simonyi Survey Telescope**
*Author(s):* **Salvatore Savarese**, **Ricardo Zanmar Sanchez,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Laura Schreiber,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Vittorio Braga,** INAF - Osservatorio Astronomico di Roma (Italy); **Pietro Schipani,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Giuliana Fiorentino**, **Marcella Di Criscienzo,** INAF - Osservatorio Astronomico di Roma (Italy); **Sandrine Thomas,** Vera C. Rubin Observatory (United States); **Joshua Meyers,** SLAC National Accelerator Lab. (United States)

## SESSION PS9: POSTERS - SYSTEM MODELLING MECHANICAL AND THERMAL

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13099-98 • 05:30 PM - 07:00 PM
**A computational framework for the study of the diurnal thermo-mechanical behavior of the Giant Magellan Telescope**
*Author(s):* **Henry Fitzpatrick**, **Rodolphe Conan**, **Konstantinos Vogiatzis**, **Kaushik Das, Christoph Dribusch,** GMTO Corp. (United States)

13099-99 • 05:30 PM - 07:00 PM
**Thermal modeling and testing of the first ASTRI mini-array Cherenkov camera**
*Author(s):* **Gianpietro Marchiori**, **Matteo Spinola**, **Lorenzo Vio**, **Tiziano Niero**, **Alessandro Colovini,** EIE Group S.r.l. (Italy); **Giuseppe Sottile**, **Carmelo Gargano**, **Osvaldo Catalano**, **Fabio P. Lo Gerfo**, **Mattia Corpora**, **Pierluca Sangiorgi**, **Salvatore Scuderi,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Palermo (Italy); **Gino Tosti,** Univ. degli Studi di Perugia (Italy); **Valentina Giordano,** INAF (Italy); **Luigi Lessio,** INAF - Osservatorio Astronomico di Padova (Italy); **Giovanni Pareschi,** INAF - Osservatorio Astronomico di Brera (Italy); **Franco Vivaldi**, **Maurizio Lippi**, **Nicola Paoli,** CAEN S.p.A. (Italy); **Andrea Abba**, **Francesco Caponio, Alberto Cusimano,** Nuclear Instruments S.R.L. (Italy)

13099-100 • 05:30 PM - 07:00 PM
**The TMT International Observatory aerothermal performance estimation procedure**
*Author(s):* **Konstantinos Vogiatzis**, **Douglas MacMartin**, **Lianqi Wang, Gelys Trancho,** Thirty Meter Telescope (United States)

13099-101 • 05:30 PM - 07:00 PM
**Aerothermal modeling of the TMT International Observatory Laser Guide Star Facility**
*Author(s):* **Konstantinos Vogiatzis**, **Lianqi Wang**, **Melissa Trubey**, **Benjamin Irarrazaval, Corinne Boyer,** Thirty Meter Telescope (United States)

13099-102 • 05:30 PM - 07:00 PM
**GMT primary mirror thermal control system and thermal deformation modeling framework**
*Author(s):* **Konstantinos Vogiatzis**, **Henry Fitzpatrick**, **Rodolphe Conan**, **Trupti Ranka**, **Gary Muller**, **Bo Xin, David Ashby,** GMTO Corp. (United States)

## SESSION PS10: POSTERS - SYSTEMS ENGINEERING MANAGEMENT

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13099-103 • 05:30 PM - 07:00 PM
**CMB-S4 systems engineering**
*Author(s):* **Robert W. Besuner,** Lawrence Berkeley National Lab. (United States); **John E. Ruhl,** Case Western Reserve Univ. (United States); **Michael D. Niemack,** Cornell Univ. (United States); **Mauricio E. Pilleux,** EONS SpA (Chile); **Bradford A. Benson**, **Brenna Flaugher**, **Hogan Nguyen,** Fermi National Accelerator Lab. (United States); **John Kovac,** Harvard University (United States); **Jessica N. Aguilar**, **Julian Borrill**, **Kelly Hanzel**, **Matthaeus Leitner**, **Kevin Long**, **Joseph H. Silber**, **Elliot Newman**, **James Strait**, **Aritoki Suzuki,** Lawrence Berkeley National Lab. (United States); **Zeeshan Ahmed,** SLAC National Accelerator Lab. (United States); **Gunther Haller,** SLAC National Accelerator Laboratory (United States); **John G. Thayer,** SLAC National Accelerator Lab. (United States); **Nick Emerson,** The Univ. of Arizona (United States); **Kam S. Arnold,** Univ. of California, San Diego (United States); **John E. Carlstrom,** The Univ. of Chicago (United States); **Erik Nichols,** University of Chicago (United States); **Jeff Zivick,** The Univ. of Chicago (United States); **Laura B. Newburgh,** Yale Univ. (United States); **Amy N. Bender,** Argonne National Lab. (United States)

13099-104 • 05:30 PM - 07:00 PM
**From rags to riches: a 19th century stable transformed into a modern concurrent design facility**
*Author(s):* **Enrico Cascone**, **Liana De Filippis**, **Christian Eredia**, **Vincenzo Cianniello**, **Domenico D'Auria, Vincenzo De Caprio,** INAF - Osservatorio Astronomico di Capodimonte (Italy)

13099-105 • 05:30 PM - 07:00 PM
**Systems engineering support on the detector subsystem of the LiteBIRD low-frequency telescope in the pre-phase A and phase A**
*Author(s):* **Daisuke Kaneko**, **Hideshi Kagawa**, **Asuka Shiomi, Kazuhisa Mitsuda,** High Energy Accelerator Research Organization, KEK (Japan)

13099-106 • 05:30 PM - 07:00 PM
**Systems engineering for the future Gemini instrument GIRMOS: applying space industry concepts to astronomy**
*Author(s):* **Martin Tschimmel,** Gemini Observatory, NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Mark Barnet,** Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada); **Masen Lamb,** Gemini Observatory, NSF's National Optical-Infrared Astronomy Research Lab. (Canada), Univ. of Victoria (Canada); **Gavin Hay**, **Suresh Sivanandam,** Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada); **Alexis Hill,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Paul Hickson,** The Univ. of British Columbia (Canada); **Olivier Lardiere,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Ruben J. Diaz,** Gemini Observatory, NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Shawn Barbod,** Gemini Observatory, NSF's National Optical-Infrared Astronomy Research Lab. (Canada)

13099-107 • 05:30 PM - 07:00 PM
**The concurrent design strategy for astronomical instrumentation: tools and methodology**
*Author(s):* **Christian Eredia**, **Domenico D'Auria**, **Vincenzo Cianniello**, **Vincenzo De Caprio, Enrico Cascone,** INAF - Osservatorio Astronomico di Capodimonte (Italy)

13099-108 • 05:30 PM - 07:00 PM
**Configurable slit unit versus slit mask exchanger trade study for the TMT wide field optical spectrometer**
*Author(s):* **Alastair Heptonstall,** Thirty Meter Telescope (United States); **Reston B. Nash**, **Jason Fucik**, **Charles Steidel,** Caltech (United States); **Eric W. Peng,** NSF's National Optical-Infrared Astronomy Research Lab., Association of Universities for Research in (United States); **David Andersen**, **George H. Jacoby**, **John W. Miles, Warren Skidmore,** Thirty Meter Telescope (United States)

13099-21 • 05:30 PM - 07:00 PM
**A new approach of systems engineering with Siemens Teamcenter: from idea to product as single source of information to all stakeholders**
*Author(s):* **Heiko M. Anwand-Heerwart**, **Sebastian Schäfer**, **Harald Nicklas,** Georg-August-Univ. Göttingen (Germany); **Johann Witschel,** Georg-August-Univ Göttingen (Germany)

## Tuesday 18 June 2024

### TUESDAY PLENARY

18 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/tuesday-plenary

13173-502 • 08:30 AM - 09:15 AM
**The present and future of Japan's space program** (Plenary Presentation)
*Author(s):* **Saku Tsuneta,** National Astronomical Observatory of Japan (Japan)

13173-503 • 09:15 AM - 10:00 AM
**NASA astrophysics: from today to the Habitable Worlds Observatory** (Plenary Presentation)
*Author(s):* **Mark Clampin,** NASA Goddard Space Flight Ctr. (United States); **John M. O'Meara,** W. M. Keck Observatory (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 7: RELIABILITY, AVAILABILITY, MAINTAINABILITY, SAFETY

18 June 2024 • 10:30 AM - 12:30 PM | Room G213, North - 2F
*Session Chair(s):* **Simonetta Chinellato**, INAF - Osservatorio Astronomico di Padova (Italy); **Takeshi Okuda**, Joint ALMA Observatory (Japan)

13099-31 • 10:30 AM - 10:50 AM
**The MICADO first light imager for the ELT: an overview of the RAM analysis and consequent design and maintenance strategy**
*Author(s):* **Federico Biondi,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Yann Clénet,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris à Meudon (France); **Patrick Caillier**, **Veronika Wimmer,** European Southern Observatory (Germany); **Tristan Buey,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris à Meudon (France); **Luis Neumeier**, **Florian Lang**, **Sebastian Rabien**, **Eckhard Sturm, Richard Davies,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13099-32 • 10:50 AM - 11:10 AM
**RAM analysis and differences between space and ground based astronomy**
*Author(s):* **Angela Cortes,** European Southern Observatory (Germany); **Stephanie Bourbouse,** European Space Agency (Netherlands); **Lorenzo Pettazzi,** European Southern Observatory (Germany)

13099-51 • 11:10 AM - 11:30 AM
**Status of the PLATO Camera Product Assurance activities and their management**
*Author(s):* **Natalia Auricchio,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Simonetta Chinellato,** INAF - Osservatorio Astronomico di Padova (Italy); **Joseph Huesler,** European Space Agency (Netherlands); **Ilina Kondofersky,** OHB System AG (Germany); **Daniele Brienza,** Agenzia Spaziale Italiana (Italy); **Amaia Santiago Pe,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Lionel Lourit,** Institut d'Astrophysique Spatiale (France); **Nathalie Gorter,** SRON Netherlands Institute for Space Research (Netherlands); **Holger Fischer,** European Space Agency (Netherlands); **Pierre Franco**, **Aline Hermans,** Ctr. Spatial de Liège (Belgium); **Alessio Aboudan,** Univ. degli Studi di Padova (Italy); **Claudio Arena,** INAF - Osservatorio Astrofisico di Catania (Italy); **Francesco Borsa,** INAF - Osservatorio Astronomico di Brera (Italy); **Fabrizio Cogato,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Giacomo Dinuzzi**, **Nicolas Gorius,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Demetrio Magrin,** INAF - Osservatorio Astronomico di Padova (Italy); **Matteo Munari,** INAF - Osservatorio Astrofisico di Catania (Italy); **Francesco Santoli,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Gianalfredo Nicolini,** INAF - Osservatorio Astrofisico di Torino (Italy); **Isabella Pagano,** INAF - Osservatorio Astrofisico di Catania (Italy); **Elisabetta Tommasi,** Agenzia Spaziale Italiana (Italy)

13099-34 • 11:30 AM - 11:50 AM
**RAM strategy for MORFEO toward the final design review**
*Author(s):* **Enrico Giro,** INAF - Osservatorio Astronomico di Padova (Italy); **Domenico D'Auria,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Simonetta Chinellato,** INAF - Osservatorio Astronomico di Padova (Italy); **Marco Bonaglia,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Rosanna Sordo**, **Andrea Balestra,** INAF - Osservatorio Astronomico di Padova (Italy); **Marco Riva**, **Edoardo Maria Alberto Redaelli,** INAF - Osservatorio Astronomico di Brera (Italy); **Paolo Grani**, **Tommasso Lappucci,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Paolo Ciliegi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13099-35 • 11:50 AM - 12:10 PM
**MAVIS: AOM RAM approach**
*Author(s):* **Rosanna Sordo**, **Simonetta Chinellato,** INAF - Osservatorio Astronomico di Padova (Italy); **Salvatore Savarese,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Antony Galla**, **Roger Haynes,** The Australian National Univ. (Australia); **Summer Luo**, **David Robertson,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Davide Greggio,** INAF - Osservatorio Astronomico di Padova (Italy); **Mirko Colapietro,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Matteo Aliverti,** INAF - Osservatorio Astronomico di Brera (Italy); **Enrico Pinna,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Stefan Ströbele,** European Southern Observatory (Germany); **Luca Marafatto,** INAF - Osservatorio Astronomico di Padova (Italy); **Damien Gratadour,** Observatoire de Paris à Meudon (France); **Jennifer Burgess,** ANU Enterprise Pty Ltd. (Australia); **Maria Bergomi**, **Valentina Viotto,** INAF - Osservatorio Astronomico di Padova (Italy); **David Brodrick, François Rigaut,** The Australian National Univ. (Australia)

13099-36 • 12:10 PM - 12:30 PM
**Hazard analysis process improvement from design, construction, and early operations**
*Author(s):* **Timothy R. Williams, Stephanie Guzman,** National Solar Observatory (United States)

## Lunch/Exhibition Break 12:30 PM - 01:40 PM

## SESSION 8: INTEGRATED AND OPTICS MODELLING II

18 June 2024 • 01:40 PM - 03:20 PM | Room G213, North - 2F
*Session Chair(s):* **Mitchell Troy**, Jet Propulsion Lab. (United States); **Masahiro Sugimoto**, National Astronomical Observatory of Japan (Japan)

13099-37 • 01:40 PM - 02:00 PM
**NRC Integrated Modeling: experimental validation with SPIDERS**
*Author(s):* **Joeleff Fitzsimmons**, **Olivier Lardiere**, **Christian Marois**, **William Thompson,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Adam B. Johnson,** Univ. of Victoria (Canada)

13099-38 • 02:00 PM - 02:20 PM
**VERTECS: thermal modeling and analysis to enhance mission efficiency through temperature control strategies of a 6U CubeSat with visible light telescope**
*Author(s):* **Reynel Josue Galindo Rosales**, **Shohei Karaki**, **Hisataka Kawasaki**, **Marco Rosa**, **Ezra Fielding**, **Keenan Chatar,** Kyushu Institute of Technology (Japan); **Shuji Matsuura**, **Yuki Hirose,** Kwansei Gakuin Univ. (Japan); **Hirokazu Masui**, **Kei Sano,** Kyushu Institute of Technology (Japan); **Takao Nakagawa,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Cho Mengu,** Kyushu Institute of Technology (Japan)

13099-39 • 02:20 PM - 02:40 PM
**Optical Modeling Activities for NASA's Roman Space Telescope: II. Integrated Modeling Updates, Correlations, and Predictions**
*Author(s):* **Joseph M. Howard**, **Kong Q. Ha**, **Carson S. McDonald**, **Martina S. Atanassova**, **Guangjun Gao**, **Matthew R. Bolcar**, **Alice Liu**, **Michael Akkerman, Gregory J. Michels,** NASA Goddard Space Flight Ctr. (United States)

13099-40 • 02:40 PM - 03:00 PM
**Using deep learning to improve stray light optical simulations in space telescopes**
*Author(s):* **Lionel Clermont,** Ctr. Spatial de Liège (Belgium); **Gregory Adam,** Univ. de Strasbourg (France)

13099-41 • 03:00 PM - 03:20 PM
**An integrated modeling computing framework to assess the adaptive optics observing modes of the GMT**
*Author(s):* **Rodrigo Romano**, **Rodolphe Conan**, **Christoph Dribusch**, **Henry Fitzpatrick**, **Konstantinos Vogiatzis**, **Megan Shabram**, **Brian Walls**, **Fernando Quiros-Pacheco**, **Richard Demers,** GMTO Corp. (United States); **Marcos Van Dam,** Flat Wavefronts (New Zealand)

**Coffee Break 03:20 PM - 03:50 PM**

## SESSION 9: SYSTEMS ENGINEERING MANAGEMENT II

18 June 2024 • 03:50 PM - 05:30 PM | Room G213, North - 2F
*Session Chair(s):* **Gelys Trancho**, Thirty Meter Telescope (United States); **Sébastien Elias Egner**, European Southern Observatory (Germany)

13099-42 • 03:50 PM - 04:10 PM
**Assessment of investment, evolution, and infusion of astrophysics space technologies at NASA**
*Author(s):* **Mario R. Perez**, **Omid Noroozian, Dominic J. Benford,** NASA Goddard Space Flight Ctr. (United States)

13099-43 • 04:10 PM - 04:30 PM
**Systems Engineering Efforts in the Construction of the Canadian Hydrogen Observatory for Radio-transient Detectors**
*Author(s):* **Mohammad N. Islam**, **Brian Hoff, Garnet Cluff,** National Research Council Canada (Canada)

13099-44 • 04:30 PM - 04:50 PM
**Lessons from ASTRON's instrumentation projects: developing a practical approach to project management and systems engineering**

*Author(s):* **Ágnes Mika**, **Arno Schoenmakers**, **Boudewijn Hut**, **Carla Baldovin Saveedra**, **Pieter Benthem**, **Ilse van Bemmel**, **Janneke de Boer, Sangeeth Kochanthara,** ASTRON, NWO-I (Netherlands)

13099-45 • 04:50 PM - 05:10 PM **(CANCELLED)**
**Optimal verification planning for the Large Lenslet Array Magellan Spectrograph (LLAMAS)**
*Author(s):* **June Stenzel**, **Robert A. Simcoe**, **Rebecca Masterson**, **Olivier L. de Weck,** Massachusetts Institute of Technology (United States); **Akshata Krishnamurthy, Mark Chodas,** Jet Propulsion Lab. (United States)

13099-46 • 05:10 PM - 05:30 PM
**architecting Habitable Worlds Observatory (HWO) to be resilient to uncertainties**
*Author(s):* **David W. Miller,** Jet Propulsion Lab. (United States); **Olivier L. de Weck,** Massachusetts Institute of Technology (United States); **Rhonda M Morgan,** Jet Propulsion Lab. (United States)

## DIGITAL POSTERS

The posters listed below are available exclusively for online viewing during the week of SPIE Astronomical Telescopes + Instrumentation 2024.

13099-33
**TMT International Observatory safety system design from hazard analysis to functional logic**
*Author(s):* **Angelic W. Ebbers**, **Jimmy Johnson, Gelys Trancho,** Thirty Meter Telescope (United States)

13099-50
**A collaborative tool and approach for the hazard analysis and risk assessment process at TMT International Observatory**
*Author(s):* **Kayla Hardie**, **Robert Anderson**, **James M. Johnson**, **Kyle K. Kinoshita**, **John W. Miles**, **John Rogers**, **Amir Sadjadpour**, **Gelys Trancho,** Thirty Meter Telescope (United States); **Masahiro Sugimoto**, **Masao Saito**, **Junji Inatani,** National Astronomical Observatory of Japan (Japan); **Yusuke Saruta,** Mitsubishi Electric Corp. (Japan)

13099-56
**A bottoms-up approach to reliability estimation at the Thirty Meter Telescope International Observatory**
*Author(s):* **Bart Fordham**, **Gelys Trancho, John Rogers,** Thirty Meter Telescope (United States)

# CONFERENCE 13100

# Advances in Optical and Mechanical Technologies for Telescopes and Instrumentation VI

**16 - 21 June 2024 | Room G214, North - 2F**

***Conference Chair(s):*** **Ramón Navarro,** NOVA Optical & Infrared Instrumentation Group at ASTRON (Netherlands); **Ralf Jedamzik,** SCHOTT AG (Germany)

***Program Committee:*** **Magomed A. Abdulkadyrov,** Lytkarinsky Optical Glass Factory (Russian Federation); **Gabby Aitink-Kroes,** NOVA (Netherlands); **Andrea Bianco,** INAF - Osservatorio Astronomico di Brera (Italy); **Marc Cayrel,** European Southern Observatory (Germany); **Camille Frapolli,** Safran Reosc (France); **Eric R. Hansen,** Thirty Meter Telescope (United States); **Emmanuel Hugot,** Lab. d'Astrophysique de Marseille (France); **Huub Janssen,** Janssen Precision Engineering B.V. (Netherlands); **Andreas Kelz,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Daewook Kim,** Wyant College of Optical Sciences (United States); **Hélène T. Krol,** CILAS (France); **David M. Montgomery,** UK Astronomy Technology Ctr. (United Kingdom); **Douglas R. Neill,** Vera C. Rubin Observatory (United States); **Shinobu Ozaki,** National Astronomical Observatory of Japan (Japan); **Trupti Ranka,** GMTO Corp. (United States); **Robert R. Thomson,** Heriot-Watt Univ. (United Kingdom); **Yongtian Zhu,** Nanjing Institute of Astronomical Optics & Technology (China)

## Sunday 16 June 2024

### SESSION 1: FABRICATION OF MIRRORS, LENSES AND OTHER OPTICAL COMPONENTS I

16 June 2024 • 10:20 AM - 12:05 PM | Room G214, North - 2F
*Session Chair(s):* **Marc Cayrel**, European Southern Observatory (Germany)

13100-1 • 10:20 AM - 10:35 AM
**Manufacturing ELT M1 segments : large optics in a smart factory**
*Author(s):* **Camille Frapolli**, **Christophe Couteret**, **Aurélie Delfosse**, **Gilles Chaussat**, **Alexandre Bacouel**, **Pauline Lesongeur,** Safran Reosc (France); **Frederic Boillet**, **Alain Denis**, **Sebastien Julienne, Marc Gouedard,** Safran Electronics & Defense (France)

13100-2 • 10:35 AM - 10:50 AM
**The LFAST 0.76m mirrors: mass production, active control and on-sky performance**
*Author(s):* **Warren B. Foster**, **Roger Angel**, **Chad F. Bender**, **Nick Didato**, **Kevin Gilliam**, **Peter Gray**, **Yiyang Huang**, **Dean Ketelsen**, **Andy J. Monson**, **Jason Patrou**, **Melanie Sisco, Richard W. Wortley,** The Univ. of Arizona (United States)

13100-3 • 10:50 AM - 11:05 AM
**Rapid manufacturing of 0.5m class lightweight mirrors using a Lean Cell approach**
*Author(s):* **Mike Hyman,** Optimax Systems, Inc. (United States)

13100-4 • 11:05 AM - 11:20 AM
**Update of the optical configuration and performance of the Gamma-Ray Telescope prototype pGCT: an innovative design for Imaging Atmospheric Cherenkov Telescope**
*Author(s):* **Julien Cailleux,** Galaxies Etoiles Physique Instrumentation (France), Observatoire de Paris, CNRS (France), Univ. PSL (France); **Fatima De Frondat**, **Jean-Laurent R. Dournaux**, **Gilles Fasola**, **Philippe Laporte,** Galaxies Etoiles Physique Instrumentation (France); **Hélène Sol,** Observatoire de Paris à Meudon (France), Observatoire de Paris, CNRS (France), Univ. PSL (France)

13100-5 • 11:20 AM - 11:35 AM
**The reflecting panels for the Large Size Telescopes at the southern site of the Cherenkov Telescope Array Observatory (CTAO)**
*Author(s):* **Giovanni Pareschi**, **Giorgia Sironi,** INAF - Osservatorio Astronomico di Brera (Italy); **Nicola La Palombara,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Luigi Lessio,** INAF - Osservatorio Astronomico di Padova (Italy); **Laura Proserpio,** INAF - Osservatorio Astronomico di Brera (Italy); **Andrea Busatta,** INAF - Osservatorio Astronomico di Padova (Italy)

13100-6 • 11:35 AM - 11:50 AM
**Design, manufacture and metrology of additively manufactured, metal and ceramic lightweight circular mirror prototypes**
*Author(s):* **Greg Lister**, **Rhys Tuck**, **Younes Chahid**, **Carolyn Atkins**, **Katherine Morris,** UK Astronomy Technology Ctr. (United Kingdom); **Mat Beardsley**, **Michael Harris,** STFC Rutherford Appleton Lab. (United Kingdom); **Simon G. Alcock**, **Ioana-Theodora Nistea,** Diamond Light Source Ltd. (United Kingdom); **Cyril Bourgenot,** Durham Univ. (United Kingdom)

13100-7 • 11:50 AM - 12:05 PM **(CANCELLED)**
**The benefits of metal optics for space instrumentation: two decades of metal optics developments at AMOS**
*Author(s):* **Etienne Renotte**, **Benoit C. J. Borguet**, **Roberto Di Paola**, **Carlo Flebus**, **Gregory P. Lousberg**, **Pierre Gloesener**, **Vincent Moreau, Romain Vandoolaeghe,** AMOS S.A. (Belgium)

## Lunch Break 12:05 PM - 01:20 PM

## SESSION 2: FABRICATION OF MIRRORS, LENSES AND OTHER OPTICAL COMPONENTS II

16 June 2024 • 01:20 PM - 02:50 PM | Room G214, North - 2F
*Session Chair(s):* **Camille Frapolli**, Safran Reosc (France)

13100-8 • 01:20 PM - 01:35 PM
**Metallic freeform optics for the Cold Optic Instrument of MICADO**
*Author(s):* **Jan Kinast**, **Markus Unger**, **Sandra Müller**, **Mathias Rohde**, **Benjamin Quaiser**, **Robert Jende**, **Peter Weide**, **Knut Kleinbauer**, **Ralf Steinkopf,** Fraunhofer-Institut für Angewandte Optik und Feinmechanik IOF (Germany); **Tatjana Porwol,** Fraunhofer-Institut für Angewandte Optik und Feinmechanik IOF (Germany), Friedrich-Schiller-Univ. Jena (Germany); **Luxuan Cai**, **Jonas Tabbert**, **Corona Schmalian**, **Antonia Clara Klein**, **Svetlana Shestaeva**, **Stefan Schwinde**, **Johannes Hartung**, **Thomas Peschel**, **Andreas Gebhardt, Stefan Risse,** Fraunhofer-Institut für Angewandte Optik und Feinmechanik IOF (Germany)

13100-9 • 01:35 PM - 01:50 PM
**Manufacturing requirements and challenges of the fully integrated monolithic aluminium cryogenic tip-tilt mirror for the METIS instrument**
*Author(s):* **Elfi Dijkstra**, **Niels Tromp**, **Marijn Versteeg**, **Menno de Haan**, **Menno Schuil**, **Mirka Lewińska-Maresca**, **Ivan Lloro**, **Jeff Lynn**, **Rik ter Horst,** ASTRON (Netherlands); **Maurice Teuwen**, **Ties van Loon**, **Remco de Bruijn, Sander L. Paalvast,** Janssen Precision Engineering B.V. (Netherlands)

13100-10 • 01:50 PM - 02:05 PM
**Aluminum-based mirrors with an aluminum fluoride protective coating: A comparative study of small and large-scale atomic layer deposition systems**
*Author(s):* **Søren A. Tornøe,** Univ. of California, Santa Cruz (United States), Nanostructured Energy Conversion Technology and Research (United States); **John J. Hennessy,** Jet Propulsion Lab. (United States), Caltech (United States); **Nobuhiko P. Kobayashi,** Univ. of California, Santa Cruz (United States), Nanostructured Energy Conversion Technology and Research (United States)

13100-11 • 02:05 PM - 02:20 PM
**Hyperpolishing off-axis mirror's with nanoparticles slurries for the next generation of space exoplanets imagers**
*Author(s):* **Houda Bellahsene,** Lab. d'Astrophysique de Marseille (France), Institut Charles Gerhardt Montpellier (France); **Marc Ferrari,** Lab. d'Astrophysique de Marseille (France); **Yannick Guari**, **Saad Sene,** Institut Charles Gerhardt Montpellier (France); **Emmanuel Hugot,** Lab. d'Astrophysique de Marseille (France)

13100-12 • 02:20 PM - 02:35 PM
**Extreme polishing and measuring performance fostered by the extreme accuracy needed for future upgrades of visible gravitational waves detector**
*Author(s):* **Julien Fourez,** Thales SESO S.A.S. (France)

13100-13 • 02:35 PM - 02:50 PM
**Advancements in Robotic Smoothing of High Precision Optics**
*Author(s):* **Jennifer Coniglio**, **Daniel R. Brooks, Michael Hyman,** Optimax Systems, Inc. (United States)

## Coffee Break 02:50 PM - 03:20 PM

## SESSION 3: FABRICATION OF MIRRORS, LENSES AND OTHER OPTICAL COMPONENTS III

16 June 2024 • 03:20 PM - 04:05 PM | Room G214, North - 2F
*Session Chair(s):* **Ramon Navarro**, ASTRON (Netherlands); **Ralf Jedamzik**, SCHOTT AG (Germany)

13100-15 • 03:20 PM - 03:35 PM
**Statistical basis functions for modelling mid-spatial frequency errors in asphere manufacturing**
*Author(s):* **Israel J. Vaughn**, **Andrew W. Kruse,** The Australian National Univ. (Australia); **Davide Greggio,** INAF (Italy), Univ. degli Studi di Padova (Italy); **Oleksandra Rebrysh,** INAF (Italy)

13100-16 • 03:35 PM - 03:50 PM
**Design method for ultra-wide field telescopes with manufacturable freeform surfaces**
*Author(s):* **Takeshi Hashigaya, Mikio Kurita,** Kyoto Univ. (Japan)

13100-17 • 03:50 PM - 04:05 PM
**The CASTLE telescope: on the use of curved freeform sensors for astronomical applications and beyond**
*Author(s):* **Emmanuel Hugot**, **Jiawei Liu**, **Manal Chebbo**, **Eduard R. Muslimov**, **Simona Lombardo,** Lab. d'Astrophysique de Marseille (France); **Pierre-Alain Duc,** Observatoire astronomique de Strasbourg (France); **Samuel Boissier, Eloise Bernaud,** Lab. d'Astrophysique de Marseille (France)

## SESSION 4: MATERIALS AND METAMATERIALS

16 June 2024 • 04:05 PM - 05:20 PM | Room G214, North - 2F
*Session Chair(s):* **Ralf Jedamzik**, SCHOTT AG (Germany)

13100-18 • 04:05 PM - 04:20 PM
**Toward more realistic quantification of ionizing radiation effects on ZERODUR® spaceborne mirrors**
*Author(s):* **Antoine Carré,** SCHOTT AG (Germany); **Tony B. Hull,** The Univ. of New Mexico (United States); **Bruno Delacourt**, **Hugh Evans,** European Space Research and Technology Ctr., European Space Agency (Netherlands); **Janina Krieg, Thomas Westerhoff,** SCHOTT AG (Germany)

13100-19 • 04:20 PM - 04:35 PM
**Agings and resistances of physical/thermal/optical properties of fine cordierite under the space environment**
*Author(s):* **Kiichi Kitanaka,** KYOCERA Corp. (Japan); **Yuji Ikeda,** Photocross Co., Ltd. (Japan); **Takeo Manome**, **Yuji Kawase**, **Masao Yoshida**, **Naoto Iida**, **Kento Ijima**, **Kentaro Yanagibashi**, **Kentaro Noda**, **Masatsugu Kamiura**, **Kenji Tsubokawa, Daisuke Yamanaka,** KYOCERA Corp. (Japan)

13100-20 • 04:35 PM - 04:50 PM
**Stability of XeF2 passivated Al plus LiF as possible coating for HWO**
*Author(s):* **Devin M. Lewis**, **Tanner D. Rydalch**, **David D. Allred,** Brigham Young Univ. (United States); **Luis V. Rodriguez de Marcos,** The Catholic Univ. of America (United States); **Manuel A. Quijada**, **Javier G. Del Hoyo, Mateo F. Batkis,** NASA Goddard Space Flight Ctr. (United States)

13100-21 • 04:50 PM - 05:05 PM
**Unlocking the potential of non-ferromagnetic Invar-type alloys in space exploration**
*Author(s):* **Hiromichi T. Fujii**, **Shingo Matsumura**, **Naoki Sakaguchi**, **Haruyasu Ohno, Kotaro Ona,** Shinhokoku Material Corp. (Japan)

13100-22 • 05:05 PM - 05:20 PM
**Cryogenic Optical Characteristics of S-FPL51 and S-LAH71: Refractive index, Transmission and Thermal Expansion**
*Author(s):* **Joost A. van den Born**, **Eddy Elswijk**, **Elfi Dijkstra,** ASTRON (Netherlands); **Peter A. van Nijnatten,** OMT Solutions BV (Netherlands); **Annemieke W. Janssen, Ramon Navarro,** ASTRON (Netherlands)

# Monday 17 June 2024

## MONDAY PLENARY

17 June 2024 • 08:20 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/monday-plenary

13173-500 • 08:30 AM - 09:15 AM
**Moving TMT forward: Japan's contributions and transformative approach toward community engagement** (Plenary Presentation)
*Author(s):* **Tomonori Usuda,** National Astronomical Observatory of Japan (United States); **Yuko Kakazu,** Thirty Meter Telescope (United States)

13173-501 • 09:15 AM - 10:00 AM
**From dark skies to bright futures: the evolution of astronomy in Africa and the hosting of the historic International Astronomical Union General Assembly 2024** (Plenary Presentation)
*Author(s):* **Charles Mpho Takalana,** The African Astronomical Society (South Africa)

**Coffee Break 10:00 AM - 10:30 AM**

## SESSION 5: CALIBRATION, TEST AND METROLOGY I

17 June 2024 • 10:30 AM - 12:15 PM | Room G214, North - 2F
*Session Chair(s):* **Shinobu Ozaki**, National Astronomical Observatory of Japan (Japan); **Richard A. McCracken**, Heriot-Watt Univ. (United Kingdom)

13100-23 • 10:30 AM - 10:45 AM
**Radius of curvature matching for the Extremely Large Telescope M1**
*Author(s):* **Camille Frapolli**, **Laurent-Daniel Haret**, **Justine Hatzigeorgopoulos**, **Julie Armougom,** Safran Reosc (France); **Sebastien Julienne**, **Rémi Bourgois,** Safran Electronics and Defense (France); **Renaud Mercier-Ythier, Nicolas Ferachoglou,** Safran Reosc (France)

13100-24 • 10:45 AM - 11:00 AM
**Ultra-low noise laser and optical frequency comb-based timing system for the Black Hole Explorer (BHEX) mission**
*Author(s):* **Hannah Tomio,** Massachusetts Institute of Technology (United States); **Kenji Numata**, **Guangning Yang,** NASA Goddard Space Flight Ctr. (United States); **Andrew Attar,** Vescent Photonics Inc. (United States); **Wei Lu**, **Xiaozhen Xu**, **Holly F. Leopardi**, **Cheryl Gramling,** NASA Goddard Space Flight Ctr. (United States); **T. K. Sridharan,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Peter Kurczynski,** NASA Goddard Space Flight Ctr. (United States)

13100-25 • 11:00 AM - 11:15 AM
**Tunable laser frequency combs for astronomical spectrograph characterization and calibration**
*Author(s):* **Pooja Sekhar**, **Molly Kate Kreider**, **Connor Fredrick**, **Tsung-Han Wu, Scott A. Diddams,** Univ. of Colorado Boulder (United States)

13100-26 • 11:15 AM - 11:30 AM
**Direct laser frequency comb calibration of an astronomical spectrograph**
*Author(s):* **William Newman**, **Jake M Charsley**, **Jamie Slattery**, **Toby Mitchell**, **Kamalesh Dadi**, **Yuk Shan Cheng**, **Richard A. McCracken, Derryck T. Reid,** Heriot-Watt Univ. (United Kingdom)

13100-27 • 11:30 AM - 11:45 AM
**ANDES, the high resolution spectrograph for the ELT: Calibration Unit(s)**
*Author(s):* **Philipp Huke,** Hochschule Emden-Leer (Germany); **Christopher H. Broeg**, **Mirsad Sarjlic,** Univ. Bern (Switzerland); **Yuk Shan Cheng**, **Derryck T. Reid**, **Kamalesh Dadi**, **Richard A. McCracken,** Heriot-Watt Univ. (United Kingdom); **Michael Debus**, **Sebastian Schäfer**, **Jennifer Zimara**, **Ansgar Reiners,** Georg-August-Univ. Göttingen (Germany); **Omar Gabella,** Lab. Univers et Particules de Montpellier (France); **Wolfgang Gaessler**, **Michael Lehmitz,** Max-Planck-Institut für Astronomie (Germany); **Jörg Knoche,** Univ. Hamburg (Germany); **Driss Kouach,** Observatoire Midi-Pyrénées, CNRS (France), Univ. de Toulouse (France); **Lea Bonhomme,** Observatoire Midi-Pyrénées (France); **Claude LeMen,** Institut de Recherche en Astrophysique et Planétologie, CNRS (France); **Piotr Maslowski,** Nicolaus Copernicus Univ. (Poland); **Paolo Di Marcantonio**, **Alessio Zanutta,** INAF - Osservatorio Astronomico di Trieste (Italy); **Madhusudan Malve,** Univ. Hamburg (Germany); **Christoph Mordasini,** Univ. Bern (Switzerland)

13100-28 • 11:45 AM - 12:00 PM
**MOONS – Multi object spectroscopy for the VLT: testing and integration of the MOONS metrology system**
*Author(s):* **Ciaran Breen**, **Oscar Gonzalez,** UK Astronomy Technology Ctr. (United Kingdom); **Mathew Sims,** Science and Technology Facilities Council (United Kingdom); **Steven M. Beard**, **Martin T. Black,** UK Astronomy Technology Ctr. (United Kingdom); **Alexandre Cabral,** Univ. de Lisboa (Portugal); **Phil Rees,** UK Astronomy Technology Ctr. (United Kingdom); **Jorge Sepulveda**, **Tzu-Chiang Shen,** BlueShadows Ltda (Chile); **Steve Watson,** UK Astronomy Technology Ctr. (United Kingdom)

13100-29 • 12:00 PM - 12:15 PM
**The Calibration and Verification Equipment (CAVE) for KASM**
*Author(s):* **Renate Kupke**, **Philip M. Hinz**, **Daren Dillon**, **Aaron M. Hunter**, **Matthew V. Radovan, Maureen L. Savage,** Univ. of California, Santa Cruz (United States)

### Lunch Break 12:15 PM - 01:20 PM

## SESSION 6: CALIBRATION, TEST AND METROLOGY II

17 June 2024 • 01:20 PM - 03:05 PM | Room G214, North - 2F
*Session Chair(s):* **Trupti Ranka**, GMTO Corp. (United States)

13100-30 • 01:20 PM - 01:35 PM
**Versatile wavefront metrology tool for EUCLID telescope and space applications**
*Author(s):* **Guillaume Dovillaire,** Imagine Optic SA (France)

13100-31 • 01:35 PM - 01:50 PM
**Application of the Time-of-Flight stray light characterization method for space missions**
*Author(s):* **Lionel Clermont,** Ctr. Spatial de Liège (Belgium)

13100-32 • 01:50 PM - 02:05 PM
**A new tool to quickly and precisely align an optical bench in combination with a pCMM**
*Author(s):* **Federico Battaini**, **Kalyan Kumar Radhakrishnan Santhakumari,** INAF - Osservatorio Astronomico di Padova (Italy); **Silvio Di Rosa,** INAF - Osservatorio Astronomico di Padova (Italy), Univ. degli Studi di Padova (Italy); **Marco Dima,** INAF - Osservatorio Astronomico di Padova (Italy); **Federico Biondi,** Max Planck Institute for extraterrestrial Physics (Germany)

13100-33 • 02:05 PM - 02:20 PM
**Thermal Sensitivity analysis of 2D Profilometer used for TMT Polished Roundel Metrology**
*Author(s):* **Pramod Panchal**, **Sanjeev Kumar Jha,** Indian Institute of Astrophysics (India); **Vineeth Valsan,** CHRIST (Deemed to be Univ.) (India); **Sriram Sripadmanaban,** Indian Institute of Astrophysics (India), CHRIST (Deemed to be Univ.) (India); **Prasanna Gajanan Deshmukh, Alikhan Basheer,** Indian Institute of Astrophysics (India)

13100-34 • 02:20 PM - 02:35 PM **(CANCELLED)**
**Innovative design concept combining freeform mirrors and freeform sensor**
*Author(s):* **Jiawei Liu**, **Emmanuel Hugot**, **Eduard R. Muslimov, Simona Lombardo,** Lab. d'Astrophysique de Marseille (France)

13100-35 • 02:35 PM - 02:50 PM
**Polarization calibration using sparse wire grid with the first small aperture telescope of Simons Observatory**
*Author(s):* **Hironobu Nakata,** Kyoto Univ. (Japan)

13100-36 • 02:50 PM - 03:05 PM
**Quick analysis of radiation pattern for Leighton Chajnantor Telescope under wind load**
*Author(s):* **Jia You, Zheng Wang,** Southeast Univ. (China)

## Coffee Break 03:05 PM - 03:30 PM

## SESSION 7: ADAPTIVE OPTICS, ACTIVE INSTRUMENTS AND VIBRATIONS

17 June 2024 • 03:30 PM - 05:15 PM | Room G214, North - 2F
*Session Chair(s):* **Eduard R. Muslimov**, Univ. of Oxford (United Kingdom)

13100-37 • 03:30 PM - 03:45 PM
**Image Slicing with a Twist: Testing and Characterising a prototype image slicer for ELT-PCS**
*Author(s):* **Matthias Tecza**, **R. Elliot Meyer,** Univ. of Oxford (United Kingdom); **Takashi Sukegawa,** Canon Inc. (Japan)

13100-38 • 03:45 PM - 04:00 PM
**Status and first results of the NASA IRTF Adaptive Secondary Mirror**
*Author(s):* **Arjo Bos**, **Stefan Kuiper**, **Matias Kidron**, **Bert Dekker**, **Max Baeten**, **Esperanza Vielba Salcedo**, **Rafiek Vermeulen**, **Jan Kuijt**, **Kristian Boot**, **Bart van Venrooy**, **Robin van Buuren**, **Fred Kamphues**, **Wouter A. Jonker**, **Matthew Maniscalco,** TNO (Netherlands); **Mark R. Chun**, **Michael S. Connelley,** Institute for Astronomy, Univ. of Hawai'i (United States); **Jeroen J. M. Vleggaar,** Huygens Optics (Netherlands); **Philip M. Hinz,** Univ. of California, Santa Cruz (United States)

13100-39 • 04:00 PM - 04:15 PM
**Progress on creating thin curved glass facesheets for deformable mirrors via free form slumping**
*Author(s):* **Philip M. Hinz**, **Jackson Falk**, **R. Deno Stelter**, **Matthew V. Radovan, Daren Dillon,** Univ. of California, Santa Cruz (United States)

13100-40 • 04:15 PM - 04:30 PM **(CANCELLED)**
**Broadband vibration control using an inertial actuator**
*Author(s):* **Alan Schier,** The Pilot Group (United States)

13100-41 • 04:30 PM - 04:45 PM
**Instrument Rotators. Performance using different electromechanical systems**
*Author(s):* **Teodora Aleida Viera-Curbelo**, **Luis Fernando Rodríguez Ramos**, **Afrodisio Vega Moreno,** Instituto de Astrofísica de Canarias (Spain); **Murray John,** STFC Rutherford Appleton Lab (United Kingdom); **Begoña García Lorenzo, Haresh Chulani,** Instituto de Astrofísica de Canarias (Spain)

13100-42 • 04:45 PM - 05:00 PM
**Mitigating the effects of pointing error for the TOLIMAN space telescope**
*Author(s):* **Max Charles**, **Connor J. Langford**, **Louis C. Desdoigts**, **Fred Crous**, **Tom Holland**, **Clarissa J. Luk**, **Christopher H. Betters, Peter G. Tuthill,** The Univ. of Sydney (Australia)

13100-43 • 05:00 PM - 05:15 PM
**A novel of structural response reduction for catadioptric telescope through the modal frequency shifting method**
*Author(s):* **Yi-Kai Huang,** Taiwan Space Agency (TASA) (Taiwan), National Yang Ming Chiao Tung Univ. (Taiwan)

## Tuesday 18 June 2024

### TUESDAY PLENARY

18 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/tuesday-plenary

13173-502 • 08:30 AM - 09:15 AM
**The present and future of Japan's space program** (Plenary Presentation)
*Author(s):* **Saku Tsuneta,** National Astronomical Observatory of Japan (Japan)

13173-503 • 09:15 AM - 10:00 AM
**NASA astrophysics: from today to the Habitable Worlds Observatory** (Plenary Presentation)
*Author(s):* **Mark Clampin,** NASA Goddard Space Flight Ctr. (United States); **John M. O'Meara,** W. M. Keck Observatory (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 8: OPTICS AND SUPPORT SYSTEMS

18 June 2024 • 10:30 AM - 12:45 PM | Room G214, North - 2F
*Session Chair(s):* **Ralf Jedamzik**, SCHOTT AG (Germany)

13100-44 • 10:30 AM - 10:45 AM
**Topology optimization of a single point diamond turning fixture for a deployable primary mirror telescope**
*Author(s):* **Cyril J. Bourgenot,** Ctr. for Advanced Instrumentation, Durham Univ. (United Kingdom); **Valdis Krumins,** The Univ. of Sheffield (United Kingdom); **David G. Bramall,** Ctr. for Advanced Instrumentation, Durham Univ. (United Kingdom); **Abdul M. Haque,** The Univ. of Sheffield (United Kingdom)

13100-45 • 10:45 AM - 11:00 AM
**Thermal Design of an Observatory on a Highly Eccentric Orbit**
*Author(s):* **Paula do Vale Pereira**, **Angela Alexy**, **Riley Wagner**, **Francesca Afruni**, **Wesley Kozan**, **Brendan Smucker,** Florida Institute of Technology (United States); **Ewan S. Douglas,** The Univ. of Arizona (United States)

13100-46 • 11:00 AM - 11:15 AM
**Hexapod load and range of motion analysis for expanding optomechanical applications at NASA Marshall's X-ray & Cryogenic Facility**
*Author(s):* **Bryan Walter**, **Matt Granrud**, **Mark Welle**, **Mark E. Mimovich**, **Roger Glaese, Ryan C. Sneed,** Moog Space and Defense Group (United States)

13100-184 • 11:15 AM - 11:30 AM
**Design and testing of an occulter for a terrestrial solar coronagraph**
*Author(s):* **Gianpietro Marchiori**, **Alessandro Lamberti**, **Cristina Battistel**, **Cristiana Manfrin**, **Emanuele Desirò**, **Lorenzo Vio,** EIE Group S.r.l. (Italy); **Riccardo Bressan,** EIE S.r.l. (Italy); **Tiziano Niero,** EIE Group S.r.l. (Italy); **Andrew Carlisle**, **Scott Sewell**, **Patrick Zmarzly**, **Steve Tomczyk, Krista Laursen,** National Ctr. for Atmospheric Research (United States)

13100-48 • 11:30 AM - 11:45 AM
**System performance of the Laser Projection System (LPS) for the ELT**
*Author(s):* **Jan R. Nijenhuis**, **Fred Kamphues**, **Martijn M.C.J. M. van Riel**, **René Hazelebach**, **Bart Speet**, **Jos J. M. Groote-Schaarsberg**, **Glenn van Zalen**, **Douwe Jan IJlst**, **Wouter A. Jonker,** TNO (Netherlands); **Ralph Pohl**, **Mike Evers**, **Marten Wijnja**, **Jeroen de Vos**, **Coen Blok**, **Bram Siebers,** DEMCON Focal B.V. (Netherlands); **Emmanuel Aller-Carpentier**, **Domenico Bonnaccini-Calia, Wolfgang K. Hackenberg,** European Southern Observatory (Germany)

13100-49 • 11:45 AM - 12:00 PM
**The interferometric test bench for ELT M2 : the largest convex precision mirror ever made**
*Author(s):* **Renaud Mercier-Ythier**, **Hector Monin**, **Guillaume Foucaud**, **Charles Beudy**, **Nathan Lefeuvre**, **Phillipe Wuillaume**, **Jean-Louis Carel**, **Marie-Charlotte Le-Clech**, **Caroline Baptista**, **Camille Frapolli, Justine Hatzigeorgopoulos,** Safran Reosc (France)

13100-50 • 12:00 PM - 12:15 PM
**Development of low-cost optical mounts for large-scale multiplexed instruments**
*Author(s):* **Jordan Lothrop**, **Joannie Yao**, **Jenny Atwood**, **Scott Macdonald, Jeff Crane,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13100-51 • 12:15 PM - 12:30 PM
**On-sky evaluation of AWACS-Duo (Dual-unit Arrayed Wide-Angle Camera System)**
*Author(s):* **Hanshin Lee**, **Brian L. Vattiat,** The Univ. of Texas at Austin (United States); **Uma K. Subash, Menelaos K. Poutous,** The Univ. of North Carolina at Charlotte (United States)

13100-52 • 12:30 PM - 12:45 PM
**Development of a cold chopper for TAO/MIMIZUKU: Repetitive Control**
*Author(s):* **Jonathan Hort,** Univ. Stuttgart (Germany); **Ichiro Jikuya,** Kanazawa Univ. (Japan); **Takafumi Kamizuka,** The Univ. of Tokyo (Japan); **Anja Lauer**, **Oliver Sawodny,** Univ. Stuttgart (Germany); **Ryota Kinoshita,** Tohoku Univ. (Japan); **Tomoya Kondo,** Kanazawa Univ. (Japan); **Katsuhiko Yamada,** Osaka Univ. (Japan); **Takashi Miyata,** The Univ. of Tokyo (Japan); **Mitsuhiko Honda,** Okayama Univ. of Science (Japan); **Shigeyuki Sako**, **Yuki Hirao**, **Kengo Tachibana**, **Akira Naruse**, **Itsuki Sakon**, **Riko Senoo,** The Univ. of Tokyo (Japan); **Takeshi Sakanoi, Masato Kagitani,** Tohoku Univ. (Japan)

## Lunch/Exhibition Break 12:45 PM - 01:50 PM

## SESSION 9: TELESCOPE STRUCTURES, DOMES AND ADDITIVE MANUFACTURING

18 June 2024 • 01:50 PM - 02:50 PM | Room G214, North - 2F
*Session Chair(s):* **Eduard R. Muslimov**, Univ. of Oxford (United Kingdom)

13100-53 • 01:50 PM - 02:05 PM
**Additive Manufacturing of ATHENA's large Optical Bench by Direct Energy Deposition**
*Author(s):* **Frank Brueckner,** Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS (Germany), Luleå Univ. of Technology (Sweden); **Mirko Riede**, **Torsten Werner**, **Conrad Samuel**, **Elena Lopez,** Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS (Germany); **Christoph Leyens,** Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS (Germany), TU Dresden (Germany); **Marcos Bavdaz,** European Space Agency (Netherlands); **Andrew Norman,** European Space Agency (France); **Maximilian Heidowitzsch,** Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS (Germany)

13100-54 • 02:05 PM - 02:20 PM
**Compact Freeform 3 mirrors Telescope for CubeSat within an Additively Manufactured Housing**
*Author(s):* **Cyril J. Bourgenot,** Durham Univ. (United Kingdom), Ctr. for Advanced Instrumentation (United Kingdom); **Joel Coukham,** The Univ. of Sheffield (United Kingdom); **David G. Bramall**, **Paul A. White**, **Christopher J. Graham,** Durham Univ. (United Kingdom), Ctr. for Advanced Instrumentation (United Kingdom); **Daniel Tomlinson,** The Univ. of Sheffield (United Kingdom); **Hongchang Wang**, **Riley Shurvinton**, **Paresh C. Pradhan**, **Weichen Gu**, **Arindam Majhi**, **Kawal Sawhney,** Diamond Light Source Ltd. (United Kingdom); **Abdul M. Haque,** The Univ. of Sheffield (United Kingdom)

13100-56 • 02:20 PM - 02:35 PM
**Lightweight metal mirrors manufactured by AM, applied to Astronomical Instrumentation: First steps towards all-in-one opto-mechanical components**
*Author(s):* **Fabio Tenegi Sanginés**, **Afrodisio Vega Moreno**, **Félix Gracia**, **Jose Peñate Castro,** Instituto de Astrofísica de Canarias (Spain); **Marta García Cosío, Lidia Hernández Álvarez,** CiTD Engieneering & Technologies S.L. (Spain)

13100-57 • 02:35 PM - 02:50 PM
**Additive manufacturing applications in astronomy: a review**
*Author(s):* **Younes Chahid**, **Carolyn Atkins**, **Greg Lister**, **Rhys Tuck**, **Stephen Watson**, **Katherine Morris**, **David Isherwood,** UK Astronomy Technology Ctr. (United Kingdom); **Pearachad Chartsiriwattana,** National Astronomical Research Institute of Thailand (Thailand)

## Coffee Break 02:50 PM - 03:20 PM

## SESSION 10: SPECTROSCOPY: GRATINGS, DISPERSERS AND IMAGE SLICERS I

18 June 2024 • 03:20 PM - 04:50 PM | Room G214, North - 2F
*Session Chair(s):* **Andrea Bianco**, INAF - Osservatorio Astronomico di Brera (Italy)

13100-58 • 03:20 PM - 03:35 PM
**Design of a circular slit spectrometer**
*Author(s):* **Federico Landini,** INAF - Osservatorio Astrofisico di Torino (Italy); **Fabio Frassetto,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Valeria Caracci,** INAF - Osservatorio Astrofisico di Torino (Italy); **Lorenzo Cocola**, **Paola Zuppella,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Lucia Abbo,** INAF - Osservatorio Astronomico di Torino (Italy); **Vincenzo Andretta,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Marco Romoli,** Univ. degli Studi di Firenze (Italy); **Alberto Riva**, **Maurizio Pancrazzi, Silvano Fineschi,** INAF - Osservatorio Astrofisico di Torino (Italy)

13100-60 • 03:35 PM - 03:50 PM
**Technological developments of NexGen Micro-Shutter Array (NGMSA) for the future Habitable Worlds Observatory (HWO) flagship mission**
*Author(s):* **Kyowon Kim,** NASA Goddard Space Flight Ctr. (United States), Science Systems and Applications, Inc. (United States); **Meng-Ping Chang,** NASA Goddard Space Flight Ctr. (United States); **Alexander S. Kutyrev,** NASA Goddard Space Flight Ctr. (United States), Univ. of Maryland (United States); **Paul A. Scowen**, **Regis P. Brekosky,** NASA Goddard Space Flight Ctr. (United States); **Ron Hu,** NASA Goddard Space Flight Ctr. (United States), Science Systems and Applications, Inc. (United States); **Carl A. Kotecki**, **Ming Ke,** NASA Goddard Space Flight Ctr. (United States); **Suryakanthisrinivas Rachamadugu,** NASA Goddard Space Flight Ctr. (United States), Science Systems and Applications, Inc. (United States); **Frederick H. Wang**, **Nicholas P. Costen**, **Felipe A. Colazopetit**, **Samelys Rodriguez,** NASA Goddard Space Flight Ctr. (United States); **Vorachai Kluengpho,** NASA Goddard Space Flight Ctr. (United States), Science Systems and Applications, Inc. (United States); **Ian Schrock**, **Rainer Fettig,** NASA Goddard Space Flight Ctr. (United States); **Stephan R. McCandliss,** Johns Hopkins Univ. (United States); **Ed Aguayo,** The Newton Corporation (United States); **Beth M. Paquette,** NASA Goddard Space Flight Ctr. (United States)

13100-61 • 03:50 PM - 04:05 PM
**An Integral Field Unit for the Planetary Camera and Spectrograph (ELT-PCS): comparing lenslet and image slicer-based IFUs**
*Author(s):* **R. Elliot Meyer**, **Matthias Tecza**, **Niranjan A. Thatte,** Univ. of Oxford (United Kingdom); **Takashi Sukegawa,** Canon Inc. (Japan)

13100-62 • 04:05 PM - 04:20 PM
**The State-of-the-Art of Image Slicers: Best Performance and Characteristics Obtained in Glass and Metal**
*Author(s):* **Ariadna Z. Calcines Rosario,** Durham Univ. (United Kingdom); **Sarah A. Matthews**, **Hamish Reid,** Univ. College London (United Kingdom), Mullard Space Science Lab. (United Kingdom); **Paul White,** Durham Univ. (United Kingdom)

13100-63 • 04:20 PM - 04:35 PM
**Laboratory evaluation of a pre-spectrograph wavelength splitter and pupil slicer for fiber optic based multi-object spectroscopy**
*Author(s):* **Samuel C. Barden,** Canada-France-Hawaii Telescope Corp. (United States); **Grace M. Todd,** Univ. of Hawai'i at Hilo (United States); **Katlynn M. Vicuna,** Univ. of Hawai'i (United States); **Gregory A. Green,** Canada-France-Hawaii Telescope Corp. (United States)

13100-64 • 04:35 PM - 04:50 PM
**Manufacturing a novel diffractive pupil for the astrometric detection of exoplanets**
*Author(s):* **Connor J. Langford,** The Univ. of Sydney (Australia); **David S. Doelman,** Leiden Univ. (Netherlands); **Christopher H. Betters**, **Max Charles**, **Fred Crous**, **Louis C. Desdoigts**, **Clarissa J. Luk,** The Univ. of Sydney (Australia); **Frans Snik,** Leiden Univ. (Netherlands); **Peter G. Tuthill,** The Univ. of Sydney (Australia)

## Wednesday 19 June 2024

### WEDNESDAY PLENARY

19 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/wednesday-plenary

13173-504 • 08:30 AM - 09:15 AM
**Euclid mission: first year of operations** (Plenary Presentation)
*Author(s):* **René J. Laureijs,** European Space Research and Technology Ctr. (Netherlands)

13173-505 • 09:15 AM - 10:00 AM
**The ultraviolet explorer: new views of the UV universe** (Plenary Presentation)
*Author(s):* **Fiona A. Harrison,** Caltech (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 11: SPECTROSCOPY: GRATINGS, DISPERSERS AND IMAGE SLICERS II

19 June 2024 • 10:30 AM - 12:15 PM | Room G214, North - 2F
*Session Chair(s):* **Andrea Bianco**, INAF - Osservatorio Astronomico di Brera (Italy)

13100-65 • 10:30 AM - 10:45 AM
**Magnetorheological Finishing of Volume Phase Holographic Gratings for High Fidelity Spectrograph Wavefront Performance**
*Author(s):* **Andrew Clawson**, **Elroy Pearson,** Wasatch Photonics, Inc. (United States); **Niranjan A. Thatte**, **Matthias Tecza**, **R. Elliot Meyer**, **David Gooding**, **Edgar Castillo Dominguez**, **Eduard R. Muslimov,** Univ. of Oxford (United Kingdom); **Christopher A. Hall**, **Michael A. DeMarco,** QED Optics (United States); **David J. Creasey, Cicely Rathmell,** Wasatch Photonics, Inc. (United States)

13100-66 • 10:45 AM - 11:00 AM
**HARMONI at ELT: characterizing spatial variations in transmission efficiency of Volume Phase Holographic diffraction gratings**
*Author(s):* **David Gooding**, **Niranjan A. Thatte**, **Edgar Castillo Dominguez**, **Matthias Tecza**, **R. Elliot Meyer**, **Fraser Clarke**, **Zeynep Ozer**, **Vanessa Ferraro-Wood**, **James Kariuki,** Univ. of Oxford (United Kingdom); **Elroy Pearson, David J. Creasey,** Wasatch Photonics, Inc. (United States)

13100-67 • 11:00 AM - 11:15 AM
**VPHG@INAF: toward large size and diffraction efficiency**
*Author(s):* **Andrea Bianco**, **Michele Frangiamore**, **Andrea Vanella**, **Luca Oggioni, Giorgio Pariani,** INAF - Osservatorio Astronomico di Brera (Italy)

13100-68 • 11:15 AM - 11:30 AM
**Evaluation of Area Scaling of the Reactive Ion-plasma Etched Astronomical Diffraction Gratings**
*Author(s):* **Hanshin Lee,** The Univ. of Texas at Austin (United States); **Uma K. Subash, Menelaos K. Poutous,** The Univ. of North Carolina at Charlotte (United States)

13100-69 • 11:30 AM - 11:45 AM
**Opto-Mechanical Design and realization of a Far-Infrared Grating Module for Future Space Missions**
*Author(s):* **Gabby Aitink-Kroes,** NWO-I (Netherlands), SRON Netherlands Institute for Space Research (Netherlands); **Erik van der Meer**, **Martin J. Eggens**, **Robert Huisman,** SRON Netherlands Institute for Space Research (Netherlands), NWO-I (Netherlands); **Marc Audard**, **Ludovic Genolet,** Univ. de Genève (Switzerland); **Shiang-Yu Wang,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Bram Lap, Willem Jellema,** SRON Netherlands Institute for Space Research (Netherlands), NWO-I (Netherlands)

13100-70 • 11:45 AM - 12:00 PM
**SWIFTS Spectrometry for SWIR Astronomical Applications: Development of a monobloc spectrometer for versatile deployment in telescopes and airborne instruments**
*Author(s):* **Salma Baccar,** Institut de Planétologie et d'Astrophysique de Grenoble (France), IMEP-LAHC (France); **Guillermo Martin,** IPAG : Institut de Planétologie et d'Astrophysique de Grenoble (France); **Alain Morand,** IMEP-LAHC (France); **Noémie Mestre, Myriam Bonduelle,** Institut de Planétologie et d'Astrophysique de Grenoble (France), IMEP-LAHC (France)

13100-71 • 12:00 PM - 12:15 PM
**An updated alignment strategy for the Off-plane Grating Rocket Experiment (OGRE)**
*Author(s):* **Bridget C. O'Meara**, **James H. Tutt**, **Randall L. McEntaffer**, **Aishwarya Penmetcha**, **Jake A. McCoy, Alexandra N Higley,** The Pennsylvania State Univ. (United States)

## Lunch/Exhibition Break 12:15 PM - 01:35 PM

## SESSION 12: COATINGS, DICHROICS, FILTERS AND METASURFACES I

19 June 2024 • 01:35 PM - 03:20 PM | Room G214, North - 2F
*Session Chair(s):* **Hélène T. Krol**, CILAS (France)

13100-72 • 01:35 PM - 01:50 PM
**Progressive structural changes in silver-based telescope mirrors with an aluminum oxide protection layer prepared via thermal atomic layer deposition using water and high purity ozone: A comparative study for long-term resilience**
*Author(s):* **Søren A. Tornøe,** Univ. of California, Santa Cruz (United States), Nanostructured Energy Conversion Technology and Research (United States); **Andrew C. Phillips,** Univ. of California Observatories (United States), Univ. of California, Santa Cruz (United States); **Brandon Cheney,** Univ. of California, Santa Cruz (United States); **Takayuki Hagiwara**, **Tetsuya Nishiguchi,** Meiden Nanoprocess Innovations, Inc. (Japan); **Nobuhiko P. Kobayashi,** Univ. of California, Santa Cruz (United States), Nanostructured Energy Conversion Technology and Research (United States)

13100-73 • 01:50 PM - 02:05 PM
**Optimization of Protected Silver Coating Recipes for E-ELT Telescope Mirrors**
*Author(s):* **Ronald Holzlöhner**, **Michele Cirasuolo,** European Southern Observatory (Germany); **Ricardo A. Parra,** European Southern Observatory (Chile); **Svetlana Shestaeva, Stefan Schwinde,** Fraunhofer-Institut für Angewandte Optik und Feinmechanik IOF (Germany)

13100-74 • 02:05 PM - 02:20 PM
**Optical coatings on large telescope mirrors**
*Author(s):* **Ramya Chandrasekaran,** DynaVac (United States)

13100-75 • 02:20 PM - 02:35 PM
**Research on the Application of Dielectric Films in Large Aperture Astronomical Telescopes**
*Author(s):* **Jie Tian**, **Jinfeng Wang**, **Weijie Zong, Jun Wang,** Nanjing Institute of Astronomical Optics & Technology (China)

13100-76 • 02:35 PM - 02:50 PM
**Optical coating facilities at the Instituto de Astrofísica de Canarias**
*Author(s):* **Maider Insausti**, **Félix Gracia, José Luis Rasilla,** Instituto de Astrofísica de Canarias (Spain)

13100-77 • 02:50 PM - 03:05 PM
**Design and prototyping of broadband metasurface scalar phase masks for high-contrast imaging**
*Author(s):* **Lorenzo König,** Jet Propulsion Lab. (United States), Caltech (United States); **Skyler Palatnick,** Univ. of California, Santa Barbara (United States); **Niyati Desai,** Caltech (United States); **Olivier Absil,** Liège Univ. (Belgium); **Dimitri Mawet,** Caltech (United States); **Max A. Millar-Blanchaer,** Univ. of California, Santa Barbara (United States); **Tobias Wenger,** Jet Propulsion Lab. (United States); **Eugene Serabyn,** Jet Propulsion Lab. (United States), Caltech (United States)

13100-231 • 03:05 PM - 03:20 PM
**Atomic layer processing as a platform for ultraviolet coatings**
*Author(s):* **John J. Hennessy,** Jet Propulsion Lab. (United States)

**Coffee Break 03:20 PM - 03:45 PM**

## SESSION 13: COATINGS, DICHROICS, FILTERS AND METASURFACES II

19 June 2024 • 03:45 PM - 04:45 PM | Room G214, North - 2F
*Session Chair(s):* **Richard A. McCracken**, Heriot-Watt Univ. (United Kingdom)

13100-226 • 03:45 PM - 04:00 PM
**Advances in plasma-based atomic layer processing of AlF3 for the passivation of broadband Aluminum mirrors**
*Author(s):* **Luis V. Rodriguez de Marcos,** The Catholic Univ. of America (United States); **Virginia D. Wheeler,** U.S. Naval Research Lab. (United States); **Maria G. Sales,** National Research Council (United States), U.S. Naval Research Lab. (United States); **Javier G. Del Hoyo**, **Mateo F. Batkis,** NASA Goddard Space Flight Ctr. (United States); **Andrew C. Lang,** U.S. Naval Research Lab. (United States); **Manuel A. Quijada**, **Edward J. Wollack,** NASA Goddard Space Flight Ctr. (United States); **Scott G. Walton, David R. Boris,** U.S. Naval Research Lab. (United States)

13100-80 • 04:00 PM - 04:15 PM
**Spectrally resolved measurements of the EUCLID Dichroic reflected wavefront error**
*Author(s):* **Guillaume Dovillaire**, **Patrick Grand-Chavin**, **Remy Juvénal**, **Jérôme Legrand**, **Fabrice Sanson,** Imagine Optic SA (France); **Luis M. Venancio,** European Space Agency (Netherlands); **Pierre-Antoine Frugier,** CEA (France); **Mael Baron**, **Laurent Pinard, Benoit Sassolas,** Lab. des Matériaux Avancés (France)

13100-81 • 04:15 PM - 04:30 PM
**Optimization of mission enabling broadband Lyman ultraviolet series to infrared aluminum lithium fluoride reflectors**
*Author(s):* **Javier G. Del Hoyo,** NASA Goddard Space Flight Ctr. (United States); **Luis V. Rodriguez de Marcos,** The Catholic Univ. of America (United States); **Manuel A. Quijada, Mateo Batkis,** NASA Goddard Space Flight Ctr. (United States)

13100-82 • 04:30 PM - 04:45 PM
**Antireflection coating on large lenses for G-CLEF blue camera**
*Author(s):* **Hélène T. Krol**, **Nathalie Valette**, **Xavier Buet**, **Colin Bondet de la Bernardie**, **Didier Torricini**, **Grégory Chauveau,** CILAS (France); **Clément Escolle, Philippe Godefroy,** Bertin Winlight (France)

## POSTER POP PRESENTATIONS

19 June 2024 • 04:45 PM - 05:45 PM | Room G5, North - 1F
*Session Chair(s):* **Ralf Jedamzik**, SCHOTT AG (Germany); **Ramón Navarro**, NOVA (Netherlands)

## SESSION PS1: POSTERS - FABRICATION OF MIRRORS, LENSES AND OTHER OPTICAL COMPONENTS

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13100-122 • 05:30 PM - 07:00 PM
**Polishing and shaping of thin shells for adaptive optics**
*Author(s):* **Ioannis Politopoulos,** NOVA optical infrared instrumentation group at ASTRON (Netherlands); **Rik ter Horst,** NOVA (Netherlands), NOVA optical infrared instrumentation group at ASTRON (Netherlands); **Ramon Navarro,** NOVA optical infrared instrumentation group at ASTRON (Netherlands); **Stefan Kuiper**, **Fred Kamphues**, **Wouter A. Jonker**, **Jan de Vreugd,** TNO (Netherlands); **Jeroen J. M. Vleggaar,** Huygens Optics (Netherlands)

13100-123 • 05:30 PM - 07:00 PM
**Additive manufacturing in ceramics: targeting lightweight mirror applications in the visible, ultraviolet and X-ray**
*Author(s):* **Carolyn Atkins**, **Younes Chahid**, **Greg Lister**, **Rhys Tuck**, **David Isherwood,** UK Astronomy Technology Ctr. (United Kingdom); **Nan Yu,** The Univ. of Edinburgh (United Kingdom); **Rongyan Sun**, **Kazuya Yamamura,** Osaka Univ. (Japan); **Marta Civitani**, **Giovanni Pareschi**, **Gabriele Vecchi,** INAF - Osservatorio Astronomico di Brera (Italy); **Simon G. Alcock**, **Ioana-Theodora Nistea,** Diamond Light Source Ltd. (United Kingdom); **Luigi Lessio,** INAF - Osservatorio Astronomico di Padova (Italy)

13100-125 • 05:30 PM - 07:00 PM
**Development of the WindCube Fabry-Perot Etalon**
*Author(s):* **Patrick Zmarzly**, **Andrew Carlile**, **Qian Wu**, **Scott Sewell**, **Elizabeth Bernhardt,** National Ctr. for Atmospheric Research (United States); **Chris Pietraszewski, Terry Dines,** IC Optical Systems Ltd. (United Kingdom)

13100-126 • 05:30 PM - 07:00 PM
**Production of large monolithic mirrors (1.8 m diameter) for dual-mirror Cherenkov telescopes via thermal slumping**
*Author(s):* **Giorgia Sironi**, **Giovanni Pareschi**, **Laura Proserpio,** INAF - Osservatorio Astronomico di Brera (Italy); **Salvatore Scuderi,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Gianpiero Tagliaferri,** INAF - Osservatorio Astronomico di Brera (Italy); **Giuseppe Valsecchi,** Media Lario S.r.l. (Italy); **For the ASTRI Project,** ASTRI (Italy)

13100-127 • 05:30 PM - 07:00 PM
**Heat Rejecter preliminary design of the European Solar Telescope**
*Author(s):* **Juan Cózar-Castellano**, **Marta Belío-Asín**, **Mahy Soler**, **Ángel Mato**, **Miguel A. Núñez Cagigal**, **Mary Barreto**, **Nauzet Vega**, **Cristina Padilla-Hernández,** Instituto de Astrofísica de Canarias (Spain); **Manuel Collados,** Instituto de Astrofísica de Canarias (Spain), Univ. de La Laguna (Spain); **Jorge Sánchez-Capuchino,** Instituto de Astrofísica de Canarias (Spain); **Iago Funes**, **Adrián García-Hidalgo**, **Antonio Gómez**, **Juan Miguel Gonzalez**, **Héctor Lacasta**, **David Fernández-Gutiérrez**, **Carlos Fernández, Marta García-Cosío,** CiTD Engieneering & Technologies S.L. (Spain)

13100-128 • 05:30 PM - 07:00 PM
**Precision optical alignment and bonding of Volume Phase Holographic (VPH) grisms for SAMOS**
*Author(s):* **Stephen A. Smee**, **Robert H. Barkhouser**, **John J. Piotrowski,** Johns Hopkins Univ. (United States); **Massimo Robberto,** Johns Hopkins Univ. (United States), Space Telescope Science Institute (United States)

13100-129 • 05:30 PM - 07:00 PM
**Design and Fabrication of freeform mirrors for the KASI-Deep Rolling Imaging Fast Telescope**
*Author(s):* **Dohoon Kim,** Green Optics Co., Ltd. (Korea, Republic of); **Il Kweon Moon,** Korea Research Institute of Standards and Science (Korea, Republic of); **Hyukson Kwon,** ADSOLUTION CO., Ltd. (Korea, Republic of); **Changhee Lee**, **Gisung Park,** Green Optics Co., Ltd. (Korea, Republic of); **Yunjong Kim**, **Jongwan Ko**, **Jihun Kim,** Korea Astronomy and Space Science Institute (Korea, Republic of); **JaeYeong Jo**, **Taejong Kim**, **Minho Seo, Young-Soo Kim,** Green Optics Co., Ltd. (Korea, Republic of)

13100-130 • 05:30 PM - 07:00 PM
**Specifications and Tolerancing for ARIEL's aluminium primary mirror with Mid-spatial- Frequency Errors**
*Author(s):* **José A. Araiza-Durán,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Paolo Chioetto,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Anna Brucalassi**, **Andrea Tozzi**, **Debora Ferruzzi**, **Riccardo Lilli,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Paola Zuppella,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Emanuele Pace**, **Antonio Scippa,** Univ. degli Studi di Firenze (Italy); **Andrew Caldwell**, **Martin E. Caldwell,** STFC Rutherford Appleton Lab. (United Kingdom); **Marina Vela Nuñez,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Enzo Pascale,** Sapienza Univ. di Roma (Italy); **Raffaele Piazzolla**, **Mario Salatti,** Agenzia Spaziale Italiana (Italy); **Giampaolo Preti,** Univ. degli Studi di Firenze (Italy); **Davide Bruzzi,** STFC Rutherford Appleton Lab. (United Kingdom); **Gianluca Morgante,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Elisa Guerriero,** INAF - Osservatorio Astronomico di Palermo "Giuseppe Salvatore Vaiana" (Italy); **Dervis Vernani,** Media Lario S.r.l. (Italy); **Leonardo Tommasi,** Leonardo S.p.A. (Italy)

13100-132 • 05:30 PM - 07:00 PM
**Fabrication and characterization of electroactive polymer actuators for high-resolution adjustable X-ray optics**
*Author(s):* **Manel Errando**, **Banafsheh Beheshtipour,** Washington Univ. in St. Louis (United States); **Casey T. DeRoo, Kenneth Buffo,** The Univ. of Iowa (United States)

13100-133 • 05:30 PM - 07:00 PM
**Combined optical and tactile measurement of aspherical and freeform optics with reference fiducials up to 1000 mm diameter**
*Author(s):* **Rens Henselmans**, **Rogier Ellenbroek,** Dutch United Instruments (Netherlands); **Nanda Bloom**, **Giacomo Pezzali,** ; **Jing Zou,** Dutch United Instruments (Netherlands)

13100-134 • 05:30 PM - 07:00 PM
**Improving endurance and spectral responses of protected telescope mirrors by implementing sputtering atomic layer augmented deposition (SALAD): Two case studies–silver and aluminum-based protected mirrors**
*Author(s):* **Søren A. Tornøe,** Univ. of California, Santa Cruz (United States), Nanostructured Energy Conversion Technology and Research (United States); **John J. Hennessy,** Jet Propulsion Lab. (United States), Caltech (United States); **Nobuhiko P. Kobayashi,** Univ. of California, Santa Cruz (United States), Nanostructured Energy Conversion Technology and Research (United States)

13100-135 • 05:30 PM - 07:00 PM
**Filtered cathodic arc deposited diamond like carbon as optically transparent and hydrolyzation resistant protective film for Ag-based telescope mirrors**
*Author(s):* **Søren A. Tornøe,** Univ. of California, Santa Cruz (United States), Nanostructured Energy Conversion Technology and Research (United States); **Jacob H. Sands,** Univ. of California, Santa Cruz (United States); **Andrew C. Phillips,** Univ. of California Observatories (United States), Univ. of California, Santa Cruz (United States); **Nobuhiko P. Kobayashi,** Univ. of California, Santa Cruz (United States), Nanostructured Energy Conversion Technology and Research (United States); **Heng Zhang, Jin Z. Zhang,** Univ. of California, Santa Cruz (United States)

13100-136 • 05:30 PM - 07:00 PM
**Photolithography fabrication experiment of masks for a Lyot Coronagraph**
*Author(s):* **Lauren Schatz**, **Jeff W. Richey**, **Tod V. Laurvick**, **Peter R. Stevenson**, **Lirong Sun**, **Nathan Episcopo**, **Jeremiah Gaulding**, **Mala Mateen**, **Robert L. Johnson,** Air Force Research Lab. (United States); **Sebastiaan Y. Haffert,** Steward Observatory (United States)

13100-137 • 05:30 PM - 07:00 PM
**Design and application of new generation micro-lens arrays (MLA) with free-form surfaces and irregular arrangement of segments**
*Author(s):* **Atsushi Sasaki**, **Okiharu Kirino,** ANAX Optics Inc. (Japan); **Anthony Beaucamp,** Keio University (Japan), ANAX Optics Inc. (Japan)

13100-138 • 05:30 PM - 07:00 PM
**Hexagonal cutting for ELT M1**
*Author(s):* **Alexandre Bacouel**, **Xavier P. Tonnellier**, **Jean-Pierre Cardoso**, **Jean-Frederic Lesien**, **Gilles Chaussat,** Safran Reosc (France); **Denis Faure,** Safran Electronics & Defense (France); **Camille Frapolli,** Safran Reosc (France)

13100-139 • 05:30 PM - 07:00 PM
**480 GHz metamaterial flat lens design and characterization**
*Author(s):* **Cassandra N. Whitton,** Arizona State Univ. (United States); **Sven van Berkel,** Jet Propulsion Lab. (United States); **Daniel Lu**, **Adhitya B. Sriram**, **Philip D. Mauskopf**, **Christopher E. Groppi,** Arizona State Univ. (United States); **Paul F. Goldsmith,** Jet Propulsion Lab. (United States); **Georgios Trichopoulos,** Arizona State Univ. (United States); **Jose V. Siles,** Jet Propulsion Lab. (United States)

13100-140 • 05:30 PM - 07:00 PM
**Investigating mass reduction capabilities of additive manufacturing through the re-design of a space-based mirror**
*Author(s):* **Rhys Tuck**, **Carolyn Atkins**, **Younes Chahid**, **Greg Lister**, **Katherine Morris**, **James Carruthers**, **Mat Beardsley**, **Michael Harris,** STFC Rutherford Appleton Lab. (United Kingdom); **Simon G. Alcock**, **Ioana-Theodora Nistea,** Diamond Light Source Ltd. (United Kingdom); **Ciarán Breen,** UK Astronomy Technology Centre (United Kingdom)

13100-141 • 05:30 PM - 07:00 PM
**Targeting low surface roughness for 3D printed aluminium mirrors using a hot isostatic press**
*Author(s):* **Carolyn Atkins**, **Younes Chahid**, **Greg Lister**, **Rhys Tuck,** UK Astronomy Technology Ctr. (United Kingdom); **Robert M. Snell**, **Iain Todd,** The Univ. of Sheffield (United Kingdom); **Mat Beardsley**, **Michael Harris,** STFC Rutherford Appleton Lab. (United Kingdom); **James Shipley**, **Tom Walsh**, **Johannes Gardstam,** Quintus Technologies AB (Sweden); **Simon G. Alcock**, **Ioana-Theodora Nistea,** Diamond Light Source Ltd. (United Kingdom); **Samuel Tammas-Williams,** The Univ. of Edinburgh (United Kingdom)

13100-143 • 05:30 PM - 07:00 PM
**Surface error correction of ELT primary mirror hexagonal segments by ion figuring**
*Author(s):* **Xavier P. Tonnellier**, **Martin Violot**, **Gilles Chaussat**, **Yohan Drouhot**, **Camille Frapolli,** Safran Reosc (France); **Marc Gouedard,** Safran Electronics & Defense (France); **Hervé Leplan, André Rinchet,** Safran Reosc (France)

13100-144 • 05:30 PM - 07:00 PM
**Characterization of additive manufacturing (AM) materials for micro-lens array construction**
*Author(s):* **Jacob Vider,** The Univ. of Arizona (United States)

13100-145 • 05:30 PM - 07:00 PM
**Mass fabrication considerations of pre-spectrograph wavelength splitter and pupil slicer units for fiber optic based multi-object spectroscopy**
*Author(s):* **Katlynn M. Vicuna,** Univ. of Hawai'i (United States); **Gregory A. Green,** Canada-France-Hawaii Telescope Corp. (United States); **Grace M Todd,** Univ. of Hawai'i at Hilo (United States); **Samuel C. Barden,** Canada-France-Hawaii Telescope Corp. (United States)

13100-146 • 05:30 PM - 07:00 PM
**Optimization of flexible opto-mechanical mounts design in metallic mirror for space-based telescope using finite element analysis**
*Author(s):* **Natnicha Mahawan,** Thammasat Univ. (Thailand); **Pantakant Panpang**, **Naphat Muangnin,** National Astronomical Research Institute of Thailand (Thailand); **Cyril J. Bourgenot,** Ctr. for Advanced Instrumentation, Durham Univ. (United Kingdom); **Carolyn Atkins,** UK Astronomy Technology Ctr. (United Kingdom); **Robert M. Snell,** The Univ. of Sheffield (United Kingdom); **Maroay Phlernjai,** Thammasat Univ. (Thailand); **Weerapot Wanajaroen**, **Patcharadanai Sombatsatien, Pearachad Chartsiriwattana,** National Astronomical Research Institute of Thailand (Thailand)

13100-147 • 05:30 PM - 07:00 PM
**Monolithic telescopes: design, manufacturing and applications**
*Author(s):* **Rik ter Horst, Ramon Navarro,** ASTRON (Netherlands)

13100-148 • 05:30 PM - 07:00 PM
**Modelling performance degradation of typical mid-spatial frequency errors in diamond-machined mirror arrays in the GMTIFS integral field unit**
*Author(s):* **Andrew W. Kruse**, **Israel J. Vaughn,** The Australian National Univ. (Australia); **Oleksandra Rebrysh,** INAF - Osservatorio Astronomico di Padova (Italy); **Davide Greggio,** INAF (Italy); **Rob Sharp,** The Australian National Univ. (Australia)

13100-149 • 05:30 PM - 07:00 PM
**SAG+: A chemo-mechanical shape adaptive grinding process for fast finishing of large mirrors and lenses**
*Author(s):* **Ashwani Pratap,** Keio Univ. (Japan), Zeeko Ltd. (Japan); **Kathryn Copson,** Zeeko Ltd. (United Kingdom); **Anthony T. Beaucamp,** Keio Univ. (Japan)

13100-289 • 05:30 PM - 07:00 PM
**Segmented active/adaptive thin shell mirrors**
*Author(s):* **Bart Speet,** TNO (Netherlands)

## SESSION PS2: POSTERS - MATERIALS AND METAMATERIALS

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13100-150 • 05:30 PM - 07:00 PM
**Investigating subtle inhomogeneity in coefficient of thermal expansion of fine cordierite for large mirrors**
*Author(s):* **Koki Isoyama,** KYOCERA Corp. (Japan); **Yuji Ikeda,** Photocoding (Japan); **Yasuhiro Nakahori**, **Takato Honjou**, **Hidehito Himeno**, **Masao Asai, Masatsugu Kamiura,** KYOCERA Corp. (Japan)

13100-151 • 05:30 PM - 07:00 PM
**Investigation of temperature characteristics of thermal expansion of cordierite ceramics for application to space components**
*Author(s):* **Shuzo Iwashita,** KYOCERA Corp. (Japan)

13100-152 • 05:30 PM - 07:00 PM
**Experimental determination of the refractive index spectral and thermal variation and transparency quantification of fluorine fluids for the MezzoCielo telescope**
*Author(s):* **Silvio Di Rosa,** Univ. degli Studi di Padova (Italy); **Roberto Ragazzoni**, **Demetrio Magrin**, **Carmelo Arcidiacono,** INAF - Osservatorio Astronomico di Padova (Italy); **Maria Guglielmina Pelizzo**, **Alain Jody Corso,** Consiglio Nazionale delle Ricerche (Italy); **Marco Dima,** INAF - Osservatorio Astronomico di Padova (Italy); **Giovanni Santi,** Consiglio Nazionale delle Ricerche (Italy)

13100-154 • 05:30 PM - 07:00 PM
**Assessment of adhesive wear and friction properties between Al6061-T6 and SSX65Cr13 in cryogenics conditions in the context of the Central Wheel Mechanism for MICADO**
*Author(s):* **Ioannis Politopoulos,** NOVA optical infrared instrumentation group at ASTRON (Netherlands); **Jean-Paul Nuismer,** NOVA optical infrared instrumentation group at ASTRON (Netherlands), Univ. of Groningen (Netherlands); **Jan Rinze Peterzon**, **Peter Kunst,** NOVA optical infrared instrumentation group at ASTRON (Netherlands); **Fransesco Maresca**, **Davide Fioravanti,** Univ. of Groningen (Netherlands); **Rick Romp**, **Ramon Navarro**, **Annemieke W. Janssen, Derek Van Winden,** NOVA optical infrared instrumentation group at ASTRON (Netherlands)

13100-288 • 05:30 PM - 07:00 PM
**Experimental study on Material Removal Rate of different material by Ion beam polishing**
*Author(s):* **Zhe Chen**, **Xinnan Li**, **ZiBo Jiang**, **Chen Xu, Jie Tian,** Nanjing Institute of Astronomical Optics & Technology (China)

## SESSION PS3: POSTERS - CALIBRATION, TEST AND METROLOGY

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13100-155 • 05:30 PM - 07:00 PM
**SCALES slenslit design status**
*Author(s):* **R. Deno Stelter**, **Renate Kupke,** Univ. of California Observatories (United States); **Andrew J. Skemer,** Univ. of California, Santa Cruz (United States); **Cyril J. Bourgenot,** Durham Univ. (United Kingdom); **Stephanie Sallum,** Univ. of California, Irvine (United States)

13100-157 • 05:30 PM - 07:00 PM
**Development and characterization of a testing system for the Ultra Fine Sun Sensor (UFSS) onboard SOLAR-C**
*Author(s):* **Yuto Kondo,** The Univ. of Tokyo (Japan); **Daiki Yamasaki,** Institute of Space and Astronautical Science (Japan); **Minami Yoshida,** The Univ. of Tokyo (Japan); **Akiko Tei,** National Astronomical Observatory of Japan (Japan); **Mizuho Uchiyama, Toshifumi Shimizu,** Institute of Space and Astronautical Science (Japan)

13100-158 • 05:30 PM - 07:00 PM
**The Simons Observatory Large Aperture Telescope Star Camera**
*Author(s):* **Alex Manduca,** Univ. of Pennsylvania (United States)

13100-159 • 05:30 PM - 07:00 PM
**Evaluation and control of performance of in-house achromatic triplet collimator assembly by infinite conjugate lens test using a Fizeau interferometer**
*Author(s):* **Sasithorn Horprasong**, **Chantira Boonsri**, **Piyamas Choochalearm**, **Adithep Kawinkij,** National Astronomical Research Institute of Thailand (Thailand); **Thomas Wocial,** Univ. of Hertfordshire (United Kingdom)

13100-160 • 05:30 PM - 07:00 PM
**Integration of freeform three-mirror KASI Deep Rolling Imaging Fast Telescope**
*Author(s):* **Yunjong Kim,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Dohoon Kim**, **Changhee Lee,** Green Optics Co., Ltd. (Korea, Republic of); **Seunghyuk Chang,** Ctr. for Integrated Smart Sensors (Korea, Republic of); **Jihun Kim,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Il Kweon Moon,** Korea Research Institute of Standards and Science (Korea, Republic of); **Hyukson Kwon,** ADSOLUTION Co., Ltd. (Korea, Republic of); **Woowon Byun,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Yongseok Lee,** Korea Astronomy and Space Science Institute (Korea, Republic of), Kyung Hee Univ. (Korea, Republic of); **Yeonsik Kim,** Korea Astronomy and Space Science Institute (Korea, Republic of), Kyungpook National Univ. (Korea, Republic of); **Daewook Kim,** Wyant College of Optical Sciences, The Univ. of Arizona (United States); **Jongwan Ko,** Korea Astronomy and Space Science Institute (Korea, Republic of), Univ. of Science and Technology (Korea, Republic of)

13100-162 • 05:30 PM - 07:00 PM
**A freeform mirror profiler with a very wide dynamic range and a high precision**
*Author(s):* **Masahito S. Uchiyama**, **Taiki Bessho**, **Hitoshi Tokoro,** Photocross Co., Ltd. (Japan); **Mori Megumi,** Photocross., Co. Ltd. (Japan); **Yuji Ikeda,** Photocross Co., Ltd. (Japan)

13100-163 • 05:30 PM - 07:00 PM
**Manufacturing, assembly, integration and verification of the mechanical support structure of the DDRAGO instrument**
*Author(s):* **Alejandro S. Farah**, **Rosalia Langarica**, **Jorge Fuentes-Fernández**, **Jaime Ruíz-Díaz-Soto**, **Silvio J. Tinoco**, **Alan M. Watson**, **Salvador Cuevas,** Univ. Nacional Autónoma de México (Mexico); **Johan D. Floriot,** Lab. d'Astrophysique de Marseille (France); **Arthur Langlois,** Institut de Recherche en Astrophysique et Planétologie (France); **François Dolon,** Observatoire de Haute-Provence (France); **Stéphane Basa,** Lab. d'Astrophysique de Marseille (France); **Jérémie Boy,** Institut de Recherche en Astrophysique et Planétologie (France); **William H. Lee,** Univ. Nacional Autónoma de México (Mexico)

13100-164 • 05:30 PM - 07:00 PM
**Systematic Optical Axis Prediction Based on Machine Learning for SONG Pointing Tracking Model**
*Author(s):* **Chao Zhang**, **Hua Bai,** Nanjing Institute of Astronomical Optics & Technology (China); **Yong Zhang,** National Astronomical Observatories (China); **Zhaojin Cao, Xiangqun Cui,** Nanjing Institute of Astronomical Optics & Technology (China)

13100-165 • 05:30 PM - 07:00 PM
**Research on calibration method of stereo photography system for detecting three-dimensional position of optical fibers**
*Author(s):* **Kai Yun**, **Jiahao Zhou**, **Yingfu Wang**, **Ziming Liu**, **Rongfeng Chen**, **Jiacheng Xie**, **Hongzhuan Hu**, **Jianping Wang**, **Zhigang Liu**, **Jirchu Chu**, **Ping Zhang, Zengxiang Zhou,** Univ. of Science and Technology of China (China)

13100-166 • 05:30 PM - 07:00 PM
**Measurement of LAMOST Fiducial Fiber Based on the Laser Tracker**
*Author(s):* **Ziming Liu**, **Yingfu Wang**, **Jiahao Zhou**, **Rongfeng Chen**, **Jiacheng Xie**, **Hongzhuan Hu**, **Jianping Wang**, **Zhigang Liu**, **Jiaru Chu**, **Ping Zhang, Zengxiang Zhou,** Univ. of Science and Technology of China (China)

13100-167 • 05:30 PM - 07:00 PM
**Spectrophotometric accuracy of spectra obtained from spectroscopic plates measured with a commercial flatbed scanner**
*Author(s):* **Kenshi Yanagisawa,** National Astronomical Observatory of Japan (Japan); **Reiko Furusho,** Tsuru Univ. (Japan); **Shiomi Nemoto**, **Toshihiro Kasuga**, **Yumi Iwashita, Jun-ichi Watanabe,** National Astronomical Observatory of Japan (Japan)

13100-168 • 05:30 PM - 07:00 PM
**Characterization of gratings: a powerful and flexible device**
*Author(s):* **Michele Frangiamore**, **Luca Oggioni, Andrea Bianco,** INAF - Osservatorio Astronomico di Brera (Italy)

13100-169 • 05:30 PM - 07:00 PM
**HARMONI ELT instrument integral field unit test tools development**
*Author(s):* **Magali Loupias**, **Johan Richard**, **Alban Remillieux**, **Jean-Emmanuel Migniau**, **Florence Laurent**, **Alexandre Jeanneau**, **Aurelien Jarno**, **Matthieu Guibert**, **Remi Giroud**, **Eric Daguise**, **Didier Boudon**, **Nicolas Bouche,** Observatoire de Lyon (France); **Adrien Girardot,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France), Observatoire de Paris (France); **Dave Melotte**, **Dawn Wasley,** UK Astronomy Technology Ctr. (United Kingdom); **Niranjan A. Thatte**, **Fraser Clarke, Matthias Tecza,** Univ. of Oxford (United Kingdom)

13100-170 • 05:30 PM - 07:00 PM
**Thermal modeling and experimental verification of the HEPS radiation monitor heat dissipation management**
*Author(s):* **Wojtek Hajdas, Xinyu Wang,** Paul Scherrer Institut (Switzerland)

13100-171 • 05:30 PM - 07:00 PM
**Alignment and verification of optical systems using computer generated holograms**
*Author(s):* **James H. Burge**, **Cormic K. Merle, Shelby D. V. Ament,** Arizona Optical Metrology LLC (United States)

13100-172 • 05:30 PM - 07:00 PM
**Design for enabling echelle and OMR spectrograph observations for point and extended sources on the same night at VBT**
*Author(s):* **Nitish SIngh**, **Sriram Sripadmanaban**, **Bharat Kumar Yerra, Prasanna G. Deshmukh,** Indian Institute of Astrophysics (India)

13100-173 • 05:30 PM - 07:00 PM
**New techniques for accurate and stable wavelength calibration**
*Author(s):* **Tobias Schmidt,** Observatoire de Genève (Switzerland)

## SESSION PS4: POSTERS - ADAPTIVE OPTICS, ACTIVE INSTRUMENTS AND VIBRATIONS

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13100-174 • 05:30 PM - 07:00 PM
**Developing a Wyne corrector for higher spectral bandwidth focal plane wavefront sensing**
*Author(s):* **Dominic F. Sanchez,** Univ. of California, Santa Cruz (United States); **Benjamin L. Gerard**, **Brian J. Bauman**, **Bautista R. Fernandez,** Lawrence Livermore National Lab. (United States); **Philip M. Hinz,** Univ. of California, Santa Cruz (United States)

13100-175 • 05:30 PM - 07:00 PM
**Characterization of an active secondary mirror positioning system for a small telescope**
*Author(s):* **Andreas Sinn**, **Florian Kreuzmair**, **Christian Schwaer**, **Patrik Prager, Georg Schitter,** Technische Univ. Wien (Austria)

13100-176 • 05:30 PM - 07:00 PM
**MKID WFS: coupling optical bench to cryostat**
*Author(s):* **Benjamin J. Shaw, Kieran S. O'Brien,** Durham Univ. (United Kingdom)

13100-178 • 05:30 PM - 07:00 PM
**A soft active control technique for telescope mechanical structure**
*Author(s):* **Shouwei Hu**, **Liang Chen, Cheng Liu,** Nanjing Institute of Astronomical Optics & Technology (China)

13100-179 • 05:30 PM - 07:00 PM
**Uncertainty on material properties in mirrors vibration analysis**
*Author(s):* **Edoardo Dalla Ricca, Carlo Zanoni,** Univ. degli Studi di Trento (Italy), Trento Institute for Fundamental Physics and Applications, Istituto Nazionale di Fisica Nucleare (Italy)

## SESSION PS5: POSTERS - OPTICS AND SUPPORT SYSTEMS

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13100-47 • 05:30 PM - 07:00 PM
**Thermo-mechanical design and birefringence analysis for the Mezzocielo assembly**
*Author(s):* **Silvio Di Rosa,** Univ. degli Studi di Padova (Italy); **Roberto Ragazzoni**, **Marco Dima**, **Luigi Lessio**, **Carmelo Arcidiacono**, **Demetrio Magrin**, **Jacopo Farinato, Simone Zaggia,** INAF - Osservatorio Astronomico di Padova (Italy)

13100-180 • 05:30 PM - 07:00 PM
**Power monitoring and control system for fiber positioners in LAMOST**
*Author(s):* **Guifeng Chen**, **Yang Zhang**, **Chao Fang, Chao Zhai,** Univ. of Science and Technology of China (China)

13100-181 • 05:30 PM - 07:00 PM
**Optics subjected to self-weight deflection: direct computation of induced aberrations**
*Author(s):* **Ivan Di Antonio,** INAF - Osservatorio Astronomico d'Abruzzo (Italy)

13100-183 • 05:30 PM - 07:00 PM
**Design and test of an advanced active optics actuator for primary mirrors exposed to dynamic loads**
*Author(s):* **Lorenzo Zago,** AstroTe.ch (Switzerland), Haute Ecole d'Ingénierie et de Gestion du Canton de Vaud (Switzerland); **Audrey T. Baur**, **Joackim de Figueiredo, Laurent Jolissaint de Sepibus,** Haute Ecole d'Ingénierie et de Gestion du Canton de Vaud (Switzerland)

13100-185 • 05:30 PM - 07:00 PM
**Vera C. Rubin Observatory technical challenges and resolutions**
*Author(s):* **Jacques Sebag**, **Doug R. Neill,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Christian Aguilar,** Rubin Observatory (Chile); **John Andrew,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Claudio Araya,** Rubin Observatory (Chile); **jeffrey Barr**, **Andy Clements,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Franco Colleoni**, **Julio Constanzo**, **Felipe Daruich,** Rubin Observatory (Chile); **Holger Drass,** Vera C. Rubin Observatory (Chile); **Juan Fabrega**, **Robinson Godoy**, **Hernan Herrera**, **David Jimenez Mejias,** Rubin Observatory (Chile); **Victor Krabbendam,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Petr Kubanek**, **juan lopez**, **Luis Matemala**, **Guido Maulen**, **Gonzalo Meneses**, **Freddy Munoz**, **Oscar Nunez**, **Ian Ordenes**, **Juan Orellana**, **Roberto Olivares**, **Maria Fernanda Parra**, **Claudio Pasten**, **Bruno Quint**, **Jose Miguel Quintero**, **Mario Rivera**, **Rodrigo Rojas**, **Sandra Romero**, **Edgard Sepulveda**, **Eduardo Serrano**, **Cristian Silva,** Rubin Observatory (Chile); **brian Stalder,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Diego Tapia,** Rubin Observatory (Chile); **Sandrine Thomas,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Roberto Tighe**, **Te-Wei Tsai**, **Luis Vergara**, **Tomislav Vucina, Pablo Zorzi,** Rubin Observatory (Chile)

13100-186 • 05:30 PM - 07:00 PM
**Structural design and optimization of reflectors for Space High-cadence Observing Telescope (SHOT)**
*Author(s):* **MIngzhu Zhang,** Zhejiang Lab. (China); **Ran Duan**, **Di Li,** National Astronomical Observatories (China); **Xiaohang Zhang,** Zhejiang Lab. (China); **Fei Liu,** National Astronomical Observatories, Chinese Academy of Sciences (China); **Yu Wang,** Zhejiang Lab. (China); **Xiaoyun Ma,** National Astronomical Observatories (China); **Ruirui Fan,** National Astronomical Observatories, Chinese Academy of Sciences (China); **Xiaohui Yan**, **Shiling Yu,** National Astronomical Observatories (China); **Jing Yang,** Zhejiang Lab. (China)

13100-187 • 05:30 PM - 07:00 PM
**Design, simulation, and testing of the Evanescent Wave Coronagraph prototype port adapter to the Thai National Telescope**
*Author(s):* **Thansita Thomrungpiyathan**, **Apirat Prasit**, **Mary Angelie M. Alagao**, **Apichayaporn Rakata**, **Pimnipa Pongam**, **Supachai Awiphan,** National Astronomical Research Institute of Thailand (Thailand); **Thierry Lepine,** Institut d'Optique Graduate School (France), Lab. Hubert Curien, CNRS (France); **Anthony Berdeu,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Michel Tallon**, **Éric M. Thiébaut**, **Maud Langlois,** Ecole Normale Supérieure de Lyon (France), Ctr. de Recherche Astrophysique de Lyon (France); **Saran Poshyachinda, Wiphu Rujopakarn,** National Astronomical Research Institute of Thailand (Thailand)

13100-188 • 05:30 PM - 07:00 PM
**HARMONI at ELT: verification tests of opto-mechanical mounts for HARMONI pre-optics in cryogenic environment**
*Author(s):* **Alberto Hernández-González**, **Elvio Hernández Suárez**, **Luz Maria Montoya Martínez**, **Miguel A. Cágigas**, **Alejandro Antonio Luján González**, **Begoña García-Lorenzo**, **Ángel A. Alonso,** Instituto de Astrofísica de Canarias (Spain); **Niranjan A. Thatte,** Univ. of Oxford (United Kingdom)

13100-189 • 05:30 PM - 07:00 PM
**ANDES, the high resolution spectrograph for the ELT: RIZ & UBV Spectrographs' Preliminary Mechanical Design**
*Author(s):* **Jose Peñate Castro**, **Fabio Tenegi**, **Afrodisio Vega Moreno**, **Jonay I. González Hernández**, **Manuel Amate Plasencia,** Instituto de Astrofísica de Canarias (Spain); **Rocío Calvo Ortega**, **Roberto Varas,** Instituto de Astrofísica de Andalucía (Spain); **Bruno Chazelas**, **Audrey Lanottre**, **Pablo Santos Díaz**, **Ludovic Genolet,** Univ. de Genève (Switzerland); **Joar G. Brynnel**, **Michael Weber**, **Jonathan Kern**, **Frank Dionies**, **Christine Füßlein, Svend-Marian Bauer,** Leibniz-Institut für Astrophysik Potsdam (Germany)

13100-190 • 05:30 PM - 07:00 PM
**Large adhesive spot RTV bonding for NFIRAOS off axis parabolas**
*Author(s):* **Scott MacDonald**, **Jenny Atwood**, **John Pazder**, **Katherine Silversides,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Alain Cournoyer**, **Frédéric Grandmont**, **Louis-Philippe Bibeau, Éric Carbonneau,** ABB Inc. (Canada)

13100-191 • 05:30 PM - 07:00 PM
**Design of Precision Camera Rotation System (CRS) and Grating Rotator and Exchange System (GRX) for the Wide-Field Optical Spectrograph (WFOS) of the TMT**
*Author(s):* **Ajin Prakash**, **Sudharsan Kambhala**, **Govinda K.V.**, **Harimohan Varshney,** Indian Institute of Astrophysics (India); **Reston B. Nash,** Caltech (United States); **Ramya Sethuram**, **Amirul Hasan**, **Devika Divakar**, **Sivarani Thirupathi,** Indian Institute of Astrophysics (India); **Chuck Steidel,** Caltech (United States); **Alastair Heptonstall,** Thirty Meter Telescope (United States); **Jason Fucik,** Caltech (United States)

13100-192 • 05:30 PM - 07:00 PM
**Analysis of factors affecting the mechanical and electrical integration performance of large telescope segmented motor**
*Author(s):* **Fan Gao, Yu Ye,** Univ. of Chinese Academy of Sciences (China)

## SESSION PS6: POSTERS - TELESCOPE STRUCTURES, DOMES AND ADDITIVE MANUFACTURING

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13100-193 • 05:30 PM - 07:00 PM
**Field driven design of additively manufactured CubeSat chassis**
*Author(s):* **Katherine Morris**, **Carolyn Atkins**, **Younes Chahid,** UK Astronomy Technology Ctr. (United Kingdom); **Maria T. Milanova,** Univ. Bern (Switzerland); **Zeshan Ali,** UK Astronomy Technology Ctr. (United Kingdom)

13100-194 • 05:30 PM - 07:00 PM
**Mechanical challenges to implement a UV spectrograph on the GTC**
*Author(s):* **Jean-Louis Lizon**, **Sylvia Xinqiqige**, **Kai Zhang**, **Bin Yu**, **Mingda Djiang**, **Xiaolin Luang,** Nanjing Institute of Astronomical Optics & Technology (China); **German Prieto, Francisco Javier Lopez,** GTC telescope IAC (Spain)

13100-195 • 05:30 PM - 07:00 PM
**Finite element-guided optimization techniques for affectionless of gravitational sag in NARIT 0.5-meter planetary imaging Cassegrain telescope through 6 whiffle tree mechanism**
*Author(s):* **Thalachanan Saladtook**, **Anupong Inpun**, **Weerapot Wanajaroen**, **Pearachad Chartsiriwattana**, **Thanayuth Panyalert**, **Kritsada Palee**, **Khomsan Tongboon**, **Pakawat Prasit, Peerapong Torteeka,** National Astronomical Research Institute of Thailand (Thailand)

13100-196 • 05:30 PM - 07:00 PM
**Tolerance design of short focal length catadioptric telescope for remote sensing instruments with sub-meter resolution**
*Author(s):* **Sheng-Feng Lin,** Taiwan Space Agency (TASA) (Taiwan); **Yi-Kai Huang,** NYCTU/DOP (Taiwan), Taiwan Space Agency (TASA) (Taiwan); **Cheng-Huan Chen,** NYCTU/DOP (Taiwan); **Hsing-Yu Wu,** Taiwan Space Agency (Taiwan)

13100-197 • 05:30 PM - 07:00 PM
**The MICADO first light imager for the ELT: Eliminating vibrations and excessive earthquake-loads on Micado's rotary platform**
*Author(s):* **Sebastian Schäfer**, **Harald E. Nicklas**, **Heiko M. Anwand-Heerwart**, **Jens-Oliver Dette, Johann Witschel,** Georg-August-Univ. Göttingen (Germany)

13100-198 • 05:30 PM - 07:00 PM
**A multi-layer filter switching device for large-aperture photoelectric telescopes**
*Author(s):* **Shen LuRun,** Shanghai Astronomical Observatory (China)

13100-200 • 05:30 PM - 07:00 PM
**deformation strategy on a special cable-net structure of the active reflector system of FAST**
*Author(s):* **Hui Li,** National Astronomical Observatories (China)

# Thursday 20 June 2024

## THURSDAY PLENARY

20 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/thursday-plenary

13173-506 • 08:30 AM - 09:15 AM
**Navigating the radio astronomy renaissance: challenges and opportunities for a sustainable future** (Plenary Presentation)
*Author(s):* **Jessica T. Dempsey,** ASTRON (Netherlands)

13173-507 • 09:15 AM - 10:00 AM
**The x-ray imaging and spectroscopy mission (XRISM): development and expected science** (Plenary Presentation)
*Author(s):* **Makoto S. Tashiro,** Saitama Univ. (Japan)

**Coffee Break 10:00 AM - 10:30 AM**

## SESSION 14: OPTICAL FIBERS, POSITIONERS, PHOTONIC TECHNIQUES I

20 June 2024 • 10:30 AM - 12:15 PM | Room G214, North - 2F
*Session Chair(s):* **Andreas Kelz**, Leibniz-Institut für Astrophysik Potsdam (Germany)

13100-83 • 10:30 AM - 10:45 AM
**A new grid-based fibre positioner concept with large patrol area, small pitch, and very good clustering capabilities**
*Author(s):* **Roelof S. de Jong, Thomas Liebner,** Leibniz-Institut für Astrophysik Potsdam (Germany)

13100-84 • 10:45 AM - 11:00 AM
**Metrology of the hexapod positioning systems for ground system equipment's: recent innovations, and state of the art of reachable performances**
*Author(s):* **Pierre Noiré**, **Matthieu Cuq**, **Clément Robert**, **Thierry Roux,** Symétrie (France); **Sébastien Krut**, **Olivier Company,** Laboratoire d'Informatique, de Robotique et de Microélectronique de Montpellier (France); **Alain Vissière,** Laboratoire Commun de Métrologie (LCM), LNE/CNAM (France)

13100-85 • 11:00 AM - 11:15 AM
**Flexure based fibre positioners: design optimisation to follow arbitrary focal plane curvature**
*Author(s):* **Tom Louth**, **Stephen Watson, David M. Montgomery,** UK Astronomy Technology Ctr. (United Kingdom)

13100-86 • 11:15 AM - 11:30 AM
**A fiber positioner robotic arm with sensor based on 4mm motor**
*Author(s):* **Shaoxiong Guo**, **Yan Yang, Chao Zhai,** Univ. of Science and Technology of China (China)

13100-87 • 11:30 AM - 11:45 AM
**Minimizing light loss in acquisition and guiding systems for spectroscopic observations in PolyOculus and COTS astronomical telescopes**
*Author(s):* **Christina D. Moraitis**, **Tara Crowe**, **Jose Enrique Antonio-Lopez**, **Rodrigo Amezcua-Correa, Stephen S. Eikenberry,** Univ. of Central Florida (United States)

13100-88 • 11:45 AM - 12:00 PM
**Optimizing Fibre Connectors for High Throughput and Low FRD for Next-Generation Multi-fibre Astronomical Instruments**
*Author(s):* **Zinat M. Sathi**, **Julia Bryant, Adeline Wang,** The Univ. of Sydney (Australia)

13100-89 • 12:00 PM - 12:15 PM
**Tunable fibre Bragg grating arrays for photonic spectral cross-correlation**
*Author(s):* **Polina Zavyalova**, **Suresh Sivanandam**, **Peter R. Herman**, **Boyan Zhou, Momen Diab,** Univ. of Toronto (Canada)

### Lunch/Exhibition Break 12:15 PM - 01:20 PM

## SESSION 15: OPTICAL FIBERS, POSITIONERS, PHOTONIC TECHNIQUES II

20 June 2024 • 01:20 PM - 03:05 PM | Room G214, North - 2F
*Session Chair(s):* **Andreas Kelz**, Leibniz-Institut für Astrophysik Potsdam (Germany)

13100-90 • 01:20 PM - 01:35 PM
**Athermal package for OH suppression filters in astronomy - part 1: design**
*Author(s):* **Carlos E. Rodriguez Alvarez,** Leibniz-Institut für Astrophysik Potsdam (Germany), Technische Univ. Berlin (Germany); **Aashia Rahman**, **Hakan Önel**, **Frank Dionies**, **Jens Paschke, Svend-Marian Bauer,** Leibniz-Institut für Astrophysik Potsdam (Germany)

13100-91 • 01:35 PM - 01:50 PM
**Hollow-core optical fibers for instrumentation in the far ultraviolet (100 - 200 nm) regime**
*Author(s):* **Dmitry Vorobiev**, **Brian Fleming**, **Destry DeWitt**, **Emily Farr, Thomas Livingston,** Lab. for Atmospheric and Space Physics, Univ. of Colorado Boulder (United States)

13100-92 • 01:50 PM - 02:05 PM
**Mid infrared SWIFTS : L-band (3.4 - 4.1 µm) integrated high resolution spectrometer**
*Author(s):* **Myriam Bonduelle**, **Salma Baccar**, **Noémie Mestre,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Víctor Arroyo Heras**, **Javier Rodriguez Vázquez Aldana**, **Carolina Romero Vázquez,** Univ. de Salamanca (Spain); **Nadège Courjal**, **Roland Salut**, **Laurent Robert,** FEMTO-ST (France); **Guillermo Martin,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Alain Morand,** IMEP-LAHC (France)

13100-93 • 02:05 PM - 02:20 PM
**Optical-to-microwave clock synchronization with few-femtosecond residual timing jitter for space ground segments**
*Author(s):* **Kemal Shafak**, **Anan Dai**, **Erwin Cano Vargas**, **Michael Hagemann,** Cycle GmbH (Germany); **Franz X. Kärtner,** Deutsches Elektronen-Synchrotron (Germany)

13100-94 • 02:20 PM - 02:35 PM
**Design, fabrication and characterisation of a 3-baseline, achromatic integrated optics beam combiner for nulling interferometry with simultaneous fringe tracking using tricouplers.**
*Author(s):* **Elizabeth Arcadi**, **Glen Douglass**, **Jacinda Webb**, **Guillaume Tremblier**, **Michael J. Withford,** Macquarie Univ. (Australia); **Olivier Guyon,** Steward Observatory, The Univ. of Arizona (United States); **Marc-Antonie Martinod**, **Barnaby R. M. Norris**, **Peter G. Tuthill**, **Eckhart A. Spalding**, **Stephanie A. Rossini-Bryson,** The Univ. of Sydney (Australia); **Simon Gross,** Macquarie Univ. (Australia)

13100-95 • 02:35 PM - 02:50 PM
**Ultrafast laser inscription of achromatic phase shifters for the GLINT integrated nulling interferometer**
*Author(s):* **Glen Douglass,** Macquarie Univ. (Australia); **Teresa D. M. Klinner-Teo,** University of Sydney (Australia); **Elizabeth Arcadi,** Macquarie Univ. (Australia); **Eckhart A. Spalding,** The Univ. of Sydney (Australia); **Michael J. Withford,** Macquarie Univ. (Australia); **Barnaby R. M. Norris**, **Peter G. Tuthill,** The Univ. of Sydney (Australia); **Marc-Antoine Martinod,** KU Leuven (Belgium); **Oliver Guyon,** National Astronomical Observatory of Japan (United States); **Simon Gross,** Macquarie Univ. (Australia)

13100-96 • 02:50 PM - 03:05 PM
**Application of fiber-integrated technology in astronomical spectral observation**
*Author(s):* **Anzhi Wang**, **Gang Yue**, **Jiabin Wang**, **Zhaoxv Gan**, **Yunxiang Yan**, **Shengjia Wang**, **Qi Yan**, **Tao Geng**, **Pengfei Wang,** Harbin Engineering Univ. (China); **Shuang Chen,** China Aerodynamics Research and Development Ctr. (China); **Weimin Sun,** Harbin Engineering Univ. (China)

## Coffee Break 03:05 PM - 03:30 PM

## SESSION 16: HIGH CONTRAST IMAGING AND POLARIMETRY

20 June 2024 • 03:30 PM - 05:00 PM | Room G214, North - 2F
*Session Chair(s):* **Daewook Kim**, The Univ. of Arizona (United States)

13100-97 • 03:30 PM - 03:45 PM
**Active coronagraphy and coherence differential imaging in unpolarized light with the Swiss Wideband Active Testbed for Coronagraphic High-contrast imaging (SWATCHi) 2.0**
*Author(s):* **Axel Potier,** Univ. Bern (Switzerland); **Audrey T. Baur,** Haute Ecole d'Ingénierie et de Gestion du Canton de Vaud (Switzerland); **Liurong Lin**, **Ruben Tandon, Jonas G. Kuhn,** Univ. Bern (Switzerland)

13100-258 • 03:45 PM - 04:00 PM
**Design, manufacturing and performance testing of the METIS ring apodizer**
*Author(s):* **Lorenzo König**, **Christian Delacroix**, **Olivier Absil, Gilles Orban de Xivry,** Liège Univ. (Belgium)

13100-99 • 04:00 PM - 04:15 PM
**A broadband vector vortex coronagraph for SCExAO/VAMPIRES**
*Author(s):* **David S. Doelman,** SRON Netherlands Institute for Space Research (Netherlands); **Miles Lucas,** Univ. of Hawai'i (United States); **Yuuki Nishie**, **Tatsuya Hirai**, **Tomokazu Ishiguro,** ColorLink Japan, Ltd. (Japan); **Julien Lozi**, **Sebastien Vievard**, **Vincent Deo,** National Astronomical Observatory of Japan (United States); **Frans Snik,** Leiden Univ. (Netherlands); **Barnaby R. M. Norris,** The Univ. of Sydney (Australia); **Olivier Guyon,** National Astronomical Observatory of Japan (United States)

13100-100 • 04:15 PM - 04:30 PM
**The ELT/METIS Annular Groove Phase Masks**
*Author(s):* **Christian Delacroix**, **Lorenzo König**, **Olivier Absil**, **Gilles Orban De Xivry,** Liège Univ. (Belgium); **Pontus Forsberg**, **Mikael Karlsson,** Uppsala Univ. (Sweden); **Samuel Ronayette**, **Eric Pantin, Jean-Christophe Barrière,** CEA-Paris-Saclay (France)

13100-101 • 04:30 PM - 04:45 PM
**First results of the non-common path aberration correction in the Evanescent Wave Coronagraph testbed**
*Author(s):* **Mary Angelie M. Alagao**, **Pimnipa Pongam**, **Apichayaporn Ratkata**, **Patcharadanai Sombatsatien**, **Thansita Thomrungpiyathan,** National Astronomical Research Institute of Thailand (Thailand); **Anthony Berdeu,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France), Observatoire de Paris (France); **Michel Tallon**, **Éric M. Thiébaut**, **Maud Langlois,** Univ. de Lyon (France), Ctr. de Recherche Astrophysique de Lyon (France), Ecole Normale Supérieure de Lyon (France); **Thierry Lepine,** Institut d'Optique Graduate School (France), Lab. Hubert Curien, CNRS (France); **Supachai Awiphan**, **Saran Poshyachinda**, **Wiphu Rujopakarn, Christophe Buisset,** National Astronomical Research Institute of Thailand (Thailand)

13100-103 • 04:45 PM - 05:00 PM
**RISTRETTO: the PIAA Nuller in the prototyping phase**
*Author(s):* **Nathanaël Restori,** Univ. de Genève (Switzerland); **Nicolas Blind,** Observatoire de Genève (Switzerland); **Bruno Chazelas,** Univ. de Genève (Switzerland); **Muskan Shinde**, **Isaac Dinis,** Observatoire de Genève (Switzerland); **Jonas G. Kuehn,** Univ. Bern (Switzerland); **Christophe Lovis,** Observatoire de Genève (Switzerland)

## SESSION PS7: POSTERS - SPECTROSCOPY: GRATINGS, DISPERSERS AND IMAGE SLICERS

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13100-201 • 05:30 PM - 07:00 PM
**Development of an efficient three-channel IFU for high-speed time-domain spectroscopy onboard TriCCS at the Seimei telescope**
*Author(s):* **Toshihiro Tsuzuki,** National Astronomical Observatory of Japan (Japan); **Kazuya Matsubayashi**, **Mamoru Doi,** The Univ. of Tokyo (Japan); **Bungo Ikenoue**, **Naoki Kohara**, **Shinobu Ozaki**, **Kentaro Motohara,** National Astronomical Observatory of Japan (Japan); **Shigeyuki Sako,** The Univ. of Tokyo (Japan); **Kouji Ohta, Keiichi Maeda,** Kyoto Univ. (Japan)

13100-202 • 05:30 PM - 07:00 PM
**Conceptual optical design of the infrared Integral Field Spectropolarimeter for the European Solar Telescope**
*Author(s):* **Silvia Regalado Olivares**, **María Jesús Martínez González,** Instituto de Astrofísica de Canarias (Spain); **Carlos Quintero Noda,** Instituto de Astrofísica de Canarias (Spain), Univ. de La Laguna (Spain); **Manuel Collados,** Univ. de La Laguna (Spain), Instituto de Astrofísica de Canarias (Spain); **Roberto López López, Patricia Gómez González,** Instituto de Astrofísica de Canarias (Spain)

13100-204 • 05:30 PM - 07:00 PM
**VPHG based GRISMs for MIRC-X/MYSTIC at CHARA**
*Author(s):* **Michele Frangiamore**, **Andrea Bianco,** INAF - Osservatorio Astronomico di Brera (Italy); **Stefan Kraus**, **Sorabh Chhabra,** Univ. of Exeter (United Kingdom); **John D. Monnier,** Univ. of Michigan (United States); **Francisco Garzon,** Instituto de Astrofísica de Canarias (Spain)

13100-205 • 05:30 PM - 07:00 PM
**Polarimeter design based on split-pupil configuration**
*Author(s):* **Jie Zhao**, **Jialiang Dong**, **Ao Zhang**, **Ming Li**, **Jinxiang Xue**, **JiaQi Qi**, **Qiang Sun, Chengchao Liu,** Linyi Univ. (China)

13100-206 • 05:30 PM - 07:00 PM
**Latest optical and mechanical upgrades in the GREGOR Infrared Spectrograph for simultaneous spectral observations**
*Author(s):* **Silvia Regalado Olivares,** Instituto de Astrofísica de Canarias (Spain); **Manuel Collados,** Univ. de La Laguna (Spain), Instituto de Astrofísica de Canarias (Spain); **Carlos Quintero Noda,** Instituto de Astrofísica de Canarias (Spain), Univ. de La Laguna (Spain); **Jonai Bienes Perez**, **Claudia Ruiz de Galarreta**, **Jorge Quintero-Nehrkorn**, **Antonio Matta-Gómez**, **Roberto López López**, **Patricia Gómez González, Mary Barreto,** Instituto de Astrofísica de Canarias (Spain)

13100-208 • 05:30 PM - 07:00 PM
**Near infrared blaze metrology of silicon immersion gratings**
*Author(s):* **Cooper Dix**, **Cynthia Brooks**, **Daniel T. Jaffe,** The Univ. of Texas at Austin (United States); **Emily Lubar,** The Aerospace Corporation (United States); **Gregory N. Mace**, **Michelle M. Grigas,** The Univ. of Texas at Austin (United States); **Matthew N. Jacobs,** Applied Materials, Inc. (United States); **Erica Sawczynec,** The Univ. of Texas at Austin (United States)

13100-209 • 05:30 PM - 07:00 PM
**HARMONI at ELT: chromatic dependence of wavefront error performance in volume phase holographic diffraction gratings**
*Author(s):* **R. Elliot Meyer**, **David Gooding**, **Matthias Tecza**, **Edgar Castillo Dominguez**, **Eduard R. Muslimov**, **Sophie Paszynska,** Univ. of Oxford (United Kingdom); **Andrew Clawson,** Wasatch Photonics, Inc. (United States); **Niranjan A. Thatte**, **James Kariuki**, **Zeynep Ozer**, **Fraser Clarke**, **Vanessa Ferraro-Wood**, **Kieran McCall,** Univ. of Oxford (United Kingdom); **Cicely Rathmell**, **Elroy Pearson**, **David J. Creasey,** Wasatch Photonics, Inc. (United States); **Ian J. Lewis, Liam Boland,** Univ. of Oxford (United Kingdom)

13100-210 • 05:30 PM - 07:00 PM
**The Blue Multi Unit Spectroscopic Explorer (BlueMUSE) on the VLT: characterization of two VPHG prototypes based on dichromated gelatin and photopolymer recording materials**
*Author(s):* **Alexandre Jeanneau,** Ctr. de Recherche Astrophysique de Lyon (France); **Andrea Bianco,** INAF - Osservatorio Astronomico di Brera (Italy); **Andrew Clawson,** Wasatch Photonics, Inc. (United States); **Michele Frangiamore,** INAF - Osservatorio Astronomico di Brera (Italy); **Elroy Pearson,** Wasatch Photonics, Inc. (United States); **Laurent Pinard,** Laboratoire des Matériaux Avancés (France); **Jürgen Schmoll,** Durham Univ. (United Kingdom); **Johan Richard**, **Rémi Giroud**, **Florence Laurent, Roland Bacon,** Ctr. de Recherche Astrophysique de Lyon (France)

13100-211 • 05:30 PM - 07:00 PM
**Gratings for future spectro-imagers in space and ground-based telescopes: from lithography techniques to metasurfaces**
*Author(s):* **Frédéric Zamkotsian,** Lab. d'Astrophysique de Marseille (France); **Simon Ans,** Lab. d'Astrophysique de Marseille (France), Institut Fresnel (France); **Guillaume Demesy,** Institut Fresnel (France); **Nicolas Passilly**, **Andrei Mursa,** FEMTO-ST (France); **Myriam Zerrad**, **Michel Lequime,** Institut Fresnel (France); **Patrick Lanzoni,** Lab. d'Astrophysique de Marseille (France); **Roger Krähenbühl,** Ctr. Suisse d'Electronique et de Microtechnique SA (Switzerland); **Guillaume Basset,** CSEM SA (Switzerland)

13100-212 • 05:30 PM - 07:00 PM
**Novel Echelle Grating: Reflector Facet Transmission Grating and Prism Array for Grism**
*Author(s):* **Noboru Ebizuka**, **Takuya Hosobata**, **Masahiro Takeda**, **Yutaka Yamagata**, **Takayuki Okamoto,** RIKEN (Japan); **Masahiro Konishi**, **Kazuya Matsubayashi**, **Kosuke Kushibiki,** University of Tokyo (Japan); **Shinobu Ozaki, Kentaro Motohara,** National Astronomical Observatory of Japan (Japan)

13100-213 • 05:30 PM - 07:00 PM
**Novel transmission gratings with large angular dispersion, high efficiency and wide spectral bandwidth**
*Author(s):* **Noboru Ebizuka**, **Takayuki Okamoto**, **Yutaka Yamagata,** RIKEN (Japan); **Minoru Sasaki,** Toyota Technological Institute (Japan); **Makio Nishimaki**, **Kazuya Yamamoto**, **Yukinobu Nishio,** Nalux Co., Ltd. (Japan); **Masanao Abe,** Japan Aerospace Exploration Agency (Japan); **Yusuke Nakauchi**, **Kazuto Saiki,** Ritsumeikan Univ. (Japan); **Ichi Tanaka**, **Takashi Hattori,** Subaru Telescope, NAOJ (United States); **Shinobu Ozaki, Wako Aoki,** National Astronomical Observatory of Japan (Japan)

13100-214 • 05:30 PM - 07:00 PM
**Machined echelle gratings by Canon**
*Author(s):* **Takashi Sukegawa, Yukinobu Okura,** Canon Inc. (Japan)

13100-215 • 05:30 PM - 07:00 PM
**VPHG@INAF: Efficient dispersing element in the UV-Vis spectral range**
*Author(s):* **Manuela Arnò**, **Michele Frangiamore, Andrea Bianco,** INAF - Osservatorio Astronomico di Brera (Italy)

13100-216 • 05:30 PM - 07:00 PM
**Design trade-offs for a reduced-size cross-dispersed echelle spectrograph with a Cassegrain collimator**
*Author(s):* **Nuno M. Gonçalves**, **Alexandre Cabral,** Univ. de Lisboa (Portugal); **Manuel Abreu,** Instituto de Astrofísica e Ciências do Espaço, Univ. de Lisboa (Portugal)

13100-217 • 05:30 PM - 07:00 PM
**An Athermal Design of Lenslet Mount for SCALES: A Thermal Infrared Instrument for Exoplanet Spectroscopy on Keck - II**
*Author(s):* **Ajin Prakash,** Indian Institute of Astrophysics (India); **Nicholas MacDonald,** Univ. of California, Santa Cruz (United States); **Ravinder K. Banyal**, **Sivarani Thirupathi,** Indian Institute of Astrophysics (India); **R. Deno Steltar**, **Renate Kupke**, **Andrew J. Skemer,** Univ. of California, Santa Cruz (United States); **Arun Surya, Ramya Sethuram,** Indian Institute of Astrophysics (India)

13100-218 • 05:30 PM - 07:00 PM
**Development of diffraction-limited, high-throughput Germanium echelle grating**
*Author(s):* **Takayuki Kotani,** AstroBiology Ctr., NINS (Japan); **Nemanja Jovanovic,** Caltech Optical Observatories (United States); **Takashi Sukegawa,** Canon Inc. (Japan); **Jason R. Fucik,** Caltech (United States); **Evan Kress,** Univ. of California, Los Angeles (United States); **Ashley Baker,** Caltech Optical Observatories (United States); **Rose Gibson**, **Michael Fitzgerald,** Univ. of California, Los Angeles (United States); **Dimitri Mawet,** Caltech (United States); **Aoi Takahashi,** AstroBiology Ctr., NINS (Japan); **Motohide Tamura,** The Univ. of Tokyo (Japan)

13100-219 • 05:30 PM - 07:00 PM
**The Performance of a Microresonator-based Etalon for Radial Velocity Calibration**
*Author(s):* **Gautam Vasisht,** Jet Propulsion Lab. (United States); **Yu-Hung Lai,** OEwaves, Inc. (United States)

13100-220 • 05:30 PM - 07:00 PM
**How to Align Replicated Fiber-IFU Spectrographs? – A Decadal Journey and Evolution through Aligning VIRUS-P, VIRUS, LRS2, and VIRUS2 Spectrographs**
*Author(s):* **Hanshin Lee**, **Brian L. Vattiat**, **Gary J. Hill**, **Niv Drory, John M Good,** The Univ. of Texas at Austin (United States)

13100-221 • 05:30 PM - 07:00 PM
**A space-based laser-frequency comb for absolute cross-calibration of EPRV spectrographs**
*Author(s):* **Francesco Alfonso Pepe,** Observatoire de Genève (Switzerland); **Steve Lecomte**, **Ewelina Obrzud**, **Christopher B. Bonzon**, **Fabien Droz,** Ctr. Suisse d'Electronique et de Microtechnique SA (Switzerland); **Christopher H. Broeg,** Univ. Bern (Switzerland); **Maddalena Bugatti,** Univ. de Genève (Switzerland)

## SESSION PS8: POSTERS - COATINGS, DICHROICS, FILTERS AND METASURFACES

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13100-222 • 05:30 PM - 07:00 PM
**IBS 2000: Ion beam sputtering on large area astronomical optics**
*Author(s):* **Tarik Kellermann,** Laser Zentrum Hannover e.V. (Germany); **Holger Badorreck,** Laser Zentrum Hannover e.V. (Germany), Leibniz Univ. Hannover (Germany); **Morten Steinecke,** Laser Zentrum Hannover e.V. (Germany); **Marco Jupé**, **Andreas Wienke, Detlev Ristau,** Laser Zentrum Hannover e.V. (Germany), Leibniz Univ. Hannover (Germany)

13100-223 • 05:30 PM - 07:00 PM
**Hovercraft for in-situ Cleaning of Large Telescope Mirrors**
*Author(s):* **Ronald Holzlöhner, Juan Antonio Marrero Hernández,** European Southern Observatory (Germany)

13100-224 • 05:30 PM - 07:00 PM
**A new coating campaign for the secondary mirrors of the ASTRI Mini-array**
*Author(s):* **Nicola La Palombara,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Luigi Lessio,** INAF - Osservatorio Astronomico di Padova (Italy); **Giorgia Sironi,** INAF - Osservatorio Astronomico di Brera (Italy); **Colin Bondet**, **Priscilla Viard**, **Caroline Porta**, **Hélène T. Krol**, **Grégory Chauveau**, **Didier Torricini,** CILAS (France); **Salvatore Scuderi,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Luigi Tosti,** Univ. degli Studi di Perugia (Italy); **Rachele Millul, Giovanni Pareschi,** INAF - Osservatorio Astronomico di Brera (Italy)

13100-225 • 05:30 PM - 07:00 PM
**MORFEO@ELT: Extreme Large size dichroic mirror**
*Author(s):* **Andrea Bianco,** INAF - Osservatorio Astronomico di Brera (Italy); **Demetrio Magrin,** INAF - Osservatorio Astronomico di Padova (Italy); **Paolo Ciliegi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Benoît Sassolas**, **Laurent Pinard, Christophe Michel,** Univ. de Lyon (France)

13100-227 • 05:30 PM - 07:00 PM
**Advancement in narrow-band filters at LBC-like instruments for multiple stars populations**
*Author(s):* **Federico Battaini**, **Kalyan Kumar Radhakrishanan Santhakumari,** INAF - Osservatorio Astronomico di Padova (Italy); **Tania Sofia Gomes Machado,** INAF - Osservatorio Astronomico di Padova (Italy), Università degli Studi di Padova (Italy); **César Nesme,** Ecole Centrale Méditerranée (France); **Dheeraj Malik,** Università degli Studi di Padova (Italy)

13100-228 • 05:30 PM - 07:00 PM
**Reflectivity analysis of a proposed multilayer coating for the Slit Assembly of Solar-C EUVST**
*Author(s):* **Gabriele Zeni,** CNR-Istituto di Fotonica e Nanotecnologie (Italy), CISAS - Ctr. of Studies and Activities for Space "Giuseppe Colombo" (Italy); **Lorenzo Cocola**, **Ennio Giovine**, **Francesco Mattioli,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Giampiero Naletto,** Univ. degli Studi di Padova (Italy), INAF - Osservatorio Astronomico di Padova (Italy); **Vincenzo Andretta,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Luca Poletto,** INAF - Osservatorio Astronomico di Padova (Italy)

13100-229 • 05:30 PM - 07:00 PM
**Design, fabrication, characterization, and implementation of an achromatic metasurface scalar vortex phase mask using an aperiodic framework**
*Author(s):* **Skyler Palatnick,** Univ. of California, Santa Barbara (United States); **Lorenzo König,** Jet Propulsion Lab. (United States); **Ye Ma**, **Max A. Millar-Blanchaer,** Univ. of California, Santa Barbara (United States); **James K. Wallace,** Jet Propulsion Lab. (United States); **Demis D. John**, **Jon A. Schuller,** Univ. of California, Santa Barbara (United States); **Niyati Desai,** Caltech (United States); **Olivier Absil,** Liège Univ. (Belgium); **Dimitri Mawet,** Jet Propulsion Lab. (United States), Caltech (United States)

13100-230 • 05:30 PM - 07:00 PM
**POMATA: preventing environmental aging factors on Cherenkov mirror coatings with protective oils**
*Author(s):* **Simone Iovenitti**, **Stefano Basso,** INAF - Osservatorio Astronomico di Brera (Italy); **Andrea Bianco,** INAF - Osservatorio Astronomico di Brera (Italy), Politecnico di Milano (Italy); **Giacomo Bonnoli**, **Marta Civitani,** INAF - Osservatorio Astronomico di Brera (Italy); **Eugenio Gibertini,** Politecnico di Milano (Italy); **Luigi Lessio,** INAF - Osservatorio Astronomico di Padova (Italy); **Giuseppe Leto,** INAF - Osservatorio Astrofisico di Catania (Italy); **Giovanni Pareschi**, **Giorgia Sironi,** INAF - Osservatorio Astronomico di Brera (Italy); **Giuseppe Valsecchi,** Media Lario S.r.l. (Italy); **Gabriele Vecchi,** INAF - Osservatorio Astronomico di Brera (Italy); **Silvia Crestan,** INAF - IASF (Italy)

13100-232 • 05:30 PM - 07:00 PM
**High-Contrast Imaging at First-Light of the GMT: Optimized coatings enabling high-throughput observations for GMagAO-X**
*Author(s):* **Jaren N. Ashcraft**, **Sebastiaan Y. Haffert**, **Laird Close**, **Maggie Kautz**, **Jared Males,** Steward Observatory (United States); **Olivier Guyon,** Subaru Telescope, NAOJ (United States)

13100-233 • 05:30 PM - 07:00 PM
**Research Progress on Ultraviolet Enhanced Gold Mirrors Suitable for Submirrors of Large Telescopes**
*Author(s):* **Jinfeng Wang**, **Jinhao Lu**, **Jie Tian, Duo Xie,** Nanjing Institute of Astronomical Optics & Technology (China)

13100-234 • 05:30 PM - 07:00 PM
**Protected silver coating for Ariel telescope mirrors: study of ageing effects**
*Author(s):* **Ines Ypi,** Univ. degli Studi di Padova (Italy); **Paola Zuppella**, **Paolo Chioetto,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Andrea Tozzi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Emanuele Pace,** Univ. degli Studi di Firenze (Italy); **Umberto Barozzi,** Leonardo S.p.A. (Italy); **Daniele Brienza,** Agenzia Spaziale Italiana (Italy); **Matteo Burresi**, **Marco Di Giampietro**, **Enrico Fossati**, **Giovanni Postiglione**, **Lucia Ianni**, **Carlo Pompei**, **Leonardo Tommasi,** Leonardo S.p.A. (Italy); **Dervis Vernani**, **Gabriele Grisoni,** Media Lario S.r.l. (Italy); **Mario Salatti,** Agenzia Spaziale Italiana (Italy); **Giampaolo Preti**, **Antonio Scippa,** Univ. degli Studi di Firenze (Italy); **Raffaele Piazzolla**, **Elisabetta Tommasi,** Agenzia Spaziale Italiana (Italy); **Debora Ferruzzi**, **Jose A. Araiza-Durán**, **Anna Brucalassi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Fabio D'Anca**, **Elisa Guerriero**, **Giuseppe Malaguti**, **Giuseppina Micela,** INAF - Osservatorio Astronomico di Palermo "Giuseppe Salvatore Vaiana" (Italy); **Enzo Pascale,** Sapienza Univ. di Roma (Italy); **Andrew Caldwell**, **Caroline Simpson**, **Alexander Davidson**, **Paul Eccleston**, **Giovanna Tinetti**, **Georgia Bishop**, **Lucile Desjonquères,** STFC Rutherford Appleton Lab. (United Kingdom); **Lorenzo Barubiani**, **Lorenzo Madii,** Leonardo S.p.A. (Italy); **Paolo Ferro,** Univ. degli Studi di Padova (Italy); **Paolo Picchi,** Univ. degli Studi di Firenze (Italy); **Pasquale Bonfa',** Agenzia Spaziale Italiana (Italy); **Rachel Drummond,** STFC Rutherford Appleton Lab. (United Kingdom)

## SESSION PS9: POSTERS - OPTICAL FIBERS, POSITIONERS, PHOTONIC TECHNIQUES

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13100-235 • 05:30 PM - 07:00 PM
**Novel phase masks with overlapping regions to fabricate fiber Bragg gratings for filtering sky emission lines**
*Author(s):* **Xijie Luo**, **Aashia Rahman**, **Kalaga V. Madhav,** innoFSPEC (Germany), Leibniz-Institut für Astrophysik Potsdam (Germany); **Thomas Siefke,** Friedrich-Schiller-Univ. Jena (Germany), Fraunhofer-Institut für Angewandte Optik und Feinmechanik IOF (Germany); **Ria G. Krämer**, **Daniel Richter,** Friedrich-Schiller-Univ. Jena (Germany); **Uwe D. Zeitner,** Friedrich-Schiller-Univ. Jena (Germany), Hochschule für Angewandte Wissenschaften München (Germany); **Stefan Nolte,** Friedrich-Schiller-Univ. Jena (Germany); **Martin M. Roth,** innoFSPEC (Germany), Leibniz-Institut für Astrophysik Potsdam (Germany)

13100-236 • 05:30 PM - 07:00 PM
**Tunable dual-polarization photonic ring resonator filters for OH-supressed ground-based astronomy**
*Author(s):* **Kyler Kuehn,** Lowell Observatory (United States); **Robert Kehoe,** Southern Methodist Univ. (United States); **Steve E. Kuhlmann,** Argonne National Lab. (United States); **Simon C. Ellis,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Thomas Kelley,** Lowell Observatory (United States); **Vaisakh Rajeev**, **James Lasker, Amy Hermann,** Southern Methodist Univ. (United States)

13100-237 • 05:30 PM - 07:00 PM
**Small Pitch Tilting Spine Optical Fiber Positioners for Massively Parallel Spectroscopy**
*Author(s):* **Kyler Kuehn,** Lowell Observatory (United States); **Rebekah A. Sebok,** Univ. of Michigan (United States); **Finian Ashmead**, **Parth Gandhi,** Fermi National Accelerator Lab. (United States); **Ayla M. Rodriguez**, **Marcelle Soares-Santos,** Univ. of Michigan (United States); **Jennifer L. Marshall**, **Luke M. Schmidt,** Texas A&M Univ. (United States); **Steve M. Kent**, **Theresa M. Shaw,** Fermi National Accelerator Lab. (United States); **Jq Fan,** Univ. of Michigan (United States); **Alex Drlica-Wagner, H. Thomas Diehl,** Fermi National Accelerator Lab. (United States)

13100-238 • 05:30 PM - 07:00 PM
**Influence of optical fiber parameters on the measurement accuracy of fiber spectroscopy**
*Author(s):* **Anzhi Wang**, **Jiabin Wang**, **Lingyu Jin**, **Zhaoxv Gan**, **Gang Yue**, **Yunxiang Yan**, **Shengjia Wang**, **Qi Yan**, **Tao Geng**, **Pengfei Wang,** Harbin Engineering Univ. (China); **Shuang Chen,** China Aerodynamics Research and Development Ctr. (China); **Weimin Sun,** Harbin Engineering Univ. (China)

13100-239 • 05:30 PM - 07:00 PM
**SMART: the closed-loop control system for LAMOST**
*Author(s):* **Jiabin Wang**, **Zhaoxv Gan**, **Yilong Liu**, **Anzhi Wang**, **Gang Yue**, **Yunxiang Yan**, **Shengjia Wang**, **Qi Yan**, **Tao Geng**, **Pengfei Wang,** Harbin Engineering Univ. (China); **Shuang Chen,** China Aerodynamics Research and Development Ctr. (China); **Weimin Sun,** Harbin Engineering Univ. (China)

13100-240 • 05:30 PM - 07:00 PM
**Machine learning applied to fiber-fed focal plane wavefront sensing: a study of aberrated wave transmission through multimode optical fibers**
*Author(s):* **Benedetta Di Francesco**, **Gianluca Di Rico**, **Stefano Di Frischia**, **Mauro Dolci**, **Ivan Di Antonio,** INAF - Istituto Nazionale di Astrofisica (Italy); **Robert J. Harris,** Ctr. for Advanced Instrumentation, Durham Univ. (United Kingdom); **Andrea Tozzi, Marcella Iuzzolino,** INAF - Istituto Nazionale di Astrofisica (Italy)

13100-241 • 05:30 PM - 07:00 PM
**The influence of mechanical errors on fiber positioners of LAMOST**
*Author(s):* **Banglong Peng**, **Jingjing Zhang**, **Ke Xu**, **Feifan Zhang,** Anhui Medical Univ. (China); **Jianping Wang,** Univ. of Science and Technology of China (China)

13100-243 • 05:30 PM - 07:00 PM
**Collision-free path planning for LAMOST fiber positioners based on the rapidly-exploring random tree method**
*Author(s):* **Baolong Chen,** Univ. of Science and Technology of China (China); **Feifan Zhang,** Anhui Medical Univ. (China); **Zhigang Liu**, **Zengxiang Zhou**, **Yonggang Gu, Jianping Wang,** Univ. of Science and Technology of China (China)

13100-244 • 05:30 PM - 07:00 PM
**A new type of R- θ optical fiber positioning robot based on double composite parallelogram mechanism**
*Author(s):* **Panpan Chang,** Univ. of Science and Technology of China (China); **Feifan Zhang,** Anhui Medical Univ. (China); **Hongzhuan Hu**, **Chao Zhai**, **Jiaru Chu, Jianping Wang,** Univ. of Science and Technology of China (China)

13100-245 • 05:30 PM - 07:00 PM
**A method to realizing automatic matching of optical fiber position units using triangulation**
*Author(s):* **Guanru Lyu**, **Jian Li**, **Haotong Zhang,** National Astronomical Observatories (China); **Yong Zhang,** Nanjing Institute of Astronomical Optics & Technology (China)

13100-246 • 05:30 PM - 07:00 PM
**LAMOST fiber positioning unit detection based on binocular vision**
*Author(s):* **Jian Li,** National Astronomical Observatories (China); **Shuqing Wang**, **Guanru Lyu**, **Yong Zhang,** National Astronomical Observatories, Chinese Academy of Sciences (China); **Haotong Zhang,** National Astronomical Observatories (China)

13100-247 • 05:30 PM - 07:00 PM
**Optimisation of laser-written tricouplers for nulling interferometry in the J- and H-band**
*Author(s):* **Elizabeth Arcadi**, **Glen Douglass**, **Jacinda Webb**, **Guillaume Tremblier**, **Michael J. Withford,** Macquarie Univ. (Australia); **Olivier Guyon,** Steward Observatory, The Univ. of Arizona (United States); **Barnaby R. M. Norris**, **Marc-Antonie Martinod**, **Peter G. Tuthill**, **Eckhart A. Spalding**, **Stephanie A. Rossini-Bryson,** The Univ. of Sydney (Australia); **Simon Gross,** Macquarie Univ. (Australia)

13100-248 • 05:30 PM - 07:00 PM
**Precise Feedback Control of Optic Fiber Positioning System Based on Time Synchronization Algorithm in LAMOST**
*Author(s):* **Menghao Wang**, **Chao Zhai, Yu Xu,** Univ. of Science and Technology of China (China)

13100-249 • 05:30 PM - 07:00 PM
**Real-time fiber positioning strategy based on FPGA in LAMOST**
*Author(s):* **Guifeng Chen**, **Yu Xu**, **Chunhui Su**, **Menghao Wang, Chao Zhai,** Univ. of Science and Technology of China (China)

13100-250 • 05:30 PM - 07:00 PM
**Prototyping of a large-optic precision adjuster for NFIRAOS**
*Author(s):* **Emma Rautio-Roe**, **Jeffrey Crane**, **Jenny Atwood, Olivier Lardière,** National Research Council Canada (Canada)

13100-251 • 05:30 PM - 07:00 PM
**A measurement method for the Z-direction position of fiber based on depth from focus**
*Author(s):* **Zhen Zhang**, **Guifeng Chen**, **Yonggang Gu, Chao Zhai,** Univ. of Science and Technology of China (China)

13100-252 • 05:30 PM - 07:00 PM
**Low loss optical integrated waveguides operating in a broad mid-infrared range**
*Author(s):* **Miguel Montesinos-Ballester**, **Adrian M. Glauser**, **Lucius Miller**, **Emilio Gini**, **Jérôme Faist, Sascha P. Quanz,** ETH Zurich (Switzerland)

13100-254 • 05:30 PM - 07:00 PM
**On the large-quantity fabrication and reproducibility of all-fiber photonic lanterns**
*Author(s):* **Julian Rypalla**, **Stella Vješnica**, **Kalaga V. Madhav,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Adrian Lorenz**, **Tina Eschrich,** Leibniz-Institut für Photonische Technologien e.V. (Germany); **Elmar Schmälzlin**, **Aline N. Dinkelaker, Martin M. Roth,** Leibniz-Institut für Astrophysik Potsdam (Germany)

13100-255 • 05:30 PM - 07:00 PM
**Fibre Bragg Gratings in Few-Mode and Multimode Fibres**
*Author(s):* **Polina Zavyalova**, **Suresh Sivanandam**, **Peter Herman**, **Boyan Zhou, Shravan Kruthick Sridhar,** Univ. of Toronto (Canada)

13100-256 • 05:30 PM - 07:00 PM
**Efficient broad band, high resolution (R~30,000) photonic spectrographs realized through cascading**
*Author(s):* **Pradip R. Gatkine**, **Gregory P. Sercel**, **Nemanja Jovanovic,** Caltech (United States); **Svarun Soda,** California State Univ., Northridge (United States); **Jefferey Jewell,** Jet Propulsion Lab., NASA (United States); **K. Kent Wallace,** Jet Propulsion Lab. (United States); **Dimitri Mawet,** Caltech (United States)

## SESSION PS10: POSTERS - HIGH CONTRAST IMAGING AND POLARIMETRY

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13100-257 • 05:30 PM - 07:00 PM
**Infrared vector-Apodizing Phase Plates: prototyping for ELT/METIS/MICADO**
*Author(s):* **David S. Doelman,** SRON Netherlands Institute for Space Research (Netherlands); **Olivier Absil,** Liège Univ. (Belgium); **Felix C. M. Bettonvil,** Leiden Univ. (Netherlands); **Felix A. Dannert**, **Jean Hoyez,** ETH Zurich (Switzerland); **Tatsuya Hirai**, **Tomokazu Ishiguro,** ColorLink Japan, Ltd. (Japan); **Matthew A. Kenworthy,** Leiden Univ. (Netherlands); **Yuukie Nishie,** ColorLink Japan, Ltd. (Japan); **Gilles Orban de Xivry,** Liège Univ. (Belgium); **Frans Snik,** Leiden Univ. (Netherlands); **Sascha P. Quanz,** ETH Zurich (Switzerland); **Thomas Wijnen,** Leiden Univ. (Netherlands); **Joost van den Born,** NOVA (Netherlands); **Pierre Baudoz, Elsa Huby,** Paris Observatory (France)

13100-259 • 05:30 PM - 07:00 PM
**Dot-blooming pre-compensation of halftone patterns for pupil apodizer masks**
*Author(s):* **Olivier Lardière,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Adam B. Johnson,** Univ. of Victoria (Canada); **Christian Marois**, **William R. Thompson,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Mamadou N'Diaye,** Observatoire de la Côte d'Azur (France); **Garima Singh,** NSF's National Optical-Infrared Astronomy Research Lab. (United States)

13100-260 • 05:30 PM - 07:00 PM
**Simple Stokes polarimeter based on liquid crystal polarization grating**
*Author(s):* **Jialiang Dong**, **Jie Zhao**, **Ao Zhang**, **Ming Li**, **JinXiang Xue**, **JiaQi Qi**, **Qiang Sun, Chengchao Liu,** Linyi Univ. (China)

## SESSION PS11: POSTERS - TECHNOLOGIES FOR VACUUM AND CRYOGENIC INSTRUMENTS

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13100-262 • 05:30 PM - 07:00 PM
**Design and manufacture of athermalized optomechanical mounts for GRANCAIN, the infrared imaging instrument for GTC's adaptive optics**
*Author(s):* **Eduardo David González Carretero**, **Veronica Canto Caño**, **José Miguel Delgado Hernández**, **Antonio Félix Moreno Martín,** Instituto de Astrofísica de Canarias (Spain); **Roberto Manuel Luis Simoes,** Instituto de Astrofísica de Canarias (Spain), Univ. de La Laguna (Spain); **Marcos Reyes García-Talavera,** Instituto de Astrofísica de Canarias (Spain); **José A. Acosta Pulido**, **Víctor Javier Sánchez Béjar,** Instituto de Astrofísica de Canarias (Spain), Univ. de La Laguna (Spain); **Fabio Tenegi Sanginés**, **Afrodisio Vega Moreno**, **Ángel Mato Martínez**, **Roberto López López**, **Jesús Patrón Recio, Heidy Moreno Arce,** Instituto de Astrofísica de Canarias (Spain)

13100-263 • 05:30 PM - 07:00 PM
**Heat switch to reduce cool-down times for a ground cryostat**
*Author(s):* **Miguel Fernández**, **Laurent Bastide**, **Antonio Sánchez, Manuel Reina,** INTA Instituto Nacional de Técnica Aeroespacial (Spain)

13100-266 • 05:30 PM - 07:00 PM
**Design of a precision cryogenic rotary stage for optic or mask selection for the SCALES instrument mounted to the Keck 2 Telescope**

*Author(s):* **Christopher T. Ratliff**, **Daren Dillon**, **Michael Gonzales**, **Nicholas MacDonald**, **Renate Kupke**, **R. Deno Stelter**, **William T. S. Deich**, **Dale Sandford**, **Aaron M. Hunter**, **Gerald Cabak**, **Cristian Rodrigues**, **Andrew J. Skemer**, **Maureen L. Savage**, **Steph Sallum**, **David Marques,** Univ. of California Observatories (United States); **Mark Kassis**, **James Lyke,** Keck Observatory (United States); **Amirul Hasan,** Indian Institute of Astrophysics (India)

13100-267 • 05:30 PM - 07:00 PM
**Development of a cold chopper for TAO/MIMIZUKU: onboard test on MIMIZUKU**
*Author(s):* **Ryota Kinoshita,** Tohoku Univ. (Japan); **Takafumi Kamizuka**, **Takashi Miyata,** The Univ. of Tokyo (Japan); **Ichiro Jikuya**, **Tomoya Kondo,** Kanazawa Univ. (Japan); **Katsuhiko Yamada,** Osaka Univ. (Japan); **Mitsuhiko Honda,** Okayama Univ. of Science (Japan); **Takeshi Sakanoi**, **Masato Kagitani,** Tohoku Univ. (Japan); **Shigeyuki Sako**, **Yuki Hirao**, **Kengo Tachibana**, **Akira C. Naruse**, **Itsuki Sakon, Riko Senoo,** The Univ. of Tokyo (Japan)

13100-268 • 05:30 PM - 07:00 PM
**Design of DTMS operational software for high-precision flatness measurement in cryogenic chamber**
*Author(s):* **Xing-bo Wang**, **Yi-Hao Zhang**, **Hong-fei Zhang**, **Jun Zhang, Jian Wang,** Univ. of Science and Technology of China (China)

13100-269 • 05:30 PM - 07:00 PM
**Opto-Mechanical Mount design for the Dirac Cryostat**
*Author(s):* **Helen M. McGregor**, **Yevgen Kripak**, **Vladimir Churilov**, **Ross Zhelem**, **David Robertson**, **Jessica R. Zheng, Jon Lawrence,** Australian Astronomical Optics, Macquarie Univ. (Australia)

13100-270 • 05:30 PM - 07:00 PM
**A Cryogenic Pupil Mask Rotator Mechanism for SCALES: Enabling High-Contrast Exoplanet Characterization at W. M. Keck Observatory**
*Author(s):* **Ajin Prakash,** Indian Institute of Astrophysics (India); **Nicholas MacDonald,** Univ. of California, Santa Cruz (United States); **Ravinder K. Banyal**, **Amith Gowtham,** Indian Institute of Astrophysics (India); **R. Deno Steltar**, **Andrew J. Skemer**, **Renate Kupke,** Univ. of California, Santa Cruz (United States); **Amirul Hasan**, **Sivarani Thirupathi**, **Ramya Sethuram**, **Apurva Reddy, Govinda K V,** Indian Institute of Astrophysics (India)

13100-271 • 05:30 PM - 07:00 PM
**Nanostructured metamaterials for the thermal and electromagnetic isolation of cryostats**
*Author(s):* **Laura González-Vivas,** Instituto de Micro y Nanotecnología, Consejo Superior de Investigaciones Científicas (Spain); **David Ramos**, **Carolina Martín-Rubio,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Alejandro Rivelles,** Univ. Politécnica de Madrid (Spain); **Laura Madueño,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Alejandra Ruiz-Clavijo,** Instituto de Micro y Nanotecnología, Consejo Superior de Investigaciones Científicas (Spain); **Alberto Díaz,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Marc schneider,** Karlsruher Institut für Technologie (Germany); **Borja Plaza,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **David Poyatos,** Instituto Nacional de Tecnología Agropecuaria (Spain); **Juan Carlos del Hoyo,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Olga Caballero-Calero,** Instituto de Micro y Nanotecnología, Consejo Superior de Investigaciones Científicas (Spain); **Matthias Worgull,** Karlsruher Institut für Technologie (Germany); **Santiago Martín**, **Boris Martín,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Marco Maicas,** Instituto de Sistemas Optoelectrónicos y Microtecnología (Spain); **David Navas**, **Marisol Martín-González,** Instituto de Micro y Nanotecnología (Spain); **Ruy Sanz,** INTA Instituto Nacional de Técnica Aeroespacial (Spain)

13100-272 • 05:30 PM - 07:00 PM
**Solutions for upgrading commercial bearings for use in cryogenic instruments**
*Author(s):* **Alejandro Lujan González,** Instituto de Astrofísica de Canarias (Spain); **Pablo Alberto Fuerte Rodríguez,** European Southern Observatory (Germany); **Pablo Redondo Caicoya, Elvio Hernández Suárez,** Instituto de Astrofísica de Canarias (Spain)

13100-273 • 05:30 PM - 07:00 PM
**HARMONI at ELT: High Precision Cryogenic Mechanisms for HARMONI Spectrographs**
*Author(s):* **Edgar Castillo Dominguez**, **Ian J. Lewis**, **James Kariuki**, **Matthias Tecza**, **Fraser Clarke**, **R. Elliot Meyer**, **Zeynep Ozer**, **Eduard R. Muslimov**, **Sophie Paszynska**, **Kieran McCall**, **Vanessa Ferraro-Wood**, **Liam Boland**, **David Gooding,** Univ. of Oxford (United Kingdom); **Jorge Chao-Ortiz,** Indra Sistemas, S.A. (Spain); **Niranjan A. Thatte,** Univ. of Oxford (United Kingdom)

13100-274 • 05:30 PM - 07:00 PM
**Temperature control and vibration measurement of a MCT camera using a tube cyrocooler**
*Author(s):* **Jiang-yuan Wei**, **Wen-qing Qu**, **Feng Zeng**, **Hao-ran Ma**, **Yu Ning**, **Hong-fei Zhang, Jian Wang,** Univ. of Science and Technology of China (China)

## SESSION PS12: POSTERS - NOVEL AND DISRUPTIVE CONCEPTS

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13100-275 • 05:30 PM - 07:00 PM **(CANCELLED)**
**New generation cutting-edge technologies for 3D printed high-speed deformable silicon-based mirrors: PEPR Origins/FlexSiMirror**
*Author(s):* **Gil Moretto**, **Kritsadi K. Thetpraphi,** Ctr. de Recherche Astrophysique de Lyon, CNRS (France); **Mohamed Saadaoui,** MINES Saint-Étienne (France), Institut Mines-Télécom (France); **Xavier Boddaert,** MINES Saint-Étienne (France); **Frédéric Zamkotsian,** Lab. d'Astrophysique de Marseille (France); **Jean-Fabien Capsal,** Institut National des Sciences Appliquées de Lyon (France); **Maud Langlois, Francesca Rebasti,** Ctr. de Recherche Astrophysique de Lyon, CNRS (France)

13100-276 • 05:30 PM - 07:00 PM
**Extremely large optical space telescope comprising formation-flying ultra-small satellites: proof-of-concept experiments of a diffractive optical system on the ground**
*Author(s):* **Naoki Kohara**, **Toshihiro Tsuzuki**, **Yuichi Matsuda**, **Kazuhisa Mitsuda,** National Astronomical Observatory of Japan (Japan); **Kazuma Yamaguchi**, **Hiromi Morishita**, **Yuichiro Ezoe,** Tokyo Metropolitan Univ. (Japan); **Atsushi Noda,** Interstellar Technologies Inc. (Japan)

13100-277 • 05:30 PM - 07:00 PM
**Applying augmented reality to historical telescopes images: the IMAGO project**
*Author(s):* **Ivan Di Antonio**, **Elisa Di Carlo**, **Matteo Di Carlo**, **Mauro Dolci**, **Angelo Valentini**, **Gaetano Valentini,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Francesco D'Alessio**, **Riccardo Leoni,** INAF - Osservatorio Astronomico di Roma (Italy); **Roberto Buonanno,** Società Astronomica Italiana (Italy); **Paul Harden,** ACKAGI (Italy)

13100-278 • 05:30 PM - 07:00 PM
**Relevance of the infrastructure in laboratories and manufacturing workshops for the integration and validation of astronomical instruments**
*Author(s):* **Carolina Keiman,** Univ Nacional Autónoma de México (Mexico); **Alejandro S. Farah Simon**, **Luis C. Álvarez-Nuñez**, **Fernando Ángeles**, **Abel Bernal**, **Oscar Chapa**, **Salvador Cuevas Cardona**, **Carlos Espejo,** Univ. Nacional Autónoma de México (Mexico); **Rubén A. Flores-Meza,** Univ Nacional Autónoma de México (Mexico); **José Franco,** Univ. Nacional Autónoma de México (Mexico); **Leonardo Garces,** Univ Nacional Autónoma de México (Mexico); **Fernando Garfias**, **Jesús González González**, **Arturo Iriarte**, **Rosalía Langarica Lebre,** Univ. Nacional Autónoma de México (Mexico); **Gerardo Lara**, **William Lee**, **Luis A. Martínez-Vázquez**, **Jaime Ruíz-Díaz-Soto**, **Beatriz Sánchez**, **Silvio Tinoco, Alan Watson,** Univ Nacional Autónoma de México (Mexico)

13100-279 • 05:30 PM - 07:00 PM
**Towards freeform reflective fused silica optics using ultrafast laser-assisted etching**
*Author(s):* **Thibaud Van Gorp**, **Aurélien Benoît**, **Calum A. Ross**, **Pablo Roldán-Varona,** Heriot-Watt Univ. (United Kingdom); **Chris J. Evans,** European Space Agency (United States); **David Lee,** UK Astronomy Technology Ctr. (United Kingdom); **Duncan P. Hand, Robert R. Thomson,** Heriot-Watt Univ. (United Kingdom)

13100-281 • 05:30 PM - 07:00 PM
**Design and feasibility study of a scalable liquid mirror**
*Author(s):* **Kristyn Kadala**, **Yifan Li**, **Ross Gregoriev,** Lockheed Martin Corp. (United States); **Daewook Kim**, **Heejoo Choi,** The Univ. of Arizona (United States); **Grey Tarkenton, Torben Andersen,** Lockheed Martin Corp. (United States)

13100-282 • 05:30 PM - 07:00 PM
**FIRST 5T 3D: Interferometric performances of a laser written bream combiner for FIRST/SUBARU**
*Author(s):* **Guillermo Martin,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Kevin Barjot**, **Manon Lallement**, **Harry-Dean Kenchington-Goldsmith,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Sebastien B. Vievard**, **Olivier Guyon,** National Astronomical Observatory of Japan (United States); **Elsa Huby**, **Sylvestre Lacour,** Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique (France); **Ciro d'Amico**, **Razvan Stoian,** Lab. Hubert Curien (France); **Guodong Zhang**, **Guanghua Cheng,** Northwestern Polytechnical Univ. (China); **Vincent Deo,** National Astronomical Observatory of Japan (United States)

13100-283 • 05:30 PM - 07:00 PM
**HARMONI at ELT: architectural trade-off for the low order wavefront sensor subsystem**
*Author(s):* **Alberto Estrada Piqueras**, **Javier Piqueras**, **Heribert A. Argelaguet,** Consejo Superior de Investigaciones Científicas (Spain); **Timothy J. Morris**, **Marc Dubbeldam**, **Lisa F. Bardou**, **Andrew Dunn**, **Joss Guy**, **Emily Ronson,** Durham Univ. (United Kingdom); **Kjetil Dohlen,** Lab. d'Astrophysique de Marseille (France); **Juan Manuel Munoz-Guijosa,** Univ. Politécnica de Madrid (Spain); **David L. King,** Univ. of Cambridge (United Kingdom); **Fraser Clarke,** Univ. of Oxford (United Kingdom)

13100-284 • 05:30 PM - 07:00 PM
**Wavefront sensing with PHASONG: the phase gradient analyser**
*Author(s):* **François M Hénault,** Institut de Planétologie et d'Astrophysique de Grenoble, CNRS (France); **Yan Feng**, **Jean-Jacques Correia,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Alain Spang,** Observatoire de la Côte d'Azur (France); **Laura Schreiber,** Institut de Planétologie et d'Astrophysique de Grenoble (France), CNRS (France)

13100-285 • 05:30 PM - 07:00 PM
**Calculation and simulation of electromagnetic unloading force for gravitational wave detection telescope**
*Author(s):* **Bo Zheng,** Nanjing Institute of Astronomical Optics & Technology (China); **Guomin Wang,** Nanjing Institute of Astronomical Optics & Technology (China), Univ. of Chinese Academy of Sciences (China); **Yabo Wu**, **Hui Wang, Canyi Jiang,** Nanjing Institute of Astronomical Optics & Technology (China)

13100-286 • 05:30 PM - 07:00 PM
**Off-axis Aberrations Correction in Liquid Mirror Telescopes using Magnetic Liquid Deformable Mirrors**
*Author(s):* **Azhar Iqbal,** Univ. of Toronto (Canada); **Haichun Ding**, **Jiyuan Zhao**, **Tianqi Liu**, **Zhizheng Wu,** Shanghai Univ. (China); **Suresh Sivanandam,** Univ. of Toronto (Canada)

13100-287 • 05:30 PM - 07:00 PM
**Development of a self-assembling ferrofluidic ionic liquid mirror**
*Author(s):* **Neil Rowlands,** Honeywell Aerospace (Canada); **Alvaro Romero-Calvo,** Georgia Institute of Technology (United States); **David Strafford,** Soter Technology, LLC (United States); **Rebecca Kamire**, **Amanda Childers,** Honeywell Aerospace (United States); **Stephen F. Yates,** Honeywell Aersopace (United States); **Emir Rahislic,** Honeywell Aerospace (United States); **Jason Smoke,** Honeywell Aerospae (United States); **Sheng-Hai Zheng**, **Peter G. Cameron,** Honeywell Aerospace (Canada); **Gabriel Cano-Gomez,** Univ. de Sevilla (Spain); **Hugh Chen**, **Tianyang Hu**, **Eric Comstock,** Georgia Institute of Technology (United States); **Miguel Herrada,** Univ. de Sevilla (Spain)

## Friday 21 June 2024

### SESSION 17: TECHNOLOGIES FOR VACUUM AND CRYOGENIC INSTRUMENTS I

21 June 2024 • 08:30 AM - 10:00 AM | Room G214, North - 2F
*Session Chair(s):* **Huub Janssen**, Janssen Precision Engineering B.V. (Netherlands)

13100-265 • 08:30 AM - 08:45 AM
**Design and simulation of vacuum feedthrough and its flange for mosaic cryogenic FPA**
*Author(s):* **Feng Zeng,** Univ. of Science and Technology of China (China); **Fei Zhao,** ECRI Microelectronics (China); **Jun Zhang,** Univ. of Science and Technology of China (China); **Zhi-Gang Huang,** ECRI Microelectronics (China); **Hong-fei Zhang, Jian Wang,** Univ. of Science and Technology of China (China)

13100-104 • 08:45 AM - 09:00 AM
**Cryogenic System of Far-Infrared Spectroscopy Space Telescope**
*Author(s):* **Yongsu Kim**, **David Glaister, Ryan Taylor,** Ball Aerospace (United States)

13100-105 • 09:00 AM - 09:15 AM
**Low Stiffness Thermal Straps for Cryogenic Applications**
*Author(s):* **Josefina Torres,** INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Maria Martinez,** Ingeniería de Sistemas para la Defensa de España (Spain), INTA Instituto Nacional de Técnica Aeroespacial (Spain); **Miguel Fernández Sánchez**, **Alberto Diaz**, **Santiago Martin Iglesias**, **Antonio Sanchez, Manuel Reina,** INTA Instituto Nacional de Técnica Aeroespacial (Spain)

13100-106 • 09:15 AM - 09:30 AM
**Technology readiness assessment of graphene thermal straps for the WFI instrument**
*Author(s):* **Jan Philipp Moeller**, **Valeria Antonelli**, **Anirudh Mukund Saraf**, **Daniel Pietschner, Kurt Dittrich,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13100-107 • 09:30 AM - 09:45 AM
**A precision cryogenic positioning stage for detector dithering and flexure compensation**
*Author(s):* **Stephen A. Smee**, **Stephen C. Hope**, **Randolph P. Hammond,** Johns Hopkins Univ. (United States); **Leon Aslan,** Carnegie Institution for Science (United States); **Robert H. Barkhouser,** Johns Hopkins Univ. (United States); **Andrea Bianco**, **Christoph Birk**, **Maren Cosens,** Carnegie Institution for Science (United States); **Aidan C. Gray,** Johns Hopkins Univ. (United States); **Michele Frangiamore,** Carnegie Institution for Science (United States); **Albert C. Harding,** Johns Hopkins Univ. (United States); **Tyson S. Hare**, **Daniel D. Kelson**, **Gerrad Killian**, **Nicholas P Konidaris**, **Alicia Lanz,** Carnegie Institution for Science (United States); **Jacob McCloskey,** Johns Hopkins Univ. (United States); **Andrew B. Newman**, **Solange Ramírez**, **Gwen C. Rudie**, **Andrea Vanella, Jason E. Williams,** Carnegie Institution for Science (United States)

13100-108 • 09:45 AM - 10:00 AM
**Linking strategic astrophysics missions, technology gaps, and technology maturation investments**
*Author(s):* **Opher Ganel,** Knowledge Web, LLC (United States); **Pin Chen**, **Brendan P. Crill,** Jet Propulsion Lab., NASA (United States); **Jason Derleth,** NASA Goddard Space Flight Ctr. (United States); **Omid Noroozian**, **Mario R. Perez,** NASA (United States); **Rachel B. Rivera,** NASA Goddard Space Flight Ctr. (United States); **Nicholas Siegler,** Jet Propulsion Lab., NASA (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 18: TECHNOLOGIES FOR VACUUM AND CRYOGENIC INSTRUMENTS II

21 June 2024 • 10:30 AM - 12:15 PM | Room G214, North - 2F
*Session Chair(s):* **Gabby Aitink-Kroes**, SRON Netherlands Institute for Space Research (Netherlands)

13100-109 • 10:30 AM - 10:45 AM
**The ELT cryogenic infrastructure**
*Author(s):* **Gerd H. Jakob**, **Matteo Accardo**, **Paulo Ferreira**, **Marcus Haug**, **Serban Leveratto**, **Tobias Mueller, Veronika Wimmer,** European Southern Observatory (Germany)

13100-110 • 10:45 AM - 11:00 AM
**Development of a monolithic flexure based tip/tilt cryo-mechanism to stabilize the pupil of METIS**
*Author(s):* **Daan Zaalberg**, **Mirka Maresca**, **Ivan Lloro**, **Jeff Lynn**, **Niels Tromp**, **Dennis Dolkens**, **Marijn Versteeg**, **Menno Schuil**, **Elfi Dijkstra**, **Gerard van Egmond**, **Menno de Haan, Eddy Elswijk,** ASTRON (Netherlands)

13100-111 • 11:00 AM - 11:15 AM
**Design and performances of the ELT-METIS cryogenic derotator drive**
*Author(s):* **Jean-Christophe Barrière**, **Olivier Corpace,** CEA-Paris-Saclay (France); **Mickaël Lacroix,** CEA Paris-Saclay (France); **Olivier Cloué**, **Jean Fontignie**, **Stéphane Jurie**, **Jean-Christophe Guillard**, **François Puel**, **Jorge Mendes,** CEA-Paris-Saclay (France); **Ivan Lloro**, **Niels Tromp**, **Marijn Versteeg**, **Daan Zaalberg**, **Jeffrey Lynn**, **Mirka Maresca**, **Dirk Lesman,** NOVA (Netherlands), ASTRON (Netherlands); **Erik Ruinemans,** MI-Partners BV (Netherlands); **Jan Goris,** KU Leuven (Netherlands); **Gert Raskin,** KU Leuven (Belgium); **Pablo Alberto Fuerte Rodriguez, Gerd H. Jakob,** European Southern Observatory (Germany)

13100-112 • 11:15 AM - 11:30 AM
**HARMONI at ELT: Design and Tests Results of the Instrument Cryogenic Fast Shutter**
*Author(s):* **Yolanda Martín**, **Elvio Hernandez Suarez**, **Alejandro Lujan González**, **Teodora A. Viera-Curbelo**, **Ángel A. Alonso, Begoña García-Lorenzo,** Instituto de Astrofísica de Canarias (Spain)

13100-113 • 11:30 AM - 11:45 AM
**HARMONI at ELT: Athermal toroidal mirror mount for HARMONI Pre-Optics**
*Author(s):* **Elvio Hernández Suárez**, **Alberto Hernández González**, **Ángel A. Alonso**, **Begoña García-Lorenzo,** Instituto de Astrofísica de Canarias (Spain); **Niranjan A. Thatte,** Univ. of Oxford (United Kingdom)

13100-114 • 11:45 AM - 12:00 PM
**The MICADO first light imager for the ELT: design and performance of the Focal Plane Mechanism prototype**
*Author(s):* **Kateryna Kravchenko**, **Matthias Deysenroth**, **Sebastian Rabien, Mathias Honsberg,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13100-115 • 12:00 PM - 12:15 PM
**The MICADO First Light Imager for the ELT: The Detector Positioning System of MICADO**
*Author(s):* **Aysun Soenmez**, **Kateryna Kravchenko**, **Mathias Honsberg**, **Lothar Barl**, **Luis Neumeier**, **Federico Biondi**, **Matthias Deysenroth**, **Andreas Emslander**, **Florian Lang**, **Sebastian Rabien,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Nancy Ageorges**, **Dirk Kampf,** Kampf Telescope Optics GmbH (Germany); **Veronika Wimmer,** European Southern Observatory (Germany)

## Lunch Break 12:15 PM - 01:20 PM

## SESSION 19: NOVEL AND DISRUPTIVE CONCEPTS

21 June 2024 • 01:20 PM - 02:50 PM | Room G214, North - 2F
*Session Chair(s):* **Ramón Navarro**, NOVA (Netherlands)

13100-116 • 01:20 PM - 01:35 PM
**Overview of DARPA's liquid mirror telescope program, and open-source liquid optic modeling tools**
*Author(s):* **Michael Nayak**, **Santanu Basu, Kaushik Iyer,** Defense Advanced Research Projects Agency (United States)

13100-117 • 01:35 PM - 01:50 PM
**Fluidic Shaping of optical components in microgravity: from Parabolic Flights to the International Space Station**
*Author(s):* **Omer Luria**, **Mor Elgarisi**, **Valeri Frumkin**, **Alexey Razin**, **Khaled Gommed**, **Jonathan Ericson**, **Daniel Widerker**, **Israel Gabay**, **Sivan Perl,** Technion-Israel Institute of Technology (Israel); **Ruslan Belikov**, **Jay A. Bookbinder**, **Edward Balaban,** NASA Ames Research Ctr. (United States); **Moran Bercovici,** Technion-Israel Institute of Technology (Israel)

13100-118 • 01:50 PM - 02:05 PM
**Comparative Analysis Study of 43-point and 27-point Buyoff Stations for Stressed Mirror Polishing (SMP) Metrology**
*Author(s):* **Alikhan Basheer,** Indian Institute of Astrophysics (India); **Sriram Sripadmanaban,** Indian Institute of Astrophysics (India), CHRIST (Deemed to be Univ.) (India); **Vineeth Valsan,** CHRIST (Deemed to be Univ.) (India); **Pramod Panchal**, **Sanjeev Kumar Jha**, **Sudharsan Yadav Kambhala, Prasanna Gajanan Deshmukh,** Indian Institute of Astrophysics (India)

13100-119 • 02:05 PM - 02:20 PM **(CANCELLED)**
**An Emerging and Disruptive Technology towards ultra-light, fire-polished & self-correcting, Live Mirror**
*Author(s):* **Gil Moretto**, **Kritsadi K. Thetpraphi,** Ctr. de Recherche Astrophysique de Lyon, CNRS (France); **Johannes Hoerber,** Neotech AMT GmbH (Germany); **Peter Konig**, **Peter Rogin**, **Mariano L. Moreno,** Leibniz-Institut für Neue Materialien gGmbH (Germany); **Attila Schroedel**, **Leon Roderer,** Neotech AMT GmbH (Germany); **Jean-Fabien Capsal,** Institut National des Sciences Appliquées de Lyon (France); **José A. Dieste**, **Alejandro P. Marqués**, **Raquel M. Navarro,** Aitiip Centro Tecnológico (Spain); **Vincenzo Cotroneo**, **Mauro Ghigo,** INAF - Osservatorio Astronomico di Brera (Italy); **Francesca Rebasti,** Ctr. de Recherche Astrophysique de Lyon, CNRS (France); **Peter William De Oliveira,** Leibniz-Institut für Neue Materialien gGmbH (Germany); **Martin Hedges,** Neotech AMT GmbH (Germany)

13100-120 • 02:20 PM - 02:35 PM
**ANDES, the high resolution spectrograph for the ELT: a 30 GHz UB-band astrocomb from 390–470 nm**
*Author(s):* **Yuk Shan Cheng**, **Kamalesh Dadi**, **Toby Mitchell,** Heriot-Watt Univ. (United Kingdom); **Samantha J. Thompson,** Univ. of Cambridge (United Kingdom); **Nikolai E. Piskunov,** Uppsala Univ. (Sweden); **Greg Blanchard-Emmerson,** Covesion Ltd. (United Kingdom); **Corin B. E. Gawith,** Covesion Ltd. (United Kingdom), Univ. of Southampton (United Kingdom); **Richard A. McCracken, Derryck T. Reid,** Heriot-Watt Univ. (United Kingdom)

13100-121 • 02:35 PM - 02:50 PM
**Simultaneous multi-wavelength polarimetry without spectral splitting: proof of concept of a single channel dual-wavelength polarimeter**
*Author(s):* **Guillaume Huber, Haosheng Lin,** Institute for Astronomy, Univ. of Hawai'i (United States)

## AWARD CEREMONY

21 June 2024 • 02:50 PM - 03:05 PM | Room G214, North - 2F
*Session Chair(s):* **Ramón Navarro**, NOVA (Netherlands)
This session will include the presentation of conference awards.

## DIGITAL POSTERS

The posters listed below are available exclusively for online viewing during the week of SPIE Astronomical Telescopes + Instrumentation 2024.

13100-177
**Active support and vibration reduction technology research for space telescope's primary mirror**
*Author(s):* **Zonghao Liu,** Nanjing Institute of Astronomical Optics & Technology (China), Univ. of Chinese Academy of Sciences (China); **Dongsheng Niu,** Nanjing Institute of Astronomical Optics & Technology (China)

# CONFERENCE 13101

# Software and Cyberinfrastructure for Astronomy VIII

**16 - 20 June 2024 | Room G314/315, North - 3F**

***Conference Chair(s):*** **Jorge Ibsen,** Joint ALMA Observatory (Chile); **Gianluca Chiozzi,** European Southern Observatory (Germany)

***Program Committee:*** **Valentina Alberti,** INAF - Osservatorio Astronomico di Trieste (Italy); **Alastair J. Borrowman,** Observatory Sciences Ltd. (United Kingdom); **Tom Donaldson,** Space Telescope Science Institute (United States); **Kim Gillies,** Thirty Meter Telescope (United States); **Juan C. Guzman,** Commonwealth Scientific and Industrial Research Organisation (Australia); **José M. Filgueira,** GMTO Corp. (United States); **George Kosugi,** National Astronomical Observatory of Japan (Japan); **Petr Kubánek,** Vera C. Rubin Observatory (Chile); **Nuria P. F. Lorente,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Jeff Mader,** W. M. Keck Observatory (United States)

## Sunday 16 June 2024

### SESSION 1: PROJECT OVERVIEWS AND PROGRESS

16 June 2024 • 10:30 AM - 12:10 PM | Room G314/315, North - 3F
*Session Chair(s):* **Petr Kubánek**, Vera C. Rubin Observatory (Chile); **Jeff Mader**, W. M. Keck Observatory (United States)

13101-1 • 10:30 AM - 10:50 AM
**Software life cycles in astronomy: 40 years of computing at CFHT**
*Author(s):* **Sidik Isani**, **Tom A. Vermeulen**, **Conrad Holmberg, Christopher Usher,** Canada-France-Hawaii Telescope Corp. (United States)

13101-2 • 10:50 AM - 11:10 AM
**SKAO telescope control system design and status**
*Author(s):* **Sonja Vrcic, Thomas Juerges,** SKA Observatory (United Kingdom)

13101-3 • 11:10 AM - 11:30 AM
**Status of the European Solar Telescope Control System**
*Author(s):* **Jorge Quintero-Nehrkorn**, **Fernando Merlos-Garcia**, **Angela Hernandez-Delgado**, **Nicolás Adrián Rodríguez-Linares**, **Javier León-Gil**, **Miguel Núñez-Cagigal, Mary Barreto-Cabrera,** Instituto de Astrofísica de Canarias (Spain)

13101-4 • 11:30 AM - 11:50 AM
**Status of the ELT control software development**
*Author(s):* **Gianluca Chiozzi**, **Carlos Diaz Cano**, **Luigi Andolfato**, **Javier Argomedo Zazzali**, **Josef Hofer**, **Nick Kornweibel**, **Federico Pellegrin**, **Marcus Schilling**, **Heiko Sommer**, **Arturo Hoffstadt Urrutia, Bogdan Jeram,** European Southern Observatory (Germany)

13101-5 • 11:50 AM - 12:10 PM
**Reconstruction of the computer, software, and data systems of Leighton Chajnantor Telescope**
*Author(s):* **Jueqi Lin, Zheng Wang,** Southeast Univ. (China)

**Lunch Break 12:10 PM - 01:20 PM**

### SESSION 2: OBSERVATORY/TELESCOPE CONTROL I

16 June 2024 • 01:20 PM - 03:20 PM | Room G314/315, North - 3F
*Session Chair(s):* **Gianluca Chiozzi**, European Southern Observatory (Germany); **Petr Kubánek**, Vera C. Rubin Observatory (Chile)

13101-6 • 01:20 PM - 01:40 PM
**Software infrastructure for the highly-distributed semi-autonomous Dragonfly spectral line mapper**
*Author(s):* **Imad Pasha,** Yale Univ. (United States); **Seery Chen,** Univ. of Toronto (Canada); **Deborah Lokhorst,** National Research Council Canada (Canada); **William P Bowman**, **Zili Shen,** Yale Univ. (United States); **Qing Liu,** Univ. of Toronto (Canada); **Evgeni I Malakhov,** New Mexico Skies Inc. (United States); **Roberto Abraham,** Univ. of Toronto (Canada); **Pieter van Dokkum,** Yale Univ. (United States)

13101-7 • 01:40 PM - 02:00 PM
**USNO's unified telescope control software**
*Author(s):* **Andrew T. Cenko**, **Marc A. Murison**, **Jeffrey A. Munn**, **Stephen J. Williams**, **Tim Buschmann**, **Daniel R. Veillette**, **Trudy M. Tilleman**, **Tyler K. Robertson, Barry S. Rothberg,** U.S. Naval Observatory (United States)

13101-8 • 02:00 PM - 02:20 PM
**Control/monitoring system: lessons from APEX remote operations, comparison to Paranal, and perspective towards ELT**
*Author(s):* **Cristian Herrera**, **Juan Pablo Perez**, **Rodrigo Olguin, Juan Pablo Araneda,** European Southern Observatory (Chile)

13101-9 • 02:20 PM - 02:40 PM
**SKAO observation execution tool: designing for concurrent, responsive observations**
*Author(s):* **Viivi Pursiainen**, **Stewart Williams**, **Thaddeus Kenny**, **Elizabeth Bartlett**, **Andrew Biggs**, **Brendan McCollam,** UK Astronomy Technology Ctr. (United Kingdom); **Danilo Acosta**, **Sean Ellis, Rupert Lung,** CGI Inc. (United Kingdom)

13101-10 • 02:40 PM - 03:00 PM
**Sofware framework for controlling any linear or rotation axis and any sensor of a telescope**
*Author(s):* **José Antonio Rodríguez Losada, Alfonso Guillermo Cardell Bilbao,** Gran Telescopio de Canarias, S.A. (Spain)

13101-147 • 03:00 PM - 03:20 PM
**The METIS instrument control system**
*Author(s):* **Wim Pessemier**, **Gert Raskin**, **Wim De Meester**, **Wannes Verstraeten**, **Kwinten Missiaen**, **Muhammad Salman**, **Maddalena Reggiani**, **Hans Van Winckel**, **Bart Vandenbussche,** KU Leuven (Belgium); **Mario Kiekebusch**, **Dan Popovic**, **Benoit Serra,** European Southern Observatory (Germany); **Antonio Amorim,** CENTRA (Portugal); **Jean-Christophe Barriere,** CEA (France); **Thomas Bertram**, **Peter Bizenberger,** Max-Planck-Institut für Astronomie (Germany); **Olivier Corpace,** CEA (France); **Yigit Dallilar,** Univ. zu Köln (Germany); **Martin Kulas,** Max-Planck-Institut für Astronomie (Germany); **Dirk Lesman**, **Ivan Lloro**, **Jeff Lynn,** ASTRON (Netherlands); **Lars Mohr,** Max-Planck-Institut für Astronomie (Germany); **Philip Parr-Burman,** UK Astronomy Technology Ctr. (United Kingdom); **Chad Salo,** Leiden Univ. (Netherlands); **Roy Van Boekel,** Max-Planck-Institut für Astronomie (Germany); **Shiang-Yu Wang,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan)

## Coffee Break 03:20 PM - 03:50 PM

## SESSION 3: SOFTWARE TESTING/QUALITY

16 June 2024 • 03:50 PM - 05:30 PM | Room G314/315, North - 3F
*Session Chair(s):* **Alastair J. Borrowman**, Observatory Sciences Ltd. (United Kingdom); **Valentina Alberti**, INAF - Osservatorio Astronomico di Trieste (Italy)

13101-77 • 03:50 PM - 04:10 PM
**Advanced log analysis for operations at Paranal Observatory**
*Author(s):* **Juan Pablo Gil**, **Natalie Behara**, **Vicente Lizana, Eduardo Peña,** European Southern Observatory (Chile)

13101-13 • 04:10 PM - 04:30 PM
**Enhancing SKA software testing through data mining strategies**
*Author(s):* **Gianluca Marotta,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Emanuele Lena,** Interaction Design Solutions Srl (Italy); **Giorgio Brajnik,** Univ. degli Studi di Udine (Italy), Interaction Design Solutions Srl (Italy); **Ivana Novak**, **Martino Colciago,** Cosylab Switzerland GmbH (Switzerland); **Elisabetta Giani, Carlo Baffa,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

13101-14 • 04:30 PM - 04:50 PM
**Open-source simulation tools for verifying NASA Pandora SmallSat's scientific performance**
*Author(s):* **Christina Hedges**, **Rae J. Holcomb,** Univ. of Maryland, Baltimore County (United States); **Ben Hord**, **Thomas Barclay,** NASA Goddard Space Flight Ctr. (United States); **Jessie Dotson,** NASA Ames Research Ctr. (United States); **Elisa Quintana,** NASA Goddard Space Flight Ctr. (United States)

13101-15 • 04:50 PM - 05:10 PM
**A unit testing approach to developing an industrial real time distributed control system for the New Robotic Telescope**
*Author(s):* **Adam Garner**, **Joao Bento**, **David Copley**, **David Heffernan, Chloe Moissec,** Liverpool John Moores Univ. (United Kingdom)

13101-16 • 05:10 PM - 05:30 PM
**Methodology for the integration of the array control and data acquisition system with array elements of the Cherenkov Telescope Array Observatory**
*Author(s):* **Bernhard Lopez,** Cherenkov Telescope Array Observatory gGmbH (Germany); **Pierre Aubert,** Univ. Savoie Mont Blanc, CNRS (France), Lab. d'Annecy de Physique des Particules, IN2P3 (France); **Leonardo Baroncelli,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Jan-Philipp Bolle,** Deutsches Elektronen-Synchrotron (Germany); **Pietro Bruno,** INAF - Osservatorio Astrofisico di Catania (Italy); **Andrea Bulgarelli,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Sami Caroff,** Univ. Savoie Mont Blanc, CNRS (France), Lab. d'Annecy de Physique des Particules, IN2P3 (France); **Luca Castaldini**, **Vito Conforti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Alessandro Costa,** INAF - Osservatorio Astrofisico di Catania (Italy); **Ludovic David,** Univ. Paris-Saclay, CNRS (France), Institut National de Recherche en Informatique et en Automatique (France); **Giovanni De Cesare,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Emma de Ona Wilhelmi,** Deutsches Elektronen-Synchrotron (Germany); **Ambra Di Piano,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Kathrin Egberts,** Institut für Physik & Astronomie, Univ. Potsdam (Germany); **Rodrigo Fernandez,** Cosylab d.d. (Slovenia); **Valentina Fioretti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Satoshi Fukami,** Institute for Particle Physics and Astrophysics, ETH Zurich (Switzerland); **Enrique Garcia,** Univ. Savoie Mont Blanc, CNRS (France), Lab. d'Annecy de Physique des Particules (France); **Hasmik Gasparyan,** Deutsches Elektronen-Synchrotron (Germany); **Stefano Germani,** Univ. degli Studi di Perugia (Italy); **Federico Incardona,** INAF - Osservatorio Astrofisico di Catania (Italy); **Dmitriy Kostunin,** Deutsches Elektronen-Synchrotron (Germany); **Etienne Lyard,** Univ. de Genève (Switzerland); **Gilles Maurin,** Univ. Savoie Mont Blanc, CNRS (France), Lab. d'Annecy de Physique des Particules, IN2P3 (France); **David Melkumyan,** Deutsches Elektronen-Synchrotron (Germany); **Kevin Munari,** INAF - Osservatorio Astrofisico di Catania (Italy); **Thomas Murach,** Deutsches Elektronen-Synchrotron (Germany); **Adam Muraczewski,** Nicolaus Copernicus Astronomical Ctr. (Poland); **Nariman Nakhjiri,** Institut de Ciències de l'Espai (Spain), Institut d'Estudis Espacials de Catalunya (Spain); **Dominik Neise,** Cherenkov Telescope Array Observatory gGmbH (Germany), Institute for Particle Physics and Astrophysics, ETH Zürich (Switzerland); **Igor Oya,** Cherenkov Telescope Array Observatory gGmbH (Germany); **Gabriele Panebianco**, **Nicolo Parmiggiani,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Vincent Pollet,** Univ. Savoie Mont Blanc, CNRS (France), Lab. d'Annecy de Physique des Particules, IN2P3 (France); **Iftach Sadeh,** Deutsches Elektronen-Synchrotron (Germany); **Sunil Sah,** Cosylab d.d. (Slovenia); **Arkadipta Sarkar,** Deutsches Elektronen-Synchrotron (Germany); **Marc Schefer,** Univ. de Genève (Switzerland); **Torsten Schmidt,** Deutsches Elektronen-Synchrotron (Germany); **David Soldevila,** Institut de Ciències de l'Espai (Spain), Institut d'Estudis Espacials de Catalunya (Spain); **Constantin Steppa,** Institut für Physik & Astronomie, Univ. Potsdam (Germany); **Andrea Tramacere,** Univ. de Genève (Switzerland); **Ramon Valles-Puig,** Institut de Ciències de l'Espai (Spain), Institut d'Estudis Espacials de Catalunya (Spain); **Thomas Vuillaume,** Univ. Savoie Mont Blanc, CNRS (France), Lab. d'Annecy de Physique des Particules, IN2P3 (France); **Felix Werner,** Max-Planck-Institut für Kernphysik (Germany)

## Monday 17 June 2024

### MONDAY PLENARY

17 June 2024 • 08:20 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/monday-plenary

13173-500 • 08:30 AM - 09:15 AM
**Moving TMT forward: Japan's contributions and transformative approach toward community engagement** (Plenary Presentation)
*Author(s):* **Tomonori Usuda,** National Astronomical Observatory of Japan (United States); **Yuko Kakazu,** Thirty Meter Telescope (United States)

13173-501 • 09:15 AM - 10:00 AM
**From dark skies to bright futures: the evolution of astronomy in Africa and the hosting of the historic International Astronomical Union General Assembly 2024** (Plenary Presentation)
*Author(s):* **Charles Mpho Takalana,** The African Astronomical Society (South Africa)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 4: INSTRUMENTATION CONTROL

17 June 2024 • 10:30 AM - 12:10 PM | Room G314/315, North - 3F
*Session Chair(s):* **Jorge Ibsen**, Joint ALMA Observatory (Chile); **Petr Kubánek**, Vera C. Rubin Observatory (Chile)

13101-17 • 10:30 AM - 10:50 AM
**Advancements in astronomical instrumentation: a new control software framework for ELT and VLT instruments at ESO**
*Author(s):* **Mario J. Kiekebusch**, **Luigi Andolfato**, **Diego Del Valle**, **Sylvie Feyrin**, **Arturo Hoffstadt**, **Jens Knudstrup**, **Christophe Moins,** European Southern Observatory (Germany); **Iván Muñoz,** European Southern Observatory (Chile); **Dan Popovic**, **Claudio Reinero**, **Calle Rosenquist**, **Paola Sivera,** European Southern Observatory (Germany); **Ricardo Schmutzer,** European Southern Observatory (Chile); **Piotr Szubiakowski,** European Southern Observatory (Germany)

13101-18 • 10:50 AM - 11:10 AM
**VERTECS: A COTS-based payload interface board to enable next generation astronomical imaging payloads**
*Author(s):* **Ezra Fielding**, **Victor H. Schulz**, **Keenan A. A. Chatar**, **Kei Sano, Akitoshi Hanazawa,** Kyushu Institute of Technology (Japan)

13101-19 • 11:10 AM - 11:30 AM
**The design of WFST camera control system**
*Author(s):* **Zhe Geng**, **Zhi-yue Wang**, **Zhen-hao Zheng**, **Kun Ge**, **Yu Zhang**, **Hong-fei Zhang, Jian Wang,** Univ. of Science and Technology of China (China)

13101-20 • 11:30 AM - 11:50 AM
**The fibre target alignment process of the 4MOST instrument**
*Author(s):* **Roland Winkler,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Ingo Stilz**, **Alexander Pramskiy,** Landessternwarte Heidelber (Germany); **Gerard Zins,** European Southern Observatory (Germany)

13101-21 • 11:50 AM - 12:10 PM
**The ArmazoNes high Dispersion Echelle Spectrograph (ANDES) Software Ecosystem**
*Author(s):* **Marco Landoni,** INAF - Osservatorio Astronomico di Brera (Italy); **Manuel Monteiro,** Univ. do Porto (Portugal); **Paolo Di Marcantonio,** INAF - Osservatorio Astronomico di Trieste (Italy); **Alessio Zanutta,** INAF - Osservatorio Astronomico di Brera (Italy); **Livia Origlia,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Elena Mason**, **Roberto Cirami**, **Veronica Baldini**, **Giorgio Calderone**, **Igor Coretti**, **Guido Cupani,** INAF - Osservatorio Astronomico di Trieste (Italy); **Vincent Geers,** UK Astronomy Technology Ctr. (United Kingdom); **Arto Jarvinen,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Adrian Kaminski,** Landessternwarte Heidelberg (Germany); **Jochen Liske,** Univ. Hamburg (Germany); **Mike MacIntosh,** Science and Technology Facilities Council (United Kingdom); **Thomas Marquart,** Uppsala Univ. (Sweden); **Sylvain Rousseu,** Univ. Côte d'Azur (France); **Nicoletta Sanna,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Andrea Scaudo,** Univ. degli Studi dell'Insubria (Italy); **Danuta Sosnowska,** Univ. de Genève (Switzerland)

## Lunch Break 12:10 PM - 01:20 PM

## SESSION 5: AI AND ML APPLIED TO CONTROL

17 June 2024 • 01:20 PM - 03:00 PM | Room G314/315, North - 3F
*Session Chair(s):* **Gianluca Chiozzi**, European Southern Observatory (Germany); **Petr Kubánek**, Vera C. Rubin Observatory (Chile)

13101-22 • 01:20 PM - 01:40 PM
**Pointing Model Meets Deep Learning: A Retrospective Study on a MeerKAT+ Telescope Applying Deep Learning Methods for Blind Pointing Corrections**
*Author(s):* **Stefan Thoms, Matthias Reichert,** OHB Digital Connect GmbH (Germany)

13101-23 • 01:40 PM - 02:00 PM
**PSF modeling with deep learning for the Argus Optical Array**
*Author(s):* **Jonathan Carney**, **Hank Corbett**, **William Marshall**, **Nicholas M. Law**, **Shannon Fitton**, **Ramses Gonzalez**, **Lawrence Machia**, **Thomas Proctor, Alan Vasquez Soto,** The Univ. of North Carolina at Chapel Hill (United States)

13101-24 • 02:00 PM - 02:20 PM
**Integrating deep neural networks with COSMIC and CACAO on SCExAO for real-time control**
*Author(s):* **Bartomeu Pou Mulet,** Barcelona Supercomputing Ctr. - Ctr. Nacional de Supercomputación (Spain), Univ. Politecnica de Catalunya (Spain), Observatoire de Paris (France); **Vincent Deo**, **Kyohoon Ahn**, **Julien Lozi**, **Sebastien Vievard**, **Olivier Guyon,** Subaru Telescope, NAOJ (United States); **Eduardo Quinones,** Barcelona Supercomputing Ctr. - Ctr. Nacional de Supercomputación (Spain); **Mario Martin,** Univ. Politècnica de Catalunya (Spain); **Florian Ferreira, Damien Gratadour,** Observatoire de Paris (France)

13101-25 • 02:20 PM - 02:40 PM
**Deep learning solutions to telescope pointing and guiding**
*Author(s):* **Jackson Zariski**, **Kaitlin Kratter,** Steward Observatory, The Univ. of Arizona (United States); **Sarah Logsdon,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Chad Bender,** Steward Observatory, The Univ. of Arizona (United States); **Dan Li**, **Heidi Schweiker**, **Jayadev Rajagopal**, **Bill McBride, Emily Hunting,** NSF's National Optical-Infrared Astronomy Research Lab. (United States)

13101-26 • 02:40 PM - 03:00 PM
**Machine learning-driven approaches for precision antenna alignment**
*Author(s):* **Nimesh A. Patel**, **Ramprasad Rao**, **Robert Christensen**, **Garrett Keating**, **Kristen Laguana**, **Adam Mills**, **Angelu Ramos**, **Shelbi H. Schimpf**, **Rachel Smith,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Sheng-Feng Yen,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Patrick S. Leiker, Timothy Norton,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

## LIGHTNING TALKS

17 June 2024 • 03:00 PM - 03:20 PM | Room G314/315, North - 3F
*Session Chair(s):* **Gianluca Chiozzi**, European Southern Observatory (Germany); **Petr Kubánek**, Vera C. Rubin Observatory (Chile)
Poster Presenters: Lightning Talks are concise 3-minute oral presentations that tell the big picture story of your work or of a topic you are particularly interested in. You can use them to introduce your poster and attract people for a separate discussion.

## Coffee Break 03:20 PM - 03:50 PM

### SESSION 6: DATA MANAGEMENT, PROCESSING AND PIPELINES I

17 June 2024 • 03:50 PM - 05:30 PM | Room G314/315, North - 3F
*Session Chair(s):* **Jeff Mader**, W. M. Keck Observatory (United States); **George Kosugi**, National Astronomical Observatory of Japan (Japan)

13101-27 • 03:50 PM - 04:10 PM
**Specreduce: An AstroPy-affiliated Toolbox for Spectroscopic Data Reduction**
*Author(s):* **Timothy E. Pickering,** MMT Observatory (United States); **Erik Tollerud**, **Kyle Conroy**, **Richard O'Steen**, **Camilla Pacifici**, **Clare Shanahan, Brett Morris,** Space Telescope Science Institute (United States)

13101-28 • 04:10 PM - 04:30 PM
**Advancements in streamlining time-domain and multi-messenger astronomy follow-up infrastructure at Keck Observatory**
*Author(s):* **Chien-Hsiu Lee**, **Jeff Mader**, **Tyler Coda**, **Jo Hayashi**, **Max Brodheim, Lucas Fuhrman,** W. M. Keck Observatory (United States)

13101-29 • 04:30 PM - 04:50 PM
**BANZAI-FLOYDS: An Automated Pipeline for Long-slit Reduction for Las Cumbres Observatory**
*Author(s):* **Curtis McCully**, **Joseph Chatelain, Matthew Daily,** Las Cumbres Observatory (United States)

13101-30 • 04:50 PM - 05:10 PM
**Simons Observatory: observatory scheduler and automated data reduction**
*Author(s):* **Yilun Guan,** Univ. of Toronto (Canada)

13101-31 • 05:10 PM - 05:30 PM
**Implementation plans for the data reduction pipeline for METIS at the ELT**
*Author(s):* **Kieran Leschinski**, **Hugo Buddelmeijer**, **Oliver Czoske,** Univ. Wien (Austria); **Gilles Otten,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Martin Baláž**, **Fabian Haberhauer,** Univ. Wien (Austria); **Jennifer Karr,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Wolfgang Kausch,** Univ. Innsbruck (Austria); **Thomas Marquart,** Uppsala Univ. (Sweden); **Nadeen Sabha,** Univ. Innsbruck (Austria); **Chi-Hung Yan,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Norbert Przybilla,** Univ. Innsbruck (Austria); **Shiang-Yu Wang,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Werner W. Zeilinger,** Univ. Wien (Austria)

## Tuesday 18 June 2024

### TUESDAY PLENARY

18 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/tuesday-plenary

13173-502 • 08:30 AM - 09:15 AM
**The present and future of Japan's space program** (Plenary Presentation)
*Author(s):* **Saku Tsuneta,** National Astronomical Observatory of Japan (Japan)

13173-503 • 09:15 AM - 10:00 AM
**NASA astrophysics: from today to the Habitable Worlds Observatory** (Plenary Presentation)
*Author(s):* **Mark Clampin,** NASA Goddard Space Flight Ctr. (United States); **John M. O'Meara,** W. M. Keck Observatory (United States)

## Coffee Break 10:00 AM - 10:30 AM

### SESSION 7: AI AND ML

18 June 2024 • 10:30 AM - 11:50 AM | Room G314/315, North - 3F
*Session Chair(s):* **Gianluca Chiozzi**, European Southern Observatory (Germany); **Valentina Alberti**, INAF - Osservatorio Astronomico di Trieste (Italy)

13101-32 • 10:30 AM - 10:50 AM
**Redesign of astrophysical codes for exascale computing: the SPACE experience**
*Author(s):* **Giuliano Taffoni,** INAF - Osservatorio Astronomico di Trieste (Italy); **Andrea Mignone,** UniTo (Italy); **Luca Tornatore,** INAF - Osservatorio Astronomico di Trieste (Italy); **Eva Sciacca,** INAF - Osservatorio Astrofisico di Catania (Italy); **Massimiliano Guarrasi,** CINECA (Italy); **Giovanni Lapenta,** Katholieke Universitedit Leuven (Belgium); **Lubomir Riha,** IT4Innovations, VSB – Technical University of Ostrava (Czech Republic); **Radim Vavrik**, **Ondrej Vysocky**, **Kristian Kadlubiak**, **Petr Strakos**, **Milan Jaros,** IT4Innovations (Czech Republic); **Klaus Dolag,** Ludwig Maximilian University (Germany); **Benoit Commercon,** French National Centre for Scientific Research (France); **Luciano Rezzolla**, **Khalil Pierre**, **Georgios Doulis,** Goethe University of Frankfurt (Germany); **Sijing Shen,** University of Oslo (Norway); **Manolis Marazakis,** Foundation for Research and Technology (Greece); **Daniele Gregori**, **Elisabetta Boella,** E4 Computer Engineering SpA (Italy); **Gino Perna**, **Marisa Zanotti,** EnginSoft SpA (Italy); **Erwan Raffin,** Bull (France); **Kai Polsterer**, **Sebastian Trujillo Gomez,** Heidelberg Institute for Theoretical Studies (Germany); **Guillermo Marin,** BSC (Spain)

13101-33 • 10:50 AM - 11:10 AM
**Astronomical PSF characterization using grammar evolution and symbolic regression**
*Author(s):* **Ricardo Sarmiento-Rubiano**, **Roberto Baena Gallé**, **Marina Cruz**, **Alfonso Ortega,** Univ. Internacional de La Rioja (Spain); **Terrence Girard**, **Dana Casetti-Dinescu,** Southern Connecticut State Univ. (United States); **Alejandro Cervantes,** Univ. Internacional de La Rioja (Spain)

13101-35 • 11:10 AM - 11:30 AM
**The survey of surveys: machine learning for stellar parametrization**
*Author(s):* **Alessio Turchi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Elena Pancino,** INAF - Osservatorio Astrofisico di Arcetri (Italy), Agenzia Spaziale Italiana (Italy); **Fabio Rossi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Alexsandra Avdeeva,** cInstitute of Astronomy, Russian Academy of Sciences, (Russian Federation); **Paola Marrese**, **Silvia Marinoni,** Agenzia Spaziale Italiana (Italy); **Nicoletta Sanna**, **Maria Tsantaki,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Giorgio Fanari,** Agenzia Spaziale Italiana (Italy)

13101-36 • 11:30 AM - 11:50 AM
**Unanticipated fault diagnosis of large telescopes based on IGWO-iForest**
*Author(s):* **Ruiqiang Liu**, **Lingzhe Xu**, **Zhuangzhaung Deng**, **Yun Li,** Nanjing Institute of Astronomical Optics & Technology (China); **Cong Pan,** Nanjing Institute of Astronomical Optics and Technology (China), Univ. of Chinese Academy of Sciences (China); **Shihai Yang,** Nanjing Institute of Astronomical Optics & Technology (China)

## Lunch/Exhibition Break 11:50 AM - 01:20 PM

## SESSION 8: CLOUD TECHNOLOGIES/ADOPTION

18 June 2024 • 01:20 PM - 03:00 PM | Room G314/315, North - 3F
*Session Chair(s):* **Jorge Ibsen**, Joint ALMA Observatory (Chile); **Tom Donaldson**, Space Telescope Science Institute (United States)

13101-37 • 01:20 PM - 01:40 PM
**From observatory summit to the cloud: a general approach to service deployment and configuration management**
*Author(s):* **Frossie Economou**, **Michael Reuter**, **Russ Allbery**, **Christine Banek**, **Angelo Fausti**, **Jonathan Sick, Adam Thornton,** Vera C. Rubin Observatory (United States)

13101-38 • 01:40 PM - 02:00 PM
**Efficient use of commercial cloud for astronomical data archive and data analysis**
*Author(s):* **George Kosugi**, **Eisuke Morita,** National Astronomical Observatory of Japan (Japan); **Kento Aida**, **Hiroshi Yoshida,** National Institute of Informatics (Japan); **Takeshi Nakazato**, **Renaud Miel**, **Kanako Sugimoto, Hiroaki Tagawa,** National Astronomical Observatory of Japan (Japan)

13101-39 • 02:00 PM - 02:20 PM
**Moving forward to a cloud hybrid infrastructure for La Silla Paranal Observatory**
*Author(s):* **Ingeborg Muñoz**, **Jorge Dupeyron**, **Alejandro Givovich,** European Southern Observatory (Chile); **David Bargna**, **Kevin Bergamo,** European Southern Observatory (Germany); **Eduardo Peña**, **Natalie Behara**, **Vicente Lizana**, **Andrés Vinet**, **Jorge Quiroz**, **Francisco Durán, David Torres,** European Southern Observatory (Chile)

13101-40 • 02:20 PM - 02:40 PM
**Securing the software supply chain for containers: practices and challenges in a cloud-native landscape for a global observatory**
*Author(s):* **Ugur Yilmaz, Piers Harding,** SKA Observatory (United Kingdom)

13101-41 • 02:40 PM - 03:00 PM
**Embracing Industry 4.0 paradigms for Digital Transformation at the Gran Telescopio Canarias**
*Author(s):* **Luis Alberto Rodriguez Garcia**, **Henry Brito Martín**, **Raul Dominguez Dominguez**, **Zaida Brito Triana**, **Pedro González Lorenzo**, **Ismael Alvarez Candelario**, **Alejandro J. Leal Gonzalez**, **Daniel Gonzalez Gonzalez**, **Cesar Cabrera Rodriguez**, **Manuel Huertas Lopez**, **Dario Marante Barreto**, **Josue Toledo Castro,** Gran Telescopio de Canarias, S.A. (Spain); **Javier Lopez,** Gran Telescopio de Canarias (Spain)

## PANEL DISCUSSION: CYBER-SECURITY ROUND TABLE

18 June 2024 • 03:00 PM - 03:20 PM | Room G314/315, North - 3F
*Session Chair(s):* **Jorge Ibsen**, Joint ALMA Observatory (Chile); **Tom Donaldson**, Space Telescope Science Institute (United States)
All publicly exposed research organizations receive cyber-attacks periodically and, given the collaborative nature of our mission, there are some commonalities on specific vulnerabilities. This session aims to enable an informal round table to discuss lessons learned and good practices towards cyber-security.

### Coffee Break 03:20 PM - 03:50 PM

## SESSION 9: OBSERVATORY/TELESCOPE CONTROL II

18 June 2024 • 03:50 PM - 05:30 PM | Room G314/315, North - 3F
*Session Chair(s):* **Alastair J. Borrowman**, Observatory Sciences Ltd. (United Kingdom); **Petr Kubánek**, Vera C. Rubin Observatory (Chile)

13101-42 • 03:50 PM - 04:10 PM
**ELT Tracking Local Supervisors design and development status**
*Author(s):* **Javier Argomedo Zazzali**, **Luigi Andolfato**, **Alessandro Caproni, Nick Kornweibel,** European Southern Observatory (Germany)

13101-43 • 04:10 PM - 04:30 PM
**Euclid Mission Survey Planning System**
*Author(s):* **Pedro Gómez-Álvarez,** FRACTAL S.L.N.E. (Spain); **Juan Manuel Martin Fleitas,** Aurora Technology B.V. (Spain); **Guillermo Buenadicha**, **Xavier Dupac**, **Rene Laureijs**, **Ralf Kohley,** European Space Agency (Spain); **Pablo Marcos,** HE Space Operations BV (Spain); **John Hoar, Pierre Ferruit,** European Space Agency (Spain)

13101-44 • 04:30 PM - 04:50 PM
**Replacing DDS with Kafka as middleware technology for the Rubin Observatory control system**
*Author(s):* **Tiago Ribeiro de Souza,** Vera C. Rubin Observatory (United States); **Russell Owen,** Univ. of Washington (United States); **Dave Mills**, **Michael Reuter**, **Andy Clements,** Vera C. Rubin Observatory (United States); **William O'Mullane,** Vera C. Rubin Observatory (Chile)

13101-45 • 04:50 PM - 05:10 PM
**Design, implementation and deployment of SKAO's AlarmHandler, the software system to automatically handle Tango Controls attribute alarms in the SKA Control System of SKA Low and SKA Mid**
*Author(s):* **Thomas Juerges**, **Sonja Vrcic,** SKA Observatory (United Kingdom); **Aditya Dange,** Tata Consultancy Services, Ltd. (India)

13101-46 • 05:10 PM - 05:30 PM
**The WALOP software**
*Author(s):* **John A. Kypriotakis,** Univ. of Crete (Greece), Institute of Astrophysics, Foundation for Research and Technology-Hellas (Greece); **Bhushan Joshi,** Inter-Univ. Ctr. for Astronomy and Astrophysics (India); **Dmitriy Blinov**, **Sebastian Kiehlmann,** Institute of Astrophysics, Foundation for Research and Technology-Hellas (Greece); **Siddharth Maharana,** South African Astronomical Observatory (South Africa); **Chaitanya V Rajarshi**, **Ramaprakash N Anamparambu,** Inter-Univ. Ctr. for Astronomy and Astrophysics (India); **Artem Basyrov,** Institute of Theoretical Astrophysics, University of Oslo (Norway); **Myrto Falalaki,** Institute of Astrophysics (Greece), Univ. of Crete (Greece); **Tuhin Ghosh,** School of Physical Sciences, National Institute of Science Education and Research (India); **Eirik Gjerløw,** Institute of Theoretical Astrophysics, University of Oslo (Norway); **Ioannis Liodakis,** Institute of Astrophysics (Greece), Marshall Space Flight Center, NASA (United States); **Nikolaos Mandarakas,** Univ. of Crete (Greece), Institute of Astrophysics (Greece); **Georgia V Panopoulou,** California Institute of Technology (United States); **Vasiliki Pavlidou,** Institute of Astrophysics (Greece), Univ. of Crete (Greece); **Timothy J Pearson,** California Institute of Technology (United States); **Vincent Pelgrims,** Universit é Libre de Bruxelles (Belgium); **Stephen B Potter,** South African Astronomical Observatory (South Africa), University of Johannesburg (South Africa); **Anthony C S Readhead**, **Raphael Skalidis,** California Institute of Technology (United States); **Konstantinos Tassis,** Univ. of Crete (Greece), Institute of Astrophysics (Greece); **Namita Uppal,** Institute of Astrophysics (Greece)

## SESSION PS1: POSTERS I - SOFTWARE AND CYBERINFRASTRUCTURE FOR ASTRONOMY

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13101-73 • 05:30 PM - 07:00 PM
**Extensible pipeline development powered by PyCPL and PyEsorex**
*Author(s):* **Brent Miszalski**, **Amir E. Bazkiaei,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Jesse van de Sande,** School of Physics, University of New South Wales (Australia); **Simon O'Toole**, **Anthony Horton, James Tocknell,** Australian Astronomical Optics, Macquarie Univ. (Australia)

13101-74 • 05:30 PM - 07:00 PM
**Optimizing thermal control of the MMTO primary mirror**
*Author(s):* **J. Duane Gibson**, **Will Goble**, **Dallan Porter**, **Maya Williams,** MMT Observatory (United States); **Charlie E. Goldberg, Thomas O. Singlestad,** The Univ. of Arizona (United States)

13101-75 • 05:30 PM - 07:00 PM
**Tracing component wear signatures in ASTRI-Horn historical monitoring time-series**
*Author(s):* **Federico Incardona**, **Alessandro Costa**, **Giuseppe Leto**, **Kevin Munari,** INAF - Osservatorio Astrofisico di Catania (Italy); **Giovanni Pareschi,** INAF - Osservatorio Astronomico di Brera (Italy); **Salvatore Scuderi,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Gino Tosti,** Univ. degli Studi di Perugia (Italy); **Emilio Mastriani, Sebastiano Spinello,** INAF - Osservatorio Astrofisico di Catania (Italy)

13101-78 • 05:30 PM - 07:00 PM
**The blue multiunit spectroscopic explorer (BlueMUSE) on the VLT: end-to-end simulator 'BlueSi'**
*Author(s):* **Martin Wendt,** Institut für Physik & Astronomie, Univ. Potsdam (Germany); **Norberto Castro Rodriguez,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Sven Martens,** Institut für Astrophysik, Georg-August-Univ. Göttingen (Germany); **Peter M. Weilbacher**, **Davor Krajnovic,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Johan Richard,** Ctr. de Recherche Astrophysique de Lyon (France), Univ. de Lyon (France)

13101-79 • 05:30 PM - 07:00 PM
**Rsimu: design of the component simulation framework for RACS2**
*Author(s):* **Yu Zhang**, **Zhi-yue Wang**, **Zhe Geng, Jian Wang,** Univ. of Science and Technology of China (China)

13101-80 • 05:30 PM - 07:00 PM
**Data reduction pipeline for the METIS integral field spectrograph**
*Author(s):* **Martin Baláž**, **Oliver Czoske**, **Kieran Leschinski**, **Hugo Buddelmeijer,** Univ. Wien (Austria); **Gilles P. P. L. Otten,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Jennifer Karr**, **Chi-Hung Yan,** Institute of Astronomy and Astrophysics (Taiwan); **Wolfgang Kausch,** Univ. Innsbruck (Austria)

13101-81 • 05:30 PM - 07:00 PM
**Using a random forest for antenna bandpass fault detection in the low-frequency square kilometre array**
*Author(s):* **Elliot Scott,** Observatory Sciences Ltd. (United Kingdom)

13101-82 • 05:30 PM - 07:00 PM
**The software version control procedure for the array control and data acquisition software of the Cherenkov Telescope Array Observatory**
*Author(s):* **Vito Conforti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Hasmik Gasparyan,** Deutsches Elektronen-Synchrotron (Germany); **Bernhard Lopez**, **Dominik Neise, Igor Oya,** Cherenkov Telescope Array Observatory gGmbH (Germany)

13101-83 • 05:30 PM - 07:00 PM
**MORFEO: instrument control software continuous integration and software quality assurance**
*Author(s):* **Elia Costa**, **Andrea Balestra**, **Bernardo Salasnich**, **Fulvio Laudisio**, **Rosanna Sordo,** INAF - Osservatorio Astronomico di Padova (Italy); **Paolo Ciliegi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13101-84 • 05:30 PM - 07:00 PM
**The science alert generation system of the Cherenkov Telescope Array Observatory**
*Author(s):* **Andrea Bulgarelli,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Sami Caroff,** Lab. d'Annecy de Physique des Particules (France); **Luca Castaldini,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Pierre Aubert,** Lab. d'Annecy de Physique des Particules (France); **Giovanni De Cesare**, **Ambra Di Piano**, **Valentina Fioretti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Gilles Maurin,** Lab. d'Annecy de Physique des Particules (France); **Gabriele Panebianco**, **Nicolò Parmiggiani,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Vincent Pollet**, **Thomas Vuillaume,** Lab. d'Annecy de Physique des Particules (France); **Igor Oya,** Cherenkov Telescope Array Observatory gGmbH (Germany); **Costantin Steppa,** Deutsches Elektronen-Synchrotron DESY (Germany); **Katrin Egberts,** Institut für Physik und Astronomie, Universität Potsdam, (Germany)

13101-85 • 05:30 PM - 07:00 PM
**H2RG controller and data acquisition for GTC-EMIR+**
*Author(s):* **Josefina Rosich**, **Horacio Rodríguez-Delgado**, **Enol Matilla-Blanco**, **Enrique Joven,** Instituto de Astrofísica de Canarias (Spain); **Francisco Garzón,** Instituto de Astrofísica de Canarias (Spain), Univ. de La Laguna (Spain); **Marcos Reyes García-Talavera,** Instituto de Astrofísica de Canarias (Spain)

13101-86 • 05:30 PM - 07:00 PM
**Rubin's hybrid on premises-cloud data access center**
*Author(s):* **William O'Mullane,** Vera C. Rubin Observatory (Chile); **Yusra AlSayyad,** Princeton Univ. (United States); **James Chiang**, **Richard Dubois,** SLAC National Accelerator Lab. (United States); **Frossie Economou,** Vera C. Rubin Observatory (United States); **Fabio Hernandez,** CNRS, CC-IN2P3 (France); **Flora Huang,** Google (United States); **Tim Jenness,** Vera C. Rubin Observatory (United States); **Kian-Tat Lim**, **Yee-Ting Li**, **Fritz Mueller,** SLAC National Accelerator Lab. (United States); **Dan Speck,** Burwood Group, Inc. (United States); **Stephen Pietrowicz,** NCSA (United States); **Wei Yang,** SLAC National Accelerator Lab. (United States)

13101-87 • 05:30 PM - 07:00 PM
**Building a vibration anomaly detection system for VLTI UT runs**
*Author(s):* **Vicente Lizana**, **Benjamin Courtney-Barrer**, **Nicolas Schuhler**, **Natalie Behara**, **Juan P. Gil, Eduardo Peña,** European Southern Observatory (Chile)

13101-88 • 05:30 PM - 07:00 PM
**Data Archive and Data Management Software at the Large Millimeter Telescope**
*Author(s):* **Zhiyuan Ma,** Univ. of Massachusetts Amherst (United States); **Marc W. Pound**, **Peter J. Teuben**, **Lee G. Mundy,** Univ. of Maryland, College Park (United States); **Mark Hemeon-Heyer,** Univ. of Maryland, Baltimore (United States); **Xia Huang**, **Michael McCrackan,** Univ. of Massachusetts Amherst (United States); **Alfredo Montaña,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Peter Schloerb,** Univ. of Massachusetts Amherst (United States); **David Sanchez,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Kamal Souccar**, **Grant Wilson, Min S. Yun,** Univ. of Massachusetts Amherst (United States)

13101-89 • 05:30 PM - 07:00 PM
**Bringing FORS into the ELT era: implementation of the control software**
*Author(s):* **Matteo Porru**, **Veronica Baldini**, **Sara Bertocco,** INAF (Italy); **Henri M. J. Boffin,** European Southern Observatory (Germany); **Giorgio Calderone**, **Roberto Cirami**, **Igor Coretti,** INAF (Italy); **Claudio Cumani**, **Diego Del Valle**, **Frédéric Derie,** European Southern Observatory (Germany); **Paolo Di Marcantonio,** INAF (Italy); **Mario Kiekebusch**, **Christophe Moins**, **Pablo Gutierrez Cheetham**, **Antonio Ramon Manescau Hernandez**, **Dan Popovic**, **Ralf Siebenmorgen,** European Southern Observatory (Germany); **Veronica Strazzullo, Antonio Sulich,** INAF (Italy)

13101-90 • 05:30 PM - 07:00 PM
**Automated scheduler for the SOXS instrument: design and performance**
*Author(s):* **Laura Asquini**, **Marco Landoni,** INAF - Osservatorio Astronomico di Brera (Italy); **David Young,** Astrophysics Research Centre, School of Mathematics and Physics, Queen's University Belfast (United Kingdom); **Laurent Marty,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Stephen Smartt,** Univerity of Oxford (United Kingdom); **Sergio Campana,** INAF - Osservatorio Astronomico di Brera (Italy); **Riccardo Claudi,** INAF - Osservatorio Astronomico di Padova (Italy); **Pietro Schipani,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Jani Achrén,** Incident Angle Oy (Finland); **Matteo Aliverti,** INAF - Osservatorio Astronomico di Brera (Italy); **José A. Araiza-Durán,** INAF-Osservatorio Astrofisico di Arcetri (Italy); **Iair Arcavi,** Tel Aviv University (Israel); **Federico Battaini**, **Andrea Baruffolo,** INAF - Osservatorio Astronomico di Padova (Italy); **Sagi Ben-Ami,** Weizmann Institute of Science (Israel); **Andrea Bianco,** INAF - Osservatorio Astronomico di Brera (Italy); **Alex Bichkovsky,** Weizmann Institute of Science (Israel); **Anna Brucalassi,** INAF-Osservatorio Astrofisico di Arcetri (Italy); **Rachel Bruch,** Weizmann Institute of Science (Israel); **Giulio Capasso,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Enrico Cappellaro,** INAF - Osservatorio Astronomico di Padova (Italy); **Mirko Colapietro,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Rosario Cosentino,** INAF - Fundación Galileo Galilei (Spain); **Francesco D'Alessio,** INAF - Osservatorio Astronomico di Roma (Italy); **Paolo D'Avanzo,** INAF - Osservatorio Astronomico di Brera (Italy); **Massimo Della Valle**, **Sergio D'Orsi,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Rosario Di Benedetto,** INAF - Osservatorio Astrofisico di Catania (Italy); **Simone Di Filippo,** INAF - Osservatorio Astronomico di Padova (Italy); **Avishay Gal-Yam,** Weizmann Institute of Science (Israel); **Matteo Genoni,** INAF - Osservatorio Astronomico di Brera (Italy); **Marcos Hernandez Díaz,** INAF - Fundación Galileo Galilei (Spain); **Ofir Hershko,** Weizmann Institute of Science (Israel); **Jari Kotilainen,** FINCA - Finnish Centre for Astronomy with ESO (Finland); **Hanindyo Kuncarayakti,** Tuorla Observatory, Department of Physics and Astronomy, University of Turku (Finland); **Gianluca Li Causi,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Seppo Mattila,** Tuorla Observatory (Finland); **Matteo Munari,** INAF - Osservatorio Astrofisico di Catania (Italy); **Giorgio Pariani,** INAF - Osservatorio Astronomico di Brera (Italy); **Hector Pérez Ventura,** INAF - Fundación Galileo Galilei (Spain); **Giuliano Pignata,** Universidad de Tarapacá (Spain); **Kalyan Radhakrishnan,** INAF - Osservatorio Astronomico di Padova (Italy); **Michael Rappaport,** Weizmann Institute of Science (Israel); **Davide Ricci,** INAF - Osservatorio Astronomico di Padova (Italy); **Marco Riva,** INAF - Osservatorio Astronomico di Brera (Italy); **Adam Rubin,** European Southern Observatory (Germany); **Bernardo Salasnich,** INAF - Osservatorio Astronomico di Padova (Italy); **Salvatore Savarese,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Maximilian Stritzinger,** Aarhus University (Denmark); **Salvatore Scuderi,** INAF - Istituto di Astrofisica Spaziale e Fisica Cosmica (Italy); **Fabrizio Vitali,** INAF - Osservatorio Astronomico di Roma (Italy); **Ricardo Zanmar Sanchez,** INAF - Osservatorio Astronomico di Capodimonte (Italy)

13101-91 • 05:30 PM - 07:00 PM
**The SOXS instrument control software approaching the PAE**
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13101-93 • 05:30 PM - 07:00 PM
**The resource manager and central control systems for the Cherenkov Telescope Array Observatory**
*Author(s):* **David Melkumyan,** Deutsches Elektronen-Synchrotron (Germany); **Rodrigo Fernandez,** Cosylab d.d. (Slovenia); **Dmitriy Kostunin**, **Thomas Murach,** Deutsches Elektronen-Synchrotron (Germany); **Igor Oya,** Cherenkov Telescope Array Observatory gGmbH (Germany); **Sunil Sah,** Cosylab d.d. (Slovenia); **Torsten Schmidt,** Deutsches Elektronen-Synchrotron (Germany)

13101-94 • 05:30 PM - 07:00 PM
**Efforts to improve software maintainability at ASTRON**
*Author(s):* **Tom Kamphuis,** ASTRON (Netherlands)

13101-95 • 05:30 PM - 07:00 PM
**A deep neural network to restore pulsar dynamic spectra corrupted by radio frequency interference**
*Author(s):* **Xiao Zhang,** Lab. de Physique et Chimie de l'Environnement et de l'Espace (France); **Ismaël Cognard,** Lab. de Physique et Chimie de l'Environnement et de l'Espace (France), Station de Radioastronomie de Nançay (France); **Nicolas Dobigeon,** Institut de Recherche en Informatique de Toulouse (France)

13101-96 • 05:30 PM - 07:00 PM
**MAVIS: designing the interface between instrument control software and SRTC**
*Author(s):* **Elia Costa,** INAF - Osservatorio Astronomico di Padova (Italy); **Nicholas Doucet,** The Australian National Univ. (Australia), Astralis (Australia); **Salvatore Savarese,** INAF - Osservatorio Astrofisico di Capodimonte (Italy); **Bernardo Salasnich,** INAF - Osservatorio Astronomico di Padova (Italy); **Julien Tom Bernard,** Advanced Instrumentation Technology Ctr., The Australian National Univ. (Australia), Astralis Instrumentation Consortium (Australia); **Damien Gratadour,** Advanced Instrumentation Technology Ctr., The Australian National Univ. (Australia); **Francois Rigaut,** Advanced Instrumentation Technology Ctr., The Australian National Univ. (Australia), Astralis Instrumentation Consortium (Australia)

13101-97 • 05:30 PM - 07:00 PM
**Upgrade of VLT-FORS control system: details on its final design and construction phase**
*Author(s):* **Antonio Sulich**, **Veronica Baldini**, **Sara Bertocco,** INAF - Osservatorio Astronomico di Trieste (Italy); **Henri M. J. Boffin,** European Southern Observatory (Germany); **Giorgio Calderone**, **Roberto Cirami**, **Igor Coretti,** INAF - Osservatorio Astronomico di Trieste (Italy); **Claudio Cumani**, **Diego Del Valle**, **Frédéric Derie**, **Pablo Gutierrez Cheetham**, **Antonio Manescau,** European Southern Observatory (Germany); **Paolo Di Marcantonio,** INAF - Osservatorio Astronomico di Trieste (Italy); **Christophe Moins**, **Dan Popovic,** European Southern Observatory (Germany); **Matteo Porru, Veronica Strazzullo,** INAF - Osservatorio Astronomico di Trieste (Italy)

13101-98 • 05:30 PM - 07:00 PM
**Addressing obsolescence: migrating Grantecan's primary system to a new real-time solution**
*Author(s):* **Josué Toledo Castro**, **Ismael Álvarez Candelario**, **Pedro González**, **Héctor De Paz Martín**, **Henry Brito Martín, Manuel Huertas Lopez,** Gran Telescopio de Canarias, S.A. (Spain)

13101-99 • 05:30 PM - 07:00 PM **(CANCELLED)**
**Infrastructure and kubernetes cluster management: Inside the SKAO**
*Author(s):* **Pedro Silva,** Atlar Innovation (Portugal), SKA Observatory (United Kingdom)

13101-121 • 05:30 PM - 07:00 PM
**Pyobs - a Python-based, open source observation control system for robotic telescopes**
*Author(s):* **Tim-Oliver Husser, Sven Martens,** Georg-August-Univ. Göttingen (Germany)

13101-100 • 05:30 PM - 07:00 PM
**Investigation into the use of machine learning to detect memory leaks during continuous integration testing of observatory control software**
*Author(s):* **Benjamin Carpenter, Alastair J. Borrowman,** Observatory Sciences Ltd. (United Kingdom)

13101-101 • 05:30 PM - 07:00 PM
**Automation of the full functional tests by execution of the regression verification of the main functionalities of the boot software (BSW) of the PLATO payload**
*Author(s):* **Marina Vela Nuñez,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Alessio Pannocchia,** Kayser Italia Srl (Italy); **Mauro Focardi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Carlo del Vecchio Blanco,** Kayser Italia Srl (Italy); **Vladimiro Noce**, **Simone Chiarucci,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Andrea Russi**, **Giovanni Giusi**, **Anna Maria Di Giorgio,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Rosario Cosentino,** INAF - Osservatorio Astrofisico di Catania (Italy)

13101-102 • 05:30 PM - 07:00 PM
**GRBBase: A centralised resource for gamma-ray burst data**
*Author(s):* **Antonio de Ugarte Postigo,** Observatoire de la Côte d'Azur (France); **Christina C. Thöne,** Astronomical Institute of the CAS, v.v.i. (Czech Republic); **José Feliciano Agüí Fernández,** Observatorio de Calar Alto (Spain)

13101-103 • 05:30 PM - 07:00 PM
**Management of LOFAR 2.0 station states and transitions through the TANGO-Controls framework**
*Author(s):* **Stefano Di Frischia,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Hannes Feldt**, **Corné Lukken**, **Jan David Mol, Arno Schoenmakers,** ASTRON (Netherlands)

13101-104 • 05:30 PM - 07:00 PM
**Building the largest mock astrometric catalogue of the Milky Way centre in the near infrared for the end-to-end simulation of the JASMINE satellite**
*Author(s):* **Pau Ramos Ramirez,** National Astronomical Observatory of Japan (Japan); **Daisuke Kawata,** Mullard Space Science Lab., Univ. College London (United Kingdom), National Astronomical Observatory of Japan (Japan); **Ryou Ohsawa,** National Astronomical Observatory of Japan (Japan); **Shogo Nishiyama,** Miyagi Univ. of Education (Japan); **Jason Sanders,** Univ. College London (United Kingdom); **Leigh Smith,** Institute of Astronomy, Univ. of Cambridge (United Kingdom); **Naoki Koshimoto,** Univ. of Maryland, College Park (United States); **Dante Minniti,** Univ. Andres Bello (Chile), Univ. Federal de Santa Catarina (Brazil), Specola Vaticana (Italy); **Phil Lucas,** Univ. of Hertfordshire (United Kingdom)

13101-105 • 05:30 PM - 07:00 PM
**Autonomous orchestration of a global telescope network using MACHINA**
*Author(s):* **Justin R. Fletcher, Jon Kadan,** USSF SSC (United States)

13101-106 • 05:30 PM - 07:00 PM
**TCSpy: Multitelescope array control software for 7-Dimensional Telescope (7DT)**
*Author(s):* **Hyeonho Choi**, **Myungshin Im, Ji Hoon Kim,** Seoul National Univ. (Korea, Republic of)

13101-108 • 05:30 PM - 07:00 PM
**The intelligent observatory: software for robotic operation, monitoring, and safeguarding**
*Author(s):* **Carel H. D. R. van Gend**, **Stephen Potter**, **Nicolas Erasmus**, **Sunil Chandra**, **Hannah Worters**, **Moloko Hlakola,** South African Astronomical Observatory (South Africa); **Roufurd Julie,** South African Radio Astronomy Observatory (South Africa)

13101-109 • 05:30 PM - 07:00 PM
**The ERIS pipeline**
*Author(s):* **Erich Wiezorrek,** Max-Planck-Institut für extraterrestrische Physik (Germany); **John Lightfoot,** UK Astronomy Technology Ctr., The Royal Observatory, Edinburgh (United Kingdom); **Andrea Modigliani**, **Mark Neeser,** European Southern Observatory (Germany); **Alex Agudo Berbel**, **Yixian Cao,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Lars Lundin,** European Southern Observatory (Germany); **Ric Davies,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Robert J. De Rosa,** European Southern Observatory (Chile); **Kateryna Kravchenko,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Harald Kuntschner,** European Southern Observatory (Germany); **Laura Mascetti,** European Southern Observatory (Germany), Terma GmbH (Germany); **Isabelle Percheron,** European Southern Observatory (Germany); **William Taylor,** UK Astronomy Technology Ctr., The Royal Observatory, Edinburgh (United Kingdom)

13101-110 • 05:30 PM - 07:00 PM
**AI detection of S/N<1 sources in infrared images: a deep learning algorithm developed for the AZT24 facility at Campo Imperatore Observatory**
*Author(s):* **Stefano Di Frischia, Mauro Dolci,** INAF - Osservatorio Astronomico d'Abruzzo (Italy)

13101-111 • 05:30 PM - 07:00 PM
**SKA base classes: a case study of reusability of code in a large-scale telescope control system**
*Author(s):* **Samuel Nyarko Twum**, **Drew Devereux**, **Thomas Juerges,** SKA Observatory (United Kingdom); **Johan Anton Venter,** South African Radio Astronomy Observatory (South Africa); **Thomas Ives,** Observatory Sciences Ltd (United Kingdom); **Jarrett Engelbrecht,** Vivo Technical (South Africa)

13101-112 • 05:30 PM - 07:00 PM
**Telescope control architecture based on RTOS-based EtherCAT soft motion controller**
*Author(s):* **Zhendong Chen, Congcong Zhang,** Shanghai Astronomical Observatory (China)

13101-113 • 05:30 PM - 07:00 PM
**The PLC control system development from ASTRI-Horn to ASTRI Mini-Array**
*Author(s):* **Antonio Sulich,** INAF - Osservatorio Astronomico di Trieste (Italy); **Gino Tosti,** Univ. degli Studi di Perugia (Italy), INAF - Osservatorio Astronomico di Brera (Italy); **Veronica Baldini**, **Igor Coretti**, **Paolo Di Marcantonio,** INAF - Osservatorio Astronomico di Trieste (Italy); **Giovanni Pareschi,** INAF - Osservatorio Astronomico di Brera (Italy); **Salvatore Scuderi,** INAF - Osservatorio Astrofisico di Catania (Italy)

13101-114 • 05:30 PM - 07:00 PM
**The comprehensive monitoring, logging, and alarm system for the Cherenkov Telescope Array Observatory**
*Author(s):* **Alessandro Costa**, **Kevin Munari**, **Federico Incardona,** Istituto Nazionale di Astrofisica (Italy); **Stefano Germani,** Univ. degli Studi di Perugia (Italy); **Pietro Bruno**, **Emilio Mastriani**, **Sebastiano Spinello,** Istituto Nazionale di Astrofisica (Italy); **Igor Oya,** Cherenkov Telescope Array Observatory gGmbH (Germany)

13101-115 • 05:30 PM - 07:00 PM
**The instrument control software of the LOCNES near infrared solar telescope**
*Author(s):* **Lorenzo Cabona,** INAF - Osservatorio Astronomico di Brera (Italy); **Scigé Liu,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Riccardo Claudi,** INAF - Osservatorio Astronomico di Padova (Italy); **Adriano Ghedina**, **Avet Harutyunyan,** Fundación Galileo Galilei - INAF (Spain); **Fabrizio De Angelis,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Emanuele Pace,** Univ. degli Studi di Firenze (Italy); **Stefania Stefani,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Valentina D'Orazi,** INAF Astrophysical Observatory of Arcetri (Italy); **Monica Rainer,** INAF - Osservatorio Astronomico di Brera (Italy)

13101-116 • 05:30 PM - 07:00 PM
**FAST: a software suite for automatic weather and optical turbulence forecast on ground-based telescope sites**
*Author(s):* **Alessio Turchi**, **Elena Masciadri, Luca Fini,** INAF - Osservatorio Astrofisico di Arcetri (Italy)

13101-117 • 05:30 PM - 07:00 PM
**The Gaia AVU-GSR pipeline: a verification pipeline for the global astrometric sphere reconstruction and its future developments**
*Author(s):* **Alberto Vecchiato**, **Mario Gilberto Lattanzi**, **Beatrice Bucciarelli**, **Valentina Cesare**, **Ugo Becciani**, **Raffaella Buzzi**, **Deborah Busonero,** INAF (Italy); **Ruben De March,** ALTEC (Italy); **Mario Gai, Alberto Riva,** INAF (Italy)

13101-118 • 05:30 PM - 07:00 PM
**ASTRI mini-array on-site information and communication technology infrastructure**
*Author(s):* **Fulvio Gianotti**, **Ismam Abu,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Marcello Lodi,** Fundación Galileo Galilei - INAF (Spain); **Alessandro Tacchini,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Giuseppe Malaspina,** INAF - Osservatorio Astronomico di Brera (Italy); **Marco De Benedetto,** Fundación Galileo Galilei - INAF (Spain); **Federico Fiordoliva,** INAF - Osservatorio Astronomico di Roma (Italy); **Marco Costi**, **Giordano Mancini**, **Daniele Gregori**, **Mirco Pinetti**, **Massimo Sardo**, **Davide Fuzzati**, **Matteo Rosi**, **Davide Obbi,** E4 Computer Engineering S.p.A. (Italy); **Pietro Bruno,** INAF - Osservatorio Astrofisico di Catania (Italy); **Andrea Bulgarelli**, **Luca Castaldini**, **Vito Conforti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Alessandro Costa,** INAF - Osservatorio di Astrofisica di Catania (Italy); **Valentina Fioretti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Stefano Gallozzi,** INAF - Osservatorio Astronomico di Roma (Italy); **Christine Grivel,** Fundación Galileo Galilei - INAF (Spain); **Federico Incardona,** INAF - Osservatorio di Astrofisica di Catania (Italy); **Giuseppe Leto,** INAF - Osservatorio Astrofisico di Catania (Italy); **Fabrizio Lucarelli,** INAF - Osservatorio Astronomico di Roma (Italy); **Kevin Munari,** INAF - Osservatorio di Astrofisica di Catania (Italy); **Nicolò Parmiggiani**, **Valerio Pastore**, **Federico Russo,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Salvatore Scuderi,** INAF - Osservatorio Astronomico di Brera (Italy); **Gino Tosti,** Univ. degli Studi di Perugia (Italy); **Massimo Trifoglio,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13101-119 • 05:30 PM - 07:00 PM
**Machine learning operations and single-image transient discovery with the Argus Optical Array**
*Author(s):* **Henry T. Corbett**, **Jonathan Carney**, **William Marshall**, **Nicholas M. Law**, **Shannon Fitton**, **Ramses Gonzalez Chavez**, **Lawrence Machia**, **Thomas Proctor, Alan Vasquez Soto,** The Univ. of North Carolina at Chapel Hill (United States)

13101-120 • 05:30 PM - 07:00 PM
**The implementation of the Ariel FGS application software**
*Author(s):* **Gerald Mösenlechner**, **Roland Ottensamer**, **Franz Kerschbaum**, **Armin Luntzer**, **Marko Mecina,** Univ. Wien (Austria); **Miroslaw Rataj**, **Konrad Skup, Kamil Ber,** Space Research Ctr. of the Polish Academy of Sciences (Poland)

13101-181 • 05:30 PM - 07:00 PM
**A Data Pre-Processing Pipeline for Astronomical Images in Big Data Era**
*Author(s):* **Liang Cao**, **Yu Song**, **Jiameng Lv**, **Yushan Li**, **Jiaxin Li**, **Xu Li, Peng Jia,** Taiyuan Univ. of Technology (China)

13101-182 • 05:30 PM - 07:00 PM
**Galaxy Circus: A Citizen Science Platform for AI-Assisted Anomalous Galaxy Discovery**
*Author(s):* **Sabiha Omer**, **Jiameng Lv**, **Yu Song**, **Zuozhen Li**, **Yanyan Xu, Peng Jia,** Taiyuan Univ. of Technology (China)

## Wednesday 19 June 2024

### WEDNESDAY PLENARY

19 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/wednesday-plenary

13173-504 • 08:30 AM - 09:15 AM
**Euclid mission: first year of operations** (Plenary Presentation)
*Author(s):* **René J. Laureijs,** European Space Research and Technology Ctr. (Netherlands)

13173-505 • 09:15 AM - 10:00 AM
**The ultraviolet explorer: new views of the UV universe** (Plenary Presentation)
*Author(s):* **Fiona A. Harrison,** Caltech (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 10: DATA MANAGEMENT, PROCESSING AND PIPELINES II

19 June 2024 • 10:30 AM - 12:10 PM | Room G314/315, North - 3F
*Session Chair(s):* **Nuria P. F. Lorente**, Australian Astronomical Optics, Macquarie Univ. (Australia); **Tom Donaldson**, Space Telescope Science Institute (United States)

13101-47 • 10:30 AM - 10:50 AM
**The WINTER robotic software system: autonomous control and scheduling for a time-domain astronomy telescope**
*Author(s):* **Nathan P. Lourie,** Massachusetts Institute of Technology (United States); **John W. Baker,** Caltech Optical Observatories (United States); **Kevin Burdge,** Massachusetts Institute of Technology (United States); **Richard S. Burruss,** Caltech Optical Observatories (United States); **Kishalay De**, **Gabor D. Furesz**, **Danielle Frostig**, **Erik Hinrichsen**, **Jill Juneau,** Massachusetts Institute of Technology (United States); **Viraj R. Karambelkar**, **Mansi M. Kasliwal,** Caltech (United States); **Andrew Malonis**, **Robert A. Simcoe,** Massachusetts Institute of Technology (United States); **Robert D. Stein,** Caltech (United States); **Jeffry Zolkower,** Caltech Optical Observatories (United States)

13101-48 • 10:50 AM - 11:10 AM
**Architecture and implementation of a 25000 FPS radio camera on the long wavelength array**
*Author(s):* **Karthik Reddy**, **Judd D. Bowman,** Arizona State Univ. (United States); **Jayce Dowell**, **Greg B. Taylor,** The Univ. of New Mexico (United States); **Adam P. Beardsley,** Winona State Univ. (United States); **Craig Taylor,** The Univ. of New Mexico (United States)

13101-49 • 11:10 AM - 11:30 AM

**The first release of the Cherenkov Telescope Array Observatory array control and data acquisition software**

*Author(s):* **Igor Oya,** Cherenkov Telescope Array Observatory gGmbH (Germany); **Pierre Aubert,** Univ. Savoie Mont Blanc, CNRS (France), Lab. d'Annecy de Physique des Particules, IN2P3 (France); **Leonardo Baroncelli,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Jan-Philipp Bolle,** Deutsches Elektronen-Synchrotron (Germany); **Pietro Bruno,** INAF - Osservatorio Astrofisico di Catania (Italy); **Andrea Bulgarelli,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Sami Caroff,** Univ. Savoie Mont Blanc, CNRS (France), Lab. d'Annecy de Physique des Particules, IN2P3 (France); **Luca Castaldini**, **Vito Conforti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Alessandro Costa,** INAF - Osservatorio Astrofisico di Catania (Italy); **Ludovic David,** Univ. Paris-Saclay, CNRS (France), Institut National de Recherche en Informatique et en Automatique (France); **Giovanni De Cesare,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Emma de Ona Wilhelmi,** Deutsches Elektronen-Synchrotron (Germany); **Ambra Di Piano,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Kathrin Egberts,** Univ. Potsdam (Germany); **Rodrigo Fernandez,** Cosylab d.d. (Slovenia); **Valentina Fioretti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Satoshi Fukami,** ETH Zurich (Switzerland); **Enrique Garcia,** Univ. Savoie Mont Blanc, CNRS (France), Lab. d'Annecy de Physique des Particules, IN2P3 (France); **Emilio Garcia,** Institut de Ciències de l'Espai (Spain), Institut d'Estudis Espacials de Catalunya (Spain); **Hasmik Gasparyan,** Deutsches Elektronen-Synchrotron (Germany); **Stefano Germani,** Univ. degli Studi di Perugia (Italy); **Clemens Hoischen,** Univ. Potsdam (Germany); **Federico Incardona,** INAF - Osservatorio Astrofisico di Catania (Italy); **Dmitriy Kostunin,** Deutsches Elektronen-Synchrotron (Germany); **Bernhard Lopez,** Cherenkov Telescope Array Observatory gGmbH (Germany); **Etienne Lyard,** Univ. de Genève (Switzerland); **Gilles Maurin,** Univ. Savoie Mont Blanc, CNRS (France), Lab. d'Annecy de Physique des Particules, IN2P3 (France); **David Melkumyan,** Deutsches Elektronen-Synchrotron (Germany); **Kevin Munari,** INAF - Osservatorio Astrofisico di Catania (Italy); **Thomas Murach,** Deutsches Elektronen-Synchrotron (Germany); **Adam Muraczewski,** Nicolaus Copernicus Astronomical Ctr. (Poland); **Nariman Nakhjiri,** Institut de Ciències de l'Espai (Spain), Institut d'Estudis Espacials de Catalunya (Spain); **Dominik Neise,** Cherenkov Telescope Array Observatory gGmbH (Germany); **Gabriele Panebianco**, **Nicolo Parmiggiani,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Emmanuel Pietriga,** Univ. Paris-Saclay, CNRS (France), Institut National de Recherche en Informatique et en Automatique (France); **Vincent Pollet,** Univ. Savoie Mont Blanc, CNRS (France), Lab. d'Annecy de Physique des Particules, IN2P3 (France); **Iftach Sadeh,** Deutsches Elektronen-Synchrotron (Germany); **Sunil Sah,** Cosylab d.d. (Slovenia); **Arkadipta Sarkar,** Deutsches Elektronen-Synchrotron (Germany); **Marc Schefer,** Univ. de Genève (Switzerland); **Torsten Schmidt,** Deutsches Elektronen-Synchrotron (Germany); **David Soldevila,** Institut de Ciències de l'Espai (Spain), Institut d'Estudis Espacials de Catalunya (Spain); **Constantin Steppa,** Univ. Potsdam (Germany); **Diego Torres,** Institut de Ciències de l'Espai (Spain); **Andrea Tramacere,** Univ. de Genève (France); **Ramón Valles-Puig,** Institut de Ciències de l'Espai (Spain), Institut d'Estudis Espacials de Catalunya (Spain); **Thomas Vuillaume,** Univ. Savoie Mont Blanc, CNRS (France), Lab. d'Annecy de Physique des Particules, IN2P3 (France); **Felix Werner,** Max-Planck-Institut für Kernphysik (Germany)

13101-50 • 11:30 AM - 11:50 AM

**A community driven, modular data-pipeline architecture to push EPRV into the 1 cm/s era**

*Author(s):* **Jennifer A. Burt,** Jet Propulsion Lab., Caltech (United States); **Chad Bender,** The Univ. of Arizona (United States); **Benjamin Fulton,** Caltech (United States); **Megan Bedell,** Flatiron Institute (United States); **Chas Beichman,** The NASA Exoplanet Science Institute, Caltech (United States); **Lars Buchhave,** Technical Univ. of Denmark (Denmark); **Jonathan Crass,** The Ohio State Univ. (United States); **Rose Gibson,** Univ. of California, Los Angeles (United States); **Samuel Halverson,** Jet Propulsion Lab., Caltech (United States); **Andrew Howard,** Caltech (United States); **Marshall Johnson,** The Ohio State Univ. (United States); **Daniel M. Krolikowski,** The Univ. of Arizona (United States); **Sarah Logsdon,** Association of Universities for Research in Astronomy, Inc. (United States); **Andreas Quirrenbach,** Ruprecht-Karls-Univ. Heidelberg (Germany); **Andreas Seifahrt,** The Univ. Of Chicago (United States); **Andy Szentgyorgyi,** Smithsonian Astrophysical Observatory (United States); **Lily Zhao,** Flatiron Institute (United States)

13101-51 • 11:50 AM - 12:10 PM

**HERMES (HOP Enabled Rapid Message Exchange Service): an application and interface that facilitates sharing structured data between science teams over Kafka for time-domain astronomy**

*Author(s):* **Jon Nation**, **Joseph Chatelain**, **William Lindstrom**, **Curtis McCully**, **Andy Howell, Rachel A. Street,** Las Cumbres Observatory (United States)

## Lunch/Exhibition Break 12:10 PM - 01:20 PM

## SESSION 11: CYBERINFRASTRUCTURE

19 June 2024 • 01:20 PM - 02:40 PM | Room G314/315, North - 3F

*Session Chair(s):* **Jorge Ibsen**, Joint ALMA Observatory (Chile); **Tom Donaldson**, Space Telescope Science Institute (United States)

13101-52 • 01:20 PM - 01:40 PM

**A modern DevOps and serverless architecture for the New Robotic Telescope software infrastructure**

*Author(s):* **Joao Bento**, **David Heffernan-Clarke,** Liverpool John Moores Univ. (United Kingdom); **Cesar Quintana Rivero,** Instituto de Astrofísica de Canarias (Spain); **Alberto Prieto Antunez,** Instituto de Astrofisica de Canarias (Spain); **Adam Garner,** Astrophysics Research Institute (United Kingdom); **David Copley,** Liverpool John Moores Univ. (United Kingdom); **Juan Jose Fernandez-Valdivia,** Instituto de Astrofísica de Canarias (Spain); **Javier Leon Gil,** Instituto de Astrofisica de Canarias (Spain); **Josue Barrera Martin,** Instituto de Astrofísica de Canarias (Spain); **Miguel Torres,** Instituto de Astrofisica de Canarias (Spain)

13101-53 • 01:40 PM - 02:00 PM
**HPC and GPU accelerated imaging toward the SKA era**
*Author(s):* **Claudio Gheller,** INAF - Istituto Nazionale di Astrofisica (Italy); **Giovanni Lacopo,** University of Trieste (Italy); **Emanuele De Rubeis,** University of Bologna (Italy); **Giuliano Taffoni, Luca Tornatore,** INAF (Italy)

13101-54 • 02:00 PM - 02:20 PM
**Innovations and Impact of the CANFAR Science Platform**
*Author(s):* **Sebastien Fabbro, Brian Major,** National Research Council Canada (Canada)

13101-124 • 02:20 PM - 02:40 PM
**MAVIS RTC: a real time and low latency GPU accelerated system for adaptive optics**
*Author(s):* **Julien Bernard**, **Nicolas Doucet**, **François Rigaut**, **Jesse Cranney**, **David Brodrick,** The Australian National Univ. (Australia); **Damien Gratadour**, **Florian Ferreira, Arnaud Sevin,** Observatoire de Paris (France)

## PANEL DISCUSSION: GENDER BALANCE IN THE CONFERENCE

19 June 2024 • 02:40 PM - 03:20 PM | Room G314/315, North - 3F
*Session Chair(s):* **Nuria P. F. Lorente**, Australian Astronomical Optics, Macquarie Univ. (Australia)
Despite notable advancements in diversity, inclusion, and equity across the broader astronomy community, gender diversity in astronomy instrumentation remains a challenge. This is reflected in a lower representation of female colleagues in abstract submissions for this conference, compared to other astronomy meetings focusing on astroinformatics, software, and data engineering. We would like to explore why this is and to identify opportunities for improvement. The session will start with an overview, with examples of successes and challenges from our community. The floor will then be open to discussion and ideas on how to improve the participation and engagement of highly qualified women in SPIE events, along with promoting inclusivity across all dimensions.

The session is open to anyone interested in the topic, so please join us! We are looking forward to hearing about your experiences and suggestions.

## Coffee Break 03:20 PM - 03:50 PM

## SESSION 12: DATA ENGINEERING

19 June 2024 • 03:50 PM - 05:30 PM | Room G314/315, North - 3F
*Session Chair(s):* **George Kosugi**, National Astronomical Observatory of Japan (Japan); **Juan Carlos Guzman**, Commonwealth Scientific and Industrial Research Organisation (Australia)

13101-57 • 03:50 PM - 04:10 PM
**An asynchronous web application to visualise large sky surveys**
*Author(s):* **Brent Miszalski,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Edward N. Taylor**, **Michelle Cluver,** Swinburne Univ. of Technology (Australia); **Thomas Jarrett,** Dept. of Astronomy (South Africa)

13101-58 • 04:10 PM - 04:30 PM
**Log detector: enhancing efficiency through automated issue detection and reporting at ALMA**
*Author(s):* **VIcente Coopman**, **Johnny Reveco**, **Camila Martinez, Enzo Barbaguelatta,** ALMA (Chile)

13101-59 • 04:30 PM - 04:50 PM
**Sasquatch: Rubin Observatory metrics and telemetry service**
*Author(s):* **Angelo Fausti Neto**, **Frossie Economou**, **Michael Reuter,** Vera C. Rubin Observatory (United States); **Jonathan Sick,** Vera C. Rubin Observatory (United States), J. Sick Codes Inc. (Canada); **Russ Allbery, Adam Thornton,** Vera C. Rubin Observatory (United States)

13101-60 • 04:50 PM - 05:10 PM
**The database quest for the Square Kilometre Array**
*Author(s):* **Mauricio Zambrano,** SKA Observatory (United Kingdom); **Victor Gonzalez, Maxs Simmonds,** Joint ALMA Observatory (Chile)

13101-61 • 05:10 PM - 05:30 PM
**The Gaia AVU–GSR solver: CPU+GPU parallel solutions for linear systems solving and covariances calculation toward exascale systems**
*Author(s):* **Valentina Cesare**, **Ugo Becciani,** INAF - Osservatorio Astrofisico di Catania (Italy); **Alberto Vecchiato**, **Mario Gilberto Lattanzi,** INAF - Osservatorio Astrofisico di Torino (Italy); **Marco Aldinucci,** Univ. degli Studi di Torino (Italy); **Marco Aldinucci,** Univ. degli Studi di Torino (Italy); **Beatrice Bucciarelli,** INAF - Osservatorio Astrofisico di Torino (Italy); **Beatrice Bucciarelli,** INAF - Osservatorio Astrofisico di Torino (Italy); **Marco Aldinucci,** Univ. degli Studi di Torino (Italy); **Marco Aldinucci,** Univ. degli Studi di Torino (Italy); **Beatrice Bucciarelli,** INAF - Osservatorio Astrofisico di Torino (Italy)

## SESSION PS2: POSTERS II: SOFTWARE AND CYBERINFRASTRUCTURE FOR ASTRONOMY

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13101-56 • 05:30 PM - 07:00 PM
**A reliable and automated orchestrator for the computing system of the ASTRI project**
*Author(s):* **Ismam Abu**, **Fulvio Gianotti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Marcello Lodi,** Fundación Galileo Galilei - INAF (Spain); **Giuseppe Malaspina,** INAF - Osservatorio Astronomico di Brera (Italy); **M. De Benedetto,** Fundación Galileo Galilei - INAF (Spain); **Federico Fiordoliva,** INAF - Osservatorio Astronomico di Roma (Italy); **Marco Costi,** E4 Company SPA (Italy); **Giordano Mancini**, **Massimo Sardo**, **Matteo Rosi,** E4 Computer Engineering S.p.A. (Italy); **Andrea Bulgarelli**, **Luca Castaldini**, **A. Tacchini**, **Vito Conforti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Alessandro Costa,** INAF - Osservatorio Astrofisico di Catania (Italy); **Valentina Fioretti,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Stefano Gallozzi**, **Fabrizio Lucarelli,** INAF - Osservatorio Astronomico di Roma (Italy); **Kevin Munari,** INAF - Osservatorio Astrofisico di Catania (Italy); **Nicolo Parmiggiani**, **Valerio Pastore**, **Federico Russo,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Salvatore Scuderi,** INAF - Osservatorio Astronomico di Brera (Italy); **Gino Tosti,** Univ. degli Studi di Perugia (Italy); **Massimo Trifoglio,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13101-122 • 05:30 PM - 07:00 PM
**CCAT: FYST prime-cam readout software: a framework for massively scalable KID arrays**
*Author(s):* **James Burgoyne**, **Adrian Sinclair,** The Univ. of British Columbia (Canada); **Scott Chapman,** Dalhousie Univ. (Canada); **Steve K Choi,** University of California, Riverside (United States); **Cody J Duell,** Cornell University (United States); **Anthony Huber,** University of Victoria (Canada); **Zachary B Huber**, **Ben Keller**, **Lawrence Lin**, **Michael D Niemack,** Cornell University (United States); **Douglas Scott,** The Univ. of British Columbia (Canada); **Eve M Vavagiakis**, **Samantha Walker,** Cornell University (United States); **Matt Xie,** The Univ. of British Columbia (Canada)

13101-123 • 05:30 PM - 07:00 PM
**The electronics and control of mechanisms and house-keeping for the FRIDA instrument: current status and achievements**
*Author(s):* **Rubén A. Flores-Meza**, **Jose L. Garcés**, **Gerardo Lara**, **Carolina Keiman**, **Carlos Espejo, Beatriz Sánchez,** Univ. Nacional Autónoma de México (Mexico)

13101-125 • 05:30 PM - 07:00 PM
**Datasink: an efficient open-source system for reliable transfers of observatory data and jobs**
*Author(s):* **Eric Jeschke**, **Takeshi Inagaki, Russell Kackley,** Subaru Telescope, NAOJ (United States)

13101-128 • 05:30 PM - 07:00 PM
**A modern GUI for the control and tuning of the Gemini Observatory M2 tip/tilt/focus mechanism**
*Author(s):* **Jed Diller, Matt Rippa,** NSF's National Optical-Infrared Astronomy Research Lab. (United States), Gemini Observatory (United States)

13101-129 • 05:30 PM - 07:00 PM
**Converting Rubin Observatory's data butler to a client/server architecture**
*Author(s):* **Timothy Jenness**, **David H. Irving,** Vera C. Rubin Observatory (United States); **James F. Bosch,** Princeton Univ. (United States); **Andrei Salnikov,** SLAC National Accelerator Lab. (United States); **Nate B. Lust,** Princeton Univ. (United States); **Russ Allbery,** Vera C. Rubin Observatory (United States)

13101-130 • 05:30 PM - 07:00 PM
**HEART: automated build and test infrastructure for real-time controller development**
*Author(s):* **Edward L. Chapin**, **Jennifer Dunn**, **Dan Kerley,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Lianne Mueller,** NRC-Herzberg Astronomy and Astrophysics Research Ctr. (Canada); **Malcolm Smith, Jon Stocks,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13101-131 • 05:30 PM - 07:00 PM
**Correcting non-common path aberrations with deep learning and ERIS on VLT**
*Author(s):* **R. Elliot Meyer**, **Matthias Tecza**, **Niranjan Thatte,** Univ. of Oxford (United Kingdom); **Alvaro Menduina Fernandez,** Civil Aviation Authority (United Kingdom)

13101-132 • 05:30 PM - 07:00 PM
**Programming methodologies of NSF's DKIST facility management system**
*Author(s):* **Christopher Foster, Charles R. White,** National Solar Observatory (United States)

13101-133 • 05:30 PM - 07:00 PM
**Synergies Unleashed: Bridging the Gap Between Science and Computing teams in the ALMA Observatory software deployments**
*Author(s):* **Jose Gallardo,** ALMA (Chile)

13101-135 • 05:30 PM - 07:00 PM
**MAVIS: The data reduction pipeline**
*Author(s):* **Nuwanthika Fernando**, **Nuria Lorente,** Australian Astronomical Optics, Macquarie Univ. (Australia), Astralis (Australia); **Richard McDermid,** Macquarie Univ. (Australia); **Anthony J. Horton,** Australian Astronomical Optics, Macquarie Univ. (Australia), Astralis (Australia); **Lance Luvaul,** The Australian National Univ. (Australia), Astralis (Australia)

13101-136 • 05:30 PM - 07:00 PM
**Iterative development of a python-driven software for detector control replacement at Gemini Observatory**
*Author(s):* **Hawi K. Stecher**, **John White**, **Andrew W. Stephens**, **Edo Tapia**, **Joey D'Amato,** Gemini Observatory (United States); **Shane Jacobson,** NSF NOIRLab (United States); **Andy Adamson**, **Charlie Figura**, **Jen Miller**, **Ricardo Cardenes,** Gemini Observatory (United States); **Luc Boucher,** European Space Research and Technology Ctr. (Netherlands); **Brittany Cooper,** Sierra Space Corp. (United States); **Carlos Quiroz**, **Emma Kurz, Francisco Ramos,** Gemini Observatory (United States)

13101-137 • 05:30 PM - 07:00 PM
**Bright star subtraction pipeline for LSST: phase one report**
*Author(s):* **Amir Ebadati Bazkiaei,** Macquarie Univ. (Australia); **Lee Kelvin,** Princeton Univ. (United States); **Sarah Brough,** The Univ. of New South Wales (Australia); **Simon O'Toole,** Macquarie Univ. (Australia); **Aaron Watkins,** Univ. of Hertfordshire (United Kingdom); **Morgan Schmitz,** Princeton Univ. (United States)

13101-138 • 05:30 PM - 07:00 PM
**Integration of machine learning and other software solutions to enhance SALT's observational efficiency**
*Author(s):* **Malcolm Scarrott**, **Janus Brink**, **Encarni Romero Colmenero**, **Anthony R. Koeslag, Lisa A Crause,** Southern African Large Telescope (South Africa)

13101-140 • 05:30 PM - 07:00 PM
**Use of A Finite State Machine Approach for Sequence Control in the GREGOR Infrared Spectrograph (GRIS)**
*Author(s):* **Antonio Matta-Gómez**, **Jorge Quintero Nehrkorn**, **Carlos Quintero Noda**, **Horacio Rodriguez Delgado**, **Silvia Regalado**, **Jonai Bienes**, **Claudia Ruiz de Galarreta**, **Manuel Collados, Mary Barreto Cabrera,** Instituto de Astrofísica de Canarias (Spain)

13101-141 • 05:30 PM - 07:00 PM
**Python and pipelines: Python interfaces for ESO's CPL & HDRL data reduction libraries**
*Author(s):* **Anthony J. Horton**, **Anthony Heng**, **Aidan Farrell**, **Mrunmayi Deshpande**, **Brent Miszalski**, **Nuwanthika Fernando**, **Nuria Lorente,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Ralf Palsa**, **Lars Lundin, Armin Gabasch,** European Southern Observatory (Germany)

13101-142 • 05:30 PM - 07:00 PM
**Taurus integration to ELT control software**
*Author(s):* **Arturo Hoffstadt Urrutia**, **Gianluca Chiozzi**, **Mario Kiekebusch,** European Southern Observatory (Germany); **Carlos Pascual-Izarra,** iPronics Programmable Photonics, S.L. (Spain); **Zbigniew Reszela,** ALBA Synchrotron (Spain)

13101-143 • 05:30 PM - 07:00 PM
**SHARK-NIR instrument control software: new features and tools approaching science runs**
*Author(s):* **Alessandro Lorenzetto**, **Davide Ricci**, **Fulvio Laudisio**, **Daniele Vassallo**, **Andrea Baruffolo**, **Domenico Barbato**, **Maria Bergomi**, **Elena Carolo**, **Simone Di Filippo**, **Valentina D'Orazi**, **Tania Gomes Machado**, **Davide Greggio**, **Luca Marafatto**, **Dino Mesa, Jacopo Farinato,** INAF - Osservatorio Astronomico di Padova (Italy)

13101-144 • 05:30 PM - 07:00 PM
**Description of MORFEO SRTC physical design and prototyping activities**
*Author(s):* **Salvatore Lampitelli,** INAF - Osservatorio Astronomico di Padova (Italy); **Salvatore Savarese,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Chiara Di Prospero,** INAF - Osservatorio Astronomico di Padova (Italy); **Alfio T. Puglisi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Andrea Baruffolo,** INAF - Osservatorio Astronomico di Padova (Italy); **Italo Foppiani,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); **Giulio Capasso,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Amedeo Petrella**, **Pietro Schipani**, **Danilo Selvestrel,** INAF - Osservatorio Astronomico di Padova (Italy); **Marcos Suárez Valles,** European Southern Observatory (Germany); **Paolo Ciliegi,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13101-145 • 05:30 PM - 07:00 PM
**METIS AOCS at the beginning of MAIT**
*Author(s):* **Martin Kulas,** Max-Planck-Institut für Astronomie (Germany); **Olivier Absil,** Liège Univ. (Belgium); **Thomas Bertram**, **Florian Briegel**, **Hugo Coppejans,** Max-Planck-Institut für Astronomie (Germany); **Carlos Correia,** Univ. do Porto (Portugal); **Wim De Meester,** KU Leuven (Belgium); **Markus Feldt**, **Vianak Naranjo,** Max-Planck-Institut für Astronomie (Germany); **Andreas Obereder,** MathConsult GmbH (Austria); **Gilles Orban de Xivry,** Liège Univ. (Belgium); **Horst Steuer,** Max-Planck-Institut für Astronomie (Germany)

13101-146 • 05:30 PM - 07:00 PM
**METIS RTC as a computationally heavy system**
*Author(s):* **Hugo Coppejans**, **Thomas Bertram**, **Florian Briegel**, **Markus Feldt**, **Martin Kulas**, **Silvia Scheithauer,** Max-Planck-Institut für Astronomie (Germany); **Carlos Correia,** Univ. do Porto (Portugal); **Andreas Obereder,** MathConsult GmbH (Austria)

13101-148 • 05:30 PM - 07:00 PM
**The MICADO first light imager for the ELT: PLC-based software design for cryogenic control**
*Author(s):* **Sriprasanna Srivalli Annadevara**, **Hanna Kellermann**, **Hans-Joachim Hess**, **Jörg Schlichter, Ralf Bender,** Univ.-Sternwarte München (Germany)

13101-149 • 05:30 PM - 07:00 PM
**MORFEO at ELT: recent updates in the real-time computer design**
*Author(s):* **Giulio Capasso,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Andrea Baruffolo,** INAF - Osservatorio Astronomico di Padova (Italy); **Alfio T. Puglisi,** INAF (Italy); **Salvatore Savarese,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Salvatore Lampitelli,** INAF (Italy); **Chiara Di Prospero,** INAF - Osservatorio Astronomico di Padova (Italy); **Italo Foppiani**, **Guido Agapito**, **Lorenzo Busoni,** INAF (Italy); **Jennifer Dunn,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Sylvain Oberti,** European Southern Observatory (Germany); **Amedeo Petrella,** INAF (Italy); **Pietro Schipani,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Danilo Selvestrel,** INAF (Italy); **Marcos Suàrez Valles,** European Southern Observatory (Germany); **Jean-Pierre Véran,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Paolo Ciliegi,** INAF (Italy)

13101-150 • 05:30 PM - 07:00 PM
**DAO4MATTO: the real-time control implementation for the MATTO test bench**
*Author(s):* **Alessandro Ballone**, **Simone Di Filippo,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Sylvain Cetre,** Wakea Consulting (France); **David Barr,** Durham Univ. (United Kingdom); **Daniele Vassallo**, **Bartolomeo Bottazzi Baldi**, **Valentina Viotto,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Andrea Baruffolo,** INAF - Osservatorio Astronomico di Padova (Italy); **Carmelo Arcidiacono**, **Luca Marafatto**, **Davide Greggio**, **Jacopo Farinato**, **Kalyan Radhakrishnan,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Gabriele Umbriaco,** Univ. degli Studi di Bologna (Italy), INAF - Osservatorio Astronomico di Padova (Italy); **Runa Briguglio,** INAF - Osservatorio Astrofisico di Arcetri (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Chiara Selmi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Paolo Cerpelloni**, **Tania Gomes Machado**, **Federico Battaini,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Luigi Lessio,** INAF - Osservatorio Astronomico di Padova (Italy); **Maria Bergomi**, **Elena Carolo**, **Simonetta Chinellato**, **Demetrio Magrin**, **Marco Dima,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy); **Stefano Salvadori,** Univ. degli Studi di Padova (Italy); **Roberto Ragazzoni,** INAF - Osservatorio Astronomico di Padova (Italy), ADONI - Lab. Nazionale Ottica Adattiva (Italy), Univ. degli Studi di Padova (Italy); **Timothy Morris,** Durham Univ. (United Kingdom)

13101-151 • 05:30 PM - 07:00 PM
**Simons Observatory: minimum-cost matching to pair measured resonances with detector design parameters**
*Author(s):* **Jack Lashner,** Yale Univ. (United States)

13101-152 • 05:30 PM - 07:00 PM
**METIS cryostat and vacuum control**
*Author(s):* **Muhammad Salman**, **Gert Raskin,** KU Leuven (Belgium); **Werner Laun,** Max-Planck-Institut für Astronomie (Germany); **Dan Popovic**, **Gerd Jakob**, **Mario Kiekebusch,** European Southern Observatory (Germany); **Wim De Meester**, **Wim Pessemier,** KU Leuven (Belgium); **Emilie Bouzerand,** ETH Zurich (Switzerland); **Kwinten Missiaen**, **Wannes Verstraeten**, **Bart Vandenbussche**, **Maddalena Reggiani, Hans Van Winckel,** KU Leuven (Belgium)

13101-153 • 05:30 PM - 07:00 PM
**VSTPOL: upgrading the VST instrument control software for the new wide-field polarimetric mode**
*Author(s):* **Salvatore Savarese**, **Laurent Marty**, **Mirko Colapietro**, **Pietro Schipani**, **Francesco Perrotta**, **Sergio D'Orsi**, **Giulio Capasso**, **Ricardo Zanmar Sanchez,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Demetrio Magrin**, **Jacopo Farinato,** INAF - Osservatorio Astronomico di Padova (Italy); **Gabriele Umbriaco,** Univ. degli Studi di Bologna (Italy); **Stefano Covino,** INAF - Osservatorio Astronomico di Brera (Italy)

13101-154 • 05:30 PM - 07:00 PM
**Using a convolutional neural network with all sky infrared images to classify sky regions as clear or cloudy**
*Author(s):* **Brock Taylor, Billy Mahoney,** Canada-France-Hawaii Telescope Corp. (United States)

13101-155 • 05:30 PM - 07:00 PM
**ASPIS prototype for causal chains of Space Weather phenomena**
*Author(s):* **Marco Molinaro,** INAF - Osservatorio Astronomico di Trieste (Italy); **Valerio Formato,** Univ. degli Studi di Roma "Tor Vergata" (Italy); **Carmelo Magnafico,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Federico Benvenuto,** Univ. degli Studi di Genova (Italy); **Mirko Stumpo**, **Scige' Liu,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Stefano Scardigli**, **Loredana Vigliano,** Univ. degli Studi di Roma (Italy); **Dario Del Moro,** Univ. degli Studi di Roma "Tor Vergata" (Italy); **Monica Laurenza,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

13101-156 • 05:30 PM - 07:00 PM
**Active optics control and its integration with the adaptive optics in the European Solar Telescope (EST)**
*Author(s):* **Javier León Gil**, **Nicolás Adrián Rodríguez Linares**, **Marta Belío Asin**, **Ángel Mato Martínez**, **Alejandro Mahy Soler Trujillo**, **Miguel Nuñez Cagigal, Carmen Marillai Barreto Cabrera,** Instituto de Astrofísica de Canarias (Spain)

13101-158 • 05:30 PM - 07:00 PM
**Software infrastructure for the visible tunable filter**
*Author(s):* **Alexander Bell**, **Matthias Schubert, Clemens Halbgewachs,** Leibniz-Institut für Sonnenphysik (KIS) (Germany)

13101-159 • 05:30 PM - 07:00 PM
**Roboscheduler: coordinating 50,000 observations over the five years of SDSS-V**
*Author(s):* **John Donor,** Texas Christian Univ. (United States); **Michael Blanton,** New York Univ. (United States); **Kevin Covey,** Western Washington Univ. (United States); **Tom Dwelly,** TD Astro (United Kingdom); **Ilija Medan,** Vanderbilt Univ. (United States); **José Sánchez-Gallego,** Univ. of Washington (United States)

13101-160 • 05:30 PM - 07:00 PM
**The ScopeSim ecosystem**
*Author(s):* **Fabian Haberhauer**, **Kieran Leschinski**, **Martin Baláž**, **Hugo Buddelmeijer**, **Oliver Czoske,** Univ. Wien (Austria); **Jörg-Uwe Pott,** Max-Planck-Institut für Astronomie (Germany); **Carmelo Arcidiacono,** INAF - Osservatorio Astronomico di Padova (Italy)

13101-161 • 05:30 PM - 07:00 PM
**Building a control system with cloud native technologies: leveraging kubernetes and tango-controls for CI/CD practices in SKA Observatory software**
*Author(s):* **Ugur Yilmaz,** SKA Observatory (United Kingdom); **Matteo Di Carlo,** INAF (Italy); **Piers Harding,** SKA Observatory (United Kingdom)

13101-162 • 05:30 PM - 07:00 PM
**Optimization of multiobject observations with GMT-MANIFEST: a case for the G-CLEF exposure time calculator**
*Author(s):* **Daniel May,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Tayyaba Zafar,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Vitor Neves-Hartmann,** Univ. de São Paulo (Brazil); **Ariel Lopez,** NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Celestina Lacombe,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Claudia Oliveira,** Univ. de São Paulo (Brazil); **Andrew Szentgyorgyi**, **Cem Onyuksel,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Thais Silva,** Univ. de São Paulo (Brazil)

13101-163 • 05:30 PM - 07:00 PM
**Keck planet finder tip/tilt control**
*Author(s):* **Kyle Lanclos, Josh Walawender,** W. M. Keck Observatory (United States)

13101-164 • 05:30 PM - 07:00 PM
**Anomaly detection for the Roman Space Telescope Wide Field Instrument's Science Data Processing pipeline**
*Author(s):* **Paul Horton,** Arizona State Univ. (United States); **Nargess Memarsadeghi, Jordan A. Caraballo-Vega,** NASA Goddard Space Flight Ctr. (United States)

13101-165 • 05:30 PM - 07:00 PM
**Remote deployment and management of bare metal clusters**
*Author(s):* **Bruno Ribeiro,** Altar Innovation (Portugal)

13101-166 • 05:30 PM - 07:00 PM
**The Simons Observatory: deployment of the observatory control system and supporting infrastructure**
*Author(s):* **Brian J. Koopman,** Yale Univ. (United States)

13101-167 • 05:30 PM - 07:00 PM
**The evolution and roadmap of the Taranta project**
*Author(s):* **Matteo Canzari,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Valentina Alberti,** INAF - Osservatorio Astronomico di Trieste (Italy); **Hèlder Ribeiro,** Atlar Innovation (Portugal); **Ajaykumar Dubey,** Persistent Systems Ltd. (India); **Athos Georgiou,** CGI Inc. (United Kingdom); **Yimeng Li**, **Vincent Hardion**, **Mikel Eguiraun**, **Jonas Forsberg,** Max IV Lab. (Sweden); **Michal Gandor,** S2INNOVATION Sp. z o.o. (Poland)

13101-168 • 05:30 PM - 07:00 PM
**Machine learning and ai software for image improving and restoring**
*Author(s):* **Francesco Schillirò,** INAF - Osservatorio Astrofisico di Catania (Italy); **Isaak Kavasidis,** Univ. degli Studi di Catania (Italy); **Giuseppe Romeo**, **Paolo Leto, Saverio Costanzo,** INAF - Osservatorio Astrofisico di Catania (Italy)

13101-169 • 05:30 PM - 07:00 PM
**Modernising discovery, access, and interoperability for the Trieste solar radio system heritage archive**
*Author(s):* **Marco Molinaro**, **Giovanna Jerse**, **Valentina Alberti**, **Sara Bertocco**, **Igor Coretti,** INAF - Osservatorio Astronomico di Trieste (Italy); **Adriana Marcucci,** University of Trieste, Department of Physics (Italy); **Mauro Messerotti,** INAF - Osservatorio Astronomico di Trieste (Italy)

13101-170 • 05:30 PM - 07:00 PM
**SMA-X: A Redis-based real-time database solution for information sharing in and around telescopes, and beyond**
*Author(s):* **Attila Kovacs**, **Paul Grimes**, **Christopher Moriarty, Robert W. Wilson,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13101-171 • 05:30 PM - 07:00 PM
**Leverage collaborative design techniques to develop a unified interface for the SKA central signal processor**
*Author(s):* **Valentina Alberti,** INAF - Osservatorio Astronomico di Trieste (Italy); **Gianluca Marotta,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Matteo Canzari,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Grant Hampson**, **Andrew Bolin,** CSIRO (Australia); **Giorgio Brajnik,** Univ. degli Studi di Udine (Italy), Interaction Design Solutions Srl (Italy)

13101-172 • 05:30 PM - 07:00 PM
**Enhancing feature development and user satisfaction in SKA: a beta testing approach within the Cream team**
*Author(s):* **Matteo Canzari,** INAF - Osservatorio Astronomico d'Abruzzo (Italy); **Valentina Alberti,** INAF - Osservatorio Astronomico di Trieste (Italy); **Marotta Gianluca,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Giorgio Brajnik,** Interaction Design Solutions Srl (Italy)

13101-173 • 05:30 PM - 07:00 PM
**Git with the program: migrating to Git for software revision control at DKIST**
*Author(s):* **Andrew Ferayorni**, **Andrew Beard**, **Chris Berst**, **Keith Cummings**, **Stephen Guzzo**, **John Hubbard, Jon Munoz,** National Solar Observatory (United States)

13101-174 • 05:30 PM - 07:00 PM
**The Living Sky and the Gaia Legacy project: hybrid data management, dynamic data modeling, and dedicated data reduction sw for Gaia-like big data exploitation**
*Author(s):* **Deborah Busonero**, **Mario Gilberto Lattanzi**, **Enrico Licata**, **Roberto Morbidelli,** INAF - Osservatorio Astrofisico di Torino (Italy); **Raffaella Buzzi,** INAF - Osservatorio Astronomico di Torino (Italy); **Beatrice Bucciarelli**, **Mariateresa Crosta**, **Alberto Riva**, **Alberto Vecchiato,** INAF - Osservatorio Astrofisico di Torino (Italy); **Rosario Messineo**, **Lorenzo Bramante**, **Ruben De March**, **Luigi Squillante**, **Filomena Solitro, Leonardo Tolomei,** ALTEC SpA (Italy)

13101-175 • 05:30 PM - 07:00 PM
**A modular machine learning data processing pipeline for astronomical observatories**
*Author(s):* **Fiorenzo Stoppa,** Radboud Univ. Nijmegen (Netherlands)

13101-176 • 05:30 PM - 07:00 PM
**Deep learning in the SKA era: patterns in the SNR population with unsupervised ML methods**
*Author(s):* **Filomena Bufano**, **Cristobal Bordiu**, **Thomas Cecconello**, **Matteo Munari,** INAF - Osservatorio Astrofisico di Catania (Italy); **Andrew Hopkins,** School of Mathematical and Physical Sciences Macquarie University (Australia); **Adriano Ingallinera**, **Paolo Leto**, **Sara Loru**, **Simone Riggi**, **Eva Sciacca,** INAF - Osservatorio Astrofisico di Catania (Italy); **Giuseppe Vizzari,** Universita' degli Studi Milano-Bicocca (Italy); **Andrea Demarco,** Institute of Space Sciences and Astronomy, Maths & Physics Building, University of Malta (Malta); **Carla Buemi**, **Francesco Cavallaro**, **Corrado Trigilio,** INAF - Osservatorio Astrofisico di Catania (Italy); **Grazia Umana,** INAF-OsservatorioAstrofisico (Italy)

13101-179 • 05:30 PM - 07:00 PM
**Machine Learning-Powered Pipeline for Discovering Transient Phenomena for the Ground-based Wide Angle Cameras**
*Author(s):* **Jiaxin Li**, **Peng Jia**, **Chao Lv**, **Yining Wang, Liang Cao,** Taiyuan Univ. of Technology (China)

13101-180 • 05:30 PM - 07:00 PM
**Ensemble learning based framework for space debris object detection**
*Author(s):* **Ge Li**, **Peng Jia**, **Bafeng Cheng,** Taiyuan Univ. of Technology (China); **Rongyv Sun,** Purple Mountain Observatory (China)

13101-183 • 05:30 PM - 07:00 PM
**A reinforcement learning based source detection framework**
*Author(s):* **Ying Li**, **Yining Wang, Peng Jia,** Taiyuan Univ. of Technology (China)

13101-184 • 05:30 PM - 07:00 PM
**Huoliuxing: A Public Science Platform With Smart Camera Arrays for Meteor Detection and Study**
*Author(s):* **Mah Rukh**, **Zuozhen Li**, **Jie Cheng**, **Yanyan Xu, Peng Jia,** Taiyuan Univ. of Technology (China)

13101-185 • 05:30 PM - 07:00 PM
**Final integration and commissioning of the GHOST instrument control software**
*Author(s):* **Peter J. Young,** The Australian National Univ. (Australia); **Edward Chapin,** NRC-Herzberg Astronomy and Astrophysics (Canada); **Tony J. Farrell,** Australian Astronomical Optics, Macquarie Univ. (Australia); **Jon G. Nielsen,** The Australian National Univ. (Australia); **Carlos Quiroz**, **Roque Ruiz-Carmona, Cristian Urrutia,** Gemini Observatory (Chile)

## Thursday 20 June 2024

### THURSDAY PLENARY

20 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/thursday-plenary

13173-506 • 08:30 AM - 09:15 AM
**Navigating the radio astronomy renaissance: challenges and opportunities for a sustainable future** (Plenary Presentation)
*Author(s):* **Jessica T. Dempsey,** ASTRON (Netherlands)

13173-507 • 09:15 AM - 10:00 AM
**The x-ray imaging and spectroscopy mission (XRISM): development and expected science** (Plenary Presentation)
*Author(s):* **Makoto S. Tashiro,** Saitama Univ. (Japan)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 13: DATA MANAGEMENT, PROCESSING AND PIPELINES III

20 June 2024 • 10:30 AM - 12:10 PM | Room G314/315, North - 3F
*Session Chair(s):* **Nuria P. F. Lorente**, Australian Astronomical Optics, Macquarie Univ. (Australia); **Jeff Mader**, W. M. Keck Observatory (United States)

13101-62 • 10:30 AM - 10:50 AM
**The United States extremely large telescope program (US-ELTP) program platform: user services, data management, and science platform for ELT science**
*Author(s):* **Francois Pradeau**, **Marie Lemoine-Busserolle**, **Lucas Macri**, **Eric Peng**, **André-Nicolas Chené**, **Michael Fitzpatrick**, **Andrew Serio**, **Dara Norman,** NSF's National Optical-Infrared Astronomy Research Lab. (United States); **Kim Gillies,** Thirty Meter Telescope (United States); **Bob Goodrich,** GMTO Corp. (United States); **Gelys Trancho,** NSF's National Optical-Infrared Astronomy Research Lab. (United States)

13101-63 • 10:50 AM - 11:10 AM
**Development of a data reduction pipeline for the Aspera SmallSat mission**
*Author(s):* **Miriam Keppler**, **Carlos Vargas**, **Haeun Chung**, **Aafaque Khan,** The Univ. of Arizona (United States); **Carl Hergenrother**, **Sanford Selznick,** Ascending Node Technologies LLC (United States); **Hannah Tanquary,** The Univ. of Arizona (United States); **Giulia Ghidoli,** Ascending Node Technologies LLC (United States); **Jacob Vider**, **Erika Hamden,** The Univ. of Arizona (United States); **Christopher Howk,** Univ. of Notre Dame (United States)

13101-64 • 11:10 AM - 11:30 AM
**Concept verification of the JASMINE astrometric plate analysis**
*Author(s):* **Ryou Ohsawa,** National Astronomical Observatory of Japan (Japan); **Daisuke Kawata,** Univ. College London (United Kingdom); **Takafumi Kamizuka,** The Univ. of Tokyo (Japan); **Yoshiyuki Yamada,** Kyoto Univ. (Japan); **Wolfgang Löffler, Michael Biermann,** Astronomisches Rechen-Institut (Germany), Ruprecht-Karls-Univ. Heidelberg (Germany)

13101-65 • 11:30 AM - 11:50 AM
**Updates on the transients handler of the Cherenkov Telescope Array Observatory**
*Author(s):* **Constantin Steppa**, **Tiffany Collins**, **Kathrin Egberts**, **Clemens Hoischen,** Univ. Potsdam (Germany); **Dominik Neise,** Cherenkov Telescope Array Observatory gGmbH (Germany); **Emma de Ona Wilhelmi,** Deutsches Elektronen-Synchrotron (Germany); **Igor Oya,** Cherenkov Telescope Array Observatory gGmbH (Germany); **Arkadipta Sarkar,** Deutsches Elektronen-Synchrotron (Germany)

13101-66 • 11:50 AM - 12:10 PM
**Hardware and software solutions for continuous Fast Radio Bursts search in real-time**
*Author(s):* **Damien Gratadour**, **Julien Plante,** Observatoire de Paris à Meudon (France); **Cedric Viou,** Observatoire de Paris (France)

**Lunch/Exhibition Break 12:10 PM - 01:20 PM**

### SESSION 14: PROJECT MANAGEMENT/SOFTWARE ENGINEERING

20 June 2024 • 01:20 PM - 03:20 PM | Room G314/315, North - 3F
*Session Chair(s):* **Juan Carlos Guzman**, Commonwealth Scientific and Industrial Research Organisation (Australia); **Valentina Alberti**, INAF - Osservatorio Astronomico di Trieste (Italy)

13101-67 • 01:20 PM - 01:40 PM
**SKAO software development management: an update**
*Author(s):* **Maurizio Miccolis**, **Nick Rees, Euphrasia Mampuru,** SKA Observatory (United Kingdom)

13101-68 • 01:40 PM - 02:00 PM
**Tackling software management challenges on the GMT project**
*Author(s):* **Marianne Cox**, **José M. Filgueira**, **José Soto**, **Chien Peng**, **Jordi Molgo**, **William Schoenell**, **Hector Swett**, **Chris Contaxis**, **Jorge Barrios, Gibreel El-Halabi,** GMTO Corp. (United States)

13101-69 • 02:00 PM - 02:20 PM
**Lessons learned and challenges in maintaining the ViaLactea Knowledge Base**
*Author(s):* **Marco Molinaro**, **Robert Butora,** INAF - Osservatorio Astronomico di Trieste (Italy); **Giuseppe Tudisco**, **Fabio R. Vitello,** INAF - Osservatorio Astrofisico di Catania (Italy); **Milena Benedettini, Sergio Molinari,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

13101-70 • 02:20 PM - 02:40 PM
**Development of the observatory software for the SKAO**
*Author(s):* **Thaddeus Kenny**, **Stewart Williams**, **Viivi Pursiainen**, **Elizabeth Bartlett**, **Brendan McCollam**, **Andrew Biggs,** UK Astronomy Technology Ctr. (United Kingdom); **Sean Ellis**, **Rupert Lung, Danilo Acosta,** CGI Inc. (United Kingdom)

13101-71 • 02:40 PM - 03:00 PM
**Software development and integration of an adaptive-optics testbed using the Giant Magellan Telescope software frameworks**
*Author(s):* **Jordi Molgó**, **William Schoenell**, **José M. Filgueira**, **Fernando Quiros-Pacheco,** GMTO Corp. (United States); **Alfio T. Puglisi**, **Fabio Rossi**, **Tommaso Lapucci,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Antonin Bouchez**, **Bo Xin**, **Patricio Schurter**, **Paulo H. Silva**, **Richard Demers,** GMTO Corp. (United States); **Laird Close**, **Sebastiaan Haffert**, **Maggie Kautz**, **Jared Males,** The Univ. of Arizona (United States); **Marianne Cox,** GMTO Corp. (United States)

13101-72 • 03:00 PM - 03:20 PM
**Engineering maintainable software in a research software landscape: the new LOFAR2 proposal tool**
*Author(s):* **Robbie Luijben,** ASTRON (Netherlands)

# CONFERENCE 13102

# Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy XII

**18 - 21 June 2024 | Room G318/319, North - 3F**

***Conference Chair(s):*** **Jonas Zmuidzinas,** California Institute of Technology (United States); **Jian-Rong Gao,** SRON Netherlands Institute for Space Research (Netherlands)

***Program Committee:*** **Jason E. Austermann,** National Institute of Standards and Technology (United States); **Jochem J. A. Baselmans,** SRON Netherlands Institute for Space Research (Netherlands); **Christopher E. Groppi,** Arizona State Univ. (United States); **Masashi Hazumi,** High Energy Accelerator Research Organization, KEK (Japan); **Roger C. O'Brient,** Jet Propulsion Lab. (United States); **Karl Schuster,** IRAM-Domaine Univ. de Grenoble (France); **Giovanni Signorelli,** Istituto Nazionale di Fisica Nucleare (Italy); **Gordon J. Stacey,** Cornell Univ. (United States); **Johannes G. Staguhn,** NASA Goddard Space Flight Ctr. (United States); **Neil A. Trappe,** National Univ. of Ireland, Maynooth (Ireland); **Carole E. Tucker,** Cardiff Univ. (United Kingdom); **Yoshinori Uzawa,** National Astronomical Observatory of Japan (Japan); **Martina C. Wiedner,** Observatoire de Paris (France)

## Tuesday 18 June 2024

### TUESDAY PLENARY

18 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/tuesday-plenary

13173-502 • 08:30 AM - 09:15 AM
**The present and future of Japan's space program** (Plenary Presentation)
*Author(s):* **Saku Tsuneta,** National Astronomical Observatory of Japan (Japan)

13173-503 • 09:15 AM - 10:00 AM
**NASA astrophysics: from today to the Habitable Worlds Observatory** (Plenary Presentation)
*Author(s):* **Mark Clampin,** NASA Goddard Space Flight Ctr. (United States); **John M. O'Meara,** W. M. Keck Observatory (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 1: IMAGERS AND POLARIMETERS I

18 June 2024 • 10:30 AM - 12:10 PM | Room G318/319, North - 3F
*Session Chair(s):* **Jian-Rong Gao**, SRON Netherlands Institute for Space Research (Netherlands)

13102-1 • 10:30 AM - 10:50 AM
**NEW-MUSIC: The Next-generation Extended Wavelength MUltiband Sub/millimeter Inductance Camera**
*Author(s):* **Sunil R. Golwala,** Caltech (United States); **Andrew D. Beyer**, **Peter K. Day,** Jet Propulsion Lab. (United States); **Fabien Defrance,** Jet Propulsion Lab. (United States), Caltech (United States); **Clifford F. Frez,** Jet Propulsion Lab. (United States); **Junhan Kim**, **Jean-Marc Martin**, **Jack Sayers,** Caltech (United States); **Shibo Shu,** Caltech (United States), Institute of High Energy Physics (China); **Shiling Yu,** Caltech (United States), National Astronomical Observatories (China), Univ. of Chinese Academy of Sciences (China)

13102-2 • 10:50 AM - 11:10 AM
**Design and performance of densely packed, high-frequency, dual-polarization kinetic inductance detectors for the Prime-Cam 850 GHz module**
*Author(s):* **Anthony I. Huber,** Univ. of Victoria (Canada); **Jason E. Austermann,** National Institute of Standards and Technology (United States); **James Burgoyne,** The Univ. of British Columbia (Canada); **Scott C. Chapman,** Dalhousie Univ. (Canada), The Univ. of British Columbia (Canada), NRC-Herzberg Astronomy & Astrophysics (Canada); **Doug W. Henke,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Adrian K. Sinclair,** The Univ. of British Columbia (Canada); **Anna K. Vaskuri, Jordan D. Wheeler,** National Institute of Standards and Technology

(United States)

13102-3 • 11:10 AM - 11:30 AM
**Early Observations with the TolTEC Camera**
*Author(s):* **Grant W. Wilson,** Univ. of Massachusetts Amherst (United States); **Itziar Aretxaga**, **Emmaly Aguilar,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Jason E. Austermann,** National Institute of Standards and Technology (United States); **Marc Berthoud,** The Univ. of Chicago (United States); **Nat S. DeNigris,** NASA Goddard Space Flight Ctr. (United States); **Daniela Espitia,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Sean A. Bryan,** Arizona State Univ. (United States); **Daniel Ferrusca,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Laura M. Fissel,** Queen's Univ. (Canada); **Joseph E. Golec,** The Univ. of Chicago (United States); **Alejandro Garcia**, **Victor Gomez,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Robert Gutermuth,** Univ. of Massachusetts Amherst (United States); **David H. Hughes,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Dennis Lee,** Northwestern Univ. (United States); **Emily L. Lunde,** Arizona State Univ. (United States); **Abraham Luna,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Zhiyuan Ma,** Univ. of Massachusetts Amherst (United States); **Philip D. Mauskopf,** Arizona State Univ. (United States); **Michael McCrackan,** Univ. of Massachusetts Amherst (United States); **Jeffrey J. McMahon,** The Univ. of Chicago (United States); **Giles A. Novak,** Northwestern Univ. (United States); **Alexandra Pope,** Univ. of Massachusetts Amherst (United States); **Ricardo Rodriguez,** Arizona State Univ. (United States); **F. Peter Schloerb**, **Kamal Souccar,** Univ. of Massachusetts Amherst (United States); **Omar Serrano**, **Marcial Tapia,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Felix Thiel,** Queen's Univ. (Canada); **Carole E. Tucker,** Cardiff Univ. (United Kingdom); **Samantha Walker,** Cornell Univ. (United States); **Hailin Wang,** Northwestern Univ. (United States); **Eric Weeks,** Arizona State Univ. (United States); **Min S. Yun,** Univ. of Massachusetts Amherst (United States); **Miguel Velazquez, Javier Zaragoza,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)

13102-4 • 11:30 AM - 11:50 AM
**A Method for Optimal Tuning of Microwave Kinetic Inductance Detector Arrays Under Dynamic Loading Conditions**
*Author(s):* **Samantha Walker**, **CCAT Collaboration,** Cornell Univ. (United States); **TolTEC Collaboration,** Univ. of Massachusetts Amherst (United States)

13102-5 • 11:50 AM - 12:10 PM
**The Balloon-Borne Large Aperture Submillimeter Telescope Observatory (BLAST Observatory)**
*Author(s):* **Nicholas B. Galitzki,** The Univ. of Texas at Austin (United States)

## Lunch/Exhibition Break 12:10 PM - 01:20 PM

## SESSION 2: CMB INSTRUMENTS I

18 June 2024 • 01:20 PM - 03:20 PM | Room G318/319, North - 3F
*Session Chair(s):* **Giovanni Signorelli**, Istituto Nazionale di Fisica Nucleare (Italy)

13102-6 • 01:20 PM - 01:40 PM

**Performance of SPIDER's 280 GHz receivers**

*Author(s):* **Elle C. Shaw,** Univ. of Illinois (United States), The Univ. of Texas at Austin (United States); **Peter A. R. Ade,** Cardiff Univ. (United Kingdom); **Scott Akers,** Case Western Reserve Univ. (United States); **Mandana Amiri,** The Univ. of British Columbia (Canada); **Jason E. Austermann**, **James A. Beall**, **Dan T. Becker,** National Institute of Standards and Technology (United States); **Steven J. Benton**, **Amanda S. Bergman,** Princeton Univ. (United States); **Jamie J. Bock,** Caltech (United States), Jet Propulsion Lab. (United States); **John R. Bond,** Canadian Institute for Theoretical Astrophysics, Univ. of Toronto (Canada); **Sean A. Bryan,** Arizona State Univ. (United States); **H. C. Chiang,** McGill Univ. (Canada); **Carlo R. Contaldi,** Imperial College London (United Kingdom); **R. S. Domagalski,** Univ. of Toronto (Canada); **Olivier P. Dore,** Jet Propulsion Lab. (United States), Caltech (United States); **Shannon M. 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Wiebe,** The Univ. of British Columbia (Canada); **Edward Y. Young,** Stanford Univ. (United States), SLAC National Accelerator Lab. (United States)

13102-7 • 01:40 PM - 02:00 PM
**Commissioning the CMB polarization telescope GroundBIRD with the full set of detectors**
*Author(s):* **Miku Tsujii,** Astronomical Institute, Tohoku Univ. (Japan); **Jochem J. A. Baselmans,** SRON Netherlands Institute for Space Research (Netherlands), Department of Microelectronics, Faculty of Electrical Engineering, Mathematics and Computer Science (Netherlands); **Jihoon Choi,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Antonio H. M. Coppens,** SRON Netherlands Institute for Space Research (Netherlands); **Alessandro Fasano**, **Ricardo T. Génova-Santos,** Instituto de Astrofísica de Canarias (Spain); **Makoto Hattori,** Astronomical Institute, Tohoku Univ. (Japan); **Masashi Hazumi,** High Energy Accelerator Research Organization, KEK (Japan), The Graduate Univ. for Advanced Studies (Japan); **Shunsuke Honda,** Univ. of Tsukuba (Japan); **Takuji Ikemitsu,** Kyoto Univ. (Japan); **Hidesato Ishida,** Tohoku Univ. (Japan), RIKEN (Japan); **Hikaru Ishitsuka,** High Energy Accelerator Research Organization, KEK (Japan), The Graduate Univ. for Advanced Studies (Japan); **Hoyong Jeong**, **Yonggil Jo,** Korea Univ. (Korea, Republic of); **Kenichi Karatsu,** SRON Netherlands Institute for Space Research (Netherlands); **Kenji Kiuchi,** The Univ. of Tokyo (Japan); **Junta Komine,** Kyoto Univ. (Japan); **Ryo Koyano,** Saitama Univ. (Japan); **Hiroki Kutsuma,** Department of Applied Physics, Tohoku University (Japan); **Kyungmin Lee,** Korea Univ. (Korea, Republic of); **Satoru Mima,** National Institute of Information and Communications Technology (Japan); **Makoto Nagai,** National Astronomical Observatory of Japan (Japan); **Taketo Nagasaki,** High Energy Accelerator Research Organization (Japan); **Masato Naruse,** Saitama Univ. (Japan); **Shugo Oguri,** Japan Aerospace Exploration Agency (Japan); **Chiko Otani,** Tohoku Univ. (Japan), RIKEN (Japan); **Michael W. Peel,** Imperial College London (United Kingdom); **Rafael Rebolo**, **José A. Rubiño-Martín,** Instituto de Astrofísica de Canarias (Spain); **Yutaro Sekimoto,** Japan Aerospace Exploration Agency (Japan); **Yoshinori Sueno**, **Junya Suzuki,** Kyoto Univ. (Japan); **Tohru Taino,** Saitama Univ. (Japan); **Osamu Tajima,** Kyoto Univ. (Japan); **Tomonaga Tanaka,** Astronomical Institute, Tohoku Univ. (Japan); **David J. Thoen,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Nozomu Tomita,** The Univ. of Tokyo (Japan); **Yuta Tsuji,** Tohoku Univ. (Japan), RIKEN (Japan); **Tomohisa Uchida,** High Energy Accelerator Research Organization, KEK (Japan), The Graduate Univ. for Advanced Studies (Japan); **Eunil Won,** Korea Univ. (Korea, Republic of); **Mitsuhiro Yoshida,** High Energy Accelerator Research Organization, KEK (Japan), The Graduate Univ. for Advanced Studies (Japan)

13102-8 • 02:00 PM - 02:20 PM
**The Simons Observatory: commissioning and performance of the Large Aperture Telescope**
*Author(s):* **Anna M. Kofman,** Univ. of Pennsylvania (United States)

13102-9 • 02:20 PM - 02:40 PM
**In-receiver performance of AliCPT-1′s first TES detector array and μmux RFSoC-based readout for CMB polarization measurements**
*Author(s):* **Matthew O. Withers,** Stanford Univ. (United States), Kavli Institute for Particle Astrophysics & Cosmology (United States); **and the AliCPT Collaboration,** Institute of High Energy Physics (China)

13102-10 • 02:40 PM - 03:00 PM
**Updated forecasts of cosmic ray systematic effects and a new filtering method for the LiteBIRD space mission**
*Author(s):* **Samantha L. Stever,** Okayama Univ. (Japan); **Mayu Tominaga,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Clementine Azam,** Grenoble INP (France); **Tommaso Ghigna,** High Energy Accelerator Research Organization, KEK (Japan); **Giuseppe Puglisi,** Univ. degli Studi di Catania (Italy); **Masahiro Tsujimoto,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Maurizio Tomasi,** Univ. degli Studi di Milano (Italy); **Tomotake Matsumura,** Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); **Hirokazu Ishino,** Okayama Univ. (Japan); **Guillaume Patanchon,** Univ. Paris Diderot (France); **Masashi Hazumi,** High Energy Accelerator Research Organization, KEK (Japan)

13102-11 • 03:00 PM - 03:20 PM
**Development of the 220/270 GHz BICEP Array CMB receiver**
*Author(s):* **Yuka Nakato,** Stanford Univ. (United States); **BICEP Collaboration,** N/A (United States)

## Coffee Break 03:20 PM - 03:50 PM

## SESSION 3: NEW INSTRUMENTS AND CONCEPTS I

18 June 2024 • 03:50 PM - 05:30 PM | Room G318/319, North - 3F
*Session Chair(s):* **Yoshinori Uzawa**, National Astronomical Observatory of Japan (Japan)

13102-12 • 03:50 PM - 04:10 PM
**The key science drivers for the Atacama large aperture submillimeter telescope (AtLAST)**
*Author(s):* **Mark Booth**, **Pamela Klaassen,** UK Astronomy Technology Ctr. (United Kingdom); **Claudia Cicone,** Univ. of Oslo (Norway); **Tony Mroczkowski,** European Southern Observatory (Germany); **Sven Wedemeyer,** Univ. of Oslo (Norway); **Kazunori Akiyama,** MIT (United States); **Geoffrey Bower,** ASIAA (United States); **Martin Cordiner,** NASA GSFC (United States); **Luca Di Mascolo,** Univ. Côte d'Azur (France); **Doug Johnstone,** HAA, NRC (Canada); **Eelco van Kampen,** European Southern Observatory (Germany); **Minju Lee,** Technical Univ. of Denmark (Denmark); **Daizhong Liu,** Max-Planck-Institut für extraterrestrische Physik (Germany); **John Orlowski-Scherer,** University of Pennsylvania (United States); **Amélie Saintonge,** Univ. College London (United Kingdom); **Matthew W. L. Smith,** Cardiff Univ. (United Kingdom); **Alexander E. Thelen,** Caltech (United States)

13102-13 • 04:10 PM - 04:30 PM
**Mode-locked fiber laser-based RF signals generation for VLBI radio telescopes**
*Author(s):* **Jungwon Kim**, **Minji Hyun**, **Changmin Ahn**, **Jihoon Baek**, **Junyong Choi,** KAIST (Korea, Republic of); **Myoung-Sun Heo,** Korea Research Institute of Standards and Science (Korea, Republic of); **Doheung Je, Taehyun Jung,** Korea Astronomy and Space Science Institute (Korea, Republic of)

13102-14 • 04:30 PM - 04:50 PM
**Submillimeter-wave dual-band line intensity mapping using the Terahertz Integral Field Units with Universal Nanotechnology (TIFUUN) for the Atacama Submillimeter Telescope Experiment (ASTE)**
*Author(s):* **Kotaro Kohno,** Institute of Astronomy, The Univ. of Tokyo (Japan); **Akira Endo,** Technische Univ. Delft (Netherlands); **Yoichi Tamura**, **Akio Taniguchi,** Nagoya Univ. (Japan); **Tatsuya Takekoshi,** Kitami Institute of Technology (Japan); **Shiro Ikeda,** The Institute of Statistical Mathematics (Japan); **Naoki Yoshida**, **Kana Moriwaki,** The Univ. of Tokyo (Japan); **Kenichi Karatsu,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Jochem J. A. Baselmans**, **Louis H. Marting,** Technische Univ. Delft (Netherlands), SRON Netherlands Institute for Space Research (Netherlands); **Arend Moerman**, **Bruno T. Buijtendorp,** Technische Univ. Delft (Netherlands); **Shahab O. Dabironezare,** Technische Univ. Delft (Netherlands), SRON Netherlands Institute for Space Research (Netherlands); **Matus Rybak,** Technische Univ. Delft (Netherlands); **Tom J. L. C. Bakx,** Chalmers Univ. of Technology (Sweden); **Leon G. Olde Scholtenhuis**, **Fenno Steenvoorde,** Technische Univ. Delft (Netherlands); **Robert Huiting**, **David J. Thoen**, **Lingyu Wang**, **Aurora Simionescu**, **Stephen J. C. Yates,** SRON Netherlands Institute for Space Research (Netherlands); **Alessandro Monfardini**, **Martino Calvo,** Institut NÉEL (France); **Paul P. van der Werf,** Leiden Univ. (Netherlands); **Sten Vollebregt,** Technische Univ. Delft (Netherlands); **Bernhard R. Brandl,** Leiden Univ. (Netherlands); **Tai Oshima**, **Ryohei Kawabe,** National Astronomical Observatory of Japan (Japan); **Kazuyuki Fujita,** Institute of Low Temperature Science, Hokkaido Univ. (Japan); **Shunichi Nakatsubo,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Yuki Kimura,** Institute of Low Temperature Science, Hokkaido Univ. (Japan); **Akiyoshi Tsujita**, **Yuki Yoshimura**, **Kana Morokuma-Matsui**, **Fumi Egusa,** Institute of Astronomy, The Univ. of Tokyo (Japan); **Tetsuhiro Minamidani**, **Shun Ishii,** National Astronomical Observatory of Japan (Japan); **Adam Lidz,** Univ. of Pennsylvania (United States); **Denis Burgarella,** Lab. d'Astrophysique de Marseille, Aix-Marseille Univ. (France)

13102-15 • 04:50 PM - 05:10 PM
**A concept camera for the next-generation ground-based mm-wave cosmological galaxy surveys**
*Author(s):* **Attila Kovacs**, **Garrett K. Keating, Timothy J. Norton,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13102-16 • 05:10 PM - 05:30 PM
**A mm-wave octave-bandwidth inline waveguide-to-coplanar-waveguide transition to enable scalable densely-packed line intensity mapping spectrometer arrays**
*Author(s):* **Austin R. Stover,** The Univ. of Chicago (United States); **Peter D. Sharpe,** Massachusetts Institute of Technology (United States); **Juliang Li**, **Audrey P. Scott,** The Univ. of Chicago (United States); **Jessica A. Zebrowski,** The Univ. of Chicago (United States), Fermi National Accelerator Lab. (United States); **Jeffrey J. McMahon,** The Univ. of Chicago (United States)

## SESSION PS1: POSTERS - DETECTORS I

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13102-69 • 05:30 PM - 07:00 PM
**PolarKID: polarization measurements with KIDs for the next generation of CMB telescopes**
*Author(s):* **Sofia Savorgnano**, **Joulien Bounmy**, **Olivier Bourrion,** Lab. de Physique Subatomique et Cosmologie (France); **Martino Calvo,** Institut Néel (France); **Andrea Catalano**, **Olivier Choulet,** Lab. de Physique Subatomique et Cosmologie (France); **Garde Gregory**, **Anne Gerardin,** Institut Néel (France); **Mile Kusulja**, **Juan Francisco Macias-Perez,** Lab. de Physique Subatomique et Cosmologie (France); **Alessandro Monfardini,** Institut Néel (France); **Damien Tourres, Francis Vezzu,** Lab. de Physique Subatomique et Cosmologie (France)

13102-70 • 05:30 PM - 07:00 PM
**Fabrication of high temperature Kinetic Inductance Detectors (KID's) using High Power Impulse Magnetron Sputtering (HIPIMs).**
*Author(s):* **Christopher Woodhead**, **Marcial Becerril-Tapia**, **Christopher J. Dunscombe**, **Thomas L. R. Brien**, **Mayank Baghoria**, **Simon M. Doyle, Peter C. Hargrave,** Cardiff Univ. (United Kingdom)

13102-71 • 05:30 PM - 07:00 PM
**Design, Fabrication and Characterization of Low Frequency Detectors for The Simons Observatory**
*Author(s):* **Bhoomija Prasad,** Univ. of California, Berkeley (United States)

13102-72 • 05:30 PM - 07:00 PM
**Development of the low frequency telescope focal plane detector arrays for LiteBIRD**
*Author(s):* **Tommaso Ghigna,** High Energy Accelerator Research Organization, KEK (Japan); **Aritoki Suzuki,** Lawrence Berkeley National Lab. (United States); **Christopher R. Raum**, **Benjamin Westbrook,** Univ. of California, Berkeley (United States); **Hiroki Akamatsu,** High Energy Accelerator Research Organization, KEK (Japan); **Shawn M. Beckman**, **Nicole Farias,** Univ. of California, Berkeley (United States); **Tijmen de Haan,** High Energy Accelerator Research Organization, KEK (Japan); **Nils W. Halverson,** Univ. of Colorado Boulder (United States); **Masashi Hazumi,** High Energy Accelerator Research Organization, KEK (Japan); **Johannes Hubmayr**, **Greg C. Jaehnig,** National Institute of Standards and Technology (United States); **Adrian T. Lee,** Univ. of California, Berkeley (United States); **Samantha L. Stever,** Okayama Univ. (Japan); **Yu Zhou,** High Energy Accelerator Research Organization, KEK (Japan)

13102-73 • 05:30 PM - 07:00 PM
**Dual polarization kinetic inductance detectors for large imaging cameras at millimeter wave bands**
*Author(s):* **Eduardo Artal**, **Beatriz Aja**, **Luisa M. de la Fuente**, **Juan Pablo Pascual,** Univ. de Cantabria (Spain); **Enrique Villa**, **Marina C. de Ory**, **David Rodriguez,** Centro de Astrobiología, INTA Instituto Nacional de Técnica Aeroespacial, Consejo Superior de Investigaciones Científicas (Spain); **Victor Rollano,** Univ. de Zaragoza (Spain); **Maite Magaz**, **Alicia Gomez,** Centro de Astrobiología, INTA Instituto Nacional de Técnica Aeroespacial, Consejo Superior de Investigaciones Científicas (Spain); **Daniel Granados,** Madrid Institute for Advanced Studies (Spain)

13102-74 • 05:30 PM - 07:00 PM
**Characterisation of feedback-controlled TES-bolometers in a double-Fourier interferometry testbed**
*Author(s):* **Christopher S. Benson**, **Locke D. Spencer**, **Jeremy P. Scott,** Univ. of Lethbridge (Canada); **Rashmi V. Sudiwala,** Cardiff Univ. (United Kingdom), QMC Instruments Ltd. (United Kingdom); **James Cox,** QMC Instruments Ltd. (United Kingdom); **David A. Naylor, Berke V. Ricketti,** Univ. of Lethbridge (Canada)

13102-76 • 05:30 PM - 07:00 PM
**DESHIMA 2.0: full system evaluation of the ultra-wideband integrated superconducting spectrometer in laboratory**
*Author(s):* **Kenichi Karatsu,** SRON Netherlands Institute for Space Research (Netherlands); **Akira Endo**, **Arend Moerman,** Technische Univ. Delft (Netherlands); **Stephen J. C. Yates**, **Robert Huiting,** SRON Netherlands Institute for Space Research (Netherlands); **Alejandro Pascual Laguna,** Centro de Astrobiología (Spain); **Shahab O. Dabironezare,** Technische Univ. Delft (Netherlands), SRON Netherlands Institute for Space Research (Netherlands); **Vignesh Murugesan**, **David J. Thoen**, **Hiroki Akamatsu,** SRON Netherlands Institute for Space Research (Netherlands); **Tom J. L. C. Bakx,** Chalmers Univ. of Technology (Sweden); **Bruno T. Buijtendorp,** Technische Univ. Delft (Netherlands); **Scott Cray,** Univ. of Minnesota, Twin Cities (United States); **Kazuyuki Fujita,** Hokkaido Univ. (Japan); **Shaul Hanany,** Univ. of Minnesota, Twin Cities (United States); **Ryohei Kawabe,** National Astronomical Observatory of Japan (Japan); **Tetsu Kitayama,** Toho Univ. (Japan); **Kotaro Kohno**, **Kuniaki Konishi,** The Univ. of Tokyo (Japan); **Louis H. Marting,** Technische Univ. Delft (Netherlands); **Tomotake Matsumura,** The Univ. of Tokyo (Japan); **Shunichi Nakatsubo,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Tai Oshima,** National Astronomical Observatory of Japan (Japan); **Matus Rybak,** Technische Univ. Delft (Netherlands), Leiden Univ. (Netherlands); **Haruyuki Sakurai**, **Ryota Takaku,** The Univ. of Tokyo (Japan); **Tatsuya Takekoshi,** Kitami Institute of Technology (Japan); **Yoichi Tamura**, **Akio Taniguchi,** Nagoya Univ. (Japan); **Paul P. van der Werf,** Leiden Univ. (Netherlands); **Jochem J. A. Baselmans,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands)

13102-77 • 05:30 PM - 07:00 PM
**Superconducting Quantum Capacitance Detectors at Terahertz Waveband**
*Author(s):* **Jian Chen**, **Lili Shi**, **Tianyuan Chi**, **Jingbo Wu, Peiheng Wu,** Nanjing Univ. (China)

## SESSION PS2: POSTERS - MULTIPLEXING AND READOUT I

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13102-78 • 05:30 PM - 07:00 PM
**Development of RFSoC-based direct sampling microwave SQUID multiplexer readout for CMB and submillimeter surveys**
*Author(s):* **Chao Liu**, **Zeeshan Ahmed**, **Shawn W. Henderson**, **Ryan T. Herbst**, **Larry L. Ruckman,** SLAC National Accelerator Lab. (United States); **Thomas Satterthwaite,** Stanford Univ. (United States)

13102-79 • 05:30 PM - 07:00 PM
**On-board science data quality analysis using anomaly detection for ASTHROS**
*Author(s):* **Paul A. Horton**, **Christian Thompson**, **Christopher E. Groppi,** Arizona State Univ. (United States); **Youngmin Seo,** Jet Propulsion Lab. (United States); **Jose V. Siles,** Jet Propulsion Lab., Caltech (United States)

13102-80 • 05:30 PM - 07:00 PM
**CCAT: Multi-rate DSP for sub-mm astronomy: polyphase synthesis filter bank on FPGA for enhanced KID readout**
*Author(s):* **Ruixuan Xie**, **Adrian K. Sinclair,** The Univ. of British Columbia (Canada); **Scott C. Chapman,** Dalhousie Univ. (Canada); **Anthony I. Huber,** Univ. of Victoria (Canada); **James Burgoyne,** The Univ. of British Columbia (Canada)

13102-81 • 05:30 PM - 07:00 PM
**Superconducting interconnects in millikelvin high-density detector arrays for cosmic microwave background experiments**
*Author(s):* **Alessandro Schillaci,** RadiaBeam Technologies, LLC (United States)

13102-82 • 05:30 PM - 07:00 PM
**Development of LiteBIRD's cold readout sub-assembly**
*Author(s):* **Nicole Farias**, **Adrian T. Lee,** Univ. of California, Berkeley (United States); **Aritoki Suzuki,** Lawrence Berkeley National Lab. (United States); **Tommaso Ghigna,** High Energy Accelerator Research Organization, KEK (Japan)

13102-83 • 05:30 PM - 07:00 PM
**Johnson-noise calibration of a TES bolometer array using FDM readout with baseband feedback**
*Author(s):* **Guang Yang,** Kapteyn Astronomical Institute (Netherlands); **Michael D. Audley**, **Gert de Lange, Jan van der Kuur,** SRON Netherlands Institute for Space Research (Netherlands)

13102-86 • 05:30 PM - 07:00 PM
**Testing the performance of a representative readout chain for the LSPE/SWIPE experiment**
*Author(s):* **Eugenia Di Giorgi,** Univ. degli Studi di Trento (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Alessandro Baldini,** Istituto Nazionale di Fisica Nucleare (Italy); **Fabrizio Cei,** Univ. di Pisa (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Paolo Dal Bo,** Univ. degli Studi di Trento (Italy); **Edvige Celasco,** Univ. degli Studi di Genova (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Mario De Lucia,** Univ. di Pisa (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Flavio Gatti**, **Lorenzo Ferrari Barusso,** Univ. degli Studi di Genova (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Luca Galli,** Istituto Nazionale di Fisica Nucleare (Italy); **Daniele Grosso,** Univ. degli Studi di Genova (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Tommaso Lari,** Univ. di Pisa (Italy); **Donato Nicolò,** Univ. di Pisa (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Federico Paolucci**, **Claudio Puglia**, **Giovanni Signorelli**, **Andrea Tartari**, **Franco Spinella, Marco Grassi,** Istituto Nazionale di Fisica Nucleare (Italy)

13102-87 • 05:30 PM - 07:00 PM
**Front End SQUID electronics for LSPE-SWIPE, work in progress**
*Author(s):* **Daniele Grosso**, **Edvige Celasco,** Univ. degli Studi di Genova (Italy); **Andrea Tartari**, **Paolo Dal Bo,** Univ. di Pisa (Italy); **Lorenzo Ferrari Barusso,** Univ. degli Studi di Genova (Italy); **Eugenia Di Giorgi**, **Mario De Lucia**, **Giovanni Signorelli,** Univ. di Pisa (Italy); **Flavio Gatti,** Univ. degli Studi di Genova (Italy)

## SESSION PS3: POSTERS - CMD INSTRUMENTS I

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13102-88 • 05:30 PM - 07:00 PM
**Technical feasibility of microwave absorbers for straylight mitigation in the LiteBIRD MHFT telescopes**
*Author(s):* **Andrea Occhiuzzi,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Gaganpreet Singh,** Stockholm Univ. (Sweden); **Elia S. Battistelli**, **Paolo de Bernardis**, **Federico Cacciotti**, **Fabio Columbro**, **Alessandro Coppolecchia**, **Giuseppe D'Alessandro**, **Marco De Petris,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Jon E. Gudmundsson,** Univ. of Iceland (Iceland); **Luca Lamagna**, **Elisabetta Marchitelli**, **Silvia Masi**, **Silvia Micheli,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Mara Moriconi,** Sapienza Univ. di Roma (Italy); **Alessandro Novelli**, **Alessandro Paiella**, **Francesco Piacentini**, **Giampaolo Pisano,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Giorgio Savini, Alexey Shitvov,** Univ. College London (United Kingdom)

13102-89 • 05:30 PM - 07:00 PM
**HoverCal + PoloCalC: precise on-flight metrology performance results over CLASS telescope**
*Author(s):* **Rolando Dünner Planella,** Pontificia Univ. Católica de Chile (Chile); **Federico Astori**, **Gabriele Coppi,** Univ. degli Studi di Milano-Bicocca (Italy); **Joseph R. Eimer,** Johns Hopkins Univ. (United States); **Josquin Errard,** Astroparticule et Cosmologie, Univ. Paris Cité, CNRS (France); **Juan Fluxá,** Pontificia Univ. Católica de Chile (Chile); **Yunyang Li,** Johns Hopkins Univ. (United States); **Noemi Mezzanzanica**, **Federico Nati,** Univ. degli Studi di Milano-Bicocca (Italy); **Matthew Petroff,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Roberto Puddu**, **Matias Rojas,** Pontificia Univ. Católica de Chile (Chile); **Mario Zannoni,** Univ. degli Studi di Milano-Bicocca (Italy)

13102-90 • 05:30 PM - 07:00 PM
**Calibration measurements of the BICEP3 and BICEP Array CMB polarimeters from 2017 to 2023**
*Author(s):* **Christos Giannakopoulos, Clara Vergès,** BICEP/Keck Collaboration (United States)

13102-91 • 05:30 PM - 07:00 PM
**The Strip-LSPE instrument: final design and AIV Phase**
*Author(s):* **Francesco Cuttaia,** INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

13102-92 • 05:30 PM - 07:00 PM
**COSMO: measuring spectral distortions of the CMB from Dome-C**
*Author(s):* **Elisabetta Marchitelli**, **Paolo de Bernardis**, **Silvia Masi**, **Elia S. Battistelli,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Marco Bersanelli,** Univ. degli Studi di Milano (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Federico Cacciotti,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Jens Chluba,** Jodrell Bank Ctr. for Astrophysics, The Univ. of Manchester (United Kingdom); **Fabio Columbro,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Giulia Conenna,** Univ. degli Studi di Milano-Bicocca (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Gabriele Coppi,** Univ. degli Studi di Milano-Bicocca (Italy); **Alessandro Coppolecchia**, **Giuseppe D'Alessandro**, **Giancarlo De Gasperis**, **Marco De Petris,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Cristian Franceschet,** Univ. degli Studi di Milano (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Massimo Gervasi,** Univ. degli Studi di Milano-Bicocca (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Giovanni Isopi**, **Luca Lamagna,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Andrea Limonta,** Univ. degli Studi di Milano-Bicocca (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Elenia Manzan,** Univ. degli Studi di Milano (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Lorenzo Mele,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Aniello Mennella,** Univ. degli Studi di Milano (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Filippo Montonati,** Univ. degli Studi di Milano (Italy); **Federico Nati,** Univ. degli Studi di Milano-Bicocca (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Alessandro Paiella,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Giorgio Pettinari,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Francesco Piacentini,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Lucio Piccirillo,** Jodrell Bank Ctr. for Astrophysics, The Univ. of Manchester (United Kingdom); **Giampaolo Pisano,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Carole E. Tucker,** Cardiff Univ. (United Kingdom); **Mario Zannoni,** Univ. degli Studi di Milano-Bicocca (Italy), Istituto Nazionale di Fisica Nucleare (Italy)

13102-93 • 05:30 PM - 07:00 PM
**Cryogenic testing of large aperture anti-reflection coated lenses for future CMB telescopes**
*Author(s):* **Ian T. Veenendaal**, **Matthew Lyons**, **Peter C. Hargrave,** Cardiff Univ. (United Kingdom); **Alexey Shitvov**, **Giorgio Savini,** Univ. College London (United Kingdom); **Peter A. R. Ade**, **Carole E. Tucker**, **Rashmikant V. Sudiwala,** Cardiff Univ. (United Kingdom); **Jin Zhang,** Anglia Ruskin Univ. (United Kingdom); **Jon E. Gudmundsson,** Univ. of Iceland (Iceland); **Berend Winter,** Univ. College London (United Kingdom); **Giampaolo Pisano,** Sapienza Univ. di Roma (Italy); **Maarten van der Vorst,** European Space Agency (Netherlands); **Ian Walker,** Cardiff Univ. (United Kingdom)

13102-94 • 05:30 PM - 07:00 PM
**Design and validation of a cold load for characterization of CMB-S4 detectors**
*Author(s):* **Cesiley L. King**, **Ian Gullett,** Case Western Reserve Univ. (United States); **Adam J Anderson**, **Bradford A Benson,** Fermi National Accelerator Laboratory (United States); **Rick Bihary**, **Haichen Fan**, **Johanna M Nagy,** Case Western Reserve Univ. (United States); **Hogan Nguyen,** Fermi National Accelerator Laboratory (United States); **John E Ruhl,** Case Western Reserve Univ. (United States); **Sara M Simon,** Fermi National Accelerator Laboratory (United States)

13102-95 • 05:30 PM - 07:00 PM
**The Simons Observatory: calibration & characterization of the first small-aperture telescope**
*Author(s):* **Kevin T. Crowley, Simons Collaboration,** Univ. of California, San Diego (United States)

13102-96 • 05:30 PM - 07:00 PM
**Development status of the polarization modulator using 330 mm diameter sapphire-based achromatic half-wave plate for LiteBIRD**
*Author(s):* **Ryota Takaku,** Kavli Institute for the Physics and Mathematics of the Universe (Japan); **Thuong D. Hoang,** Kavli Institute for the Physics and Mathematics of the Universe (Japan), Univ. of Minnesota, Twin Cities (United States); **Tomotake Matsumura,** Kavli Institute for the Physics and Mathematics of the Universe (Japan); **Mitsuharu Kusama,** Advanced Engineering Services Co., Ltd. (Japan); **Asuka Maeda,** Kavli Institute for the Physics and Mathematics of the Universe (Japan); **Ryosuke Akizawa**, **Kosuke Aizawa,** The Univ. of Tokyo (Japan); **Clément Leloup,** Kavli Institute for the Physics and Mathematics of the Universe (Japan); **Yuki Sakurai**, **Ryota Uematsu**, **Kiyoshi Ikuma,** Okayama Univ. (Japan); **Hiroyuki Ohsaki**, **Satsuki Okumura**, **Yutaka Terao,** The Univ. of Tokyo (Japan); **Kuniaki Konishi**, **Haruyuki Sakurai,** Institute for Photon Science and Technology, The Univ. of Tokyo (Japan); **Teruhito Iida,** Task Inc. (Japan)

13102-97 • 05:30 PM - 07:00 PM
**Measuring the CMB spectral distortions with COSMO: the multi-mode antenna system**
*Author(s):* **Elenia Manzan,** Univ. degli Studi di Milano (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Lorenzo Albano,** Univ. degli Studi di Milano (Italy); **Elia S. Battistelli**, **Paolo De Bernardis,** Sapienza Univ. di Roma (Italy); **Marco Bersanelli,** Univ. degli Studi di Milano (Italy); **Federico Cacciotti**, **Fabio Columbro,** Sapienza Univ. di Roma (Italy); **Giulia Conenna**, **Gabriele Coppi,** Univ. degli Studi di Milano-Bicocca (Italy); **Alessandro Coppolecchia**, **Giuseppe D'Alessandro**, **Giancarlo De Gasperis**, **Marco De Petris,** Sapienza Univ. di Roma (Italy); **Cristian Franceschet,** Univ. degli Studi di Milano (Italy); **Massimo Gervasi,** Univ. degli Studi di Milano-Bicocca (Italy); **Giovanni Isopi**, **Luca Lamagna,** Sapienza Univ. di Roma (Italy); **Andrea Limonta,** Univ. degli Studi di Milano-Bicocca (Italy); **Elisabetta Marchitelli**, **Silvia Masi**, **Lorenzo Mele,** Sapienza Univ. di Roma (Italy); **Aniello Mennella**, **Filippo Montonati,** Univ. degli Studi di Milano (Italy); **Andrea Occhiuzzi**, **Alessandro Paiella,** Sapienza Univ. di Roma (Italy); **Giorgio Pettinari,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Francesco Piacentini,** Sapienza Univ. di Roma (Italy); **Lucio Piccirillo,** The Univ. of Manchester (United Kingdom); **Giampaolo Pisano,** Sapienza Univ. di Roma (Italy); **Mario Zannoni,** Univ. degli Studi di Milano-Bicocca (Italy)

13102-98 • 05:30 PM - 07:00 PM
**The Simons Observatory: Deployment and current configuration of the Observatory Control System for SAT-MF1 and data access software systems**
*Author(s):* **Sanah Bhimani,** Yale Univ. (United States)

13102-99 • 05:30 PM - 07:00 PM
**The Simons Observatory: in-lab optical testing and validation for the first Small Aperture Telescope**
*Author(s):* **Michael J. Randall,** SO Collaboration (United States), Univ. of California, San Diego (United States); **Simons Collaboration,** SO Collaboration (United States)

13102-187 • 05:30 PM - 07:00 PM
**Replicating the atmosphere in labs for astronomers**
*Author(s):* **Jialin Sun,** The Chinese Univ. of Hong Kong (Hong Kong, China)

## SESSION PS4: POSTERS - IMAGERS AND POLARIMETERS

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13102-100 • 05:30 PM - 07:00 PM
**ROGer: remote observing from Greenland**
*Author(s):* **Wei-tao Lyu**, **Hua-bai Li,** The Chinese Univ. of Hong Kong (Hong Kong, China); **Junkun Huang,** The Chinese Univ. of Hong Kong (China)

13102-101 • 05:30 PM - 07:00 PM
**Simulated radiation features of a C-band phased-array-feed located at the Sardinia Radio Telescope primary focus**
*Author(s):* **Paola Di Ninni**, **Renzo Nesti,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Paolo Maxia**, **Alessandro Navarrini,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Massimiliano Belluso**, **Sergio Guido Michele Billotta,** INAF - Osservatorio Astrofisico di Catania (Italy); **Alessandro Cabras,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Simone Chiarucci**, **Giovanni Comoretto,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Francesco Gaudiomonte**, **Adelaide Ladu**, **Pasqualino Marongiu**, **Andrea Melis**, **Pierluigi Ortu**, **Silvio Pilia**, **Tonino Pisanu, Luca Schirru,** INAF - Osservatorio Astronomico di Cagliari (Italy)

## SESSION PS5: POSTERS - NEW INSTRUMENTS AND CONCEPTS

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13102-103 • 05:30 PM - 07:00 PM
**Concept design of the AMT front-end optics**
*Author(s):* **Sabrina Realini**, **Andrey M. Baryshev,** Kapteyn Astronomical Institute (Netherlands); **Michael Janssen,** Radboud University (Netherlands)

13102-104 • 05:30 PM - 07:00 PM
**LuSEE-Night power requirements and power generation strategy**
*Author(s):* **Benjamin R. B. Saliwanchik**, **Sven Herrmann**, **Ivan V. Kotov**, **Paul O'Connor**, **Maxim Potekhin**, **Anže Slosar,** Brookhaven National Lab. (United States); **Stuart D. Bale,** Space Sciences Lab., Univ. of California, Berkeley (United States)

13102-105 • 05:30 PM - 07:00 PM
**Compact turnstile quad-ridge orthomode transducer with octave bandwidth for radio astronomy applications**
*Author(s):* **Sara Salem Hesari,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Nasrin Tasouji,** Univ. of Victoria (Canada); **Doug W. Henke**, **Lewis B. G. Knee,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Thomas Sieverding,** Mician GmbH (Germany); **Jens Bornemann,** Univ. of Victoria (Canada); **Adam Densmore,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13102-106 • 05:30 PM - 07:00 PM **(CANCELLED)**
**Characterizing Thin-film Magnesium Diboride for Superconducting Devices**
*Author(s):* **Christina Bell,** Arizona State Univ. (United States); **Chang Sub Kim**, **Jon Greenfield, Daniel P. Cunnane,** Jet Propulsion Lab. (United States)

13102-107 • 05:30 PM - 07:00 PM
**Free space experimental characterization of a multilayer Fabry-Pérot resonator for DALI**
*Author(s):* **Juan Francisco Hernández Cabrera,** Instituto de Astrofísica de Canarias (Spain), Univ. de La Laguna (Spain); **Javier De Miguel,** RIKEN (Japan), Instituto de Astrofísica de Canarias (Spain), Dpto. Astrofísica (Spain); **Elvio Hernández-Suárez**, **Enrique Joven-Álvarez**, **Haroldo Lorenzo-Hernández,** Instituto de Astrofísica de Canarias (Spain), Dpto. Astrofísica (Spain); **Chiko Otani,** The Institute of Physical and Chemical Research, RIKEN (Japan); **José A. Rubiño-Martín,** Instituto de Astrofísica de Canarias (Spain), Dpto. Astrofísica (Spain)

13102-108 • 05:30 PM - 07:00 PM
**Commissioning Kuntur the LLAMA 690GHz receiver at JCMT**
*Author(s):* **Daniel Bintley**, **Akil Marshall**, **Kuan-Yu Liu**, **Jamie L. Cookson**, **Katie Liu**, **Andrea McCloskey**, **Shaoliang Li**, **Graham S. Bell**, **Izumi Mizuno**, **Per Friberg**, **William G. Stahm**, **Ed Sison**, **Neal Oliveira,** East Asian Observatory (United States); **Ming-Tang Chen**, **Chih-Chiang Han**, **Derek Y. Kubo,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Manual Fernandaz**, **Paula Benaglia,** Instituto Argentino de Radioastronomía (Argentina); **Silvina Cichowolski,** Instituto de Astronomía y Física del Espacio (Argentina); **Fatima S. Correra,** Univ. de São Paulo (Brazil); **Guillermo Gimenez de Castro,** Ctr. de Rádio Astronomia e Astrofísica Mackenzie, UPM (Brazil); **Dan Singwong, Apichat Leckngam,** National Astronomical Research Institute of Thailand (Thailand)

13102-109 • 05:30 PM - 07:00 PM
**Development of an ultra-sensitive 210-micron array of KIDs for far-IR astronomy with PRIMA**
*Author(s):* **Elijah Kane**, **Chris Albert,** Caltech (United States); **Nicholas F. Cothard,** NASA Goddard Space Flight Ctr. (United States); **Steve Hailey-Dunsheath,** Caltech (United States); **Pierre M. Echternach,** Jet Propulsion Lab. (United States); **Logan M. Foote,** Caltech (United States); **Reinier M. J. Janssen**, **Henry G. LeDuc,** Jet Propulsion Lab. (United States); **Lun-Jun Liu,** Caltech (United States); **Hien T. Nguyen,** Jet Propulsion Lab. (United States); **Jason Glenn,** NASA Goddard Space Flight Ctr. (United States); **Charles M. Bradford,** Jet Propulsion Lab. (United States); **Jonas Zmuidzinas,** Caltech (United States)

13102-192 • 05:30 PM - 07:00 PM
**Planetary origins and evolution multispectral monochrometer (POEMM)**
*Author(s):* **Gordon J. Stacey, POEMM Science Team,** Cornell Univ. (United States)

13102-188 • 05:30 PM - 07:00 PM
**A C-band dual-mode radio astronomy low-noise block downconverter designed for the 4-element radio interferometer of North-West University.**
*Author(s):* **Kim L. Williamson**, **Tinus Stander,** Univ. of Pretoria (South Africa); **James Chibueze,** Univ. of South Africa (South Africa)

## Wednesday 19 June 2024

### WEDNESDAY PLENARY

19 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/wednesday-plenary

13173-504 • 08:30 AM - 09:15 AM
**Euclid mission: first year of operations** (Plenary Presentation)
*Author(s):* **René J. Laureijs,** European Space Research and Technology Ctr. (Netherlands)

13173-505 • 09:15 AM - 10:00 AM
**The ultraviolet explorer: new views of the UV universe** (Plenary Presentation)
*Author(s):* **Fiona A. Harrison,** Caltech (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 4: CMB INSTRUMENTS II

19 June 2024 • 10:30 AM - 12:10 PM | Room G318/319, North - 3F
*Session Chair(s):* **Masashi Hazumi**, High Energy Accelerator Research Organization, KEK (Japan)

13102-17 • 10:30 AM - 10:50 AM
**A thermal kinetic inductance detector array for CMB polarization observation at 90/150 GHz bands**
*Author(s):* **Shibo Shu,** Institute of High Energy Physics (China); **Ye Chai**, **Yuanhang He,** Xiangtan Univ. (China); **Jiamin Sun,** Shandong Institute of Advanced Technology (China); **Yongping Li**, **Zhouhui Liu**, **He Gao**, **Daikang Yan,** Institute of High Energy Physics (China); **Xiaolan Huang,** Shanghai Normal Univ. (China); **Yu Xu,** Institute of High Energy Physics (China); **Yiwen Wang,** Southwest Jiaotong Univ. (China); **Weijie Guo,** Shenzhen International Quantum Academy (China); **Juxian Cao,** Xiangtan Univ. (China); **Congzhan Liu,** Institute of High Energy Physics (China)

13102-18 • 10:50 AM - 11:10 AM
**MNTES: modeling non-linearity of TES detectors for enhanced cosmic microwave background measurements with LiteBIRD**
*Author(s):* **Tijmen de Haan,** High Energy Accelerator Research Organization, KEK (Japan)

13102-19 • 11:10 AM - 11:30 AM
**MISTRAL at the Sardinia Radio Telescope**
*Author(s):* **Giovanni Isopi,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Eleonora Barbavara,** Sapienza Univ. di Roma (Italy); **Elia S. Battistelli**, **Paolo de Bernardis,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy), INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Federico Cacciotti,** Sapienza Univ. di Roma (Italy); **Valentina Capalbo,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Aurora Carbone,** Sapienza Univ. di Roma (Italy); **Ettore Carretti,** INAF - Istituto di Radioastronomia (Italy); **Daniele Ciccalotti,** Sapienza Univ. di Roma (Italy); **Fabio Columbro**, **Alessandro Coppolecchia,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Angelo Cruciani,** Istituto Nazionale di Fisica Nucleare (Italy); **Giuseppe D'Alessandro**, **Marco De Petris,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Federica Govoni,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Luca Lamagna,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Pasqualino Marongiu**, **Adina Mascia,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Silvia Masi,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy), INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); **Emilio Molinari,** INAF - Osservatorio Astronomico di Brera (Italy); **Matteo Murgia**, **Alessandro Navarrini,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Alessandro Novelli,** Sapienza Univ. di Roma (Italy); **Andrea Occhiuzzi,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Andrea Orlati,** INAF - Istituto di Radioastronomia (Italy); **Alessandro Paiella,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Giorgio Pettinari,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Francesco Piacentini,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Tonino Pisanu**, **Sergio Poppi**, **Ignazio Porceddu,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Alessia Ritacco,** INAF - Osservatorio Astronomico di Cagliari (Italy), Lab. de Physique de l'Ecole Normale Supérieure, Ecole Normale Supérieure, Univ. PSL, Sorbonne Univ., Univ. Paris Cité, CNRS (France); **Renata Schirru, Gian Paolo Vargiu,** INAF - Osservatorio Astronomico di Cagliari (Italy)

13102-20 • 11:30 AM - 11:50 AM
**The LiteBIRD payload module featuring state-of-the-art technologies for precision CMB measurements**
*Author(s):* **LiteBIRD Collaboration,** High Energy Accelerator Research Organization (Japan); **Tijmen de Haan,** High Energy Accelerator Research Organization, KEK (Japan)

13102-21 • 11:50 AM - 12:10 PM
**Breadboard model assembly and characterization of a sapphire achromatic half-wave plate for LiteBIRD Low-Frequency Telescope**
*Author(s):* **Mitsuharu Kusama,** Advanced Engineering Services Co., Ltd. (Japan); **Kosuke Aizawa**, **Ryosuke Akizawa,** The Univ. of Tokyo (Japan); **Teruhito Iida,** Takumi Inc. (Japan); **Kiyoshi Ikuma,** Okayama Univ. (Japan); **Kuniaki Konishi,** Institute for Photon Science and Technology, The Univ. of Tokyo (Japan); **Asuka Maeda,** Kavli Institute for the Physics and Mathematics of the Universe (Japan); **Tomotake Matsumura,** Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); **Haruyuki Sakurai,** Institute for Photon Science and Technology, The Univ. of Tokyo (Japan); **Yuki Sakurai,** Okayama Univ. (Japan); **Ryota Takaku,** Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan)

## Lunch/Exhibition Break 12:10 PM - 01:20 PM

## SESSION 5: DETECTORS

19 June 2024 • 01:20 PM - 03:20 PM | Room G318/319, North - 3F
*Session Chair(s):* **Jason E. Austermann**, National Institute of Standards and Technology (United States)

13102-22 • 01:20 PM - 01:40 PM
**Transition Edge Sensor arrays for future FIR space missions**
*Author(s):* **Johannes G. Staguhn,** Johns Hopkins Univ. (United States); **Elmer H Sharp**, **Ari Brown**, **Archana M. Devasia,** NASA Goddard Space Flight Ctr. (United States); **William B. Doriese**, **Malcolm S. Durkin,** National Institute of Standards and Technology (United States); **Dale J. Fixsen,** NASA Goddard Space Flight Ctr. (United States); **Suzanne T. Staggs,** Princeton Univ. (United States); **Felipe A. Colazo Petit**, **Kevin L. Denis**, **Mike J. DiPirro,** NASA Goddard Space Flight Ctr. (United States); **Shannon M. Duff,** National Institute of Standards and Technology (United States); **Jason Glenn,** NASA Goddard Space Flight Ctr. (United States); **Bert Harrop,** Princeton Univ. (United States); **Stephen Maher,** NASA Goddard Space Flight Ctr. (United States); **Vilem Mikula,** Science Systems and Applications, Inc (United States); **Peter Nagler, Edward J. Wollack,** NASA Goddard Space Flight Ctr. (United States)

13102-23 • 01:40 PM - 02:00 PM
**Demonstration of science-grade kilo-pixel Kinetic Inductance Detector based focal plane arrays for the Terahertz Intensity Mapper**
*Author(s):* **Lun-Jun Liu,** Caltech (United States); **Reinier M. J. Janssen,** Jet Propulsion Lab. (United States), Caltech (United States); **Bruce Bumble,** Jet Propulsion Lab. (United States); **Charles M. Bradford,** Jet Propulsion Lab. (United States), Caltech (United States); **Steve Hailey-Dunsheath,** Caltech (United States); **Shubh Agrawal**, **James E. Aguirre,** Univ. of Pennsylvania (United States); **Hrushi Athreya,** Univ. of Illinois (United States); **Justin S. Bracks,** Univ. of Pennsylvania (United States); **Brockton S. Brendal**, **Jeffrey P. Filippini,** Univ. of Illinois (United States); **Logan M. Foote,** Caltech (United States); **Jianyang Fu,** Univ. of Illinois (United States); **Christopher E. Groppi**, **Dylan Joralmon,** Arizona State Univ. (United States); **Elijah Kane,** Caltech (United States); **Garrett K. Keating,** Harvard Univ. (United States); **Ryan P. Keenan,** Max-Planck-Institut für Astronomie (Germany); **Mikolaj Kowalik,** Univ. of Illinois (United States); **Ian N. Lowe,** The Univ. of Arizona (United States); **Alex Manduca,** Univ. of Pennsylvania (United States); **Daniel P. Marrone,** The Univ. of Arizona (United States); **Philip D. Mauskopf,** Arizona State Univ. (United States); **Evan C. Mayer,** The Univ. of Arizona (United States); **Rong Nie**, **Vesal Razavimaleki,** Univ. of Illinois (United States); **Talia Saeid,** Arizona State Univ. (United States); **Isaac L. Trumper,** ELE Optics Inc. (United States); **Joaquin D. Vieira,** Univ. of Illinois (United States); **Jessica A. Zebrowski,** The Univ. of Chicago (United States)

13102-24 • 02:00 PM - 02:20 PM
**Optical characterization of aluminum-based 280 GHz CCAT MKID pixels and arrays**
*Author(s):* **Anna K. Vaskuri,** National Institute of Standards and Technology (United States), Univ. of Colorado Boulder (United States); **Jordan D. Wheeler**, **Jason E. Austermann**, **Michael R. Vissers**, **James A. Beall,** National Institute of Standards and Technology (United States); **James Burgoyne,** The Univ. of British Columbia (Canada); **Victoria Butler,** Cornell Univ. (United States); **Scott Chapman,** The Univ. of British Columbia (Canada); **Steve K. Choi,** Univ. of California, Riverside (United States); **Abigail Crites**, **Cody Duell**, **Rodrigo Freundt,** Cornell Univ. (United States); **Anthony Huber,** Univ. of Victoria (Canada); **Zachary B. Huber,** Cornell Univ. (United States); **Johannes Hubmayr,** National Institute of Standards and Technology (United States); **Lawrence Lin**, **Alicia Middleton**, **Michael D. Niemack**, **Thomas Nikola,** Cornell Univ. (United States); **Douglas Scott**, **Adrian Sinclair,** The Univ. of British Columbia (Canada); **Ema Smith**, **Gordon Stacey,** Cornell Univ. (United States); **Joel N. Ullom**, **Jeffrey van Lanen,** National Institute of Standards and Technology (United States); **Eve Vavagiakis**, **Samantha Walker**, **Bugao Zou, The CCAT Collaboration,** Cornell Univ. (United States)

13102-25 • 02:20 PM - 02:40 PM
**The W-band LEKID array of the MISTRAL instrument**
*Author(s):* **Alessandro Paiella**, **Federico Cacciotti**, **Giovanni Isopi,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Eleonora Barbavara,** Sapienza Univ. di Roma (Italy); **Elia Elia S. Battistelli**, **Paolo de Bernardis,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Valentina Capalbo**, **Aurora Carbone,** Sapienza Univ. di Roma (Italy); **Ettore Carretti,** INAF - Istituto di Radioastronomia (Italy); **Daniele Ciccalotti,** Sapienza Univ. di Roma (Italy); **Fabio Columbro**, **Alessandro Coppolecchia,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Angelo Cruciani,** Istituto Nazionale di Fisica Nucleare (Italy); **Giuseppe D'Alessandro,** Sapienza Univ. di Roma (Italy); **Marco De Petris,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Federica Govoni,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Luca Lamagna,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Pasqualino Marongiu**, **Adina Mascia,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Silvia Masi,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Emilio Molinari,** INAF - Osservatorio Astronomico di Brera (Italy); **Matteo Murgia**, **Alessandro Navarrini,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Alessandro Novelli**, **Andrea Occhiuzzi,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Andrea Orlati,** INAF - Istituto di Radioastronomia (Italy); **Giorgio Pettinari,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Francesco Piacentini,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Tonino Pisanu**, **Sergio Poppi**, **Ignazio Porceddu,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Alessia Ritacco,** INAF - Osservatorio Astronomico di Cagliari (Italy), Lab. de Physique de l'Ecole Normale Supérieure, Ecole Normale Supérieure, Univ. PSL, Sorbonne Univ., Univ. Paris Cité, CNRS (France); **Maria Renata Schirru, Gian Paolo Vargiu,** INAF - Osservatorio Astronomico di Cagliari (Italy)

13102-26 • 02:40 PM - 03:00 PM
**Origin of mm-submm loss in deposited dielectrics for superconducting astronomical instrumentation**
*Author(s):* **Bruno T. Buijtendorp**, **Akira Endo,** Technische Univ. Delft (Netherlands); **Willem Jellema**, **Kenichi Karatsu**, **Ton van der Linden**, **Dimitry Lamers,** SRON Netherlands Institute for Space Research (Netherlands); **Karwan Rostem**, **Edward J. Wollack,** NASA Goddard Space Flight Ctr. (United States); **Jochem J. A. Baselmans,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Sten Vollebregt,** Technische Univ. Delft (Netherlands); **Robert Huisman, Martijn Veen,** SRON Netherlands Institute for Space Research (Netherlands)

13102-27 • 03:00 PM - 03:20 PM
**Highly sensitive far-IR KIDs for PRIMA: optical characterization of a 25-micron array**
*Author(s):* **Logan M. Foote**, **Chris Albert**, **Ritoban Basu Thakur,** Caltech (United States); **Nicholas F. Cothard,** NASA Goddard Space Flight Ctr. (United States); **Steve Hailey-Dunsheath,** Caltech (United States); **Pierre M. Echternach**, **Byeong Ho Eom**, **Reinier M. J. Janssen,** Jet Propulsion Lab., Caltech (United States); **Elijah Kane,** Caltech (United States); **Henry G. Leduc,** Jet Propulsion Lab., Caltech (United States); **Lun-Jun Liu**, **Hien T. Nguyen,** Caltech (United States); **Peter K. Day,** Jet Propulsion Lab., Caltech (United States); **Jason Glenn,** NASA Goddard Space Flight Ctr. (United States); **Charles M. Bradford,** Jet Propulsion Lab., Caltech (United States); **Jonas Zmuidzinas,** Caltech (United States)

**Coffee Break 03:20 PM - 03:50 PM**

## SESSION 6: OPTICS AND COMPONENTS I

19 June 2024 • 03:50 PM - 05:10 PM | Room G318/319, North - 3F
*Session Chair(s):* **Colm P. Bracken**, National Univ. of Ireland, Maynooth (Ireland)

13102-28 • 03:50 PM - 04:10 PM
**Kilopixel Silicon Microlens Arrays for PRIMA Detector Arrays**
*Author(s):* **Nicholas F. Cothard**, **Nicholas P. Costen**, **Kevin L. Denis**, **Jennette Mateo**, **Ian Schrock**, **Thomas R. Stevenson**, **Frederick H. Wang,** NASA Goddard Space Flight Ctr. (United States); **Charles M. Bradford,** Jet Propulsion Lab. (United States); **Jason Glenn,** NASA Goddard Space Flight Ctr. (United States)

13102-29 • 04:10 PM - 04:30 PM
**Development of metal mesh filter technology to enable next generation FIR astronomical instruments.**
*Author(s):* **Carole E. Tucker,** Cardiff Univ. (United Kingdom); **Richard E. Lewis,** Celtic Terahertz Technology (CTT) Ltd. (United Kingdom); **Peter A. R. Ade**, **Agnieszka Kasperek, Nicola Owens,** Cardiff Univ. (United Kingdom)

13102-31 • 04:30 PM - 04:50 PM
**Laser ablated sub-wavelength structure anti-reflection coating on an alumina lens**
*Author(s):* **Shaul Hanany**, **Scott Cray,** Univ. of Minnesota, Twin Cities (United States); **Jan F. Düsing**, **Jürgen Koch,** Laser Zentrum Hannover e.V. (Germany); **Kuniaki Konishi,** Institute for Photon Science and Technology, The Univ. of Tokyo (Japan); **Tomotake Matsumura,** Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); **Haruyuki Sakurai,** Institute for Photon Science and Technology, The Univ. of Tokyo (Japan); **Aritoki Suzuki,** Lawrence Berkeley National Lab. (United States); **Ryota Takaku,** Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); **Alexander Wienke,** Laser Zentrum Hannover e.V. (Germany)

13102-32 • 04:50 PM - 05:10 PM
**Meta-surface based Far-Infrared spectrometer for space-borne observatories**
*Author(s):* **Wenye Ji**, **Jin Chang**, **Behnam Mirzaei,** Technische Univ. Delft (Netherlands); **Marcel Ridder**, **Willem Jellema,** SRON Netherlands Institute for Space Research (Netherlands); **Wilt Kao**, **Alan Lee,** LongWave Photonics LLC (United States); **Jian Rong Gao,** SRON Netherlands Institute for Space Research (Netherlands); **Paul P. Urbach, Aurèle J. L. Adam,** Technische Univ. Delft (Netherlands)

## SESSION PS6: POSTERS - DETECTORS II

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13102-110 • 05:30 PM - 07:00 PM
**Effects of mechanical tolerances on the Kinetic Inductance Detector (KID) arrays for the Terahertz Intensity Mapper**
*Author(s):* **Talia Saeid,** Arizona State Univ. (United States); **Shubh Agrawal**, **James E. Aguirre,** Univ. of Pennsylvania (United States); **Hrushi Athreya,** Univ. of Illinois (United States); **Justin S. Bracks,** Univ. of Pennsylvania (United States), Caltech (United States); **Charles M. Bradford,** Jet Propulsion Lab. (United States), Caltech (United States); **Brockton S. Brendal**, **Jeffrey P. Filippini**, **Jianyang Fu,** Univ. of Illinois (United States); **Victor Gasho,** The Univ. of Arizona (United States); **Christopher E. Groppi,** Arizona State Univ. (United States); **Steve Hailey-Dunsheath,** Caltech (United States); **Tracee L. Jamison-Hooks,** Arizona State Univ. (United States); **Reinier M. J. Janssen,** Jet Propulsion Lab. (United States), Caltech (United States); **Dylan Joralmon,** Arizona State Univ. (United States); **Garrett K. Keating,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Ryan P. Keenan,** Max-Planck-Institut für Astronomie (Germany); **Mikolaj Kowalik,** Univ. of Illinois (United States); **Lun-Jun Liu,** Caltech (United States); **Ian N. Lowe,** The Univ. of Arizona (United States); **Alex Manduca,** Univ. of Pennsylvania (United States); **Daniel P. Marrone,** The Univ. of Arizona (United States); **Philip D. Mauskopf,** Arizona State Univ. (United States); **Evan C. Mayer,** The Univ. of Arizona (United States); **Rong Nie**, **Vesal Razavimaleki,** Univ. of Illinois (United States); **Isaac L. Trumper,** ELE Optics Inc. (United States); **Joaquin D. Vieira,** Univ. of Illinois (United States); **Jessica A. Zebrowski,** The Univ. of Chicago (United States)

13102-111 • 05:30 PM - 07:00 PM **(CANCELLED)**
**Addressing persistence in ESO near-infrared detectors**
*Author(s):* **Mark J. Neeser**, **Armin Gabasch**, **Elizabeth M. George, Benoit Serra,** European Southern Observatory (Germany)

13102-112 • 05:30 PM - 07:00 PM
**A cryogenic facility to characterize detector-particle interactions**
*Author(s):* **Anaïs Besnard**, **Bruno Maffei**, **Valentin Sauvage,** Institut d'Astrophysique Spatiale (France); **Samantha L. Stever,** Okayama Univ. (Japan)

13102-114 • 05:30 PM - 07:00 PM
**Statistics on the optical performance of the kilopixel KID array for the Terahertz Intensity Mapper (TIM) Long Wavelength spectrometer**
*Author(s):* **Justin S. Bracks,** Univ. of Pennsylvania (United States), Caltech (United States); **Reinier M. J. Janssen,** Jet Propulsion Lab. (United States), Caltech (United States); **Shubh Agrawal**, **James E. Aguirre,** Univ. of Pennsylvania (United States); **Hrushi Athreya,** Univ. of Illinois (United States); **Charles M. Bradford,** Jet Propulsion Lab. (United States), Caltech (United States); **Brockton S. Brendal,** Univ. of Illinois (United States); **Bruce Bumble,** Jet Propulsion Lab. (United States); **Nick Emerson,** The Univ. of Arizona (United States); **Jeffrey P. Filippini**, **Jianyang Fu,** Univ. of Illinois (United States); **Christopher E. Groppi,** Arizona State Univ. (United States); **Steve Hailey-Dunsheath,** Caltech (United States); **Dylan Joralmon,** Arizona State Univ. (United States); **Garrett K. Keating,** Harvard Univ. (United States); **Victor Gasho,** The Univ. of Arizona (United States); **Ryan P. Keenan,** Max-Planck-Institut für Astronomie (Germany); **Mikolaj Kowalik,** Univ. of Illinois (United States); **Lun-Jun Liu,** Caltech (United States); **Ian N. Lowe,** The Univ. of Arizona (United States); **Alex Manduca,** Univ. of Pennsylvania (United States); **Daniel P. Marrone,** The Univ. of Arizona (United States); **Philip D. Mauskopf,** Arizona State Univ. (United States); **Evan C. Mayer,** The Univ. of Arizona (United States); **Vesal Razavimaleki,** Univ. of Illinois (United States); **Talia Saeid,** Arizona State Univ. (United States); **Isaac L. Trumper,** ELE Optics Inc. (United States); **Joaquin D. Vieira,** Univ. of Illinois (United States); **Jessica A. Zebrowski,** The Univ. of Chicago (United States); **Rong Nie,** Univ. of Illinois (United States)

13102-116 • 05:30 PM - 07:00 PM
**Spatial mapping of kilopixel kinetic inductance detector arrays for PRIMA**
*Author(s):* **Chris Albert**, **Ritoban Basu Thakur,** Caltech (United States), Jet Propulsion Lab. (United States); **Charles M. Bradford,** Jet Propulsion Lab. (United States), Caltech (United States); **Nicholas F. Cothard,** NASA Goddard Space Flight Ctr. (United States); **Peter K. Day,** Jet Propulsion Lab. (United States), Caltech (United States); **Byeong Ho Eom,** Jet Propulsion Lab. (United States); **Logan M. Foote,** Caltech (United States), Jet Propulsion Lab. (United States); **Marc C. Foote,** Jet Propulsion Lab. (United States); **Jason Glenn,** NASA Goddard Space Flight Ctr. (United States); **Reinier Janssen,** Jet Propulsion Lab. (United States), Caltech (United States); **Elijah Kane,** Caltech (United States), Jet Propulsion Lab. (United States); **Henry G. LeDuc,** Jet Propulsion Lab. (United States); **Hien T. Nguyen,** Caltech (United States), Jet Propulsion Lab. (United States); **Jonas Zmuidzinas,** Caltech (United States)

13102-117 • 05:30 PM - 07:00 PM
**CCAT: Nonlinear effects in 280 GHz aluminum kinetic inductance detectors**
*Author(s):* **Cody J. Duell, The CCAT Collaboration,** Cornell Univ. (United States)

13102-118 • 05:30 PM - 07:00 PM
**Evaluation of 1.5 THz photon counting detectors for Antarctic Terahertz Intensity Interferometry**
*Author(s):* **Ayako Niwa,** Univ. of Tsukuba (Japan), National Astronomical Observatory of Japan (Japan); **Hiroshi Matsuo,** National Astronomical Observatory of Japan (Japan), The Graduate Univ. for Advanced Studies (Japan); **Hajime Ezawa,** National Astronomical Observatory of Japan (Japan); **Tomohiro Koseki,** Univ. of Tsukuba (Japan), National Astronomical Observatory of Japan (Japan); **Tomonori Tamura,** National Astronomical Observatory of Japan (Japan)

13102-119 • 05:30 PM - 07:00 PM
**A review of the enduring performance and reliability of SCUBA-2 at the JCMT**
*Author(s):* **Jamie L. Cookson**, **Daniel Bintley, Shaoliang Li,** East Asian Observatory (United States)

13102-185 • 05:30 PM - 07:00 PM
**SNSPD development within the SPID / IQSEN project**
*Author(s):* **Xavier-François Navick,** CEA-IRFU (France); **Marc BESANCON,** CEA-IRFU, Paris-Saclay University (France); **Ayoub BOUNAB,** CEA-IRFU,Paris-Saclay University (France); **Jia-Wern CHEN,** Research Center for Applied Sciences, Academia Sinica (Taiwan); **Pisin CHEN,** LeCosPA, National Taiwan University (Taiwan); **Xavier DE LA BROISE**, **Olivier GEVIN**, **Jean-Francois GLICENSTEIN,** CEA-IRFU, Paris-Saclay University (France); **Shu-Xiao LIU**, **Yu-Jung LU,** Research Center for Applied Sciences, Academia Sinica (Taiwan); **Jiwoo NAM,** LeCosPA, National Taiwan University (Taiwan); **Stathes PAGANIS,** Department of Physics, National Taiwan University (Taiwan); **Tzu-Yu PENG,** Department of Physics, National Taiwan University nica (Taiwan); **Feng-Yang TSAI**, **Dimitra TSIOUNOU,** Department of Physics, National Taiwan University (Taiwan); **Boris TUCHMING,** CEA-IRFU, Paris-Saclay University (France); **Hsin-Yeh WU,** Department of Physics, National Taiwan University (Taiwan); **Jing-Wei YANG,** Research Center for Applied Sciences, Academia Sinica (Taiwan)

## SESSION PS7: POSTERS - OPTICS AND COMPONENTS I

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13102-120 • 05:30 PM - 07:00 PM
**Holographic field-retrieval method of near-field measurements of wide field of view millimeter-wave telescopes using reference phase shifting**
*Author(s):* **Rion Takahashi,** Yokohama National Univ. (Japan); **Hayato Takakura,** Japan Aerospace Exploration Agency (Japan); **Yutaro Sekimoto,** Japan Aerospace Exploration Agency (Japan), The Univ. of Tokyo (Japan); **Fumiya Miura,** Yokohama National Univ. (Japan); **Junji Inatani**, **Frederick T. Matsuda,** Japan Aerospace Exploration Agency (Japan); **Shugo Oguri,** Japan Aerospace Exploration Agency (Japan), The Univ. of Tokyo (Japan); **Shogo Nakamura,** Yokohama National Univ. (Japan)

13102-122 • 05:30 PM - 07:00 PM
**Assembly and testing of the Terahertz Intensity Mapper's cold optical system**
*Author(s):* **Talia Saeid,** Arizona State Univ. (United States); **Shubh Agrawal**, **James E. Aguirre,** Univ. of Pennsylvania (United States); **Hrushi Athreya,** Univ. of Illinois (United States); **Justin S. Bracks,** Univ. of Pennsylvania (United States), Caltech (United States); **Charles M. Bradford,** Jet Propulsion Lab. (United States), Caltech (United States); **Brockton S. Brendal,** Univ. of Illinois (United States); **Nick Emerson,** The Univ. of Arizona (United States); **Jeffrey P. Filippini**, **Jianyang Fu,** Univ. of Illinois (United States); **Victor Gasho,** The Univ. of Arizona (United States); **Christopher E. Groppi,** Arizona State Univ. (United States); **Steve Hailey-Dunsheath,** Caltech (United States); **Reinier M. J. Janssen,** Jet Propulsion Lab. (United States), Caltech (United States); **Dylan Joralmon,** Arizona State Univ. (United States); **Garrett K. Keating,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Ryan P. Keenan,** Max-Planck-Institut für Astronomie (Germany); **Mikolaj Kowalik,** Univ. of Illinois (United States); **Lun-Jun Liu,** Caltech (United States); **Ian N. Lowe,** The Univ. of Arizona (United States); **Alex Manduca,** Univ. of Pennsylvania (United States); **Daniel P. Marrone,** The Univ. of Arizona (United States); **Philip D. Mauskopf,** Arizona State Univ. (United States); **Evan C. Mayer,** The Univ. of Arizona (United States); **Rong Nie**, **Vesal Razavimaleki,** Univ. of Illinois (United States); **Mark Sullivan,** The Univ. of Arizona (United States); **Isaac L. Trumper,** ELE Optics Inc. (United States); **Joaquin D. Vieira,** Univ. of Illinois (United States); **Jessica A. Zebrowski,** The Univ. of Chicago (United States)

13102-123 • 05:30 PM - 07:00 PM
**Broadband, anti-reflection-structured silicon windows and lenses for millimeter and submillimeter wavelengths**
*Author(s):* **Fabien Defrance,** Jet Propulsion Lab., Caltech (United States); **Sunil R. Golwala,** Caltech (United States); **Cecile Jung-Kubiak**, **Sofia Rahiminejad**, **Goutam Chattopadhyay, John J. Gill,** Jet Propulsion Lab., Caltech (United States)

13102-124 • 05:30 PM - 07:00 PM
**Near-field reflection measurements of lightweight absorbers in the millimeter-wavelengths for space missions**
*Author(s):* **Fumiya Miura,** Yokohama National Univ. (Japan); **Hayato Takakura**, **Yutaro Sekimoto**, **Junji Inatani**, **Frederick T. Matsuda**, **Shugo Oguri,** Japan Aerospace Exploration Agency (Japan); **Miu Kashiwazaki,** Tokyo University (Japan), Japan Aerospace Exploration Agency (Japan); **Shogo Nakamura,** Yokohama National Univ. (Japan); **Tomonaga Ueno,** Nagoya Univ. (Japan); **Akira Ito**, **Motoi Kawamura,** Panasonic Industry Co., Ltd. (Japan); **Osamu Kawasaki, Atsushi Sakai,** Japan Aerospace Exploration Agency (Japan)

13102-125 • 05:30 PM - 07:00 PM
**Design and Characterization of a 60-cm reflective half-wave plate for the CLASS telescope 90 GHz band**
*Author(s):* **Rui Shi,** Johns Hopkins Univ. (United States)

13102-126 • 05:30 PM - 07:00 PM
**Design, Fabrication and Applications of THz Artificial Dielectric Metamaterials**
*Author(s):* **Adhitya Bharadwaj Sriram**, **Philip D. Mauskopf**, **Daniel Lu**, **Cassandra N. Whitton**, **Christopher E. Groppi**, **Georgios Trichopoulos, Aditya Shekhawat,** Arizona State Univ. (United States)

13102-127 • 05:30 PM - 07:00 PM
**A low loss silicon optical diplexer for millimeter and submillimeter radio astronomy**
*Author(s):* **Keara Carter**, **Edward Tong**, **Lingzhen Zeng**, **Paul Grimes, Robert Kimberk,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13102-128 • 05:30 PM - 07:00 PM
**Remotely controlled DESHIMA 2.0 optics alignment at ASTE**
*Author(s):* **Arend Moerman,** Technische Univ. Delft (Netherlands); **Kenichi Karatsu,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Tatsuya Takekoshi,** Kitami Institute of Technology (Japan); **Robert Huiting**, **Stephen J. C. Yates,** SRON Netherlands Institute for Space Research (Netherlands); **Fenno Steenvoorde,** Technische Univ. Delft (Netherlands); **Shahab O. Dabironezare,** Technische Univ. Delft (Netherlands), SRON Netherlands Institute for Space Research (Netherlands); **Jochem J. A. Baselmans,** SRON Netherlands Institute for Space Research (Netherlands); **Bernhard R. Brandl,** Leiden Observatory, Leiden Univ. (Netherlands), Technische Univ. Delft (Netherlands); **Akira Endo,** Technische Univ. Delft (Netherlands)

## SESSION PS8: POSTERS - CMD INSTRUMENTS II

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13102-130 • 05:30 PM - 07:00 PM
**Development status of the cryogenic holder mechanism for LiteBIRD LFT PMU**
*Author(s):* **Ryosuke Akizawa,** The Univ. of Tokyo (Japan); **Teruhito Iida,** Task Inc. (Japan); **Kosuke Aizawa,** The Univ. of Tokyo (Japan); **Tommaso Ghigna,** High Energy Accelerator Research Organization, KEK (Japan); **Thuong D. Hoang**, **Nobuhiko Katayama**, **Tomotake Matsumura,** Kavli Institute for the Physics and Mathematics of the Universe (Japan); **Hideki Nakajima,** Tamagawa Seiki Co., Ltd. (Japan); **Hiroyuki Ohsaki,** The Univ. of Tokyo (Japan); **Yuki Sakurai,** Okayama Univ. (Japan); **Ryota Takaku,** Kavli Institute for the Physics and Mathematics of the Universe (Japan); **Yutaka Terao,** The Univ. of Tokyo (Japan)

13102-134 • 05:30 PM - 07:00 PM
**Vector beam mapping at millimeter wavelengths using a robot arm**
*Author(s):* **Rustam Balafendiev**, **Thomas Gascard, Jon E. Gudmundsson,** Univ. of Iceland (Iceland)

13102-135 • 05:30 PM - 07:00 PM
**Demonstration of IR absorptive filter using alumina with laser ablated anti-reflection sub-wavelength structures for ground-based CMB polarization telescopes**
*Author(s):* **Kosuke Aizawa**, **Ryosuke Akizawa,** Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); **Scott Cray**, **Shaul Hanany,** Univ. of Minnesota, Twin Cities (United States); **Jürgen Koch,** Laser Zentrum Hannover e.V. (Germany); **Kuniaki Konishi,** Institute for Photon Science and Technology, The Univ. of Tokyo (Japan); **Tomotake Matsumura,** Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); **Haruyuki Sakurai,** Institute for Photon Science and Technology, The Univ. of Tokyo (Japan); **Haruyuki Sakurai,** Institute for Photon Science and Technology, The Univ. of Tokyo (Japan); **Ryota Takaku,** Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan)

13102-136 • 05:30 PM - 07:00 PM
**Capacitive sensors for the polarization modulator unit of the mid- and high-frequency telescopes of LiteBIRD space mission**
*Author(s):* **Fabio Columbro**, **Giulia Barbieri Ripamonti**, **Paolo de Bernardis**, **Alessandro Coppolecchia**, **Giacomo Gorla**, **Luca Lamagna**, **Elisabetta Marchitelli**, **Silvia Masi**, **Andrea Occhiuzzi**, **Alessandro Paiella**, **Francesco Piacentini, Giampaolo Pisano,** Sapienza Univ. di Roma (Italy)

13102-137 • 05:30 PM - 07:00 PM
**Design and performance test of a modular readout electronic for the kinetic inductance detectors for the COSMO experiment based on commercial components**
*Author(s):* **Giulia Conenna**, **Andrea Limonta**, **Stefano Meinardi**, **Andrea Passerini**, **Gabriele Coppi**, **Massimo Gervasi**, **Federico Nati**, **Mario Zannoni,** Univ. degli Studi di Milano-Bicocca (Italy); **Lorenzo Albano,** Univ. degli Studi di Milano (Italy); **Elia S. Battistelli,** Sapienza Univ. di Roma (Italy); **Marco Bersanelli,** Univ. degli Studi di Milano (Italy); **Faouzi M. Boussaha,** Observatoire de Paris (France); **Federico Cacciotti**, **Alessandro Coppolecchia**, **Alessandro Capponi**, **Fabio Columbro**, **Alessandro Coppolecchia**, **Giuseppe D'Alessandro**, **Paolo de Bernardis**, **Giancarlo De Gasperis**, **Marco de Petris,** Sapienza Univ. di Roma (Italy); **Cristian Franceschet,** Univ. degli Studi di Milano (Italy); **Giovanni Isopi**, **Luca Lamagna,** Sapienza Univ. di Roma (Italy); **Elenia Manzan,** Univ. degli Studi di Milano (Italy); **Elisabetta Marchitelli**, **Silvia Masi,** Sapienza Univ. di Roma (Italy); **Aniello Mennella**, **Filippo Montonati,** Univ. degli Studi di Milano (Italy); **Andrea Occhiuzzi**, **Alessandro Paiella,** Sapienza Univ. di Roma (Italy); **Giorgio Pettinari,** Istituto di fotonica e nanotecnologie, Consiglio Nazionale delle Ricerche CNR-IFN, 00133 (Italy); **Francesco Piacentini,** Sapienza Univ. di Roma (Italy); **Lucio Piccirillo,** Jodrell Bank Centre for Astrophysics, School of Physics and Astronomy, University of Manchester (United Kingdom); **Gampaolo Pisano,** Sapienza Univ. di Roma (Italy); **Andrea Tartari,** INFN sezione di Pisa (Italy); **Carole Tucker,** School of Physics and Astronomy, Cardiff University, Queens Buildings, The Parade (United Kingdom)

13102-138 • 05:30 PM - 07:00 PM
**CCAT: Prime-Cam optics overview and status update**
*Author(s):* **Zachary B. Huber, The CCAT Collaboration,** Cornell Univ. (United States)

13102-139 • 05:30 PM - 07:00 PM
**Mirror Zernike shaping from phase-free near field point spread functions**
*Author(s):* **Roberto Puddu,** Pontificia Univ. Católica de Chile (Chile); **Federico Astori**, **Gabriele Coppi,** Univ. degli Studi di Milano-Bicocca (Italy); **Rolando Dunner**, **Juan Fluxá**, **Carlos Hervías,** Pontificia Univ. Católica de Chile (Chile); **Federico Nati,** Univ. degli Studi di Milano-Bicocca (Italy); **Matías Rojas,** Pontificia Univ. Católica de Chile (Chile)

13102-140 • 05:30 PM - 07:00 PM
**The Simons Observatory: studies of detector yield and readout noise from the first large-scale deployment of microwave multiplexing at the large aperture telescope**
*Author(s):* **Thomas Satterthwaite,** Stanford Univ. (United States); **Zeeshan Ahmed,** Kavli Institute for Particle Astrophysics and Cosmology (United States), SLAC National Accelerator Laboratory (United States); **Kyuyoung Bae,** University of Colorado Boulder (United States); **Mark Devlin**, **Simon Dicker,** Department of Physics and Astronomy, University of Pennsylvania (United States); **Shannon M Duff,** Quantum Sensors Division, National Institute of Standards and Technology (United States); **Daniel Dutcher,** Joseph Henry Laboratories of Physics, Princeton University (United States); **Saianeesh K Haridas,** Department of Physics and Astronomy, University of Pennsylvania (United States); **Shawn W Henderson,** Kavli Institute for Particle Astrophysics and Cosmology (United States), SLAC National Accelerator Laboratory (United States); **Johannes Hubmayr,** Quantum Sensors Division, National Institute of Standards and Technology (United States); **Bradley R Johnson,** Department of Astronomy, University of Virginia (United States); **Anna Kofman,** Department of Physics and Astronomy, University of Pennsylvania (United States); **Jack Lashner,** Wright Laboratory, Department of Physics, Yale University (United States); **Michael J Link**, **Tammy J Lucas,** Quantum Sensors Division, National Institute of Standards and Technology (United States); **Alex Manduca,** Department of Physics and Astronomy, University of Pennsylvania (United States); **Michael D Niemack,** Department of Physics, Cornell University (United States), Department of Astronomy, Cornell University (United States); **John Orlowski-Scherer,** Department of Physics and Astronomy, University of Pennsylvania (United States); **Tristan Pinsonneault-Marotte,** Kavli Institute for Particle Astrophysics and Cosmology (United States), SLAC National Accelerator Laboratory (United States); **Max Silva-Feaver,** Wright Laboratory, Department of Physics, Yale University (United States); **Suzanne Staggs,** Joseph Henry Laboratories of Physics, Princeton University (United States); **Eve M Vavagiakis,** Department of Physics, Cornell University (United States), Department of Physics, Duke University (United States); **Yuhan Wang, Kaiwen Zheng,** Joseph Henry Laboratories of Physics, Princeton University (United States)

13102-141 • 05:30 PM - 07:00 PM
**Calibration of CMB Telescopes with PROTOCALC**
*Author(s):* **Gabriele Coppi,** Univ. degli Studi di Milano-Bicocca (Italy)

13102-131 • 05:30 PM - 07:00 PM
**Analysis and Mitigation of Fourier-Transform Spectrometer Systematics for Current and Next Generation Cosmic Microwave Background Telescope Calibration**
*Author(s):* **Thomas Alford,** The Univ. of Chicago (United States)

13102-132 • 05:30 PM - 07:00 PM
**Development and status of cryogenic half wave plate polarization modulators for Simons Observatory and Simons Array**
*Author(s):* **Bryce O. Bixler,** Univ. of California, San Diego (United States); **Akito Kusaka,** The Univ. of Tokyo (Japan); **Kam S. Arnold,** Univ. of California, San Diego (United States)

13102-191 • 05:30 PM - 07:00 PM
**The European low frequency survey on the Simons Array**
*Author(s):* **Aniello Mennella,** Univ. degli Studi di Milano (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Kam Arnold,** Univ. of California, San Diego (United States); **Susanna Azzoni,** Princeton Univ. (United States); **Carlo Baccigalupi,** Scuola Internazionale Superiore di Studi Avanzati (Italy); **Anthony Banday,** Institut de Recherche en Astrophysique et Planétologie (France); **R. Belèn Barreiro,** Univ. de Cantabria (Spain); **Darcy Barron,** The Univ. of New Mexico (United States); **Marco Bersanelli,** Univ. degli Studi di Milano (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Sean C. Casey,** Univ. of California, San Diego (United States); **Elena de la Hoz,** Centre Pierre Binétruy (CNRS-UCB) (United States), Univ. of California, Berkeley (United States); **Cristian Franceschet,** Univ. degli Studi di Milano (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Michael E. Jones,** Univ. of Oxford (United Kingdom); **Ricardo T. Génova-Santos**, **Roger J. Hoyland,** Instituto de Astrofísica de Canarias (Spain); **Adrian T. Lee,** Univ. of California, Berkeley (United States); **Enrique Martínez-González,** Univ. de Cantabria (Spain); **Filippo Montonati,** Univ. degli Studi di Milano (Italy); **José Alberto Rubiño-Martín,** Instituto de Astrofísica de Canarias (Spain); **Angela Taylor,** Univ. of Oxford (United Kingdom); **Patricio Vielva, Francisco J. Casas,** Instituto de Fisica de Cantabria (Spain)

## SESSION PS9: POSTERS - COHERENT RECEIVER

19 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Wednesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13102-142 • 05:30 PM - 07:00 PM
**A customizable, five-stage, intermediate frequency, low noise amplifier and readout chain for the astrophysics stratospheric telescope for high-spectral resolution observations at submillimeter-wavelengths (ASTHROS)**
*Author(s):* **Justin Mathewson**, **Ricardo Rodriguez**, **Eric Weeks**, **Paul A. Horton**, **Cody Roberson**, **Madison Hedges**, **Christian Thompson,** Arizona State Univ. (United States); **Jonathan H. Kawamura**, **Jose V. Siles,** Jet Propulsion Lab. (United States); **Christopher E. Groppi**, **Philip D. Mauskopf,** Arizona State Univ. (United States); **Hamdi Mani,** CryoElec LLC (United States)

13102-143 • 05:30 PM - 07:00 PM
**Design and analysis of 230/460 GHz dual-color all-NbN superconductor-insulator-superconductor mixers**
*Author(s):* **Minran Chen**, **Yao Li**, **Boxun Wang**, **Chen Peng**, **Linjie Zhang**, **Yi Zhang**, **Xiaoyong He**, **Duo Cao**, **Feng Liu, Wangzhou Shi,** Shanghai Normal Univ. (China)

13102-144 • 05:30 PM - 07:00 PM
**Cryogenic high linearity and dynamic range, C-band low noise amplifier for uMUX TES & CMB readout systems**
*Author(s):* **Justin Mathewson**, **Eric Weeks**, **Rick Scott,** Arizona State Univ. (United States); **Kaiwen Zheng,** Princeton Univ. (United States); **Christopher E. Groppi**, **Philip D. Mauskopf,** Arizona State Univ. (United States); **Hamdi Mani,** CryoElec LLC (United States)

13102-145 • 05:30 PM - 07:00 PM
**Development of 230 GHz finline SIS mixers for next-generation large array receivers and HARP instrument upgrade**
*Author(s):* **Kuan-Yu Liu,** East Asian Observatory (United States); **Boon-Kok Tan,** Univ. of Oxford (United Kingdom); **Ming-Jye Wang,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Phichet Kittara,** Mahidol Univ. (Thailand); **Dan Singwong,** National Astronomical Research Institute of Thailand (Thailand); **Pattanaphong Janphuang,** Synchrotron Light Research Institute (Thailand); **Paul T. P. Ho**, **Ming-Tang Chen,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Wiphu Rujopakarn,** National Astronomical Research Institute of Thailand (Thailand); **Ue-Li Pen,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Gary A. Fuller,** The Univ. of Manchester (United Kingdom); **Junhao Liu,** National Astronomical Observatory of Japan (Japan); **Xue-Jian Jiang,** Zhejiang Lab. (China); **Faouzi M. Boussaha**, **Christine Chaumont,** Observatoire de Paris (France); **Tse-Jun Chen**, **Yen-Pin Chang**, **Wei-Chun Lu**, **Chuang-Ping Chiu,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Chayanin Larkaew,** National Astronomical Research Institute of Thailand (Thailand); **Noom Kriettisak,** Synchrotron Light Research Institute (Thailand); **Long Jiang**, **Yongxiong Wang,** The Univ. of Manchester (United Kingdom); **Yan-Jun Wang,** Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); **Graham S. Bell**, **Harold A. Peña-Herazo**, **Izumi Mizuno**, **Shaoliang Li**, **Neal Oliveira**, **Jamie L. Cookson, Dan Bintley,** East Asian Observatory (United States)

13102-147 • 05:30 PM - 07:00 PM
**Development of 86 GHz low noise wideband receiver for VERA**
*Author(s):* **Akira Kameyama**, **Yasumasa Yamasaki**, **Shoki Kondo**, **Shuto Dakie**, **Nozomi Okada**, **Satoko Sawada-Sato**, **Hideo Ogawa**, **Toshikazu Onishi,** Osaka Metropolitan Univ. (Japan); **Kazuhiro Hada**, **Kazuyoshi Sunada**, **Tomoaki Oyama**, **Shunsaku Suzuki**, **Yuji Ueno**, **Mareki Honma**, **Kazuyoshi Yamashita**, **Sho Masui,** National Astronomical Observatory of Japan (Japan); **Shoko Koyama,** Niigata Univ. (Japan); **Mieko Takamura,** The Univ. of Tokyo (Japan)

13102-148 • 05:30 PM - 07:00 PM
**Preliminary performance of millimeter-wavelength nonlinear kinetic inductance based superconducting parametric amplifiers**
*Author(s):* **Ryan C. Stephenson,** Caltech (United States); **Farzad Faramarzi**, **Henry G. LeDuc, Peter K. Day,** Jet Propulsion Lab. (United States)

13102-149 • 05:30 PM - 07:00 PM
**VLBI instrument for Millimetron space mission**
*Author(s):* **Andrey Khudchenko,** P. N. Lebedev Physical Institute (Russian Federation); **Sergey Turygin,** Kotelnikov Institute of Radio Engineering and Electronics (Russian Federation); **Evgeniy Golubev**, **Kirill Rudakov**, **Roman Cherny,** P. N. Lebedev Physical Institute (Russian Federation); **Andrey Baryshev,** Univ. of Groningen (Netherlands); **Andrey Andrianov**, **Mikhail Andrianov**, **Vladimir Kostenko**, **Andrey Ozolin**, **Yaromir Vodzianovskii**, **Gregory Nazarov**, **Ivan Tretyakov**, **Irina Ivashentseva,** P. N. Lebedev Physical Institute (Russian Federation); **Ronald Hesper,** Univ. of Groningen (Netherlands); **Mikhail Arkhipov**, **Mikhail Shchurov**, **Tatiana Larchenkova,** P. N. Lebedev Physical Institute (Russian Federation); **Valery P. Koshelets,** P. N. Lebedev Physical Institute (Russian Federation), Kotelnikov Institute of Radio Engineering and Electronics (Russian Federation); **Jung-Won Lee**, **Taehyun Jung,** Korea Astronomy and Space Science Institute (Korea, Republic of); **Alexey Rudnitskiy, Sergey F. Likhachev,** P. N. Lebedev Physical Institute (Russian Federation)

13102-150 • 05:30 PM - 07:00 PM
**Broadband tuneable travelling wave parametric multiplier based on high-gap superconducting thin film**
*Author(s):* **Boon-Kok Tan**, **Nikita Klimovich,** Univ. of Oxford (United Kingdom); **Peter K. Day,** Jet Propulsion Lab. (United States)

13102-186 • 05:30 PM - 07:00 PM
**The ALMA2030 wideband sensitivity upgrade**
*Author(s):* **Álvaro González**, **Norikazu Mizuno,** Joint ALMA Observatory (Chile); **Phil Jewell,** National Radio Astronomy Observatory (United States); **Misato Fukagawa,** National Astronomical Observatory of Japan (Japan); **Elizabeth Humphreys**, **Martin A. Zwaan,** European Southern Observatory (Germany); **John Carpenter**, **Tzu-Chiang Shen, Sean M. Dougherty,** Joint ALMA Observatory (Chile)

## Thursday 20 June 2024

### THURSDAY PLENARY

20 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/thursday-plenary

13173-506 • 08:30 AM - 09:15 AM
**Navigating the radio astronomy renaissance: challenges and opportunities for a sustainable future** (Plenary Presentation)
*Author(s):* **Jessica T. Dempsey,** ASTRON (Netherlands)

13173-507 • 09:15 AM - 10:00 AM
**The x-ray imaging and spectroscopy mission (XRISM): development and expected science** (Plenary Presentation)
*Author(s):* **Makoto S. Tashiro,** Saitama Univ. (Japan)

## Coffee Break 10:00 AM - 10:30 AM

## SESSION 7: SPECTROMETERS I

20 June 2024 • 10:30 AM - 12:10 PM | Room G318/319, North - 3F
*Session Chair(s):* **Gordon J. Stacey**, Cornell Univ. (United States)

13102-33 • 10:30 AM - 10:50 AM
**VIPA: demonstration of the next generation direct detection spectrometer for velocity resolved spectroscopy in the far-infrared**
*Author(s):* **Thomas Nikola**, **Gordon J. Stacey**, **Bugao Zou,** Cornell Univ. (United States); **Karwan Rostem**, **Alexander S. Kutyrev**, **Nicholas F. Cothard**, **Edward J. Wollack**, **Eric Mentzell**, **Jake A. Connors,** NASA Goddard Space Flight Ctr. (United States); **Willem Jellema,** SRON Netherlands Institute for Space Research (Netherlands); **Tsung-Yu Kao, Alan W. M. Lee,** LongWave Photonics LLC (United States)

13102-34 • 10:50 AM - 11:10 AM
**FINER: far-infrared nebular emission receiver for the large millimeter telescope**
*Author(s):* **Yoichi Tamura,** Nagoya Univ. (Japan); **Takeshi Sakai,** The Univ. of Electro-Communications (Japan); **Ryohei Kawabe**, **Takafumi Kojima,** National Astronomical Observatory of Japan (Japan); **Akio Taniguchi,** Nagoya Univ. (Japan); **Tatsuya Takekoshi,** Kitami Institute of Technology (Japan); **Haoran Kang**, **Wenlei Shan,** National Astronomical Observatory of Japan (Japan); **Masato Hagimoto**, **Norika Okauchi,** Nagoya Univ. (Japan); **Airi Tetsuka,** The Univ. of Electro-Communications (Japan); **Akio K. Inoue,** Waseda Univ. (Japan); **Kotaro Kohno,** The Univ. of Tokyo (Japan); **Kunihiko Tanaka,** Keio Univ. (Japan); **Tom J. L. C. Bakx,** Chalmers Univ. of Technology (Sweden); **Yoshinobu Fudamoto,** Chiba Univ. (Japan); **Kazuyuki Fujita,** Hokkaido Univ. (Japan); **Yuichi Harikane,** The Univ. of Tokyo (Japan); **Takuya Hashimoto,** Univ. of Tsukuba (Japan); **Bunyo Hatsukade,** National Astronomical Observatory of Japan (Japan); **David H. Hughes,** Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); **Takahiro Iino,** The Univ. of Tokyo (Japan); **Yuki Kimura,** Hokkaido Univ. (Japan); **Hiroyuki Maezawa,** Osaka Metropolitan Univ. (Japan); **Yuichi Matsuda,** National Astronomical Observatory of Japan (Japan); **Ken Mawatari,** Univ. of Tsukuba (Japan); **Taku Nakajima,** Nagoya Univ. (Japan); **Shunichi Nakatsubo,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Tai Oshima,** National Astronomical Observatory of Japan (Japan); **Hideo Sagawa,** Kyoto Sangyo Univ. (Japan); **F. Peter Schloerb,** Univ. of Massachusetts Amherst (United States); **Shigeru Takahashi,** The Univ. of Tokyo (Japan); **Kotomi Taniguchi,** National Astronomical Observatory of Japan (Japan); **Akiyoshi Tsujita,** The Univ. of Tokyo (Japan); **Hideki Umehata,** Nagoya Univ. (Japan); **Teppei Yonetsu,** Osaka Metropolitan Univ. (Japan); **Min S. Yun,** Univ. of Massachusetts Amherst (United States)

13102-35 • 11:10 AM - 11:30 AM
**SPT-SLIM: using on-chip mm-wave spectrometers for line intensity mapping from the South Pole**
*Author(s):* **Jessica A. Zebrowski, SPT-SLIM Collaboration,** The Univ. of Chicago (United States)

13102-36 • 11:30 AM - 11:50 AM
**Medium resolution spectrometers based on silicon Fabry-Perot for polarimetric bolometer arrays in submillimeter astronomy, concepts and instrumental performance**
*Author(s):* **Timothee Tollet**, **Louis R. Rodriguez**, **Vincent Revéret,** CEA-Paris-Saclay (France); **Albrecht Poglitsch,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Laurent Dussopt**, **Abdelkader Aliane,** CEA-LETI (France); **Cyrille Delisle,** CEA-Paris-Saclay (France); **Valérie Goudon**, **Hacile Kaya, Gilles Lasfargues,** CEA-LETI (France)

13102-37 • 11:50 AM - 12:10 PM
**FIRSST : Heterodyne Spectroscopy Instrument: Optical design**
*Author(s):* **Andrey M. Baryshev,** Kapteyn Astronomical Institute (Netherlands); **Martina C. Wiedner,** Observatoire de Paris (France); **Paul K. Grimes,** Smithsonian Astrophysical Observatory (United States); **Ron J. Vervack,** Johns Hopkins Univ. (United States); **Asantha Cooray,** Univ. of California, Irvine (United States); **Meredith MacGregor,** Johns Hopkins Univ. (United States)

## Lunch/Exhibition Break 12:10 PM - 01:20 PM

## SESSION 8: COHERENT RECEIVER TECHNOLOGY

20 June 2024 • 01:20 PM - 03:20 PM | Room G318/319, North - 3F
*Session Chair(s):* **Christopher E. Groppi**, Arizona State Univ. (United States)

13102-38 • 01:20 PM - 01:40 PM
**Possibilities and limitations of the offline scheme frequency transfer method**
*Author(s):* **Hitoshi Kiuchi**, **Miho Fujieda,** National Astronomical Observatory of Japan (Japan); **Motohiro Kumagai, Mamoru Sekido,** National Institute of Information and Communications Technology (Japan)

13102-39 • 01:40 PM - 02:00 PM
**4×2 Hot electron bolometer mixer arrays for detection at 1.4, 1.9 and 4.7 THz for a balloon borne terahertz observatory**
*Author(s):* **Jose R. Silva,** SRON Netherlands Institute for Space Research (Netherlands), Kapteyn Astronomical Institute, Univ. of Groningen (Netherlands); **Wouter M. Laauwen,** SRON Netherlands Institute for Space Research (Netherlands); **Behnam Mirzaei,** Technische Univ. Delft (Netherlands), SRON Netherlands Institute for Space Research (Netherlands); **Nathan Vercruyssen**, **Matvey I. Finkel**, **Menno Westerveld**, **Nikhil More**, **Vitor B. Silva,** SRON Netherlands Institute for Space Research (Netherlands); **Abram Young,** Steward Observatory, The Univ. of Arizona (United States); **Craig A. Kulesa**, **Christopher K. Walker,** Steward Observatory (United States); **Floris van der Tak,** SRON Netherlands Institute for Space Research (Netherlands), Kapteyn Astronomical Institute, Univ. of Groningen (Netherlands); **Jian-rong Gao,** SRON Netherlands Institute for Space Research (Netherlands)

13102-160 • 02:00 PM - 02:20 PM
**Development status of wideband millimeter-wave receivers for LMT-FINER**
*Author(s):* **Haoran Kang**, **Takafumi Kojima,** National Astronomical Observatory of Japan (Japan); **Takeshi Sakai,** The Univ. of Electro-Communications (Japan); **Yoichi Tamura,** Nagoya Univ. (Japan); **Airi Tetsuka,** The Univ. of Electro-Communications (Japan); **Sho Masui,** National Astronomical Observatory of Japan (Japan); **Tatsuya Takekoshi,** Kitami Institute of Technology (Japan)

13102-41 • 02:20 PM - 02:40 PM
**ALMA Band 8 version2 receiver upgrade project**
*Author(s):* **Takafumi Kojima**, **Tetsuhiro Minamidani**, **Ryo Sakai**, **Hiroaki Imada**, **Keiko Kaneko**, **Sho Masui**, **Kazunori Uemizu**, **Kazumasa Makise**, **Akihira Miyachi**, **Shohei Ezaki**, **Tomonori Tamura**, **Shun Ishii, Bunyo Hatsukade,** National Astronomical Observatory of Japan (Japan)

13102-42 • 02:40 PM - 03:00 PM
**Development of an SIS mixer-based amplifier for large-scale multipixel heterodyne receivers**
*Author(s):* **Yoshinori Uzawa,** National Astronomical Observatory of Japan (Japan); **Akira Kawakami,** National Institute of Information and Communications Technology (Japan); **Takafumi Kojima**, **Kazumasa Makise**, **Sho Masui**, **Yosuke Murayama**, **Akihira Miyachi, Wenlei Shan,** National Astronomical Observatory of Japan (Japan)

13102-43 • 03:00 PM - 03:20 PM
**ALMA2030 Band-4+5 receiver front-end wideband sensitivity upgrade: first year initial development and future plan**
*Author(s):* **Yuh-Jing Hwang,** Academia Sinica (Taiwan); **Bangwon Lee,** Korea Astronomy and Space Science Institute (Korea, Republic of); **MingJye Wang**, **Yu Chieh Huang**, **Chau-Ching Chiong,** Academia Sinica (Taiwan); **Álvaro González,** Joint ALMA Observatory (Chile); **Yue-Fang Kuo,** Department of Electrical Engineering, Yuan-Ze University (Taiwan); **Takafumi Kojima,** National Astronomical Observatory of Japan (Japan); **Patrick Koch**, **Tse-Jun Chen**, **Wei-Chun Lu**, **Yen-Pin Chang**, **Hsiao-Wen Chang**, **Chuang-Ping Chiu**, **Jia-Ruei Nain**, **Chao-Ching Wang**, **Fang-Yu Hsu**, **Pai-An Chen**, **Lou-Chien Lu**, **Chen Chien, Chin-Ting Ho,** Academia Sinica (Taiwan)

## Coffee Break 03:20 PM - 03:50 PM

## SESSION 9: DETECTORS II

20 June 2024 • 03:50 PM - 05:30 PM | Room G318/319, North - 3F
*Session Chair(s):* **Johannes G. Staguhn**, NASA Goddard Space Flight Ctr. (United States)

13102-44 • 03:50 PM - 04:10 PM
**Lens array of distributed absorbers coupled MKIDs for the PRobe far-Infrared Mission for Astrophysics (PRIMA)**
*Author(s):* **Shahab O. Dabironezare**, **David J. Thoen**, **Anthony H. M. Coppens**, **Dimitry Lamers,** SRON Netherlands Institute for Space Research (Netherlands); **Sven van Berkel**, **Pierre M. Echternach**, **Peter K. Day**, **Charles M. Bradford,** Jet Propulsion Lab. (United States); **Jochem J. A. Baselmans,** SRON Netherlands Institute for Space Research (Netherlands)

13102-45 • 04:10 PM - 04:30 PM
**Three-Dimensional Microwave Kinetic Inductance Detectors for Future Astrophysics Observatories**
*Author(s):* **Nicholas F. Cothard**, **Thomas R. Stevenson**, **Christine A. Jhabvala, Jason Glenn,** NASA Goddard Space Flight Ctr. (United States)

13102-46 • 04:30 PM - 04:50 PM
**Hybrid metamaterial lenslet arrays for millimeter and submillimeter imaging**
*Author(s):* **Sarah Stevenson,** Univ. of Colorado Boulder (United States); **Jason E. Austermann**, **James A. Beall,** National Institute of Standards and Technology (United States); **Nils W. Halverson,** Univ. of Colorado Boulder (United States); **Johannes Hubmayr**, **Gregory C. Jaehnig,** National Institute of Standards and Technology (United States); **Giampaolo Pisano,** Sapienza Univ. di Roma (Italy)

13102-47 • 04:50 PM - 05:10 PM **(CANCELLED)**
**Low Tc TiN Multilayer KIDs for the Far Infrared**
*Author(s):* **Jordan D. Wheeler**, **Jason E. Austermann**, **Michael R. Vissers**, **Anna K. Vaskuri**, **James A. Beall,** National Institute of Standards and Technology (United States); **Jozsef Imrek,** Univ. of Colorado Boulder (United States), National Institute of Standards and Technology (United States); **Douglas A. Bennett**, **Johnathon D. Gard**, **Jeff van Lanen**, **Johannes Hubmayr**, **Joel N. Ullom,** National Institute of Standards and Technology (United States); **Jiansong Gao,** Ctr. for Quantum Computing, Amazon Web Services, Inc. (United States); **Anthony I. Huber,** Univ. of Victoria (Canada)

13102-48 • 05:10 PM - 05:30 PM
**Low cross-polarization FIR MKID camera**
*Author(s):* **Stephen J. C. Yates,** SRON Netherlands Institute for Space Research (Netherlands); **Alejandro Pascual Laguna,** Centro de Astrobiología, INTA Instituto Nacional de Técnica Aeroespacial, Consejo Superior de Investigaciones Científicas (Spain), Technische Univ. Delft (Netherlands), SRON Netherlands Institute for Space Research (Netherlands); **Jose R. Silva,** SRON Netherlands Institute for Space Research (Netherlands); **Edgar Castillo-Dominguez,** Univ. of Oxford (United Kingdom), SRON Netherlands Institute for Space Research (Netherlands); **Martin J. Eggens**, **Lorenza Ferrari,** SRON Netherlands Institute for Space Research (Netherlands); **Willem Jellema,** SRON Netherlands Institute for Space Research (Netherlands), Kapteyn Astronomical Institute, Univ. of Groningen (Netherlands); **Dimitry Lamers,** SRON Netherlands Institute for Space Research (Netherlands); **Bram N. R. Lap,** SRON Netherlands Institute for Space Research (Netherlands), Kapteyn Astronomical Institute, Univ. of Groningen (Netherlands); **David J. Thoen,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Ian T. Veenendaal,** Cardiff Univ. (United Kingdom), SRON Netherlands Institute for Space Research (Netherlands); **Jochem J. A. Baselmans,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands)

## SESSION PS10: POSTERS - MULTIPLEXING AND READOUT II

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13102-84 • 05:30 PM - 07:00 PM
**Study of a microwave kinetic inductance detector (MKID) readout system based on FPGAs and SoCs**
*Author(s):* **Alberto Hernández Fernández**, **David Díaz Martín**, **David Hernández Expósito**, **José Javier Díaz García**, **Roger J. Hoyland**, **Luis Fernando Rodríguez Ramos**, **Óscar M. Tubío Araújo,** Instituto de Astrofísica de Canarias (Spain); **Silvestre Rodríguez Pérez,** Univ. de La Laguna (Spain)

13102-151 • 05:30 PM - 07:00 PM
**Material investigation for the Kinetic inductance Parametric UP-converter (KPUP) as a frequency domain multiplexed readout device for cryogenic sensors**
*Author(s):* **Sasha Sypkens,** Arizona State Univ. (United States); **Boris A. Korzh**, **Henry G. LeDuc**, **Peter K. Day, Farzad Faramarzi,** Jet Propulsion Lab. (United States)

13102-152 • 05:30 PM - 07:00 PM
**CCAT: detector noise limited performance of the RFSoC-based readout electronics for mm/sub-mm/far-IR KIDs**
*Author(s):* **Adrian K. Sinclair**, **James Burgoyne,** The Univ. of British Columbia (Canada); **Anthony I. Huber,** Univ. of Victoria (Canada); **Colin Murphy**, **Steve K. Choi**, **Cody J. Duell**, **Zachary B. Huber**, **Yaqiong Li,** Cornell Univ. (United States); **Scott C. Chapman,** Dalhousie Univ. (Canada), The Univ. of British Columbia (Canada); **Michael D. Niemack**, **Thomas Nikola**, **Eve M. Vavagiakis**, **Samantha Walker,** Cornell Univ. (United States); **Jordan D. Wheeler**, **Jason E. Austermann,** National Institute of Standards and Technology (United States); **Lawrence Lin,** Cornell Univ. (United States); **Ruixuan Xie,** The Univ. of British Columbia (Canada); **Bugao Zou,** Cornell Univ. (United States); **Philip Mauskopf,** Arizona State University (United States)

13102-154 • 05:30 PM - 07:00 PM
**CMB-S4 SiGe ASIC-based daughter board for low temperature detectors front-end analog readout**
*Author(s):* **Manuel Gonzalez**, **Damien Prêle**, **Horacio Arnaldi**, **Si Chen**, **Gwendal Deniel**, **Michel Piat**, **Jean Pierre Thermeau**, **Sotiris Loucatos,** Astroparticule et Cosmologie (France); **Fatah Rarbi, Jonathan Waquet,** Laboratoire de physique subatomique et de cosmologie (France)

## SESSION PS11: POSTERS - SPECTROMETERS I

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13102-155 • 05:30 PM - 07:00 PM
**Design and measurement of a 135-270 GHz low spectral resolution filter-bank for CMB and SZ-effect science**
*Author(s):* **Louis H. Marting,** Technische Univ. Delft (Netherlands), SRON Netherlands Institute for Space Research (Netherlands); **Kenichi Karatsu,** SRON Netherlands Institute for Space Research (Netherlands); **Shahab O. Dabironezare,** Technische Univ. Delft (Netherlands), SRON Netherlands Institute for Space Research (Netherlands); **Alejandro Pascual Laguna,** Centro de Astrobiología (Spain); **David J. Thoen,** SRON Netherlands Institute for Space Research (Netherlands); **Leon G. Olde Scholtenhuis,** Technische Univ. Delft (Netherlands); **Ton van der Linden,** SRON Netherlands Institute for Space Research (Netherlands); **Jochem J. A. Baselmans,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Akira Endo,** Technische Univ. Delft (Netherlands)

13102-156 • 05:30 PM - 07:00 PM
**An update on the tomographic ionized-carbon intensity mapping experiment (TIME)**
*Author(s):* **Victoria Butler,** Cornell Univ. (United States); **Jamie J. Bock,** Caltech (United States); **Abigail T. Crites,** Cornell Univ. (United States); **Charles M. Bradford**, **Tzu-Ching Chang,** Caltech (United States); **Jonathon Hunacek,** Jet Propulsion Lab. (United States); **Geoffrey C. Bower,** Institute of Astronomy and Astrophysics - Academia Sinica (Taiwan); **Dongwoo Chung,** Univ. of Toronto (Canada); **Benjamin Vaughan,** Cornell Univ. (United States); **Clifford Frez,** Jet Propulsion Lab. (United States); **Ian Lowe,** The Univ. of Arizona (United States); **Chao-Te Li,** Institute of Astronomy and Astrophysics - Academia Sinica (Taiwan); **Dang Pham,** Univ. of Toronto (Canada); **Asantha Coorey,** University of California Irvine (United States); **Anthony Turner,** Jet Propulsion Lab. (United States); **Yun-Ting Cheng,** Caltech (United States); **Ta-Shun Wei,** Institute of Astronomy and Astrophysics - Academia Sinica (Taiwan); **Ibrahim Shehzad,** Cornell Univ. (United States); **Isaac Trumper,** The Univ. of Arizona (United States); **Guochao (Jason) Sun,** Caltech (United States); **Tessalie-Caze Cortez**, **Michael Zemcov,** Rochester Institute of Technology (United States); **Kenny Lau,** Caltech (United States); **Ryan Keenan**, **Evan Mayer,** The Univ. of Arizona (United States); **Sukhman Singh,** Cornell Univ. (United States); **Dan Marrone,** The Univ. of Arizona (United States); **Audrey Dunn,** Rochester Institute of Technology (United States)

13102-157 • 05:30 PM - 07:00 PM
**A broadband silicon vacuum window at the millimeter-wave band using laser-machined sub-wavelength structures**
*Author(s):* **Scott Cray,** Univ. of Minnesota, Twin Cities (United States); **Akira Endo,** Technische Univ. Delft (Netherlands); **Shaul Hanany,** Univ. of Minnesota, Twin Cities (United States); **Ken'ichi Karatsu,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Jürgen Koch,** Laser Zentrum Hannover e.V. (Germany); **Kuniaki Konishi,** Institute for Photon Science and Technology, The Univ. of Tokyo (Japan); **Tomotake Matsumura,** Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); **Haruyuki Sakurai,** Institute for Photon Science and Technology, The Univ. of Tokyo (Japan); **Ryota Takaku,** Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan)

13102-158 • 05:30 PM - 07:00 PM
**The terahertz intensity mapper: a balloon-borne spectrometer to study the evolution of star formation**
*Author(s):* **Reinier M. J. Janssen,** Jet Propulsion Lab. (United States), Caltech (United States); **Shubh Agrawal**, **James E. Aguirre,** Univ. of Pennsylvania (United States); **Hrushi Athreya,** Univ. of Illinois (United States); **Justin S. Bracks,** Univ. of Pennsylvania (United States), Caltech (United States); **Charles M. Bradford,** Jet Propulsion Lab. (United States), Caltech (United States); **Brockton S. Brendal,** Univ. of Illinois (United States); **Bruce Bumble,** Jet Propulsion Lab. (United States); **Nick Emerson,** The Univ. of Arizona (United States); **Jeffrey P. Filippini**, **Jianyang Fu,** Univ. of Illinois (United States); **Victor Gasho,** The Univ. of Arizona (United States); **Christopher E. Groppi,** Arizona State Univ. (United States); **Steve Hailey-Dunsheath,** Caltech (United States); **Dylan Joralmon,** Arizona State Univ. (United States); **Garrett K. Keating,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Ryan P. Keenan,** Max-Planck-Institut für Astronomie (Germany); **Mikolaj Kowalik,** Univ. of Illinois (United States); **Lun-Jun Liu,** Caltech (United States); **Ian N. Lowe,** The Univ. of Arizona (United States); **Alex Manduca,** Univ. of Pennsylvania (United States); **Daniel P. Marrone,** The Univ. of Arizona (United States); **Philip D. Mauskopf,** Arizona State Univ. (United States); **Evan C. Mayer,** The Univ. of Arizona (United States); **Rong Nie**, **Vesal Razavimaleki,** Univ. of Illinois (United States); **Talia Saeid,** Arizona State Univ. (United States); **Isaac L. Trumper,** ELE Optics Inc. (United States); **Joaquin D. Vieira,** Univ. of Illinois (United States); **Jessica A. Zebrowski,** The Univ. of Chicago (United States)

13102-159 • 05:30 PM - 07:00 PM
**High spectral resolution measurements of SPT-SLIM filter-bank spectrometers**
*Author(s):* **Abraar Saleem,** SLAC National Accelerator Lab. (United States), Stanford Univ. (United States)

13102-161 • 05:30 PM - 07:00 PM
**Testing capacitive sensors for the Epoch of Reionization Spectrometer**
*Author(s):* **Katie L. Breeland-Newcomb,** Bennington College (United States); **Thomas Nikola, Gordon J. Stacey,** Cornell Univ. (United States)

13102-162 • 05:30 PM - 07:00 PM
**CCAT: characterizing the Fabry-Pérot Interferometer mirrors and mount for the Epoch of Reionization Spectrometer**
*Author(s):* **Bugao Zou**, **Gordon J. Stacey**, **Michael D. Niemack**, **Eve M. Vavagiakis**, **Rodrigo G. Freundt, Thomas Nikola,** Cornell Univ. (United States)

13102-163 • 05:30 PM - 07:00 PM
**Superfluid-tight cryogenic receiver with continuous sub-Kelvin cooling for EXCLAIM**
*Author(s):* **Sumit Dahal,** NASA Goddard Space Flight Ctr. (United States); **Peter A. R. Ade,** Cardiff Univ. (United Kingdom); **Christopher J. Anderson**, **Alyssa Barlis**, **Emily M. Barrentine,** NASA Goddard Space Flight Ctr. (United States); **Jeffrey W. Beeman,** Lawrence Berkeley National Lab. (United States); **Nicholas G. Bellis,** NASA Goddard Space Flight Ctr. (United States); **Alberto D. Bolatto,** Univ. of Maryland, College Park (United States); **Victoria Braianova,** Univ. of Wisconsin-Madison (United States); **Patrick C. Breysse,** New York Univ. (United States); **Berhanu T. Bulcha**, **Giuseppe Cataldo**, **Felipe A. Colazo**, **Lee-Roger Chevres-Fernandez**, **Chullhee Cho**, **Danny S. Chmaytelli**, **Jake A. Connors**, **Nicholas P. Costen**, **Paul W. Cursey**, **Negar Ehsan**, **Thomas M. Essinger-Hileman**, **Jason Glenn,** NASA Goddard Space Flight Ctr. (United States); **Joseph E. Golec,** The Univ. of Chicago (United States); **James P. Hays-Wehle**, **Larry A. Hess**, **Amir E. Jahromi**, **Trevian Jenkins**, **Mark O. Kimball**, **Alan J. Kogut,** NASA Goddard Space Flight Ctr. (United States); **Samuel H. Kramer,** Univ. of Wisconsin-Madison (United States); **Nicole Leung**, **Luke N. Lowe,** NASA Goddard Space Flight Ctr. (United States); **Philip D. Mauskopf,** Arizona State Univ. (United States); **Jeffrey J. McMahon,** The Univ. of Chicago (United States); **Vilem Mikula**, **Mona Mirzaei**, **Samuel H. Moseley**, **Jonas W. Mugge-Durum**, **Jacob Nellis**, **Omid Noroozian,** NASA Goddard Space Flight Ctr. (United States); **Kate Okun,** Arizona State Univ. (United States); **Trevor Oxholm**, **Tatsat Parekh,** NASA Goddard Space Flight Ctr. (United States); **Ue-Li Pen,** Canadian Institute for Theoretical Astrophysics (Canada); **Anthony R. Pullen,** New York Univ. (United States); **Maryam Rahmani**, **Mathias M. Ramirez,** NASA Goddard Space Flight Ctr. (United States); **Cody Roberson,** Arizona State Univ. (United States); **Samelys Rodriguez**, **Florian Roselli**, **Deepak Sapkota**, **Konrad Shire,** NASA Goddard Space Flight Ctr. (United States); **Gage L. Siebert**, **Faizah Siddique,** Univ. of Wisconsin-Madison (United States); **Adrian K. Sinclair,** Arizona State Univ. (United States); **Rachel S. Somerville,** Flatiron Institute (United States); **Ryan Stephenson,** Arizona State Univ. (United States); **Thomas R. Stevenson**, **Eric R. Switzer**, **Jared Termini,** NASA Goddard Space Flight Ctr. (United States); **Peter T. Timbie,** Univ. of Wisconsin-Madison (United States); **Justin Trenkamp,** NASA Goddard Space Flight Ctr. (United States); **Carole E. Tucker,** Cardiff Univ. (United Kingdom); **Elijah Visbal,** The Univ. of Toledo (United States); **Carolyn G. Volpert**, **Joseph Watson,** NASA Goddard Space Flight Ctr. (United States); **Eric Weeks,** Arizona State Univ. (United States); **Edward J. Wollack,** NASA Goddard Space Flight Ctr. (United States); **Shengqi Yang,** Flatiron Institute (United States); **Aaron Yung,** NASA Goddard Space Flight Ctr. (United States)

13102-164 • 05:30 PM - 07:00 PM
**PULsar SKArab-based system for radio astronomy (PULSKAR)**
*Author(s):* **Andrea Melis**, **Alessandro Cabras**, **Maura Pilia**, **Carlo Migoni, Matteo Trudu,** INAF - Osservatorio Astronomico di Cagliari (Italy)

13102-165 • 05:30 PM - 07:00 PM
**Development and characterization of the flight model spectrometer onboard LuSEE-Night**
*Author(s):* **Emi Tamura**, **Jack Fried**, **Sven Herrmann**, **Paul O'Connor**, **Eric J. Raguzin**, **Anze Slosar,** Brookhaven National Lab. (United States); **Stuart D. Bale,** Space Sciences Lab., Univ. of California, Berkeley (United States)

## SESSION PS12: POSTERS - OPTICS AND COMPONENTS II

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13102-166 • 05:30 PM - 07:00 PM
**Development of a wideband receiver for dual-band and dual-polarization observations in 230 and 345 GHz bands**
*Author(s):* **Sho Masui,** National Astronomical Observatory of Japan (Japan); **Sana Kawashita,** Osaka Metropolitan Univ. (Japan); **Yasumasa Yamasaki,** National Astronomical Observatory of Japan (Japan); **Yutaka Hasegawa,** National Institute of Information and Communications Technology (Japan); **Takafumi Kojima,** National Astronomical Observatory of Japan (Japan); **Takeru Matsumoto**, **Ikko Fujitomo**, **Yuma Nishikawa**, **Ryo Nakagawa**, **Hideo Ogawa, Toshikazu Onishi,** Osaka Metropolitan Univ. (Japan)

13102-167 • 05:30 PM - 07:00 PM
**Multi-layer anti-reflection coats using ePTFE membrane for mm-wavelength plastic optics**
*Author(s):* **Miranda Eiben**, **John Kovac,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Matthew Miller,** Department of Physics and Astronomy, Brigham Young University (United States)

13102-168 • 05:30 PM - 07:00 PM
**The Transmissivity and Reflectivity of 3D Printed Alumina**
*Author(s):* **Rex Lam**, **Scott Cray**, **Shaul Hanany,** Univ. of Minnesota, Twin Cities (United States); **Jurgen Koch,** Laser Zentrum Hannover e.V. (Germany); **Kuniaki Konishi,** Institute for Photon Science and Technology, The Univ. of Tokyo (Japan); **Tomotake Matsumura,** Kavli Institute for the Physics and Mathematics of the Universe (Japan); **Haruyuki Sakurai,** Institute for Photon Science and Technology, The Univ. of Tokyo (Japan); **Ryota Takaku,** Kavli Institute for the Physics and Mathematics of the Universe (Japan); **Yuki Sakurai,** Okayama Univ. (Japan)

13102-169 • 05:30 PM - 07:00 PM
**Thermal and mechanical study of a parametrised cryostat model for optical characterisation of upcoming CMB experiments**
*Author(s):* **Thomas Gascard,** Univ. of Iceland (Iceland); **Yi Wang,** Duke University (United States); **Jon E. Gudmundsson,** Univ. of Iceland (Iceland); **Eve M. Vavagiakis**, **Cody J Duell**, **Zachary B Huber**, **Lawrence T Lin**, **Michael D. Niemack, Rodrigo G Freundt,** Cornell Univ. (United States)

13102-170 • 05:30 PM - 07:00 PM
**Development and testing of mm-wave broadband absorbers using frequency-domain continuous wave THz spectroscopy**
*Author(s):* **Jon E. Gudmundsson, Gaganpreet Singh,** Stockholm Univ. (Sweden)

13102-171 • 05:30 PM - 07:00 PM
**Laser-micromachined silicon platelet feedhorns for millimeter-wave focal planes**
*Author(s):* **Jason E. Austermann**, **James A. Beall,** National Institute of Standards and Technology (United States); **Andrew Forsman**, **Haibo Huang,** General Atomics (United States); **Johannes Hubmayr**, **Joel N. Ullom, Jeff van Lanen,** National Institute of Standards and Technology (United States)

## SESSION PS13: POSTERS - CMB INSTRUMENTS III

20 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Thursday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13102-172 • 05:30 PM - 07:00 PM
**The Precursor Small Aperture Telescope (PreSAT) CMB polarimeter**
*Author(s):* **Matthew Petroff,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

13102-173 • 05:30 PM - 07:00 PM
**The Simons Observatory: Alarms and Detector Quality Monitoring**
*Author(s):* **David Nguyen,** Yale Univ. (United States)

13102-174 • 05:30 PM - 07:00 PM
**Systematic effects induced by half-wave plate differential optical load and TES nonlinearity for LiteBIRD**
*Author(s):* **Silvia Micheli,** Sapienza Univ. di Roma (Italy); **Tijmen de Haan**, **Tommaso Ghigna,** High Energy Accelerator Research Organization, KEK (Japan); **Alessandro Novelli**, **Francesco Piacentini**, **Giampaolo Pisano**, **Fabio Columbro**, **Alessandro Coppolecchia**, **Giuseppe D'Alessandro**, **Paolo de Bernardis**, **Luca Lamagna**, **Elisabetta Marchitelli**, **Silvia Masi**, **Andrea Occhiuzzi, Alessandro Paiella,** Sapienza Univ. di Roma (Italy)

13102-175 • 05:30 PM - 07:00 PM
**Fabry–Pérot open resonant cavities for measuring the dielectric parameters of mm-wave optical materials**
*Author(s):* **Brodi Elwood,** Harvard Univ. (United States); **Paul Grimes,** Center for Astrophysics | Harvard & Smithsonian (United States); **John Kovac,** Harvard University (United States)

13102-176 • 05:30 PM - 07:00 PM
**The Simons Observatory: Dark Characterization of the Large Aperture Telescope**
*Author(s):* **Saianeesh K. Haridas,** Univ. of Pennsylvania (United States)

13102-177 • 05:30 PM - 07:00 PM
**The map-making and data filtering pipeline for the MISTRAL receiver**
*Author(s):* **Eleonora Barbavara,** Sapienza Univ. di Roma (Italy); **Elia S. Battistelli**, **Paolo de Bernardis**, **Giovanni Isopi,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Federico Cacciotti,** Sapienza Univ. di Roma (Italy); **Valentina Capalbo,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Aurora Carbone,** Sapienza Univ. di Roma (Italy); **Ettore Carretti,** INAF - Istituto di Radioastronomia (Italy); **Daniele Ciccalotti,** Sapienza Univ. di Roma (Italy); **Fabio Columbro**, **Alessandro Coppolecchia,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Angelo Cruciani,** Istituto Nazionale di Fisica Nucleare (Italy); **Giuseppe D'Alessandro**, **Marco De Petris,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Federica Govoni,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Luca Lamagna,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Pasqualino Marongiu**, **Adina Mascia,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Silvia Masi,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Emilio Molinari,** INAF - Osservatorio Astronomico di Brera (Italy); **Matteo Murgia**, **Alessandro Navarrini,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Alessandro Novelli**, **Andrea Occhiuzzi,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Andrea Orlati,** INAF - Istituto di Radioastronomia (Italy); **Alessandro Paiella,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Giorgio Pettinari,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Francesco Piacentini,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Tonino Pisanu**, **Sergio Poppi**, **Ignazio Porceddu**, **Renata Schirru**, **Gian Paolo Vargiu,** INAF - Osservatorio Astronomico di Cagliari (Italy); **Alessia Ritacco,** Università di Roma Tor Vergara (Italy)

13102-178 • 05:30 PM - 07:00 PM
**Design, mechanical and thermal analysis for Medium and High Frequency Telescopes of LiteBIRD**
*Author(s):* **Gilles Roudil**, **Baptiste Mot**, **Eva Araya**, **Ludovik Bautista,** Institut de Recherche en Astrophysique et Planétologie, Univ. de Toulouse, Univ. Paul Sabatier, CNRS (France); **Jean-Pierre Thermeau**, **Laurent Grandsire**, **Michel R. Piat**, **Alin Ilioni,** Astroparticule et Cosmologie, Univ. Paris Cité, CNRS (France); **Thomas Prouvé**, **Jean-Marc Duval, Jean-Louis Durand,** CEA (France)

13102-179 • 05:30 PM - 07:00 PM
**LiteBIRD MHFT W-band RF breadboard modeling and characterisation**
*Author(s):* **Abdallah Chahadih,** Institut d'Astrophysique Spatiale (France); **Cristian Franceschet,** Univ. degli Studi di Milano (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Bruno Maffei,** Institut d'Astrophysique Spatiale (France); **Marco De Petris**, **Luca Lamagna,** Sapienza Univ. di Roma (Italy); **Jon E. Gudmundsson,** Univ. of Iceland (Iceland), Stockholm Univ. (Sweden); **Marco Bersanelli,** Univ. degli Studi di Milano (Italy)

13102-181 • 05:30 PM - 07:00 PM
**Simons Observatory: Optimization of the sub-Kelvin thermal strap and thermal contact conductance for a Small Aperture Telescope**
*Author(s):* **Masaki Higuchi,** The Univ. of Tokyo (Japan)

13102-182 • 05:30 PM - 07:00 PM **(CANCELLED)**
**A novel mechanical design for fast high-throughput room-temperature electrical probing of chips for BICEP Array**
*Author(s):* **Maria Salatino, Bicep Array Collaboration,** Stanford Univ. (United States)

13102-183 • 05:30 PM - 07:00 PM
**Design optimization of anechoic SKYLOAD dedicated for LiteBIRD MHFT on-ground testing**
*Author(s):* **Jurij Hastanin**, **Jeremy Brisbois**, **Christian Kintziger**, **Karl Fleury-Frenette**, **Benoit Marquet**, **Jean-Yves Plesseria**, **Cedric Lenaerts**, **Marc P. Georges,** Ctr. Spatial de Liège, Liège Univ. (Belgium); **Thierry Maciaszek**, **Ludovic Montier**, **Baptiste Mot,** Institut de Recherche en Astrophysique et Planétologie, Univ. de Toulouse, Univ. Paul Sabatier, Ctr. National d'Études Spatiales, CNRS (France); **Sophie Henrot-Versillé,** Lab. de Physique des 2 Infinis Irène Joliot-Curie, Univ. Paris-Saclay, Institut National de Physique Nucléaire et de Physique des Particules du CNRS, CNRS (France)

13102-184 • 05:30 PM - 07:00 PM
**Multichroic pixels using double flare angle bowtie antenna coupled KIDs for CMB observation**
*Author(s):* **Viet Dung Pham,** Astroparticule et Cosmologie, CNRS (France); **Jie Hu,** Astroparticule et Cosmologie (France), Observatoire de Paris (France); **Michel Piat**, **Damien Prêle**, **Manuel Gonzalez,** Astroparticule et Cosmologie (France); **Faouzi Boussaha**, **Christine Chaumont,** Observatoire de Paris (France); **Paul Tagnon,** Astroparticule et Cosmologie (France)

13102-190 • 05:30 PM - 07:00 PM
**Development, testing, and application of the Frequency-selectable Laser Source (FLS) for Simons Observatory bandpass calibration**
*Author(s):* **Shreya Sutariya**, **Kathleen Harrington**, **Carlos Sierra**, **Erin Healy,** The Univ. of Chicago (United States); **Sara Simon,** Fermi National Accelerator Lab. (United States); **Thomas Alford**, **Claire Lessler, Jeff McMahon,** The Univ. of Chicago (United States)

## Friday 21 June 2024

### SESSION 10: NEW INSTRUMENTS AND CONCEPTS II

21 June 2024 • 08:40 AM - 10:20 AM | Room G318/319, North - 3F
*Session Chair(s):* **Jonas Zmuidzinas**, Caltech (United States)

13102-75 • 08:40 AM - 09:00 AM
**First results of Polarimetric all silicon bolometric arrays in the submillimeter domain**
*Author(s):* **Louis R. Rodriguez**, **Olivier Gevin,** Univ. Paris-Saclay, CEA-IRFU (France); **Albrecht Poglitsch,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Laurent Dussopt,** Univ. Grenoble Alpes, CEA-LETI (France); **Vincent Revéret,** Univ. Paris-Saclay, CEA-IRFU (France); **Abdelkader Aliane,** Univ. Grenoble Alpes, CEA-LETI (France); **Xavier-Francois Navick**, **Xavier de la Broise,** Univ. Paris-Saclay, CEA-IRFU (France); **Valerie Goudon**, **Aurelie Vandeneynde,** Univ. Grenoble Alpes, CEA-LETI (France); **Cyrille Delisle,** Univ. Paris-Saclay, CEA-IRFU (France); **Gilles Lasfargues,** Univ. Grenoble Alpes, CEA-LETI (France); **Timothee Tollet,** Univ. Paris-Saclay, CEA-IRFU (France); **Hacile Kaya,** Univ. Grenoble Alpes, CEA-LETI (France); **Amala Demonti,** Univ. Paris-Saclay, CEA-IRFU (France)

13102-50 • 09:00 AM - 09:20 AM
**BISOU: A balloon pathfinder for CMB spectral distortions studies**
*Author(s):* **Bruno Maffei**, **Nabila Aghanim,** Institut d'Astrophysique Spatiale (France); **Jean-François Aubrun,** Ctr. National d'Études Spatiales (France); **Jonathan Aumont,** Institut de Recherche en Astrophysique et Planétologie (France); **Nicolas Bataille,** Ctr. National d'Études Spatiales (France); **Elia S. Battistelli,** Sapienza Univ. di Roma (Italy); **Alexandre Beelen,** Lab. d'Astrophysique de Marseille (France); **Anais Besnard,** Institut d'Astrophysique Spatiale (France); **Nicolas Bray,** Ctr. National d'Études Spatiales (France); **Apolline Chappard,** Institut d'Astrophysique Spatiale (France); **Jens Chluba,** The Univ. of Manchester (United Kingdom); **Xavier Coulon,** Institut d'Astrophysique Spatiale (France); **Paolo de Bernardis,** Sapienza Univ. di Roma (Italy); **Marian Douspis**, **Julien Grain,** Institut d'Astrophysique Spatiale (France); **J. Colin Hill,** Columbia Univ. (United States); **Alan J. Kogut,** NASA Goddard Space Flight Ctr. (United States); **Guilaine Lagache,** Lab. d'Astrophysique de Marseille (France); **Stephane Louvel,** Ctr. National d'Études Spatiales (France); **Silvia Masi,** Sapienza Univ. di Roma (Italy); **Tomotake Matsumura,** Kavli Institute for the Physics and Mathematics of the Universe (Japan); **Alessandro Monfardini,** Institut NÉEL (France); **Creidhe O'Sullivan,** National Univ. of Ireland, Maynooth (Ireland); **Luca Pagano,** Univ. degli Studi di Ferrara (Italy); **Giampaolo Pisano,** Sapienza Univ. di Roma (Italy); **Nicolas Ponthieu,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Valentin Sauvage,** Institut d'Astrophysique Spatiale (France); **Giorgio Savini**, **Alexey Shitvov,** Univ. College London (United Kingdom); **Samantha L. Stever,** Okayama Univ. (Japan); **Andrea Tartari,** Istituto Nazionale di Fisica Nucleare (Italy); **Leander Thiele,** Princeton Univ. (United States); **Neal A. Trappe,** National Univ. of Ireland, Maynooth (Ireland)

13102-51 • 09:20 AM - 09:40 AM

**DESHIMA 2.0 on ASTE: The Commissioning and Science Verification of an Ultra-wideband Integrated Superconducting Spectrometer**

*Author(s):* **Akira Endo,** Technische Univ. Delft (Netherlands); **Kenichi Karatsu,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Tatsuya Takekoshi,** Kitami Institute of Technology (Japan); **Yoichi Tamura**, **Akio Taniguchi,** Nagoya Univ. (Japan); **Matus Rybak,** Technische Univ. Delft (Netherlands), Leiden Univ. (Netherlands), SRON Netherlands Institute for Space Research (Netherlands); **Kotaro Kohno,** The Univ. of Tokyo (Japan); **Hiroki Akamatsu,** High Energy Accelerator Research Organization, KEK (Japan), SRON Netherlands Institute for Space Research (Netherlands); **Javier Aguilera,** National Astronomical Observatory of Japan (Japan); **Tom J. L. C. Bakx,** Chalmers Univ. of Technology (Sweden); **Bruno T. Buijtendorp,** Technische Univ. Delft (Netherlands); **Scott Cray,** Univ. of Minnesota, Twin Cities (United States); **Shahab O. Dabironezare,** Technische Univ. Delft (Netherlands), SRON Netherlands Institute for Space Research (Netherlands); **Yasunori Fujii,** National Astronomical Observatory of Japan (Japan); **Kazuyuki Fujita,** Hokkaido Univ. (Japan); **Masato Hagimoto,** Nagoya Univ. (Japan); **Shaul Hanany,** Univ. of Minnesota, Twin Cities (United States); **Shuji Hotta,** Nagoya Univ. (Japan); **Robert Huiting,** SRON Netherlands Institute for Space Research (Netherlands); **Takahiro Iino,** The Univ. of Tokyo (Japan); **Chihiro Imamura,** Nagoya Univ. (Japan); **Shun Ishii,** National Astronomical Observatory of Japan (Japan); **Kotaro Iwakami,** Nagoya Univ. (Japan); **Tetsu Kitayama,** Toho Univ. (Japan); **Kuniaki Konishi,** The Univ. of Tokyo (Japan); **Ryohei Kawabe,** National Astronomical Observatory of Japan (Japan); **Micah Klettke,** SRON Netherlands Institute for Space Research (Netherlands); **Toshihiko Kobiki,** National Astronomical Observatory of Japan (Japan); **Louis H. Marting,** Technische Univ. Delft (Netherlands), SRON Netherlands Institute for Space Research (Netherlands); **Tomotake Matsumura,** The Univ. of Tokyo (Japan); **Tetsuhiro Minamidani,** National Astronomical Observatory of Japan (Japan); **Arend Moerman,** Technische Univ. Delft (Netherlands); **Kana Morokuma,** The Univ. of Tokyo (Japan); **Vignesh Murugesan,** SRON Netherlands Institute for Space Research (Netherlands); **Shunichi Nakatsubo,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Kazushige Ohtawara,** National Astronomical Observatory of Japan (Japan); **Norika Okauchi,** Nagoya Univ. (Japan); **Leon G. Olde Scholtenhuis,** Technische Univ. Delft (Netherlands); **Tai Oshima,** National Astronomical Observatory of Japan (Japan); **Alejandro Pascual Laguna,** Centro de Astrobiología (Spain); **Haruyuki Sakurai,** The Univ. of Tokyo (Japan); **Fenno Steenvoorde,** Technische Univ. Delft (Netherlands); **Ryota Takaku,** The Univ. of Tokyo (Japan); **David J. Thoen,** SRON Netherlands Institute for Space Research (Netherlands); **Akiyoshi Tsujita,** The Univ. of Tokyo (Japan); **Hideki Umehata,** Nagoya Univ. (Japan); **Sten Vollebregt,** Technische Univ. Delft (Netherlands); **Doreen Wernicke,** Entropy GmbH (Germany); **Paul P. van der Werf,** Leiden Univ. (Netherlands); **Stephen J. C. Yates, Jochem J. A. Baselmans,** SRON Netherlands Institute for Space Research (Netherlands)

13102-52 • 09:40 AM - 10:00 AM

**CONCERTO: Instrument model of mm Fourier transform spectroscopy at high mapping speed**

*Author(s):* **Alessandro Fasano,** Instituto de Astrofísica de Canarias (Spain); **Peter A. R. Ade,** Cardiff Univ. (United Kingdom); **Manuel Aravena,** Univ. Diego Portales (Chile); **Emilio Barria,** Institut NÉEL (France); **Alexandre Beelen,** Lab. d'Astrophysique de Marseille (France); **Alain Benoit,** Institut NÉEL (France); **Matthieu Béthermin,** Lab. d'Astrophysique de Marseille (France); **Julien Bounmy**, **Olivier Bourrion,** Lab. de Physique Subatomique et Cosmologie (France); **Guillaume Bres**, **Martino Calvo,** Institut NÉEL (France); **Andrea Catalano,** Lab. de Physique Subatomique et Cosmologie (France); **Carlos De Breuck,** European Southern Observatory (Germany); **François-Xavier Désert,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Carlos Durán,** European Southern Observatory (Chile); **Thomas Fenouillet**, **Jose Garcia,** Lab. d'Astrophysique de Marseille (France); **Gregory Garde**, **Johannes Goupy,** Institut NÉEL (France); **Christopher E. Groppi,** Arizona State Univ. (United States); **Christophe Hoarau,** Lab. de Physique Subatomique et Cosmologie (France); **Wenkai Hu**, **Guilaine Lagache**, **Jean-Charles Lambert,** Lab. d'Astrophysique de Marseille (France); **Jean-Paul Leggeri**, **Florence Levy-Bertrand,** Institut NÉEL (France); **Andreas Lundgren,** Lab. d'Astrophysique de Marseille (France); **Juan Macías-Pérez,** Lab. de Physique Subatomique et Cosmologie (France); **Hamdi Mani,** Arizona State Univ. (United States); **Julien Marpaud,** Lab. de Physique Subatomique et Cosmologie (France); **Philip D. Mauskopf,** Arizona State Univ. (United States); **Alessandro Monfardini,** Institut NÉEL (France); **Giampaolo Pisano,** Cardiff Univ. (United Kingdom); **Nicolas Ponthieu,** Institut de Planétologie et d'Astrophysique de Grenoble (France); **Leo Prieur,** Lab. d'Astrophysique de Marseille (France); **Samuel Roni**, **Sebastien Roudier**, **Damien Tourres,** Lab. de Physique Subatomique et Cosmologie (France); **Carole E. Tucker,** Arizona State Univ. (United States)

13102-53 • 10:00 AM - 10:20 AM

**Innovative octave band quad ridge feed horn and vacuum window for next-generation radio observatories**

*Author(s):* **Sara Salem Hesari,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Nasrin Tasouji,** Univ. of Victoria (Canada); **Ivan Wevers**, **Vladimir Reshetov,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Jens Bornemann,** Univ. of Victoria (Canada); **Lewis B. G. Knee, Adam Densmore,** NRC-Herzberg Astronomy & Astrophysics (Canada)

## Coffee Break 10:20 AM - 10:40 AM

## SESSION 11: MULTIPLEXING AND READOUT I

21 June 2024 • 10:40 AM - 12:20 PM | Room G318/319, North - 3F

*Session Chair(s):* **Joshua Montgomery**, t0.technology (Canada)

13102-54 • 10:40 AM - 11:00 AM
**Demonstration of a 1,820 channel microwave SQUID multiplexer for TES bolometer readout**
*Author(s):* **John C. Groh,** Lawrence Berkeley National Lab. (United States), National Institute of Standards and Technology (United States), Univ. of Colorado Boulder (United States); **Zeeshan Ahmed,** Kavli Institute for Particle Astrophysics & Cosmology (United States), SLAC National Accelerator Lab. (United States); **Jason E. Austermann**, **James A. Beall,** National Institute of Standards and Technology (United States); **David Daniel,** Univ. of Colorado Boulder (United States); **Shannon M. Duff,** National Institute of Standards and Technology (United States); **Shawn W. Henderson,** Kavli Institute for Particle Astrophysics & Cosmology (United States), SLAC National Accelerator Lab. (United States); **Johannes Hubmayr,** National Institute of Standards and Technology (United States); **Richard Lew,** Theiss Research (United States); **Michael J. Link**, **Tammy J. Lucas**, **John A. B. Mates,** National Institute of Standards and Technology (United States); **Maximiliano Silva-Feaver,** Yale Univ. (United States); **Robinjeet Singh,** Univ. of Colorado Boulder (United States); **Joel N. Ullom,** National Institute of Standards and Technology (United States), Univ. of Colorado Boulder (United States); **Leila R. Vale**, **Jeff Van Lanen**, **Michael R. Vissers,** National Institute of Standards and Technology (United States); **Cyndia Yu,** Kavli Institute for Particle Astrophysics & Cosmology (United States), Stanford Univ. (United States)

13102-55 • 11:00 AM - 11:20 AM
**A Near-Quantum limited Kinetic-Inductance Traveling-Wave Parametric Amplifier (KI-TWPA) using Four-Wave Mixing**
*Author(s):* **Farzad Faramarzi**, **Ryan Stephenson**, **Sasha Sypkens**, **Byeong H. Eom**, **Henry G. LeDuc, Peter K. Day,** Jet Propulsion Lab. (United States)

13102-56 • 11:20 AM - 11:40 AM
**Spaceflight KID Readout Electronics Development for PRIMA**
*Author(s):* **Thomas M. Essinger-Hileman**, **Sanetra Bailey,** NASA Goddard Space Flight Ctr. (United States); **Charles M. Bradford,** Jet Propulsion Lab. (United States), Caltech (United States); **Tyler Browning,** NASA Goddard Space Flight Ctr. (United States); **Sean A. Bryan,** Arizona State Univ. (United States); **Nicholas F. Cothard**, **Sumit Dahal**, **Myron Fendall**, **Christopher M. Green**, **Alessandro Geist**, **Jason Glenn**, **Kevin Horgan,** NASA Goddard Space Flight Ctr. (United States); **Tracee L. Jamison-Hooks,** Arizona State Univ. (United States); **Jared Lucey,** NASA Goddard Space Flight Ctr. (United States); **Philip D. Mauskopf,** Arizona State Univ. (United States); **Lynn Miles,** NASA Goddard Space Flight Ctr. (United States); **Cody Roberson,** Arizona State Univ. (United States); **Joseph E. Sauvageau,** Jet Propulsion Lab. (United States); **Adrian K. Sinclair,** The Univ. of British Columbia (Canada); **Chris Wilson, Gerard T. Quilligan,** NASA Goddard Space Flight Ctr. (United States)

13102-57 • 11:40 AM - 12:00 PM
**Large-scale frequency-multiplexed readout of superconducting resonators with RF-ICE**
*Author(s):* **Maclean Rouble,** Trottier Space Institute, McGill Univ. (Canada); **SPT-SLIM Collaboration,** SPT-SLIM (United States)

13102-58 • 12:00 PM - 12:20 PM
**The CRS: a scalable full-stack control system for Microwave Kinetic Inductance Detectors**
*Author(s):* **Joshua Montgomery**, **Matt A. Dobbs,** t0.technology (Canada), McGill Univ. (Canada); **Graeme M. Smecher,** t0.technology (Canada)

## Lunch Break 12:20 PM - 01:40 PM

## SESSION 12: DETECTORS III

21 June 2024 • 01:40 PM - 03:20 PM | Room G318/319, North - 3F
*Session Chair(s):* **Stephen J. C. Yates**, SRON Netherlands Institute for Space Research (Netherlands)

13102-59 • 01:40 PM - 02:00 PM
**Design of ultra-low noise AlMn transition edge sensor for far-infrared applications**
*Author(s):* **Lingmei Zhang**, **Jiamin Sun**, **Lin Zhu,** Shandong Institute of Advanced Technology (China); **Yifei Zhang**, **Zhouhui Liu**, **Congzhan Liu**, **Xufang Li**, **Shibo Shu**, **Daikang Yan**, **He Gao, Zhengwei Li,** Institute of High Energy Physics (China)

13102-60 • 02:00 PM - 02:20 PM
**Lens-antenna-coupled MKIDs for 7 THz radiation detection**
*Author(s):* **Alejandro Pascual Laguna,** Centro de Astrobiología, INTA Instituto Nacional de Técnica Aeroespacial, Consejo Superior de Investigaciones Científicas (Spain), SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Stephen J. C. Yates,** SRON Netherlands Institute for Space Research (Netherlands); **Juan Bueno,** Technische Univ. Delft (Netherlands); **Shahab O. Dabironezare,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Lorenza Ferrari**, **Willem Jellema**, **Vignesh Murugesan**, **David J. Thoen**, **Dimitry Lamers,** SRON Netherlands Institute for Space Research (Netherlands); **Karwan Rostem,** NASA Goddard Space Flight Ctr. (United States); **Nuria Llombart,** Technische Univ. Delft (Netherlands); **Jochem J. A. Baselmans,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands)

13102-61 • 02:20 PM - 02:40 PM
**Ultra-low-noise absorber-coupled TES detectors for Infrared Astronomy**
*Author(s):* **Karwan Rostem**, **Jake A. Connors,** NASA Goddard Space Flight Ctr. (United States); **Shannon M. Duff**, **Johannes Hubmayr,** National Institute of Standards and Technology (United States); **Tuomas Puurtinen,** Univ. of Jyväskylä (Finland); **Elmer H. Sharp, Edward J. Wollack,** NASA Goddard Space Flight Ctr. (United States)

13102-62 • 02:40 PM - 03:00 PM
**Design and characterization of kinetic inductance detectors for the next-generation OLIMPO experiment**
*Author(s):* **Federico Cacciotti**, **Alessandro Paiella,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Camille Avestruz,** Univ. of Michigan (United States); **Ritoban Basu Thakur,** Caltech (United States), Jet Propulsion Lab. (United States); **Elia S. Battistelli**, **Paolo de Bernardis,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Esra Bulbul,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Fabio Columbro**, **Alessandro Coppolecchia,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Scott Cray,** Univ. of Minnesota, Twin Cities (United States); **Giuseppe D'Alessandro**, **Marco De Petris,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Shaul Hanany,** Univ. of Minnesota, Twin Cities (United States); **Luca Lamagna,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Erwin Lau,** Ctr. for Astrophysics | Harvard & Smithsonian (United States), Univ. of Miami (United States); **Silvia Masi,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Giorgio Pettinari,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Francesco Piacentini,** Sapienza Univ. di Roma (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Jack Sayers,** Caltech (United States); **Irina Zhuravleva,** The Univ. of Chicago (United States)

13102-63 • 03:00 PM - 03:20 PM
**Improving the yield of CCAT MKID arrays with post-measurement lithographic corrections**
*Author(s):* **Michael R. Vissers**, **Jordan D. Wheeler**, **Jason E. Austermann**, **Anna K. Vaskuri**, **Johannes Hubmayr**, **Jiansong Gao,** National Institute of Standards and Technology (United States); **Zachary B. Huber,** Cornell Univ. (United States); **Jozsef Imrek**, **Joel Ullom,** National Institute of Standards and Technology (United States); **CCAT Collaboration,** CCAT (United States)

## Coffee Break 03:20 PM - 03:50 PM

## SESSION 13: SPECTROMETERS II

21 June 2024 • 03:50 PM - 05:30 PM | Room G318/319, North - 3F
*Session Chair(s):* **Carole E. Tucker**, Cardiff Univ. (United Kingdom)

13102-64 • 03:50 PM - 04:10 PM
**PRIMA: Demonstration of a high-efficiency 25-45 µm Linear Variable Filter for PRIMAger**
*Author(s):* **Willem Jellema**, **Marcel P. Bruijn**, **Kenichiro Nagayoshi**, **Marcel Ridder**, **Nathalie Q. S. Gorter**, **Martin J. Eggens**, **Erik van der Meer**, **Robert Huisman**, **Sven Visser**, **Sander van Loon,** SRON Netherlands Institute for Space Research (Netherlands); **Sanghati Roy,** Technische Univ. Delft (Netherlands); **Laure Ciesla**, **Denis Burgarella,** Lab. d'Astrophysique de Marseille (France); **Marc Sauvage,** CEA-Paris-Saclay (France); **Charles D. Dowell,** Jet Propulsion Lab., Caltech (United States); **Jason Glenn,** NASA Goddard Space Flight Ctr. (United States)

13102-65 • 04:10 PM - 04:30 PM
**CCAT: A status update on the EoR-Spec instrument module for Prime-cam**
*Author(s):* **Rodrigo G. Freundt**, **Thomas Nikola**, **Bugao Zou**, **Gordon J. Stacey**, **Zachary B. Huber**, **Yaqiong Li,** Cornell Univ. (United States); **Doug W. Henke,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Eve M. Vavagiakis**, **Cody J. Duell,** Cornell Univ. (United States); **Jordan D. Wheeler**, **Jason E. Austermann,** National Institute of Standards and Technology (United States); **Michael D. Niemack,** Cornell Univ. (United States)

13102-66 • 04:30 PM - 04:50 PM
**Multi-level focal plane design for future high-density line intensity mapping experiments**
*Author(s):* **Cheng Zhang, Kirit S. Karkare,** Stanford Univ. (United States)

13102-67 • 04:50 PM - 05:10 PM
**The Design, Modeling, and Characterization of the TIM cryogenic receiver**
*Author(s):* **Jianyang Fu,** Univ. of Illinois (United States); **Shubh Agrawal**, **James E. Aguirre,** Univ. of Pennsylvania (United States); **Hrushi Athreya,** Univ. of Illinois (United States); **Justin S. Bracks,** Univ. of Pennsylvania (United States), Caltech (United States); **Charles M. Bradford,** Jet Propulsion Lab. (United States), Caltech (United States); **Brockton S. Brendal,** Univ. of Illinois (United States); **Nick Emerson,** The Univ. of Arizona (United States); **Jeffrey P. Filippini,** Univ. of Illinois (United States); **Christopher E. Groppi,** Arizona State Univ. (United States); **Steve Hailey-Dunsheath,** Caltech (United States); **Matthew I. Hollister,** Cryogenic Design Solutions (United States); **Reinier M. J. Janssen,** Jet Propulsion Lab. (United States), Caltech (United States); **Dylan Joralmon,** Arizona State Univ. (United States); **Garrett K. Keating,** Ctr. for Astrophysics | Harvard & Smithsonian (United States); **Victor Gasho,** The Univ. of Arizona (United States); **Ryan P. Keenan,** Max-Planck-Institut für Astronomie (Germany); **Mikolaj Kowalik,** Univ. of Illinois (United States); **Lun-Jun Liu,** Caltech (United States); **Ian N. Lowe,** The Univ. of Arizona (United States); **Alex Manduca,** Univ. of Pennsylvania (United States); **Daniel P. Marrone,** The Univ. of Arizona (United States); **Philip D. Mauskopf,** Arizona State Univ. (United States); **Evan C. Mayer,** The Univ. of Arizona (United States); **Rong Nie**, **Vesal Razavimaleki,** Univ. of Illinois (United States); **Talia Saeid,** Arizona State Univ. (United States); **Isaac L. Trumper,** ELE Optics Inc. (United States); **Joaquin D. Vieira,** Univ. of Illinois (United States); **Jessica A. Zebrowski,** The Univ. of Chicago (United States)

13102-68 • 05:10 PM - 05:30 PM

**A 10.24-GHz-wide digital spectrometer array system for LMT-FINER: system design and laboratory performance verification**

*Author(s):* **Masato Hagimoto**, **Akio Taniguchi**, **Yoichi Tamura**, **Norika Okauchi,** Nagoya Univ. (Japan); **Hiroaki Kawamoto,** Elecs Industry Co., Ltd. (Japan); **Taku Nakajima**, **Takumi Hikosaka,** Nagoya Univ. (Japan); **Kenichi Harada**, **Toru Taniguchi,** Elecs Industry Co., Ltd. (Japan); **Takeshi Kamazaki,** National Astronomical Observatory of Japan (Japan); **Takeshi Sakai,** The Univ. of Electro-Communications (Japan); **Kunihiko Tanaka,** Keio Univ. (Japan); **Ryohei Kawabe,** National Astronomical Observatory of Japan (Japan)

# CONFERENCE 13103

# X-Ray, Optical, and Infrared Detectors for Astronomy XI

**16 - 19 June 2024 | Room G312/313, North - 3F**

***Conference Chair(s):*** **Andrew D. Holland,** Ctr. for Electronic Imaging (United Kingdom); **Kyriaki Minoglou,** European Space Research and Technology Ctr. (Netherlands)

***Program Committee:*** **Alessandra Ciapponi,** European Space Research and Technology Ctr. (Netherlands); **Chiaki Crews,** The Open Univ. (United Kingdom); **Meghan L. Dorn,** Teledyne Imaging Sensors (United States); **Elizabeth M. George,** European Southern Observatory (Germany); **Michael E. Hoenk,** Jet Propulsion Lab. (United States); **Douglas Jordan,** Teledyne e2v UK Ltd. (United Kingdom); **Ralf Kohley,** European Space Astronomy Ctr. (Spain); **Gregory Mosby,** NASA Goddard Space Flight Ctr. (United States); **Roger M. Smith,** Caltech (United States); **Takeshi Go Tsuru,** Kyoto Univ. (Japan); **Kyriaki Minoglou,** European Space Agency (Netherlands)

## Sunday 16 June 2024

### SESSION 1: INFRARED DETECTORS I

16 June 2024 • 08:30 AM - 12:00 PM | Room G312/313, North - 3F
*Session Chair(s):* **Andrew D. Holland**, Ctr. for Electronic Imaging (United Kingdom)

13103-1 • 08:30 AM - 09:00 AM
**Teledyne Digital Imaging's Recent Contributions to Astronomy and Planetary Science** *(Invited Paper)*
*Author(s):* **James W. Beletic,** Teledyne Imaging Sensors (United States)

13103-3 • 09:00 AM - 09:20 AM
**SIRIS : a new InGaAs sensor for a new, fast, high dynamic, and very low noise SWIR camera**
*Author(s):* **Julien Dubouil,** Observatoire de Paris à Meudon (France); **Maxime Lebreton,** Ecole Normale Supérieure (France); **François Colas,** Observatoire de Paris à Meudon (France); **David Darson,** Ecole Normale Supérieure, CNRS (France)

13103-4 • 09:20 AM - 09:40 AM
**The test of a 1280*1024 InGaAs camera for infrared observations**
*Author(s):* **Jinji Li**, **Bin Ma**, **Zhongnan Dong, Haoran Zhang,** Sun Yat-Sen Univ. (China)

13103-5 • 09:40 AM - 10:00 AM
**A 64-pixel mid-infrared single-photon imager based on superconducting nanowire detectors**
*Author(s):* **Benedikt Hampel**, **Richard P. Mirin**, **Sae Woo Nam, Varun B. Verma,** National Institute of Standards and Technology (United States)

Coffee Break • 10:00 AM - 10:20 AM

13103-2 • 10:20 AM - 10:40 AM
**Early characterisation of a sub-electron readout noise near-infrared large format detector based on MCT avalanche photodiodes**
*Author(s):* **Thibaut Prod'homme**, **Conor Robinson**, **Erik Ryman**, **Frederic Lemmel**, **Sander Blommaert**, **Ivo Visser, Luc Boucher,** European Space Research and Technology Ctr. (Netherlands)

13103-6 • 10:40 AM - 11:00 AM
**In situ cryogenic electro-optical and radiation hardness characterization of a T2SL MWIR sensor for space imaging**
*Author(s):* **Imane Dazzazi**, **James M. Ivory**, **Martin Prest**, **Konstantin D. Stefanov**, **Manish R. Patel,** The Open Univ. (United Kingdom); **Jordan Douglas,** Teledyne e2v UK Ltd. (United Kingdom); **David J. Hall,** The Open Univ. (United Kingdom)

13103-7 • 11:00 AM - 11:20 AM
**Advancing large format MCT/Si infrared detectors for astrophysics research**
*Author(s):* **Lazar Buntic**, **Edwin Alexani**, **Justin P. Gallagher, Donald F. Figer,** Rochester Institute of Technology (United States)

13103-8 • 11:20 AM - 11:40 AM
**Mitigating the 1/f Noise in the JWST Near-IR Detectors**
*Author(s):* **Michael W. Regan, Louis E. Bergeron,** Space Telescope Science Institute (United States)

13103-9 • 11:40 AM - 12:00 PM
**Current IR developments at Leonardo UK**
*Author(s):* **Daniel Owton**, **Jordan Ash**, **Ian M. Baker**, **Les G. Hipwood**, **Matthew Hicks**, **Vincent Isgar**, **Chris D. Maxey, Anton Lindley-DeCaire,** Leonardo UK Ltd. (United Kingdom)

## Lunch Break 12:00 PM - 01:20 PM

## SESSION 2: CRYOGENIC DETECTORS

16 June 2024 • 01:20 PM - 03:40 PM | Room G312/313, North - 3F
*Session Chair(s):* **Gregory Mosby**, NASA Goddard Space Flight Ctr. (United States)

13103-10 • 01:20 PM - 01:40 PM
**Single photon response of MKIDs made of disordered superconductors**
*Author(s):* **Steven A. H. de Rooij,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Thomas Rugers,** Technische Univ. Delft (Netherlands); **Kevin Kouwenhoven,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Yannic Alkemade,** Technische Univ. Delft (Netherlands); **Tonny H. M. Coppens,** SRON Netherlands Institute for Space Research (Netherlands); **Jochem J. A. Baselmans,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Pieter J. de Visser,** SRON Netherlands Institute for Space Research (Netherlands)

13103-11 • 01:40 PM - 02:00 PM
**Experimental Demonstration Of Photon Counting With Kinetic Inductance Detectors At Mid-Infrared Wavelengths**
*Author(s):* **Wilbert G. Ras**, **Kevin Kouwenhoven**, **David J. Thoen,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Vignesh Murugesan,** SRON Netherlands Institute for Space Research (Netherlands); **Jochem J. A. Baselmans,** SRON Netherlands Institute for Space Research (Netherlands), TU Delft (Netherlands); **Pieter J. De Visser,** SRON Netherlands Institute for Space Research (Netherlands)

13103-12 • 02:00 PM - 02:20 PM
**Current state of mid-infrared superconducting nanowire single-photon detectors**
*Author(s):* **Emma E. Wollman**, **Gregor Taylor,** Jet Propulsion Lab. (United States); **Sahil Patel,** Caltech (United States); **Bruce Bumble**, **Boris A. Korzh,** Jet Propulsion Lab. (United States); **Marco Colangelo,** Northeastern Univ. (United States); **Dip Joti Paul,** Massachusetts Institute of Technology (United States); **Sven van Berkel**, **Alexander B. Walter**, **Jason P. Allmaras,** Jet Propulsion Lab. (United States); **Benedikt Hampel**, **Varun B. Verma,** National Institute of Standards and Technology (United States); **Karl K. Berggren,** Massachusetts Institute of Technology (United States); **Matthew D. Shaw,** Jet Propulsion Lab. (United States)

13103-13 • 02:20 PM - 02:40 PM
**Developing scalable transition-edge sensor readout through the nonlinear kinetic inductance effect for future IR/O/UV instrumentation**
*Author(s):* **Paul Szypryt,** National Institute of Standards and Technology (United States), Univ. of Colorado Boulder (United States); **Douglas A. Bennett,** National Institute of Standards and Technology (United States); **Ian Fogarty Florang**, **Joseph W. Fowler**, **Jiansong Gao**, **Andrea Giachero**, **Ruslan Hummatov,** National Institute of Standards and Technology (United States), Univ. of Colorado Boulder (United States); **Jozsef Imrek,** National Institute of Standards and Technology (United States), Theiss Research (United States); **Adriana E. Lita**, **John A. B. Mates**, **Sae Woo Nam**, **Daniel S. Swetz**, **Joel N. Ullom**, **Michael R. Vissers, Jordan D. Wheeler,** National Institute of Standards and Technology (United States)

13103-14 • 02:40 PM - 03:00 PM
**Comparison of superconducting detector technologies toward the Habitable Worlds Observatory**
*Author(s):* **Matthew D. Shaw**, **Boris A. Korzh,** Jet Propulsion Lab. (United States); **Adam N. McCaughan,** National Institute of Standards and Technology (United States); **Benjamin A. Mazin,** Univ. of California, Santa Barbara (United States); **Adriana E. Lita**, **Paul Szypryt,** National Institute of Standards and Technology (United States); **Jason P. Allmaras**, **Brandon Dube**, **Emma E. Wollman**, **Weibo Chen, Dean L. Johnson,** Jet Propulsion Lab. (United States)

13103-15 • 03:00 PM - 03:20 PM
**DR-TES & 511-CAM missions: Transition-edge sensor microcalorimeter detectors for pointed X-ray and Gamma-ray missions**
*Author(s):* **Nicole Rodriguez Cavero**, **Md. Arman Hossen**, **Ephraim Gau**, **Kun Hu,** Washington Univ. in St. Louis (United States); **Farzane Shirazi,** Clemson Univ. (United States); **Henric Krawczynski,** Washington Univ. in St. Louis (United States); **Daniel T. Becker**, **Daniel R. Schmidt,** National Institute of Standards and Technology (United States); **Sohee Chun,** Washington Univ. in St. Louis (United States); **Douglas A. Bennet,** National Institute of Standards and Technology (United States); **Richard Bose**, **Dana Braun**, **Bhupal Dev**, **Francesc Ferrer,** Washington Univ. in St. Louis (United States); **Johnathon D, Gard**, **Mark Keller,** National Institute of Standards and Technology (United States); **Fabian Kislat,** The Univ. of New Hampshire (United States); **Lindsey Lisalda,** Washington Univ. in St. Louis (United States); **John A. B. Mates,** National Institute of Standards and Technology (United States); **Garry Simburger,** Washington Univ. in St. Louis (United States); **Daniel S. Swetz**, **Joel N. Ullom**, **Joel C. Weber,** National Institute of Standards and Technology (United States); **Andrew T. West,** Washington Univ. in St. Louis (United States)

13103-16 • 03:20 PM - 03:40 PM **(CANCELLED)**
**Superconducting Transition-Edge Sensors for Habitable Worlds Observatory Science**
*Author(s):* **John E. Sadleir**, **Lee D. Feinberg**, **Natalie S. Denigris**, **Edward J. Wollack**, **Christopher C. Stark**, **Alex R. Howe**, **Michael W. McElwain**, **Breann N. Sitarski**, **Edgar R. Canavan**, **Paul A. Scowen, Michael J. Dipirro,** NASA Goddard Space Flight Ctr. (United States)

## Coffee Break 03:40 PM - 04:10 PM

## SESSION 3: X-RAY IMAGING

16 June 2024 • 04:10 PM - 05:30 PM | Room G312/313, North - 3F
*Session Chair(s):* **Konstantin D. Stefanov**, The Open Univ. (United Kingdom)

13103-17 • 04:10 PM - 04:30 PM
**Evaluation of a CMOS sensor for solar flare soft X-ray imaging spectroscopy onboard the sounding rocket experiment FOXSI-4**
*Author(s):* **Riko Shimizu,** SOKENDAI, The Graduate Univ. for Advanced Studies (Japan); **Noriyuki Narukage,** National Astronomical Observatory of Japan (Japan); **Taro Sakao,** Institute of Space and Astronautical Science (Japan); **Yoshiaki Sato,** SOKENDAI, The Graduate Univ. for Advanced Studies (Japan); **Sota Kashima,** Kwansei Gakuin Univ. (Japan); **Tadayuki Takahashi**, **Shunsaku Nagasawa**, **Takahiro Minami**, **Toshiya Iwata,** The Univ. of Tokyo (Japan); **Lindsay Glesener,** Univ. of Minnesota, Twin Cities (United States); **Rei Suzaki,** Tokyo Univ. of Agriculture and Technology (Japan)

13103-18 • 04:30 PM - 04:50 PM
**X-ray optimised CMOS image sensors for the Auroral X-ray Imaging Spectrometer (AXIS)**
*Author(s):* **Chiaki Crews**, **Lawrence S. Jones**, **James M. Ivory**, **Thomas W. Buggey**, **Charles Townsend-Rose**, **Konstantin D. Stefanov, Andrew D. Holland,** The Open Univ. (United Kingdom)

13103-19 • 04:50 PM - 05:10 PM
**CMOS image sensors for X-ray interferometry**
*Author(s):* **Thomas W. Buggey**, **Andrew D. Holland**, **Konstantin D. Stefanov**, **Michael W. J. Hubbard, David J. Hall,** The Open Univ. (United Kingdom)

13103-20 • 05:10 PM - 05:30 PM
**Trigger-Output Event-Driven X-ray astronomy SOI pixel sensors: Development of Large Sensors with PDD structure and Recent Progress in Digitization**
*Author(s):* **Takeshi Go Tsuru,** Kyoto Univ. (Japan); **Koji Mori**, **Ayaki Takeda**, **Yusuke Nishioka**, **Yuta Fuchita**, **Uzuki Iwakiri**, **Daisuke Izumi**, **Kousuke Kadoya**, **Shinichi Kamada**, **Rikuto Kawashima**, **Eisuke Kurogi**, **Koyo Magata**, **Miraku Kimura**, **Hikaru Mitani**, **Yuto Saitou**, **Yuto Sasaki**, **Asahi Shiokawa**, **Taiga Yoshida**, **Masataka Yukumoto,** Univ. of Miyazaki (Japan); **Yasushi Fukazawa**, **Yusuke Suda**, **Masaki Hashizume,** Hiroshima Univ. (Japan); **Takaaki Tanaka**, **Rhyichi Azuma**, **Natsuki Terano,** Konan Univ. (Japan); **Kumiko K. Nobukawa**, **Takumi Kishimoto**, **Yuki Nishimura**, **Satoru Kuwano**, **Yoshihisa Kawabe,** Kindai Univ. (Japan); **Masayoshi Nobukawa,** Nara Univ. of Education (Japan); **Hirokazu Odaka,** Osaka Univ. (Japan); **Hiroyuki Uchida**, **Mizuki Uenomachi**, **Tomonori Ikeda**, **Masamune Matsuda**, **Takuto Narita,** Kyoto Univ. (Japan); **Ikuo Kurachi,** D&S Inc. (Japan); **Hiromasa Suzuki,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Hiroshi Nakajima,** Kanto Gakuin Univ. (Japan); **Kouichi Hagino**, **Hiroumi Matsuhashi**, **Yoshiyuki Onuki**, **Kenji Shimazoe,** The Univ. of Tokyo (Japan); **Takayoshi Kohmura**, **Yuusuke Uchida**, **Naoki Ito**, **Fumiya Shiga**, **Shun Tsunomachi**, **Toshiki Doi**, **Daiki Aoki**, **Yasuyuki Shimizu**, **Yuuki Takesue,** Tokyo Univ. of Science (Japan); **Kaito Fujisawa,** The Univ. of Tokyo (Japan); **Yasuo Arai,** High Energy Accelerator Research Organization, KEK (Japan); **Hideaki Katagiri,** Ibaraki Univ. (Japan); **Mika Kagaya,** National Institute of Technology, Sendai College (Japan); **Shoji Kawahito,** Shizuoka Univ. (Japan); **Setsuo Sato**, **Hiroyuki Takahashi,** The Univ. of Tokyo (Japan); **Takehiro Takayanagi,** High Energy Accelerator Research Organization, KEK (Japan)

## Monday 17 June 2024

### MONDAY PLENARY

17 June 2024 • 08:20 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/monday-plenary

13173-500 • 08:30 AM - 09:15 AM
**Moving TMT forward: Japan's contributions and transformative approach toward community engagement** (Plenary Presentation)
*Author(s):* **Tomonori Usuda,** National Astronomical Observatory of Japan (United States); **Yuko Kakazu,** Thirty Meter Telescope (United States)

13173-501 • 09:15 AM - 10:00 AM
**From dark skies to bright futures: the evolution of astronomy in Africa and the hosting of the historic International Astronomical Union General Assembly 2024** (Plenary Presentation)
*Author(s):* **Charles Mpho Takalana,** The African Astronomical Society (South Africa)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 4: INFRARED DETECTORS II

17 June 2024 • 10:30 AM - 12:20 PM | Room G312/313, North - 3F
*Session Chair(s):* **Kyriaki Minoglou**, European Space Agency (Netherlands)

13103-21 • 10:30 AM - 11:00 AM
**High-performance infrared detector developments at the European Space Agency** *(Invited Paper)*
*Author(s):* **Nick Nelms**, **Kyriaki Minoglou**, **Brian Shortt**, **Alessandra Ciapponi**, **Dean Yeoman**, **Matthew R. Soman**, **Anna L. Eiden**, **Toncho Ivanov**, **Mustapha Zahir**, **Michal Miler**, **Thibaut Prod'homme**, **Luc Boucher, Joerg Ter Haar,** European Space Agency (Netherlands)

13103-22 • 11:00 AM - 11:20 AM
**Cassiopée, towards technological development for XAO on ELT. : the e-APD infrared detector**
*Author(s):* **Jean-Luc Gach,** First Light Imaging S.A.S. (France); **Piero Bruno**, **Julien Charton,** ALPAO S.A.S. (France); **Philippe Feautrier,** First Light Imaging S.A.S. (France); **Thierry Fusco,** ONERA (France), Univ. Paris-Saclay (France); **Benoit Neichel,** Lab. d'Astrophysique de Marseille (France), Aix-Marseille Univ. (France); **Jean-François Sauvage,** ONERA (France), Univ. Paris-Saclay (France)

13103-23 • 11:20 AM - 11:40 AM
**Design and characterisation of 36-pixel SNSPD arrays for the mid-infrared astronomical applications**
*Author(s):* **Dmitry V. Morozov**, **Daniel Kuznesof**, **Ciaran Lennon,** Univ. of Glasgow (United Kingdom); **Umberto Nasti,** Heriot-Watt Univ. (United Kingdom); **Robert H. Hadfield,** Univ. of Glasgow (United Kingdom)

13103-24 • 11:40 AM - 12:00 PM
**The MICADO first light imager for the ELT: Overview of the near infrared mosaic detector subsystem**
*Author(s):* **Naidu N. Bezawada**, **Marcus Haug**, **Barbara Klein**, **Martin Brinkmann**, **Eric Müller**, **Derek J. Ives**, **Elizabeth M. George**, **Benoit Serra**, **Domingo Alvarez Mendez**, **Leander H. Mehrgan**, **Mathias Richerzhagen**, **Matthias Seidel**, **Jörg Stegmeier**, **Mirko Todorović,** European Southern Observatory (Germany); **Federico Biondi**, **Ric Davies**, **Andreas Emslander**, **Aysun Sönmez**, **Kateryna Kravchenko**, **Sebastian Rabien**, **Julian Ziegleder**, **Tilo Jilg, Luis Neumeier,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13103-25 • 12:00 PM - 12:20 PM
**Progress towards a megapixel linear-mode avalanche photodiode array for ultra-low background shortwave infrared astronomy**
*Author(s):* **Michael Bottom**, **Charles-Antoine Claveau,** Institute for Astronomy (United States); **Shane M. Jacobson,** Institute for Astronomy (United States), Gemini Observatory (United States); **Guillaume Huber,** Institute for Astronomy (United States); **Matthew Newland,** Univ. of Hawai'i at Hilo (United States); **Ian M. Baker**, **Keith Barnes**, **Matthew Hicks,** Leonardo UK Ltd. (United Kingdom); **Angelu Ramos,** Univ. of Hawai'i at Hilo (United States)

**Lunch Break 12:20 PM - 01:30 PM**

### SESSION 5: CCDS AND SINGLE PHOTON DETECTORS I

17 June 2024 • 01:30 PM - 03:30 PM | Room G312/313, North - 3F
*Session Chair(s):* **Roger Smith**, Caltech (United States)

13103-26 • 01:30 PM - 01:50 PM
**SMILE SXI CCD370 proton irradiation results**
*Author(s):* **Steve Parsons**, **Thomas W. Buggey**, **David J. Hall**, **Andrew D. Holland,** Ctr. for Electronic Imaging, The Open Univ. (United Kingdom); **Oliver Hetherington**, **Michael Hubbard, Timothy Arnold,** Ctr. for Electronic Imaging (United Kingdom)

13103-28 • 01:50 PM - 02:10 PM
**Astronomical Spectroscopy with Skipper CCDs: First Science Results from a Skipper CCD Focal Plane Prototype at SIFS**
*Author(s):* **Edgar Marrufo Villalpando,** The Univ. of Chicago (United States); **Alex Drlica-Wagner,** The Univ. of Chicago (United States), Fermi National Accelerator Lab. (United States); **Brandon Roach,** The Univ. of Chicago (United States); **Luciano Fraga,** Lab. Nacional de Astrofísica (Brazil); **Andres A. Plazas Malagon,** Kavli Institute for Particle Astrophysics & Cosmology (United States), SLAC National Accelerator Lab. (United States); **Marco Bonati**, **Braulio Cancino,** Cerro Tololo Inter-American Observatory (Chile), NSF's National Optical-Infrared Astronomy Research Lab. (Chile); **Jaun Estrada**, **Guillermo Fernandez Moroni,** Fermi National Accelerator Lab. (United States); **Stephen E. Holland,** Lawrence Berkeley National Lab. (United States); **Martin Makler,** Ctr. Brasileiro de Pesquisas Fisicas (Brazil)

13103-29 • 02:10 PM - 02:30 PM
**Effects of proton irradiation on the performance of skipper CCDs**
*Author(s):* **Brandon Roach,** The Univ. of Chicago (United States); **Brenda A. Cervantes Vergara,** Fermi National Accelerator Lab. (United States); **Alex Drlica-Wagner,** The Univ. of Chicago (United States), Fermi National Accelerator Lab. (United States); **Juan Estrada,** Fermi National Accelerator Lab. (United States); **Santiago Perez,** Univ. de Buenos Aires (Argentina)

13103-30 • 02:30 PM - 02:50 PM
**Characterization of amplifier glow in silicon MOSFETs using Skipper-CCDs**
*Author(s):* **Santiago Perez,** Univ. de Buenos Aires (Argentina), Fermi National Accelerator Lab. (United States); **Javier Tiffenberg,** Fermi National Accelerator Lab. (United States); **Stephen E. Holland,** Lawrence Berkeley National Lab. (United States); **Dario Rodrigues,** Univ. de Buenos Aires (Argentina); **Juan Estrada**, **Brenda Cervantes, Guillermo Fernandez-Moroni,** Fermi National Accelerator Lab. (United States)

13103-31 • 02:50 PM - 03:10 PM
**Results from the characterization tests of p-channel skipper-CCDs fabricated on 8-inch wafers**
*Author(s):* **Brenda A. Cervantes Vergara, Juan Cruz Estrada,** Fermi National Accelerator Lab. (United States)

13103-27 • 03:10 PM - 03:30 PM
**Assessment and removal of thin tearing resembling structures in deep-depletion CCDs**
*Author(s):* **Eloy Hernandez,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Javier Reyes,** European Southern Observatory (Germany); **Olga Bellido-Tirado,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Domingo Alvarez Mendez,** European Southern Observatory (Germany); **Genoveva Micheva**, **Stella Vješnica**, **Roelof S. de Jong, Hakan Önel,** Leibniz-Institut für Astrophysik Potsdam (Germany)

## Coffee Break 03:30 PM - 04:00 PM

## SESSION 6: X-RAY I

17 June 2024 • 04:00 PM - 05:40 PM | Room G312/313, North - 3F
*Session Chair(s):* **Andrew D. Holland**, Ctr. for Electronic Imaging (United Kingdom)

13103-32 • 04:00 PM - 04:20 PM
**X-ray speed reading with the MCRC: prototype success and next generation upgrades**
*Author(s):* **Peter Orel**, **Sven C. Herrmann**, **Tanmoy Chattopadhyay**, **Glenn R. Morris,** Kavli Institute for Particle Astrophysics & Cosmology, Stanford Univ. (United States); **Gregory Y. Prigozhin,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Haley R. Stueber,** Kavli Institute for Particle Astrophysics & Cosmology, Stanford Univ. (United States); **Abby Pan,** Kavli Institute for Particle Astrophysics & Cosmology (United States); **Steven W. Allen,** Kavli Institute for Particle Astrophysics & Cosmology, Stanford Univ. (United States); **Marshall W. Bautz,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Michael J. Cooper**, **Kevan Donlon**, **Richard F. Foster,** MIT Lincoln Lab. (United States); **Beverly J. LaMarr**, **Andrew C. Malonis,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Daniel R. Wilkins,** Kavli Institute for Particle Astrophysics & Cosmology, Stanford Univ. (United States)

13103-33 • 04:20 PM - 04:40 PM
**Soft X-ray resolution and scientific performance of CCD sensors for future X-ray missions**
*Author(s):* **Beverly J. LaMarr**, **Benjamin Schneider**, **Gregory Y. Prigozhin**, **Eric D. Miller**, **Marshall W. Bautz**, **Richard F. Foster**, **Catherine E. Grant**, **Andrew C. Malonis,** Massachusetts Institute of Technology (United States); **Michael J. Cooper**, **Renee D. Lambert**, **Kevin K. Ryu, Mallory Jensen,** MIT Lincoln Lab. (United States)

13103-34 • 04:40 PM - 05:00 PM
**High-speed X-ray Imaging Spectroscopy by CCD-CMOS Hybrid Sensor**
*Author(s):* **Hiroshi Nakajima**, **Naoya Takagi**, **Yuki K. Satoh,** Kanto Gakuin Univ. (Japan); **Junko S. Hiraga,** Kwansei Gakuin Univ. (Japan)

13103-35 • 05:00 PM - 05:20 PM
**Status of x-ray hybrid CMOS development efforts at PSU**
*Author(s):* **Lukas R. Stone**, **Abraham D. Falcone**, **Mitchell J. Wages**, **Joseph M. Colosimo**, **Timothy Emeigh**, **William A. Bevidas**, **Jacob C. C. Buffington**, **David N. Burrows**, **Zachary E. Catlin**, **Collin Reichard, Ana C. Scigliani,** The Pennsylvania State Univ. (United States)

13103-36 • 05:20 PM - 05:40 PM
**SSAXI-Rocket back-illuminated CMOS sensors**
*Author(s):* **Sophia A. Sánchez-Maes**, **Johnny Ho**, **Elias Aguirre Contreras**, **Isaac Anderson**, **Carl Barcroft**, **Juliana Barstow**, **David Caldwell**, **Brendan D'Aquino**, **Gabriel Dubinsky**, **Thomas M. Gauron**, **Jae Sub E. Hong**, **Almus T. Kenter**, **Christopher S. Moore**, **Rachel Nere**, **Ritesh Pandohie, Crisel Suarez,** Ctr. for Astrophysics | Harvard & Smithsonian (United States)

## SESSION PS1: POSTERS-MONDAY

17 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Monday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13103-69 • 05:30 PM - 07:00 PM
**Study of new types of detectors in the SWIR (Short Wave InfraRed): Extension of the operating band beyond 1.7 µm**
*Author(s):* **Jordi Roubichou,** Lab. d'Astrophysique de Marseille (France); **Jean-Luc Reverchon**, **Axel Evirgen**, **Claire Theveneau,** III-V Lab. (France); **Vincent Gueriaux,** Thales LAS France SAS (France); **Jean-Luc Gach, Jean-Luc Beuzit,** Lab. d'Astrophysique de Marseille (France)

13103-70 • 05:30 PM - 07:00 PM
**Firmware design of a science CMOS camera and its performance test**
*Author(s):* **Zi-Yi Liu**, **Yi-Hao Zhang**, **Yu-jing Tang**, **Wen-qing Qu**, **Jie Gao**, **Hong-fei Zhang, Jian Wang,** Univ. of Science and Technology of China (China)

13103-71 • 05:30 PM - 07:00 PM
**Non-ionising radiation effects in a soft X-ray CMOS image sensor**
*Author(s):* **Charles Townsend-Rose**, **Thomas W. Buggey**, **James M. Ivory**, **Imane Dazzazi**, **Konstantin D. Stefanov, David J. Hall,** The Open Univ. (United Kingdom)

13103-72 • 05:30 PM - 07:00 PM
**Limiting atmospheric emission lines with on-detector subarrays**
*Author(s):* **Theodore A. Grosson,** Univ. of Victoria (Canada); **Edward L. Chapin**, **Tim Hardy**, **Alan W. McConnachie**, **Jordan Lothrop, Richard Murowinski,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13103-73 • 05:30 PM - 07:00 PM
**Herding photons: Correction algorithm for the brighter-fatter effect in the JWST-MIRI Si:As detectors**
*Author(s):* **Danny Gasman**, **Ioannis Argyriou,** KU Leuven (Belgium); **Michael Engesser**, **Michael W. Regan,** Space Telescope Science Institute (United States); **Jeroen Bouwman,** Max Planck Institute for Astronomy (MPIA) (Germany)

13103-75 • 05:30 PM - 07:00 PM
**Shrinking superconducting single-photon detectors with a-SiC:H parallel plate capacitors**
*Author(s):* **Kevin Kouwenhoven,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Gwen P. J. van Doorn,** SRON Netherlands Institute for Space Research (Netherlands); **Bruno T. Buijtendorp,** Technische Univ. Delft (Netherlands); **Steven A. H. de Rooij,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Dimitry Lamers,** SRON Netherlands Institute for Space Research (Netherlands); **David J. Thoen,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Vignesh Murugesan,** SRON Netherlands Institute for Space Research (Netherlands); **Jochem J. A. Baselmans,** SRON Netherlands Institute for Space Research (Netherlands), Technische Univ. Delft (Netherlands); **Pieter J. de Visser,** SRON Netherlands Institute for Space Research (Netherlands)

13103-77 • 05:30 PM - 07:00 PM
**The XOC X-ray Beamline: Probing Colder, Quieter, and Softer**
*Author(s):* **Haley R. Stueber**, **Tanmoy Chattopadhyay**, **Sven C. Herrmann**, **Peter Orel**, **Tsion Gebre**, **Aanand Joshi**, **Steven W. Allen**, **Glenn R. Morris, Artem Poliszczuk,** Stanford Univ. (United States)

13103-78 • 05:30 PM - 07:00 PM
**Characterizations of the charge sharing and loss effects on Cadmium Telluride and Cadmium Zinc Telluride pixel detectors with a custom ASIC for astrophysical applications**
*Author(s):* **Hiromasa Miyasaka**, **Fiona A. Harrison**, **Walter R. Cook**, **Brian W. Grefenstette**, **Jill A. Burnham,** Caltech (United States); **Kristin K. Madsen,** NASA Goddard Space Flight Ctr. (United States); **Sean N. Pike,** Univ. of California, San Diego (United States); **Joseph A. Bichel,** Caltech (United States)

13103-79 • 05:30 PM - 07:00 PM
**The performance test of commercial InGaAs detectors in low temperature**
*Author(s):* **Hao-ran Ma**, **Wen-qing Qu**, **Yu Ning**, **Jiang-yuan Wei**, **Jie Gao**, **Hong-fei Zhang, Jian Wang,** Univ. of Science and Technology of China (China)

13103-80 • 05:30 PM - 07:00 PM
**Holistic understanding of the JWST-MIRI detector PSF using physical optics propagation**
*Author(s):* **Ioannis Argyriou,** KU Leuven (Belgium); **Polychronis Patapis,** ETH Zurich (Switzerland); **David Lee, Alistair Glasse,** UK Astronomy Technology Center (United Kingdom)

13103-81 • 05:30 PM - 07:00 PM
**ESA's all-in-one bench for visible and infrared detector characterisation**
*Author(s):* **Thibaut Prod'homme**, **Sander Blommaert**, **James Etchells**, **Ivo Visser,** European Space Research and Technology Ctr. (Netherlands); **Dennis Breeveld,** Klok Vacuumservice (Netherlands)

13103-82 • 05:30 PM - 07:00 PM
**Performance report of a substrate-removed InGaAs sensor for the JASMINE mission**
*Author(s):* **Kohei Miyakawa,** National Astronomical Observatory of Japan (Japan); **Shotaro Tada,** The Graduate Univ. for Advanced Studies (Japan); **Hirokazu Kataza,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Ryouhei Kano**, **Takehiko Wada**, **Masanobu Ozaki,** National Astronomical Observatory of Japan (Japan); **Takayuki Kotani,** AstroBiology Ctr., NINS (Japan); **Hajime Kawahara**, **Fumihiko Usui,** Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); **Yui Kasagi,** Institute of Space and Astronautical Science (Japan)

13103-83 • 05:30 PM - 07:00 PM
**Continued developments in X-ray speed reading: fast, low noise readout for next-generation wide-field imagers**
*Author(s):* **Sven C. Herrmann**, **Peter Orel**, **Tanmoy Chattopadhyay**, **Glenn R. Morris,** Stanford Univ. (United States); **Gregory Y. Prigozhin,** Massachusetts Institute of Technology (United States); **Haley R. Stueber**, **Steven W. Allen,** Stanford Univ. (United States); **Marshall W. Bautz,** Massachusetts Institute of Technology (United States); **Kevan Donlon,** MIT Lincoln Lab. (United States); **Beverly J. LaMarr,** Massachusetts Institute of Technology (United States); **Christopher W. Leitz,** MIT Lincoln Lab. (United States); **Eric D. Miller,** Massachusetts Institute of Technology (United States); **Abby Pan**, **Artem Poliszczuk, Dan R. Wilkins,** Stanford Univ. (United States)

13103-85 • 05:30 PM - 07:00 PM
**Assessing the suitability of CIS220 for low light astronomy**
*Author(s):* **James M. Ivory**, **Phillipa Smith**, **Jesper M. Skottfelt**, **Konstantin D. Stefanov**, **Thomas W. Buggey,** The Open Univ. (United Kingdom); **Thibaut Prod'homme,** European Space Research and Technology Ctr. (Netherlands); **David J. Hall,** The Open Univ. (United Kingdom)

13103-86 • 05:30 PM - 07:00 PM
**ESA's packaging solution for Leonardo's IBEX detector: design, manufacture, and test activities**
*Author(s):* **Sander Blommaert**, **Thibaut Prod' Homme**, **Ivo Visser**, **Gabor Milassin,** European Space Research and Technology Ctr., European Space Agency (Netherlands); **Dennis Breeveld,** Klok Vacuumservice (Netherlands); **Erik Ryman**, **Conor Robinson,** European Space Research and Technology Ctr., European Space Agency (Netherlands); **James Robert Matthew Etchells**, **Kees van der Luijt, Brian Shortt,** European Space Research and Technology Ctr. (Netherlands)

13103-87 • 05:30 PM - 07:00 PM
**Characterization of Two-layer Al/TiN Microwave Kinetic Inductance Detectors**
*Author(s):* **Mehdi Shafiee,** Nazarbayev Univ. (Kazakhstan); **Bruce Grossan,** Space Sciences Lab., Univ. of California, Berkeley (United States); **George F. Smoot,** Univ. of California, Berkeley (United States); **Albert Wai Kit Lau,** Dunlap Institute, University of Toronto (Canada)

13103-88 • 05:30 PM - 07:00 PM
**Development of large format visible CMOS sensor for short-time scale astronomy**
*Author(s):* **Yukiko Kamata**, **Satoshi Kawanomoto,** National Astronomical Observatory of Japan (Japan); **Satoshi Miyazaki,** National Astronomical Observatory of Japan (United States); **Yutaka Komiyama,** Hosei Univ. (Japan); **Yutaka Fujita,** Department of Physics, Graduate School of Science Tokyo Metropolitan University (Japan); **Masamune Oguri,** Center for Frontier Science, Chiba University (Japan); **Yuki Imai**, **Tasuku Joboji, Yukinobu Sugiyama,** Hamamatsu Photonics K.K. (Japan)

13103-89 • 05:30 PM - 07:00 PM
**Trigger performance evaluation and anti-coincidence demonstration of an Event-Driven SOI Pixel Detector for X-ray astronomy**
*Author(s):* **Takuto Narita**, **Takeshi Go Tsuru**, **Mizuki Uenomachi**, **Tomonori Ikeda**, **Masamune Matsuda**, **Hiroyuki Uchida,** Kyoto Univ. (Japan); **Ayaki Takeda**, **Koji Mori**, **Masataka Yukumoto**, **Daisuke Izumi**, **Koyo Magata,** Univ. of Miyazaki (Japan); **Kenji Shimazoe**, **Hiroyuki Takahashi**, **Koichi Hagino,** The Univ. of Tokyo (Japan); **Ikuo Kurachi,** D&S Inc. (Japan); **Yasuo Arai,** High Energy Accelerator Research Organization, KEK (Japan); **Takayoshi Kohmura,** Tokyo Univ. of Science (Japan); **Takaaki Tanaka,** Konan Univ. (Japan)

13103-90 • 05:30 PM - 07:00 PM
**XFT: Independent, Opensource and Python Based X-ray Reflectometry Fitting Tool, For Specular Measured Thin Film Structures**
*Author(s):* **Nis Christian Gellert**, **Sonny Massahi**, **Desiree Ferreira**, **Diego Sanz**, **Sara Svendsen**, **Arne S. S. Jegers, Finn E. Christensen,** Technical Univ. of Denmark (Denmark)

13103-91 • 05:30 PM - 07:00 PM
**Characterization of the spectral performance of the pnCCD after proton irradiation to predict the end-of-life performance of the Microchannel X-Ray Telescope Camera on board the SVOM mission**
*Author(s):* **Diana Renaud,** CEA-IRFU (France); **Hugo Allaire**, **Axel Barrey**, **Marion Baumann**, **David Baudin,** CEA (France); **Ion Cojocari,** Lab. de Physique des 2 Infinis Irène Joliot-Curie (France); **Eric Doumayrou**, **Diego Götz**, **Philippe R. Ferrando**, **Philippe Laurent**, **Michel Lortholary,** CEA (France); **Pascal Mercère,** Synchrotron SOLEIL (France); **Aline Meuris**, **Frédéric P. Pinsard**, **Thibault Pichon**, **Clara Plasse**, **Marin Prieur**, **Léna Provost,** CEA (France); **Benjamin Schneider,** Massachusetts Institute of Technology (United States); **Timothée Tollet**, **Thierry Tourrette**, **François Visticot,** CEA (France); **Norbert Meidinger,** Max-Planck-Institut für extraterrestrische Physik (Germany)

13103-92 • 05:30 PM - 07:00 PM
**Characterizing the noises of InGaAs cameras for astronomical observations**
*Author(s):* **Zhongnan Dong**, **Bin Ma**, **Jinji Li, Haoran Zhang,** Sun Yat-Sen Univ. (China)

13103-93 • 05:30 PM - 07:00 PM
**EMCCD Gain estimation - a comparison of techniques**
*Author(s):* **Nicholas Devaney**, **Dónal McErlean**, **Andrew Shearer, Cian Colleary,** Univ. of Galway (Ireland)

13103-94 • 05:30 PM - 07:00 PM
**Performance of Optical to Near Infrared TiN/Ti/TiN Tri-Layer Microwave Kinetic Inductance Detectors**
*Author(s):* **Cáthal McAleer,** Dublin Institute for Advanced Studies (Ireland), National Univ. of Ireland, Maynooth (Ireland); **Gary Donegan**, **Colm P. Bracken**, **Gerhard Ulbricht,** National Univ. of Ireland, Maynooth (Ireland), Dublin Institute for Advanced Studies (Ireland); **Oisin Creaner,** Dublin City Univ. (Ireland); **Mario De Lucia,** Univ. di Pisa (Italy), Istituto Nazionale di Fisica Nucleare (Italy), Dublin Institute for Advanced Studies (Ireland); **Tom P. Ray,** Dublin Institute for Advanced Studies (Ireland)

13103-95 • 05:30 PM - 07:00 PM
**Optimization of fabrication procedures for TiN / Ti / TiN triple-layer photon-counting optical to near-IR Microwave Kinetic Inductance Detectors**
*Author(s):* **Gary Donegan,** National Univ. of Ireland, Maynooth (Ireland), Dublin Institute for Advanced Studies (Ireland); **Cáthal McAleer,** Dublin Institute for Advanced Studies (Ireland), National Univ. of Ireland, Maynooth (Ireland); **Colm P. Bracken,** National Univ. of Ireland, Maynooth (Ireland); **Oisin Creaner,** Dublin City Univ. (Ireland); **Mario De Lucia,** Dublin Institute for Advanced Studies (Ireland), Univ. di Pisa (Italy), Istituto Nazionale di Fisica Nucleare (Italy); **Gerhard Ulbricht,** National Univ. of Ireland, Maynooth (Ireland), Dublin Institute for Advanced Studies (Ireland); **Tom P. Ray,** Dublin Institute for Advanced Studies (Ireland)

13103-96 • 05:30 PM - 07:00 PM
**MIRI last frame effect analysis and correction**
*Author(s):* **Michael Engesser**, **Michael W. Regan,** Space Telescope Science Institute (United States); **Ioannis Argyriou,** KU Leuven (Belgium); **Michael E. Ressler,** Jet Propulsion Lab., NASA (United States)

## Tuesday 18 June 2024

### TUESDAY PLENARY

18 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/tuesday-plenary

13173-502 • 08:30 AM - 09:15 AM
**The present and future of Japan's space program** (Plenary Presentation)
*Author(s):* **Saku Tsuneta,** National Astronomical Observatory of Japan (Japan)

13173-503 • 09:15 AM - 10:00 AM
**NASA astrophysics: from today to the Habitable Worlds Observatory** (Plenary Presentation)
*Author(s):* **Mark Clampin,** NASA Goddard Space Flight Ctr. (United States); **John M. O'Meara,** W. M. Keck Observatory (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 7: CMOS IMAGE SENSORS

18 June 2024 • 10:30 AM - 11:00 AM | Room G312/313, North - 3F
*Session Chair(s):* **Kyriaki Minoglou**, European Space Agency (Netherlands)

13103-37 • 10:30 AM - 11:00 AM
**Innovations in imaging technology at Teledyne e2v to support future visible, NIR, UV & X-ray applications** *(Invited Paper)*
*Author(s):* **Jérôme Pratlong, Marc Watkins,** Teledyne e2v UK Ltd. (United Kingdom)

## SESSION 8: CMOS I

18 June 2024 • 11:00 AM - 12:20 PM | Room G312/313, North - 3F
*Session Chair(s):* **Michael E. Hoenk**, Jet Propulsion Lab. (United States)

13103-38 • 11:00 AM - 11:20 AM
**MCP-TimePix3 @OARPAF: A pathfinder for an imaging detector with high time resolution for astronomy**
*Author(s):* **Lorenzo Cabona,** INAF - Osservatorio Astronomico di Brera (Italy); **Massimo Cecconi,** Fundación Galileo Galilei - INAF (Spain); **Ruggero Caravita,** Trento Institute for Fundamental Physics and Applications (Italy); **Filippo Ambrosino,** INAF - Osservatorio Astronomico di Roma (Italy); **Alessandra Casale,** LNGS/INFN Laboratori Nazionali del Gran Sasso (Italy); **Davide Ricci,** INAF - Osservatorio Astronomico di Padova (Italy); **Lisa Gloggler,** Physics Department, CERN (Switzerland); **Silvano Tosi,** Univ. degli Studi di Genova (Italy)

13103-39 • 11:20 AM - 11:40 AM
**Superlattice-doped PMOS Imaging Arrays for Broadband Visible Applications**
*Author(s):* **April D. Jewell**, **Todd Jones**, **Michael E. Hoenk,** Jet Propulsion Lab. (United States); **Jeff Clayhold, John R. Tower,** SRI International (United States)

13103-40 • 11:40 AM - 12:00 PM
**Beyond CCDs: Characterization of sCMOS detectors for optical astronomy**
*Author(s):* **Aditya Khandelwal**, **Sarik Jeram**, **Ryan D. Dungee**, **Albert Lau**, **Phil Van-Lane**, **Allison Lau**, **Shaojie Chen**, **Aaron Tohuvavohu, Ting Li,** Univ. of Toronto (Canada)

13103-41 • 12:00 PM - 12:20 PM
**Characterizing Radiation-tolerant Single Photon Resolving CMOS Detectors**
*Author(s):* **Justin P. Gallagher**, **Lazar Buntic**, **Edwin Alexani**, **Kato Bouthsarath, Donald F. Figer,** Rochester Institute of Technology (United States)

**Lunch/Exhibition Break 12:20 PM - 01:30 PM**

## SESSION 9: CMOS II

18 June 2024 • 01:30 PM - 02:50 PM | Room G312/313, North - 3F
*Session Chair(s):* **Andrew D. Holland**, Ctr. for Electronic Imaging (United Kingdom); **Kyriaki Minoglou**, European Space Agency (Netherlands)

13103-42 • 01:30 PM - 01:50 PM
**Transfer Gate Effects on the Dark Current in Pinned Photodiode Image Sensors**
*Author(s):* **Konstantin D. Stefanov, Thomas W. Buggey,** The Open Univ. (United Kingdom)

13103-43 • 01:50 PM - 02:10 PM
**Achieving High Dynamic Range in CMOS Image Sensors Using Interleaved Row Readout**
*Author(s):* **Thomas Wocial,** Univ. of Hertfordshire (United Kingdom); **Konstantin D. Stefanov,** The Open Univ. (United Kingdom); **William E. Martin,** Univ. of Hertfordshire (United Kingdom); **John R. Barnes,** The Open Univ. (United Kingdom); **Hugh R. A. Jones,** Univ. of Hertfordshire (United Kingdom)

13103-44 • 02:10 PM - 02:30 PM
**Delta-doped FUV, NUV, and UV/optical CMOS imagers for exoplanet science, astrophysics and time domain astronomy**
*Author(s):* **Michael E. Hoenk**, **Nathan L. Bush**, **April D. Jewell**, **John J. Hennessy**, **Charles A. Shapiro**, **Shouleh Nikzad,** Jet Propulsion Lab., Caltech (United States); **Kevin C. France,** Univ. of Colorado (United States); **David Schiminovich,** Columbia Univ. (United States); **Roger M. Smith**, **Fiona A. Harrison,** Caltech (United States); **David G. Morris,** Teledyne e2v UK Ltd. (United Kingdom); **John R. Tower, David Keller,** SRI International (United States)

13103-45 • 02:30 PM - 02:50 PM
**Characterization and validation of next generation image sensors for outer space**
*Author(s):* **Nicholas Shade,** Dartmouth College (United States); **Gillian Kyne**, **Shouleh Nikzad,** Jet Propulsion Lab., NASA (United States); **Edoardo Charbon,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Eric R. Fossum,** Dartmouth College (United States)

## SESSION 10: CAMERA

18 June 2024 • 02:50 PM - 03:50 PM | Room G312/313, North - 3F
*Session Chair(s):* **Michael E. Hoenk**, Jet Propulsion Lab. (United States)

13103-46 • 02:50 PM - 03:10 PM
**WFST Primary mosaic CCD camera and its first light**
*Author(s):* **Hong-fei Zhang**, **Qi Feng**, **Jian Wang**, **Hui Wang**, **Jun Zhang**, **Feng Zeng**, **Zhi-yue Wang**, **Zhe Geng**, **Yi-hao Zhang**, **Zhen-hao Zheng**, **Zi-yi Liu**, **Wei-jie Jiang**, **Jiang-yuan Wei**, **Zhe-yu Zhu**, **Xing Shi**, **Rui Zhu**, **Long-hu Chen**, **Cheng Chen**, **Jin-ting Chen**, **Qi-jie Tang**, **Jie Zhu**, **Kun Ge**, **Jie Gao, Hao Liu,** Univ. of Science and Technology of China (China)

13103-47 • 03:10 PM - 03:30 PM
**LSST Camera Focal Plane Optimization**
*Author(s):* **Yousuke Utsumi**, **Aaron J. Roodman**, **Andrew K. Bradshaw**, **Stuart Marshall**, **Homer A. Neal**, **Andrew P. Rasmussen**, **Seth W. Digel**, **James Chiang**, **Tony S. Johnson**, **Max Turri**, **Gregg Thayer**, **Theo Schutt**, **Shuang Liang,** SLAC National Accelerator Lab. (United States); **Myriam Migliore**, **Celinn Combet**, **Johan Bregeon,** Institut National de Physique Nucléaire et de Physique des Particules du CNRS (France), Lab. de Physique Subatomique et Cosmologie (France); **Pierre E. Antilogus**, **Pierre Astier**, **Claire G. Juramy,** Institut National de Physique Nucléaire et de Physique des Particules du CNRS (France), Lab. Physique Nucléaire et Hautes Énergies (France); **Thibault Guillemin,** Institut National de Physique Nucléaire et de Physique des Particules du CNRS (France), Lab. d'Annecy de Physique des Particules (France); **Guillaume Dargaud,** Institut National de Physique Nucléaire et de Physique des Particules du CNRS (France), Lab. de Physique Subatomique et Cosmologie (France); **Adrian Sheshtakov**, **Duncan Wood**, **Steve Ritz**, **Renee Nichols,** Univ. of California, Santa Cruz (United States); **Alex Broughton,** Univ. of California, Irvine (United States); **John Banovetz,** Brookhaven National Lab. (United States); **Craig S. Lage**, **Tony Tyson**, **Adam Snyder**, **Daniel Polin,** Univ. of California, Davis (United States); **Johnny Esteves,** Univ. of Michigan (United States)

13103-48 • 03:30 PM - 03:50 PM
**Detection and flagging of showers and snowballs in JWST**
*Author(s):* **Michael W. Regan,** Space Telescope Science Institute (United States)

## Coffee Break 03:50 PM - 04:20 PM

## SESSION 11: INFRARED DETECTORS

18 June 2024 • 04:20 PM - 05:40 PM | Room G312/313, North - 3F
*Session Chair(s):* **Andrew D. Holland**, Ctr. for Electronic Imaging (United Kingdom)

13103-49 • 04:20 PM - 04:40 PM
**JWST FGS tracking performance during the DART observations**
*Author(s):* **Neil Rowlands,** Honeywell Aerospace (Canada)

13103-50 • 04:40 PM - 05:00 PM
**Testing the Teledyne Hawaii 4RG-15 detectors for the Subaru Prime Focus Spectrograph**
*Author(s):* **Craig P. Loomis,** Princeton Univ. (United States); **Louis E. Bergeron,** Space Telescope Science Institute (United States); **Murdock Hart,** Boston Univ. (United States); **Jim E. Gunn,** Princeton Univ. (United States); **Josh P. Peebles**, **Stephen C. Hope, Stephen A. Smee,** Johns Hopkins Univ. (United States)

13103-134 • 05:00 PM - 05:20 PM
**Multiple nondestructive readout strategy to improve the signal-to-noise ratio of faint exposures with infrared arrays**
*Author(s):* **Gert Finger,** European Southern Observatory (Germany); **Frank Eisenhauer,** Max-Planck-Institut für extraterrestrische Physik (Germany); **Jörg Stegmeier,** European Southern Observatory (Germany); **Ian Baker, Vincent Isgar,** Leonardo UK Ltd. (United Kingdom)

13103-52 • 05:20 PM - 05:40 PM
**Very low flux SWIR FPAs developments at LETI for astronomy applications**
*Author(s):* **Titouan Le Goff,** CEA-LETI (France); **Thibault Pichon,** CEA-IRFU (France); **Florent Rochette**, **Clément Lobre**, **Amaury Mavel,** CEA-LETI (France); **Christian C. K. Ketchazo**, **Olivier Boulade,** CEA-IRFU (France); **Nicolas BAIER, Olivier Gravrand,** CEA-LETI (France)

## SESSION PS2: POSTERS-TUESDAY

18 June 2024 • 05:30 PM - 07:00 PM | Room G5, North - 1F

View Tuesday Poster Session schedule and event details Each day includes a unique set of posters. Poster groupings are listed below by topic.

13103-74 • 05:30 PM - 07:00 PM
**Novel Ceramic Concept for CCD sensor packages and focal plane assemblies**
*Author(s):* **Matthias R. Kroedel,** ECM Engineered Ceramic Materials GmbH (Germany)

13103-97 • 05:30 PM - 07:00 PM
**Cherenkov photon background for low-noise silicon detectors in space**
*Author(s):* **Manuel E. Gaido,** Univ. de Buenos Aires (Argentina), Fermi National Accelerator Lab. (United States); **Alex Drlica-Wagner**, **Javier Tiffenberg**, **Guillermo Fernandez-Moroni,** Fermi National Accelerator Lab. (United States); **Bernard J. Rauscher,** NASA Goddard Space Flight Ctr. (United States); **Fernando Chierche,** Univ. Nacional del Sur (Argentina); **Dario Rodrigues, Lucas Giardino,** Univ. de Buenos Aires (Argentina)

13103-98 • 05:30 PM - 07:00 PM
**PUNCH flight detector characterization**
*Author(s):* **Todd J. Veach**, **Craig DeForest, Matthew Beasley,** Southwest Research Institute (United States)

13103-99 • 05:30 PM - 07:00 PM
**Fast resets of sub-windows on infrared detectors as a strategy for persistence mitigation**
*Author(s):* **Edward L. Chapin,** NRC-Herzberg Astronomy & Astrophysics (Canada); **Theodore A. Grosson,** Univ. of Victoria (Canada); **Tim Hardy, Jordan Lothrop,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13103-101 • 05:30 PM - 07:00 PM
**Development of large area cross strip readout technologies for microchannel plate UV detectors**
*Author(s):* **Travis Curtis**, **Oswald W. Siegmund**, **Jason B. McPhate,** Space Sciences Lab. (United States); **Nicholas J. Nell,** Lab. for Atmospheric and Space Physics, Univ. of Colorado Boulder (United States); **John V. Vallerga, Anton S. Tremsin,** Space Sciences Lab. (United States)

13103-102 • 05:30 PM - 07:00 PM
**Performance Verification of Cryogenic Preamplifiers for Enhanced Sensitivity in Infrared Detector Systems**
*Author(s):* **Joice Mathew**, **Anninno Vaccarella**, **Robert G. Sharp**, **Brian W. Taylor**, **Alexey Grigoriev, Michael Ellis,** The Australian National Univ. (Australia)

13103-103 • 05:30 PM - 07:00 PM
**Advanced electronics development for temperature control in X-IFU's ADR System**
*Author(s):* **Ayoub Bounab,** Institut de Recherche sur les lois Fondamentales de l'Univers, CEA-Paris-Saclay (France); **Anthony Attard,** Univ. Grenoble Alpes (France); **Eric Doumayrou,** Institut de Recherche sur les lois Fondamentales de l'Univers, CEA-Paris-Saclay (France); **Jean-Louis Durand**, **Jean-Marc Duval**, **Sylvain Martin,** Univ. Grenoble Alpes (France); **Michel Lortholary, Frederic P. Pinsard,** Institut de Recherche sur les lois Fondamentales de l'Univers, CEA-Paris-Saclay (France)

13103-105 • 05:30 PM - 07:00 PM
**METIS first light imager and spectrograph for the ELT: Overview of the near and mid infrared detector subsystems**
*Author(s):* **Benoît Serra**, **Derek J. Ives**, **Matteo Accardo**, **Ralf Dieter Conzelmann**, **Serban Leveratto**, **Eric Mueller**, **Elizabeth M. George**, **Naidu N. Bezawada**, **Domingo Alvarez Mendez**, **Babak Sedghi**, **Leander H. Mehrgan**, **Mathias Richerzhagen**, **Matthias Seidel**, **Jörg Stegmeier**, **Mirko Todorovic,** European Southern Observatory (Germany); **Thomas Bertram**, **Silvia Scheithauer**, **Peter Bizenberger**, **Roy van Berkel**, **Vianak Naranjo,** Max-Planck-Institut für Astronomie (Germany); **Phil M. Parr-Burman**, **Alistair C. H. Glasse,** UK Research and Innovation (United Kingdom), Science and Technology Facilities Council (United Kingdom); **Michael R. Meyer**, **Taylor L. Tobin**, **Rory Bowens,** Univ. of Michigan (United States); **Adrian M. Glauser,** ETH Zurich (Switzerland); **Bernhard R. Brandl, Felix Bettonvil,** Leiden Univ. (Netherlands)

13103-106 • 05:30 PM - 07:00 PM
**Conduction Cooled Chassis and Backplane for the MTCA.4 Compliant ESO NGC II Astronomical Detector Controller for CMOS Visible and Infra-Red Detectors and CCDs**
*Author(s):* **Annino Vaccarella**, **Robert G. Sharp,** The Australian National Univ. (Australia); **Michael Ellis,** Dynjab Technologies Pty. Ltd. (Australia); **Gregory Smith**, **Gregory Jolley**, **Nick Herrald**, **Alexey Grigoriev, Brian W. Taylor,** The Australian National Univ. (Australia)

13103-107 • 05:30 PM - 07:00 PM
**ANDES, the high-resolution spectrograph for the ELT: RIZ & UBV Spectrographs' Preliminary Design of the Detector Unit**
*Author(s):* **Ludovic Genolet**, **Bruno Chazelas,** Univ. de Genève (Switzerland); **Arto S. Järvinen,** Leibniz-Institut für Astrophysik Potsdam (Germany); **Christophe Lovis**, **Michael Sordet,** Univ. de Genève (Switzerland); **Adrian Kaminski,** Zentrum für Astronomie, Ruprecht-Karls-Univ. Heidelberg (Germany); **Pablo Santos Diaz**, **Audrey Lanotte,** Univ. de Genève (Switzerland); **Alessio Zanutta**, **Matteo Aliverti,** INAF- Osservatorio Astronomico di Brera (Italy); **Andrea Balestra,** INAF- Osservatorio Astronomico di Padova (Italy); **Marco Riva**, **Marcello Scalera**, **Lorenzo Carbona**, **Giorgio Pariani,** INAF- Osservatorio Astronomico di Brera (Italy); **Ernesto Oliva,** INAF- Osservatorio Astrofisico di Arcetri (Italy); **Igor Coretti,** INAF- Osservatorio Astronomico di Trieste (Italy); **Edoardo Maria Alberto Redaelli,** INAF- Osservatorio Astronomico di Brera (Italy); **Alessandro Marconi,** Department of Physics and Astronomy, University of Florence (Italy), INAF- Osservatorio Astrofisico di Arcetri (Italy); **Paolo Di Marcantonio,** INAF- Osservatorio Astronomico di Trieste (Italy); **Yevgeniy Ivanisenko,** Univ. de Genève (Switzerland); **Klaus Strassmeier**, **Katja Poppenhäger**, **Joar Brynnel**, **Michael Weber**, **Jörg Weingrill**, **Olga Bellido**, **Christine Füßlein, Jonathan Kern,** Leibniz-Institut für Astrophysik Potsdam (Germany)

13103-108 • 05:30 PM - 07:00 PM
**Integrating FPGA and CPU/GPU technologies for enhanced MKIDs readout performance**
*Author(s):* **Deli Geng**, **Kieran S. O'Brien**, **David T. Barr**, **Timothy J. Morris**, **Jeremi M. Grabas**, **Volkan B. Hofmann**, **Aurelie Magniez, Benjamin J. Shaw,** Durham Univ. (United Kingdom)

13103-109 • 05:30 PM - 07:00 PM
**Characterisation of the STA1600LN CCD detector for the MARVEL instrument**
*Author(s):* **Robyn J. Sharman**, **Joel Harman,** UK Astronomy Technology Ctr. (United Kingdom); **Gert Raskin,** KU Leuven (Belgium); **Jacob Pember**, **Christian Schwab,** Macquarie Univ. (Australia); **Suzanne Kovacs, Alistair C. H. Glasse,** UK Astronomy Technology Ctr. (United Kingdom)

13103-110 • 05:30 PM - 07:00 PM
**Comparative analysis of Euclid H2RG and CAGIRE ALFA near-infrared detectors: toward a universal characterization methodology**
*Author(s):* **Jean Le Graët**, **Aurélia Secroun,** Ctr. de Physique des Particules de Marseille, CNRS (France); **Jean-Luc Atteia, Alix Nouvel de la Flèche,** Institut de Recherche en Astrophysique et Planétologie (France)

13103-111 • 05:30 PM - 07:00 PM
**COMODOR (CONtroller for cMOs DetectOR): ESA's new modular CMOS controller for Science Payload Validation activities**
*Author(s):* **Frederic Lemmel**, **Conor Robinson**, **Erik Ryman**, **Alessandro Meoli**, **Thibaut Prod'homme**, **Ivo Visser**, **Kees van der Luijt**, **Sander Blommaert**, **Dennis Breeveld**, **Hans Smit**, **Joerg ter Haar, Brian Shortt,** European Space Research and Technology Ctr. (Netherlands)

13103-112 • 05:30 PM - 07:00 PM
**Mkidgen3: A scalable readout for next-generation kilopixel UVOIR MKIDs**
*Author(s):* **John I. Bailey**, **Jennifer P. Smith**, **Benjamin A. Mazin,** Univ. of California, Santa Barbara (United States); **Gustavo I. Cancelo**, **Leandro Stefanazzi,** Fermi National Accelerator Lab. (United States); **Aled Cuda**, **Nicholas Zobrist,** Univ. of California, Santa Barbara (United States); **Kenneth R. Treptow,** Fermi National Accelerator Lab. (United States)

13103-113 • 05:30 PM - 07:00 PM
**Preliminary Photon Positioning Results with Cross Strip Anode Readout by the GRAPH ASIC**
*Author(s):* **Nicholas J. Nell,** Lab. for Atmospheric and Space Physics, Univ. of Colorado Boulder (United States); **Oswald W. Siegmund**, **Jason B. McPhate**, **Travis Curtis,** Space Sciences Lab. (United States); **Andrej Seljak,** Jožef Stefan Institute (Slovenia); **Luca Macchiarulo**, **Kahiwa Hoe**, **Isar Mostafanezhad,** NALU Scientific (United States); **John V. Vallerga,** Space Sciences Lab. (United States); **Richard R. Raffanti,** Techne Instruments, Inc. (United States)

13103-115 • 05:30 PM - 07:00 PM
**Detector characterization of the Little Ultraviolet Camera (LUVCamera)**
*Author(s):* **Sarik Jeram**, **Aaron Tohuvavohu**, **Suresh Sivanandam**, **Phil Van-Lane**, **Braden Gail,** Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada); **Ajay Gill,** Massachusetts Institute of Technology (United States); **Jacob Taylor,** Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada)

13103-116 • 05:30 PM - 07:00 PM
**Origins and analysis of nonlinear crosstalk in the Rubin Observatory LSST Camera**
*Author(s):* **Daniel Polin**, **Adam Snyder, J. Anthony Tyson,** Univ. of California, Davis (United States)

13103-117 • 05:30 PM - 07:00 PM
**Analysis of interpixel capacitance in the MIRI detectors**
*Author(s):* **Michael Engesser**, **Michael W. Regan**, **Louis E. Bergeron, Mattia Libralato,** Space Telescope Science Institute (United States)

13103-118 • 05:30 PM - 07:00 PM
**Description of novel methods used to characterize LmAPD NIR detectors**
*Author(s):* **Charles-Antoine Claveau**, **Michael Bottom**, **Shane M. Jacobson**, **Klaus W. Hodapp**, **Guillaume Hubert**, **Matthew Newland,** Institute for Astronomy, Univ. of Hawai'i at Manoa (United States); **Markus Loose,** Markury Scientific, Inc. (United States); **Ian M. Baker**, **Egle Zemaityte**, **Matthew Hicks**, **Keith Barnes**, **Richard K. Powell,** Leonardo UK Ltd. (United Kingdom); **Ryan Bradley, Eric Moore,** Hawaii Aerospace Corp. (United Kingdom)

13103-119 • 05:30 PM - 07:00 PM
**Electro-optical characterization of LSST Camera CCDs using the LSST Beam Simulator**
*Author(s):* **Adam Snyder**, **Daniel Polin**, **Craig S. Lage, Tony Tyson,** Univ. of California, Davis (United States)

13103-122 • 05:30 PM - 07:00 PM
**HIgh-speed Array Controller: design of a 64-channel detector controller**
*Author(s):* **Tim Hardy**, **Greg S. Burley, Erning Zhao,** NRC-Herzberg Astronomy & Astrophysics (Canada)

13103-123 • 05:30 PM - 07:00 PM
**An H2RG tracking camera with an Archon controller for HISPEC**
*Author(s):* **Timothee Greffe**, **Don Neill**, **David Hale**, **Ashley D. Baker, Nemanja J. Jovanovic,** Caltech (United States)

13103-124 • 05:30 PM - 07:00 PM
**Characterization of a MCP photon counting detector prototype based on a custom-developed readout ASIC**
*Author(s):* **Michela C. Uslenghi**, **Giorgio Toso**, **Luca Schettini**, **Mauro Fiorini**, **Salvatore Incorvaia,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Leonardo Nassi**, **Adele Ciavarella-Ciavarella**, **Marco Carminati**, **Carlo Fiorini,** Politecnico di Milano (Italy); **Maria G. Pelizzo**, **Marta Padovani,** Univ. degli Studi di Padova (Italy), CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Alain J. Corso, Andrea Meneguzzo,** CNR-Istituto di Fotonica e Nanotecnologie (Italy)

13103-125 • 05:30 PM - 07:00 PM
**Source detection framework for wide field lobster eye telescopes**
*Author(s):* **Kaiyang Li**, **Yijun Zhang**, **Wenbo Liu**, **Lichun Sun**, **Heng Zhang, Peng Jia,** Taiyuan Univ. of Technology (China)

13103-126 • 05:30 PM - 07:00 PM
**Characterization of the dark signal of the Solar Orbiter/Metis detectors**
*Author(s):* **Michela C. Uslenghi,** INAF - Istituto di Astrofisica Spaziale e Fisica cosmica Milano (Italy); **Vincenzo Andretta,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Teriaca Luca,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Gianalfredo Nicolini**, **Maurizio Pancrazzi,** INAF - Osservatorio Astrofisico di Torino (Italy); **Marco Romoli,** Univ. degli Studi di Firenze (Italy); **Lucia Abbo,** INAF - Osservatorio Astronomico di Torino (Italy); **Aleksandr Burtovoi,** INAF - Osservatorio Astrofisico di Arcetri (Italy); **Chiara Casini,** CNR-Istituto di Fotonica e Nanotecnologie (Italy); **Yara De Leo,** Max-Planck-Institut für Sonnensystemforschung (Germany); **Federica Frassati,** INAF - Osservatorio Astrofisico di Torino (Italy); **Giovanna Jerse,** INAF - Osservatorio Astronomico di Trieste (Italy); **Federico Landini,** INAF - Osservatorio Astrofisico di Torino (Italy); **Giuliana Russano**, **Clementina Sasso,** INAF - Osservatorio Astronomico di Capodimonte (Italy); **Roberto Susino,** INAF - Osservatorio Astrofisico di Torino (Italy)

13103-127 • 05:30 PM - 07:00 PM
**ANU Rosella detector controller, a compact (approx. 0.5U), high speed, video readout system**
*Author(s):* **Greg Jolley**, **Annino Vaccarella**, **Joice Mathew**, **Brian W. Taylor, Alexey Grigoriev,** The Australian National Univ. (Australia)

13103-128 • 05:30 PM - 07:00 PM
**Characterization of a Longwave HgCdTe GeoSnap Detector**
*Author(s):* **Rory Bowens**, **Michael R. Meyer**, **Taylor L. Tobin**, **Eric Viges**, **Dennis Hart**, **John D. Monnier,** Univ. of Michigan (United States); **Jarron M. Leisenring,** The Univ. of Arizona (United States); **Derek J. Ives,** European Southern Observatory (Germany); **Roy van Boekel,** Max-Planck-Institut für Astronomie (Germany)

13103-129 • 05:30 PM - 07:00 PM
**Observing strategies for using Keck-NIRC2 to conduct high-contrast imaging in the mid-infrared**
*Author(s):* **Rachel Bowens-Rubin,** Univ. of California, Santa Cruz (United States); **Jayke S. Nguyen,** Univ. of California, San Diego (United States); **Philip M. Hinz**, **Maissa Salama,** Univ. of California, Santa Cruz (United States); **William Thompson,** University of Victoria (Canada)

13103-130 • 05:30 PM - 07:00 PM
**Direct measurement of pseudothermal light violating Siegert relation**
*Author(s):* **Xi Jie Yeo,** Ctr. for Quantum Technologies (Singapore); **Mingze Qing,** National Univ. of Singapore (Singapore); **Justin Yu Xiang Peh**, **Darren Ming Zhi Koh**, **Jaesuk Hwang**, **Christian Kurtsiefer, Peng Kian Tan,** Ctr. for Quantum Technologies (Singapore)

13103-131 • 05:30 PM - 07:00 PM
**The PRIME camera: Results and Performance After Continuous Observations**
*Author(s):* **Joseph M. Durbak**, **Alexander S. Kutyrev,** NASA Goddard Space Flight Ctr. (United States), Univ. of Maryland, College Park (United States); **Takahiro Sumi,** Osaka Univ. (Japan); **Giuseppe Cataldo,** NASA Goddard Space Flight Ctr. (United States); **Dale Fixsen,** NASA Goddard Space Flight Ctr. (United States), Univ. of Maryland, College Park (United States); **Yuki Hirao,** Osaka Univ. (Japan); **Gennadiy Lotkin,** NASA Goddard Space Flight Ctr. (United States), BGE Technology (United States); **Eric Lyness,** NASA Goddard Space Flight Ctr. (United States), Microtel LLC (United States); **Steve Maher,** NASA Goddard Space Flight Ctr. (United States), Science Systems and Applications, Inc. (United States); **Shota Miyazaki,** Osaka Univ. (Japan); **Greg Mosby,** NASA Goddard Space Flight Ctr. (United States); **Samuel Moseley,** NASA Goddard Space Flight Ctr. (United States), ADNET Systems, Inc. (United States); **Elmer Sharp,** NASA Goddard Space Flight Ctr. (United States), Global Science & Technology, Inc. (United States); **Daisuke Suzuki,** Osaka Univ. (Japan)

13103-132 • 05:30 PM - 07:00 PM
**Design and performance test of a medium-wave infrared camera**
*Author(s):* **Feng Zeng**, **Qenqing Qu**, **Hao-ran Ma**, **Ren-jie Zhao**, **Yu Ning**, **Jie Gao**, **Hong-fei Zhang, Jian Wang,** Univ. of Science and Technology of China (China)

## Wednesday 19 June 2024

### WEDNESDAY PLENARY

19 June 2024 • 08:30 AM - 10:00 AM | National Convention Hall, 1F

View Full Details: spie.org/AS/wednesday-plenary

13173-504 • 08:30 AM - 09:15 AM
**Euclid mission: first year of operations** (Plenary Presentation)
*Author(s):* **René J. Laureijs,** European Space Research and Technology Ctr. (Netherlands)

13173-505 • 09:15 AM - 10:00 AM
**The ultraviolet explorer: new views of the UV universe** (Plenary Presentation)
*Author(s):* **Fiona A. Harrison,** Caltech (United States)

**Coffee Break 10:00 AM - 10:30 AM**

### SESSION 12: CCDS AND SINGLE PHOTON DETECTORS II

19 June 2024 • 10:30 AM - 11:50 AM | Room G312/313, North - 3F
*Session Chair(s):* **Ralf Kohley**, European Space Astronomy Ctr. (Spain)

13103-53 • 10:30 AM - 10:50 AM
**Sub-electron noise Multi-Amplifier Sensing CCDs for spectroscopy**
*Author(s):* **Kenneth Lin,** Univ. of California, Berkeley (United States), Lawrence Berkeley National Lab. (United States); **Armin Karcher**, **Julien Guy**, **Stephen E. Holland**, **William F. Kolbe**, **Peter E. Nugent,** Lawrence Berkeley National Lab. (United States); **Ana M. Botti,** Fermi National Accelerator Lab. (United States), Kavli Institute for Cosmological Physics (United States); **Brenda A. Cervantes-Vergara,** Fermi National Accelerator Lab. (United States), Univ. Nacional Autónoma de México (Mexico); **Claudio R. Chavez Blanco,** Fermi National Accelerator Lab. (United States), Univ. Nacional del Sur (Argentina); **Fernando Chierchie,** Instituto de Investigaciones en Ingeniería Eléctrica (Argentina), Univ. Nacional del Sur (Argentina); **Alex Drlica-Wagner,** Fermi National Accelerator Lab. (United States), Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States); **Juan Estrada**, **Guillermo Fernandez Moroni,** Fermi National Accelerator Lab. (United States); **Blas J. Irigoyen Gimenez,** Univ. Nacional del Sur (Argentina), Fermi National Accelerator Lab. (United States); **Agustin J. Lapi,** Univ. Nacional del Sur (Argentina), Instituto de Investigaciones en Ingeniería Eléctrica (Argentina), Fermi National Accelerator Lab. (United States); **Edgar Marrufo Villalpando,** Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States); **Miguel Sofo Haro,** Univ. Nacional de Córdoba (Argentina), Reactor Nuclear RA0 (CNEA) (Argentina); **Javier Tiffenberg, Sho Uemura,** Fermi National Accelerator Lab. (United States)

13103-54 • 10:50 AM - 11:10 AM
**First Demonstration of Single-Quantum Measurement with a Multi-Amplifier Sensing Charge-Coupled Device**
*Author(s):* **Ana M. Botti,** Fermi National Accelerator Lab. (United States), Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States); **Brenda A. Cervantes Vergara,** Fermi National Accelerator Lab. (United States), Univ. Nacional Autónoma de México (Mexico); **Claudio R. Chavez Blanco,** Fermi National Accelerator Lab. (United States), Univ. Nacional del Sur (Argentina); **Fernando Chierchie,** Univ. Nacional del Sur (Argentina), Instituto de Investigaciones en Ingeniería Eléctrica (Argentina); **Alex Drlica-Wagner,** Fermi National Accelerator Lab. (United States), Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States); **Juan Estrada**, **Guillermo Fernandez Moroni,** Fermi National Accelerator Lab. (United States); **Stephen E. Holland,** Lawrence Berkeley National Lab. (United States); **Blas J. Irigoyen Gimenez,** Fermi National Accelerator Lab. (United States), Univ. Nacional de Asunción (Paraguay), Univ. Nacional del Sur (Argentina); **Agustin J. Lapi,** Fermi National Accelerator Lab. (United States), Univ. Nacional del Sur (Argentina), Instituto de Investigaciones en Ingeniería Eléctrica (Argentina); **Edgar Marrufo Villalpando,** Kavli Institute for Cosmological Physics, The Univ. of Chicago (United States); **Miguel Sofo Haro,** Instituto de Física Enrique Gaviola (Argentina), Univ. Nacional de Córdoba (Argentina), Reactor Nuclear RA0 (CNEA) (Argentina); **Javier Tiffenberg**, **Sho Uemura,** Fermi National Accelerator Lab. (United States); **Kenneth Lin,** Univ. of California, Berkeley (United States); **Armin Karcher**, **Julien Guy,** Lawrence Berkeley National Lab. (United States); **Peter E. Nugent,** Lawrence Berkeley National Lab. (United States), Univ. of California, Berkeley (United States); **William F. Kolbe,** Lawrence Berkeley National Lab. (United States)

13103-56 • 11:10 AM - 11:30 AM
**Skipper CCD-in-CMOS active pixel sensor: status and first characterization results**
*Author(s):* **Fabricio Alcalde,** Ctr. Atómico Bariloche (Argentina), Consejo Nacional de Investigaciones Científicas y Técnicas (Argentina); **Davide Braga,** Fermi National Accelerator Lab. (United States); **Claudio R. Chavez Blanco,** Fermi National Accelerator Lab. (United States), Univ. Nacional del Sur (Argentina); **Fernando Chierchie,** Univ. Nacional del Sur (Argentina), Consejo Nacional de Investigaciones Científicas y Técnicas (Argentina); **Angelo Dragone,** SLAC National Accelerator Lab. (United States); **Juan Estrada**, **Farah Fahim,** Fermi National Accelerator Lab. (United States); **Aseem Gupta,** SLAC National Accelerator Lab. (United States); **Guillermo Fernandez Moroni,** Fermi National Accelerator Lab. (United States); **Agustin J. Lapi,** Univ. Nacional del Sur (Argentina), Fermi National Accelerator Lab. (United States); **Benjamin Parpillon**, **Adam Quinn,** Fermi National Accelerator Lab. (United States); **Lorenzo Rota,** SLAC National Accelerator Lab. (United States); **Miguel Sofo Haro,** Univ. Nacional de Córdoba (Argentina), Consejo Nacional de Investigaciones Científicas y Técnicas (Argentina)

13103-57 • 11:30 AM - 11:50 AM
**Demonstrating sub-electron noise performance in Single electron Sensitive Readout (SiSeRO) devices**
*Author(s):* **Tanmoy Chattopadhyay**, **Sven C. Herrmann**, **Peter Orel,** Stanford Univ. (United States); **Kevan Donlon,** MIT Lincoln Lab. (United States); **Steven W. Allen,** Stanford Univ. (United States); **Marshall W. Bautz,** Massachusetts Institute of Technology (United States); **Brianna J. Cantrall,** Stanford Univ. (United States); **Michael J. Cooper,** MIT Lincoln Lab. (United States); **Beverly J. LaMarr,** Massachusetts Institute of Technology (United States); **Christopher W. Leitz,** MIT Lincoln Lab. (United States); **Eric D. Miller,** Massachusetts Institute of Technology (United States); **Glenn R. Morris**, **Abigail Pan,** Stanford Univ. (United States); **Gregory Y. Prigozhin,** Massachusetts Institute of Technology (United States); **Ilya Prigozhin,** MIT Lincoln Lab. (United States); **Haley R. Stuber, Daniel R. Wilkins,** Stanford Univ. (United States)

## Lunch/Exhibition Break 11:50 AM - 01:20 PM

## SESSION 13: TEST AND MODELING

19 June 2024 • 01:20 PM - 03:00 PM | Room G312/313, North - 3F
*Session Chair(s):* **Takeshi Go Tsuru**, Kyoto Univ. (Japan)

13103-58 • 01:20 PM - 01:40 PM
**Design consideration for Full Well Capacity and Charge Transfer efficiency of a CCD-in-CMOS imager pixel: TCAD study**
*Author(s):* **Swaraj Bandhu Mahato, Steven Thijs,** imec (Belgium)

13103-59 • 01:40 PM - 02:00 PM
**Imager of MPPC-based Optical photoN counter from Yamagata**
*Author(s):* **Kazuaki Hashiyama,** The Univ. of Tokyo (Japan), Yamagata Univ. (Japan); **Takeshi Nakamori,** Yamagata Univ. (Japan); **Masayoshi Shoji,** High Energy Accelerator Research Organization, KEK (Japan); **Rin Sato**, **Anju Sato**, **Mana Hasebe,** Yamagata Univ. (Japan); **Dai Takei,** Daiphys Technologies LLC (Japan), Rikkyo Univ. (Japan); **Koji Kawabata,** Hiroshima Astrophysical Science Center, Hiroshima Univ. (Japan), Hiroshima Univ. (Japan); **Tatsuya Nakaoka,** Hiroshima Astrophysical Science Center (Japan); **Masaru Kino,** Kyoto Univ. (Japan); **Toshio Terasawa,** Institute for Cosmic Ray Research, The University of Tokyo (Japan); **Yoshinori Yonekura,** Center for Astronomy, Ibaraki Univ. (Japan); **Yasuhiro Murata,** Fukui University of Technology (Japan); **Kazuhiro Takefuji,** Japan Aerospace Exploration Agency (Japan); **Kazuki Ueno,** Osaka Univ. (Japan); **Tomohiro Sato,** Yamagata Univ. (Japan)

13103-61 • 02:00 PM - 02:20 PM
**Precise calibration of the brighter-fatter effect in the JWST/NIRISS detector**
*Author(s):* **Benjamin J. S. Pope,** The Univ. of Queensland (Australia); **Louis C. Desdoigts**, **Peter G. Tuthill,** The Univ. of Sydney (Australia); **Dori Blakely,** Univ. of Victoria (Canada)

13103-62 • 02:20 PM - 02:40 PM
**Multichannel video processor for skipper CCD readout**
*Author(s):* **Timothee Greffe**, **Roger M. Smith, Jake H. Zimmer,** Caltech (United States)

13103-63 • 02:40 PM - 03:00 PM
**Performance of the image persisistence model for Euclid infrared detectors**
*Author(s):* **Bogna Kubik**, **Remi Barbier**, **Gerard Smadja**, **Simon Conseil**, **Sylvain Ferriol**, **Yannick Copin,** IN2P3 IP2I, Univ. Claude Bernard Lyon 1 (France); **William Gillard,** Ctr. de Physique des Particules de Marseille, Aix Marseille Univ. (France)

## Coffee Break 03:00 PM - 03:30 PM

## SESSION 14: X-RAY II

19 June 2024 • 03:30 PM - 05:10 PM | Room G312/313, North - 3F
*Session Chair(s):* **Andrew D. Holland**, Ctr. for Electronic Imaging (United Kingdom)

13103-64 • 03:30 PM - 03:50 PM
**Characterization of x-ray detectors in the MIT x-ray polarimetry beamline**
*Author(s):* **Herman L. Marshall**, **Sarah Heine**, **Alan Garner**, **Beverly J. LaMarr, Benjamin Schneider,** MIT Kavli Institute for Astrophysics and Space Research (United States)

13103-65 • 03:50 PM - 04:10 PM
**Directions for advancement of MIT-LL CCDs for x-ray astrophysics applications**
*Author(s):* **Kevan Donlon**, **Michael J. Cooper**, **Christopher W. Leitz**, **Ilya Prigozhin**, **Douglas J. Young,** MIT Lincoln Lab. (United States); **Marshall W. Bautz**, **Beverly J. LaMarr**, **Eric D. Miller**, **Gregory Y. Prigozhin,** MIT Kavli Institute for Astrophysics and Space Research (United States); **Steven W. Allen**, **Tanmoy Chattopadhyay**, **Sven C. Herrmann, Peter Orel,** Stanford Univ. (United States)

13103-66 • 04:10 PM - 04:30 PM
**Next generation large format, high dynamic range UV and soft X-ray MCP detectors with Timepix readouts**
*Author(s):* **Anton S. Tremsin**, **John V. Vallerga**, **Mathew Dexter**, **Travis Curtis**, **Jason B. McPhate**, **Dennis Tercero**, **Oswald H. W. Siegmund**, **Robert P. Abiad,** Space Sciences Lab., Univ. of California, Berkeley (United States); **Richard R. Raffanti,** Techne Instruments, Inc. (United States)

13103-67 • 04:30 PM - 04:50 PM
**XL-Calibur: A balloon-borne hard X-ray polarimetry mission**
*Author(s):* **Ephraim Gau**, **Henric Krawczynksi**, **Nicole Rodriguez Cavero**, **Lindsey Lisalda**, **Kun Hu,** Washington Univ. in St. Louis (United States); **Hisamitsu Awaki,** Ehime Univ. (Japan); **Richard Bose**, **Dana Braun**, **Sohee Chun,** Washington Univ. in St. Louis (United States); **Teruaki Enoto,** RIKEN (Japan); **Manel Errando,** Washington Univ. in St. Louis (United States); **Yasushi Fukazawa,** Hiroshima Univ. (Japan); **Akihiro Furusawa,** Fujita Health Univ. (Japan); **Gianluigi De Geronimo,** Stony Brook Univ. (United States); **Thomas A. Gadson,** NASA Wallops Flight Facility (United States); **Victor P. E. Guarino,** Argonne National Lab. (United States); **Shuichi Gunji,** Yamagata Univ. (Japan); **Scott E. Heatwole,** NASA (United States); **Arman Md. Hossen,** Washington Univ. in St. Louis (United States); **Fumiya Imazato,** Hiroshima Univ. (Japan); **Kazunori Ishibashi,** Nagoya Univ. (Japan); **Manabu Ishida,** Institute of Space and Astronautical Science (Japan); **Nirmal Iyer,** KTH Royal Institute of Technology (Sweden); **Wataru Kamogawa,** Osaka Univ. (Japan); **Fabian Kislat,** The Univ. of New Hampshire (United States); **Mozsi Kiss,** KTH Royal Institute of Technology (Sweden); **Takao Kitaguchi,** RIKEN (Japan); **James Lanzi,** NASA Wallops Flight Facility (United States); **Yoshimoto Maeda,** Institute of Space and Astronautical Science (Japan); **Hiroto Matake,** Hiroshima Univ. (Japan); **Hironori Matsumoto**, **Taisei Mineta,** Osaka Univ. (Japan); **Tsunefumi Mizuno,** Hiroshima Univ. (Japan); **Takashi Okajima,** NASA Goddard Space Flight Ctr. (United States); **Mark Peacer,** KTH Royal Institute of Technology (Sweden); **Zachary Peterson,** NASA Wallops Flight Facility (United States); **Brian Rauch,** Washington Univ. in St. Louis (United States); **Yoshitaka Saito,** Institute of Space and Astronautical Science (Japan); **Sean Spooner,** The Univ. of New Hampshire (United States); **Garry Simburger,** Washington Univ. in St. Louis (United States); **Theodor-Adrian Stana,** KTH Royal Institute of Technology (Sweden); **Andrew T. West,** Arizona State Univ. (United States); **Hiromitsu Takahashi,** Hiroshima Univ. (Japan); **Tomoshi Takeda,** Tokyo Univ. of Science (Japan); **Mai Takeo,** Tokyo Metropolitan Univ. (Japan); **Toru Tamagawa,** RIKEN (Japan); **Hiroshi Tsunemi,** Osaka Univ. (Japan); **Nagomi Uchida**, **Yuusuke Uchida,** Hiroshima Univ. (Japan); **Keisuke Uchiyama,** Tokyo Univ. of Science (Japan); **Edward Udinski,** NASA (United States); **Eric A. Wulf,** U.S. Naval Research Lab. (United States); **Yuto Yoshida,** Tokyo Univ. of Science (Japan)

13103-68 • 04:50 PM - 05:10 PM
**HypeX: High Yield Polarimetry Experiment in X-rays**
*Author(s):* **Davide Fiorina,** Gran Sasso Science Institute, Istituto Nazionale di Fisica Nucleare (Italy); **Elisabetta Baracchini,** Gran Sasso Science Institute (Italy); **Giorgio Dho,** Laboratori di Frascati, Istituto Nazionale di Fisica Nucleare (Italy); **Giovanni Mazzitelli,** Istituto Nazionale di Fisica Nucleare (Italy); **Samuele Torelli**, **Atul Prajapati**, **Flaminia Di Giambattista**, **David Marques,** Gran Sasso Science Institute (Italy); **Alessandro Di Marco**, **Fabio Muleri**, **Sergio Fabiani**, **Enrico Costa, Paolo Soffitta,** INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

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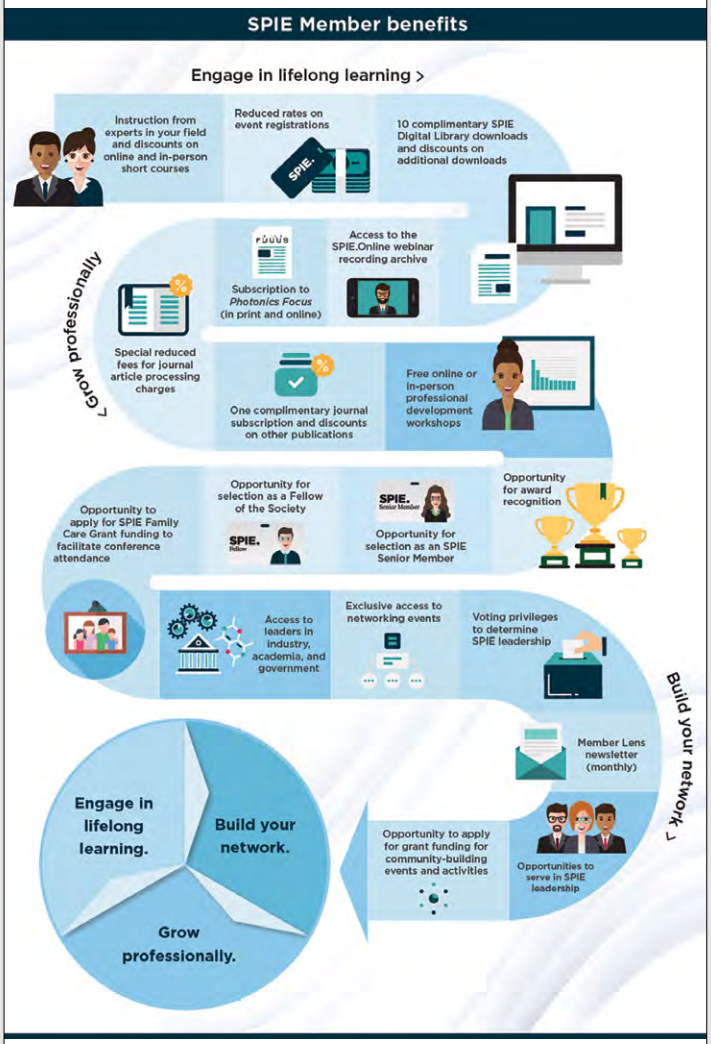


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