

### Key Dates:

- **Jan 12-16** AAS Meeting
- **Jan 27** PRIMA Community Astronomy Science and Technology talk
- **Feb 25** PRIMA GO Book Virtual Workshop
- **Mar 31 - Apr 2** PRIMA European Community Meeting
- **May 5-7** IRSTIG Meeting
- **May 19-21** PRIMA US Community Meeting

See [Page 2](#) for more details on upcoming PRIMA community meetings and [Page 3](#) for more important Phase A dates!

### News and Updates:

- **PRIMA enters Phase A!** The PRIMA team is thrilled to see our proposal move forward. As the selection letter noted, “PRIMA is selected because of the proposal’s outstanding science merit and science implementation merit, as well as its promise to enable a rich suite of potential science programs for the astrophysics community as a whole through its General Observer program, coupled with an acceptable level of technical risk.” We are already hard at work on this next step (see [Page 3](#) for a timeline of Phase A activities), and there are many opportunities in the coming year for increased community participation (see [Page 2](#) for more details).
- **PRIMA welcomes new co-Is.** Ilse Cleeves (U. Virginia) and Edwin (Ted) Bergin (U. Michigan) are joining PRIMA as co-Is. We also welcome Hanae Inami (U. Hiroshima) as a co-I, provisional to a Japanese contribution to PRIMA. We are excited for the scientific expertise they all bring to the PRIMA team!
- **JATIS Special Issue on PRIMA in preparation.** Guest editors Naseem Rangwala, Matt Griffin, and Michael Werner have solicited papers from the community which will be peer reviewed in early 2025— look for the issue to be published in Summer 2025.

## PRIMA at AAS 245

## National Harbor January 12-16

### Monday

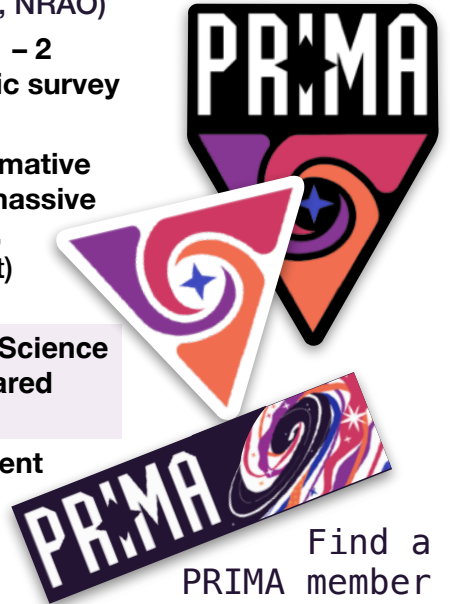
- 9:30 - 9:50 AM Exhibit Hall Theater
- 10:00 - 11:30 AM Oral 130.06
- 11:40 - 12:30 PM Plenary Lecture

- Get involved with PRIMA: NASA Probe Explorer’s far-IR observatory concept** (Arielle Moullet, NRAO)
- Characterizing the evolution of  $z = 1 - 2$  galaxies with a PRIMA spectroscopic survey** (Name)
- Galaxy Evolution Eras Tour: The Formative Years of Star Formation and Supermassive Black Hole Growth** (Alexandra Pope, University of Massachusetts Amherst)

### Tuesday

- 9:00 -10:00 AM iPoster Session & Special Session
- 10:00 -11:30 AM NASA Technology Splinter Session
- 6:15 - 6:30 PM Hyperwall Talk

- Enabling Space-Based Far-Infrared Science in the 2030s with the PProbe far-Infrared Mission for Astrophysics (PRIMA)**
- Astrophysics Technology Development Success Cases: Far-IR detectors** (Matt Bradford, JPL)
- PProbe far-Infrared Mission for Astrophysics (PRIMA) overview** (Betsy Mills, University of Kansas)



Find a PRIMA member or visit the IPAC booth for stickers, pens, and other PRIMA swag!

**Meet up with the PRIMA community at AAS!**  
**Join us at Public House at 8:30 pm Tuesday**

## Getting Involved:

**We are excited to announce new ways for the community to get more involved with PRIMA in the next year and to help to make a far-IR probe a reality for the 2030s!** We are incredibly thankful for the community support that has already enabled us to come this far— everyone whose science contributions and formal or informal feedback, guidance, and input helped shape our proposal. Maintaining and building community participation and engagement is essential to implementing the most responsive facility for all of your science needs. PRIMA will be *your* observatory, and we want you to be involved in creating it!

## Expanding the PRIMA GO Book

The PRIMA team is grateful to the many contributors to the first volume of the PRIMA General Observer (GO) Science Book ([arXiv:2310.20572](https://arxiv.org/abs/2310.20572)), which gathered 76 community-contributed cases spanning scientific areas from comets to high-z polarimetry. Based on that success and the enthusiastic community response to the PRIMA concept, a second volume of the GO book is now in preparation, for publication in late Summer 2025. The PRIMA GO Science Book (Volume 2) will include new contributed GO cases as well as revisions of cases already included in Volume 1. A submission portal for GO cases will be opened in early 2025, with an expected submission deadline in late May 2025. Contributions in all astrophysics and planetary science subfields are welcome and encouraged. Authors will be able to use a PRIMA Exposure Time Calculator (ETC) to verify the feasibility of their proposed observations, and PRIMA staff will be available for general support and editing. Please reach out to Arielle Moullet ([amoullet@nrao.edu](mailto:amoullet@nrao.edu)) and Denis Burgarella ([denis.burgarella@lam.fr](mailto:denis.burgarella@lam.fr)). Watch for an announcement of the opening of the submission system; more updates will also be shared at PRIMA community events in 2025.

## Community Working Groups: Sign up [HERE](#)

PRIMA is currently relaunching its science working group (WGs), and we invite the community to join. Participation in WGs is an opportunity to work closely with the PRIMA team to determine how PRIMA's capabilities can best enable your scientific plans. WG members will have access to the latest tools for developing GO science ideas. In addition, WG members can contribute to PRIMA by defining precursor studies — simulations and observations with existing facilities that will lay the groundwork for PRIMA science. We welcome WG members both from the US and international science community. WG members can be any career stage from the community, including undergraduates, graduate students, and postdocs— we strongly encourage early career participation! WG members will be a part of the PRIMA team, and must agree to the PRIMA code of conduct. We anticipate that working groups will begin meeting in early February, however they will remain open to new participation throughout Phase A (until early 2026). Should PRIMA be selected, we anticipate that WG scope and structure will continue to evolve to meet the needs of the mission.

## Community Events

### Updating the PRIMA GO Book

February 25  
8-10 AM CET (4 - 6 PM Japan)  
10 AM - 12 PM Eastern (4 - 6 PM CET)

Join us for a 2-hour virtual workshop to kick start the launch of the updated GO science book. PRIMA science team members will be on hand to share tools for planning future science observations and to answer your questions.

### PRIMA European community meeting

#### Dusting Off the Secrets of the Cosmos with PRIMA Space IR Telescope

March 31 - April 2  
Marseilles, France

The goal of this meeting is to plan for the next decade of far-IR science. This 3-day conference will emphasize open discussions on community science with PRIMA and other synergistic facilities, as well as opportunities for ongoing community involvement with PRIMA.

#### Far-IR Workshop @ IRSTIG 'Infrared Astrophysics into the Next Decade'

May 5-8  
Washington, DC

As a part of this meeting, there will be a workshop on science at far-infrared wavelengths. This is an opportunity to dust off your skills or to learn about FIR science and data reduction techniques for the first time. This workshop will feature both lectures and tutorials on accessing archival data from past far-IR facilities.

### PRIMA US community meeting

May 19 - 21  
Pasadena, CA

Mark your calendars for a PRIMA science meeting and community workshop this summer, and watch our website and future newsletters for more details

Keep up with the latest news  
[prima.ipac.caltech.edu](http://prima.ipac.caltech.edu)



# P-CAST

PRIMA Community Astronomy: Science and Technology

## P-CAST Talks Schedule

Talks will take place online on the 4th Monday of the month at 12:00 PM Eastern

Jan 27 PRIMA: PProbe far-Infrared Mission for Astrophysics  
Jason Glenn, GSFC

Look for future talks to be posted on our [events page!](#)

### Introducing P-CAST: PRIMA Community Astronomy: Science and Technology talks!

With a lack of current far-infrared facilities, it is critical to keep the community informed about the exciting science potential at these wavelengths. We are excited to announce the launch of a new monthly talk series to prepare the community for the possibilities offered by PRIMA. Talk topics will broadly encompass past and future facilities, including overviews of science opportunities with PRIMA, instrumentation advances in the far-infrared, precursor science with current facilities, archival science with past far-infrared facilities, and synergies with current and planned multiwavelength facilities. Talks will take place monthly and will be broadcast online. Recordings of past talks will be available on the PRIMA webpage. If you are interested in giving a future talk, please e-mail the P-CAST organizer Betsy Mills [eacmills@ku.edu](mailto:eacmills@ku.edu)

### Recent PRIMA Publications

- **Albert, C., et al. (2024) *Spatial mapping of kilopixel kinetic inductance detector arrays for PRIMA* Proceedings of the SPIE**
- **Kane, E., et al. (2024) *Development of an ultra-sensitive 210-micron array of KIDs for far-IR astronomy* Proceedings of the SPIE**
- **Foote, L., et al. (2024) *Highly sensitive far-IR KIDs for PRIMA: optical characterization of a 25-micron array* Proceedings of the SPIE**
- **Burgarella, D., et al. (2024) *PRIMA: science cases and requirements for the photometric and polarimetric PRIMAger far-infrared camera* Proceedings of the SPIE**
- **DiPirro, M., et al. (2024) *The continuous adiabatic demagnetization refrigerator for the probe far-infrared mission for astrophysics (PRIMA)* Proceedings of the SPIE**

### Phase A Timeline

The PRIMA team is excited to be selected for a Phase A study in NASA's APEX program. Phase A has a short timescale: a Concept Study Report (CSR) will be due **November 14, 2025**, followed by a site visit at JPL in **Spring 2026** where the PRIMA team will present the mission development plans to the review committee. Together, the CSR and the site visit will demonstrate that PRIMA is positioned to deliver its science within the cost and schedule constraints of the APEX program. It is anticipated NASA will announce the final probe selection in **Spring/Summer 2026**.

The PRIMA team is already hard at work developing the many interconnected aspects of PRIMA. The KID detector team is demonstrating that the technology will be ready for PRIMA's flight build. The technical teams are advancing the design of the telescope, instruments, and spacecraft, and clearly defining the roles and responsibilities of all partners. The Science Team is further quantifying analyses required to meet the science objectives and is developing a detailed data management plan in collaboration with IPAC. PRIMA's maturing design continues to benefit from oversight by experienced JPL and GSFC engineers, scientists, and managers.

Our team remains committed to ensuring that PRIMA serves the entire astronomical community. PRIMA's capabilities are now defined, and ready for the community to design science cases. During Phase A, we will be seeking more community input through the updated GO book, community workshops, and the expansion of PRIMA's science working groups. Look for PRIMA at the January 2026 AAS meeting, where we will be showcasing the science and instrumentation elements of the concept study report. We hope that you will join us!

# PRIMA spotlight Highlighting the people who make PRIMA happen!



## Jennifer Rocca (JPL)

Capture Lead during Step 2: leading the work to win PRIMA's selection for flight implementation

Jenn has been with JPL for 25 years, serving in numerous flight and project system design, development and operations roles on GRACE, Deep Impact, SIM, Dawn, Juno, and NISAR. Along with being Capture Lead for PRIMA, Jennifer is the Project Systems Engineer and Engineering Technical Authority for the SPHEREx Astrophysics Medium Explorer near-infrared all-sky spectral survey mission. She has been with SPHEREx since its proposal to the SMEX 2016 call, and proudly just passed the Operational Readiness Review and Pre-Ship Review in preparation for launch in February 2025. Jenn is also a proud recipient of the 2019 JPL Explorer Award for SPHEREx Capture Leadership.



## Brooke Hsu (GSFC)

Formulation Manager for PRIMA at GSFC: responsible for the delivery of the management portions of the GSFC work scope for PRIMA

Brooke's career at GSFC spans 2 decades, serving flight projects in various capacities through her work across the Science Exploration and Flight Projects Directorates. Brooke worked in the Project Formulation and Development Office for 2.5 years before being selected as the Office Chief in April 2024. Prior to that, Brooke served as the Deputy Telescope Manager for the Roman Space Telescope (RST). There she provided technical and programmatic oversight to the heart of the RST mission. From 2004 through 2014, Brooke was a part of numerous Science Mission Directorate flight projects teams, including EOS-Aura, MAVEN, MESSENGER, New Horizons, and the Lunar Reconnaissance Orbiter.



## Ke Zhang (U. Wisconsin)

Leading precursor science as part of the PRIMA protoplanetary disk working group

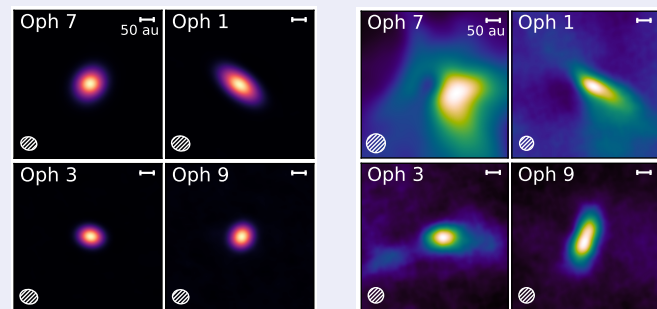
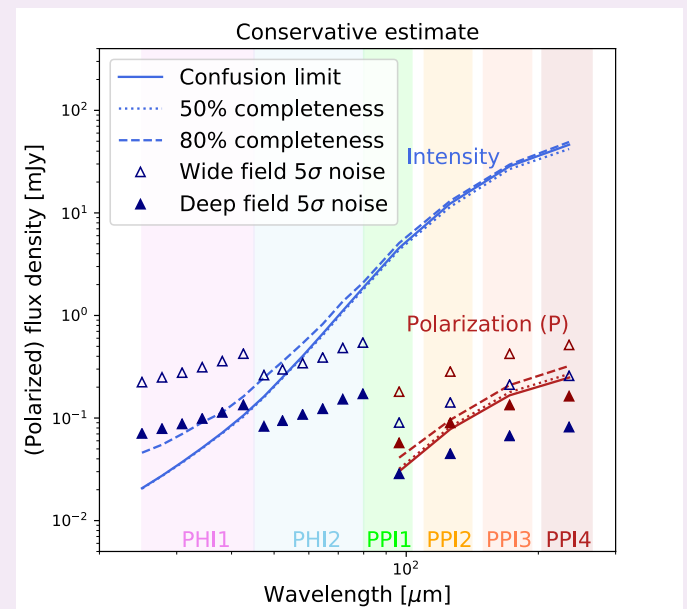
Ke leads the ALMA AGE-PRO large program to study the gas evolution in protoplanetary disks, highlighting the importance of future PRIMA measurements of gas mass in a large population of disks. She also uses JWST to explore the chemical evolution in the terrestrial planet-forming region of protoplanetary disks. These mid-IR studies of warm water distributions will be highly complementary to PRIMA measurements of cool water reservoirs in disks.



## Matthieu Béthermin (Université de Strasbourg, CNRS)

Leading analyses of predicted source confusion with PRIMAgger

### Béthermin et al. 2024 (Figure 12):



*Pictured: A subset of ALMA observations of 1.3 mm continuum (Left) and 12CO (2-1) line images (Right) for the AGE-PRO program, which spans the whole lifespan of protoplanetary disks to the gas evolution.*

*Comparison between the classical confusion limit (solid line) and the baseline PRIMAgger sensitivity limit (triangles) in intensity (blue) and polarization (red).*