Dear DAP,

Please see the March 2023 DAP newsletter. It will be archived on the DAP website (https://www.aps.org/units/dap/newsletters/index.cfm). If you have content you’d like to include in a future newsletter or distribute to DAP membership, please send it to us at dapsectreas@googlegroups.com.

For questions, suggestions, feedback, please contact the DAP Executive Committee at dap-exec@googlegroups.com

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2023 DAP Executive Committee:

Chair: Daniel Holz, University of Chicago
Chair-Elect: Belinda J Wilkes, Center for Astrophysics | Harvard & Smithsonian
Vice Chair: Enrico Ramirez-Ruiz, University of California, Santa Cruz
Past Chair: Chris Fryer, Los Alamos National Lab
Member-at-Large: Joel Coley, Howard University
Member-at-Large: Raffaella Margutti, University of California, Berkeley
Member-at-Large: Ann Hornschemeier, NASA Goddard Space Flight Center
Member-at-Large: Kerstin Marie Perez, Columbia University
Early Career Member-at-Large: Carl Fields, Los Alamos National Laboratory
Early Career Member-at-Large: Nicole Sanchez, Carnegie Observatories and Caltech
Secretary-Treasurer: Amy Furniss, California State University, East Bay
Deputy Secretary-Treasurer: Alessandra Corsi, Texas Tech University
Division Councilor: Brian Fields, University of Illinois at Urbana-Champaign
APS April Meeting 2023

The 2023 APS April Meeting will be held in Minneapolis, Minnesota on April 15–18, 2023. The DAP has organized a rich and varied scientific program for the meeting, headlined by the opening Plenary (Sat April 15th, 8:30am) on JWST Results. There are 13 DAP + co-sponsored invited sessions covering a range of topics including: gravitational waves and Multi-Messenger Astronomy, galaxies, stars, black holes, results from mature, new missions, details of upcoming missions and more, 3 prize sessions (TDE, galaxies and the CPG thesis prize finalists) and 1 dedicated to Diversity and Inclusion. In addition there are 21 contributed DAP sessions on an even broader range of topics and DAP posters, scheduled for Monday afternoon.

The DAP Business Meeting will be held on Monday 17th April, 5:45pm, providing the usual refreshments and opportunities to socialize. We will have after-lunch cookies at the Cecilia Payne-Gaposchkin doctoral prize session, Monday April 17th at 1:30PM.

New this year will be a DAP Mentor Review pilot program; see below for details.

DAP-sponsored Invited Sessions (Belinda Wilkes, DAP Program Chair)

Early Science Results from the James Webb Space Telescope (Plenary)

- Exploring new frontiers in exoplanetary science with the James Webb Space Telescope
- Pushing the Edge of the Cosmic Frontier with JWST
- The James Webb Space Telescope: New capabilities and science

Observations Confront Theory: Emerging Cosmological Tensions

- Massive galaxies at the beginning of cosmic time with James Web nb: do they break our cosmological model?
- The first Gyr of the PBH-LCDM Universe
- Tensions on small scales: too many galaxy-galaxy strong lenses in galaxy clusters?

The establishment of a new field of research in X-ray astronomy with NASA's and the Italian Space Agency’s successful Imaging X-Ray Polarimetry Explorer (IXPE) mission

- A detailed description of the Imaging X-ray Polarimetry Explorer emphasizing its unique capabilities
- Results of X-ray polarimetry with the Imaging X-ray Polarimetry Explorer (IXPE) of Galactic sources such as magnetars, pulsing neutron stars, and stellar mass black holes in binary system
- Active galactic nuclei revealed by X-ray polarization measurements from the Imaging X-ray Polarimetry Explorer (IXPE)

The 2023 NASA Astrophysics MIDEX/MO Phase A Studies: A glimpse of the pending future

- MoonBEAM: A beyond Earth-Orbit Gamma-ray Burst Detector for Multi-messenger Astronomy
- LEAP – The LargE Area burst Polarimeter on the ISS
- Exploring the Dynamic Ultraviolet Universe with UVEX
• Studying the Fast, Furious and Forming Universe in the X-ray and UV with STAR-X

Celebrating 100 years of Extragalactic Cepheids
• Edwin Hubble and Cepheids: Clinching the Case of Galaxies
• Challenges in Cepheid Evolution and Pulsation Modeling
• The odd journey of Edwin Hubble’s famous plate, from Pasadena to Baltimore to space and back

Ten Years of NuSTAR Hard X-ray Observations
• NuSTAR Overview and Science Highlights
• Searching for Dark Matter with NuSTAR
• NuSTAR Observations of Accretion Physics

Multi-messenger Astrophysics in the Era of Next-generation Gravitational Wave Detectors
• Multi-messenger Astrophysics in the Era of the next generation Gravitational Wave Detectors
• Multi-messenger astrophysics with continuous gravitational waves in the XG era
• Toward an Understanding of the Core Collapse Supernova Central Engine and Supernova Gravitational Wave Emission

The partnership of particle and astrophysics: directions for the coming decade
• Snowmass, P5 and Astrophysics
• Dark Matter in Extreme Astrophysical Environments
• Dark Matter physics with the Rubin Observatory and other astronomical surveys

Recent Advances in our understanding of tidal disruption events in galactic nuclei
• Tidal disruption events: Progress, open questions and prospects
• Tidal disruption events from intermediate mass black holes
• 2022 LeRoy Apker Prize Lecture: On the nature of repeating tidal disruption events

Astro2020 DEIA Priorities: Actions and Opportunities for Astrophysicists for Improving the Field
• Animating the Science: Astro2020 DEIA Priorities, Actions and Opportunities
• Strategies for Drafting a Successful Inclusion Plan
• The NASA SMD Bridge Program: An Overview of Finding and Transformative Impact
Finalists for the 2023 Cecilia Payne-Gaposchkin Doctoral Dissertation Award in Astrophysics

We received excellent nominations for the DAP thesis prize, and the committee has selected three finalists to present at the April meeting. The finalists and their citations are below. Please join this excellent April APS meeting session to enjoy some post-lunch cookies and hear our finalists speak on Monday, April 17th at 1:30pm. The winner will be announced at the DAP Business Meeting. For 2023, the finalists are:

- **Kaeli Hughes**, for "leading the lowest threshold ultra-high energy astrophysical neutrino search to date, with data from the Askaryan Radio Array, and her efforts toward the development of future radio detectors for ultra-high energy astrophysical and cosmogenic neutrinos."
- **Alyson M. Joens**, for “exceptional leadership of the BurstCube instrument calibrations including laying out the science case, explaining how the requirements drive the testing, and detailing the impact on mission performance and for mentoring and leading the team in delivering an instrument that exceeds requirements.”
- **Caitlin A. Witt**, for “foundational advances in multi-messenger astrophysics, and in the study of binary supermassive black holes using both electromagnetic and gravitational radiation.”

DAP Executive Committee Election Results

We are pleased to announce the outcome of the recent DAP Executive Committee election.

New members of the committee:
- Chair-line: **Rebecca Surman** (University of Notre Dame)
- Members-at-large: **Regina Caputo** (NASA Goddard Space Flight Center) and **Javier Garcia** (California Institute of Technology)
- Deputy Secretary/Treasurer: **Michela Negro** (NASA Goddard Space Flight Center)

Congratulations to these colleagues, a sincere thank you to all of the individuals who stood willing to serve, and a thank you to all DAP members who voted. These new members will join the DAP executive committee starting at the April APS meeting.

We also thank our outgoing DAP Executive Committee members for their years of service:
- **Chris Fryer** (Los Alamos National Laboratory) has completed the four year chairline term.
- **Amy Furniss** (California State University, East Bay) has completed two years as Deputy Secretary/Treasurer and two years as Secretary/Treasurer.
- **Raffaella Margutti** (University of California, Berkeley) has completed two years as a member-at-large.
- **Joel Barry Coley** (Howard) has completed two years as a member-at-large.
DAP Student/Postdoc Travel Awards

The DAP offered travel grants to support the attendance of graduate students, advanced undergraduate students, and postdocs at this meeting. The amount of each grant covers travel-related expenses for students who are members of the DAP and who are presenting talks or posters in DAP-sponsored sessions.

We received an excellent set of student and postdoc travel award applications for this year’s April meeting and were able to fund a total of 60 grants. Notifications were sent out to recipients, who will also be recognized at the DAP Business Meeting at the April APS Meeting in Minneapolis on Monday, April 17th at 5:45pm CDT.

DAP Business Meeting

The DAP Business Meeting a.k.a. The Reception and Awards Ceremony at the APS April meeting is scheduled for Monday, April 17 at 5:45pm. While you enjoy your drinks and appetizers the DAP Executive Committee will give brief reports on the DAP budget and initiatives of the past year. The recipient of the Cecilia Payne-Gaposchkin Thesis Award will be announced, and the new DAP APS Fellows will be celebrated.

Membership opinions and suggestions on these or other topics are most welcome. Please email dap-exec@googlegroups.com if you would like to contribute.

DAP Mentoring at the April APS Meeting

This year we are launching the DAP Mentor Reviews, a pilot program at the APS April 2023 in-person meeting, through which more senior Mentor Reviewers give one-on-one feedback to more junior mentees on their presentations.

The goals of this program are to:
• Create professional connections
• Provide constructive feedback on research and presentations
• Integrate all members more fully into the DAP/APS April Meeting community

Mentor Reviewers attend a more junior mentee’s presentation and follow up with their mentees to provide constructive, encouraging feedback. Faculty, staff scientists, postdocs, and graduate students are all encouraged to be Mentor Reviewers! Please apply to be a MENTOR here.

Mentees are postdocs, graduate students, or undergraduates who are looking to connect with other scientists at the APS April meeting and receive input on their poster or oral presentations. Please apply to be a MENTEE here.