



2026 DPS ELECTIONS: CANDIDATE STATEMENTS

The 2026 election for DPS Vice-Chair, DPS Committee Member, and DPS Student Representative is now open and will close on Aug 29, 2026

To vote you will receive an email asking you to cast your ballot. Each email contains a link with a unique code that will bring you to the ballot site. If the link does not work for you, the email will also contain a URL and login credentials specifically for this election (your AAS credentials used to remit dues or register for meetings will not work in the ballot site). You will be able to review the candidate statements and cast your vote.

You should vote for one of the three candidates for Vice-Chair:

- Kurt Retherford
- Moses Milazzo
- Robert Pappalardo

The Vice-Chair will become the DPS Chair in October 2027.

You should vote for two of the five candidates for DPS Committee:

- Ahmed Mahjoub
- Julie Brisset
- Kara Brugman
- Lynnae Quick
- Tom Nordheim

The successful candidates will serve on the DPS Committee for three years.

You should vote for one of the three candidates for Student Representative:

- Emeline Fromont
- Eshan Raul
- Simone Lilavois

The Student Representative will serve on the DPS Committee for two years.

The vitae and position statement for each of the candidates follows. This information will also appear on your ballot when you click on the link in your email sent from the DPS Secretary.

CANDIDATES FOR VICE-CHAIR (Vote for 1)

- Kurt Retherford
- Moses Milazzo
- Robert Pappalardo

KURT D. RETHERFORD

Institute Scientist

Department of Space Research, Space Science Division, Southwest Research Institute
Adjoint Professor in Department of Physics & Astronomy, University of Texas at San Antonio

Ph.D., Physics & Astronomy, The Johns Hopkins University, 2002

M.S., Physics, The Johns Hopkins University, 1997

B.S., Applied Math Engineering & Physics, University of Wisconsin - Madison, 1994

Dr. Retherford is a planetary scientist specializing in the use of space-based UV observations to study planetary atmospheres and surfaces. Areas of expertise include lunar volatiles, atmospheres, exospheres, aurora, plasma environment interactions, surface reflectance mapping, surface composition, and volatile transport related planetary processes. These investigations span from the Moon, Mars, Ceres, Psyche, Io, Europa, Ganymede, Callisto, and the Jupiter system, to Pluto, Charon, Arrokoth and the interstellar medium. He has technical expertise in areas of UV spectrograph instrument development, mission science operations planning, Raman spectrograph and UV detector technology development studies, vacuum laboratory investigations, and both ground- and space-based observational astronomy programs. Recent efforts are expanding into both astrobiology and exoplanetary studies.

Mission activities include PI on the Europa Clipper Ultraviolet Spectrograph (UVS), PI on the LRO Lyman Alpha Mapping Project (LAMP), PI on JUICE-UVS, CoI on Mars Express SPICAM, and New Horizons Encounter Team and Alice instrument team member. Earlier mission activities include Project Scientist on a Mars Scout 2013 Phase A Concept Study (TGE), and (as a graduate student) team memberships on the Far Ultraviolet Spectroscopic Explorer (FUSE) and Space Telescope Imaging Spectrograph (STIS). Dr. Retherford has been PI and CoI on numerous guest investigator and other observational astronomy programs using several NASA facilities, including the Hubble Space Telescope (HST; PI of program 13805 and large program 17470), the James Webb Space Telescope (JWST; PI of program 4565), Gemini-South, and the Infrared Telescope Facility (IRTF). He developed a vacuum-UV chamber for planetary volatile reflectivity studies, led a Planetary Instrument Design Development program (PIDDP) to develop UV sensitive CMOS detectors, and presently leads a Development of Advanced Lunar Instrumentation (DALI) program to develop a Raman deep-UV visible spectrograph for lunar volatile investigations. He has experience with several instrument and mission design studies, the latest of which focus on integrating cavity enhanced deep-UV Raman spectroscopy.

As an Adjoint Prof. in the University of Texas at San Antonio (UTSA) Dept. of Physics & Astronomy he mentors grad students, leads courses and lectures in Planetary Sciences, Ionospheres, and Exoplanets, and is a full faculty member. His leadership and management approach emphasizes improving diversity, equity, inclusion, and accessibility.

PROFESSIONAL CHRONOLOGY: Undergraduate Researcher, University of Wisconsin - Madison, 1991-95; Research and Teaching Assistant, The Johns Hopkins University, 1995-2002; Postdoctoral Researcher, Southwest Research Institute, 2002-2004; Research Scientist, SwRI 2004-2007; Senior Research Scientist, SwRI 2007-2012; Principal Scientist, SwRI 2012-2016; Staff Scientist SwRI 2016-2022; Planetary Sciences Section Manager 2017-2020; Sr. Program Manager-R&D 2022-2024; Institute Scientist 2024-present. University of Texas at San Antonio, Department of Physics & Astronomy: Adjoint Professor, 2015-present.

MEMBERSHIPS: AAS Division for Planetary Sciences (DPS), Europlanet Society (EPS), American Geophysical Union (AGU), European Geophysical Union (EGU), SPIE, American Association for the Advancement of Science (AAAS), and The Planetary Society.

RECENT COMMUNITY SERVICE:

- AAS/DPS – EPSC 2023 Meeting Local Organizing Chair Oct. 1-6, 2023
- AAS/DPS Federal Relations Subcommittee (FRS) Officer Oct. 2016 – 2022

- AAS Committee on Astronomy and Public Policy (CAPP) Oct. 2016 – Present
- AAS/DPS Federal Relations Subcommittee (FRS) member 2014 – 2016, 2022-Present.
- Lead/Co-Lead for 4 Science Meetings and member of 6 Science/Local Organizing Committees.
- Participated in 24 NASA and NSF Proposal Review Panels (1 as Chair)
- Refereed 40 Papers (Outstanding Reviewer *Icarus*, 2016; Acknowledgements for review of top downloaded and/or cited AGU article, 2020)

AWARDS: UTSA Running to Ph.D. Faculty Recognition Award 2020. NASA SMD Planetary Science Division Early Career Fellow 2008. 13 Group Achievement Awards.

MENTORSHIP: 22 Undergraduate Researchers, 10 Full Graduate Students (6 currently), and 6 Postdocs.

RECENT PUBLIC OUTREACH, LECTURES, EDUCATION, AND DIVERSITY EVENTS:

- TheResearchRoomSA Student Talk Show, 2026 June 1
- NPR Politics Podcast timestamp about Europa Clipper launch, 2024 October 15
- Technology Today Podcast on Europa Clipper <https://www.swri.org/podcast/ep71>, 2024 September 16
- San Antonio Teacher Training Astronomy Academy lecture, 2024 July 15
- Solar Eclipse at Pedernales Cellars, Stonewall, TX, 2024 April 8
- Europa Clipper Public Engagement & Education Outreach, San Juan, Puerto Rico, 2023 November 10
- San Antonio Museum of Science And Technology STEMclipse event, 2023 October 14
- Astronomy on Tap San Antonio Speaker – Space Policy Brought Down to Earth, 2023 April 5
- San Antonio Philharmonic Exhibitor for Holst's The Planets, 2022 November 18
- Tech Bloc Facebook Live Speaker (S.A.'s Growing Role in Off-Planet Exploration), 2020 August 6
- UTSA Pre-freshman Engineering Program (PREP) Guest Lecturer 2019 July 16
- San Antonio College Staff Development Day Keynote Address 2019 May 24
- Astronomy on Tap San Antonio contributor, 2019 Witte Museum event Expert
- Conference on Undergraduate Women in Physics 2019 panelist, Corpus Christy, TX, 2019 Jan. 18-20
- Astronomy on Tap San Antonio contributor ("In the News" segment), 2018 several events
- Alamo City Comic Con Exhibitor and Panel Leader, San Antonio, TX, 2018 Oct. 26-28
- Taste of Science San Antonio – Super Blue Blood Moon, San Antonio, TX, 2018 Jan. 31
- Alamo City Comic Con Exhibitor, San Antonio, TX, 2017 Oct. 27-29
- Taste of Science San Antonio Kickoff – Moons, Storms, & Toys in Space, San Antonio, TX, 2017 Sept. 12
- Scobee Planetarium Solar Eclipse Event, SAC, San Antonio, TX, 2017 Aug. 21

EXAMPLE RECENT PUBLICATIONS:

175 total (134 peer reviewed, 41 proceedings/notes/white-papers): 6 first authored, 19 second authored, and 29 third authored peer-reviewed. <https://orcid.org/my-orcid?orcid=0000-0001-9470-150X>

More at <https://scholar.google.com/citations?hl=en&user=bh2fxq8AAAAJ> (H-Index 46, i10-Index 115)

Roth, L., **K. D. Retherford**, J. Saur, and 13 coauthors, "Europa's Lyman- α emissions from HST/STIS observations, *Astronomy & Astrophysics*," 709, A59 <https://doi.org/10.1051/0004-6361/202659406>, 2026.

Gladstone, G. R., J. M. Shull, W. R. Pryor, J. Slavin, J. A. Kammer, T. M. Becker, T. R. Lauer, M. Postman, J. R. Spencer, J. Wm. Parker, **K. D. Retherford**, and 14 coauthors "The Ly α sky as observed by New Horizons at 57 AU," *The Astronomical Journal*, 169:275, doi:10.3847/1538-3881/adc000, 2025

Velez, M. A., **K. D. Retherford**, L. Roth, T. M. Becker, V. Hue, J. A. Kammer, Space Telescope Imaging Spectrograph Observations of Europa's Optical Aurora, *Res. Notes AAS* 9 192, 2025.

Retherford, K. D., T. M. Becker, M. A. Freeman, G. R. Gladstone, T. K. Greathouse, 24 coauthors and the Europa-UVS Team, "Europa Ultraviolet Spectrograph (Europa-UVS)," *Space Sci Rev* 220:89, <https://doi.org/10.1007/s11214-024-01121-x>, 2024.

Magaña, L. O., **K. D. Retherford**, and 14 coauthors, "LRO-LAMP Survey of Lunar South Pole Cold Traps: Implication for the Presence of Condensed H₂O," *JGR: Planets*, doi:10.1029/2022JE007301, 2022.

Mandt, K.E., O. Mousis, D. Hurley, A. Bouquet, K.D. Retherford et al. "An Exogenic Origin for the Volatiles Sampled by the LCROSS Impact," *Nature Communications*, 13, 642, doi:10.1038/s41467-022-28289-6, 2022.

Becker, T.M., N. Cunningham, P.M. Molyneux, L. Roth, L.M. Feaga, K.D. Retherford et al. "HST UV Observations of Asteroid (16) Psyche", *Planetary Science Journal*, 1:53, <https://doi.org/10.3847/PSJ/abb67e>, 2020.

The AAS/DPS and other professional societies are playing an increasingly important role in defending science against unprecedented federal funding cuts. I'm very passionate about the advocacy role I've played in the DPS since 2014 as member of the Federal Relations Subcommittee (FRS). I've led and participated in dozens of Hill Visits (~2/year), interacting with Congress, NASA, NSF, and White House (OMB, OSTP) personnel to communicate the importance of planetary science to our nation, serving as FRS Chair/Officer from 2016-2022 and coordinating with The Planetary Society. If elected as DPS Vice Chair, I would work to endow another full-time position like the [John Bahcall Public Policy Fellowship](#), as this science advocacy requires more help.

I would also strive for more inclusion of DPS members in broader AAS society roles, as I have gained full appreciation of everything the AAS provides behind the scenes in my role as the DPS liaison to the [Committee on Astronomy and Public Policy](#) since 2016. For example, our DPS subcommittees (professional culture & climate, education, environmental affairs, etc.) would benefit from working more closely with those parallel within AAS, being stronger together.

If elected, I would continue to increase the appeal of the DPS meeting for scientists who typically attend the Lunar and Planetary Science Conference, offering that same sense of community and effective communication for the full range of planetary science topics. As the Principal Investigator (PI) of the Lunar Reconnaissance Orbiter Lyman Alpha Mapping Project and the developer of a DALI-funded Lunar Raman Spectrograph, I've encouraged many of my lunar science colleagues to attend DPS meetings, as the DPS has grown broadly in interdisciplinary areas beyond traditional astronomy.

I'll work hard to continue the strong collaboration between DPS and Europlanet Society. As the lead organizer for the 2023 AAS/DPS – Europlanet Science Congress ([EPSC](#)) meeting in San Antonio I have a full understanding of the importance of annual DPS meetings for both scientific advancement and our organization's finances. My involvement as Ultraviolet Spectrograph (UVS) instrument PI for both the Jupiter Icy Moons Explorer and Europa Clipper missions routinely supports my interaction with European colleagues, including EPSC meetings.

If elected, I would support early career researchers by diversifying meeting networking opportunities. I will enable grad student members still looking for jobs to remain on the DPS newsletter, offering an onramp back into the field through its postdoc announcements. I've mentored almost two dozen undergraduates, and as Adjoint Professor at UTSA, I've mentored over a dozen graduate students, making this issue close to heart for me.

I'm committed to advancing our shared values of diversity, equity, inclusion, and accessibility for the betterment of our community, especially now that related programming is no longer NASA funded. If elected, I would further our professional culture & climate subcommittee efforts with dedicated workshops and forums to evolve previous efforts in new formats. I'm thankful for the opportunity to serve our community by expanding our advocacy capacity and supporting our members in this challenging time.

Dr. Moses P. Milazzo

Education

Ph.D. Planetary Sciences

University of Arizona, December 2005

B.S. Mathematics

University of Arizona, May 2001

*Remote Sensing of Thermally-Induced
Activity on Io and Mars*

Professional Experience

Founder and Director, Other Orb LLC

April 2019 to Present

- **Leadership & Management:**

- **NASA's first Chief Scientist for the Planetary Data Ecosystem.** Since 2021, maintained communication between community members and NASA and international planetary science leadership regarding data use, accessibility, preservation, and archiving. Helped NASA develop a vision for the Planetary Data Ecosystem and future development.
- **Leadership and Team Consultant:** Specializing in leadership development and coaching, team development, mentoring, anti-harassment, and codes of conduct.
- **Frequent Group Chief for NASA review panels.** Since 2008, managed the selection of up to a dozen scientists and engineers, distributed review assignments, coordinated schedules and reviews with Civil Servants, and certified compliance with policy and regulations for final review text and scores.
- **Assessment and Advisory Group Member:** *Ex-officio* member of the MAPSIT Assessment Group (since 2021); member of several other AGs; frequent presenter to AGs and the Planetary Advisory Committee.
- **Organizing Committees:** member of organizing and advising committees for multiple Workshops, Conferences, and Meetings. Lead many white paper efforts to help NASA and other organizations to understand and improve upon strategic knowledge gaps.
- **Data Archiving and Review:** Led a team of 11 international collaborators in a 2-year effort resulting in a report to NASA as the Archiving Co-Chair for the NASA Independent Review Board for the Planetary Data Ecosystem.
- Build and lead teams and ensure funding for teams of sub-contractors, Co-Investigators, students, interns, and administrative staff.
- **Fiscal Management of Federal Research and Development projects:** Co-Developing projects and their budgets and federal compliance for NASA projects (grants, contracts,

POs, etc) routed through Other Orb LLC. This includes education projects, research projects, and technical projects.

- **Community Building:**
 - **Developed, presented, and assessed effectiveness of workshops** since 2014, including bystander intervention, inclusive mentoring, anti-harassment, conflict resolution, trauma-informed leadership, and codes of conduct, presented to local, national and international institutions
 - **Advising:** Advisor to researchers, professional leaders, post-docs, graduate, undergraduate, and high school students in planetary sciences, robotics, research, engineering, community, and similar topics. Advisor to a start-up Electric Vehicle company on community needs.
 - **Proposal Writing Consulting and Mentoring:** Frequently invited to help teach workshops on NASA proposal writing, to teach teams how to develop team building aspects of their proposals, and to review individual proposals before submission
- **Technical Consulting:**
 - Consultant on Earth and Planetary instrument calibration, data science, software and data pipeline development, and data archiving.
 - Consultant for private enterprises including early wildfire detection and prevention, international Lunar development efforts, Lunar and asteroid mining, pro-social workshop development, Earth-based remote sensing of asteroids, STEAM education and curriculum development, and STEAM field trips.
 - Consultant to a start-up Electric Vehicle company on engineering goals.
- **Research:**
 - Developed and tested procedures to produce high-resolution 3D models of the Moon and Mars from orbital images.
 - Planetary volcanism
 - Planetary surface evolution
 - Earth-planetary analog research
 - Asteroid surface evolution
 - Ethics of mining and development on the Moon and asteroids
 - Ethics and effectiveness of inclusion and diversity programs
 - Education and learning research

Physical Scientist, U.S. Geological Survey

April 2008 to March 2019

Middle- and High-school Teacher, BASIS Flagstaff Charter School

July 2013 to June 2015

Post-Doc Research Associate, University of Arizona

December 2005 to April 2008

Candidate Statement

I am honored to be nominated as DPS Vice Chair and for the opportunity to help our community navigate the current complex political and funding landscape by: cultivating inclusive spaces, bolstering strategic research and funding alliances, and ensuring equitable access to data.

I am the Founder and Director of Other Orb LLC, a small space sciences research company dedicated to ensuring that the deeply human endeavor of discovery welcomes *everyone*. For more than a decade, I have promoted accessible and inclusive communities by developing, testing, and presenting community-building workshops including: Bystander Intervention, Community Building, Codes of Conduct, Inclusion Plans, Mentoring, and Employee Peer Support programs, among others. As NASA's first Chief Scientist for the Planetary Data Ecosystem, I acted as liaison between NASA and the planetary community by representing our community's data needs to HQ and the Planetary Data System. During the abstract and website deletion crisis of 2025, I worked with a small team to preserve websites, abstracts, and other data.

Sustaining a resilient and diverse community is my first priority and as DPS Vice Chair and Chair, I will leverage my decades-long commitment to building inclusive, welcoming, and safe communities to continue advocating for a culture that welcomes, respects, and empowers every individual. My objectives will include:

1. Maintaining annual conferences as safe, inclusive, and effective spaces for everybody.
2. Meeting accessibility requirements as travel and public health landscapes evolve.
3. Keeping our community strong during periods of funding instability.
4. Holding NASA accountable to its promise of open and accessible data.
5. Establishing DPS as a model for inclusionary communities.

To overcome our shared obstacles, the DPS must also continue robust dialogue with other institutions, such as the AISES, NSBP, SACNAS, AGU, and GSA prioritizing two central themes: **Active Advocacy** – collaborating at all governmental levels to influence space policy, research funding, and strengthen open science; and **Member Support** – assisting our community members facing professional, political, or economic hardship.

As Vice Chair and Chair, I will focus on:

- **Strategic Alliances:** Cooperating with these societies to bolster research resources and educational opportunities, welcoming all scientists into our community.
- **Proactive Stewardship:** Helping to shape evolving directives and policies, including equitable access to data. I am dedicated to ensuring the DPS offers organizational stability, preserves critical records, and advocates for strong, inclusive, collaborative environments.

Finally, equitable access to our rich store of planetary data is fundamental to our community's work. Equitable access to data requires equitable access to mission and instrument team memberships; research and data analysis funding; publications; reviews; and other resources. As Vice Chair and Chair, I will strive to support the DPS's critical role in ensuring that access.

In summary, while the hurdles we face are significant, I am certain the DPS can meet these challenges and I am fully committed to working through them with our partners and members. My sincere thanks to the DPS committee and those who nominated me for this chance to serve.

Robert T. Pappalardo

JPL Fellow | Europa Clipper Project Scientist

Jet Propulsion Laboratory, Pasadena, California | robert.pappalardo@jpl.nasa.gov | science.jpl.nasa.gov/people/Pappalardo

RESEARCH AND MISSION LEADERSHIP

Planetary scientist and mission leader specializing in the geology, geophysics, and habitability of icy worlds, especially Europa. Research encompasses tectonics, ice-shell dynamics, subsurface oceans, and the geological evolution of Europa, Ganymede, Enceladus, and Titan. Mission leadership spans formulation and definition of the flagship Europa Clipper mission through development, launch, and early cruise, as well as science operations during Cassini's first extended mission at Saturn. Experience includes building consensus across scientific disciplines and institutions while working closely with NASA leadership and international partners.

EDUCATION

- **Ph.D., Geology**, Arizona State University, 1994.
- **B.A., Geological Sciences**, Cornell University, 1986.

PROFESSIONAL POSITIONS

- **JPL Fellow**, Jet Propulsion Laboratory, 2023–present.
- **Project Scientist, Europa Clipper Mission**, Jet Propulsion Laboratory, 2015–present.
- **Senior Research Scientist**, Jet Propulsion Laboratory, 2007–present; Principal Scientist and Director's Fellow, 2006–2007.
- **Visiting Faculty Associate**, Caltech, Division of Geological and Planetary Sciences, 2007–2011.
- **Assistant Professor**, University of Colorado, Boulder; Astrophysical and Planetary Sciences and Laboratory for Atmospheric and Planetary Sciences, 2001–2006.
- **Postdoctoral Research Associate**, Brown University, 1995–2001; Arizona State University, 1994–1995.

SELECTED SPACECRAFT MISSION LEADERSHIP AND FORMULATION

- **Project Scientist, Europa Clipper, 2015–present**. Leads the mission's scientific direction and represents its science to the Project and NASA.
- **Study Scientist, Europa mission options, 2011–2015; Chair, Europa Science Definition Team, 2011–2012**. Led scientific definition of the reduced-scope flagship mission that became Europa Clipper.
- **Pre-Project Scientist, Jupiter Europa Orbiter, 2009–2011; Europa Study Scientist, 2008–2010**. Led scientific integrity and served as liaison between the international science definition team and U.S. technical team.
- **Project Scientist, Cassini Equinox Mission, 2008–2010**. Led science during Cassini's first extended mission at Saturn.
- **Europa Flagship Science Definition Team Co-Chair, 2007; Jupiter Icy Moons Orbiter Science Definition Team, Member 2003–2004; Europa Orbiter Science Definition Team Member, 1998–1999**.
- **Affiliate Member, Galileo Solid State Imaging Team, 1994–2001**. Planned and analyzed images of Europa and Ganymede.

SELECTED PROFESSIONAL SERVICE

- **Elected Committee Member, Division for Planetary Sciences of the AAS, 2011–2014**. Helped lead and manage the affairs of the DPS.
- **Principal Organizer, Galileo at 30 Meeting, 2025**.
- **Member, NASA Phase E Cost Independent Study Team, 2023–2024**. Examined how NASA can identify mission operations cost growth earlier and more accurately.
- **Member, National Academies Space Studies Board, 2008–2014**.
- **Co-Chair, Committee on the Origins and Evolution of Life, 2008–2011**.
- **Steering Group Member and Vice Chair, Large Satellites Panel, first Planetary Decadal Survey, 2001–2002**.
- **Member, NASA Solar System Exploration Strategic Roadmap Committee, 2005–2006**.
- **Member, Solar System Exploration Subcommittee, 2004–2005**.
- **Member, Committee on Planetary and Lunar Exploration, 2000–2003**.
- **Participant, Outer Planets Assessment Group, 2005–present**.

SELECTED TEACHING

- **University of Colorado, 2001–2005**: Planetary Surfaces and Interiors; Extraterrestrial Life; General Astronomy; Planetary Science Seminar; Europa.
- **Astrobiology short courses**: University of Hawaii Astrobiology Winter School, 2005; NASA Astrobiology Institute Insight Course, 2003.

PROFESSIONAL SOCIETIES

American Astronomical Society, Full Member, 2026–present; Division for Planetary Sciences member, 1996–present. American Geophysical Union, member, 1989–present; Committee on Space Research, Associate Member, 2009–present; International Academy of Astronautics, Full Member, 2018–present.

SELECTED HONORS AND AWARDS

- **NASA Exceptional Service Medal, 2011**, for scientific and strategic leadership of Cassini and the Europa Jupiter System mission concept.
- **JPL Magellan Awards, 2020 and 2016**, JPL's highest individual award for scientific or technical accomplishment, recognizing Europa Clipper science leadership.
- **NASA Agency Group Achievement Award, 2025**, for work investigating Phase E cost growth and recommending solutions to NASA.
- **JPL Voyager Awards, 2025 and 2016**, for outstanding scientific leadership of the Europa Clipper Project and Project Science Group.
- **Johns Hopkins Applied Physics Laboratory Outstanding Paper Award, 2001**, for the Science article on Europa folds and crustal cycling.

SELECTED FUNDED RESEARCH AS PRINCIPAL OR CO-INVESTIGATOR

- **PI, Enhancing SatStress GUI: Simplifying Stress Calculations for Satellites**, NASA Planetary Data Archiving, Restoration, and Tools Program, 2016–2019.
- **Co-I, A Global Geologic Map of Enceladus**, NASA Planetary Geology and Geophysics Program, 2014–2018.
- **Co-I, Strike-Slip Faulting Processes on Ganymede**, NASA Outer Planets Research Program, 2013–2016.
- **PI, Fracture Formation on Europa and Other Icy Satellites**, NASA Outer Planets Research Program, 2006–2009.
- **PI, Causes and Consequences of Faulting on Europa and Other Icy Satellites**, NASA Planetary Geology & Geophys. Program, 2004–2007.
- **PI, Astrobiological and Geological Implications of Convective Transport in Icy Outer Planet Satellites**, NASA Exobiology Program, 2002–2005.
- **PI, Origin, Structure, and Evolution of Grooved Terrain on Ganymede and Comparison to Europa**, NASA Jupiter System Data Analysis Program, 1998–2001.

SELECTED RECENT AND FOUNDATIONAL PUBLICATIONS

- Parekh, R., et al. Mass-wasting features on Galilean icy moons: Morphological analysis and implications. *PSJ* 7(2) (2026).
- Pappalardo, R. T., et al. Ganymede's geology. In *Ganymede*, Cambridge University Press, 87–103 (2025).
- Roth, L., et al. Plume activity on Europa: Current knowledge and search strategy for Europa Clipper. *PSJ* 6, 182 (2025).
- Becker, T. M., et al. Exploring the composition of Europa with the upcoming Europa Clipper mission. *Space Science Rev.* 220, 49 (2024).
- Daubar, I. J., et al. Planned geological investigations of the Europa Clipper mission. *Space Sci. Rev.* 220, 18 (2024).
- Pappalardo, R. T., et al. Science overview of the Europa Clipper mission. *Space Sci. Rev.* 220, 40 (2024).
- Roberts, J. H., et al. Exploring the interior of Europa with Europa Clipper. *Space Sci. Rev.* 219, 46 (2023).
- Leonard, E. J., et al. Finding order in chaos: Quantitative predictors of chaos terrain morphology on Europa. *GRL* 49 (2022).
- Howell, S. M., and R. T. Pappalardo. NASA's Europa Clipper—A mission to a potentially habitable ocean world. *Nature Comm.* 11, 1311 (2020).
- Leonard, E. J., A. Yin, and R. T. Pappalardo. Ridged plains on Europa reveal a compressive past. *Icarus* 343, 113709 (2020).
- Cameron, M., et al. Tidal stress modeling of Ganymede: Strike-slip tectonism and Coulomb failure. *Icarus* 319, 99–120 (2019).
- Howell, S. M., and R. T. Pappalardo. Can Earth-like plate tectonics occur in ocean world ice shells? *Icarus* 322, 69–79 (2019).
- Howell, S. M., and R. T. Pappalardo. Band formation and ocean-surface interaction on Europa and Ganymede. *GRL* 45, 4701–4709 (2018).
- Nimmo, F., and R. T. Pappalardo. Ocean worlds in the outer solar system. *JGR Planets* 121 (2016).
- Vance, S. D., K. P. Hand, and R. T. Pappalardo. Geophysical controls of chemical disequilibria in Europa. *GRL* 43, 4871–4879 (2016).
- Yin, A., and R. T. Pappalardo. Gravitational spreading, bookshelf faulting, and tectonic evolution of the South Polar Terrain of Enceladus. *Icarus* 260, 409–439 (2015).
- Collins, G. C., et al. Global geologic map of Ganymede. *U.S. Geological Survey Scientific Investigations Map* 3237 (2014).
- Pappalardo, R. T., et al. Science potential from a Europa lander. *Astrobiology* 13, 740–773 (2013).
- Gleeson, D. F., et al. Biosignature detection at an Arctic analog to Europa. *Astrobiology* 12, 1–16 (2012).
- Moore, J. M., and R. T. Pappalardo. Titan: An exogenic world? *Icarus* 212, 790–806 (2011).
- Pappalardo, R. T., W. B. McKinnon, and K. K. Khurana, eds. *Europa*. University of Arizona Press, 727 pp. (2009).
- Smith-Konter, B., and R. T. Pappalardo. Tidally driven stress accumulation and shear failure of Enceladus's tiger stripes. *Icarus* 198, 435–451 (2008).
- Nimmo, F., et al. A shear-heating mechanism for the generation of vapor plumes and high heat fluxes on Enceladus. *Nature* 447, 289–291 (2007).
- Nimmo, F., and R. T. Pappalardo. Diapir-induced reorientation of Enceladus. *Nature* 441, 614–616 (2006).
- Barr, A. C., and R. T. Pappalardo. Onset of convection in ice I: Application to the icy Galilean satellites. *JGR* 110, E12005 (2005).
- Prockter, L. M., et al. Morphology of European bands at high resolution: A mid-ocean ridge-type rift mechanism. *JGR* 107(E5), 5028 (2002).
- Prockter, L. M., and R. T. Pappalardo. Folds on Europa: Implications for crustal cycling and accommodation of extension. *Science* 289, 941–943 (2000).
- Pappalardo, R. T., et al. Does Europa have a subsurface ocean? Evaluation of the geological evidence. *JGR* 104, 24,015–24,055 (1999).
- Carr, M. H., et al. Evidence for a subsurface ocean on Europa. *Nature* 391, 363–365 (1998).
- Pappalardo, R. T., et al. Geological evidence for solid-state convection in Europa's ice shell. *Nature* 391, 365–368 (1998).
- Pappalardo, R. T., et al. Grooved terrain on Ganymede: First results from Galileo high-resolution imaging. *Icarus* 135, 276–302 (1998).

SELECTED PUBLIC COMMUNICATION

- **Washington Post op-ed, 2024:** “On Europa Clipper: Our Earthly emissary will visit a place we cannot.”
- **Planetary Society Cosmic Shores Gala keynote, 2024:** Exploring Ocean World Habitability with Europa Clipper.
- **National Air and Space Museum Exploring Space lecture, 2016:** NASA's Mission to Europa.
- **Science media and education:** advisor or interviewee for NOVA, PBS NewsHour, National Geographic, BBC Radio, NASA eClips, and other programs.

DPS Vice-Chair Statement

Robert Pappalardo

Jet Propulsion Laboratory, California Institute of Technology

I am honored to be nominated for the position of Vice-Chair of the Division for Planetary Sciences. DPS has long been central to my life as a planetary scientist: a place where people across the diverse disciplines, institutions, career stages, and professional paths of planetary science—in the U.S. and internationally—come together as one community. I value DPS for its outstanding scientific meetings, and for its role as a town hall and professional home for planetary scientists.

Planetary science is in a demanding period. We face constrained resources, uncertainty in mission opportunities, pressure on R&A programs, and a need to support scientists across career stages, institutions, backgrounds, and national boundaries. At the same time, missions and research advances are transforming our understanding of planetary bodies and habitability. DPS has a central role in helping our community sustain scientific momentum while responding constructively to these pressures.

My perspective is shaped by working at the interface of science and missions. My career has included Cornell, Arizona State University, Brown University, the University of Colorado, and JPL, giving me experience across varied institutional cultures and approaches to planetary research. Before becoming Project Scientist for the flagship Europa Clipper mission, I spent years helping to formulate and define it; I have since led its scientific direction through development, launch, and early cruise. I also served as Cassini Project Scientist during its first extended mission at Saturn.

These roles have required me to work with large, distributed teams spanning diverse institutions and the breadth of planetary science. This work required listening, clear communication, consensus-building, close coordination with NASA leadership and international colleagues, and an understanding of the constraints under which missions and research programs operate. That is the integrative experience that I would bring to DPS leadership.

Our community needs strong advocacy for a healthy and balanced planetary science ecosystem: robust R&A programs, data analysis, laboratory studies, modeling, theory, observations, technology development, and mission opportunities across scales. DPS is well positioned to articulate that full ecosystem and explain its value to NASA, Congress, partner agencies, institutions, students, and the public. Effective DPS leadership also requires a constructive relationship with the AAS, from which DPS draws shared resources, organizational support, and a broader platform for advocacy.

I am particularly attuned to continuity: enabling students and early-career scientists to gain the experience, mentorship, visibility, and confidence needed to become the next generation of principal investigators and community leaders. DPS meetings helped confirm my own professional path and remain central to scientific exchange, mentorship, and belonging. DPS should continue to foster inclusive, accessible meetings and a professional culture in which all members can contribute fully.

As Vice-Chair, I would support the Chair, Committee, and subcommittees in the work already underway. I would listen, seek broad input, strengthen the DPS–AAS partnership, and help identify where DPS can act most effectively. And I would bring a practical, consensus-building style and deep commitment to the long-term health of planetary science.

CANDIDATES FOR COMMITTEE (Vote for 2)

- Ahmed Mahjoub
- Julie Brisset
- Kara Brugman
- Lynnae Quick
- Tom Nordheim

Ahmed Mahjoub, Ph.D.

Jet Propulsion Laboratory, California Institute of Technology

4800 Oak Grove Dr, Pasadena, CA 91109

Email: ahmed.mahjoub@jpl.nasa.gov | Phone: +1 (626) 491-5089

Professional Overview

Planetary scientist with over 15 years of experience advancing community focused planetary science through laboratory simulations, spectroscopy, and mission-supporting research. My work supports compositional and chemical interpretation for missions such as Rosetta and New Horizons, and contributes laboratory datasets broadly used by the planetary science community. I have served as a reviewer and panelist for major NASA programs, supported early-career researchers through mentorship, and contributed to promotion of planetary science focused on public and students. I bring a strong record of collaborative leadership, service, and commitment to the scientific advance of the DPS community.

Education

Ph.D., Physics, University Paris-11, Orsay (2010)

Master's Degree, Molecular Physical Chemistry, University Paris-11 (2006)

Bachelor's Degree, Physics, University of Tunis (2005)

Professional Appointments

Scientist III, Jet Propulsion Laboratory (2023–Present)

Affiliate Scientist, JPL (2019–2023)

Senior Scientist, Space Science Institute (2018–2023)

Service to the Planetary Science Community**NASA & Funding Agency Service**

- Reviewer for NASA ROSES programs: Solar System Workings, PDART, Early Career Award, NPP; panelist for multiple NASA NPP and ROSES review panels: Solar System Workings, PDART, Early Career Award, EW.
- Reviewer for French National Agency of Science: 2019-2023.

Scientific Journal Service

- Reviewer for: *Nature Astronomy*, *Nature Communications*, *Planetary Science Journal*, *Planetary and Space Science*, *The Astrophysical Journal*, *Icarus*.

Education, Outreach, and Promotion of Planetary Science

- Grand Award Judge, Astrophysics, Intel Science Fair, Los Angeles (2017).
- Judge, Chemistry, California State Science Fair (2017).
- Invited seminars delivered for student-organized groups at UCLA (2025) and UCL (2024), promoting current research in sulfur and organic chemistry in small bodies.
- Media Engagement: interview with local media in Tunisia to promote planetary science and astrophysics among young students.

- Organizing exchange program between universities in Tunisia and universities in France for Master and Bachelor students. Provide opportunities for Tunisian students to perform internship in laboratories in France.

Mentoring and Community Development

- Supervision of postdocs, undergraduate researchers, and summer students (2012–2025) in laboratory simulations of planetary materials and spectroscopy.
- Mentoring topics include outer solar system ices, cometary materials, Titan atmospheric aerosols, and spectroscopy related to mission science.

Selected Leadership in Research (as PI)

- PI on six major NASA grants, including EW (2025), PDAR (2023), SSW (2022), DDAP (2021), and RDAP-Science PI (2019), totaling several million in funded planetary science research.
- Co-I on multiple JPL R&TD awards supporting instrumentation development and laboratory capabilities.

Awards Recognizing Scientific Excellence

- **Voyager Award**, Jet Propulsion Laboratory (2018).
- **UVSQ Scientific Award of Excellence** (2011).
- **Paris-11 Excellence Fellowship** (2006).

Summary of Fit for DPS Committee

- Long-standing engagement with NASA and journal review processes supports fair and thorough evaluation of community research.
- Strong record of mentoring, student outreach, and science communication, including invited student-led seminars.
- Established leadership in laboratory planetary science producing community datasets widely used by DPS members.
- Committed to strengthening inclusivity, transparency, and scientific excellence across the DPS community.

Candidate Statement – Ahmed Mahjoub

I am honored to be nominated for the DPS Committee. My engagement with DPS began early in my career, and over the years the annual DPS meeting has become an essential venue for sharing results from my laboratory simulations and for staying connected with the planetary science community. As my career has developed, this community has shaped not only my scientific direction but also my sense of responsibility toward service, mentorship, and collaboration.

My research focuses on laboratory simulations of planetary and small-body environments, particularly organic and organosulfur chemistry, spectroscopy of irradiated ices, and the physical properties of Titan's liquid hydrocarbon surfaces. These studies have supported the interpretation of spacecraft data from missions such as *Rosetta* and *New Horizons* and contributed to understanding the formation of complex organics and volatile species relevant to comets, asteroids, and sample-return materials. Through collaborations across the United States and internationally, I have worked at the interface of astrochemistry, spectroscopy, and mission science, helping to connect laboratory insights with observational and spacecraft datasets.

Service to the community has been a consistent part of my professional life. I have mentored postdoctoral researchers, undergraduate students, and summer interns working on Titan aerosols, cometary materials, and irradiation-driven ice chemistry. I regularly review manuscripts for journals including *Nature Astronomy*, *Nature Communications*, *Planetary Science Journal*, *Planetary and Space Science*, *ApJ*, and *Icarus*, and I have served on multiple NASA ROSES review panels such as SSW, PDART, the Early Career Award, NPP, and other program evaluations. These efforts have given me a clear understanding of how community priorities and scientific standards evolve, and how important equitable, transparent processes are to the prosperity of our field.

I also value contributions that promote planetary science to broader audiences. Serving as a judge for the Intel Science Fair and California State Science Fair allowed me to encourage young scientists interested in planetary and space sciences. Invited seminars at UCLA and UCL, especially those organized by students, gave me opportunities to share current research and strengthen connections across institutions and generations of researchers.

If elected to the DPS Committee, I hope to deepen my understanding of the community's priorities and challenges, contribute to the planning of DPS activities, and support early-career scientists as they navigate the field. I am particularly interested in strengthening the role of laboratory and astrochemistry research within DPS, and in promoting collaboration across laboratory, observational, and mission-focused approaches. With my background at the intersection of experiments, spectroscopy, and spacecraft data analysis, I aim to help broaden communication across these sub-communities and ensure all perspectives are well represented.

It would be a privilege to serve the DPS community in this role.

Julie Brisset

Florida Space Institute, University of Central Florida

Orlando, FL, USA

julie.brisset@ucf.edu

Education

Ph.D. Physics, University of Braunschweig, Germany (2014)

M.Sc. Aerospace Engineering, Technical University of Munich, Germany (2005)

M.Sc. Aerospace Engineering, ISAE-SUPAERO, France (2005)

Additional training: International Space University, Space Studies Program

Professional Experience

- *Research Faculty (Associate In)*, Florida Space Institute, UCF (2016–present) – Leading research programs in planetary science, microgravity experiments, and in-situ resource utilization.
- *Director (Interim)*, Florida Space Institute, UCF (2021–2025) – Led a multidisciplinary space research institute and managed research, operational, and strategic activities, including the closeout of the Arecibo Observatory program.
- *Deputy Director*, Florida Space Institute, UCF (2021) – Oversaw research staff and supported institute strategy and growth.
- Earlier roles include postdoctoral research (UCF) and ISS payload operations engineering (DLR, Germany).

Research Interests

Planetary regolith processes, small-body surfaces and evolution, dust and ice physics, microgravity experimentation, in-situ resource utilization, and laboratory studies supporting planetary missions.

Selected Research & Leadership

- Principal Investigator for NASA, NSF, and commercial research programs in planetary science and ISRU, including management of the NSF-funded Arecibo Observatory program.
- Developed and led CubeSat and suborbital flight experiments for planetary science
- Established and expanded laboratory facilities supporting planetary regolith, ISRU, and microgravity research

Teaching and Mentoring

- Mentored approximately 80 undergraduate and graduate students through research programs, internships, REU activities, and thesis supervision since 2014
- Instructor, Introduction to Astronomy (UCF)

Selected Community Leadership and Professional Service

- Member-at-Large, Dust & Ices, AAS Laboratory Astrophysics Division (2026–present)
- Scientific Organizing Committee, DPS Meetings (2015, 2021)
- Editorial Board Member, Icarus (2023–present)
- Reviewer for Nature Astronomy, ApJ, Icarus, PSJ, and other planetary science journals
- Research Faculty Senator, University of Central Florida (2020–2025)

Awards and Honors

- UCF Luminary Award for research impact (2018)
- College of Engineering and Computer Science Appreciation Award (2017)
- Outstanding First-Year Advocate Award (2016)

Professional Memberships

- American Astronomical Society, Division for Planetary Sciences
- American Astronomical Society, Laboratory Astrophysics Division
- American Geophysical Union

I am honored to be a candidate for the DPS Committee. Since joining DPS as a graduate student, it has been one of the communities that most shaped my professional development, providing opportunities to present research, build collaborations, and serve alongside colleagues across planetary science. I would welcome the opportunity to give back to a community that has played such an important role in my career.

Over the past two decades, I have had the opportunity to contribute to planetary science through research, mentoring, leadership, and community service. As Research Faculty at the Florida Space Institute and former Interim Director of the institute, I have worked with researchers from diverse scientific backgrounds and career stages, helping develop research programs, laboratory facilities, educational initiatives, and collaborative partnerships. These experiences have reinforced my belief that scientific progress depends not only on discoveries, but also on the strength of the community that makes those discoveries possible.

Throughout my career, I have worked to create opportunities for planetary scientists and students to engage directly with laboratory facilities, instrumentation, flight experiments, and mission development activities. From microgravity studies of planetary materials and small-body processes to current work on lunar regolith processes, water ice, and in-situ resource utilization, I have seen how hands-on research experiences can foster collaboration, innovation, and career development.

One of my priorities would be supporting students and early-career researchers. Mentoring has been among the most rewarding aspects of my career. Since joining UCF, I have worked with undergraduate, master's, and doctoral students through research projects, internships, thesis supervision, and hands-on experimental programs. DPS plays a vital role in fostering the next generation of planetary scientists, and I would like to help strengthen opportunities for participation, professional development, networking, and mentorship across our community.

A second priority is supporting the research infrastructure that enables planetary science. Our field depends on laboratories, facilities, field campaigns, instrumentation, computing resources, and mission-enabling capabilities that require sustained investment and community engagement. Having worked in environments ranging from university laboratories to large research programs and observatories, I appreciate both the value of these resources and the challenges involved in maintaining them. I would welcome opportunities to help DPS support and advocate for the facilities, laboratories, and experimental capabilities that enable scientific discovery and future exploration.

I also believe DPS benefits greatly from international collaboration and interdisciplinary perspectives. Planetary science has become increasingly global, with important contributions from researchers, institutions, and missions around the world. Having studied and worked in both Europe and the United States, I have seen firsthand how scientific partnerships strengthen our community and expand opportunities for researchers at all career stages.

If elected, I would strive to support a welcoming, collaborative, and forward-looking DPS community. I believe our greatest strength lies in the people, partnerships, and scientific capabilities that make planetary exploration possible. I would be honored to contribute my experience in research, mentoring, and scientific leadership to help DPS continue supporting and advancing our community.

KARA BRUGMAN: CANDIDATE FOR COMMITTEE

Education:

- 2020** **Ph.D., Arizona State University (ASU)**
Geological Sciences, School of Earth & Space Exploration (SESE)
Dissertation: Timescales and Characteristics of Magma Generation in Earth and Exoplanets
- 2014** **B.A., University of Colorado, Boulder** – *summa cum laude and with distinction*
Geological Sciences, minor: Astrophysical & Planetary Sciences
Honors thesis: Understanding the History of Arabia Terra, Mars Through Crater-Based Tests

Career:

- 2026–curr. Assistant Professor, Department of Earth & Planetary Sciences, Institute of Meteoritics, University of New Mexico (UNM)
- 2023–2025 Associate Research Scientist, FORCE, Eyring Materials Center, ASU
- 2020–2022 Postdoctoral Fellow, Earth & Planets Laboratory, Carnegie Institution for Science
- 2014–2018 National Science Foundation Graduate Research Fellow

Research interests:

Petrological experiments & modeling to guide our search for habitable exoplanets, magma genesis & volatile solubility on exoplanets, Earth, & solar system bodies, diffusion chronometry, volcano science & hazards, high-silica magmatic systems, DEIA in science & academia

Publications (selected):

- Brugman, K.**, Dunning, S.G., Cody, G.D., Wang, J., Bullock, E., Steele, A., Badro, J., Shahar, A. (in prep for *PSJ*) Hydrogen solubility and speciation in primitive silicate melt.
- Brugman, K.**, & Till, C. B. (2026). Geochemical Habitability. In *HWO25 Proceedings Part I: Community Science Case Development Documents* (Vol. 542, p. 353). ASP Conference Series, <https://aspbooks.org/publications/542/SCDD-LW-9.pdf>.
- Piette, A.A.A., Gao, P., **Brugman, K.**, Shahar, A., Lichtenberg, T., Miozzi, F., Driscoll, P. (2023) Rocky planet or water world? Observability of low-density lava world atmospheres. *ApJ*, 954(29), 110.3847/1538-4357/acdef2.
- Brugman, K.**, Phillips, M.G., Till, C.B. (2021). Experimental Determination of Mantle Solidi and Melt Compositions for Two Likely Rocky Exoplanet Compositions. *JGR: Planets*, special issue *Exoplanets: The Nexus of Astronomy and Geoscience*, 126(7), 19, 10.1029/2020JE006731.
- Hynek, B.M., T.M. McCollum, E.C. Marcucci, **K. Brugman**, K.L. Rogers (2013). Assessment of environmental controls on acid-sulfate alteration at active volcanoes in Nicaragua: Applications to relic hydrothermal systems on Mars, *JGR: Planets*, Special Issue: *Early Mars*, 118, 2083–2104, 10.1002/jgre.20140.

Service (selected):

- 2026 Session chair, “The Exoplanetary Web”, AAS Division of Planetary Sciences
- 2026 Session chair, “From Protoplanetary Disks to Exoplanet Atmospheres and Climate”, Goldschmidt
- 2025 Session chair, “Chemistry and Climate of Exoplanets”, Goldschmidt
- 2024–curr. Co-convener, Exoplanets in Our Backyard IV
- 2024–curr. Mentor, Geoscience Education and Mentorship Support (GEMS)
- 2024, 2022 Participant, Advancing IDEA in Planetary Science Conference
- 2023–curr. Advisory Board member, STEAM Superheroes

2023, 2022	Co-chair, FORCE Winter Workshop on High Pressure Research
2022	Session chair, "Experimental petrology in planetary science: Insights into the diversity of both planets and the scientists who study them", Goldschmidt
2022	Participant, The Second National Conference: Justice in Geoscience
2021–2022	Member, Carnegie Institution Unlearning Racism in Geoscience (URGE) Pod
2019–curr.	Pen pal, Letters to a Pre-Scientist
2017	Member, AGU Student & Early Career Scientist Conference Planning Committee
2016–2020	Student representative, AGU Volcanology, Geochemistry, and Petrology section
2015–2018	Co-chair, ASU SESE Women in Science Program
2012–2013	Member, GSA 125th Annual Meeting Student Planning Committee

Statement:

I am honored to be nominated as a candidate for the DPS Committee. As an experimental petrologist (I make magma in the lab!), I am at the forefront of providing the empirical ground truthing data and calibration data needed in the next few decades to push our research beyond Earth and our solar system. As a geologist, I could have been relegated to the outskirts of the planetary and exoplanetary science communities. Instead, I have found exciting opportunities and kind, energetic colleagues. However, I cannot ignore the precarious time in which we find ourselves, as science faces existential crises including attacks on funding sources, a reckoning with AI and its place in research, and the threat of erasure of decades of work to improve access and equity in education and research. I could use this space to discuss my career and accomplishments, but instead I would like to take this opportunity to discuss those activities that are less easy to quantify, and I daresay are more relevant to the position for which I am nominated. Although I have had a net positive experience in science thus far, I am keenly aware that many other members of underrepresented groups have not been so lucky. I have watched as brilliant colleagues' careers effectively ended due to illness, cancelled funding, or frankly, bigotry. And unfortunately, many (if not all) of the recent attacks on science, if successful, will diminish our ability to include diverse minds in the pursuit of knowledge.

Throughout my career, I have volunteered my time and energy to activities designed to increase participation in science. I have chaired sessions that focus on diversity in science and scientists and I have organized conferences and workshops with students in mind, such as the FORCE Winter Workshop on High Pressure Research that provided students with cash awards and the opportunity to present their research to industry partners at Corning. For over a decade I have devoted time to mentoring students and peers, and for seven years I have been a pen pal in the Letters to a Pre-Scientist program, which seeks to show middle school students that science is an attainable career path. I have also found opportunities to educate myself about others' experiences through activities such as The Second National Conference: Justice in Geoscience, Unlearning Racism in Geoscience (URGE), the Advancing IDEA in Planetary Science Conferences, and the UNM Student Experience Project. These activities have laid the groundwork for me to effectively advocate for others.

It is clear to me that the most significant discoveries on the horizon will be rooted in science that is interdisciplinary and similarly will come from scientists with different backgrounds, perspectives, and approaches to their research. As I move forward, it is my goal to use my relative position of power as a faculty member, and hopefully as a DPS Committee Member, to continue to support the inclusion of many kinds of scientists, from many backgrounds, in our community. I will make every effort to guide future scientists, our early career colleagues, the public, and our legislators to opportunities that can further this goal. Thank you for your consideration.

DR. LYNNAE C. QUICK
The Johns Hopkins University Applied Physics Laboratory

EDUCATION:

2013	Ph.D., Earth & Planetary Sciences, The Johns Hopkins University
2011	M.A., Earth & Planetary Sciences, The Johns Hopkins University
2009	M.S., Physics, The Catholic University of America
2005	B.S., Physics, North Carolina Agricultural and Technical State University

PROFESSIONAL EXPERIENCE:

11/2025 –	Planetary Scientist, Planetary Exploration Group, The Johns Hopkins University Applied Physics Laboratory
02/2022 – 11/2025	Associate Branch Head (Associate Lab Chief), Planetary Geology, Geophysics and Geochemistry Laboratory, NASA Goddard Space Flight Center
05/2019 – 11/2025	Ocean Worlds Planetary Scientist, Planetary Geology, Geophysics, and Geochemistry Laboratory, NASA Goddard Space Flight Center
01/2017 – 05/2019	Planetary Geologist, The Center for Earth and Planetary Studies (CEPS), National Air and Space Museum, Smithsonian Institution
01/2016 – 01/2017	Research Scientist, The Planetary Science Institute
08/2015 – 12/2015	CRESST Postdoctoral Fellow, NASA Goddard Space Flight Center & University of Maryland Baltimore County
08/2013 – 08/2015	NASA Postdoctoral Program (NPP) Fellow, Planetary Geodynamics Laboratory, NASA Goddard Space Flight Center

RESEARCH INTERESTS: ocean crystallization and crystallization of crustal fluid reservoirs on the icy moons and dwarf planets with emphasis on the Galilean satellites and Ceres; cryovolcanism and cryomagmatism on Europa, Ceres, and Triton; silicic volcanism on Venus; geophysical processes and habitability of low-mass, H₂O-rich exoplanets; surface science at asteroid Apophis

SELECTED MISSION EXPERIENCE & LARGE TEAM INVOLVEMENT

2022 –	OSIRIS-APEX: Co-I focusing on particle/dust ejection at asteroid Apophis
2018 –	Dragonfly Mission: science team member and Lead for the Guest Investigator Program
2014 –	Europa Clipper Mission: Co-I for the Europa Imaging System (EIS)
2023 – 2025	Habitable Worlds Observatory (HWO) • HWO Project Solar System Theme Lead (2024 – 2025) • Member, Science, Technology, Architecture Review Team (START) (2023 – 2025) ○ Co-Chair, Solar System Observations Sub-Working Group ○ Steering Committee, Solar Systems in Context Working Group ○ Steering Committee, Characterizing Exoplanets Working Group
2017 – 2022	NASA SSERVI Toolbox for Research and Exploration (TREX) Team
2016 – 2020	Dawn Mission: Associate Team Member for Dawn at Ceres focusing on brine dynamics and eruptions and formation of the faculae (i.e., “bright spots”) in Occator crater

SELECTED HONORS AND AWARDS:

2024	NASA Goddard Space Flight Center Special Act Award: Organizing and Co-Convening The Uranus Flagship: Investigating New Paradigms for Outer Planet Exploration Workshop
2023	NASA Planetary Science Division Early Career Award (ECA)
2022	NASA Early Career Achievement Medal

2021	American Astronomical Society Division for Planetary Sciences (DPS) Harold C. Urey Prize
2021	North Carolina Agricultural and Technical State University College of Science and Technology Alumni Achievement Award
2021	Asteroid (2001 SV 291) Renamed Asteroid (37349) Lynnaequick
2015	NASA Astrobiology Program Early Career Collaboration Award
2013	NASA Postdoctoral Program (NPP) Fellowship, NASA Goddard Space Flight Center

SELECTED SCIENTIFIC SERVICE:

2015 -	<i>Mentor of 12 undergraduate and graduate students</i> from the Europa ICONS, NASA Pathways, GEM Fellowship, National Air and Space Museum, NASA GSFC CRESST, and NASA OSTEM Internship Programs
2026 -	<i>Planning Committee</i> , AIP TEAM-UP Together Student Experience Conference
2025 -	<i>Member</i> , Division for Planetary Sciences (DPS) Prize Subcommittee
2020 -	<i>Steering Committee</i> , Nexus for Exoplanet System Science (NExSS) Research Coordination Network
2020-	<i>Steering Committee</i> , NASA Network for Ocean Worlds (NOW) Research Coordination Network
2018 -	<i>Executive Committee Member</i> , Outer Planets Assessment Group (OPAG)
2017 -	<i>Reviewer</i> , Geophysical Research Letters, Nature Astronomy, Nature Geosciences, Journal of Geophysical Research: Planets, Icarus, The Astrophysical Journal (ApJ) Letters, The Planetary Science Journal
2014 -	<i>Group Chief, Panelist, & External Reviewer</i> , Proposals to NASA Goddard Internal Funding Programs, NASA's ROSES Programs, and the German Research Foundation (DFG)
2023 - 2025	<i>Member</i> , Habitable Worlds Observatory (HWO) Science, Technology, Architecture Review Team (START)
2020 - 2025	<i>Co-Chair</i> , Earth and Planetary Systems Science Section, The National Society of Black Physicists (NSBP)
2020 - 2025	<i>Programming Committee Member</i> , Annual Conference of The National Society of Black Physicists (NSBP)
2023 – 2024	<i>Co-Convener</i> , The Uranus Flagship Workshop: Investigating New Paradigms for Outer Planet Exploration Meeting
2021 – 2023	<i>Associate Editor</i> , Science Advances
2020 – 2022	<i>Member</i> , Ocean Worlds and Dwarf Planets Panel, National Academy of Sciences Planetary Science and Astrobiology Decadal Survey 2023-2032
2020	<i>Science Organizing Committee</i> , LPI Brines Across the Solar System: Modern Brines Workshop, Lunar and Planetary Institute, Houston, Texas
2019 – 2020	<i>Science Organizing Committee</i> , Exoplanets in Our Backyard: Solar System and Exoplanet Synergies on Planetary Formation, Evolution and Habitability, Lunar and Planetary Institute, Houston, Texas
2018	<i>Science Organizing Committee</i> , 2 nd Europa Deep-Dive Workshop: Composition, Lunar and Planetary Institute, Houston, Texas
2017 – 2018	<i>Co-Convener & Science Organizing Committee</i> , Cryovolcanism in the Solar System Workshop, Lunar and Planetary Institute, Houston, Texas
2016 – 2017	<i>Member</i> , NASA Roman Solar System Working Group
2013 – 2015	<i>Member and Lead</i> , Venus Exploration Analysis Group (VEXAG) Early Career Scholars Focus Group
2014 – 2015	<i>Steering Committee</i> , Venus Science Priorities Workshop for Laboratory Measurements and Instrument Definition

It is a wonderful honor to be nominated to serve on the DPS Committee, and I am grateful to be considered with this slate of candidates. My research involves applying principles of fluid dynamics and heat transfer to model eruptive processes and ocean crystallization throughout our solar system and beyond, with a focus on cryovolcanic processes on the icy moons, Ceres, and volatile-rich exoplanets. As a member of the Nexus for Exoplanet System Sciences (NExSS) steering committee, the SOC for the first Exoplanets in Our Backyard Workshop, the NSBP Conference Programming Committee, and co-convener of the inaugural Cryovolcanism in the Solar System Workshop, my research background and community involvement are necessarily interdisciplinary and have consistently involved working across the physics, planetary science, and astrophysics communities to produce successful results. As each field has its own culture and norms, I will bring with me the ability to successfully navigate across these professional boundaries as a member of the DPS committee.

I came to planetary science having first obtained physics degrees from universities which, despite their robust programs in the broader STEM fields, did not offer geology or planetary science courses. Through my roles as co-chair of NSBP's Earth and Planetary Systems Sciences section, and as the Lead for the Dragonfly Mission's Guest Investigator Program, I have worked to support accomplished STEM students and other early career researchers who, despite their limited exposure to planetary science, are in a position to make significant contributions to our field through mentorship and inclusion in planetary science research and exploration. To that end, I would bring a commitment to work with DPS partner organizations to ensure that the planetary science community remains open and welcoming to individuals for whom the path to planetary science may have been unclear or riddled with historical and systemic barriers that have inhibited their full participation.

To this role I would also bring a resolve to ensure that members of our community receive the support they need during this unprecedented time. Uncertainties in funding and employment have led to an all-time high in extended postdoctoral tenures and increased challenges in obtaining permanent positions for early career scientists, while mid- and late-career scientists have had to transition to new roles, in many cases outside of planetary science, as they navigate the unique challenges that they are currently facing in their careers, and resources to support scientists from diverse backgrounds have been pulled back and/or eliminated. DPS must support its membership by adopting policies that consider professional achievements and milestones within the context of the many challenges that the current environment has wrought.

Lastly, I would bring a commitment to ensuring that DPS supports our planetary analysis groups as they navigate the many uncertainties that have been brought on by recent changes in AG support and infrastructure. As a member the OPAG executive committee, I have seen firsthand how these changes have affected our community, and am committed to providing a supportive and effective infrastructure for the AGs moving forward.

Lynnae C. Quick

TOM A. NORDHEIM: CANDIDATE FOR COMMITTEE

Education:

- 2016: Ph.D., Space Physics, Mullard Space Science Laboratory, University College London
- 2010: M.Sc., Space Studies, International Space University
- 2009: B.Sc., Space Science & Robotics, University of Wales, Aberystwyth

Career:

- 2024 – present: Senior Professional Staff and Manager of the Magnetosphere-Ionosphere Coupling Section, Johns Hopkins Applied Physics Laboratory, Laurel, Maryland
- 2018 – 2024: Scientist, Astrobiology & Ocean Worlds group, Jet Propulsion Laboratory, California Institute of Technology
- 2015 – 2018: NASA Postdoctoral Program Fellow, Jet Propulsion Laboratory, California Institute of Technology
- 2010 – 2015: Graduate student researcher, Mullard Space Science Laboratory, University College London

Research Interests:

Charged particle interactions with the surfaces and atmospheres of solar system bodies; magnetosphere-ionosphere coupling at giant planets and their moons; radiation weathering and surface chemistry of airless bodies; habitability and biosignature preservation on ocean worlds; spacecraft remote and in-situ data analysis, computer modeling, laboratory experiments, instrument development, mission formulation, and robotic systems for extreme environments.

Professional and Community Service (selected):

- Deputy Principal Investigator, Site-agnostic Energetic Lunar Ion and Neutron Environment (SELINe) instrument, selected by NASA for launch to the surface of the Moon
- Co-Investigator (nominee), Europa Clipper Plasma Instrument for Magnetic Sounding (PIMS)
- Participating Scientist, NASA Juno mission to Jupiter
- 2019 – 2023: Member, AAS-DPS Professional Development Subcommittee
- 2018 – 2024: Deputy Director, JPL Ocean Worlds Laboratory
- Member of the Europa Lander Pre Project Science Team
- Co-Investigator, Trident mission concept (NASA Discovery finalist)
- Science team member, Cassini Plasma Spectrometer investigation
- Roadmaps to Ocean Worlds team member; co-lead of the "Up and coming satellites" target team
- Instrumentation and robotics development for the Buoyant Rover for Under-Ice Exploration (BRUIE), Exobiology Extant Life Surveyor (EELS), and earlier submersible platforms for icy-world analog environments

Selected Honors and Awards:

- JPL Team Award - Trident Discovery mission team (2020 and 2021)
- NASA Group Achievement Award – Cassini Plasma Spectrometer Team (2018)
- Sir Arthur Clarke Award – UK Cassini-Huygens team (2018)
- JPL Voyager Award (2018 and 2022)
- ESA Achievement Award – Venus Express Science Team (2015)
- NASA Postdoctoral Program Fellowship (2015)
- University College London Research Excellence Scholarship (2011)

Statement:

I am honored to be nominated to serve on the DPS Committee. The DPS community encompasses the scientific breadth that first drew me to planetary science: the chance to connect fundamental physical processes, planetary environments, exploration, and habitability across the solar system and beyond.

My path through planetary science has been interdisciplinary by design. I began in space and magnetospheric physics, studying charged-particle interactions at unmagnetized bodies, and have since worked at the interface of space physics, planetary surfaces and atmospheres, astrobiology, mission formulation, instrument development, and robotic exploration. My research on radiation weathering and surface-subsurface interactions at ocean worlds uses spacecraft data, modeling, and laboratory experiments. The interconnectedness of this work has made me deeply aware that planetary science depends on a wide ecosystem of disciplines, institutions, methods, and career paths. If elected, I would seek to represent the full range of DPS membership: observers, theorists, experimentalists, mission scientists, instrument developers, students and early-career researchers, educators, and colleagues in academia, government, industry, nonprofit research institutes, and international organizations.

We are in a time of real uncertainty for our field. Funding pressures, changing mission cadences, institutional stress, and challenges to inclusive practices do not affect all members equally. In such times, the DPS Committee has an important role to play in listening carefully, communicating clearly, and ensuring that the needs of our community are represented in DPS priorities and in coordination with AAS and partner organizations. My approach would be to listen broadly, elevate concerns from members whose voices are less often heard, and support practical actions that help sustain both our science and the people who make it possible.

Professional development and mentorship are especially important to me. I served as a member of the AAS-DPS Professional Development Subcommittee from 2019 to 2023, and I saw firsthand how valuable DPS can be as a forum for sharing practical knowledge, connecting scientists across career stages, and lowering barriers to participation. I would continue to support efforts that help students, postdocs, early career researchers, and colleagues navigating career transitions find community, opportunities, and guidance.

I would also continue to support and strengthen AAS-DPS diversity, equity, inclusion, and accessibility efforts. A scientifically vibrant DPS must also be a welcoming, accessible, and respectful DPS. DEIA is not separate from scientific excellence; it shapes who can participate, who can lead, and which ideas our community is able to pursue. I would work with the Committee and subcommittees to support safe and inclusive meetings, accessible professional development, and sustained attention to the experiences of members from historically excluded and underrepresented communities.

Planetary science is strongest when it builds bridges: between disciplines, between missions and modeling or laboratory work, between senior and early-career scientists, and between DPS and adjacent communities in astronomy, heliophysics, geoscience, astrobiology, engineering, and exploration. If elected, I would bring my experience across these bridges to help DPS represent, support, and connect its members during a challenging and consequential period for our field. Thank you for your consideration.

CANDIDATES FOR Student Representative (Vote for 1)

- Emeline Fromont
- Eshan Raul
- Simone Lilavois

EMELINE F. FROMONT

efromont@umd.edu | she/her

Research Interests: My research focuses on modeling atmospheric circulation, cloud formation, and radiative feedback of hot/ultra-hot Jupiters, using a 3D atmospheric circulation model, microphysics model, and radiative transfer models. I am interested in the impact of clouds on our interpretation of hot/ultra-hot Jupiter observations in the era of JWST.

Education

PhD in Astronomy, University of Maryland	Anticipated 2028
MSc in Astronomy, University of Maryland	2024
BS in Physics/Astrophysics, Carnegie Mellon University	2021

Research & Professional Experience

- | | |
|---|--------------|
| • Graduate Research Assistant
<i>Department of Astronomy, University of Maryland</i> | 2022-Present |
| • Post-baccalaureate Researcher
<i>NASA Goddard/University of Maryland Baltimore County</i> | 2021-2022 |
| • Undergraduate Research Assistant
<i>Physics Department, Carnegie Mellon University</i> | 2021 |
| • Summer Research Intern
<i>NASA Goddard Space Flight Center</i> | 2020 |
| • Data Science Intern
<i>MindMics Inc.</i> | 2019 |
| • Undergraduate Research Assistant
<i>Physics Department, Carnegie Mellon University</i> | 2018-2019 |

Service & Outreach

- | | |
|---|--------------|
| • Graduate Student Council Member, UMD Astronomy | 2026-Present |
| • Journal referee: ApJ | 2025 |
| • GRAD-MAP Outreach speaker, Prince George's Community College | 2025 |
| • GRAD-MAP Outreach speaker, Anne Arundel Community College | 2025 |
| • Letters to a Pre-Scientist (STEM pen-pal for a middle school student) | 2025-Present |
| • International Observe the Moon Night communicator, UMD Astronomy | 2025 |
| • Maryland Day communicator, UMD Astronomy | 2025 |

- | | |
|---|--------------|
| • Prospective Graduate Student Visit Coordinator, UMD Astronomy | 2024-2025 |
| • Community And Belonging Committee Member, UMD Astronomy | 2023-Present |
| • Better Astronomy for a New Generation Seminar Host, UMD Astronomy | 2022-2024 |
| • Society of Physics Students Vice President, CMU Physics | 2019-2021 |
| • Physics Steering Committee Member, CMU Physics | 2020-2021 |

Honors & Awards

- University of Maryland Graduate School Dean's Fellowship 2022 & 2026
- Carnegie Mellon University Honors
- Mellon College of Science College Honors
- Mellon College of Science Dean's List High Honors
- Sigma Pi Sigma Honors
- Phi Beta Kappa Honors

DPS Candidate Statement 2026

Due to the increasing competitiveness of planetary sciences and the deep funding cuts to science in the United States, it has become increasingly difficult for recent graduates to secure stable positions. Seeing brilliant and hard-working graduate students around me struggling to find funding for a 6th or 7th year after receiving no positive news from their many postdoc applications has made it clear to me how directly early career researchers in our field are being impacted by these recent developments. This difficult job market has particularly affected members of historically underrepresented communities, further aggravating the already-present issues of retention of these groups in planetary science. As our field moves forward, it will be crucial to develop and deploy additional support mechanisms to guide students as they navigate graduate school and the transition beyond their PhDs.

I began my career in science by studying physics in undergrad, hoping to someday go into the space industry. Although I was curious about planetary sciences, I never considered it a potential career as it was not studied at my undergraduate institution. I also had very little understanding of what career options lay beyond my Bachelors, until I participated in an internship studying exoplanets. This opened a network of possibilities for what I could do in the future. After a post-bac focused on exoplanet atmospheres, I decided to pursue a PhD in astronomy studying cloud formation in hot Jupiters. In graduate school, I became passionate about improving conditions for graduate students in my department and participating in outreach to bring astronomy and planetary science to my community. I co-hosted a seminar highlighting rarely discussed topics relevant to science grads, from non-academic career paths to neurodivergence. I also currently serve on the Community and Belonging committee and the Graduate Student Council of my department, where I have organized mentoring programs for incoming grads and advocated for department-wide accessibility needs.

As a woman in STEM, I have experienced my fair share of imposter syndrome and microaggressions throughout undergrad and grad school. Although things have gotten better for me over the years, I know that is not the case for everyone: experiencing a feeling of belonging is paramount to one's ability to continue in a domain, and outreach initiatives both in early education and undergrad are necessary to support the retention of members from underrepresented groups in planetary science. Moving through graduate school, I have also learned that access to opportunities for employment and collaborations often come from having specific connections with other scientists, which can often be determined by chance. Widespread access to career resources would allow students to be more prepared and informed about their options before they graduate.

I hope that my passion to improve our field will inspire more productive and compassionate conversations that lead to change. If elected, I will carefully listen to student concerns and work to address them with the DPS. I will help provide more options to engage the planetary science community through outreach opportunities, fostering conversations between planetary scientists and the public. Finally, I will work to improve access to job and career resources, emphasizing opportunities for students. Thank you very much for your consideration.

Eshan Raul

E-mail: eraul@wisc.edu

Phone: (248) 826-3149

[ORCID](#)

[LinkedIn](#)

Education

University of Wisconsin–Madison

August 2024-May 2029

Ph.D. in Astronomy

University of Michigan, Ann Arbor

August 2020-May 2024

B.S. in Honors Astronomy/Astrophysics

Research Interests

Astrobiology & habitability

Exoplanetary atmospheres/dynamics

Astrochemistry

Selected Works

[8] “Chemical Divergence and Water Depletion: Gas Properties of Evolved Upper Scorpius Disks Revealed by JWST/MIRI”

Raul, E., et al., 2026, manuscript submitted to AJ

[7] “The JDISC Survey: Linking the Physics and Chemistry of Inner and Outer Protoplanetary Disk Zones”

Arulanantham, N., et al. (including **Raul, E.**), 2025, AJ, 170, 67

[6] “Escaping Helium, Depleted Methane, and Hints of Carbon Dioxide Suggest a High-Metallicity

Atmosphere on Sub-Neptune GJ 3090 b from JWST Transit Spectroscopy”

Ahrer, E., et al. (including **Raul, E.**), 2025, ApJL, 985, L10

[5] “Tracking the Evolution of Hydrocarbons Through Carbon Grain Destruction in Protoplanetary Disks”

Raul, E., Alarcón, F., Bergin, E. A., 2025, ApJ, 982, 155

[4] “JWST/NIRISS Reveals the Water-rich “Steam World” Atmosphere of GJ 9827 d”

Piaulet-Ghorayeb, C., et al. (including **Raul, E.**), 2024, ApJL, 974, L10

[3] “JWST Reveals CH₄, CO₂, and H₂O in a Metal-rich Miscible Atmosphere on a Two-Earth-Radius

Exoplanet”

Benneke, B., et al. (including **Raul, E.**), 2024, manuscript submitted to ApJ

[2] “Recent Swift Observations of NGC 5907 ULX-1”

Raul, E., Bacon, S., Brumback, M., Hoin, S., Miller, J. M., Reynolds, M. T., 2022, ATEL 15809

[1] “Swift Observations of the M51 ULX RX J133007+47110”

Raul, E., Brumback, M., Miller, J. M., Reynolds, M. T., et al., 2022, ATEL 15803

Teaching

Graduate TA, ASTRON 170 (The Dark Side of the Universe)

January-May 2025

Undergraduate Grader, PHYSICS 406 (Statistical and Thermal Physics)

September-December 2023

Public Talks and Outreach

Talk at Kettle Moraine State Park, WI	May 2026
Graduate Research Showcase at the Capitol, WI	April 2026
Science Night Presenter at Emerson Elementary School, Madison, WI	March 2026
Talk at Eisenhower Middle-High School, New Berlin, WI	January 2026
1st Grade Astronomy Unit Teacher at Van Hise Elementary School, Madison, WI	January 2026
Organizer of Stargazing at Science on the Square (Wisconsin Science Festival)	October 2025
Talk at Buckhorn State Park, WI	August 2025
Talk at Newport State Park, WI	August 2025
Talk at Monona Public Library, WI	August 2025
Science Volunteer at UW–Madison Wonders of Physics Fair	February 2025
Physics Demonstrations Volunteer at Metro Detroit Youth Clubs	November 2023

Academic Service

American Association for the Advancement of Science Mass Media Fellowship Location: MIT Technology Review	Summer 2026
American Astronomical Society (AAS) Congressional Visit Days Volunteer	April 2025
Skywatching Volunteer at Horwitz-DeRemer Planetarium	October 2025–
UW–Madison Department of Astronomy Telescope Lead	September 2025–
Washburn Observatory Volunteer	September 2024–

Science Communication and Press Releases

AAS - “Rocket Science Needs Rocket Fuel: An Early Scientist’s Experience on the Hill”	May 2025
Universe Today Podcast - “First Ever Steam World Found by JWST”	December 2024
University of Michigan - “JWST finds first exotic 'steam world' shrouded in water vapor”	October 2024

Honors and Awards

NASA Wisconsin Space Grant Consortium: Graduate & Professional Research Fellowship Grant award: \$4,381	Summer 2026
Blair Savage Astronomy Travel Fund Grant award: \$750	Winter 2026
University Honors/Dean’s List/James B. Angell Scholar	Fall 2020-Winter 2024

Selected Presentations

Accepted Talk, Discs on the Exe, Exeter, UK	July 2026
Accepted Talk, Emerging Researchers in Exoplanet Science Symposium XI, Ann Arbor, MI	July 2026
Contributed Talk, Cool Stars 23, Tokyo, Japan	June 2026
Contributed Talk/ SOC , Great Lakes Exoplanet Area Meeting, Madison, WI	November 2025
Contributed Talk/Dwornik Judge, Lunar & Planetary Science Conference, The Woodlands, TX	March 2025
Contributed Talk, Bay Area Exoplanet Meeting 47, San Francisco, CA	December 2024
Contributed Poster, Astrobiology and the Future of Life Meeting, Houston, TX	October 2024
Contributed Talk, Emerging Researchers in Exoplanet Science Symposium IX, Ithaca, NY	July 2024
Contributed Talk, American Astronomical Society Meeting 243, New Orleans, LA	January 2024
Contributed Lightning Talk, Great Lakes Exoplanet Area Meeting, Bloomington, IN	October 2023

In my experience, one of the most difficult parts of being an early-career researcher is not the science itself, but knowing which opportunities exist and how to take advantage of them. Looking back, I often wonder how different my trajectory might have been had I known earlier about the research experiences, conferences, leadership roles, and advocacy opportunities that ultimately ended up shaping my career. Many of these experiences were ones I had to discover for myself, and that realization is what has led me to run for Student Representative this term.

Like many other early-career researchers, my path into planetary science has been anything but straightforward: after spending almost the entire first half of my undergraduate career in engineering, I eventually learned that academia was a possible path, that researching planetary science could be a career, and that I could find a place in astronomy by seeking out mentors and opportunities myself. While I am proud of the persistence that brought me here, it's easy to see that a career should not depend so heavily on discovering the right information at the right time.

I also directly understand how difficult it can be for early-career researchers to find and obtain funding for their own professional development. Research grants and travel/conference support are often essential for students to participate in the broader planetary science community, yet can be incredibly difficult to approach without the proper guidance. Through my own experiences applying for, getting rejected from, and eventually receiving different funding opportunities, (e.g., the Wisconsin Space Grant Consortium and the AAAS Mass Media Fellowship), I have seen how transformative these resources can be. I want to help ensure that other students know what opportunities exist and have the information needed to decide whether to pursue them.

In my own time, I have led outreach events at the annual Wisconsin Science Festival, served as the Telescope Lead for my department, and have become well practiced in all types of scientific communication. I also participated in the American Astronomical Society's Congressional Visit Days, where I met with members of Congress to advocate for scientific research funding, and later wrote about that experience to encourage other scientists to become more involved in advocacy. My experiences navigating barriers along my journey has also made me especially conscious of the additional barriers faced by students from even more historically underrepresented backgrounds. I am entirely committed to advocating for a planetary science community where those from marginalized groups know that they are seen and have equal consideration to the same opportunities as others.

If elected, I would like to increase awareness of grants, conferences, committee positions, mentoring opportunities, and advocacy efforts that can shape a student's career but are

often difficult to discover. I also hope to encourage discussions around issues that directly affect early-career scientists, from changes in federal science policy to conference accessibility and affordability. Above all, I want to be a representative who listens, so that I can ensure that students across planetary science and *all* its neighboring disciplines feel both informed and supported.

I would be exceedingly honored to serve DPS as your Student Representative, and thank you for your consideration!

Eshan Raul, Nominee for DPS Student Representative

SIMONE LILAVOIS

929-275-5943 · slilavois28@amherst.edu · [LinkedIn](#)

SKILLS

Programming: Python, R | **Software/Tools:** GitHub, SolidWorks, High-Performance Computing | **Hardware:** PCB design, microcontrollers, sensor interfacing, telemetry systems, precision machining (lathe, mill, bandsaw)

EDUCATION

Amherst College, August 2024 – Present

- B.A. in Physics (Expected May 2028)
- GPA: 3.89 | Division III competitive swimmer

Advanced Coursework: *Quantum Mechanics, Linear Algebra, Signals and Noise Laboratory, Mathematical Reasoning and Proofs, The Newtonian Synthesis: Dynamics of Particles and Systems, The Maxwellian Synthesis: Dynamics of Charges and Fields, Oscillations and Waves, Modern Physics, Machine Shop Course*

RESEARCH EXPERIENCE

Guest Researcher, Center for Computational Astrophysics, Flatiron Institute, May 2026 – Present

Dr. Tiger Lu

- Developing Python simulations using REBOUND and celmech to investigate how migrating outer giant planets sweep secular resonances and destabilize compact inner planetary systems
- Modeling the long-term evolution of planetary eccentricities and inclinations to study the exchange of angular momentum deficit and its role in driving dynamical instability

Binary Worlds Lab Research Assistant, Amherst College, April 2025 – Present

Dr. Daniella Bardalez Gagliuffi

- Leading Markov Chain Monte Carlo analyses combining radial velocity, absolute astrometry, and relative astrometry data to generate probability distributions for orbital parameters of binary and multiple-body star systems within 20 parsecs
- Deriving precise temperatures based on new dynamical masses and existing evolutionary models
- Conducting large-scale data analysis to identify population-level trends among semi-major axis, eccentricity, and mass ratio

Electronics Team Lead, Cansat 2026 Paraglider Instrument Delivery Mission, September 2025 – June 2026

- Leading development of payload electronics system integrating sensors, power monitoring, and onboard data acquisition
- Designing telemetry architecture and radio communication to transmit real-time flight data to ground station

T.E.S.S. Exoplanet Vetter, MIT Kavli Institute for Astrophysics and Space Research, June 2025 – Present

Katharine Hesse

- Analyzing TESS light curves, difference images, and periodograms to identify exoplanet candidates

Research Intern, Space Agriculture Laboratory Analysis Database (SALAD), December 2023 – Present

Dr. Rafael Loureiro

- Developing Python scripts to automate simulations within BioSim, a simulation of a Bioregenerative Life Support System, to establish plant growth baselines for future Moon and Mars missions
- Investigating how initial resources and multi-crop hydroponic systems affect crew survival rates within BioSim

Research Intern, American Museum of Natural History (AMNH), January – August 2024

Dr. Céline Martin

- Analyzed and digitized electron microprobe mineral standards for the Department of Earth and Planetary Sciences
- Created a comprehensive database comparing published and experimental values to be consulted for future analyses

Data Analysis Intern, Growing Beyond Earth (GBE), June 2023 – December 2023

Marion Litzinger

- Led experiments for 9 herb species in growth chambers designed after the Vegetable Production System on the ISS
- Analyzed growth chamber data from 300+ international GBE citizen science experiments
- Completed ANOVA tests that demonstrated statistical significance for faster growth rates of Basil Persian and Basil Cinnamon compared to the other herbs

PRESENTATIONS & PUBLICATIONS

Talks

- “BioSim: Simulating Bioregenerative Life Support Systems,” NASA Plant Analysis Working Group Meeting, April 2026
- “Binary Worlds Lab Summer Research Lightning Talk,” Wesleyan Exoplanet Picnic, July 2025
- “Centralizing Astrobotany Research With The Space Agriculture Laboratory Analysis Database (SALAD) Article Repository,” 2024 American Society for Gravitational and Space Research (ASGSR) Conference, December 2024

Posters

- “Data in All Dimensions: Model Independent Masses and System Architectures Within 20 Parsecs,” American Astronomical Society 247 Winter Meeting, January 2026
- “Deriving Temperatures for Substellar Objects Within 20 Parsecs Using New Dynamical Masses,” 2025 ASGSR Conference, December 2025
- “Simulating the Effects of Multi-Crop Production in Bioregenerative Life Support Systems,” 2025 ASGSR Conference, December 2025
- “Deriving Temperatures for Substellar Objects Within 20 Parsecs Using New Dynamical Masses,” Amherst College STEM Summer Research Poster Session, September 2025
- “Optimizing Plant Yield in a Simulated ISS Plant Growth Chamber - Accumulated Results from 300 Middle and High Schools,” 2023 ASGSR Conference, December 2023

Publications

- Lilavois et al. (2026, in prep), “The Orbital Architecture of 36 Ophiuchi”
- Flores et al. (2026, submitted; including Lilavois, S.), “Precise Radii of Visual Binaries with Dynamical Masses: ξ Bootis & 70 Ophiuchi”
- Jankowski et al. (2026, submitted; including Lilavois, S.), “Assessing Planetary Stability and Long-Term Habitability in Nearby Stellar Binaries: 70 Oph, 36 Oph, γ Leo”
- Giovinazzi et al. (2026, in prep; including Lilavois, S.), “Companions to Accelerating Stars within 20 pc”
- Clark et al. (2026, in prep; including Lilavois, S.), “Updated Orbital and Stellar Parameters for the Nearby K Dwarf Binary Star p Eri (GJ 66AB)”

HONORS & AWARDS

- Charles Hamilton Houston Summer Funding Award, May 2026
- American Astronomical Society Chambliss Astronomy Achievement Student Award, Honorable Mention, 2026
- ASGSR Undergraduate Poster Competition, First place, 2025
- Amherst College Gregory S. Call 2025 Fall Research Award
- Science Undergraduate Research Fellowship, Amherst College, June - August 2025
- Amherst College Gregory S. Call 2024 Fall Research Award
- Pinkerton Science Scholar, 2022

LEADERSHIP

Student Board President-Elect, American Society for Gravitational and Space Research, January 2026 – Present

- Elected to be President-Elect for the Student Board to serve a two-year term to lead monthly Board meetings, manage education and outreach events, coordinate monthly webinars, design and publish monthly newsletters, and advocate for space science funding during annual Capitol Hill visits

Student Board Membership Chair, American Society for Gravitational and Space Research, January – December 2025

- Elected by society members as Membership Chair to increase conference attendance
- Established program to invite high school students to the 2025 ASGSR Conference, hosted an abstract writing workshop for undergraduate and high school students, designed flyers and newsletters

Research Mentor, NYC Science Research Mentoring Consortium, June – August 2024

- Assisted four high school students in the STEM Research Academy with bioinformatics software navigation, scientific writing and editing, presentation skills, LinkedIn networking, and scientific poster formatting

I have learned that although science champions objectivity, talent alone is often not enough to succeed -- many passionate students are limited not by ability, but by access to information, resources, and mentorship. In fact, my own path into astronomy and physics has been unconventional. I attended a New York City public high school that did not offer physics or calculus, leading me to seek opportunities beyond the classroom. Despite taking weekend and summer courses at local colleges and online courses through Coursera, I entered college feeling less prepared than my peers. I questioned whether I should consider something other than the physics major. Since overcoming the academic challenges and imposter syndrome I faced early in my undergraduate career, I vowed to become a scientist who actively engages with and inspires students.

This is something I have already started through my outreach work as an undergraduate at Amherst College, a liberal arts institution with fewer research opportunities than larger research universities. At Amherst, I am on the Physics Climate and Community Committee, where I write the physics and astronomy newsletter, manage the Undergraduate REU and Internship database, and host related events for students. Additionally, as President-Elect of the American Society for Gravitational and Space Research (ASGSR) Student Board, I established a program that invites local high school students to ASGSR's annual conference, organized abstract-writing workshops and speed-networking events, and advocated for NASA's Division of Biological and Physical Sciences funding to staffers and politicians on Capitol Hill. If elected as Student Representative, I hope to build on my previous work and foster confidence in students to pursue what they care about, regardless of how familiar they are with navigating academia.

As an undergraduate candidate, I would also bring a perspective that is less commonly represented. During my term, I will be navigating the graduate school application process alongside many other students in the DPS community. At a time when the lack of available and reliable funding has made graduate school applications increasingly intimidating, I hope to help make the process more transparent by connecting undergraduates with valuable resources and mentors. At the recent DDA meeting in Chicago, I found myself sitting at a table with a new faculty member, an incoming postdoc, graduate students at different stages, and me, a rising junior undergraduate. It was one of the most insightful conversations I have had because everyone openly discussed navigating graduate school, research, and career decisions from their own perspectives. I left wishing every undergraduate had opportunities like that. Specifically, as Student Representative, I hope to work with DPS leadership to expand the MentorNet program and transform it into a year-long initiative that supports students during transition periods. Whether that be from high school to undergraduate, undergraduate to graduate, or graduate to postdoc, I aim to connect students across a range of career stages.

Ultimately, my experience places me in a unique position to represent students preparing for the next stage of their careers while ensuring undergraduate voices remain an active part of DPS discussions. If elected, I will work to strengthen mentorship across career stages, improve access to opportunities, and help ensure that every student, regardless of their background or institution, can see a clear path toward a future in planetary science.