

October 2022 Newsletter

Greetings from Your Planetary Sciences Section Leadership!

Fall is officially here! For the Fall Meeting, we are working to facilitate wider participation among our members and have two programs, [AGU registration](#) assistance or [caregiver assistance](#) to attend the meeting please fill out the linked forms. We are continuing to accept applications for the various volunteer opportunities for our section and are looking for people interested in participating in a section mentoring program. As always, if you are interested in advertising in our newsletter, please reach out to [Jennifer Whitten](#).

Michael Mischna, President

Paul Byrne, President-Elect

Jennifer Whitten, Secretary

Emma Dahl, Early Career representative

An Li, Student representative

Rosaly Lopes, Past President

Upcoming Deadlines & Events

Upcoming Deadlines

- ROSES-2021: Rolling Submissions
 - [Several program will transition to No \(Fixed\) Due Dates \(NoDD\):](#)
 - Emerging Worlds (EW)
 - Solar System Workings (SSW)
 - Planetary Data Archiving, Restoration, and Tools (PDART)
 - Exobiology (ExoBio)
 - Solar System Observations (SSO)

- Planetary Instrument Concepts for the Advancement of Solar System Observations (PICASSO)
- Laboratory Analysis of Returned Samples (LARS)

Upcoming Conferences

- **2-7 October 2022:** 54th Annual Meeting of the Division for Planetary Sciences, London, Ontario, Canada/Virtual
- **3-7 October 2022:** Ultraviolet Astronomy in the XXI Century: 5th Workshop of the Network for Ultraviolet Astronomy – Face-to-Face, Vitoria, Spain
- **9-12 October 2022:** Geological Society of America Annual Meeting, Denver, Colorado/Virtual
- **12-13 October 2022:** ExMAG Fall Meeting 2022
- **12-14 October 2022:** Alive Universe – From Planets to Galaxies, Shamakhy, Azerbaijan/Virtual
- **13-15 October 2022:** Ocean World Analog Field Site Assessment Group, Denver, Colorado
- **14 October 2022:** Lunar Surface Science Workshop – Virtual Session 18: Implementing a Coordinated Lunar Resource Evaluation Campaign, Virtual
- **17-21 October 2022:** SMD Bridge Program Workshop, Virtual
- **18-19 October 2022:** Planetary Protection in Practice, Virtual
- **26-28 October 2022:** Apollo 17 ANGSA Workshop, Houston, Texas

Planetary Sciences Announcements/Updates

#1) CALL FOR GOLDSCHMIDT SESSION PROPOSALS

Dear Colleagues,

You are invited to submit sessions for Theme 1: "From dust to habitable worlds" of the Goldschmidt meeting in Lyon, France from 9-14 July 2023. The session submission deadline is 14 October 2022 (23:59 CET), and the website to submit them is: <https://conf.goldschmidt.info/goldschmidt/2023/cfs.cgi>

It would be helpful for streamlining the sessions if you could send us your intention of submitting a session as soon as you can.

Description of Theme 1: From dust to habitable worlds: The Solar System is the only known inhabited planetary system. Even so, humanity has already begun identifying candidate habitable worlds around other stars, including worlds akin to the Solar System's terrestrial planets. Furthermore, potentially habitable corners of our Solar System remain to be fully explored. These findings have fostered the concept of planetary habitability, which defines the physicochemical conditions at the surface of a planet required for life to develop, including the presence of liquid water, energy, and organic chemistry. The overarching goal of this theme is to provide constraints on the initial conditions that lead to the emergence of habitable worlds. This includes topics such as the formation and evolution of planet forming disks and their primordial reservoirs, the study of primitive Solar System materials and asteroidal bodies, the timescales and mechanisms of terrestrial planet formation, the composition of (exo)planet atmospheres, the origin of inner Solar System volatiles as well as the early geological history of Mars and outer Solar System moons. We welcome contributions from all fields of planetary sciences, including laboratory study of extraterrestrial samples, remote sensing, robotic exploration, theoretical astrophysics and astronomy.

Some possible sessions ideas that we would love for the community to submit:

- Formation and evolution of planet forming disks and their primordial reservoirs
- Primitive Solar System materials and solar system small bodies
- The timescales and mechanisms of terrestrial planet formation including insights from meteoritic, lunar, and terrestrial geochemistry
- Volatile elements through terrestrial planets formation (session submission in progress)
- The chemistry of (exo)planet atmospheres and interaction with planetary surfaces
- The early geological and geochemical history of Mars
- Geochemistry, evolution, and habitability of outer solar system Moon

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#2) VOLUNTEERING WITH THE AGU PLANETARY SCIENCES SECTION

We are continuing to look for people interested in getting involved with the AGU Planetary Sciences Section. The available opportunities are described in detail below. Please [fill out this form](#) if you are interested in volunteering for any of these positions.

OSPA Coordinators—Responsible for overseeing the Outstanding Student Presentation Award for the section. Identifying/confirming judges, interacting with session liaisons, reviewing judging scoresheets and making the OSPA selections. Time commitment: August-November: ~10 hours; December: ~20 hours (incl. Fall Meeting); January: ~5 hours

Honors Canvassing Committee—Reaching out to colleagues, department heads, managers, etc. to encourage submission of applications for the Fred Whipple Award and Ronald Greeley Early Career

Award. Identify worthy candidates, and secure commitments for nominations packages to be submitted on their behalf. Time commitment: December-March: ~20 hours

Honors Selection Committee—Review applications for Whipple and Greeley awards and make selection of award winners. Time commitment: March-June: ~20 hours

Caregiver Award Committee—Review applications for caregiver awards (child or dependent care); work with executive committee to establish number and amount of awards based on need. Time commitment: June-October: ~10 hours

Feel free to contact any of the PSS Officers for more details.

#3) PLANETARY SCIENCE SECTION MENTORSHIP PROGRAM

[Sign up for the new Planetary Science section mentorship program during AGU Fall Meeting!](#)

The AGU Planetary Science section is launching a new mentorship program to match students and early career scientists with more experienced scientists going to Fall Meeting. Our goal is to help new planetary science students and early career scientists learn how to best navigate Fall Meeting. First-time attendees of AGU Fall Meeting will be prioritized as mentees, and the form will be open until all openings are filled. Mentees and mentors will meet each other and grab a free lunch on Monday, 12/12 from 12:45-1:45pm. **Interested mentors and mentees, please sign up here:** <https://forms.gle/NovgR4vzMMjjboUi8>.

#4) STUDENT AND EARLY CAREERS EARTH AND PLANETARY INTERIORS TRIVIA NIGHT

If you are a student or early career scientist in planetary science, consider getting a ticket for the Earth and Planetary Interiors trivia night at AGU Fall Meeting!

The event will be on Monday, December 12 from 6:30-8:00 pm. Tickets are \$10/student and \$20/early career scientist. Hors d'oeuvres and drinks are included, and there will be prizes! It's a great way to meet people in your section and related fields, so we hope to see you in Chicago in December.

#5) AGU JOURNAL OF GEOPHYSICAL RESEARCH: PLANETS PUBLICATIONS, SEPTEMBER 2022 ISSUE

Journal of Geophysical Research: Planets, Volume 127, Issue 9 <https://agupubs.onlinelibrary.wiley.com/toc/21699100/2022/127/9>

Articles starting with (OA) are published with open access

1. (OA) An Insight Into Ancient Aeolian Processes and Post-Noachian Aqueous Alteration in Gale Crater, Mars, Using ChemCam Geochemical Data From the Greenheugh Capping Unit, by C.C. Bedford et al., <https://doi.org/10.1029/2021JE007100>
2. (OA) Surface Kinetic Temperatures and Nontronite Single Scattering Albedo Spectra From Mars Reconnaissance Orbiter CRISM Hyperspectral Imaging Data Over Glen Torridon, Gale Crater, Mars, by L. He et al., <https://doi.org/10.1029/2021JE007092>
3. (OA) Oxidized and Reduced Sulfur Observed by the Sample Analysis at Mars (SAM) Instrument Suite on the Curiosity Rover Within the Glen Torridon Region at Gale Crater, Mars, by G.M. Wong et al., <https://doi.org/10.1029/2021JE007084>
4. Sensitivities of General Circulation and Waves to Horizontal Subgrid-Scale Diffusion in Long-Term Time Integrations of a Dynamical Core for Venus, by M. Yamamoto, M. Takahashi, <https://doi.org/10.1029/2022JE007209>
5. (OA) Evolved Gas Analyses of Sedimentary Rocks From the Glen Torridon Clay-Bearing Unit, Gale Crater, Mars: Results From the Mars Science Laboratory Sample Analysis at Mars Instrument Suite, by A. C. McAdam et al., <https://doi.org/10.1029/2022JE007179>
6. Statistical Analysis of APXS-Derived Chemistry of the Clay-Bearing Glen Torridon Region and Mount Sharp Group, Gale Crater, Mars, by C.D. O'Connell-Cooper et al., <https://doi.org/10.1029/2021JE007177>
7. (OA) From Lake to River: Documenting an Environmental Transition Across the Jura/Knockfarril Hill Members Boundary in the Glen Torridon Region of Gale Crater (Mars), by G. Caravaca et al., <https://doi.org/10.1029/2021JE007093>
8. (OA) Marsquake Locations and 1-D Seismic Models for Mars From InSight Data, by M. Drilleau et al., <https://doi.org/10.1029/2021JE007067>
9. (OA) Evidence for Fluctuating Wind in Shaping an Ancient Martian Dune Field: The Stimson Formation at the Greenheugh Pediment, Gale Crater, by S.G. Banham et al., <https://doi.org/10.1029/2021JE007023>
10. Lunar Heat Flow: Global Predictions and Reduced Heat Flux, by M. Siegler et al., <https://doi.org/10.1029/2022JE007182>
11. (OA) Five Years of Observations of the Circumpolar Cyclones of Jupiter, by A. Mura et al., <https://doi.org/10.1029/2022JE007241>
12. (OA) Martian Atmospheric Spectral End-Members Retrieval From ExoMars Thermal Infrared (TIRVIM) Data, by G. Alemanno et al., <https://doi.org/10.1029/2022JE007429>
13. (OA) Assimilation of Temperatures and Column Dust Opacities Measured by ExoMars TGO-ACS-TIRVIM During the MY34 Global Dust Storm, by R.M.B. Young et al., <https://doi.org/10.1029/2022JE007312>
14. Compositional Controls on the Distribution of Brine in Europa's Ice Shell, by N. S. Wolfenbarger et al., <https://doi.org/10.1029/2022JE007305>
15. Effects of Lunar Near-Surface Geology on Moonquakes Ground Motion Amplification, by M. Amrouche et al., <https://doi.org/10.1029/2022JE007396>
16. (OA) Protracted Hydrogeological Activity in Arabia Terra, Mars: Evidence From the Structure and Mineralogy of the Layered Deposits of Becquerel Crater, by G. Schmidt et al., <https://doi.org/10.1029/2022JE007320>

17. (OA) Geology and Stratigraphic Correlation of the Murray and Carolyn Shoemaker Formations Across the Glen Torridon Region, Gale Crater, Mars, by C.M. Fedo et al., <https://doi.org/10.1029/2022JE007408>
18. Climatology of the CO Vertical Distribution on Mars Based on ACS TGO Measurements, by A. Fedorova et al., <https://doi.org/10.1029/2022JE007195>
19. (OA) Global Vertical Distribution of Water Vapor on Mars: Results From 3.5 Years of ExoMars-TGO/NOMAD Science Operations, by S. Aoki, et al., <https://doi.org/10.1029/2022JE007231>
20. Effects of Covering Layer of Sand Particles on Particle-Bed Collision and Aeolian Sand Transport, by C. Zhang et al., <https://doi.org/10.1029/2022JE007267>
21. Martian Atmospheric Thermal Structure and Dust Distribution During the MY 34 Global Dust Storm From ACS TIRVIM Nadir Observations, by P. Vlasov et al., <https://doi.org/10.1029/2022JE007272>