

August 2022 Newsletter

Greetings from Your Planetary Sciences Section Leadership!

Welcome to the start of the AGU Fall Meeting season! Abstracts were due at the beginning of this month and meeting scheduling will soon be underway. In preparation for our section's next year of activities, we are looking for volunteers for several committees. If you are interested in getting involved with the Planetary Sciences Section, please see Announcement #1 below for more details. 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

- **14-19 August 2022:** 85th Annual Meeting of The Meteoritical Society, Glasgow, Scotland/Virtual
- **15-19 August 2022:** NCTS-ASIAA Workshop: Stars, Planets, and Formosa, Taipei, Taiwan/Virtual
- **18-19 August 2022:** 3rd International Conference on Advanced Materials Science and Nanotechnology (AMSN 2022), Singapore, Singapore
- **22-26 August 2022:** 13th Meeting on Cosmic Dust, Kitakyushu, Japan
- **23-25 August 2022:** Annual Meeting of the Lunar Exploration Analysis Group, Laurel, Maryland/Virtual
- **7-9 September 2022:** High-Resolution Spectroscopy for Exoplanet Atmospheres and Biomarkers, Potsdam, Germany/Virtual
- **11-15 August 2022:** 2nd International Conference on High-Speed Vehicle Science and Technology (HiSST), Bruges, Belgium

Planetary Sciences Announcements/Updates

#1) 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

Student Travel Grant Committee—Review planetary science applications for Student Travel Grant program and make selections of awardees. Time commitment: June-September: ~5 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.

#2) NASA Planetary Science Division Townhall – Decadal Survey Initial Response

NASA's Planetary Science Division (PSD) is hosting a virtual community townhall Thursday 18 August 2022, from 2 to 4 p.m. (Eastern). This townhall is a forum for Dr. Lori Glaze, PSD Director, to provide the agency's initial public response to the [NASEM Planetary Science and Astrobiology Decadal Survey 2023–2032](#). Public questions will be addressed at the end of the presentation. Questions can be submitted before, or during, the event at [this link](#).

The townhall will be recorded and posted online following the event at: <https://science.nasa.gov/solar-system/documents>.

Townhall Connection details:

Join link: <https://nasaenterprise.webex.com/nasaenterprise/j.php?MTID=m3b4aefc164c2332859e3e66fe21afe7d>

Webinar number: 2761 431 7417

Webinar password: MUf3AygJ\$48 (68332945 from phones)

Join by phone:

+1-929-251-9612 USA Toll 2

+1-415-527-5035 US Toll

Access code: 276 143 17417

#3) AGU Journal of Geophysical Research: Planets Publications, July 2022 Issue

Journal of Geophysical Research: Planets, Volume 127, Issue 7 <https://agupubs.onlinelibrary.wiley.com/toc/21699100/2022/127/7>

Articles starting with (OA) are published with open access

1. (OA) Burial and Exhumation of Sedimentary Rocks Revealed by the Base Stimson Erosional Unconformity, Gale Crater, Mars, by Jessica A. Watkins et al.

2. (OA) Lifetime of the Outer Solar System Nebula From Carbonaceous Chondrites, by Cauê S. Borlina et al.
3. (OA) Global Hydrogen Abundances on the Lunar Surface, by David J. Lawrence et al.
4. New Craters on Mars: An Updated Catalog, by I. J. Daubar, et al.
5. Thermophysical Properties of Lunar Irregular Mare Patches From LRO Diviner Radiometer Data, by B. D. Byron et al.
6. Effect of the 2018 Martian Global Dust Storm on the Main Species in the Upper Ionosphere: Observations and Simulations, by JunFeng Qin, et al.
7. (OA) Growth and Evolution of Secondary Volcanic Atmospheres: I. Identifying the Geological Character of Hot Rocky Planets, by Philippa Liggins et al.
8. (OA) Spatio-Temporal Level Variations of the Martian Seasonal South Polar Cap From Co-Registration of MOLA Profiles, by Haifeng Xiao et al.
9. (OA) Meteoroid Fragmentation in the Martian Atmosphere and the Formation of Crater Clusters, by G. S. Collins et al.

#4) AGU Journal of Geophysical Research: Planets Publications, June 2022 Issue

Journal of Geophysical Research: Planets, Volume 127, Issue 6 <https://agupubs.onlinelibrary.wiley.com/toc/21699100/2022/127/6>

Articles starting with (OA) are published with open access

1. The North–South Asymmetry of Martian Ionosphere and Thermosphere, by Huijun Le et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JE007143>
2. (OA) Field Mapping and Modeling of Terrestrial Lava Tube Magnetic Anomalies as an Analog for Lunar Lava Tube Exploration and Prospecting, by Ernest Bell Jr. et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JE007140>
3. The Influence of Equation of State on the Giant Impact Simulations, by Natsuki Hosono, Shun-ichiro Karato, <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JE006971>
4. Heavy Ion Escape From Martian Wake Enhanced by Magnetic Reconnection, by Lei Wang et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JE007181>
5. Evolution of Pluto's Impact-Deformed Ice Shell Below Sputnik Planitia Basin, by M. Kihoulou, K. Kalousová, O. Souček, <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JE007221>
6. A Sensitivity Study of the Thermal Tides in the Venusian Atmosphere: Structures and Dynamical Effects on the Superrotation, by Anna Suzuki et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JE007243>
7. (OA) Hazy Blue Worlds: A Holistic Aerosol Model for Uranus and Neptune, Including Dark Spots, by P. G. J. Irwin et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JE007189>
8. Effects of Formation Pathways and Bromide Incorporation on Jarosite Dissolution Rates: Implications for Mars, by Di-Sheng Zhou et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JE007202>
9. (OA) Orbital and In-Situ Investigation of Periodic Bedrock Ridges in Glen Torridon, Gale Crater, Mars, by Kathryn M. Stack et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JE007096>

10. Density and Temperature of the Upper Mesosphere and Lower Thermosphere of Mars Retrieved From the OI 557.7 nm Dayglow Measured by TGO/NOMAD, by S. Aoki et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JE007206>
11. Shock Recovery With Decaying Compressive Pulses: Shock Effects in Calcite (CaCO₃) Around the Hugoniot Elastic Limit, by Kosuke Kurosawa et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JE007133>
12. (OA) Can the Magmatic Conditions of the Martian Nakhrites be Discerned via Investigation of Clinopyroxene and Olivine Intracrystalline Misorientations?, by S. Griffin et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JE007082>
13. (OA) Compositional Measurements of Saturn's Upper Atmosphere and Rings From Cassini INMS: An Extended Analysis of Measurements From Cassini's Grand Finale Orbits, by J. Serigano et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JE007238>
14. (OA) Constraints on the Emplacement of Martian Nakhrite Igneous Rocks and Their Source Volcano From Advanced Micro-Petrofabric Analysis, by S. Griffin et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JE007080>
15. (OA) The Geophysical Environment of (486958) Arrokoth—A Small Kuiper Belt Object Explored by New Horizons, by James T. Keane et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JE007068>
16. (OA) The Heterogeneous Surface of Asteroid (16) Psyche, by Saverio Cambioni, Katherine de Kleer, Michael Shepard, <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JE007091>
17. The Mars Oxygen Visible Dayglow: A Martian Year of NOMAD/UVIS Observations, by L. Soret et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JE007220>
18. Dislocation Generation in Experimentally Shocked Olivine Crystals, by Jacob A. Tielke et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JE007042>
19. (OA) Mapping the Brightness of Ganymede's Ultraviolet Aurora Using Hubble Space Telescope Observations, by A. Marzok et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JE007256>
20. Neutral Composition and Horizontal Variations of the Martian Upper Atmosphere From MAVEN NGIMS, by Shane W. Stone et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JE007085>
21. (OA) Correlation of Venusian Mesoscale Cloud Morphology Between Images Acquired at Various Wavelengths, by M. Narita et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JE007228>
22. (OA) Distribution and Morphology of Lava Tube Systems on the Western Flank of Alba Mons, Mars, by David A. Crown, Stephen P. Scheidt, Daniel C. Berman, <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JE007263>
23. (OA) Large-Scale Troughs on Asteroid 4 Vesta Accommodate Opening-Mode Displacement, by Hiu Ching Jupiter Cheng, Christian Klimczak, <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JE007130>
24. New Insights Into Subsurface Stratigraphy Northwest of Ascræus Mons, Mars, Using the SHARAD and MARSIS Radar Sounders, by E. S. Shoemaker et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JE007210>

25. Regional Impact Crater Mapping and Analysis on Saturn's Moon Dione and the Relation to Source Impactors, by Sierra N. Ferguson, Alyssa R. Rhoden, Michelle R. Kirchoff, <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JE007204>
26. Full-Field Modeling of Heat Transfer in Asteroid Regolith: 2. Effects of Porosity, by Andrew J. Ryan et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JE007191>
27. MAVEN Observations of H⁺ Ions in the Martian Atmosphere, by N. Jones et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JE006999>
28. Characteristics of Horizontal to Vertical Spectral Ratio of InSight Seismic Data From Mars, by Wanbo Xiao, Yanbin Wang, <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2020JE006813>
29. Gravity Waves in Titan's Atmosphere: A Comparison Between Linearized Wave Model Calculations and HASI Observations, by Jianping Huang et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022JE007310>
30. (OA) High-Resolution Thermophysical Analysis of the OSIRIS-REx Sample Site and Three Other Regions of Interest on Bennu, by B. Rozitis et al., <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JE007153>