

March 2022 Newsletter

Greetings from Your Planetary Sciences Section Leadership!

Spring is in the air! AGU is already gearing up for our next meeting at the end of this year. In particular, we want to draw your attention to the upcoming 1 April nomination deadline for the various [AGU section awards](#). Please consider nominating your colleagues.

If you have any ideas for areas that you would like to see the Planetary Sciences Section involved in, please reach out and let us know. We look forward to hearing from you.

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 (all conferences virtual unless otherwise noted)

- **March 6-11, 2022:** Cloud Academy II, Les Houches, France
- **March 7-11, 2022:** 53rd Lunar and Planetary Science Conference [hybrid]
- **March 15-16, 2022:** Decadal Survey White Papers Workshop #3
- **March 20-22, 2022:** Geological Society of America 2022 Northeastern Section Meeting, Lancaster, Pennsylvania
- **March 21-27, 2022:** Protostars and Planets VII, Kyoto, Japan
- **March 29-31, 2022:** Low-Cost Science Mission Concepts for Mars Exploration, Pasadena, California

Planetary Sciences Announcements/Updates

#1) PLANETARY EXPLORATION NEWSLETTER INVITATION

Dear Colleagues,

You are invited to subscribe to and participate in the Planetary Exploration Newsletter (PEN), now in its fifteenth year. PEN is a free weekly electronic newsletter, provided as a service by the Planetary Science Institute, for planetary scientists around the world to communicate with each other. The editors are volunteers.

PEN contains meeting announcements, job announcements and your submissions of news regarding or impacting solar system exploration, upcoming mission events, awards, policy issues, as well as editorials, commentary and memorials and planetary-related commercial announcements. PEN also includes announcements of PDS data releases, ROSES programs and special messages to the planetary community from NASA leadership.

The [PEN Meeting Calendar](#) strives to be the most exhaustive listing of planetary-related meetings, conferences and workshops around the world. Send the title, dates, location and URL to pen_editor@psi.edu.

Visit [this website](#) to subscribe to future mailings, read current and past newsletters, and see guidelines for submitting content. There is no charge.

Your PEN Editors,

Mark V. Sykes, Georgiana Kramer, Alex Morgan (Planetary Science Institute)

#2) NASA PSSS APPLICATION DEADLINE: 30 MARCH 2022

Science & engineering doctoral candidates, recent PhDs, postdocs and junior faculty who are U.S. Citizens or legal permanent residents (and a very limited number of Foreign Nationals from non-designated countries) are eligible.

Offered by NASA's Jet Propulsion Laboratory, PSSS is a career development experience with a workload of a rigorous 3-hour graduate-level course. Learn the development of a hypothesis-driven planetary science robotic mission in a concurrent engineering environment while getting an in-depth, first-hand look at mission design, life cycle, costs, schedule and the trade-offs inherent in each.

Spend 10 weeks in preparatory webinars acting as a science mission team. Your final culminating week is mentored by JPL's Advance Project Design Team to refine your mission concept design and present it to a mock expert review board.

The culminating week is typically at JPL, however, in 2022 it is likely to be virtual due to Covid-19 pandemic conditions. You can find more information and links to application materials [here](#).

#3) NASA's SUMMER UNDERGRADUATE PROGRAM FOR PLANETARY RESEARCH (SUPPR): MENTORS NEEDED

The Summer Undergraduate Program for Planetary Research (SUPPR) WILL PAY qualified undergraduate students to work with NASA-sponsored planetary geology and geophysics investigators at research locations around the country for eight weeks during the summer. Open to all current SSW grantees. Mentors request an intern by submitting a request using the [online application form](#). Mentors should describe the project for which the intern will apply and any necessary skills the intern needs to have. The deadline for this request is 11 March 2022.

#4) AGU JOURNAL OF GEOPHYSICAL RESEARCH: PLANETS PUBLICATIONS, FEBRUARY 2022 ISSUE

The link to the JGR: Planets February issue can be found [here](#). Below are the articles published last month:

1. Diurnal Variability in Aeolian Sediment Transport at Gale Crater, Mars, by Mariah M. Baker, Claire E. Newman, Robert Sullivan, Michelle E. Minitti, Kenneth S. Edgett, Deirdra Fey, Doug Ellison, Kevin W. Lewis, <https://doi.org/10.1029/2020JE006734>
2. Low-Level Jets and the Convergence of Mars Data Assimilation Algorithms, by Todd A. Mooring, Gabrielle E. Davis, Steven J. Greybush, <https://doi.org/10.1029/2021JE006968>
3. Global Distribution and Geological Context of Co-Existing Occurrences of Olivine-Rich and Plagioclase-Rich Materials on the Lunar Surface, by Satoru Yamamoto, Makiko Ohtake, Yuzuru Karouji, Masahiro Kayama, Hiroshi Nagaoka, Yoshiaki Ishihara, Junichi Haruyama, <https://doi.org/10.1029/2021JE007077>
4. Canyon Wall and Floor Debris Deposits in Aeolis Mons, Mars, by M. N. Hughes, R. E. Arvidson, W. E. Dietrich, M. P. Lamb, J. G. Catalano, J. P. Grotzinger, A. B. Bryk, <https://doi.org/10.1029/2021JE006848>
5. Rivers and Lakes in Western Arabia Terra: The Fluvial Catchment of the ExoMars 2022 Rover Landing Site, by Peter Fawdon, Matthew Balme, Joel Davis, John Bridges, Sanjeev Gupta, Cathey Quantin-Nataf, <https://doi.org/10.1029/2021JE007045>
6. Unraveling the Components Within Apollo 16 Ferroan Anorthosite Suite Cataclastic Anorthosite Sample 60025: Implications for the Lunar Magma Ocean Model, M. A. Torcivia, C. R. Neal, <https://doi.org/10.1029/2020JE006799>
7. Natural Orthogonal Component Analysis of Daily Magnetic Variations at the Martian Surface: InSight Observations, H. Luo, A. M. Du, Y. S. Ge, C. L. Johnson, A. Mittelholz, Y. Zhang, S. Q. Sun, L. Zhao, Y. Yu, L. Tian, S. Y. Li, W. Y. Xu, <https://doi.org/10.1029/2021JE007112>
8. The Evolution of Ancient Fluvial Systems in Memnonia Sulci, Mars: Impact Crater Damming, Aggradation, and a Large Water Body on the Dichotomy? By Joel M. Davis, Liliana Aranos, Zachary I. Dickeson, Peter Fawdon, <https://doi.org/10.1029/2021JE007021>
9. Explaining NOMAD D/H Observations by Cloud-Induced Fractionation of Water Vapor on Mars, by F. Daerden, L. Neary, G. Villanueva, G. Liuzzi, S. Aoki, R. T. Clancy, J. A. Whiteway, B. J. Sandor, M. D. Smith, M. J. Wolff, A. Pankine, A. Khayat, R. Novak, B. Cantor, M. Crismani, M. J. Mumma, S. Viscardy, J. Erwin, C. Depiesse, A. Mahieux, A. Piccialli, S. Robert, L. Trompet, Y. Willame, E. Neefs, I. R. Thomas, B. Ristic, A. C. Vandaele, <https://doi.org/10.1029/2021JE007079>
10. Theoretical Considerations on the Characteristic Timescales of Hydrogen Generation by Serpentinization Reactions on Enceladus, by Damien Daval, Gaël Choblet, Christophe Sotin, François Guyot, <https://doi.org/10.1029/2021JE006995>
11. Thermal Structure and Aerosols in Mars' Atmosphere From TIRVIM/ACS Onboard the ExoMars Trace Gas Orbiter: Validation of the Retrieval Algorithm, S. Guerlet, N. Ignatiev, F. Forget, T. Fouchet, P. Vlasov, G. Bergeron, R. M. B. Young, E. Millour, S. Fan, H. Tran, A. Shakun, A. Grigoriev, A. Trokhimovskiy, F. Montmessin, O. Korablev, <https://doi.org/10.1029/2021JE007062>

12. Porosity Evolution in Metallic Asteroids: Implications for the Origin and Thermal History of Asteroid 16 Psyche, by Fiona Nichols-Fleming, Alexander J. Evans, Brandon C. Johnson, Michael M. Sori, <https://doi.org/10.1029/2021JE007063>
13. Lithospheric Structure of Venusian Crustal Plateaus, by J. S. Maia, M. A. Wieczorek, <https://doi.org/10.1029/2021JE007004>
14. Nitrogenous Altered Volcanic Glasses as Targets for Mars Sample Return: Examples From Antarctica and Iceland, by M. P. Nikitczuk, G. E. Bebout, T. Ota, T. Kunihiro, J. F. Mustard, R. L. Flemming, R. Tanaka, S. A. Halldórsson, E. Nakamura, <https://doi.org/10.1029/2021JE007052>
15. Losses of Radiation Belt Energetic Particles by Encounters With Four of the Inner Moons of Jupiter, by Minyi Long, Binbin Ni, Xing Cao, Xudong Gu, Peter Kollmann, Qiong Luo, Ruoxian Zhou, Yingjie Guo, Deyu Guo, Yuri Y. Shprits, <https://doi.org/10.1029/2021JE007050>
16. Cross-Terminator Variations of the Photoelectron Energy Distribution in the Martian Ionosphere, by Y.-M. Cheng, X.-S. Wu, J. Cui, Y.-T. Cao, B.-B. Ni, Y. Wei, <https://doi.org/10.1029/2021JE007136>
17. A New Model of Jupiter's Magnetic Field at the Completion of Juno's Prime Mission, by J. E. P. Connerney, S. Timmins, R. J. Oliverson, J. R. Espley, J. L. Joergensen, S. Kotsiaros, P. S. Joergensen, J. M. G. Merayo, M. Herceg, J. Bloxham, K. M. Moore, A. Mura, A. Moirano, S. J. Bolton, S. M. Levin, <https://doi.org/10.1029/2021JE007055>