

November 2023 Newsletter

Help us make our Planetary Sciences Section better for you!

With the AGU23 Annual Meeting in San Francisco only about a month away, now seems a good time to step back and evaluate how the Planetary Sciences Section is working for you, our members.

How does the Planetary Sciences Section fit into AGU's new [Strategic Plan](#)? Where could we build stronger connections to other Sections? Are there ways the planetary sciences community could take better advantage of what AGU offers as an international geosciences organization?

So we've prepared a short survey to gauge what's working for you as an AGU Section, where things perhaps aren't going so well, and where we could improve. We're also asking for some high-level, non-personally-identifiable demographic information to get some idea of our current Section make up. (The survey itself is anonymous). You're welcome to answer as many or as few of the questions as you'd like.

The survey should take no more than about 20 minutes to complete, and your answers are going to be invaluable as we move forward next year with plans for making Planetary Sciences more inclusive and useful for our members.

[You can access the survey here](#)

It will remain open until Monday, 4 December 2023. And if you know of PS Section members who don't get this newsletter, please share the link and encourage them to complete the survey too!

We will summarize the key findings of the survey in a later newsletter and at the [Planetary Sciences Section reception](#) on Tuesday, 12 December between 6:30 PM and 8:00 PM at the Marriott Marquis and the Intercontinental San Francisco. (Tickets to the event are free, but you do need to register for one!)

And as always, if you have questions, concerns or comments, don't hesitate to reach out at paul.byrne@wustl.edu. And if you have any deadlines, events or announcements you would like to share, please email [Sarah Hörst](#).

Paul

P.S. There are no prizes for completing the survey, but if you tell Paul you did, he'll give you an awesome high five when he sees you.

Paul Byrne, President

Wendy Calvin, President-Elect

Sarah Hörst, Secretary

Emma Dahl, Early Career representative

An Li, Student representative

Michael Mischna, Past President

(1) AGU Planetary Science Section Mentorship Program: Looking for Mentors and Mentees

[Sign up for the Planetary Science Section Mentorship Lunch during the AGU23 Annual Meeting!](#)

The AGU Planetary Science section is hosting our second annual Mentorship Lunch to match students and early career scientists with more experienced scientists going to AGU23. Our goal is to help new planetary science students and early career scientists learn how to best navigate the conference. Mentees and mentors will meet each other and grab a free lunch on Monday, 11 December from 1-2 PM. Interested mentors and mentees, [please sign up here](#).

(2) Hiring Tenure-track Observational Astronomy Faculty at Michigan State University(2) Planetary Exploration Newsletter Invitation

The Department of Physics and Astronomy at Michigan State University (MSU) invites applications for a tenure-track assistant professor position in astronomy. The search is open to all fields of observational astronomy, including survey-based astronomy. Applications should be submitted through the [MSU hiring website](#), posting [#901917](#). Questions may be directed to [Prof. Laura Chomiuk](#) or to any other member of the astronomy group. Applicants are encouraged to peruse the [MSU astronomy group website](#).

(3) Journal of Geophysical Research: Planets, Volume 128, Issue 10

<https://agupubs.onlinelibrary.wiley.com/toc/21699100/2023/128/10>

Articles preceded by (OA) are published with open access.

1. (OA) Periodic Variation of Mesoscale Ultraviolet Contrast at the Cloud Top of Venus, by Tomoya Suda, Takeshi Imamura, Yeon Joo Lee, Atsushi Yamazaki, Takehiko Satoh, Takao M. Sato, <https://doi.org/10.1029/2023JE007852>
2. Plume-Induced Delamination Initiated at Rift Zones on Venus, by Andrea C. Adams, Dave R. Stegman, Hiva Mohammadzadeh, Suzanne E. Smrekar, Paul J. Tackley, <https://doi.org/10.1029/2023JE007879>
3. Paleo-Evolution of Martian Subsurface Ice and Its Role in the Polar Physical and Isotopic Layering, by E. Vos, O. Aharonson, N. Schörghofer, F. Forget, L. Lange, E. Millour, <https://doi.org/10.1029/2023JE007822>
4. Northwest Africa 12279: Evidence for the Interaction Between Early Lunar Mantle Melt and Anorthositic Crust, by Hongyi Chen, Lanfang Xie, Qiao Shu, Bingkui Miao, <https://doi.org/10.1029/2023JE007844>
5. Quantifying the Absorption Loss of Radiation Belt Energetic Particles by Saturn's Inner Moons, by Shaobei Wang, Chaoyue Si, Minyi Long, Peng Lu, Xing Cao, Binbin Ni, Guanglei Yang, <https://doi.org/10.1029/2023JE007912>
6. (OA) Modeling Slope Microclimates in the Mars Planetary Climate Model, by L. Lange, F. Forget, E. Dupont, R. Vandemeulebrouck, A. Spiga, E. Millour, M. Vincendon, A. Bierjon, <https://doi.org/10.1029/2023JE007915>
7. (OA) The Temporal Brightening of Uranus' Northern Polar Hood From HST/WFC3 and HST/STIS Observations, by Arjuna James, Patrick G. J. Irwin, Jack Dobinson, Michael H. Wong, Troy K. Tsubota, Amy A. Simon, Leigh N. Fletcher, Michael T. Roman, Nick A. Teanby, Daniel Toledo, Glenn S. Orton, <https://doi.org/10.1029/2023JE007904>
8. Mineralogy of Surface Materials at the Chang'E-5 Landing Site and Possible Exotic Sources From In Situ Spectral Observations, by Maosheng Yang (杨茂升), Yuqi Qian (钱煜奇), Briony Horgan, Jun Huang (黄俊), Long Xiao (肖龙), <https://doi.org/10.1029/2023JE007908>
9. An Examination of Soil Crusts on the Floor of Jezero Crater, Mars, by E. M. Hausrath, C. T. Adcock, A. Bechtold, P. Beck, K. Benison, A. Brown, E. L. Cardarelli, N. A. Carman, B. Chide, J. Christian, B. C. Clark, E. Cloutis, A. Cousin, O. Forni, T. S. J. Gabriel, O. Gasnault, M. Golombek, F. Gómez, M. H. Hecht, T. L. J. Henley, J. Huidobro, J. Johnson, M. W. M. Jones, P. Kelemen, A. Knight, J. A. Lasue, S. Le Mouélic, J. M. Madariaga, J. Maki, L. Mandon, G. Martinez, J. Martínez-Frías, T. H. McConnochie, P.-Y. Meslin, M.-P. Zorzano, H. Newsom, G. Paar, N. Randazzo, C. Royer, S. Siljeström, M. E. Schmidt, S. Schröder, M. A. Sephton, R. Sullivan, N. Turenne, A. Udry, S. VanBommel, A. Vaughan, R. C. Wiens, N. Williams, the SuperCam team and the Regolith working group, <https://doi.org/10.1029/2022JE007433>

10. (OA) In Situ Geologic Context Mapping Transect on the Floor of Jezero Crater From Mars 2020 Perseverance Rover Observations, by L. S. Crumpler, B. H. N. Horgan, J. I. Simon, K. M. Stack, S. Alwmark, G. Dromart, R. C. Wiens, A. Udry, A. J. Brown, P. Russell, H. E. F. Amundson, S.-E. Hamran, J. Bell III, D. Shuster, F. J. Calef III, J. Núñez, B. A. Cohen, D. Flannery, C. D. K. Herd, K. P. Hand, J. N. Maki, M. Schmidt, M. P. Golombek, N. R. Williams, <https://doi.org/10.1029/2022JE007444>
11. (OA) Sands on Meridiani Planum, Mars, by J. Kozakiewicz, M. Kania, D. Salata, L. Nowak, <https://doi.org/10.1029/2023JE007804>
12. (OA) Slopes of Lunar Crater Size-Frequency Distributions at Copernican-Aged Craters, by A. Oetting, N. Schmedemann, H. Hiesinger, C. H. van der Bogert, <https://doi.org/10.1029/2023JE007816>
13. (OA) Spectral Variability of Rocks and Soils on the Jezero Crater Floor: A Summary of Multispectral Observations From Perseverance's Mastcam-Z Instrument, by M. S. Rice, J. R. Johnson, C. C. Million, M. St. Clair, B. N. Horgan, A. Vaughan, J. I. Núñez, B. Garczynski, S. Curtis, K. B. Kinch, M. Merusi, A. Hayes, J. F. Bell, L. Duflot, K. Lapo, A. A. Evans, A. Eng, E. Cloutis, A. Brown, A. M. Annex, <https://doi.org/10.1029/2022JE007548>
14. Novel High-Pressure Potassium Chloride Monohydrate and Its Implications for Water-Rich Planetary Bodies, by Xinmiao Wei, Qiang Zhou, Fangfei Li, Caizi Zhang, Fuxing Sun, Zihan Zhang, Ruiyu Li, Hongyu Yu, Yalan Yan, Liang Li, Hanns-Peter Liermann, Sergio Speziale, Xinyang Li, <https://doi.org/10.1029/2022JE007622>
15. (OA) Martian Equatorial Atmospheric Tides From Surface Observations, by Joonas Leino, Ari-Matti Harri, Don Banfield, Manuel de la Torre Juárez, Mark Paton, Jose-Antonio Rodriguez-Manfredi, Mark Lemmon, Hannu Savijärvi, <https://doi.org/10.1029/2023JE007957>
16. Dust Lifting Observations With the Mars Science Laboratory Navigation Cameras, by Scott D. Guzewich, Emily L. Mason, Mark T. Lemmon, Claire E. Newman, Kevin W. Lewis, <https://doi.org/10.1029/2023JE007959>
17. The Effect of Pressure-Dependent Viscosity on the Dynamics of the Post-Overturn Lunar Mantle, by Wenbo Zhang, Nan Zhang, Yan Liang, Leif Tokle, <https://doi.org/10.1029/2023JE007933>
18. Simulated Atmospheric Response to Large-Scale Dust Forcing and Implications for Martian Dust Storm Growth, by Huiqun Wang, Anthony D. Toigo, Mark I. Richardson, <https://doi.org/10.1029/2023JE007956>
19. (OA) Detectability of Local Water Reservoirs in Europa's Surface Layer Under Consideration of Coupled Induction, by Jason Winkentern, Joachim Saur, <https://doi.org/10.1029/2023JE007992>
20. (OA) Tying Shock Features to Impact Conditions: The Significance of Shear Deformation During Impact Cratering, by S. Alwmark, <https://doi.org/10.1029/2023JE008072>
21. (OA) Local Ice Mass Balance Rates via Bayesian Analysis of Mars Polar Trough Migration, by Kristel Izquierdo, Ali M. Bramson, Thomas McClintock, Kris L. Laferriere, Shane Byrne, Jonathan Bapst, Isaac Smith, <https://doi.org/10.1029/2023JE007964>
22. Characteristics of Lunar Surface Electrons Inferred From ARTEMIS Observations: 1. Backscattered Electrons, by Shaosui Xu, Andrew R. Poppe, Paul S. Szabo, Yuki Harada, Jasper S. Halekas, Phillip C. Chamberlin, <https://doi.org/10.1029/2023JE007983>

(4) Journal of Geophysical Research: Planets, Volume 128, Issue 9

<https://agupubs.onlinelibrary.wiley.com/toc/21699100/2023/128/9>

Articles preceded by (OA) are published with open access

1. On the Diversity and Formation Modes of Martian Minerals, by Robert M. Hazen, Robert T. Downs, Shaunna M. Morrison, Benjamin M. Tutolo, David F. Blake, Thomas F. Bristow, Steve J. Chipera, Harry Y. McSween, Doug Ming, Richard V. Morris, Elizabeth B. Rampe, Michael T. Thorpe, Allan H. Treiman, Valerie M. Tu, David T. Vaniman, <https://doi.org/10.1029/2023JE007865>
2. (OA) Thermal Tides on Mars Before and During the 2018 Global Dust Event as Observed by TIRVIM-ACS Onboard ExoMars Trace Gas Orbiter, by S. Guerlet, S. Fan, F. Forget, N. Ignatiev, E. Millour, A. Kleinböhl, A. Shakun, A. Grigoriev, A. Trokhimovskiy, F. Montmessin, O. Korablev, <https://doi.org/10.1029/2023JE007851>
3. Energetic Neutral Atom (ENA) Emission Characteristics at the Moon and Mercury From 3D Regolith Simulations of Solar Wind Reflection, by P. S. Szabo, A. R. Poppe, A. Mutzke, S. Fatemi, A. Vorburger, P. Wurz, <https://doi.org/10.1029/2023JE007911>
4. (OA) Saturn's Atmosphere in Northern Summer Revealed by JWST/MIRI, by Leigh N. Fletcher, Oliver R. T. King, Jake Harkett, Heidi B. Hammel, Michael T. Roman, Henrik Melin, Matthew M. Hedman, Julianne I. Moses, Sandrine Guerlet, Stefanie N. Milam, Matthew S. Tiscareno, <https://doi.org/10.1029/2023JE007924>
5. (OA) Crustal Block and Muted Ring Development During the Formation of Mercury's Caloris Megabasin, by G. J. Gosselin, A. M. Freed, B. C. Johnson, <https://doi.org/10.1029/2023JE007920>
6. (OA) Callisto's Atmosphere: The Oxygen Enigma, by Shane R. Carberry Mogan, Lucas Liuzzo, Andrew R. Poppe, Sven Simon, Jamey R. Szalay, Orenthal J. Tucker, Robert E. Johnson, <https://doi.org/10.1029/2023JE007894>
7. Mn-Precipitates Found in a Martian Crustal Rock, by A. Nakamura, M. Miyahara, H. Suga, A. Yamaguchi, D. Wakabayashi, S. Yamashita, Y. Takeichi, K. Kukihara, Y. Takahashi, E. Ohtani, <https://doi.org/10.1029/2023JE007951>
8. (OA) Focal Mechanism Determination of Event S1222a and Implications for Tectonics Near the Dichotomy Boundary in Southern Elysium Planitia, Mars, by R. Maguire, V. Lekić, D. Kim, N. Schmerr, J. Li, C. Beghein, Q. Huang, J. C. E. Irving, F. Karakostas, P. Lognonné, S. C. Stähler, W. B. Banerdt, <https://doi.org/10.1029/2023JE007793>
9. (Commentary) Gentle Perseverance Lifts the Veil on Martian Dust, by Ralph D. Lorenz, <https://doi.org/10.1029/2023JE007843>
10. (OA) New Insights Into Composition Variation of Mars South Polar Layered Deposits From SHARAD Radar Sounder, by Peng Fang, Jinhai Zhang, <https://doi.org/10.1029/2023JE007812>
11. (OA) The Volcanic and Radial Expansion/Contraction History of the Moon Simulated by Numerical Models of Magmatism in the Convective Mantle, by Ken'yo U, Masanori Kameyama, Masaki Ogawa, <https://doi.org/10.1029/2023JE007845>

12. Thermal Moonquake Characterization and Cataloging Using Frequency-Based Algorithms and Stochastic Gradient Descent, by F. Civilini, R. Weber, A. Husker, <https://doi.org/10.1029/2022JE007704>
13. (OA) Temporal Variations in Vertical Cloud Structure of Jupiter's Great Red Spot, Its Surroundings and Oval BA From HST/WFC3 Imaging, by Asier Anguiano-Arteaga, Santiago Pérez-Hoyos, Agustín Sánchez-Lavega, José Francisco Sanz-Requena, Patrick G. J. Irwin, <https://doi.org/10.1029/2022JE007427>
14. Geologic Structure of the Vera Rubin Ridge, Gale Crater, Mars, by Madison Turner, Kevin Lewis, <https://doi.org/10.1029/2022JE007237>
15. Meteors May Masquerade as Lightning in the Atmosphere of Venus, by C. H. Blaske, J. G. O'Rourke, S. J. Desch, M. E. Borrelli, <https://doi.org/10.1029/2023JE007914>
16. Viscous Relaxation of Oort and Edgeworth Craters on Pluto: Possible Indicators of an Epoch of Early High Heat Flow, by William B. McKinnon, Michael T. Bland, Kelsi N. Singer, Paul M. Schenk, Stuart J. Robbins, <https://doi.org/10.1029/2023JE007831>
17. Non-Thermal Escape of Sulfur and Oxygen on Io Driven by Photochemistry, by Xu Huang, Hao Gu, Jun Cui, Mingyang Sun, Yangxin Ni, <https://doi.org/10.1029/2023JE007811>