Ian Pamerleau

Contact Information

Purdue University
Earth, Atmospheric, and Planetary Science
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Research Interests

Icy Body Geophysics, Numerical Modeling, Fluid Flow

Education

2021–Present	Ph.D.	Purdue University, Planetary Science Advisor: Michael Sori
2021	B.S.	University of Pittsburgh, Mathematics
2021	B.S.	University of Pittsburgh, Geology

Professional Experience

2021–Present	Graduate Research Assistant, Purdue University
2019–2021	Research Assistant, University of Pittsburgh (Advisor: Eitan Shelef)
2019	Research Assistant, University of Pittsburgh (Advisor: Ming Chen)

Awards & Honors

2024	Purdue Graduate Student EXPO Award: Outstanding Poster
2022	NSF Graduate Research Fellowship Program Honorable Mention
2022	Purdue Donald W. Levandowski Memorial Scholarship in Geology
2021–2025	Purdue Ross Fellowship
2021	University of Pittsburgh Flint Memorial Field Geology Award
2020	University of Pittsburgh Brackenridge Research Fellowship
2020	University of Pittsburgh Samuel B. Frazier Student Resources Fund
2019	NASA Pennsylvania Space Grant Consortium Scholarship

Teaching Experience

2024	Teaching Assistant & Guest Lecturer, Purdue University, EAPS 556, Planetary Surface Processes

2024	Teaching Assistant, Purdue University, EAPS 507, Introduction to Analysis and Computing with Geoscience Data
2023	Guest Lecturer, Purdue University, EAPS 354, Earth and Planetary Geophysics
2020	Math Assistance Center Tutor, University of Pittsburgh, General University Level Math Including Calculus and Analysis

Publications

Pamerleau, I. F., Sori, M. M., Scully, J. E. C. (2024), An ancient and impure frozen ocean on Ceres implied by its ice-rich crust, *Nature Astronomy,* 8*.*

Conference Abstracts

Blanco-Rojas, M., Sori, M.M., and **Pamerleau, I.F.** (2024), Constraining Oberon's thermal history from the evolution of one of the tallest peaks in the Solar System, *The Uranus Flagship: Investigating new paradigms for outer planet exploration.*

Sori, M.M., Blanco-Rojas, M., Bramson, A. M., Cartwright, R.J., Menten, S.M., Nordheim, T.A., and **Pamerleau, I.F.** (2024), Endogenic and exogenic evolution of the large Uranian moons can be revealed by observations of their surfaces from a Uranus Flagship mission, *The Uranus Flagship: Investigating new paradigms for outer planet exploration.*

Pamerleau, I. F., Sori, M. M., Scully, J. E. C. (2024), Asymmetric Relaxation of Large Craters in an Ice-Rich Crust are Consistent with Dawn Observations of Ceres, *LPSC* 55th, 1263.

Blanco-Rojas, M., Sori, M. M., and **Pamerleau, I. F.** (2024), Oberon as an ocean world? Insights from the topography of one of the tallest peaks in the Solar System, *LPSC* 55th, 1468.

Sori, M. M. and **Pamerleau, I. F.** (2023), Thermal history of Uranian moons and their oceans from topography: Constraints from Voyager 2 and prospects for a Uranian orbiter, *Uranus flagship: Investigations and instruments for a cross-discipline science workshop*, 8072.

Pamerleau, I. F., Sori, M. M., Scully, J. E. C. (2023), An ice-rich crust with unrelaxed craters on Ceres reflects an ancient frozen ocean, *LPSC* 54th, 1359.

Pamerleau, I. F., Sori, M. M., Johnson, B. C. (2023), Convection in Callisto's Ice Shell: Implications for Differentiation, *LPSC* 54th, 1647.

Kring, D., Bamber, E., Blance, A., Brezfelder, J., Faucher, J., Flom, A., Lehman Franco, K., Harris, E., Jhoti, E., Laferriere, K. L., Martin, A., Meyer, M., **Pamerleau, I. F.**, Plan, A., Roberts, E., Shubham, S., Slumba, K., Zimmermann, N., Barrett, T., (2023) Cascading Boulder and Boulder Track Experiment at Barringer Meteorite Crater (AKA Meteor Crater), Arizona, *LPSC*, 54th, 2186.

Pamerleau, I. F., Sori, M. M., Scully, J. E. C. (2022), Insolation-Driven Topographic Evolution on Ceres, *LPSC*, 53rd, 1711.

Pamerleau, I. F., Reid, M., Shelef, E., Rowland, J. C., Schwenk, J., Mishra, U. (2020), Automated Mapping of Arctic Floodplains to Improve Estimates of Sediment and Carbon Fluxes, *AGU Fall Meeting*, # H137-0002.

Leadership Experience

2021–Present	Purdue Graduate Student Association
2018–2021	University of Pittsburgh Society of Physics Students
2018–2021	University of Pittsburgh Jazz Ensemble
2018–2019	University of Pittsburgh Fencing Team

Skills

COMSOL (Structural Mechanics & Nonlinear Materials)
JMARS & GIS
MATLAB (Topotoolbox, Mapping Toolbox)

References

Professor Michael Sori
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Professor Brandon Johnson
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