

Amanda Claire Stadermann

stadermann@arizona.edu · 1629 E University Blvd · Tucson, AZ 85721

Education

- Ph.D. February 2023** University of Arizona (Tucson, AZ)
Planetary Sciences, minor in Geosciences
- M.S. August 2019** University of Arizona (Tucson, AZ)
Planetary Sciences, minor in Geosciences
- B.A. May 2016** Washington University in St. Louis (St. Louis, MO)
Earth and Planetary Sciences, minors in Physics and German

Employment

University of Arizona Lunar and Planetary Laboratory (Tucson, AZ)

Graduate Research Assistant (intermittently August 2016 – May 2023)

Investigating impact melts and basalts on the Moon, using an electron microprobe to investigate experimental samples, writing papers on research topics. Investigate Apollo impact melt samples to determine the role clast entrainment plays in affecting large-scale morphology.

Graduate Teaching Assistant (intermittently August 2016 – May 2023)

Assisting in the teaching of PTYS 170A1 Planet Earth: Evolution of the Habitable World, PTYS 170B2 The Universe and Humanity: Origin and Destiny, PTYS 206 Our Golden Age of Planetary Exploration / Exploring Our Solar System, and PTYS 214 Astrobiology. Duties include grading homework, proctoring exams, holding office hours, holding review sessions, and guest lecturing.

Washington University Department of Earth and Planetary Sciences (St. Louis, MO)

Undergraduate Research Assistant (September 2013 – May 2016)

Identifying and counting craters on the Moon in ArcGIS, assisting in finding the crater density as well as the age of the surface based on crater size and distribution. Determined the age of the youngest mare basalts on the Moon, located south of Aristarchus Plateau.

Undergraduate Teaching Assistant (intermittently January 2015 – May 2016)

Assisting in the teaching of EPS 118A Geology of National Parks for the Spring 2015 and Spring 2016 semesters, helping grade homework, proctor exams, and held office hours.

Johns Hopkins University Applied Physics Laboratory (Laurel, MD)

NASA Summer Intern (intermittently June 2014 – August 2015)

Analyzed MESSENGER MDIS images of Mercury's limb on planet's night side in attempt to positively identify Mercury's exosphere. Results were analyzed using USGS' ISIS, IDL, and ENVI. Examined Mercury's surface using MESSENGER images using USGS' ISIS and ReACT to identify hollows. Analyzed results using IDL, ENVI, and MATLAB to see size and location distribution.

Publications

8. **Stadermann, A. C.**, T. M. Erickson, L. B. Seifert, Y. Chang, Z. Zeszut, T. J. Zega, Z. D. Michels, and J. J. Barnes (in prep). A Diversity of Temperature and Pressure Conditions Recorded in Suevite from Ries Crater, Germany.
7. **Stadermann, A. C.**, J. J. Barnes, T. M. Erickson, T. C. Prissel, and Z. D. Michels (in review). Evidence for Extrusive Mg-Suite Magmatism on the Moon? Fine-Grained Magnesian Clasts in an Apollo 16 Impact Melt Breccia. *Journal of Geophysical Research: Planets*.

6. Stadermann, A. C., B. L. Jolliff, M. J. Krawczynski, C. W. Hamilton, and J. J. Barnes (2022). Analysis and Experimental Investigation of Apollo Sample 12032,366-18, a Chemically Evolved Basalt from the Moon. *Meteoritics and Planetary Science*, 57(4), doi: 10.1111/maps.13795
5. Lev, E., C. Hamilton, J. Voigt, A. Stadermann, Y. Zhan, and C. Neish (2021). Emplacement conditions of lunar impact melt flows. *Icarus*, 369 114578, doi: 10.1016/j.icarus.2021.114578
4. Watkins, R. N., L. R. Ostrach, S. N. Valencia, A. Stadermann, L. Bleacher, N. E. Petro, T. Casswell, A. Fagan, E. Jawin, H. Meyer, D. Phillips, H. O'Brien, and the Next Generation Lunar Scientists and Engineers Group (2021). The Role of the Next Generation Lunar Scientists and Engineers (NextGen) Group in Lunar Science and Exploration. *Bulletin of the American Astronomical Society*, 53(2), doi: 10.3847/25c2cf.9a3e0c6a
3. Stadermann, A. C., M. R. Zanetti, B. L. Jolliff, H. Hiesinger, C. H. van der Bogert, and C. W. Hamilton (2018). The Age of Lunar Mare Basalts South of the Aristarchus Plateau and Effects of Secondary Craters formed by the Aristarchus Event. *Icarus*, 309 45–60, doi: 10.1016/j.icarus.2018.02.030.
2. Zanetti, M., A. Stadermann, B. Jolliff, H. Hiesinger, C. H. van der Bogert, and J. Plescia (2017). Evidence for Self-Secondary Cratering of Copernican-Age Continuous Ejecta Deposits on the Moon. *Icarus*, 298 64–77, doi: 10.1016/j.icarus.2017.01.030
1. Blewett, D. T., A. C. Stadermann, H. C. Susorney, C. M. Ernst, Z. Xiao, N. L. Chabot, B. W. Denevi, S. L. Murchie, F. M. McCubbin, M. J. Kinczyk, J. J. Gillis-Davis, and S. C. Solomon (2016). Analysis of MESSENGER high-resolution images of Mercury's hollows and implications for hollow formation. *Journal of Geophysical Research: Planets*, 121: 9, 1798–1813, doi: 10.1002/2016JE005070

Conference Abstracts

19. Stadermann, A. C., J. J. Barnes, T. M. Erickson, Z. D. Michels (2022). Electron Backscatter Diffraction Investigation of Zirconium-Bearing Phases in Suevite from Ries Crater, Germany. 85th Annual Meeting of the Meteoritical Society, #6503.
18. Ong, I. J., J. J. Barnes, Z. E. Wilbur, A. C. Stadermann, K. Domanik, F. M. McCubbin (2022). Identification of an Unusual Iron Rich Lithology in Luna 24 Soil. Lunar and Planetary Science Conference 53, #2883.
17. Stadermann, A. C., J. J. Barnes, T. M. Erickson, and Z. D. Michels (2022). Zircon, Baddeleyite, and Reidite found in Ries Crater Suevite. Lunar and Planetary Science Conference 53, #2028.
16. Stadermann, A. C., J. J. Barnes, T. M. Erickson, Z. D. Michels, and T. C. Prissel (2022). Pink Spinel in Apollo Impact Melt Rock 68815: Implications for Mg-Suite Magmatism. Lunar and Planetary Science Conference 53, #2022.
15. Stadermann, A. C., J. J. Barnes, T. M. Erickson, and T. J. Zega (2021). Apollo Sample 64455: Petrologic and Geochemical Characterization of a Glass-Coated Impact Melt Rock. 84th Annual Meeting of the Meteoritical Society, #6261.
14. Morin, S. M., J. J. Barnes, Z. E. Wilbur, A. C. Stadermann, K. Domanik, and F. M. McCubbin (2021) Assessing the Volatile Inventory of Basaltic Fragments in Luna Soils. 84th Annual Meeting of the Meteoritical Society, #6229.
13. Stadermann, A. C., J. J. Barnes, and T. J. Zega (2021). Preliminary Petrologic Characterization of Apollo 16 Clast-Rich Impact Melt Rocks. NASA Exploration Science Forum & European Lunar Symposium.
12. Stadermann, A. C., B. L. Jolliff, M. J. Krawczynski, C. W. Hamilton, and J. J. Barnes (2021). Apollo Sample 12032,366-18: Characterization and Experimental Investigation of a Chemically Evolved Lunar Basalt. Lunar and Planetary Science Conference 52, #2661.

11. McGraw, A. M., L. Brock, [A. Stadermann](#), Z. Brown, T. Meng, and S. Thibodeaux-Yost (2020). The Art of Planetary Science 2020: Planetary Science and Science Fiction. Lunar and Planetary Science Conference 51, #2674.
10. [Stadermann, A. C.](#), B. L. Jolliff, M. J. Krawczynski, and C. W. Hamilton (2018). Experimental Investigation of Fractionation During Solidification of an Incompatible-Element-Rich Lunar Basalt From Apollo 12. 81st Annual Meeting of The Meteoritical Society #6271.
9. [Stadermann, A. C.](#), C. W. Hamilton, and C. D. Neish (2017). Mapping Lunar Impact Melt Around Giordano Bruno Crater. International Association of Volcanology and Chemistry of the Earth's Interior Conference #1122.
8. [Stadermann, A. C.](#), M. Krawczynski, B. L. Jolliff, and C. W. Hamilton (2017). Analysis and Experimental Investigation of Apollo Basalt Sample 12032,366-18. Lunar and Planetary Science Conference 48, #2883.
7. Blewett, D., [A. Stadermann](#), N. Chabot, B. Denevi, C. Ernst, Z. Xiao, and S. Solomon (2015). Mercury's Hollows: Depths, Estimation of Formation Rates, and the Nature of the Bright Haloes. American Geophysical Union Fall Meeting 2015, P53A-2096.
6. [Stadermann, A.](#), M. Zanetti, B. Jolliff, and H. Hiesinger (2015). Revisiting the Youngest Mare Basalts on the Moon: Analysis of Primary and Secondary Crater Distributions in the Region South of Aristarchus Crater. Lunar and Planetary Science Conference 46, #1269.
5. Zanetti, M., [A. Stadermann](#), B. Jolliff, C. van der Bogert, H. Hiesinger, and J. Plescia (2015). Auto-Secondary Cratering vs. Target Property effects on Ejecta Blankets of Copernican Craters: What are the Implications of Age-Dating using Small-Diameter Crater Statistics? Lunar and Planetary Science Conference 46, #1209.
4. Jolliff, B., S. Lawrence, N. Petro, R. Clegg, [A. Stadermann](#), and M. Zanetti (2015). Science Priorities for Lunar Exploration Missions and Value of Continued LRO Operations for Future Lunar Geoscience. Lunar and Planetary Science Conference 46, #2616.
3. Zanetti, M., [A. Stadermann](#), B. Jolliff, H. Hiesinger, and C. H. van der Bogert (2015). The Case for Auto-Secondary Craters of Ejecta Blankets using Crater Statistics of Young Lunar Craters. Workshop on Issues in Crater Studies and the Dating of Planetary Surfaces #9041.
2. Blewett, D., [A. Stadermann](#), N. Chabot, B. Denevi, C. Ernst, and P. Peplowski (2014). Mercury's Hollows: New Information on Distribution and Morphology from MESSENGER Observations at Low Altitude. American Geophysical Union Fall Meeting 2014, P13F-07.
1. Zanetti, M., [A. Stadermann](#), T. Krüger, C. van der Bogert, H. Hiesinger, and B. Jolliff (2014). Mapping Crater Density Variation on Copernican Ejecta Blankets: Evidence for Auto-Secondary Cratering at Tycho and Aristarchus. Lunar and Planetary Science Conference 45, # 1528.

Invited Presentations

- Lunar Surface Innovation Consortium Fall Meeting, virtual. Next Generation Lunar Scientists and Engineers. (November 2021)
- Annual Meeting of the Lunar Exploration Analysis Group, virtual. Next Generation Lunar Scientists and Engineers. (August 2021)
- Space Drafts 60, Borderlands Brewery, Tucson, AZ. The Next 50 Years of Lunar Exploration. (July 2019)
- Arizona-Sonora Desert Museum, Tucson, AZ. Celebrating 50 years: Apollo 11 Moon Landing: What it's Like to Send a NASA Mission to the Moon, and Where to Go If You Did. (July 2019)

Professional [Service](#) and Societies

- Next-Generation Lunar Scientists and Engineers, [Organizing Committee](#) (2019 – present); Communications Lead (2021 – present)

The Meteoritical Society, Student Member (2018 – present)
Lunar & Planetary Laboratory, [Graduate Representative to the Faculty](#) (2020 – 2022)
Reviewer, Icarus
NASA Planetary Science Division Review Panels, Executive Secretary

Teaching and Teaching Assistance

Spring 2022: Graduate Teaching Associate for PTYS 206: Exploring Our Solar System
Summer 2021: Instructed informal workshop: Utilizing Photoshop for Coordinated Analyses in Cosmochemistry, four sessions
Spring 2021: Graduate Teaching Associate for PTYS 206: Exploring Our Solar System
Fall 2019: Graduate Teaching Associate for PTYS 170A1: Planet Earth: Evolution of a Habitable World
Spring 2019: Graduate Teaching Associate for PTYS 206: Our Golden Age of Planetary Exploration; Graduate Teaching Associate for PTYS 214: Astrobiology: A Planetary Perspective
Fall 2018: Graduate Teaching Associate for PTYS 206: Our Golden Age of Planetary Exploration
Fall 2017: Graduate Teaching Assistant for PTYS 206: Our Golden Age of Planetary Exploration
Spring 2017: Graduate Teaching Assistant for PTYS 214: Astrobiology: A Planetary Perspective
Fall 2016: Graduate Teaching Assistant for PTYS 170B2: The Universe and Humanity: Origin and Destiny
Spring 2016: Undergraduate Teaching Assistant for EPS 118A: Geology of National Parks
Spring 2015: Undergraduate Teaching Assistant for EPS 118A: Geology of National Parks

Outreach

The Art of Planetary Science [Organizer](#), Tucson, AZ. (2018–2020)
Summer Science Saturday, University of Arizona, Tucson, AZ. (July 2019)
University of Arizona [Special Collections](#), Tucson, AZ. Moon. (July 2019)
Coronado K-8 School, Tucson, AZ. Parker Solar Probe: Exploring the Sun (January 2019)

Awards and Achievements

Barringer Crater Company Travel Award (2022)
Attended the 85th Annual Meeting of the Meteoritical Society
Lunar and Planetary Laboratory's [Leif Andersson Award for Service and Outreach](#) (2022)
NASA US Students Award (2021)
Attended the 84th Annual Meeting of the Meteoritical Society
University of Arizona College of Science [Galileo Circle Scholarship](#) (2021)
Lunar and Planetary Institute Career Development Registration Award (2021)
Paid registration for the 52nd Lunar and Planetary Science Conference 2021
Meteoritical Society Goldschmidt Award (2020)
Paid membership dues for the Meteoritical Society for 2021
Lunar and Planetary Laboratory's [Graduate Teaching Assistant Excellence Award](#) (2020)
For work in Fall 2019; PTYS 170A1 Planet Earth: Evolution of the Habitable World
Bernard Ray Hawke Next Lunar Generation Career Development Award (2019; deferred to 2022)
To attend the Annual Meeting of the Lunar Exploration Analysis Group 2019
Used to attend the 53rd Lunar and Planetary Science Conference 2022

O. Richard Norton Award, Barringer Crater Company, the Planetary Studies Foundation (2018)

Attended the Annual Meeting of the Meteoritical Society

University of Arizona College of Science [Galileo Circle Scholarship](#) (2018)

Shirley D. Curson Education Plus Fund in Planetary Sciences and LPL (2017)

Attended the International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) Conference

Stephen E. [Dwornik Planetary Geosciences Student Paper](#) Award (2015)

Honorable Mention Undergraduate Poster for Stadermann, A., M. Zanetti, B. Jolliff, and H. Hiesinger (2015) Revisiting the Youngest Mare Basalts on the Moon: Analysis of Primary and Secondary Crater Distributions in the Region South of Aristarchus Crater. Lunar and Planetary Science Conference 46, # 1269.

Harold Levin Undergraduate Teaching Assistant Award (2015)

Department of Earth and Planetary Sciences, Washington University in St. Louis. Geology of National Parks (Spring 2015)

Washington University [Varsity](#) Swim Team (September 2012 – March 2016)

[Captain](#) (2015–16 season)

School record holder (100 yard butterfly, formerly; 200 yard butterfly, currently)

All-American (100 yard butterfly, 2016; 200 yard butterfly, 2016)

Honorable Mention All-American (200 yard butterfly, 2014; 400 yard medley relay, 2016)

[National Champion](#) (200 yard butterfly, 2016)

William H. and Elizabeth Danforth [Distinguished Athlete](#) Award (2016)