

# Amanda Claire Stadermann

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## Education

### **University of Arizona (Tucson, AZ)**

*PhD, expected August 2022*

*Planetary Sciences*

*Minor in Geosciences*

*Cumulative GPA: 3.538/4.00*

### **University of Arizona (Tucson, AZ)**

*MS, August 2019*

*Planetary Sciences*

*Minor in Geosciences*

*Cumulative GPA: 3.583/4.00*

### **Washington University in St. Louis (St. Louis, MO)**

*BA, May 2016*

*Earth and Planetary Sciences with a concentration in Geophysics*

*Minors in Physics and German*

*Cumulative GPA: 3.53/4.00*

### **Impact Cratering Short Course and Field School (Sudbury, ON)**

*October 2019*

*Coordinated by the University of Western Ontario*

## Work Experience

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

#### *Graduate Research Assistant (August 2016 – present)*

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 (August 2016 – present)*

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 Science (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 (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 (June 2014 – August 2014; June 2015 – 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

1. **Stadermann, A. C.**, M. J. Krawczynski, B. L. Jolliff, C. W. Hamilton, and J. J. Barnes (in review). Analysis and Experimental Investigation of Apollo Sample 12032,366-18, a Chemically Evolved Basalt from the Moon. *Meteoritics and Planetary Science*.
2. Lev, E., C. Hamilton, J. Voigt, **A. Stadermann**, Y. Zhan, and C. Neish (in review). Emplacement conditions of lunar impact melt flows. *Icarus*.
3. 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:10.3847/25c2cfcb.9a3e0c6a
4. **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.
5. 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
6. 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

1. **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. 84<sup>th</sup> Annual Meeting of the Meteoritical Society, # 6261.
2. 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. 84<sup>th</sup> Annual Meeting of the Meteoritical Society, # 6229.
3. **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.
4. **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.
5. 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.
  6. **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. 81<sup>st</sup> Annual Meeting of The Meteoritical Society # 6271.
  7. **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.
  9. 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.
  10. **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.
  11. 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.
  12. 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.
  13. 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.
  14. 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.
  15. 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.

## **Professional Service and Societies**

*American Geophysical Union*, Student Member (2021 – present)

*Mineralogical Society of America*, Student Member (2020 – present)

*Next-Generation Lunar Scientists and Engineers*, Organizing Committee (2019 – present);  
Communications Lead (2021 – present)  
*The Meteoritical Society*, Student Member (2018 – present)  
*International Association of Volcanology and Chemistry of the Earth's Interior*, Young  
Researcher (2017 – present)  
Lunar & Planetary Laboratory, Graduate Representative to the Faculty (2020 – present)  
NASA Planetary Science Division Review Panels, Executive Secretary

## **Outreach**

The Art of Planetary Science Organizer, Tucson, AZ. (2018–2020)  
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)  
Summer Science Saturday, University of Arizona, Tucson, AZ. (July 2019)  
GeoSciTweets Twitter Account Hosting. (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**

University of Arizona College of Science Galileo Circle Scholarship (2021)  
Lunar and Planetary Institute Career Development Registration Award (2021)  
Paid registration for the 52<sup>nd</sup> 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 attend the Annual Meeting of the Lunar Exploration Analysis Group  
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, 200 yard butterfly)  
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)  
Washington University Dean's List (Fall 2012, Fall 2013)