Hannah C.M. Susorney

Postdoctoral Fellow
Department of Earth, Atmospheric and Ocean Science
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EDUCATION

2017	Ph.D., **Johns Hopkins University**, Baltimore, Maryland Earth and Planetary Science *Advisors:* Olivier S. Barnouin & Darrell F. Strobel *Thesis:* Using Altimetry to Investigate Impact Cratering in the Solar System
2015	M.A., **Johns Hopkins University**, Baltimore, Maryland Earth and Planetary Science
2013	B.S., **Montana State University**, Bozeman, Montana Major: Earth Science: Geology Minor: Mathematics

RESEARCH EXPERIENCE

2017–present	Postdoctoral Fellow, **University of British Columbia**, Vancouver, Canada *Advisor:* Catherine L. Johnson
2013–2017	Graduate Research Assistant, **Johns Hopkins University**, Baltimore, Maryland and **Johns Hopkins University Applied Physics Laboratory**, Laurel, Maryland *Advisor:* Olivier S. Barnouin
2012, 2013	Intern, **Johns Hopkins University Applied Physics Laboratory**, Laurel, Maryland *Advisors:* Carolyn M. Ernst, Nancy L. Chabot, and Olivier S. Barnouin

RESEARCH INTERESTS

Impact Cratering, Surface Roughness, Laser Altimetery, Surface Geology (asteroids and terrestrial planets), Impact Simulations, Polar Deposits

PUBLICATIONS

5. **Susorney, H.C.M.**, Barnouin, O.S., Ernst, C.M., Stickle, A.M. The Surface Roughness of Large Craters on Mercury (in review), J. Geophys. Res. Planets.
4. **Susorney, H.C.M.**, Barnouin, O.S., Stickle, A.M., Ernst, C.M., Crawford, D.A., and Cintala, M.J. The Role of Target Heterogeneity in Impact Crater Formation: Numerical Results (2017), Procedia Engineering, 204, 421-428.
3. **Susorney, H.C.M.**, Barnouin, O.S., Ernst, C.M., and Byrne, P.K. Surface Roughness from the Mercury Laser Altimeter (2017). J. Geophys. Res. Planets, 122 (6), 1372-1390.
2. Blewett, D.T., Stadermann, A.C., **Susorney, H.C.**, Ernst, C.M., Xiao, Z., Chabot, N.L., Denevi, B.W., Murchie, S.L., McCubbin, F.M., Kinczyk, M.J., Gillis-Davis, J.J., and Solomon, S.C. Analysis

of MESSENGER high-resolution images of Mercury's hollows and implications for hollow formation (2016). J. Geophys. Res. Planets, 121(9), 1798-1813.

1. **Susorney, H.C.M.**, Barnouin, O.S., Ernst, C.M., Johnson, C.L. Impact Crater Morphology on Mercury from MESSENGER Altimetry and Imaging (2016). Icarus, 271, 180-193.

HONORS

Department of Johns Hopkins University Earth and Planetary Science Best 60 minute Journal Club Graduate Student Presentation	2016
Dwornik Award, Best Graduate Student Poster	2015
Johns Hopkins Applied Physics Laboratory Graduate Student Fellowship	2014-2017
Department of Johns Hopkins University Earth and Planetary Science Best 30 minute Journal Club Graduate Student Presentation	2014
National Science Foundation Graduate Research Fellowship, *Honorable Mention*	2014
Montana State University Top Geology Undergraduate	2013
Montana Space Grant Consortium Best Undergraduate Poster	2013
Montana State University Undergraduate Scholars Program Research Grant	2011, 2012
Montana State University Earth Science Colloquium Best Undergraduate Poster	2012

PROFESSIONAL SERVICE

NASA Small Body Advisory Group, *Committee Member*	2017-present
Reviewed Papers in: Journal of Geophysical Research-Planets, Advances in Space Research, Planetary and Space Sciences	
NASA Review Panel, *External Reviewer*	2018
NASA Review Panel, *Panelist*	2017
NASA Review Panel, *Executive Secretary*	2015, 2017
Geological Society of America Student Advisory Council, *Chair*	2015-2016
Geological Society of America Planetary Geology Division, *Student Representative*	2014-2016
Local Organizing Committee for the Geological Society of America Annual Meeting	2015

RESEARCH ACTIVITIES

Lunar Planetary Institute's Meteor Crater Field Camp, *Participant*	Meteor Crater, AZ, October 2014
NSF International Research Experience for Students (IRES), *Participant*	Hangzhou, China, October 2014

GRANTS AWARDED

Johns Hopkins University Applied Physics Laboratory Graduate Student Fellowship, *240k USD*, 2014–2017
Hopkins Extreme Materials Institute (HEMI) Student Travel Grant, *1k USD*, 2017
Hypervelocity Impact Society Alex Charters Student Scholar, *2k USD*, 2017
Asteroids, Comets, and Meteorites 2017 Travel Grant, *1k USD*, 2017

TEACHING EXPERIENCE

Johns Hopkins University
Guest Lecturer Planetary Surface Processes (1 lecture) — Fall 2015
Guest Lecturer Tour of the Solar System (1 lecture) — Spring 2015, 2016, 2017

Montana State University
Undergraduate Teaching Assistant for Honors Earth System Science — Fall 2011, 2012

OUTREACH ACTIVITIES

Roots and Branches Elementary School West Baltimore, MD — May 2015
- Presented on asteroids and impact craters to $\sim$ 200 elementary age children.

The Johns Hopkins University Applied Physics Lab Laurel, MD — Summer 2012, 2013
- Produced Images of the Day for the MESSENGER Public Website
- Assisted in responding to the public's question about Mercury and the MESSENGER mission

Father Marquette Middle School Marquette, MI — May 2012
- Presented an hour long talk to two 6th grade classes ($\sim$ 30 students each) about my experience study science in college and recent research activities I was involved in

SELECTED CONFERENCE ABSTRACTS

- *__Susorney, H.C.M.,__ Johnson, C.L., Barnouin, O.S., and Daly, M.G. Using Surface Roughness to Probe the Interior Structure of Asteroids, 2017 American Geophysical Union Fall Meeting. Abstract P24C-07.
- **Susorney, H.C.M.** and Barnouin, O.S., et. al., (2017) The Role of Target Heterogeneity in Impact Crater Formation: Numerical Results. 2017 Hypervelocity Impact Symposium
- *__Susorney, H.C.M.__ James, P.B., et al., (2017) Measuring the Thickness of mercury's Water Ice Deposits using the Mercury Laser Altimeter . 48th Lunar and Planetary Science Conference. Abstract 2059.
- *__Susorney, H.C.M.__ and Barnouin, O.S. (2016) The Global Surface Roughness of 433 Eros. AAS Division of Planetary Science Annual Meeting
- *__Susorney, H.C.M.__ Barnouin, O.S., and Ernst, C.M. (2016) The Distribution of Surface Roughness Around Complex Craters on Mercury. 47th Lunar and Planetary Science Conference. Abstract 1705.
- Barnouin, O.S., Ernst, C.M., **Susorney, H.C.** (2015). The Remarkable Hokusai Crater, Mercury. 46th Lunar and Planetary Science Conference. Abstract 2672.
- Kring, D. A., ... **Susorney, H.C.M.**, et al., (2015) Distribution of Kaibab Ejecta North of Meteor Crater, Arizona. 46th Lunar and Planetary Science Conference. Abstract 1186.

- *__Susorney, H.C.M.__, Barnouin, O.S., and Ernst, C.M. (2014) Investigating the Surface Roughness of Mercury. American Geophysical Union Fall Meeting. Abstract P34C-08
- Ernst, C. M., Chabot, N. L., **Susorney, H.C.M.**, Barnouin, O. S., Harmon, J. K., and Paige, D. A. (2014) Exploring the Morphology of Simple Craters that Host Polar Deposits on Mercury: Implications for the Source and Stability of Water Ice. 45th Lunar and Planetary Science Conference. Abstract 1238.

* denotes oral presentation

COMPUTING SKILLS

Python, Unix, IDL, ISIS, Git, R, GMT, LaTeX, CTH

MEMBERSHIPS

American Geophysical Union, Planetary Sciences Section, 2011-present
Geological Society of America, Planetary Geology Division, 2010-present
AAS Division of Planetary Science, 2015-present