Hannah C.M. Susorney

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EDUCATION

2013–present Graduate Student, **Johns Hopkins University**, Baltimore, Maryland
Department of Earth and Planetary Science
Advisors: Olivier S. Barnouin & Darrell F. Strobel

2015 M.A., **Johns Hopkins Univsersity**, Baltimore, Maryland
Earth and Planetary Science

2013 B.S., **Montana State University**, Bozeman, Montana
Earth Science: Geology
Minor: Mathematics

RESEARCH EXPERIENCE

2013–present Graduate Research Assistant, **Johns Hopkins University**, Baltimore, Maryland
and **Johns Hopkins University Applied Physics Laboratory**, Laurel, Maryland
Advisor: Olivier S. Barnouin

RESEARCH INTERESTS

Impact Cratering, Surface Roughness, Laser Altimeters, Surface Geology (asteroids and terrestrial planets, Impact Simulations, Polar Depsoits

PUBLICATIONS

6. **Susorney, H.C.M.**, Barnouin, O.S. The Surface Roughness of 433 Eros from the NEAR-Shoemaker Laser Rangefinder (in prep.)
5. **Susorney, H.C.M.**, Barnouin, O.S., Ernst, C.M. The Contribution of Complex Craters to Mercury's Surface Roughness Evolution (in prep.)
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 (in review), Procedia Engineering.
3. **Susorney, H.C.M.**, Barnouin, O.S., Ernst, C.M., and Byrne, P.K. Surface Roughness from the Mercury Laser Altimeter, accepted, JGR-Planets.
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). JGR-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

Hopkins Extreme Materials Institute (HEMI) Student Travel Grant	2017
Hypervelocity Impact Society Alex Charters Student Scholar	2017
Asteroids, Comets, and Meteorites 2017 Travel Grant	2017
Johns Hopkins University Earth and Planetary Science Department 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
Johns Hopkins University Earth and Planetary Science Department 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

Reviewed Papers in: Journal of Geophysical Research-Planets, Advances in Space Research	
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
Johns Hopkins University Applied Physics Laboratory NASA Summer Internship, *Intern*	Laurel, MD, Summer 2012, 2013
NSF International Research Experience for Students (IRES), *Participant*	Hangzhou, China, October 2014

TEACHING EXPERIENCE

Johns Hopkins University

Guest Lecture Planetary Surface Processes (1 lecture)	Fall 2015
Guest Lecture 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.** 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, Mathematica, Git, R, GMT, MATLAB, LaTeX

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