

Riley McGlasson

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Education

Purdue University

PhD, Planetary Sciences, 3.93/4.0

West Lafayette, IN

2020 – Present

Macalester College

Bachelor of Arts in Physics (with Astronomy emphasis) and Mathematics minor, 3.77/4.0

Saint Paul, MN

2016 – 2020

Acquincum Institute of Technology, Budapesti Műszaki Egyetem

Semester in Computer Science Abroad, 4.67/5.0

Budapest, Hungary

Fall 2018

Research Experience and Professional Preparation

Graduate Research Assistant

Purdue University

Advisor: Dr. Ali Bramson

- Analyzing SHARAD radar observations of ice deposits in Martian craters.
- Developing Martian radar analog lab capabilities for the Bramson Lab.

West Lafayette, IN

August 2020 – Present

Astronomy Ranger Intern

Bryce Canyon National Park

Advisors: Dr. Anil Seth and Mr. Todd Cullins

- Developed and presented astronomy interpretive programs.
- Led educational “telescope tours” of planets, constellations, and deep sky objects to visitors of Bryce Canyon National Park.
- Presented “A Message to the Universe”, a public talk about the Voyager missions, at the Bryce Canyon Annual Astronomy Festival.

Bryce, Utah

Summer 2019

REU Student

Arecibo Observatory

Advisors: Dr. Sean Marshall and Dr. Flaviane Venditti

- Developed a shape model for the potentially hazardous asteroid Midas.
- Performed approximately 50 radar observations of near-Earth asteroids using the Arecibo radio telescope.

Arecibo, Puerto Rico

Summer 2018

REU Student

University of Alabama in Huntsville/NASA MSFC

Advisor: Dr. Navdeep Panesar

- Studied the magnetic origins of solar coronal jets.

Huntsville, AL

Summer 2017

Undergraduate Research Assistant

Macalester College

Advisor: Dr. John Cannon

- Performed the first characterization of the neutral ISM in two local volume dwarf galaxies using the HI 21cm spectral line.
- Determined cluster membership for galaxies around the Pisces-Perseus Supercluster, as part of the Arecibo Pisces-Perseus Supercluster Survey.

Saint Paul, MN

Spring 2017

Peer-Reviewed Publications

1. McGlasson, R. A., Bramson, A. M., Morgan, G. A., Sori, M. M. (In prep). Varied Histories of Outlier Polar Ice Deposits on Mars.
2. Virkki, A. K., Marshall, S. E., Venditti, F., et al. (incl. McGlasson, R. A.). (In revision). Arecibo Planetary Radar Observations of Near-Earth Asteroids: 2017 December - 2019 December.
3. Sori, M.M., Becerra, P., Bapst, J., Byrne, S., and McGlasson, R. A. (2022). Orbital forcing of Martian climate revealed in an outlier ice deposit. Geophysical Research Letters, 49, e2021GL097450.

4. **McGlasson, R. A.**, Marshall, S. E., Venditti, F., et al. (2022). Radar and Lightcurve Observations and a Physical Model of Potentially Hazardous Asteroid 1981 Midas. *The Planetary Science Journal*, 3, 35.
5. **McGlasson, R. A.**, Panesar, N. K., Sterling, A. C., Moore, R. L., (2019). Magnetic Flux Cancellation as the Trigger Mechanism of Solar Coronal Jets. *The Astrophysical Journal*, 882, 16.
6. Cannon, J.M., Shen, Z., et al. (**incl. McGlasson, R. A.**), (2018). Delayed Stellar Mass Assembly in the Low Surface Brightness Dwarf Galaxy KDG 215. *The Astrophysical Journal Letters*, 864, L14.
7. Bralts-Kelly, L., Bulatek, A. M., et al. (**incl. McGlasson, R. A.**), (2017). First Characterization of the Neutral ISM in Two Local Volume Dwarf Galaxies. *The Astrophysical Journal Letters*, 848, L10.

Conference Posters and Presentations

* Indicates R. A. McGlasson is presenting author

† Indicates oral presentation

1. * **McGlasson, R. A.**, Sori, M. M., Bramson, A. M., (2022). A Significant Periodicity of NPLD Layers as Revealed by SHARAD Observations. 53rd Lunar and Planetary Science Conference, #2063.
2. *†**McGlasson, R. A.**, Bramson, A. M., Morgan, G. A., Sori, M. M., (2021). Subsurface Radar Observations of Outlier Polar Ice Deposits on Mars. American Geophysical Union Fall Meeting 2021, #P32D-05.
3. *†**McGlasson, R. A.**, Bramson, A. M., Morgan, G. A., Sori, M. M., (2021). Subsurface Radar Observations of Outlier Polar Ice Deposits on Mars. 52nd Lunar and Planetary Science Conference, #1649.
4. Repp, D. W., Marshall, S. E., et al. (**incl. McGlasson, R. A.**), (2020). Shape modeling of potentially hazardous asteroid 2015 DP155 from radar and lightcurve observations. 51st Lunar and Planetary Science Conference, #2897.
5. Taylor, P. A., Rivera-Valentín, E. G., (**incl. McGlasson, R. A.**), (2019). Radar and Optical Observations of Equal-Mass Binary Near-Earth Asteroids (190166) 2005 UP156 and 2017 YE5. 50th Lunar and Planetary Science Conference, #2945.
6. ***McGlasson, R. A.**, Marshall, S. E., et al., (2019). Shape Model of Potentially Hazardous Asteroid (1981) Midas from Radar and Lightcurve Observations. American Astronomical Society Meeting #233, 255.03.
7. Taylor, P. A., Brozovic, M., et al. (**incl. McGlasson, R. A.**), (2018). Radar and Optical Observations of Equal-Mass Binary Near-Earth Asteroid 2017 YE5. American Astronomical Society Division of Planetary Sciences meeting #50, 508.07.
8. Marshall, S. E., Cobb, A., et al. (**incl. McGlasson, R. A.**), (2018). Using Bayesian Optimization to Find Asteroids' Pole Directions. American Astronomical Society Division of Planetary Sciences meeting #50, 505.01D.
9. ***McGlasson, R. A.**, Panesar, N. K., Sterling, A. C., Moore, R. L., (2017). Magnetic Flux Cancellation as the Trigger Mechanism of Solar Coronal Jets. American Geophysical Union Fall Meeting 2017, #SH43A-2796.

Awards and Grants

Purdue TA Honor Roll:	Fall 2021
Purdue Student Service-Learning Grant:	2021
<i>In support of development of the Astronomy on Tap program</i>	
NSF Graduate Research Fellowship Program, Honorable Mention:	2021
Lunar and Planetary Institute Career Development Award:	2021
<i>52nd Lunar and Planetary Science Conference</i>	
Macalester Physics Department's Dr. Sherman W. Schultz Memorial Award:	2020
<i>For academic excellence and outstanding research</i>	
Chambliss Astronomy Achievement Award Student Prize:	2019

Technical Skills

Python | IDL | Latex | Bash | Microsoft Office | ArcGIS | ENVI | Ground Penetrating Radar

Teaching Experience

- EAPS 111: Physical Geology Teaching Assistant:** *Fall 2020, Fall 2021, Fall 2022*
- Undergraduate Lab TA for Purdue introductory geology class
- EAPS 100: Planet Earth Teaching Assistant:** *Spring 2022*
- Undergraduate TA for Purdue introductory Earth science class
- Observational Astronomy Preceptor:** *Spring 2020*
- Undergraduate preceptor for Macalester upper-level observational astronomy course
- Modern Astronomy Preceptor:** *Spring 2019*
- Undergraduate preceptor for Macalester introductory Modern astronomy course

Volunteer Service and Outreach

- "Leading Women to Space Careers" Mentor:** Graduate student mentor for pilot mentorship program in the Purdue Honors College *2022*
- EAPS Graduate Student Mentorship Program Coordinator:** Organized mentorship pairs and development programs to support incoming graduate students in Purdue EAPS. *2022*
- Prospective Student Expo Coordinator:** Organized the prospective student interview weekend for Purdue EAPS. *2022*
- Astronomy on Tap Organizer:** Established and serve as primary organizer for the Lafayette, IN satellite series of "Astronomy on Tap". *Fall 2021 – Present*
- Radio Host:** Radio Astronomy – Macalester College's astronomy talk show *Fall 2017 – Spring 2020*
- Host and Telescope Operator:** Macalester College Public Observing Nights *Fall 2017, Fall 2019*
- Arecibo Observatory Noche de Observación:** "Ask a Scientist" booth *Summer 2018*
- NASA in the Park Presenter:** Presented vacuum chamber experiments to the public at the annual NASA in the Park event, Huntsville, AL *June 2017*
- Astronomy Guest Speaker:** Minnetonka Middle School East 8th grade science classes *Spring 2018*
- Astronomy Presenter:** Eden Prairie High School AP Physics classes *Spring 2017*
- Destination Imagination Volunteer:** judge for Destination Imagination, a global creative problem solving competition *January 2017 – January 2020*