

Emileigh S. Shoemaker

Contact Information

Address: Lunar and Planetary Laboratory, University of Arizona, Kuiper Space Sciences Building, 1629 E University Blvd., Tucson, AZ 85721

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Research and Teaching Experience

2018-Present, Graduate Research Associate, **Lunar and Planetary Laboratory**, University of Arizona

Summer 2020, Intern, **NASA Goddard Space Flight Center**, Greenbelt, Maryland

2017-2018, Student Researcher, **NASA Goddard Space Flight Center**, Greenbelt, Maryland

Summer 2017, Intern, **NASA Goddard Space Flight Center**, Greenbelt, Maryland

Summer 2016, Intern, **NASA Goddard Space Flight Center**, Greenbelt, Maryland

2015-2017, Undergraduate Research Assistant, **Towson University**, Towson, Maryland

2015-2017, Teaching Assistant, Introduction to Astronomy I: Lecture and Laboratory (ASTR 161), **Towson University**, Towson, Maryland

Education

2018- Present, Lunar and Planetary Laboratory, **University of Arizona**, Graduate Program in Planetary Sciences, Working Dissertation Title: "*Orbital and Ground Penetrating Radar Investigations of Volcanic Materials on Earth and Mars*," Advisor: Lynn M. Carter

2021, MSc, Planetary Sciences, **University of Arizona**

2013-2017, BS, Physics, Astrophysics Concentration, **Towson University**, Capstone: "*Quasar Absorption Lines and SDSS Galaxies*," Advisor: Jennifer E. Scott

Field Experience

2019, NASA Goddard Space Flight Center, Goddard Instrument Field Team-led campaign to 2014-2015 Holuhraun eruption site and Askja Volcano, Iceland

2019, Planetary analogs and geophysical field methods field trip to the Zuni-Bandera Volcanic Field, New Mexico

2019, Planetary analogs field trip to the Flagstaff area, Arizona

2018, Volcanology field methods trip to the Superstition Mountains, Arizona

2018, Planetary analogs field trip to Canyon de Chelly, Painted Desert, and Petrified National Forest, Arizona

Awards and Scholarships

2020, John C. Mather Nobel Scholar

2017, Society of Physics Students Marsh W. White Outreach Award, Project lead, Outreach Proposal: “*Science After Hours*”

2016, Towson University, Pelham Award, Physics Junior of the Year

2013-2017, Towson University Department of Physics, Astronomy, and Geosciences Scholarship

2013-2017 Towson University Provost Scholarship

Publications in Preparation

Shoemaker, E. S., Carter, L. M., Garry, W. B., Morgan, G. A., (in prep.) Investigating the Subsurface Northwest of Ascraeus Mons Using Radar Sounding.

Peer Reviewed Publications

Shoemaker, E. S., Baker, D. M. H., and Carter L. M. (2018). Radar Sounding of Open Basin Lakes on Mars. *Journal of Geophysical Research: Planets*, 123(6), 1395-1406. doi: 10.1029/2018JE005591.

Selected Conference Publications

Shoemaker, E. S., Baker, D. M. H., Richardson, J. A., Scheidt, S. P., Whelley, P., Carter, L. M., (2020). Investigating Buried Ice at Askja Volcano, Northern Iceland using Ground Penetrating Radar: A Planetary Analog Perspective. AGU Fall Meeting 2020.

Shoemaker, E. S., Carter, L. M., Garry, W. B. & Morgan, G. A., (2020). Radar Sounding of Lava Flows Northwest of Ascraeus Mons, Mars. 51st LPSC Meeting, Abstract 2752, The Woodlands, TX.

Richardson, J. A., Baker, D. M. H., **Shoemaker, E. S.**, Scheidt, S. P., Whelley, P. L., Young, K. E., Graff, T. G., Achilles, C. N., Carter, L. M., Hamilton, C. W., (2020). Prospecting Buried Ice with Ground Penetrating Radar at Askja Volcano, Northern Iceland. 51st LPSC Meeting, Abstract 2326, The Woodlands, TX.

Shoemaker, E. S., Baker, D. M. H., Richardson, J. A., Scheidt, S. P., Whelley, P. L. & Carter, L. M., (2020). Subsurface Structure of the 1961 Lava Flows at Askja, Iceland. 51st LPSC Meeting, Abstract 2741, The Woodlands, TX.

Shoemaker, E. S., Carter, L. M., Garry, W. B., (2019). Radar Sounding of Lava Flows in the Tharsis Province, Mars. 50th LPSC Meeting, Abstract 2611, The Woodlands, TX.

Shoemaker, E. S., Baker, D.M.H., Carter, L.M., (2018). Radar Sounding of Open Basin Lakes on Mars, 49th LPSC Meeting, Abstract 1612, The Woodlands, TX.

Shoemaker, E. S., Baker, D.M.H., Carter, L.M., (2017). SHARAD Radar Survey of Ancient Basin Stratigraphy on Mars, 48th LPSC Meeting, Abstract 1658, The Woodlands, TX.

Shoemaker, E. S., Scott, J.E., Oldak, K. (2017). Quasar Absorption Lines and SDSS Galaxies, 229th AAS 2017 Winter Meeting, Grapevine, TX.

Shoemaker, E. S., Laubner, D., Scott, J. E. (2016). A Bayesian method for finding galaxies that cause quasar absorption lines, 227th AAS 2016 Winter Meeting, Kissimmee, FL.