Lori nicole willhite

lnw@umd.edu (760) 793-5062

EDUCATION

**University of Maryland**

Ph.D. Geology, in progress (anticipated graduation: May 2023)

Focus: planetary geochemistry, isotope geochemistry, cosmochemistry, space flight instrumentation

Advisor: Ricardo Arévalo, Jr.

**University of California Santa Barbara**

M.S. Earth Science, 2019

B.A. Chemistry, 2016

B.S. Biological Psychology, 2016

Minor, Earth Science, 2016

AWARDs, Grants, & Fellowships

Dean’s Fellowship Award, University of Maryland College Park, 2019

Earth System Science Interdisciplinary Center (ESSIC) Student Travel Award, 2019

George Tunnel Endowed Fellowship, Department of Earth Science, UCSB, 2019

Global Field Travel Award, Department of Earth Science, UCSB, 2019

Service to Undergraduate and Graduate Well-Being Award, Royal Geologic Society of Goleta, 2019

Grad Slam! Winner for best oral presentation, Department of Earth Science, UCSB, 2018

Preston Cloud Award, Department of Earth Science, UCSB, 2018

Graduate Research Grant, Geological Society of America, 2018

Conference Travel Grant, Graduate Student Association, UCSB, 2018

Undergraduate Research and Creative Studies Grant, UCSB 2016

Phi Lambda Upsilon Award, Department of Chemistry and Biochemistry, UCSB, 2016

ACADEMIC EXPERIENCE

**NASA Goddard Space Flight Center**

Research Assistant August 2019 – present

Testing of a novel prototype mass spectrometer for ocean words airless rocky bodies. Leader of weekly data analysis and science team meetings for the CORALS and CRATER development projects at NASA GSFC. 10-40 hours/week

**Invited talk: Lunar Exploration Assessment Group (LEAG) Virtual Meeting February 7, 2020**

Characterization of Regolith and Trace Economic Resources (CRATER) via NASA DALI Program

**AGU Fall Meeting 2018 Oral Presentation December 10, 2018**

The Icelandic Mantle Plume: A Sixty-Two Million-Year Record of the Deep Mantle

**NASA Jet Propulsion Laboratory**

**Applied Science and Systems Engineering Intern: AIRS Mission June 2018-August 2018**

Applied data visualization techniques to atmospheric and weather data from the AIRS instrument on the Aqua satellite. 40-60 hours/week

**Non-Traditional Stable Isotope Short Course, Lawrence Berkeley National Laboratory**

**Attendee December 2016**

Attended the series of talks and discussions about non-traditional isotope geochemistry, method development, isotope theory, and applications of isotope chemistry.

**High Temperature Isotope Geochemistry, University of California Santa Barbara**

**Undergraduate Research Assistant April 2016-June 2017**

Mineral collection; analyses of isotope, major, and trace element data; and discussion of pertinent literature. Hrs/week varied.

**Stable Isotope Laboratory, University of California Santa Barbara**

Undergraduate Research Assistant December 2016 – February 2017

Performing various sample preparations and chemical analyses of stalagmite samples. Includes collaboration with many departments and labs on campus including Materials Science and Marine Sciences. 5-10 hours/week.

**Neuropharmacology Lab, University of California Santa Barbara**

Undergraduate Research Assistant January 2014 – March 2014

Worked independently performing Western Blotting techniques including preparation and execution of electrophoresis, blocking and antibody incubation, and developing film. 10-15 hours/week.

**META Lab, University of California Santa Barbara**

Undergraduate Research Assistant December 2012 – October 2013

Worked with participants in a cognitive psychology to collect EEG and other physiological data during mental time travel tasks. 6 hours/week

Relevant WORK and VOLUNTEER EXPERIENCE

**Kids Excelling in Math and Science (KEMS) Outreach**

Volunteer January 2020 – present

Weekly science outreach at Hyattsville Middle School. Plan and facilitate small-group activities centered around socially important science topics using a hands-on pedagogy. Wrote a successful grant proposal to fund activities.

**Senior Dog Sanctuary November 2020-present**

**Volunteer**

Take care of shelter dogs on weekends.

**Campus Learning Assistance Services, University of California Santa Barbara**

ACE Chemistry and Academic Skills Tutor September 2016 – June 2017

Worked closely with Academic Skills instructors as well as professors within the Department of Chemistry and Biochemistry to build lesson plans and teach general chemistry and successful study skills to first generation college students and/or students who are underrepresented in STEM, and/or students from low Academic Performance Index (API) high schools who come from backgrounds with limited resources or exposure to higher education. 10 hours/week

**Science Night Outreach**

Volunteer September 2017 – June 2019

Volunteer at local elementary school science nights to teach students about geology including minerals, rocks, fossils, earthquakes, etc.

**Mental Health Peer, University of California Santa Barbara** **December 2013-December 2014**

Worked with psychologists, psychiatrists, nutritionists, staff at the Women’s center, etc., at UCSB to create and lead interactive workshops about mental and community health topics. Promoted awareness of campus and off-campus mental health resources. Served on panels about mental health as well as sexual violence and domestic violence.

Skills

**Computer skills**

Proficient with MATLAB; Python; Mathematica; Microsoft Word, Excel, PowerPoint; Adobe Illustrator, After Effects, Photoshop. Data visualization. Motion graphics and 2D animation.

**Professional skills**

Enjoy public speaking and presenting. Strong leadership, mentoring, communication, and teamwork skills. I enjoy working with a large, diverse team and meeting new people. Adept at networking and collaboration strategy.

**Laboratory techniques**

Column chromatography in a clean lab, thermal ionization mass spectrometry, Orbitrap mass spectrometry, electron probe microanalysis, scanning electron microscopy, simple and fractional distillation, titration, gravimetric analysis

MEMBERSHIPS

Geological Society of America Geochemical Society Mineralogical Society of America American Geophysical Union Association of Women Geologists Women in Science and Engineering Club

Publications

Willhite, L. N., Jackson, M. G., Blichert‐Toft, J., Bindeman, I., Kurz, M. D., Halldórsson, S. A., et al. (2019). Hot and heterogenous high‐3He/4He components: New constraints from proto‐Iceland plume lavas from Baffin Island. *Geochemistry, Geophysics, Geosystems*, 20. <https://doi.org/10.1029/2019GC008654>

References available upon request.

For more information feel free to visit my personal website at lorinicolewillhite.com