Megan Mave

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Experience

Graduate Research Assistant, University of Montana **July 2016 to Present**

My research is focused on photochemical cycling of reactive oxygen species (ROS) in hot springs, and refining different pathways of their formation and decay. I am interested in how ROS cycling interrelates with transition metal redox cycling, and the implications of such on biosignature preservation, primarily through iron entombment. Much of my research is funded by NASA's Astrobiology Institute and SETI, and my findings will be applied to Mars through analog hot springs at Yellowstone National Park.

Graduate Teaching Assistant, University of Montana **August 2016 to Present**

Responsible for setting up materials for weekly labs, preparing and presenting weekly lectures on relevant material, introducing laboratory activities, monitoring and resolving issues during lab activities, grading activities, entering grades, maintaining class webpage, writing, proctoring, and grading lab midterms and finals, creating extra credit activities, and resolving student issues as they arise throughout the semester. Instructor for Physical Geology lab (GEO 102) and History of Life (GEO 106).

Undergraduate Teaching Assistant, OSU School of Earth Sciences **January 2015 to December 2015**

Selected by the OSU School of Earth Sciences faculty to teach earth science laboratory courses. Planned and presented lecture material weekly for the lab component of the course. Responsible for grading labs weekly, problem resolution in class, and holding office hours. Instructor for 4 courses: Planet Earth, Earth Through Time, Mineralogy, and Petrology.

Research Assistant, Byrd Polar and Climate Research Center **September 2014 to May 2015**

Collaborative research on the SWOT (Surface Water and Ocean Topography) Science Definition Team in collaboration with NASA under Dr. Michael Durand. Worked with virtual reference station network-based, real time kinematic GPS and level loggers to measure the elevation of the Olentangy River with an accuracy of 3cm, and a range finder to manually measure the width of the river at 20 different locations over a 4 month period. Also worked on processing and interpreting the collected data. Research objective was to create a method for ground-based predictions of spatial and temporal changes in water storage in the event of a flood wave. This data could serve as a continuity check for satellite-derived measurements.

Education

The Ohio State University **Graduated: May 2016**

B.S. Petroleum Geology & Geophysics

- **Major GPA:** 3.86 **Overall GPA:** 3.63
- **Relevant Coursework:** Applied Geophysics, Data Analysis, Energy Geophysics, Field Geology, Geochemistry, Geomicrobiology, Mineralogy, Advanced Oceanography, Petroleum Geology, Petrology, Sedimentology & Stratigraphy, Structural Geology.
- **Undergraduate Thesis Project:** Collaborative project with a graduate student under Dr. Audrey Sawyer, and in conjunction with the EPA, studying the degredation of microsystin (one of the most common and harmful hepatotoxins released by cyanobacteria) in surface water and shallow groundwater, and the susceptibility of shallow coastal aquifers to microsystin contamination. The

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experiment aimed to quantify the transport of microsystin and a conservative chloride tracer through Lake Erie sediments in a constructed wave tank to simulate natural conditions.

University of Montana **Expected Graduation: May 2018**

M.S. Geosciences/Geochemistry

- **Major GPA:** 4.00 **Overall GPA:** 3.95
- **Relevant Coursework:** Chemistry of Hot Springs, Environmental Chemistry, Imperial Barrel Competition, Microbial Physiology, Sedimentary Basin Analysis, Sedimentary Petrology.

Honors & Activities

- **Honors:** Sigma Xi Grant-in-Aid of Research (2017, 2015), Undergraduate Research Scholar Award (Fall 2015), Buschman Earth Science Scholarship (2015-2016), Edmund Spieker Memorial Scholarship for Field Experience (Summer 2015), University Trustees Scholarship (4 years).
- **Affiliations:** American Association of Petroleum Geologists (AAPG; Treasurer, 2017), Abilities: Volunteer and Activism Student Group (Secretary 2014, Treasurer 2015), Association for Women Geoscientists (AWG member since 2015), Geological Society of American (GSA member since 2016), North Coast Isshinryu Karate Federation (black belt), Sigma Gamma Epsilon Geology Honors Society (Member since 2015).
- **Conferences and Awards:** AAPG ACE 2015 in Denver, CO; AAPG Imperial Barrel Awards Rocky Mountain Section 2017, 3rd place finalist.

Technical Skills

- **Software:** ADCP, ArcGIS, BasinMod, MATLAB, Petrel, YSI.
- **Applied:** Ample field experience with water sampling of rivers, lakes, and hot springs. 7+ weeks of geologic mapping and related fieldwork. Experience with colorimetric and fluorometric chemical analyses in both lab and field settings. Experience with IC and ICP, sidewall and whole core interpretation, geophysical well log manipulation and interpretation, 2D and limited 3D seismic interpretation, some experience with basin modeling and subsidence curve generation, total station surveying, water filtering, YSI probe measurements, and experience installing and sampling piezometers, level loggers, and seepage meters.

References

Dr. Nancy W Hinman	Dr. Anne Carey	Dr. Audrey Sawyer
Graduate Research Advisor	Professor and Advisor	Undergraduate Research Advisor
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