

Emma Lodes

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Professional Summary

Creative and motivated Doctoral Researcher in Geology, conducting research based in geomorphology and geochemistry. An enthusiastic researcher and learner skilled in problem solving, written and verbal communication, leadership, and teamwork. Interested in conducting broad, interdisciplinary and collaborative research on Earth systems, and leading field campaigns.

Skills

- Field skills: Mapping, measuring section, identification of sedimentary structures, interpretation of depositional environments and geomorphological features, sample collection for geochemical and geochronological methods
- Lab skills: Mineral separation, cosmogenic radionuclide sample processing, including work with HF and other concentrated acids, column chemistry, LASS-ICP-MS, ICP-OES
- Data reduction and analysis: U-Pb, trace element (Iolite and IgorPro), cosmogenic nuclide erosion rates
- Sedimentary petrology and point counting; provenance analysis
- Geophysics: Seismic, gravity, magnetics
- Coding: MATLAB, R
- Writing and communication skills: journalism, blogging
- Language: Fluent in Spanish and German
- Group organization, leadership and teamwork; creative problem solving

Education

DOCTORAL CANDIDATE: GEOLOGY | CURRENT | GFZ-POTSDAM AND FREIE UNIVERSITÄT BERLIN

- Research projects in Geomorphology and Earth Surface Geochemistry; studying the effect of climate on landscape evolution and erosion along the Coastal Cordillera in Chile.

MASTERS OF SCIENCE: GEOLOGY | 2019 | NORTHERN ARIZONA UNIVERSITY

- Thesis: Geochronologic and Stratigraphic Evidence of Laurentian Subduction Initiation: Inyo Mountains, eastern California. Advisor: Nancy Riggs.
- Research-based thesis involved sedimentology and basin analysis, detrital zircon geochronology, and provenance to identify the timing and nature of Permian arc initiation and associated basin development off the west coast of Laurentia.
- Coursework: Depositional Systems, Advanced Structural Geology, Regional Tectonics, Provenance, Sedimentary Petrology, Applied Geophysics, Geology of the Colorado Plateau, and Statistics.
- Representative for the Geological Society of America Cordilleran Section at Geosciences Congressional Visit Day, Washington, DC.

- Two-time recipient of the Geological Society of America Graduate Student Research Grant, the Pioneer Natural Resources Research Award, and the Ronald Blakey Scholarship. Recipient of the Basin-Structure Award in Geology.
- Presented a talk at the 2017 Annual GSA Meeting, Seattle, Washington, and a poster at the 2018 GSA Rocky Mountain and Cordilleran joint section meeting, Flagstaff, AZ.

BACHELOR OF ARTS: GEOLOGY | 2016 | OCCIDENTAL COLLEGE

- Thesis: The Evolution of a Rift: Geochemical Analysis of Arc-Rift Transition Volcanic Rocks: Loreto Basin, Baja el Sur, México.
- Graduated Magna Cum Laude with a GPA of 3.82.
- Coursework: Sedimentology, Structural Geology, Ecology, Ecological Restoration, Earth's Climate, GIS, Mineralogy, Field Methods, Geochemistry, Earth's Climate, Chemistry, Calculus, and Economics.
- Recipient of an NSF Grant for Undergraduate Geology Research; participated in the Baja Basins Research Experience for Undergraduates; studied physical volcanology, geochemistry, and geochronology in Santa Rosalia Basin to understand rift initiation.
- Studied abroad at the University of Otago in New Zealand; coursework includes Evolution of New Zealand Biota, Tectonics, and Statistics.
- Served as President of the Oxy Hiking Club; Member of the Phi Beta Kappa Honor Society and Recipient of the Occidental Honors Scholarship.
- Presented a poster at the 2015 Annual GSA Meeting, Baltimore, Maryland.

Experience

LABORATORY INSTRUCTOR | NORTHERN ARIZONA UNIVERSITY | 2016 TO 2019

Instructed Geologic Disasters labs, prepare short lectures, grade labs, and create pre- and post- lab assignments.

EDITOR, WRITER AND CARTOONIST | THE OCCIDENTAL WEEKLY | 08/2012-06/2016

Section editor for Features, Arts and Entertainment, and Opinions. Wrote an international column in the Opinions section and a Geology column in the News section. Created cartoons focusing on science and environmental policy.

PROJECT SUPERVISOR | AMIGOS DE LAS AMERICAS | 05/2013-08/2013

Supervised volunteers in home stays in Oaxaca, Mexico. Planned and coordinated volunteer initiatives including arranging logistics with community governments in Spanish; developed and lead multiple training sessions for ~60 volunteers.

BACKPACKING GUIDE | QUETZALTREKKERS | 12/2011-04/2012

Lead backpacking trips to local volcanoes based out of Leon, Nicaragua, informing backpackers of local and regional geology, flora, and fauna; developed and managed fundraising events.

SKI INSTRUCTOR | THE SUMMIT AT SNOQUALMIE | 11/2008-05/2011

Taught kids age 5-12 to ski; developed lesson plans and activities; taught both group and private lessons.