

# Jennifer R. McLeod

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## Education

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<b>Oregon State University (OSU)</b> Doctor of Philosophy in Geology	<b>09/2019- 06/2024</b> Cumulative GPA: 4.0
<b>Central Washington University (CWU)</b> Master of Science in Geological Sciences	<b>09/2017- 12/2019</b> Cumulative GPA: 4.0
<b>University of Wisconsin- Oshkosh (UWO)</b> Bachelor of Science in Geology	<b>01/2013- 12/2016</b> Cumulative GPA: 3.61

## Teaching Experience

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### OSU, College of Earth, Ocean, and Atmospheric Sciences

**Instructor** **09/2019-12/2019**

*Physical Geology*

- Served as the lead instructor for the lab portion of the course, which included lecturing about introductory geology topics (e.g., reading topographic maps, making cross sections, mineral ID, etc.) and grading class material.

**Graduate Teaching Assistant** **01/2020-06/2024**

*Advanced Field Geology | Living with Active Cascade Volcanoes | Earth Materials II: Petrology | Introduction to Field Geology | Minerals, Energy, Water, and the Environment | Geochemistry |*

- Either independently taught or assisted the lead professor in teaching students in class or in the field.
- Graded all lab activities, maps, quizzes, exams, etc. in a timely manner.

### CWU, Department of Geological Sciences

**Instructor** **04/2018-06/2018**

*Introductory Geology*

- Solely responsible for the instruction of four lab sections.
- Ran bi-weekly field trips to local outcrops and areas of interest that corresponded to course content.

**Graduate Teaching Assistant** **09/2017-04/2018**

*Rocks and Minerals | Paleobiology | The Cryosphere | Environment and Society*

- Assisted the lead professor in the preparation and execution of lab exercises and field trips.
- Gave lectures whenever the main instructor is unable to attend class and graded coursework in a timely manner.

### UWO, Geology Department

**Undergraduate Teaching Assistant** **02/2016- 12/2016**

*Physical Geology | Mineralogy*

- Assisted instructor in teaching class, putting together course content (e.g., quizzes, labs, etc.), and grading class assignments.

**Undergraduate Geology Tutor** **02/2016- 12/2016**

*Physical Geology | Environmental Geology | Evolution of the Earth*

## Pedagogical Training

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**Theories of Teaching and Learning in Higher Education** **2023**

- 10-week class at OSU on the examination and analysis of theories and research related to teaching and learning in higher education.

**The Inclusive Classroom: Difference, Power, and Discrimination** **2021**

- Quarter-long class at OSU focused on examining critical pedagogies and curriculum transformation. Used in class discussions, literature review, and hands on projects to gain skills for developing inclusive courses.

## Research Experience

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### PhD Research (Advisor: Dr. Adam Kent)

07/2019- 06/2024

Research Committee: Dr. Erik Klemetti, Dr. Anita Grunder, Dr. Frank Tepley

OSU College of Earth, Ocean, and Atmospheric Sciences

- Collected and analyzed samples from the Tumalo Volcanic Center of central Oregon to understand how melt formation is controlled by regional tectonism and determine the genetic relationships among eruptive units. This project consists of petrographic analysis, whole rock geochemistry (XRF), mineral and melt geochemistry (electron microprobe and LA-ICP-MS), Ar-Ar dating, and modeling of results using the Magma Chamber Simulator.
- Project funded by NSF grant to Dr. Adam Kent and Dr. Erik Klemetti.

#### Personally Awarded Grants:

**2022:** USGS-NSF INTERN Fellowship at USGS Menlo Park (\$7800)

**2022:** Central Oregon Geological Society Student Research Grant (\$1100)

**2021-2022:** Geological Society of America Travel Grants (\$350 & \$750)

**2021:** Oregon State University G&G Award (\$500)

**2021:** George and Danielle Sharp Fellowship (\$12,500)

### Co-Advising Undergraduate Research Project (Student: Jaycee Chango)

01/2021-06/2022

OSU College of Earth, Ocean, and Atmospheric Sciences

- Served as the lead research advisor/ mentor for an undergraduate student.
- This involved developing a research project related to the analysis of plagioclase from Todd Lake volcano and Triangle Hill volcano, advising the undergraduate student as they complete the project, and assisting with conference abstract submissions and presentations.
- Jaycee received 1<sup>st</sup> runner up for her poster in the undergraduate student category at GSA Cordilleran.

### Master's Research (Advisor: Dr. Wendy Bohrson)

09/2017- 12/2019

Research Committee: Dr. Gerhard Wörner and Dr. Chris Mattinson

CWU Department of Geological Sciences

- Used the Magma Chamber Simulator (MCS) and Melts software to model recharge, assimilation, and fractional crystallization processes for much of Parinacota volcano's eruptive history (52 ka to present). The MCS software models major and trace element and isotope data.
- Project funded by NSF grant to Dr. Wendy Bohrson.

### Undergraduate Research (Advisor: Dr. Jennifer Wenner)

09/2014- 05/2017

UWO Geology Department

- Used collected major and trace element data in correlation with plagioclase textures to determine what open system magma chamber processes occurred at the Poison Lake Chain in Northern California.
- To do this, I collected and mapped samples, prepared samples for whole rock analysis and thin section preparation and analyzed mineral phases via electron microprobe analysis.
- Project partially funded by an NSF grant to Dr. Jennifer Wenner.

#### Personally Awarded Grants:

**2016:** Geological Society of America (\$500)

**2016:** CW Fetter Endowed Research Fund - UWO Geology Dept. (\$700)

**2015:** Sigma Xi (\$500)

**2015:** CW Fetter Endowed Research Fund - UWO Geology Dept. (\$650)

## DEI Focused Outreach and Involvement

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### CEOAS Community of Practice

2022-2023

- Organized with a group of faculty members and students within the College of Earth, Ocean, and Atmospheric Sciences at OSU with the goal of developing and upholding respectful and inclusive practices while sharing science with non-scientific communities.

### Onsite Coordinator- Inspiring Girls Expeditions

03/2022-07/2022

- Helped organize and run a 2-week expedition on Mount Baker for high school girls and gender expansive youth. The expedition focused on teaching science, art, and mountaineering skills.

<b>DEI Graduate Student Committee in Geosciences</b>	<b>01/2022-03/2022</b>
<ul style="list-style-type: none"> <li>• Bi-weekly meetings used to develop DEI related activities within CEOAS (e.g., DEI seminar, reading group, broader impacts workshop, etc.)</li> </ul>	
<b>Volcano Demos for K-12 and Undergraduate Students</b>	<b>2018-2022</b>
<ul style="list-style-type: none"> <li>• Hosted science demonstrations (e.g., trash can volcano activity) at outreach events, including Valley View Elementary School Stem Night, the Yakima Rock Show, Louis Stokes Alliance for Minority Participation at OSU, Wild Cat Days at CWU, and the CWU Majors Fair.</li> <li>• Helped develop a handbook for volcanology-focused outreach activities for future graduate students at OSU to use.</li> </ul>	
<b>GeoGirls</b>	<b>08/2018</b>
<ul style="list-style-type: none"> <li>• Volunteered as a geoscientist mentor for GeoGirls: a 5-day, 4-night camp at Mount St. Helens that hosts middle school girls and allows them to explore the field of geology.</li> </ul>	
<b>Science Communication, Engagement, and Outreach</b>	
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<b>Invited Speaker at Oconto Falls Middle School in Wisconsin</b>	<b>04/2023</b>
<ul style="list-style-type: none"> <li>• Spoke to middle schoolers about my path into the geosciences as a first-generation student.</li> </ul>	
<b>Invited Speaker at Washington State University</b>	<b>04/2022</b>
<ul style="list-style-type: none"> <li>• Presented research on central Oregon volcanology to undergraduate students at WSU.</li> </ul>	
<b>GSA Field Trip</b>	<b>10/2021</b>
<ul style="list-style-type: none"> <li>• Led a section of a GSA field trip to the Tumalo Volcanic Center and participated in a 3-day field trip to the Deschutes Formation.</li> </ul>	
<b>Search Committee- ECR Advisory Committee</b>	<b>05/2021-07/2021</b>
<ul style="list-style-type: none"> <li>• Served on a hiring committee as an early career representative for the Barrow Chair in Mineral Resource Geology professor position at OSU.</li> </ul>	
<b>Magma Chamber Simulator Workshop</b>	<b>01/2021-03/2021</b>
<ul style="list-style-type: none"> <li>• Co-hosted a weekly workshop teaching OSU and PSU students and faculty how to use the Magma Chamber Simulator modeling tool. This included conducting one-hour weekly presentations and organizing guest speakers with related expertise.</li> </ul>	
<b>New Student GTA Trainer</b>	<b>09/2020</b>
<ul style="list-style-type: none"> <li>• Assisted in training session for new graduate student teaching assistants with a focus in teaching techniques and handling issues that GTAs may encounter.</li> </ul>	
<b>ASU SIMS Workshop</b>	<b>01/2020</b>
<ul style="list-style-type: none"> <li>• Participated in a three-day workshop on the ASU Tempe campus where I was trained on the Cameca 6f and NanoSIMS 50 L.</li> </ul>	
<b>UWO Geology Club</b>	<b>09/2015-12/2016</b>
<ul style="list-style-type: none"> <li>• Hosted potlucks for after biweekly speaker series, volunteered to work at fundraiser events and the Oshkosh Rock and Mineral show.</li> </ul>	

## Publications

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- McLeod, J.R.**, 2024. A Burst of Silicic Volcanism in Central Oregon Cascades: Insights into the Eruption History of the Tumalo Volcanic Center, *Graduate Theses and Dissertations*, Oregon State University.
- McLeod, J.R.**, Stelten, M., Kent, A., Klemetti, E., (*in prep*) The eruptive chronology of the Tumalo Volcanic Center, Central Oregon, intended submission for the *Journal of Volcanology and Geothermal Research*.
- McLeod, J.R.**, Wenner, J.M., Teasdale, R., (*in prep*) Plagioclase textures reveal a complex magmatic history for basalts in the Poison Lake chain, Lassen Region, California, intended submission for the *Journal of Volcanology and Geothermal Research*.
- McLeod, J.R.**, 2019. Quantifying magma recharge at Parinacota volcano, northern Chile (52 ka- recent): Insight from the Magma Chamber Simulator, *All Master's Theses*. 1313. <https://digitalcommons.cwu.edu/etd/1313>

## Conference Presentations \*poster, †oral

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- McLeod, J.R.\***, Kent, A., Klemetti, E., 2023. Evaluating magmatic storage conditions and the regional tectonic constraints of the Tumalo Volcanic Center, Central Oregon, USA, *Goldschmidt Abstracts*.
- McLeod, J.R.†**, Stelten, M., Kent, A., Klemetti, E., 2022. The eruptive chronology of the Tumalo Volcanic Center, Central Oregon, *Geological Society of America Abstract with Programs*.
- McLeod, J.R.†**, Kent, A., 2022. Insight into regional tectonics revealed through geochemical and petrographic analysis of the rhyolites of the Tumalo Volcanic Center, Central Oregon, *Cordilleran Geological Society of America Abstracts with Programs*.
- Chango, J., **McLeod, J.R.\***, Kent, A., 2022. Textural and geochemical analysis of plagioclase from Todd Lake Volcano and Triangle Hill Dome Complex of Central Oregon, *Cordilleran Geological Society of America Abstracts with Programs*.
- McLeod, J.R.\***, Kent, A., Klemetti, E., 2021. Characterizing silicic magma generation within central Oregon: the Tumalo Volcanic Center, *Geological Society of America Abstracts with Programs*.
- Scroggs, A., **McLeod, J.R.\***, Klemetti, E., Kent, A. 2021. Exploring correlations between Tumalo Volcanic Center deposits with quartz and plagioclase cathodoluminescence zoning patterns, *Geological Society of America Abstracts with Programs*.
- McLeod, J.R.\***, Scroggs, A., Kent, A., Klemetti, E., 2020. Probing magma storage conditions and the controls of silicic magma formation: Tumalo Volcanic Center, central Oregon, *AGU Fall Meeting Abstracts*.
- Wenner, J.M, **McLeod, J.R.\***, Salchert, N., Teasdale, R., 2019. Complex magma evolution illustrated by basalt crystal populations in the Poison Lake Chain, Lassen Region, southernmost Cascades, *Geological Society of America Abstracts with Programs*. Vol. 51. No. 5.
- McLeod, J.R.†**, Bohrson, W.A., 2019. Quantifying magma recharge and assimilation at Parinacota volcano, northern Chile (52 Ka – recent), *Goldschmidt Abstracts*.
- McLeod, J.R.\***, Bohrson, W.A., 2019. Insight into arc magma recharge and fractional crystallization processes using the Magma Chamber Simulator: Parinacota volcano, northern Chile, *AGU Fall Meeting Abstracts*.
- McLeod, J.R.\***, Wenner, J.M., Teasdale, R., Anderson, S., 2017. Plagioclase textures reveal a complex magmatic history for basalts in the Poison Lake chain, Lassen Region, California, *Cordilleran Geological Society of America Abstracts with Programs*. Vol. 49, No. 4, p.34.
- McLeod, J.R.\***, Wenner, J.M., Teasdale, R., 2016. Crustal processing recorded in evolved basalts of the Poison Lake chain, southern Cascade Range, California, Poster presentation at University of Wisconsin Oshkosh Student research day: Celebration of Scholarship.
- McLeod, J.R.\***, Wenner, J.M., Teasdale, R., 2015. Crustal processing recorded by plagioclase in evolved basalts of Bogard Buttes in the Poison Lake chain, Lassen Region, California, *Geological Society of America Abstracts with Programs*. Vol. 47, No. 7, p.577.

## Scholarships and Awards

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- 2024:** Excellence in Undergraduate Mentoring (\$500)
- 2024:** OSU Graduate Student Teaching Award (\$1,000)
- 2024:** Cindy Rose All Igneous Graduate Education Scholarship (\$1,500)
- 2023:** Geology Fellowship for the PNW (\$2,000)
- 2022:** USGS-NSF INTERN Fellowship at USGS Menlo Park (\$7800)
- 2021:** George and Danielle Sharp Fellowship (\$12,500)
- 2021:** Oregon Lottery Graduate Scholarship (\$2,250) awarded for meritorious record of accomplishment, nominated by the College of Earth, Ocean, and Atmospheric Sciences, Geology program
- 2020:** Jean Bowman Clark Graduate Education Scholarship (\$1,000) in recognition of outstanding performance, success, and dedication, nominated by the College of Earth, Ocean, and Atmospheric Sciences, Geology Program
- 2016:** Excellence in Undergraduate Research Award from the University of Wisconsin- Oshkosh for poster presentation at Celebration of Scholarship
- 2016:** GeoCUR Excellence in Undergraduate Research Award from the Geosciences Division of the Council on Undergraduate Research

## Laboratory Experience

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- 2022:** Nu Noblesse Multi-Collector Mass Spectrometer at USGS Menlo Park  
**2022:** SHRIMP at Stanford University  
**2021:** LA-ICP-MS Lab Assistant in Keck Lab at Oregon State University  
**2020, 2019, 2016:** Cameca SX-100 Electron Microprobe at Oregon State University  
**2018:** Scanning Electron Microscope at Central Washington University  
**2015:** JEOL JXA-8230 electron microprobe at University of Iowa  
**2014-2022:** Operation of petrographic microscope, rock saws, Frantz magnetic separator, rock crushing equipment, HF acid leaching, sieves, and other related equipment

## Field Experience

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### OSU Introductory Field Camp (Bishop, CA) 2022, 2023

- Taught 1.5 weeks basic field methods (e.g., rock ID, mapping, Brunton compass use, and Jacob's staff) to undergraduate students.

### Fieldwork Related to PhD Research (Bend, OR) 2019, 2021

- Fieldwork in the Tumalo Volcanic Center, collecting samples and determining field relationships from numerous TVC eruptive units.

### OSU Field Camp (Mitchell, OR) 2020

- 3 weeks teaching geology field methods to undergraduate students and grading their maps, cross sections, and field books.

### UWO Field Camp (Utah, Wyoming, South Dakota, Nevada) 2016-2016

- 6 weeks of intensive, hands-on study of rock units, structural geology, and geologic mapping within field areas in South Dakota, Wyoming, Utah, and Nevada.

### UWO Applied Field Methods Course (South Dakota) 2015

- 2 weeks of fieldwork in the Black Hills; learned a variety of field techniques including use of maps, Jacob staff, GPS and compass work.

### Fieldwork Related to Undergraduate Research (Northern California) 2015

- 1 week of fieldwork in the Lassen region – Poison Lake chain, northern California/Southern Cascades. Fieldwork included sample selection and collection, and mapping.

## Professional Societies

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- 2022-Present:** Association for Women Geosciences- PNW Chapter  
**2022-Present:** Central Oregon Geological Society  
**2015- Present:** Geological Society of America  
**2019:** American Geophysical Union

## Certificates

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- 2023:** Wilderness First Aid (WFA) Certificate  
**2022:** American Heart Association- First Aid CPR AED Certificate