

Edward L. Vinis

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Education

M.S. Geology, Tohoku University, Japan, Oct. 2022-Present

B.S. Geology, University of Oregon, USA, Sep. 2021
Earth Science GPA 3.94

B.S. Chemistry, University of Puget Sound, USA, May 2014
Overall GPA 3.09

Research

Graduate Student Researcher, Oct. 2022-present
Investigating quartz precipitation and silica layer formation on granite surfaces under supercritical conditions
Adviser: Prof. Atsushi Okamoto

Co-author: *Emplacement Mechanics of Mafic Super-Eruptions in the Columbia River Basalt Province from Structural, Geochemical, Thermochronologic, and Magnetic Investigation of the Maxwell Lake Dike Complex* by Rachel Hampton, Joe Biasi, Becca Goughnour, Leif Karlstrom, Kendra Murray, and Ed Vinis. Presented at the American Geophysical Union Fall Meeting, 2021.

Undergraduate Research Assistant, Oct. 2021-June 2022
Organizing and analyzing Wallowa basalt dike sample data into GIS software
Advisers: Dr. Leif Karlstrom, Rachel Hampton PhD candidate

Undergraduate Research Assistant, Nov. 2020-Aug. 2021
Experimental Geochemistry research of CaCO_3 precipitation from direct air capture of CO_2
Advisers: Dr. James M. Watkins, Ellen K. Olsen PhD candidate

Undergraduate Research Assistant, May 2013-May 2014
Thesis: *Investigating the effects of terminal alkyl chain alterations on the ODBP liquid crystal molecule*
Adviser: Dr. Eric Scharrer

Conference Experience

International Symposium on Water-Rock Interaction 17/International Symposium on Applied Isotope Geochemistry 14, Aug. 2023

Oral presentation: *Exploration of the Silica-Sealing Layer Above Supercritical Geothermal Reservoirs Using Flow-Through Experiments*
Edward L. Vinis, Jumpei Sugioka, Atsushi Okamoto

Earth, Sea, and Sky VIII International Workshop, May 2023
Poster: *Flow-Through Experiments on the Formation of the Silica Sealing Layer Above Supercritical Geothermal Reservoirs*
Edward L Vinis, Jumpei Sugioka, Atsushi Okamoto

Japan Geoscience Union Meeting, May 2023
Poster: *Flow-Through Experiments on the Formation of the Silica Sealing Layer Above Supercritical Geothermal Reservoirs*
Edward L Vinis, Jumpei Sugioka, Atsushi Okamoto

Geological Society of America Connects annual meeting student volunteer, Oct. 2021

University of Oregon Undergraduate Research Symposium, May 2021
Isotopic fractionations produced during direct air capture of carbon dioxide
Edward L Vinis, Ellen K Olsen, Dr. James M Watkins

University of Puget Sound Fall Research Symposium, Sep. 2013
Investigating the effects of terminal alkyl chain alterations on the ODBP liquid crystal molecule
Ed Vinis, Dr. Eric Scharer

Field Experience

Field Assistant, July 2021-Sep. 2021
Addison Richter, Master's Student
Examined structural geology and deformation of thrust terranes near Mt. Baker, Washington

Field Assistant, Aug. 2021
Ellen K. Olsen, PhD candidate
Investigating isotopic fractionations of seasonal saline lakes in Oregon and California

Field Assistant, July 2021
Rachel Hampton, PhD candidate
Collected samples from basaltic feeder dikes to the Columbia River Flood Basalts, Wallowa Mountains, Oregon

Assistant Field Camp Organizer, June 2021-July 2021
Aided UO Field Camp with logistics required for remote mapping including set up, take down, and transferring equipment between field sites

UO Field Camp 2020
Geologic mapping of stratigraphic units and paleo stream channels in central Oregon

Scholarships and Awards

- Japanese Government (Monbukagakusho: MEXT) Scholarship, Sep. 2022
- University of Oregon Earth Science Department commencement speaker, June 2021
- Emeritus Faculty Tribute Fund, UO Field Camp Scholarship (\$400), June 2021
- Emeritus Faculty Tribute Fund, UO Field Camp Scholarship (\$750), July 2020
- Field Scholarship for UO IgDEAS (Inclusivity and gender Diversity in the Earth and Atmospheric Sciences) (\$150), July 2020
- Youngquist Fellowship Award (\$5000), June 2020

Grants

Puget Sound Summer Research Grant, May 2013

Laboratory Techniques

Flow-through experiments using granite under supercritical conditions, Okamoto lab
2022-present

- Involves use of high pressure and temperature flow through apparatus configuration and maintenance
- Preparation of Iidate granite samples involving micro-cutting and polishing techniques
- Analyses include X-Ray Computed Tomography (X-Ray CT), X-Ray Fluorescence (XRF), Scanning Electron Microscope Energy Dispersive Spectroscopy (SEM-EDS), optical microscopy, Scanning Electron Microscope Cathodoluminescence (SEM-CL), Electron Probe Microanalyzer (EPMA), and Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES).

Calcite precipitation experiments, Watkins lab 2021

- Involved use of auto-titrator, pH probe, Environmental Scanning Electron Microscope (ESEM), and general laboratory techniques for performing multi-day reactions

TestAmerica environmental testing labs, Organic Prep Analyst I, March 2016-June 2017

- Preparation of organic sample extractions using predetermined extraction methods
- Data collection and organization using LIMS software

Organic Synthesis research, Scharrer lab, 2013-2014

- Organic synthesis techniques needed to produce alkyl chain alterations of liquid crystal molecules
- Required use of laboratory instrumentation including nuclear magnetic resonance (H-NMR), infrared spectroscopy (IR), mass spectrometry (MS), gas/liquid chromatography, differential scanning calorimetry (DSC), and polarizing microscopy

Software Experience

Microsoft Office, Adobe product suites, Python Jupyter notebook, QGIS

Memberships

American Geophysical Union student member, 2022-present
Geological Society of America student member, 2021-present
Geochemical Society student member, 2020-present
American Association of Petroleum Geologists student member, 2021-2022

References

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Mark H. Reed
Professor

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James M. Watkins
Research Adviser

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