Daniel O'Hara

Curriculum Vitae

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EDUCATION

Ph.D. Earth Science – University of Oregon (UO), Department of Earth Sciences, Eugene, OR
Spring 2020 (Expected)

B.S. Geology; Computer Science – Indiana University of Pennsylvania (IUP), Department of Geoscience/Department of Computer Science, Indiana, PA, May 2014 (**Summa Cum Laude**); **GPA**: 4.00

TEACHING EXPERIENCE

University of Oregon – Teaching Assistant

Spring 2019: Earth Science Department, **Volcanoes and Earthquakes**
Winter 2019: Earth Science Department, **Exploring Earth's Environment**
Fall 2018: Geography Department, **Geomorphology**
Spring 2017: Earth Science Department, **Structural Geology**
Winter 2017: Earth Science Department, **Environmental Geology and Landform Development**
Fall 2016: Earth Science Department, **Introduction to Hydrogeology**

Indiana University of Pennsylvania

2011 – 2013: Upward Bound Math and Science, Tutor – **Chemistry, Pre-calculus, and Trigonometry**
Spring 2012: Geoscience Department, Learning Assistant – **Structural Geology**
2009 – 2012: Geological Society of IUP, Tutor – **All Geoscience Curriculum**

RESEARCH EXPERIENCE

FUNDING

2019 – 2020: **UO College of Art and Science Dissertation Fellowship -** University of Oregon, Eugene, OR. (Tuition & Stipend)
2018 - 2019: **National Science Foundation (NSF) Graduate Research Internship Program** (GRIP) – Cascades Volcano Observatory, United States Geological Survey, Vancouver, WA. (Stipend & Research Funds)
2014 – 2019: **NSF Graduate Research Fellowship Program** (GRFP) - University of Oregon, Eugene, OR. (Tuition & Stipend)
2013: **Taiwan International Graduate Program - International Intern Program** (TIGP-IIP), Academia Sinica, Taipei, Taiwan. (Stipend)
2011: **NSF Research Experience for Undergraduates** (REU), College of William & Mary, Virginia Institute of Marine Science, Gloucester Point, VA. (Stipend)

RESEARCH

Present: **Graduate Research Assistant** – University of Oregon
Collaborator: Drs. K. Fauria and L. Karlstrom
Project: 1D numerical model development and analysis of surface evolution associated with lithologic changes to understand bedrock effects on drainage divide migration

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2017 – Present: **Graduate Research Assistant** – University of Oregon
Collaborator: Dr. L. Karlstrom
Project: Numerical modeling and analysis of surface uplift associated with magmatic intrusions to understand effects of intrusion geometry, depth, and magnitude-frequency on topographic signature.

2017 – Present: **Graduate Research Assistant** – University of Oregon
Collaborators: A. Lerner, Drs. L. Karlstrom, S. Ebmeier, K. Anderson, and S. Hurwitz
Project: Comparison of global geophysically-derived magma chamber locations to topographic centroids of overlying edifices to determine the amount of offset between topography and magma plumbing systems.

2016 – Present: **NSF GRIP Research Scholar** – Cascades Volcano Observatory
Collaborators: D.W. Ramsey (USGS) and Dr. L. Karlstrom
Project: Identification and volume extraction of volcanic edifices within the Cascades Arc to estimate volcanic flux and analyze the relationship between topography and crustal magmatic structure. Funded by NSF award 1309047.

2014 – 2018: **Graduate Research Assistant** – University of Oregon
Collaborators: Drs. L. Karlstrom and J. Roering
Project: Modeling and analysis of landscape disruption and evolution induced by localized surface uplift to understand effects of small-scale perturbations on topographic form. Funded by NSF award 1309047.

2015 – 2016: **Graduate Research Assistant** – University of Oregon
Collaborators: Drs. E. Hooft and D. Toomey
Project: Tomographic study to analyze and image the magma chamber under Santorini, Greece. Project included a three-week expedition on the research vessel *Marcus Langseth* to deploy/retrieve ocean bottom seismometers and collect seismic travel times. Funded by NSF award OCE1459794.

2013: **Summer Undergraduate Research Fellow** – Academia Sinica
Collaborator: Dr. J.-C. Lee
Project: Strain analysis of the northern Luzon Arc and Coastal Range (Taiwan) to understand deformation through the main stages of arc-continent collision (pre-collision, syn-collision and waning collision).

2011: **REU Research Scholar** – College of William and Mary
Collaborators: Drs. C. Harris and T. Kniskern
Project: Testing the functionality of an algorithm implemented into the Regional Ocean Modeling System (ROMS) numerical model to calculate the occurrence of underwater gravity flows within the wave-boundary layer.

2010 – 2014: **Undergraduate Research Assistant** – Indiana University of Pennsylvania
Collaborator: Dr. J. Lewis
Project: Modeling contemporary strain in southeast Taiwan using focal mechanism solutions across the subduction-to-collision boundary of the Philippine Sea and Eurasian Plates. Funded by NSF awards EAR0738953 and EAR120317.

2010: **Undergraduate Research Assistant** – Indiana University of Pennsylvania
Collaborator: Dr. K. Farnsworth
Project: Analyzing the spatiotemporal correlations of seasonal river discharges and weather patterns associated with California watersheds.

SCIENCE COMMUNICATIONS

PUBLICATIONS

2019:

- **O'Hara, D.**, Karlstrom, L., and Ramsey, D. W. (submitted). Time-evolving surface and subsurface signatures of Quaternary volcanism in the Cascades. *Geology*.
- Lerner, A., **O'Hara, D.**, Karlstrom, L., Ebmeier, S.K., Hurwitz, S., Anderson, K.R. (in progress). Links between magma flux, reservoir position, and topography at arc. *Nature Geoscience*.
- **O'Hara, D.**, Karlstrom, L., and Roering, J. J. (2019). Distributed landscape response and the fragility of steady states. *Earth and Planetary Science Letters*, 506, 243-254. https://doi.org/10.1016/j.epsl.2018.11.006

2018:

- Karlstrom, L., Richardson, P. W., **O'Hara, D.**, and Ebmeier, S. K. (2018). Magmatic landscape construction. *Journal of Geophysical Research: Earth Surface*. 123 (8), 1710-1730. https://doi.org/10.1029/2017JF004369

2017:

- Hooft, E. E., Nomikou, P., Toomey, D. R., Lampridou, D., Getz, C., Christopoulou, M. E., **O'Hara, D.**, Arnoux, G. M., Bodmer, M., Gray, M., Heath, B. A., and VanderBeek, B. (2017). Backarc tectonism, volcanism, and mass wasting shape seafloor morphology in the Santorini-Christiana-Amorgos region of the Hellenic Volcanic Arc. *Tectonophysics*, 712, 396-414. https://doi.org/10.1016/j.tecto.2017.06.005

2015:

- Lewis, J. C., **O'Hara, D. J.**, and Rau, R.-J. (2015). Seismogenic strain across the transition from fore-arc slivering to collision in southern Taiwan. *Journal of Geophysical Research: Solid Earth*, 120(6), 4539-4555. https://doi.org/10.1002/2015JB011906

INVITED PRESENTATIONS

2019:

- **O'Hara, D.**, Karlstrom, L., Ramsey, D.W. (2019). *Relating topography to Quaternary volcanism and crustal structure within the Cascades Arc.*
  - American Geophysical Union Annual Meeting, December 2019, San Francisco, CA.
  - Cascade Volcano Observatory, May 2019, Vancouver, WA.

2018:

- **O'Hara, D.**, Karlstrom, L., Roering, J. J., Ramsey, D.W. (Sept. 2018). *Research Medley: Exploring the Role of Volcanic Processes on Landscape Evolution.* Scholarships – Creating Opportunities in Applied Mathematics(S-COAM) Alumni Presentation, Indiana University of Pennsylvania, Indiana, PA.

PRESENTATIONS

2019:

- **O'Hara, D.**, Karlstrom, L. (Dec. 2019). *Exploring the Role of Intrusive Magmatism on Topographic Form* (Poster). American Geophysical Union Annual Meeting, San Francisco, CA.
- **O'Hara, D.**, Karlstrom, L., Ramsey, D.W. (May 2019). *Volcanic Topography Covaries with Subsurface Magmatic Structure through Time in the Cascades Arc of the Western U.S.* (Poster). Geological Society of America Cordilleran Section Meeting, Portland, OR.

2018:

- **O'Hara, D.**, Karlstrom, L., Ramsey, D.W. (Dec. 2018). *What can topography tell us about the regional-scale history of Cascade arc magmatism over the last 2 Myr?* (Poster), American Geophysical Union Annual Meeting, Washington, D.C.
- **O'Hara, D.**, Karlstrom, L. (May 2018). *The Effect of Intrusive Magmatism on Landscape Evolution* (Poster). University of Oregon Graduate Research Forum, Eugene, OR.

2017:

- **O'Hara, D.**, Karlstrom, L., Richardson, P. W. (Aug. 2017). *How Does Intrusive Magmatism Influence Landscape Evolution?* (Talk). International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) Scientific Assembly, Portland, OR.

2016:

- **O'Hara, D.** and Karlstrom, L. (Dec. 2016). *Landscape Response to Magmatic Uplift.* (Poster), American Geophysical Union Annual Fall Meeting, San Francisco, CA.

2015:

- **O'Hara, D.** and Karlstrom, L. (2015). *Landscape Evolution in Response to Laccolith Inflation: Insights from Numerical Modeling with Application to the Colorado Plateau.* (Poster).
  - University of Oregon Graduate Research Forum, February 2015, Eugene, OR.
  - Community Surface Dynamics Modeling Systems (CSDMS) Annual Meeting, May 2015, Boulder, CO.

2014:

- **O'Hara, D.**, Karlstrom, L., Black, B., Murray, K. (Dec. 2014). *Landscape Evolution in Response to Laccolith Inflation on the Colorado Plateau.* (Poster). American Geophysical Union Annual Fall Meeting, San Francisco, CA.

2013:

- **O'Hara, D.**, Lee, J.-C., Lewis, J.C., Rau, R.-J. (Dec. 2013). *Accommodation by Varying Strain Regimes along the Northern Luzon Arc (Coastal Range, Taiwan) - Insights from Focal Mechanism Strain Inversions.* (Poster). American Geophysical Union Annual Fall Meeting, San Francisco, CA.

2011:

- **O'Hara, D.**, Lewis, J.C., Lamont, E.A., Rau R.-J., (Dec. 2011). *Slip Partitioning Offshore Southeast Taiwan and Southward Propagation of the Longitudinal Valley Fault: Evidence from Preferred Nodal Plane Slip Vectors.* (Talk). American Geophysical Union Annual Fall Meeting, San Francisco, CA.

HONORS & AWARDS

2019:

- UO Department of Earth Science Outstanding Teaching Assistant Award
- Geological Society of America Cordilleran Section Best Student Paper Award Honorable Mention

2018:

- UO Department of Earth Science Research Excellence Award
- UO Graduate Research Forum First Place Poster Award

2015:

- UO Baldwin Scholarship, Travel Award

2013:

- Barry M. Goldwater Scholar
- IUP Outstanding Research Award in Geoscience

2012:

- IUP Scholarships – Creating Opportunities in Applied Mathematics (S-COAM) Scholar

2011:

- IUP Dean's Scholarship for Early Career in Geoscience
- McNair Scholar

PROFESSIONAL DEVELOPMENT

Workshop Participations

June 2018**:** *Summer School on Earth Surface Dynamics – Understanding Processes at the Earth's Vulnerable Skin.* University of Potsdam, Potsdam, Germany.

June 2017: *University of Oregon Teaching Engagement Program (TEP) – Summer Institute on Scientific Teaching.* University of Oregon, Eugene, OR.

Invited Workshop Presentations

November 2017: McCormick, L., Lenn, K., **O'Hara, D.**, *Translating Your Research Experience & Preparing for Graduate School Applications.* University of Oregon, Eugene, OR.

October 2011: Adkins, A., Lamont, E.A., **O'Hara, D.**, *Scientific Visualization and Creating a Research Poster.* S-COAM Program Workshop, Indiana University of Pennsylvania, Indiana, PA.

ADMINISTRATION

University of Oregon

2018 – 2019: Department Graduate Student Representative. Department of Earth Sciences, Eugene, OR.

Indiana University of Pennsylvania

2011 – 2013 Geological Society of IUP President. Department of Geoscience. Indiana, PA.

SERVICE & OUTREACH

Extra-Curricular

Fall 2019: **NSF-GRFP Writing Workshop.** Geoscience Applicant Mentor. University of Oregon, Eugene, OR.

Spring 2019: **Understanding Volcano Geometry in the Cascades.** Guest Speaker. Pleasant Hill High School, Pleasant Hill, OR.

Winter 2019: **Statistics in Geoscience: Case Study on Volcanoes.** Guest Speaker. Central Cambria High School, Ebensburg, PA.

Spring 2017: **Post-Graduate Careers Undergraduate Seminar.** Organizer and co-presenter. University of Oregon, Department of Earth Sciences, Eugene, OR

2015 – 2018: **McNair Scholars Program, NSF-GRFP, and Graduate Student Life Symposium**. Guest Speaker. University of Oregon, Eugene, OR.

Local Community

September 2016: **Community Hazard Awareness and Preparation Booth.** In collaboration with Oregon State University. Beaverton Farmer's Market, Beaverton OR.

Academic Articles

May 2013: American Association of State Colleges and Universities, First Generation Voices Nominated Featured Student.