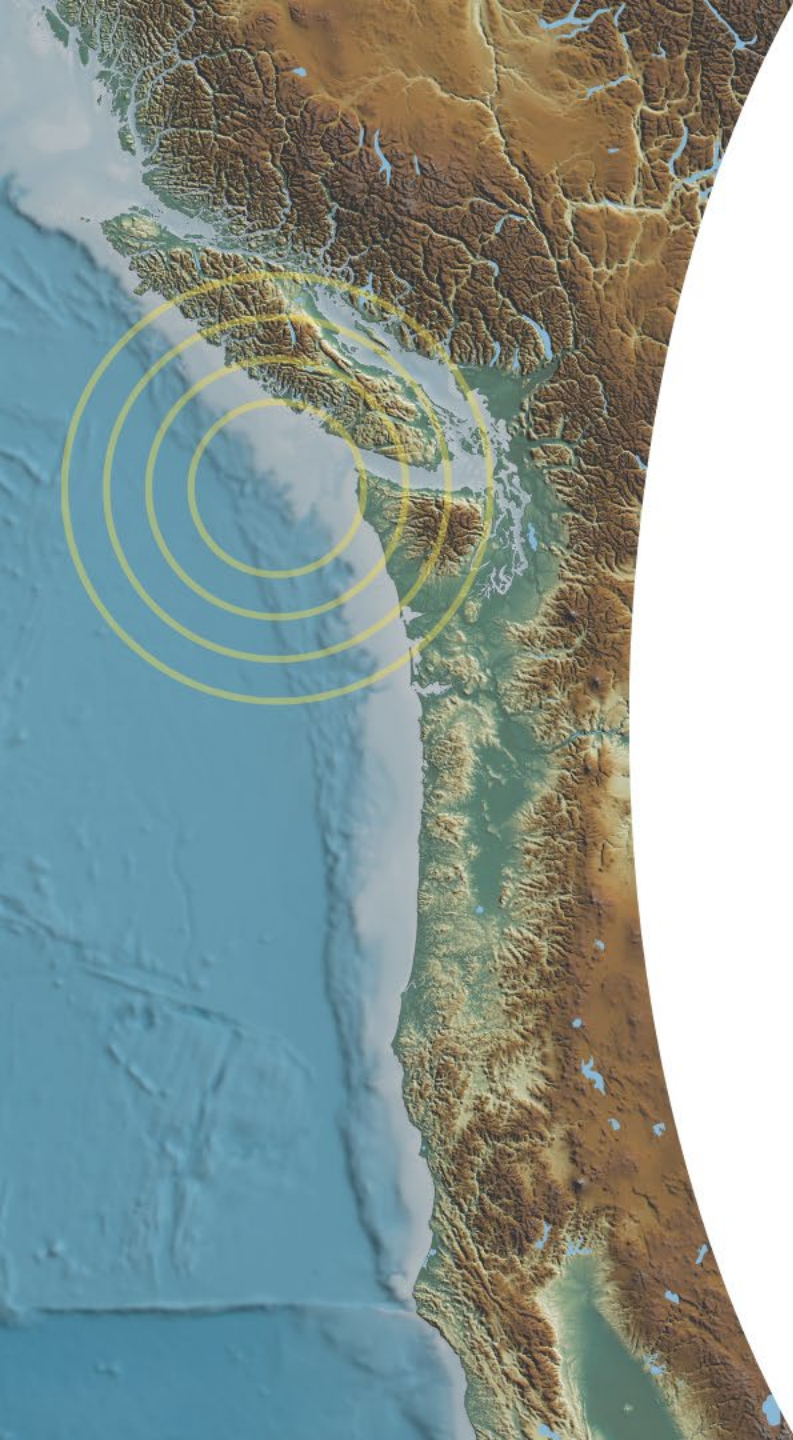




Geoscience Education & Inclusion (GEI): Year 2 Update

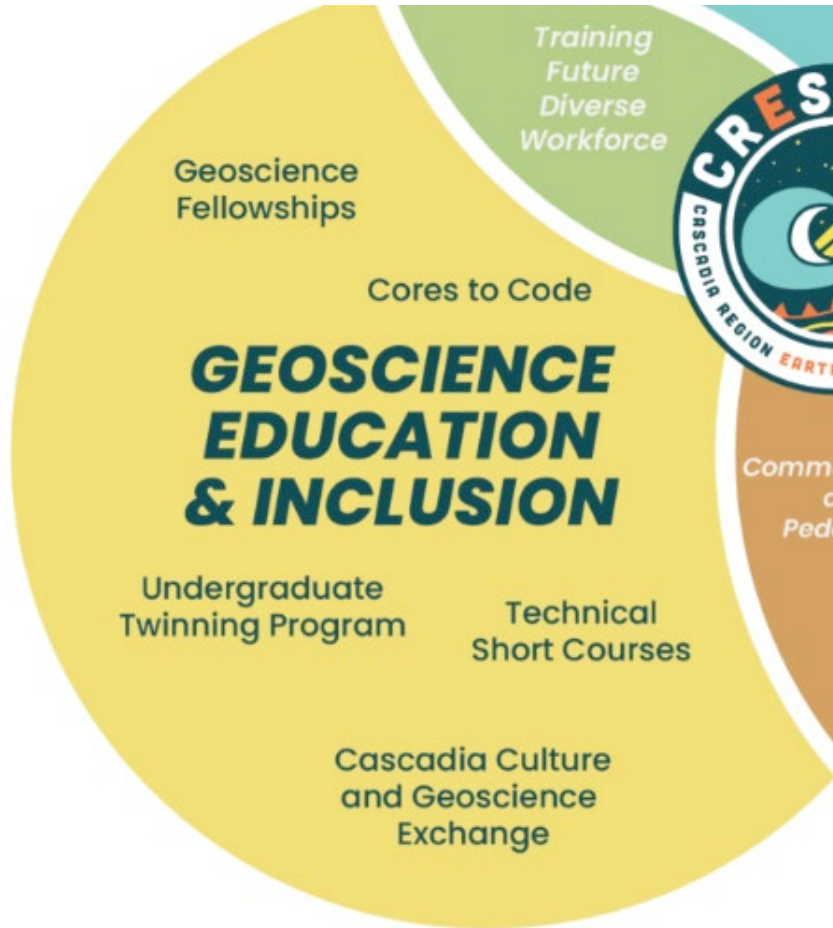
CRESCENT Annual Meeting

October 28, 2025

Andrew Meigs and Shannon Fasola



Geoscience Education and Inclusion in CRESCENT



- Train and broaden participation of the workforce of the future
- Which workforce? Academic, agency, communities, engineering, emergency management and others in the Northwest and beyond
- Wide promotion net seeks to attract participation from represented groups
- High School
 - **Cascadia Cultural and geoScience Exchange (CCASE)**
- Undergraduate
 - **Twinning Program**
 - **Cores to Codes**
- Graduate Student and Early Career
 - **Geoscience Professional Development Fellowships**
 - **Technical Short Courses**

GEI Committee



Andrew Meigs
GEI Program Lead
Oregon State University
andrew.meigs@oregonstate.edu



Gabriela Noriega
Statewide California Earthquake Center
gnoriega@usc.edu



Harvey Kelsey
Cal Poly Humboldt
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Mike Brudzinski
Miami University
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Shannon Fasola
GEI Program Manager
University of Oregon
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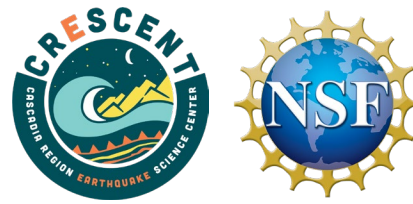


Michael Hubenthal
Earthscope Consortium
michael.hubenthal@earthscope.org



Valerie Sloan
Former Director of the GEO REU Network
valsloan9@gmail.com

Notes of Selection Processes



- GEI Program Manager screens applications
- Committee reviews eligible applicants
- Blind, rubric-based evaluation
- GEI Program Manager averages rubric score and discusses with committee*
- Distribution of acceptances representative of applicant pool

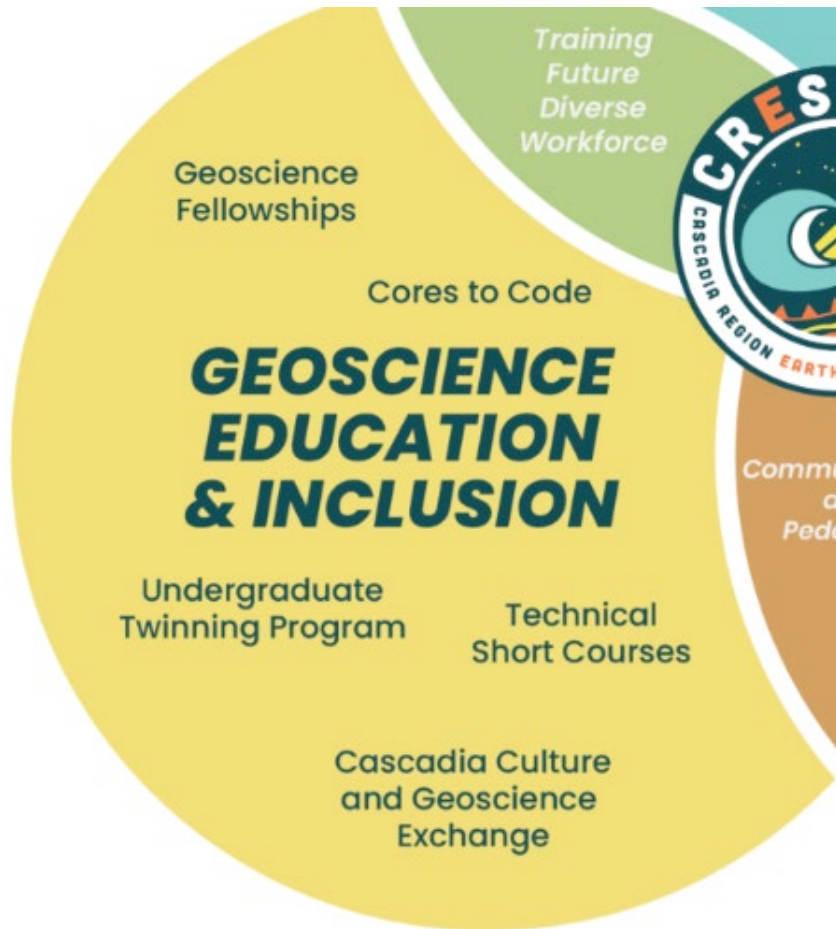
*For Twinning – GEI Program Manager sends Mentors contact info after they've identified their top applicants for mentors to conduct interviews to make final decision

Program Evaluation



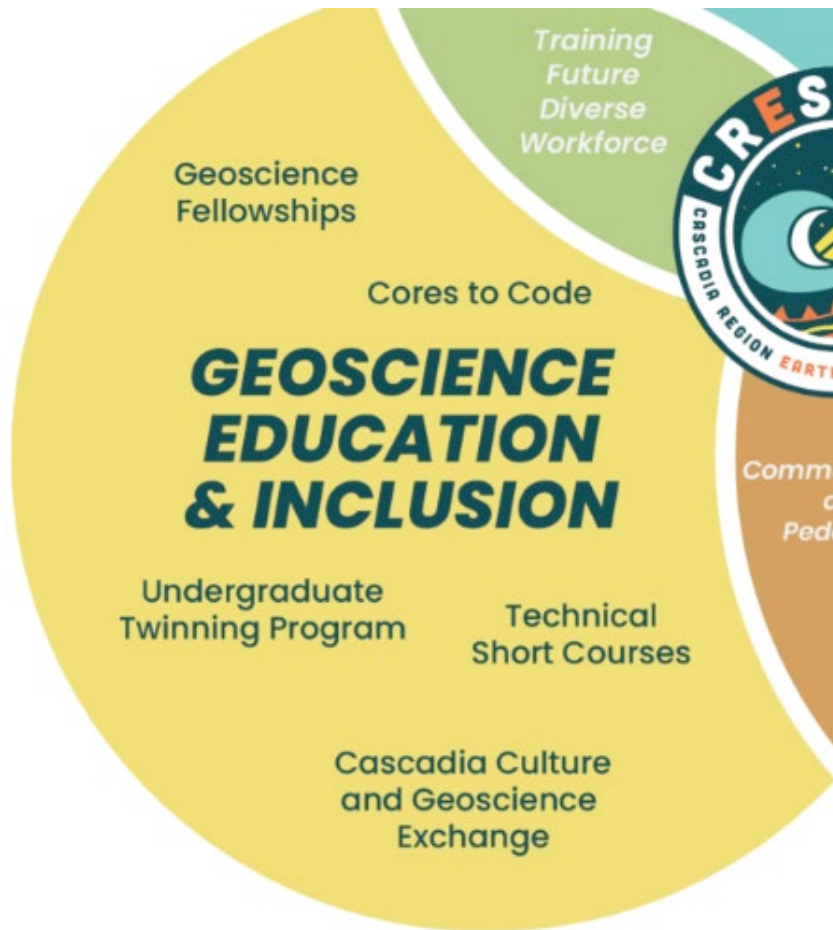
- Post-program participant surveys prepared by the External Evaluator (Michael Coe) and GEI Program Manager
- Feedback on the content, experience, satisfaction and recommendations
- Feedback used to improve programs

GEI – High School Program



- **Cascadia Culture and geoScience Exchange Program**
 - Exchange culture and geoscience with high schoolers from Pacific NW indigenous communities
 - Partnership with UW Riverways (K-12 Outreach)
 - Graduate Student led
 - Quileute Tribal School, Neah Bay High School (Makah)
- **GEI Programs in Action Tomorrow:**
Madeleine Lucas (UW) and Julia Grossman (UW), CCASE Team Leads
Cascadia Culture and geoScience Exchange (CCASE): Updates and Upcoming Plans

GEI – Undergraduate Programs



- **Cores to Codes**

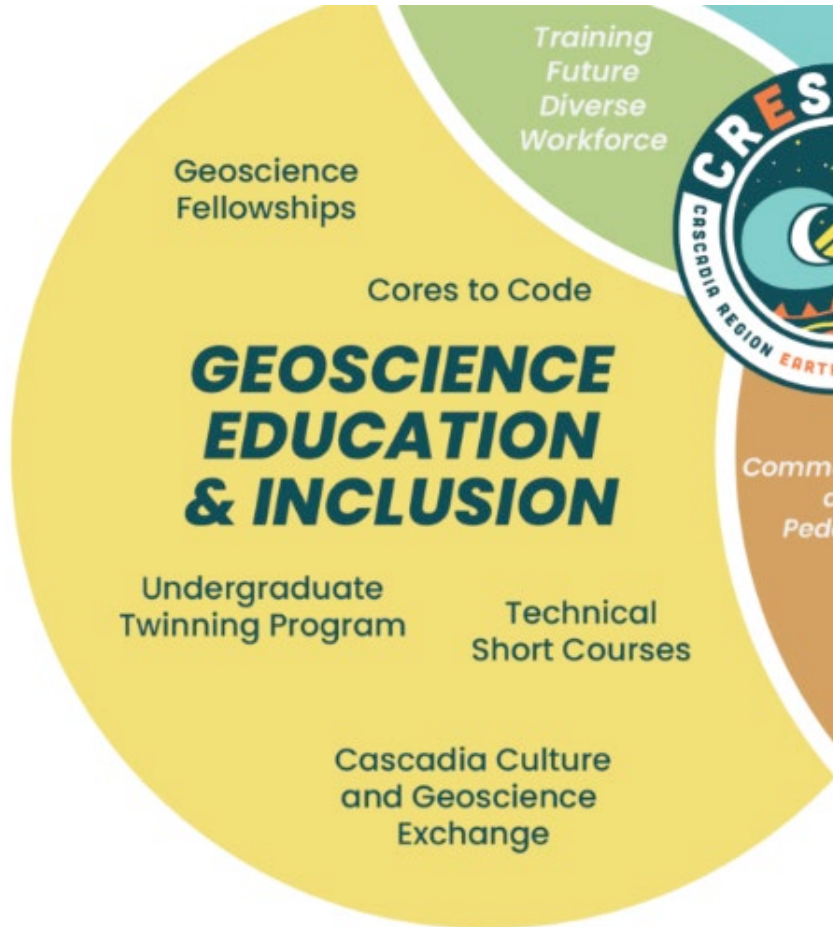
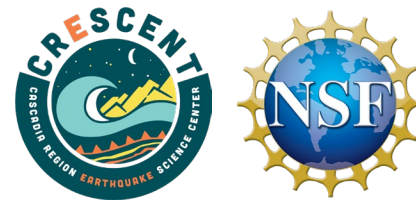
- Immersive field, lab, and computational field school
- Focus on data-to-model exploration of Cascadia earthquakes and tsunamis
- 10 students/171 applicants

- ***GEI Programs in Action Tomorrow:***

Harvey Kelsey (Cal Poly Humboldt)

Cores-to-Code, June 7-27, 2025: a three-week immersion for college level students into paleoseismology research and applications

GEI – Undergraduate Programs



• Undergraduate Twinning

- Year-long research opportunity
- Mentors at 2 institutions
- Academic year pay, summer stipend, travel stipend
- Fall start, Summer visit to mentor institution
- Final report and symposium
- 2024-2025: 6 students / 35 apps
- 2025-2026: 5 students / 19 apps

2025-2026 Twinning Mentor Pairs





Twining Program - Professional Development

- Individual meetings with GEI Program Manager
- Monthly cohort meetings with GEI Program Manager
- Professional Development Webinars
 - Maintaining effective communication
 - Introduction to research and expectations
 - How to find and read scientific papers
 - Science communication
 - Grad schools
 - Resumes/CVs, tips and tricks for job interviews
 - Elevator pitches and networking
- Scientific Writing Summer Workshop
 - Seven weeks
 - CRESCENT/ EarthScope partnership
 - Led by Lon Abbott (UC Boulder)

Twinning at the Annual Meeting



GEI Programs in Action Tomorrow:

Betsy Madden (SJSU)

Modeling earthquakes with undergraduate students: challenges & highlights

Meet the Students at the Poster Session:

Daisy Briseno (PSU); Mentors: Ashley Streig (PSU) & Scott Bennett (USGS)

Preliminary Characterization of the Multorpor Mountain Fault: Tectonic Implications for the Mount Hood Fault Zone, north-central Oregon

Lindsay Gross (SJSU); Mentors: Betsy Madden (SJSU) & Amanda Thomas (UC Davis)

Numerical Models of Sumatra & Cascadia earthquake scenarios constrained by energy budget analyses

Itzel Noriega (UTEP); Mentors: Aaron Velasco (UTEP) & Diego Melgar (UO)

Listening for Volcanic Triggers: A Seismic Study in Cascadia

Libby Tonn (UO); Mentors: Ray Weldon (UO) & Win McLaughlin (SWOCC)

Building a 175-Year Record of Vertical Land Motion in the Coos Bay, Oregon Area From Repeated Leveling, Tide Gauge Records, and INSAR Data to Characterize Cascadia Strain and Sea Level Rise

2026-2027 Twinning Opportunity



Recruiting Mentors for 2026-2027!

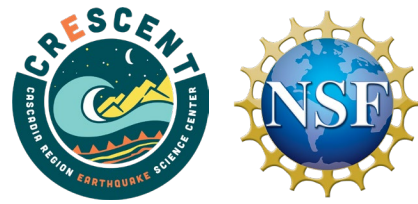
- Apply
 - With a 'Twin' Mentor & collaborate on project design
 - On own and we will help you find a 'Twin' Mentor
- From any research area broadly defined:
 - Science, Engineering, Policy, Social Science
- Mentors from 2YC and non-academic institutions welcomed!
- Get involved with CRESCENT

Learn More & Apply

**Mentor Applications Close
January 15, 2026**



Graduate Students & Early Career



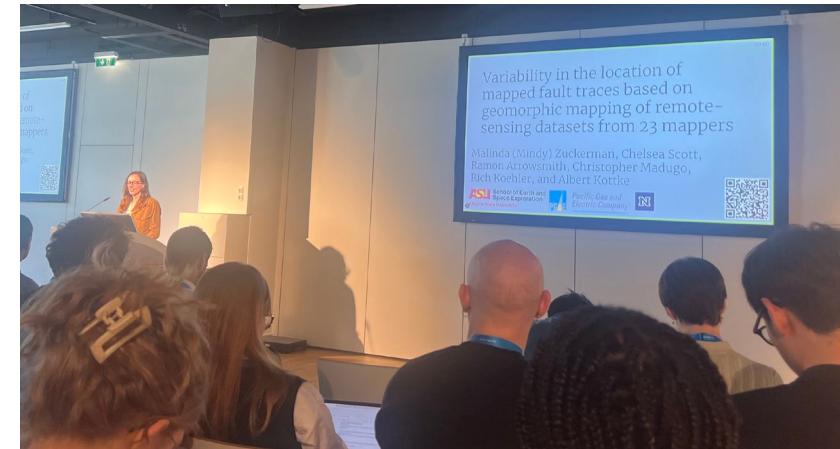
- **Geoscience Professional Development Fellowships**
 - Professional development support for geoscience graduate students and postdocs
 - Travel support to attend professional development training
 - Example - 2024 National Association of Geoscience Teachers Earth Educators Rendezvous (Summer 2026 next meeting)
 - Twice yearly call for applications (January 15 and June 15)
 - 17 EC/56 applicants



June 2024 Recipients at the EER



Jan. 2025 Recipient at SSA



Jan. 2025 Recipient at EGU

Graduate Students & Early Career



- **Technical Short Courses**

- 2 – 4 day hands-on course exploring topical and/or emerging research techniques in subduction zone geoscience
- Science Working Group led
- May 2025 - Machine Learning: Building Earthquake Catalogs (Marine Denole & Amanda Thomas)
- 24 participants /61 applicants

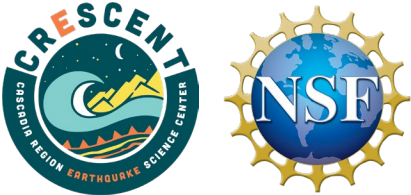


May 2025 Technical Short Course

- **AY 2026 Short Courses**

- C3S = Strain Accumulation and Release from GNSS: June 15-17, 2026; virtual
- CPAL/CFM = Paleoseismological methods (in development for 2026)
- Future Ideas – GIS for emergency management, your course here

Additional Activities with Our Partners



Explore Your Future: Geoscience Career Panel

A panel discussion with geoscientists sharing real-world experiences and career insights

Brandon Clark
CA Operations & Compliance Geologist
Berry Corporation

Robert de Groot
Physical Scientist
U.S. Geological Survey, ShakeAlert
Earthquake Early Warning System

Tina Dura
Assistant Professor of Natural Hazards
Virginia Tech

Allison Pyrch
Principal Resilience and Geotechnical
Engineer
Stantec

Hannah Rabinowitz-Pratt
Earthquake Program Manager
FEMA

Emily Zawacki
Moderator
Science Communication Associate
EarthScope Consortium

Hosted By:

September 17, 2025 @ 12:00-1:00 PM MT | Virtual

Will offer again in Spring 2026!

Mentoring Made Meaningful

Harnessing Mentoring Relationships

SCEC Workshop Recap

Training Overview

- Aligning Expectations
 - Develop a shared understanding of what each party expects from the mentoring relationship.
- Engage with diverse perspectives to build strong mentoring relationships and foster dynamic learning environments.
- Advancing Understanding
 - Use various mentorship strategies to your deepen understanding of core concepts and identify reasons for gaps in knowledge.
- Reflect on effective communication, as it's especially vital in mentoring relationships.

Workshop Facilitators

Dr. Gabriela Noriega
Assistant Director for Experiential Learning and Career Advancement

Dr. Noriega leads SCEC's educational and workforce development initiatives to support undergraduate students and early career scientists realize their professional geoscience aspirations. She is a strong advocate for mentorship and has extensive experience facilitating mentorship workshops.

Dr. Shanley Fasola
Geoscience Inclusion Program

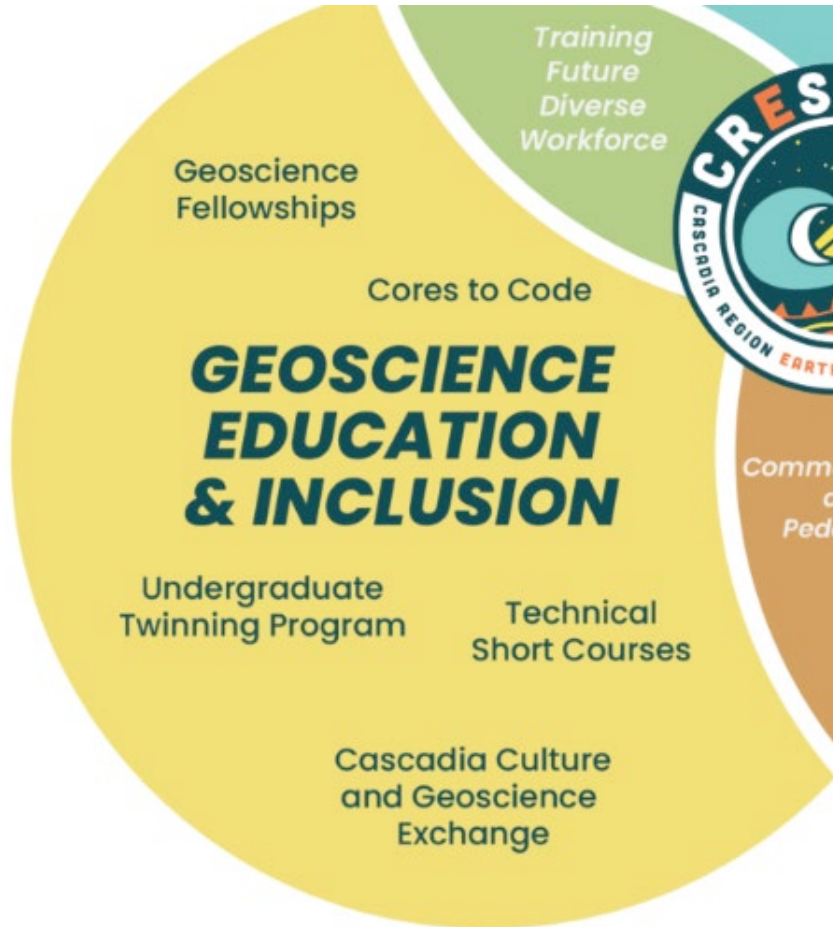
Dr. Fasola manages CRESC programs to provide research opportunities for aspiring geoscientists. Dr. Fasola earned her Bachelor's from St. Norbert College, and Doctorate at Miami University. She recently earned her CIMEF certification to facilitate Entering Mentoring Training.

Upcoming Trainings

Mentee (grad students): Nov. 20-21, 2025
Mentor: April 23-24, 2026

Applications Close Nov. 14

GEI – Further Information



Send Questions to:
GEI Program Manager
Shannon Fasola
sfasola@uoregon.edu

Meet and Greet:
Shannon's poster