Graduate student positions available for Chain transform fault experiment

PhD and Master's positions are available at the University of Delaware, Boston College, and Boise State University for students to join an interdisciplinary project on the dynamic behavior of the Chain transform fault in the equatorial Atlantic Ocean. Ridge transform faults consist of fault sections that slip in large earthquakes separated by sections that are primarily aseismic. They display a variety of structural features – valleys, transverse ridges, median ridges, flower structures, fault segmentation – whose origins are linked to stress, strain, and material properties. This project will use two research cruises to deploy a range of techniques to study these features along the Chain transform fault.

Available projects include:
- Constraining fault surface expression using autonomous underwater vehicle surveys
- Identification of crustal and fault structures from multi-channel seismic data
- Evaluation of fault zone properties through analysis of deformed rocks
- Exploration of the role of magmas in the transform domain

Positions are open to students of any nationality and will be fully funded through a mixture of research and teaching assistantships. Students will have opportunities to participate in a research cruise, collaborate across disciplines, engage in project outreach, attend a multi-institution tectonics course, and work with additional collaborators at Woods Hole Oceanographic Institution and Indiana University. Prospective students should contact: Prof. Jessica Warren (warrenj@udel.edu) for projects in rock deformation and ultramafic geochemistry; Prof. Mark Behn (behnm@bc.edu) for projects based on geophysical methods and fault tectonics; and Prof. Dorsey Wanless (dwanless@boisestate.edu) for projects on basalt petrology and geochemistry. Priority will be given to applications received by the deadlines: Jan 5, 2025 for the University of Delaware; Jan 2, 2025 for Boston College; Jan 3, 2025 for Boise State.