Integrating Earthquake Science into Middle and High School Classrooms with NGSS

The next workshop will be on September 29-30, 2017 at the University of New Hampshire, Durham, N.H, including a Saturday field trip to Fort Foster in Kittery, ME.

Participant support is available, including a daily stipend, lunch, housing, and mileage reimbursement.

Workshop support is funded by National Science Foundation Awards OCE-1352565 and OCE-1635325.
Science Overview

EARTHQUAKES ON OCEANIC TRANSFORM FAULTS are remarkably systematic and predictable. The largest earthquakes are typically preceded by foreshocks and the time between the large earthquakes is more regular than in other locations. However, the processes that create the observed regularity of oceanic transform fault seismic cycles remain largely unknown.

EARTHQUAKES IN THE CALDERA OF AXIAL SEAMOUNT on the Juan de Fuca Ridge provide a unique opportunity study the evolution of the volcanic system before, during a recent eruption -- including the many linkages between earthquakes, seafloor deformation and hydrothermal activity.

Based on these research projects, the UNH Leitzel Center will offer middle and high school teacher workshops on earthquake processes and predictability, with emphasis on the integration of this science into Physics or Earth Science classrooms.

Workshop Format

DESIGNED TO SUPPORT THE NEXT GENERATION SCIENCE STANDARDS, this earthquake science workshop is being offered to middle and high-school teachers throughout New England. Content will be based on current earthquake physics and ongoing volcanic and transform fault predictability research. Teachers will be supported throughout the academic year as they deliver workshop content in their own classrooms.

Featured Faculty and Staff

DR. MARGARET BOETTCHER, an Associate Professor of Geophysics in the UNH Earth Sciences Department, researches the physics of earthquakes and the mechanics of fault slip. This includes observational seismology, laboratory rock-mechanics experiments, and numerical modeling. She is currently investigating earthquake and faulting processes in Mid-Ocean Ridge systems and in Deep Gold Mines in South Africa. These two tectonic environments, very different but both relatively simple in terms of composition and thermal structure, and are ideal for studying the earthquake source itself.

The UNH Leitzel Center provides professional development activities for K-12 Science teachers, supporting authentic research by students and providing schools with access to scientists and research in the geo-sciences. From early learners to the most seasoned teachers, the Leitzel Center is brings together UNH faculty and students, K-12 students and teachers, community partners, and state/federal agencies, for the purpose of learning, teaching, researching, and collaborating.