REVEL - Research and Education: Volcanoes, Exploration and Life

Veronique Robigou
Director of REVEL
University of Washington

Abstract: REVEL is a professional development program sponsored by the National Science Foundation (NSF) for science teachers who are selected to participate in funded-seagoing research cruises, and to contribute to ongoing scientific research. During the first five years of the program, the research focused on scientific issues ranging from the origin of life to new aspects of biotechnology related to the study of mid-ocean ridges. The interdisciplinary research spanned from earth sciences to astrobiology, including oceanography, chemistry, physics, biology, computer sciences, mathematics, and engineering to cite a few of the scientific disciplines represented in the study of mid-ocean processes. REVEL is a collaborative partnership between researchers, teachers, students, schools, research institutions, and the community.
http://www.ocean.washington.edu/outreach/revel

The goals of the program are:

- To involve science teachers in authentic, oceanographic research experiences as part of their professional development.
- To facilitate the active participation of teachers in cutting-edge, seagoing ocean research
- To offer science teachers through the entire nation a oceanographic research experience
- To provide multiple years of support to teams of teachers
- To evaluate the program as a model for teachers experiencing research

With these goals in mind, the REVEL Project is partnering with the NEPTUNE Project for the next three years. Through this partnership, educators will be invited to study the processes that shape an entire tectonic plate via a cabled observatory on the Juan de Fuca plate in the Northeast Pacific Ocean (http://www.neptune.washington.edu/). Through this seafloor observatory linked to Internet students will have access to data, images, and experiments examining the relationships among plate tectonic deformation, fluid expulsion, chemical fluxes, and microbial productivity at plate boundaries. The environments that students and educators will investigate are the spreading center where the ocean floor is forming, the transform fault zone along which tectonic plates move by each other, and the subduction complex under which the oceanic plate plunges under the North American continent. REVEL will provide teams of teachers recruited throughout the U.S. with research experiences collaborating with the research community studying the natural processes associated with these dynamic underwater environments. This cadre of teachers will design, produce and test relevant, usable and Standards-based material and activities for students.

This new phase of the REVEL Project is sponsored by the NSF, Division of Ocean Sciences in the Directorate of Geosciences and the Division of Elementary, Secondary, and Informal Education in the Directorate for Education and Human Resources.