Wiring an Active Underwater Volcano: Eruptions, Hot Springs and Novel Life Forms

This video-illustrated talk will take you on a tour of deep sea habitats off the coast of Oregon, which are some of the most dynamic environments on Earth. Our window into this world is the Regional Cabled Array, an underwater laboratory that streams live data from over 150 instruments to shore 24/7. Using high definition video from deep-diving remotely operated vehicles, we will “visit” the Cascadia Margin where methane-rich fluids rise from biological-rich seeps on the seafloor, sometimes explosively. Traversing down the slope, we will “visit” a rare, truly weird fish, first viewed off the coast in 2014, which had previously been observed only off Antarctica and never before filmed. Finally, we will explore the largest volcano off of Oregon – Axial Seamount. This volcano erupted in 1998, 2011, and 2015. Currently the summit of this volcano is inflating again and hot spring fluids are increasing in temperature – perhaps hinting that another eruption may occur as soon as 2024-2027.

About the Speaker: Dr. Deborah Kelley is a marine geologist whose research focuses on understanding how submarine volcanoes support life in the absence of sunlight. She works at some of the most extreme environments on Earth – underwater hot springs that emit fluids at >360°C. She has dove over 50 times in the submersible Alvin and to ocean depths of 13,000 ft. Kelley is passionate about taking students to sea and providing hands-on experience in seagoing research.

For information about the Regional Cabled Array, including photos and videos collected by the instruments, please see the following website: https://interactiveoceans.washington.edu/

Please click here to register for the seminar.