

FLYING UNDER THE BIG ICE: ROBOTIC SUBMARINES UNDER ANTARCTIC ICE

WITH ALEXANDER FORREST, UC DAVIS



Date: Wednesday, December 8, 2010
Time: 5:30 No-host bar. Program begins at 6:00 p.m.
Cost: \$10 donation requested (students free)
Location: Tahoe Center for Environmental Sciences
291 Country Club Drive, Incline Village, Nevada

Alexander Forrest is a postdoctoral scholar with the UC Davis Tahoe Environmental Research Center. He focuses on questions in physical limnology and works on under-ice applications of AUV technologies in a diversity of environments. He has extensive AUV survey experience from the Caribbean to the Caspian Sea.

Join UC Davis researcher Alexander Forrest for a view under the ice in Antarctica. Alexander will have just returned from a research excursion using robotic submarines under the Erebus ice-tongue in McMurdo Sound, Antarctica.

Learn about the unique physical characteristics of seawater under this ice shelf, the influence on the formation and growth of sea ice within the sound, and the affect on marine biology. By deploying a robotic submersible, known as an Autonomous Underwater Vehicle (AUV), the international research team will map under-ice structure and ice thickness; document three dimensional convective and mixing processes; measure phytoplankton distribution; and, model the effect of ice-ocean

coupling on water mass evolution, sea ice formation, and biological processes.

This AUV deployment embodies the use of a pioneering technology to make advances in Polar exploration that would not be possible otherwise.

Charting these processes is critical because our Polar Regions are rapidly losing ice cover. International collaboration by scientists and engineers in the fields of physics, chemistry and biology will help us to better understand these processes before the opportunity disappears all together.