

# **Department of Ocean & Resources Engineering**

*Seminar*

## **Preliminary Modeling Results from the Hawaii Ocean Mixing Experiment**

by

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### **Abstract**

The Hawaii Ocean Mixing Experiment (HOME) is a NSF-sponsored field study to examine the generation of internal tides at the Hawaiian Ridge and to determine what role these waves might play in mixing the deep ocean. HOME includes analysis of historic data, numerical modeling of the surface and internal tides, and intensive field observations seeking to link mixing signatures to tidal features. Preliminary model results using the Princeton Ocean Model (POM) will be presented. The POM simulations show energetic internal tides emanating from specific ridge-like topography in agreement with recent field observations. The structure of these waves and the conditions contributing to their generation will be examined.

Locally, on the south shore of Oahu, the internal tide is known to be particularly energetic with vertical displacements reported as high as 150m off of Pearl Harbor. The impact of this tidal variability on outfall plumes has been noted in previous studies. The ability of POM to simulate these waves and the conditions contributing to their intermittent generation will be considered.