

Department of Ocean and Resources Engineering

Seminar

Technology development for marine biogeochemistry and geomicrobiology

by

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<p>Wednesday, October 3, 2007, Holmes Hall 242 3:00-3:30 pm Coffee Hour 3:30-4:30 pm Seminar</p>
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Please join us for the coffee hour near the seminar venue a half hour before the seminar, 3:00 – 3:30 pm

Abstract

Advances in ocean research sciences are intimately tied to technological capabilities. Electrochemical methods have often been used to study environmental processes, and in recent years there have been significant advances toward making real time geochemical measurements using these and other techniques. One particularly promising application is that of in situ voltammetry. In voltammetric work, current is measured while scanning the entire voltage range of the solid-state electrode, which allows the measurement of more than one chemical species at a given time in the same region of space. This presentation will review and update current capabilities for making in situ real time geochemical measurements in aquatic environments, concentrating on applications ranging from nearshore cabled observatories to deepsea hydrothermal vents and seafloor. Several engineering challenges exist that span aspects of hardware improvement, sensor development, software design and data streaming, and subsequent integration into ocean observing networks.

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