

March 15, 2007



## *Oceanography Seminar*

**SPEAKER:**

**Brian Powell, PhD**

**AFFILIATION:**

**University of California, Santa Cruz**

**TITLE:**

**Real-time Data Assimilation and Ensemble Prediction System in the Intra-Americas Sea**

**DATE:**

**Wednesday, March 21, 2007**

**TIME:**

**12:00 PM**

**PLACE:**

**Spanagel Hall, Rm 316**

**ABSTRACT:**

The Intra-Americas Sea is an interesting oceanic region comprised of deep basins with complex bathymetry and geometry. It is a well- constrained region of the North Atlantic with land mass boundaries along the western and northern extents. The Caribbean region is highly dynamic, but is well sampled by a long, overlapping time series of both satellite and in situ physical oceanographic measurements. Using the Regional Ocean Modeling System (ROMS), we have developed a real-time data assimilation system utilizing both satellite surface observations and in situ ship measurements to generate the best model state for the current day. Utilizing the numerous tangent-linear solutions from the data assimilation system, we generate a set of orthonormal perturbations to apply to the generated initial conditions to generate a forward, two-week predictive ensemble. This assimilative/prediction system is now running automatically in an experimental operational capability aboard a ship making regular trips across the region. We will be discussing the algorithmic setup and preliminary results from this experiment.