

# Center for Environmental & Applied Fluid Mechanics

## Weekly Seminar: Spring 2011

Date: **Friday, April 22, 2011**  
Time: **11:00 AM**  
Location: **Remsen Hall 101 (Special Location)**  
Speaker: **Tamay Özgökmen (University of Miami)**  
Title: ***"Large Eddy Simulations of Mixed Layer Instabilities and Sampling Strategies"***

### Abstract

Recognizing the potential role played by submesoscale processes in the ocean's multi-scale energy transfer, biogeochemical transport, air-sea interaction, acoustic propagation and naval operations, we conduct a series of large eddy simulations of isolated mixed layer instabilities.

The primary objective is to generate freely evolving velocity and density fields representative of submesoscale flows and then use these to examine potential observational sampling strategies. Analysis of a variety of mixing measures derived from both particle and tracer based sampling strategies indicates the differing importance of vertical processes in the two flow regimes. The results emphasize the efficiency of Lagrangian platforms, in particular passive particles, for sampling rapidly-evolving submesoscale oceanic fields.

### Bio

Professor Tamay M. Özgökmen graduated from Istanbul Lisesi in 1983, obtained his B.S. degree in Mechanical Engineering from Bosphorus University in Istanbul/Turkey in 1988, his M.S. degree in Mechanical Engineering from the University of Miami, FL in 1990, and his Ph.D. in Engineering Sciences from Dartmouth College, NH in 1995. His research interest centers on the investigation of multi-scale oceanic flows using non-hydrostatic numerical models and Lagrangian methods.