# Weekly CEAFM Seminar: Fall 2016

JOHNS HOPKINS
Center for Environmental
& Applied Fluid Mechanics

Date: **Friday, Dec 9, 2016**

Time: 11:00 AM

Location: Gilman Hall # 50

Speaker: **Prof. Andrew Thompson** (California Institute of Technology)

Title: ***"Ocean Dynamics at the Antarctic Margins"***

## Abstract

The exchange of water across the Antarctic continental slope and shelf regulates the export of dense water that participates in the global overturning circulation as well as the transport of warm, mid-depth waters towards ice shelves and glacial grounding lines. The penetration of this warm water past the shelf break has been implicated in the pronounced loss of ice shelf mass over much of west Antarctica. The Antarctic margins host a rich mesoscale and submesoscale eddy field that plays a key role in setting the structure and transport properties of the boundary currents ringing the Antarctic continent. Results from both a series of high-resolution numerical models and observations collected from multiple ocean glider deployments will be used to identify and explain some of the key dynamical controls over this frontal system. The impact of these currents' turbulent properties on the closure of the global overturning circulation at the Antarctic margins will be emphasized.

## Bio

Andy Thompson, Assistant Professor of Environmental Science and Engineering at Caltech, is a physical oceanographer who studies the role of the ocean's circulation in the climate system. His group's research uses a combination of numerical models and observations, and in the past few years the group has developed an ocean glider program focused on studying the circulation of the polar oceans and their influence on the cryosphere. Before moving to Caltech, Andy completed a postdoctoral fellowship in the UK where he spent time at the University of East Anglia, University of Cambridge and the British Antarctic Survey. He earned his Ph.D. from the Scripps Institution of Oceanography at the University of California, San Diego.