Boulder Fluid Dynamics Seminar Series

Tuesday, September 3, 2013
3:30pm-4:30pm (refreshments at 3:15pm)
Bechtel Collaboratory in the Discovery Learning Center (DLC)
University of Colorado at Boulder

Oceanic heat transport by eddies in the Kuroshio Current east of Japan

Stuart P. Bishop
Advanced Study Program, National Center for Atmospheric Research

The western boundary currents, such as the Gulf Stream and Kuroshio Extension, are highly energetic currents that transport heat poleward from the tropics. Quantifying their heat transport is difficult due in large part to sparse observations and the turbulent nature of the flow field. The most energetic scales in these currents are due to mesoscale eddies, which have length scales of O(100 km) and time scale of days to months. The Kuroshio Extension System Study (KESS) was a two-year observational field program to measure for the first time the mesoscale eddying 4-D current and density field east of Japan. This talk will present some of the results from the KESS field program and compare the results with a state-of-the-art high-resolution ocean model.

Beauty, Power, Destruction and Oddness: The Aesthetics of Flow Visualization

Jean Hertzberg
University of Colorado at Boulder

Flow visualization can contribute strong messages of science content within our community of fluid dynamicists, but when communicating outside our community it is the aesthetics of fluid flows that carries the greatest weight. This talk will include a short background of aesthetics in an art history context, and then present examples of four aesthetics: beauty, power, destruction, and oddness. Each aesthetic will be illustrated with examples drawn from flow visualizations from both the Flow Visualization course (MCEN 4151) and sources on the web.