

# CGD SEMINAR



**DATE:** Tuesday, 6 November 2018

**TIME:** 11 a.m.

**LOCATION:** NCAR, 1850 Table Mesa Drive  
Mesa Lab, Main Seminar Room

**TITLE:** Into the deep: Submesoscale turbulence  
in the ocean bottom boundary layer

**SPEAKER:** Jacob Wenegrat, Stanford University

## ABSTRACT:

Our understanding of the ocean surface boundary layer has been fundamentally altered over the past several decades with the recognition of the important role of processes occurring at the submesoscale (horizontal scales of 0.1-10 kms). Recently however, observations and numerical modeling have begun to suggest that the ocean bottom boundary layer (BBL) may also support an active field of submesoscale turbulence, with largely unknown consequences. In this presentation I will discuss recent work on submesoscale instabilities in the BBL, including a bottom-intensified baroclinic instability mode. This instability is a BBL counterpart to the well-studied surface mixed-layer instability, and is associated with large vertical velocities and fluxes which may affect both the dynamics and biogeochemistry of the ocean BBL. The implications of submesoscale turbulence in the BBL for existing theories of coastal and abyssal ocean circulation will also be discussed.

**Live webcast:** <http://ucarconnect.ucar.edu/live>

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