

# CGD SEMINAR



**DATE:** Monday, April 23, 2018

**TIME:** 3:30 pm

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

**TITLE:** Ocean Heat Uptake and Dynamic Sea  
Level Rise: Past and Future Uncertainty

**SPEAKER:** Laure Zanna, Univ. of Oxford

## ABSTRACT:

The ocean absorbs a significant portion of the anthropogenic heat released in the climate system, leading to an increase in global mean sea level rise. Observed and projected regional patterns of heat uptake in mid- and high-latitudes are controlled in part by changes in ocean circulation. Using a new estimate of ocean heat content, direct measurements and models, I will present evidence that in the Atlantic: 1) half of the thermosteric sea level trend since 1970 is due to ocean circulation changes; 2) the uncertainty in dynamic sea level projections can be explained by the ocean circulation response to uncertain air-sea fluxes (rather than from ocean model uncertainty). I will use a simple conceptual model to explain the changes and discuss the implications for climate projections of dynamic sea level.