



Sponsored Seminar

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Presenting on:

“Interpreting the Noisy Historical and Geological Records of Sea Level Change: What Can the Past Tell Us About the Future?”

January 14, 2013

12 noon

(Lunch served at 11:50 am)

129 Baker Conference Room

Department of Engineering and Public Policy

Seminar Abstract: Sea level rise -- driven in part directly by changes in ocean temperature and in part by melting land ice -- figures prominently among the effects of a warming climate. Melt dynamics are, however, complicated and challenging to project using forward models. The geological record of past sea level changes provides a complementary source of information about ice sheet stability. Yet this record is composed of proxies that are uncertain in their meaning, uncertain in their ages, and reflect sea level as seen through the filter of a range of physical process that cause local sea level change to deviate, and sometimes even differ in sign, from changes in mean global sea level. In this talk, I will discuss the statistical challenges of inferring past sea level and ice sheet changes from historical and geological observations, while taking into account both uncertainties and our understanding of the relevant physics. I will explore how sea level records of the last millennium can be used to improve sea level projections and what inferred high sea levels during past warm periods may be able to tell us about the long-term stability of ice sheets in the coming centuries.

Speaker Bio: Bob Kopp is an Assistant Professor in Rutgers University's Department of Earth & Planetary Sciences and Associate Director of the Rutgers Energy Institute. His research focuses in part on reconstructing different past states of the Earth system -- with a current major focus being the application of statistical techniques to the geohistorical record of sea level change and the use of this record to understand ice sheet stability -- and in part on analyzing the effects of policy on energy, economic and climate systems.