

GEOSCIENCES AND MATHEMATICS DEPARTMENTS PRESENT
A COLLEGE OF SCIENCE INVITED LECTURE

MATHEMATICS AND THE MELTING POLAR ICE CAPS

Wednesday FEB 27, 7-8:15 pm

WSU Main Campus

LIND LECTURE HALL Rooms 125/126



Dr. Kenneth M. Golden

Kenneth M. Golden is a Professor of Mathematics at the University of Utah. His scientific interests lie in sea ice, climate change, composite materials, phase transitions, and inverse problems. He has published 56 papers in mathematics, physics, geophysics, electrical engineering, mechanical engineering, and biomechanics journals, and given over 300 invited lectures on six continents, including three presentations in the US Congress.

Dr. Golden has journeyed seven times to Antarctica and eight times to the Arctic to study sea ice. His research and polar expeditions have been covered in over 30 newspaper, magazine, and web articles, including profiles in *Science* and *Science News*.



In September of 2012, the area of the Arctic Ocean covered by sea ice reached its lowest level ever recorded in more than three decades of satellite measurements. In fact, compared to the 1980's and 1990's, this represents a loss of more than half of the summer Arctic sea ice pack. While global climate models generally predict sea ice declines over the 21st century, the precipitous losses observed so far have significantly outpaced most projections.

Dr. Golden will discuss how mathematical models of composite materials and statistical physics are being used to study key processes in order to improve projections of the fate of Earth's sea ice packs, and the response of polar ecosystems. In addition, a video from a 2012 Antarctic expedition where sea ice properties were measured will be shown.

This lecture is accessible to a general audience