

Modeling the Melt: What Math Tells Us About Disappearing Polar Sea Ice

The precipitous loss of Arctic sea ice has outpaced expert predictions. We will explore how mathematical models of key sea ice processes are being developed to improve projections of the future of Earth's sea ice packs and the polar ecosystems they support. Our models are inspired by theories of multiscale composite materials and statistical physics, and are developed in conjunction with field experiments that we have conducted in both the Arctic and Antarctic. The lecture is intended for a wide, interdisciplinary audience, and will conclude with a short video on a recent Antarctic expedition where we measured fluid and electromagnetic transport properties of sea ice.



Kenneth M. Golden '80
Friday, November 9, 2018
3:30PM - Kemeny 008



Kenneth M. Golden is a Distinguished Professor of Mathematics and Adjunct Professor of Bioengineering at the University of Utah. His research is driven by interests in sea ice, the climate system, composite materials, statistical physics, diffusion processes, microbial ecology and remote sensing. He has published papers in a wide range of scientific journals, journeyed eighteen times to the Arctic and Antarctic to study sea ice, and given over 425 invited lectures on six continents, including three presentations in the U.S. Congress. Golden is an award winning classroom teacher and research mentor to almost 70 young investigators: postdoctoral fellows, graduate students, undergraduates from majors across science and engineering, and high school students. His work with students, university colleagues, and collaborators around the world has been covered extensively in the media, including profiles in *Science*, *Scientific American*, and *Physics Today*, with numerous interviews on radio and television. Golden is a Fellow of the Society for Industrial and Applied Mathematics, cited for “extraordinary interdisciplinary work on the mathematics of sea ice,” an Inaugural Fellow of the American Mathematical Society, and a Fellow of the Explorers Club, whose members have included Neil Armstrong, Sir Edmund Hillary, Robert Peary, and Jane Goodall.

A Year of Celebration of the Sciences to Commemorate the 250th Anniversary of Dartmouth College