

**Distinguished Scholarly and
Creative Research Awards**

May 4, 2012
University of Utah
Commencement

Kenneth M. Golden
Professor of Mathematics

Kenneth Golden's work is described as "landmark," "phenomenal," "bold," and "extraordinary" by colleagues, who range from mathematicians and marine microbiologists to engineers and physicists. How does he bring these worlds together? Believe it or not, with math and ice. Through studies of the physical makeup of sea ice and other composite materials, Golden is addressing a topic that literally affects every person worldwide: climate change and global warming. Golden's discovery of the "rule of fives" basically found what colleagues explain as the "on-off switch" for fluid flow in sea ice. Sea ice is a complex, porous material and Golden's research has determined how to predict the melting of the ice and the rate at which pools of water will form on it, essential information for modeling climate change. Not only is he at the forefront of climate science, Golden is committed to training future generations and regularly invites students on field research projects to the Arctic and Antarctic. He has been on expeditions to these farthest regions of the Earth a total of 13 times and has given over 300 conference, university, and general lectures on six continents. The way that he sees and field tests solutions to major scientific questions earns great admiration from Golden's colleagues. One says that his mathematical accomplishments are "applied mathematics in the purest sense - making a difference with mathematics." Further, Golden is making a difference in the math department at the U. The same colleague says Golden is largely responsible for Utah developing "one of the best composite mathematics groups" known throughout the world. Golden serves on the Engineering Math Committee and Undergraduate Curriculum Committee at the U. In addition, he has overseen the work of 21 undergraduates, 10 graduate students, five postdoctoral researchers, and even two high school students. Golden has received the U's highest teaching award, and an Excellence in Teaching award from Princeton University prior to coming to Utah. He has been awarded 19 research grants and was recently selected as a Fellow of the Society for Industrial and Applied Mathematics for "extraordinary interdisciplinary work on mathematics of sea ice." Golden was also selected by the Joint Policy Board for Mathematics, representing all the math societies in the United States, to chair the Committee for Mathematics Awareness Month. As chair, Golden presented to a variety of groups, including legislators, members of Congress, and business leaders about the mathematics behind climate change. Golden received his Ph.D. in Mathematics from New York University, Courant Institute, in 1984. He came to the U as an associate professor in 1991 and currently serves as a full professor in mathematics and an adjunct professor of bioengineering.