



UNIVERSITY
OF
COLORADO
AT COLORADO SPRINGS

FUN beyond the MATH

First Annual Mathematics Distinguished Lecture

Thursday, October 8th, 2009

12:30 - 1:30 pm

3rd floor Library Apse (West)

Refreshments at 12:00 pm

Professor Mark J. Ablowitz

Professor of Distinction, College of Arts and Sciences
University of Colorado at Boulder

Extraordinary Waves: From Beaches to Lasers

Waves are fascinating. There are a class of extraordinary localized waves, called solitary waves or solitons which were first documented 175 years ago. This lecture will trace the history of these waves, their associated mathematics and will explain why mathematics played a crucial role in both historical and modern developments. Applications range from water waves to giant internal ocean waves to long distance communications, lasers and Bose-Einstein condensation and more. The discussion will be general and will leave all equations behind.

Mark Ablowitz is considered a pioneer in the field of applied mathematics, and his work in the field is among the most highly cited in the world. He is best known for his landmark contributions to the "inverse scattering transform," or IST, a method used to solve nonlinear wave equations. Mathematicians and physicists have used the IST to gain a better understanding of phenomena such as water waves. Ablowitz joined the CU-Boulder faculty in 1989.

Students are strongly encouraged to participate