Joint Colloquium Talk
Dept of Mathematics & IMS

Geometric Mechanics: From The Atomic to the Tectonic

by

Professor L Mahadevan
School of Engineering and Applied Sciences
Harvard University, USA

Date & Time : 6 Nov 2008 (Thur), 3:00 pm
Venue : Colloquium Room A (S14, #03-10)

Abstract

Many problems involving the large deformations of soft extended objects such as strings and membranes can be formulated using elementary differential geometry and physics. I will discuss some of the general and specific features of these problems and their role in the description of patterns on many different length scales in the material world ranging from the deformation of atomically thin nano-tubes, the self-similar wrinkles in skin, the aesthetic drapes of a fabric, the intricate folds in origami, the violently crumpled sheet that is the fate of many a calculation gone awry, all the way to the morphology of tectonic subduction zones.

Brief Biography

Prof L. Mahadevan is currently England de Valpine Professor of Applied Mathematics, at the School of Engineering and Applied Sciences, Harvard University. He obtained his PhD from Stanford University in 1995, under the guidance of J.B. Keller.

His awards and accolades include the George Ledlie Prize, Harvard University; John Simon Guggenheim Memorial Fellowship; and being the inaugural recipient of the Young Investigator Medal, Society for Engineering Science.

Prof Mahadevan serves on the editorial board of the Proceedings of the Royal Society of London (A) Mathematical, Physical and Engineering Sciences, Chaos, Fields Institute Mathematics in Industry Case Studies, and Nonlinearity.

- *Light refreshments will be served after the talk.*