



"A Numerical Method for Studying Thermal Deformation in Micro Structures Exposed to Ultrashort Pulsed Lasers"

Friday, February 8, 2:30 pm
Pickard Hall, Room 304

Dr. Weizhong Dai*

*Mathematics & Statistics
College of Engineering & Science
Louisiana Tech University*

Abstract:

Ultrashort pulsed lasers have been attracting worldwide interest in science and engineering communities. Studying the thermal deformation induced by ultrashort pulsed lasers is important for preventing thermal damage. In this talk, we present a new numerical method for studying thermal deformation in 3D micro structures exposed to ultrashort pulsed lasers. The method is demonstrated by investigating thermal deformations in a 3D thin film and a 3D sphere, respectively.

*Dr. Weizhong Dai is a McDermott International Professor of Mathematics at Louisiana Tech University. His research interests include numerical solutions of partial differential equations, numerical heat transfer and bioheat transfer, numerical simulations for bioeffect of electromagnetics, and numerical methods for microfabrication systems, such as LCVD, melt crystallization, and X-ray lithography. He has published one book and over 100 research articles in refereed journals and international conference proceedings. He is a member of the editorial board for The Open Applied Mathematics Journal, The Open Thermodynamics Journal and Advances in Differential Equations and Control Processes, and is a reviewer for various international journals and conferences.

The Math Department will provide refreshments 30 min. prior to the presentation.