



# Announcing

**A Colloquium Presentation  
October 14, 2009 at 3:00 pm  
Polymer Science Auditorium**

**at The University of Southern Mississippi**

**Speaker: Vladimir Kompis**

Department of Mechanical Engineering  
Academy of Armed Forces

**Title: Computational Simulation of Stress  
and Temperature Fields in Composite Materials  
Reinforced by Short Fibers**

**Abstract:**

Carbon Nano-Tubes (CNT) are 100 times stiffer and stronger than strongest steel. Composite materials like polymers reinforced by CNT's are materials of the future. Enormous challenges in the development of CNT composites are evident in the countries all over the world. Multi-scale and multi-physics computational methods are developed to tackle these materials. Continuum models using Finite Element Method (FEM) or Boundary Element Method (BEM) models are not efficient to simulate the problem. A much more efficient solution using the Fast Multipole Method (FMM) will be presented in this talk to compute the stress and temperature fields.

**Further Information**

This colloquium presentation is jointly offered through the Department of Polymer Science and the Department of Mathematics. Further details and information about this and other departmental activities is available online at [http://www.math.usm.edu/bulletin\\_board/](http://www.math.usm.edu/bulletin_board/).