



*NEBRASKA CENTER FOR MATERIALS AND
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Los Alamos, NM**

***Metamaterials – New Opportunity in Manipulating
Terahertz Radiation***

During the past decade electromagnetic metamaterials have realized many exotic phenomena that are difficult or impossible to occur in nature. Novel functionality in metamaterials usually originates from their resonant interaction with electromagnetic waves. It becomes increasingly important in the terahertz frequency range, where the so-called terahertz gap is a technology vacuum associated with the deficiency of terahertz materials. In this talk, I will demonstrate how passive and active terahertz metamaterials and devices have enabled novel functionality and unprecedented performance. These will mainly cover design of novel metamaterial structures, resonance tuning through integration of semiconductors and complex oxides, as well as thin metamaterial coatings for antireflection and perfect absorption.

Dr. Hou-Tong Chen received his B.S. and M.S. degrees from University of Science and Technology of China (USTC) in 1997 and 2000, respectively, and a Ph.D. degree from Rensselaer Polytechnic Institute (RPI) in 2004, all in Physics. He joined Los Alamos National Laboratory (LANL) as a Postdoctoral Research Associate in 2005, and then has held a Technical Staff Member position since June 2008. Currently he is also a CINT Scientist in the Center for Integrated Nanotechnologies (CINT), which is a Department of Energy, Basic Energy Sciences Nanoscale Science Research Center jointly operated by Los Alamos and Sandia National Laboratories. Dr. Chen's research interests include ultrafast optics and terahertz time-domain spectroscopy, and electromagnetic metamaterials and devices.

**Friday, March 25, 2011
237 Scott Engineering Center
1:30-2:30 pm
UNL City Campus**

**Host:
Dr. Yongfeng Lu
Department of
Electrical Engineering**

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