



Center for  
**Advanced Materials**  
and Nanotechnology

## **CAMN Open House: New Lehigh Faculty Introductions**

Date: February 14<sup>th</sup>, 2011

Time: 12:10 pm - 1:20 pm

Location: 3<sup>rd</sup> Floor Whitaker Lab, Room 303 (Auditorium), Lehigh University  
5 East Packer Ave., Bethlehem, PA 18015

### **Agenda**

**12:10-12:20**      **Welcome (Lunch to be Served)**

**12:20-12:50**      **Molecular Dynamics Simulations of Reactive Capillary Flow**

*Dr. Edmund Webb III, Associate Professor, Mechanical Engineering and Mechanics*



Appointed to Lehigh Faculty: 2010

**Education:**

Ph.D., Ceramic and Materials Science and Engineering, Rutgers University, 1996  
B.S., Ceramic Engineering, Rutgers University, 1991

**Related experience - teaching, industrial, etc.:**

Sandia National Laboratories, Albuquerque, New Mexico USA, 1998 - 2010  
Exxon Research and Engineering, Clinton, New Jersey USA, 1997 - 1998

**Research activities, consulting, patents, etc.:**

Research applies simulation techniques across multiple length and time scales to elucidate fundamental phenomena controlling the mechanical response of materials. Current studies include stress evolution in nanostructures and thin films, capillary driven fluid flow in reactive flow systems, and mass and heat transport processes at interfaces between dissimilar materials.

**12:50-1:20**      **Hierarchical Engineering of Tunable Nanoparticulate and Templated Porous Materials towards Reaction and Separations Applications**

*Dr. Mark Snyder, P.C. Rossin Assistant Professor, Chemical Engineering*



Appointed to Lehigh Faculty: 2008

**Education:**

Ph.D., Chemical Engineering, University of Delaware, 2006  
B.S., Chemical Engineering, Lehigh University, 2000

**Related experience - teaching, industrial, etc.:**

Postdoctoral Research Associate, Dept. of Chemical Engineering and Materials Science, Univ. of Minnesota, 2006-2008

**Research activities, consulting, patents, etc.:**

Design and synthesis of inorganic and functionalized nanomaterials: Controlled nanoparticle synthesis and functionalization; Assembly and templating of higher-order porous and functionalized structures and replica materials; Multiscale modeling of phenomena spanning molecular transport and dynamics to device performance; Novel materials and processes for applications in catalysis, high-resolution membrane-based separations and adsorption, and integrated reaction-separation technologies.

