

# Frontiers in Engineering and Science Research - Creating the Future -

## 2009/2010 NU ChE Industrial Advisory Board Invited Lecture Series



*"Predictions of Gas Production from Hydrate Reservoirs: The Results of the International Methane Hydrate Reservoir Simulator Code Comparison Project "*

**Dr. Brian Anderson**

Assistant Professor/Verl Purdy Faculty Fellow  
Department of Chemical Engineering, West Virginia University

**Research Interests:** sustainable energy and development, economic modeling of energy systems, multi-scale molecular modeling of energy-relevant systems.

September 29, 2009

*"Tunable Microenvironments for Regenerative Medicine"*

**Dr. Lonnie Shea**

Professor/ Director of NIH Biotechnology Training Grant  
Department of Chemical and Biological Engineering, Northwestern University

**Research Interests:** controllable microenvironments for directing tissue growth for ovarian follicle maturation for treating infertility, islet transplantation for treating diabetes, nerve regeneration for treating paralysis, and cancer diagnostics.



October 27, 2009

*"Optical and Microfluidic Techniques for Cellular Manipulation and Analysis"*

**Dr. Daniel Chiu**

Professor

Department of Chemistry/Center for Nanotechnology/Neurobiology and Behavior Program, Northwestern University

**Research Interests:** new methods for probing complex biological processes at the single-cell and single-molecule level with applications toward understanding biological complexity.



November 17, 2009

*"New Possibilities for Understanding Complex Metal Hydrides via Synchrotron X-ray Studies: Making Synchrotron X-ray Characterization Relevant to the Hydrogen Economy"*

**Dr. Tabbetha Dobbins**

Assistant Professor

Department of Physics, Grambling State University/Louisiana Tech University

**Research Interests:** applying synchrotron x-ray analysis to modern engineering problems in carbon nanotubes, the hydrogen fuel economy, and polymer self-assembly.



December 15, 2009

Tuesdays  
11:45 to 1:30  
110 West Village H  
Refreshments Served



Department of Chemical Engineering