







Monday, February 13  
3:00 pm  
1008B Digital Media Center  
Louisiana State University

**Neutrons and Numbers: The VISION challenge. The world's first high throughput Inelastic Neutron Scattering Spectrometer !**

The recently commissioned VISION spectrometer at the SNS in Oak Ridge Tennessee has an increased overall flux at low energy transfers up to 4000 times over its predecessors and it has unprecedented sensitivity. I will examine the limits of what is now possible in Inelastic Neutron Scattering thanks to VISION. From the determination of INS spectra of publishable quality in minutes (for samples in the gram quantity range), measuring the signal of samples in the milligram range to the direct determination of the signal of 2 mmol of CO<sub>2</sub> adsorbed on functionalized catalysts.

Sample environment developments are a crucial part of an effective neutron scattering program, at VISION we have developed the world's largest single crystal diamond anvil cell and measured the INS spectra of 1 mm<sup>3</sup> of a HMB sample. Gas handling experiments are trivial to