



NCMC-14 Tour Stop Information

Friday, November 7, 2008

2:30 – 3:30 PM

Please inform the Tour Leaders of the laboratories you wish to visit, no later than lunch time on November 7, so that they can help you to gain access to NIST buildings (buildings have secured entries).

1. Hydrogen Storage Session

- a. **IR emissivity set-up for screening measurements of hydrogenation of combinatorial films** *Bldg. 223/A332-4* – [Leo Bendersky](#)
- b. **E-beam deposition system with computer-controlled masks and shutters for fabrication combinatorial films** *Bldg. 223/A154* – [Leo Bendersky](#)

2. Tours of the NIST Center for Neutron Research (NCNR) are available upon request. Please see [Kate Beers by noon on November 6th](#) to request a tour at 2:45 PM on Friday afternoon.

3. Fuel Cells and Membranes Session: Dielectric Relaxation Spectroscopy (DRS) and Small Angle X-ray Scattering (SAXS) *Bldg. 224 A320/B321* – [Kirt Page](#)
DRS and SAXS are valuable tools for characterizing the molecular relaxation behavior, conductivity and nanostructure of materials for potential use in fuel cell applications. The principles of DRS and the instrumentation will be discussed and demonstrated. The capabilities of SAXS will be discussed and the instrument will be on display.

4. Next-Generation Electronics *Bldg. 224/B321* - [Dean DeLongchamp](#)
Complex integrated circuits printed from flexible plastic materials rather than the conventional, expensive, and rigid silicon-based semiconductor devices have the potential to revolutionize the way in which electronics are incorporated into our everyday lives. NIST research is focused on the measurement needs for this

exciting new technology and includes a world-class facility to develop correlations between the processing methods for the organic semiconductor materials, the resulting structure of the active material, and ultimate device performance.

5. **NCMC Session: Polymer Adhesion and Mechanics** *Bldg. 224/B217* – Edwin Chan
 - a. Cantilever peel test for measuring the interfacial adhesion of polymer thin films used in nanotransfer printing
 - b. JKR-based contact adhesion test for gaining fundamental understanding of soft polymer adhesion
 - c. JKR-based contact mechanical testing for measuring the creep properties of polymers