

Characterization Methods for Surfaces, Interfaces and Thin Films

Wednesday, Jan. 16, 2019; Room 3-210 Keller Hall, University of Minnesota-Twin Cities Campus

Sponsored by the University of Minnesota's Characterization Facility and IPRIME's Nanostructural Materials & Processes (NMP) program

- 8:20 - 8:25** **Introduction to IPRIME**
Bob Lewis, Executive Director of IPRIME
- 8:25 - 8:30** **Introduction to the Characterization Facility**
Greg Haugstad, Director of CharFac
- 8:30 - 9:10** **Nanomechanical approaches to determining strength, ductility and toughness for thin films, graded materials, and beyond...**
Nate Mara, Associate Professor, CEMS
- 9:10 - 9:55** **Beyond AFM topography: nanomechanical characterization using higher resonant frequencies, multiple frequencies and fast force mapping**
Drew Griffen, Oxford Research (Asylum)
- 9:55 - 10:20** **AFM imaging and nanomechanics of organic thin films and gel coatings in air and under aqueous immersion**
Greg Haugstad, CharFac
- 10:20 - 10:40** **BREAK**
- 10:40 - 11:20** **Latest Advances in Nanoscale Infrared Spectroscopy and Imaging**
Curt Marcott, Bruker Nano
- 11:20 - 12:00** **Confocal Raman Microscopy**
- 12:00 - 1:00** **LUNCH (on site)**
- 1:00 - 1:40** **UPS & STM: high resolution mapping & surface spectroscopy of thin films in ultrahigh vacuum**
Geoff Rojas, CharFac
- 1:40 - 2:20** **X-ray Photoelectron Spectroscopy: the use of Charfac's XPS in materials analysis**
Bing Luo, CharFac
- 2:20 - 2:40** **BREAK**
- 2:40 - 3:20** **Spectroscopic Ellipsometry: Measuring Quantum Dot Optical Constants, Oxide Porosity, and Thin Film Glass Transition Temperatures**
John Suddard-Bangsund, CEMS
- 3:20 - 4:00** **Characterization of thin films using X-ray scattering**
Javier Garcia-Barriocanal, CharFac
- 4:00 - 4:30** **Ion beam analysis: an elemental and depth-resolved probe of thin films and buried interfaces**
Greg Haugstad, CharFac