

Wednesday, August 29 2018, 4:10-5:00PM, WEB 1230

Dr. Brian Van Devener

Surface Analysis Lab Manager, Utah Nanofab, University of Utah

Nano-Imaging and Surface Analysis Lab: A Materials Characterization lab with Ultra High Resolution Imaging and Spectroscopic Instruments.

With a broad range of imaging and characterization tools, the Surface Analysis Lab is a key core facility lab on campus. With techniques able to image and measure material properties from the mm to sub – nm scale, this talk will focus on the instrument capabilities, limitations and applications. These techniques include:

- o S/TEM (Scanning/Transmission Electron Microscopy, with dual EDS)
- o In-situ TEM reaction cells for gas and liquid phase experiments with the electron microscope
- o HR-SEM (High Resolution Scanning Electron Microscopy, with EDS, EBSD, ESEM)
- o XPS (X-Ray Photoelectron Spectroscopy/Auger Electron Spectroscopy, with XPS imaging, ISS)
- o AFM (Atomic Force Microscopy)
- o dbFIB (dual beam Focused Ion Beam)
- o Ellipsometry
- o Surface Profilometry
- o XRF (X-Ray Fluorescence)
- o Optical Microscopy

With a Ph.D. in Physical Chemistry from the University of Utah focusing on heterogeneous catalysis, Dr. Van Devener has worked as the University Surface Scientist since 2009 and is also the manager of the Surface Analysis Lab on campus.

