

nanofAB Seminar Series

Applications of X-ray, Mineralogy and Correlative Microscopy

The nanoFAB, in partnership with Zeiss, is pleased to be hosting application seminars in X-ray, mineralogy and correlative microscopy. These seminars are for Principle Investigators interested in an introduction and application review for potential value to ongoing research and development needs.

Location: ETLC E6-060

Time: 12 – 2 pm

RSVP: melissa.h@ualberta.ca by January 23rd, 2015

12pm: Improved Accuracy and Precision of Automated Mineralogy SEM-EDX

By Ben Tordoff, Ph.D., Carl Zeiss Microscopy Inc.

The advent of ultrafast computing has brought about the ability to use fully quantitative EDX analysis for automated mineralogy systems in realistic timescales. Additionally, rapid imaging now allows high resolution BSE images of samples to be acquired in parallel. These new developments have a direct impact on the quality of data that automated mineralogy systems can produce. This talk discusses these data quality improvements using real world examples.

12:45pm: An Introduction to 3D X-ray Microscopy and Applications

By Sreenivas Bhattiprolu, Ph.D., Carl Zeiss X-ray Microscopy Inc.

In the last decade advances in x-ray microscopy have enabled 3D imaging down to the submicron and even nanometer resolution scale. This advance in technology has led to revolutionary new imaging applications in Oil and Gas, Mining, Materials Science and Nanotechnology. We survey these applications from Digital Rock Physics (DRP) to in situ flow imaging to novel structural investigations in materials science and nanotechnology.

1:30pm: An Introduction to Multi-tool, Correlative Microscopy Workflows

By Andy Steinbach, Ph.D., Carl Zeiss X-ray Microscopy Inc.

Many problems in natural resources and materials require characterization over many orders of magnitude in resolution in both 2D and 3D. We describe novel techniques to perform multi-scale imaging by fusing the data outputs of multiple tools in a common microscopy workspace. We describe a shale workflow that unifies imaging across 7 orders of magnitude from cm to nm scale, integrating 2D and 3D imaging and mineralogy information. Additional workflow examples from materials science, nanotechnology and mining will be covered.

One on One Meeting Sessions Available

30 minute application meetings are available by request from 2:30 – 4:30 pm

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