

SEMINAR NOTICE

Department of Physics and Engineering Physics University of Saskatchewan

SPEAKER: Dr. Dean Chapman, Anatomy and Cell Biology,
University of Saskatchewan

TOPIC: *X-Ray Optics for Biomedical Imaging Applications at the
Canadian Light Source*

DATE: Tuesday, March 22nd, 2016

TIME: 3:30-4:30pm.

PLACE: Rm. 103, Physics Building

ABSTRACT:

*Dean Chapman, Canadian Light Source / Anatomy & Cell Biology, University of Saskatchewan
Mercedes Martinson, Basseyy Basseyy, & Nazanin Samadi, Physics & Engineering Physics, University of Saskatchewan
Peng Qi, Biomedical Engineering, University of Saskatchewan
Tomasz Wysokinski, George Belev, Canadian Light Source*

The synchrotron provides an ideal environment to develop new approaches to x-ray imaging. At the Canadian Light Source (CLS) there are a number of activities on the Biomedical Imaging and Therapy (BMIT) beamlines directed to advancing the x-ray diffraction optics used for imaging. These optics have been used to improve existing methods as well as provide new capabilities and is being done primarily by graduate students in the U of S Physics and Engineering Physics Department. An overview of work will be presented on developing x-ray diffraction optics for

- 1.K-Edge Subtraction imaging; a form of x-ray functional imaging,
- 2.speciation imaging of selenium compounds,
- 3.multiple energy imaging of several elements and materials,
- 4.imaging larger objects using a beam expander that preserves the x-ray beam properties needed for phase contrast and
- 5.optics that allow the measurement of the synchrotron photon beam trajectory (position and angle) and possibly the source angular and size distribution (emittance).

Coffee and Cookies will be served in the Physics lounge at 3:00 pm. for those attending the seminar.