



Lakehead  
UNIVERSITY

Faculty of  
Science and  
Environmental Studies  
Speaker Series

## X-rays, Metals, Life and Death

### Prof. Ingrid J. Pickering

Professor and Canada Research Chair in  
Molecular Environmental Science -  
University of Saskatchewan

Every day, in the course of our normal lives, humans are exposed to a complex chemical soup consisting of an enormous variety of chemical compounds. Many of these compounds contain metal atoms which, once inside us, can either fulfill roles that are essential to our health, or act as poisons, sometimes with deadly consequences. Synchrotron X-rays can be used to reveal the molecular details of metals within living systems, how they interact with one another, how they confer beneficial properties, and how they act as poisons.

This presentation will highlight how our knowledge of the roles of metals in our lives and in the environment has been advanced using these methods. Examples include a possible treatment for what has been called the world's worst mass-poisoning, in which 57 million people are consuming arsenic-contaminated drinking water in Bangladesh.



Dr. Ingrid Pickering received her PhD in Chemistry from Imperial College-University of London in 1990. After two years as a post-doctoral fellow with Exxon Research and Engineering Company, she moved to the Stanford Synchrotron Radiation Lightsource at Stanford University, where she spent 11 years as a staff scientist. She came to Canada in 2003 to take a Research Chair (Tier 1) in Molecular Environment Science and a professorship in the Department of Geological Sciences at the University of Saskatchewan.

Dr. Pickering has extensive interactions with the Canadian Light Source, where she leads a synchrotron health graduate training program. Her research investigates metals and other elements in biological systems from the environment to human health.

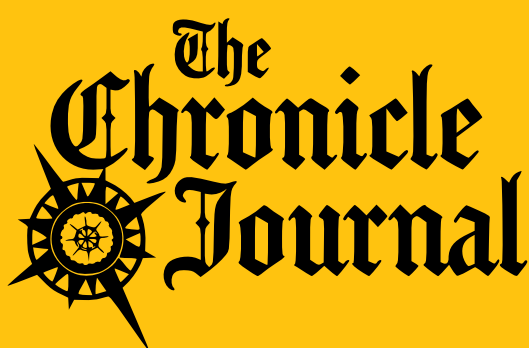
**Wed. November 4, 2015**

**ATAC 1003**

**8:00pm to 9:30pm**



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