

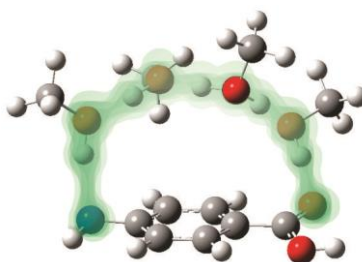


Chemical & Physical Sciences
UNIVERSITY OF TORONTO
MISSISSAUGA

COLLOQUIUM
TUESDAY, OCTOBER 13, 2015
12:00 NOON – 1:00 PM
IB250

Dr. Scott Hopkins
University of Waterloo
Departments of Physical Chemistry

**Elucidating the Physicochemical Properties of
Isolated Clusters**



Between bulk materials and molecular systems lies a grey area for chemistry and physics. Bridging this gap is a major theme in modern science. The drive to develop technologies that make use of quantum-confined species and nanostructured materials is spurred by a myriad of possible innovations in topics ranging from tailored nanocatalysis through to quantum-cluster energy storage. A rigorously characterized, quantum-state resolved picture of the evolution of nanocluster properties would provide a much needed underpinning for the applied directions in this field of research. To this end, we employ modern computational methods to map cluster potential energy landscapes, then we test our calculations experimentally with advanced spectroscopic and chemical dynamic techniques. This seminar will present some of our recent work on microsolvated clusters and will discuss the role of microsolvation in differential mobility spectrometry, an emerging ion chromatography technology.