



RCMS · IGER Seminar



“Exploring Tunable Nanoscale Metal Complexes Through Ligand Design”



Lecturer : Prof. Jaclyn Brusso

(University of Ottawa)

Date : Tue. 4th Dec. 10:30 – 12:00

**Place: Noyori Materials Science Laboratory
Chemistry Gallery**

Research focused on the design of various ligand architectures that enable the development of defined metallic complexes has long been recognized as an avenue towards controlling or tuning various properties of the corresponding material. Polypyridines, for example, represent a class of ligands that have been designed for a wide variety of applications ranging from catalysis to molecular magnetism. Recently, our group has developed a number of non-innocent ligands that possess multiple coordination sites in which various polymetallic complexes can be prepared by controlling the coordination environment. This presentation will focus on our recent work employing the N-2-pyridylimidoyl-2-pyridylamide (Py2ImAm) ligand to explore magnetic and conductive materials through coordination with paramagnetic transition metal ions. Understanding the conditions necessary to isolate complexes coordinated in a bidentate or tridentate fashion, enables us to take advantage of this chemistry affording mono and polymetallic complexes with varying molecular properties and chemical reactivities. The synthesis and characterization of a series of complexes will be described, and the key factors dictating the coordination environment the metal ion prefers will be discussed along with the effect of their supramolecular self-assembly on their transport properties.

Contact: Kunio Awaga (ext. 2487)