

Inorganic Seminar

Tuesday, July 30, 4:00 pm

Hutchison Hall 473, University of Rochester, Chemistry Department

Professor Jeremy Smith

Department of Chemistry
Indiana University, Bloomington IN



**“Small Molecule Deactivation:
Stabilizing Reactive
Species in Bimetallic Complexes”**

Abstract: A building block strategy for accessing reactive heteronuclear diatomics that are stabilized as ligands in transition metal complexes will be presented. Here, low coordinate tris(carbene)borate complexes are a key component in providing access to stable, yet reactive metal-ligand multiple bonds, including terminal oxo and nitrido ligands of the late 3d elements. Two successful implementations of the building block strategy will be presented: (1) reductive coupling of terminal atomic ligands to stabilize the interstellar gas, phosphorus nitride, for the first time; and (2) coupling of a low valent, coordinatively unsaturated “acceptor” complex with a “donor” complex possessing a terminal diatomic ligand, providing access to reduced states of the cyanide anion. Preliminary investigations into the magnetic properties and reactivity of these new species will also be presented.

Host: Theresa Iannuzzi • Email: tiannuzz@ur.rochester.edu

