INORGANIC SEMINAR

"Correlation Of Electronic Structure To Reactivity In Organometallic Catalysis And Polynuclear Small Molecule Activation"

Abstract: Electronic structure considerations dictate the stability and/or reactivity of both mono- and polynuclear complexes. The utilization of weak-field ligands have enabled (1) the development of reactive iron-based reagents to catalyze C-H bond functionalization, and (2) directly control M-M interactions in polynuclear clusters to unveil a host of new physical properties. In the latter context, the close proximity of the metal ions within the polynuclear architectures enforce direct metal-orbital overlap, giving rise to fully delocalized electronic configurations. Within this delocalized framework, ligand alterations allows for tuning of the resultant electronic structure from low-spin to high-spin configurations. Within both bodies of chemistry, obtaining high-spin electronic configurations are necessary to achieve catalysis or small molecule activation.

Prof. Theodore Betley
Harvard University

Wednesday, September 26th, 2012

3:30 PM ROOM 1315 CHEMISTRY

IF YOU WISH MORE INFORMATION PLEASE CALL THE INORGANIC OFFICE AT 262-6815.

Refreshments will be available at 3:15 p.m. outside of the seminar room setup by Travis Sunderland. Thanks Travis!