

## Student Seminar

9:45 a.m. Tuesday, March 8 • 331 Smith Hall

Assistant Professor

**John Berry**

Department of Chemistry  
University of Wisconsin at Madison

*Coordination Complexes with  
Multiple Inorganic Functional Groups*

Website:

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### Abstract

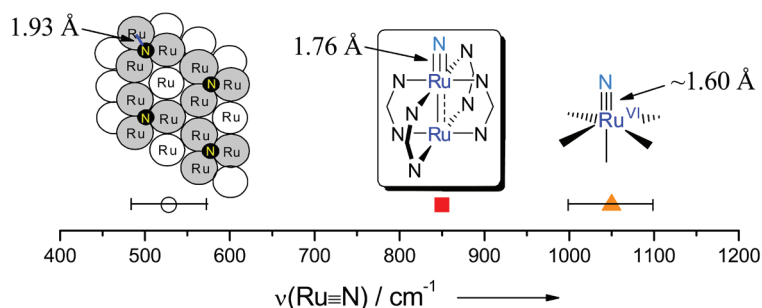
Experiments will be described pertaining to the synthesis, properties, and reactivity of new compounds that contain both metal-metal and metal-ligand multiple bonds. The electronic influence of the metal-metal bond causes the metal-ligand multiple bonds in these compounds to be longer and more reactive than what is observed in mononuclear compounds. The involvement of metal-metal/metal-ligand multiply bonded compounds as highly reactive intermediates in C–H functionalization reactions, especially C–H amination, will be presented. Experimental and computational studies provide new mechanistic insight into catalytic C–H amination with metal-metal bonded catalysts.



John F. Berry received a Bachelor of Science degree in chemistry and a Bachelor of Arts degree in music theory from Virginia Tech. He earned his doctorate in chemistry from Texas A&M University. He did his postdoctoral work at Max-Planck-Institut für Bioinorganische Chemie.

His research interests include coordination chemistry—synthesis, structures, spectroscopy, and electronic structure of new types of transition metal complexes; isolation and characterization of highly-reactive high-oxidation state intermediate species; redox catalysis, especially of reactions involving multiple electron transfers; metal-ligand and metal-metal multiple bonding; heterobimetallic complexes.

His awards include a National Science Foundation (NSF) Career Award; Ernst Haage Preis des Max-Planck-Institut für Bioanorganische Chemie; Alexander von Humboldt Forschungsstipendium, MPI-Mülheim; and NSF predoctoral fellowship.



Hosts: Kit Zall and Ryan Hue