

Chemistry Departmental Colloquium

Adventures in Synthesis at the Bottom of the Periodic Table

Dr. Suzanne Bart

Professor of Chemistry



Abstract:

Redox-active ligands have been demonstrated to mediate multi-electron chemistry on a variety of transition metals and main group elements, promoting useful bond forming and activation chemistry. Our group has been exploring such frameworks for the elements of the f-block, in hopes to extend this methodology to generate elusive targets and control redox properties. Herein, we present our latest findings on the unique electronic structures of lanthanide and actinide complexes with these ligands. These unusual species have interesting chemical properties, and their study gives molecular insight into key intermediates identified in the nuclear fuel cycle. Our complete study combining characterization by spectroscopic, structural, and computational methods will be presented, as well as a discussion of the role of the redox-active ligands in the observed chemistry.



Thursday, September 25, 2025



3:30pm



WTHR 104