



Department of Chemistry Seminar Series Spring 2023

Friday, March 3, 2023, 3:30 PM – HPA1-O119 (Health Sciences)

Solid-state structural chemistry of f-element complexes and clusters



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The f-elements, including both the lanthanides and actinides, have received considerable political and scientific attention due to their importance to hi-tech applications, energy technologies, and national security. Yet, despite the widespread use of the lanthanides in everyday technologies and the actinides perhaps most notably in nuclear energy systems, our understanding of the chemical behavior of these elements lags behind that of the rest of the periodic table. To fill this gap, our group has harnessed structural chemistry to uncover new insights into the fundamental behavior of the 4f- and 5f-elements that may be applied to areas ranging from materials design to separations chemistry. Presented here will be an overview of current needs in f-element research, and the role that structural chemistry plays in our understanding of structure-property relationships and/or the chemical behavior of f-elements under conditions relevant to process chemistry, waste management, and environmental behavior..