

BREAKING STRONG BONDS AND RECOVERING RARE EARTHS: ADVENTURES IN SUSTAINABLE CHEMISTRY

INORGANIC SEMINAR

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Hutchison Hall 473
Department of Chemistry
University of Rochester



GUEST SPEAKER:
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Abstract: Catalysis is one of the most powerful tools of green chemistry, enabling reactions with lower energy consumption and providing new pathways for bond formations. In particular, catalytically functionalizing C-H bonds (common in crude oil derived molecules) and C-O bonds (common in biomass) under mild conditions are critical reactions to enable more sustainable chemical methodologies. Our approach towards addressing these challenges focuses on establishing a mechanistic understanding in order to translate this knowledge into broadly useful protocols for organic synthesis and biomass activation.

At the end of the materials lifecycle, inventing new technologies to provide sustainable sources of raw materials through recycling is another critical challenge for the movement towards a circular economy. Our efforts in this area take an approach similar to our developments in the area of catalysis: Based on understanding principles and mechanisms of materials flows, we use the principles of green chemistry to enable the design of novel, sustainable rare earth recovery technologies.

Host: Professor Michael Neidig, email: neidig@chem.rochester.edu

