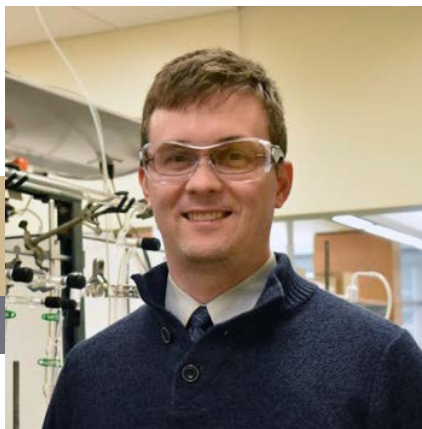


INORGANIC SEMINAR

Designing Heterogeneous Catalytic Materials to Enable Biomass Upgrading and Fine Chemical Production

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Heterogeneous catalytic materials have enabled production of valuable materials and products that have transformed society. Yet, it is often difficult to pinpoint the structure of the catalytic site in heterogeneous catalysts where these reactions occur. The key challenge for catalytic materials is the elucidation of synthesis-structure-reactivity relations to help describe the structure of the catalytic site. In this presentation, we will examine different types of catalytic materials and the different spectroscopic and catalytic testing methods that are used to describe the catalytic site. We will discuss the rich and complex behavior of mesoporous materials as well as Lewis acid zeolites for a range of chemical reactions relevant to biomass upgrading and pharmaceutical production. These materials will be characterized using advanced spectroscopy methods and catalytic testing to elucidate the structure of the catalytic site. The insights from these tests will be used to improve the design of the catalytic material to produce uniform and highly active catalytic sites. Overall, our results contribute to the fundamental understanding of how catalytic material design can be used to advance sustainability.



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12:30 pm



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