Dept. of Chemistry and Biochemistry

Organic/Inorganic Seminar Series presents :

Christopher J. Douglas

University of Minnesota

Hosted by Ramesh Jasti

Friday, December 4, 2015

2:30—3:30 pm, 331 KLA

Coffee reception @ 2:00 pm, 377 KLA

The Design, Discovery, and Applications of Catalytic Reactions Involving C-C, C-O, or C-N Bond Activation

Abstract: Developing catalysis based on the activation of traditionally challenging bonds is an active area of research in organometallic and organic chemistry. New bond activation chemistry could change the way synthetic chemists approach the construction of complex molecules by allowing non-traditional retro-synthetic disconnections to be made. This presentation will focus on recent developments at Minnesota in the activation and functionalization of unstrained bonds adjacent to carbonyls. Catalytic reactions are designed with an eye towards complexity-building reactions. For example, group 9 or 10 metal-mediated activation of the C-C bond of ketones, the C-O bond esters, or the N-CN bond of cyanamides enables carboacylation, oxyacylation, and aminocyanation processes of alkenes, respectively. Our contributions to these processes will be presented, along with applications in synthesis and the discovery of new processes that have arisen from analysis of our prior work.

Douglas Group Winter 2015

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