CORE-CM SEMINAR
Michigan State University

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Engineering Proteins for Selective Catalysis

Proteins have great potential as scaffolds to control the selectivity of catalysts and reactive intermediates contained within their structures. Techniques to improve the substrate scope and alter the selectivity of natural enzymes are now well established, and examples in which enzymes are used to catalyze synthetically useful, non-native reactions are appearing with increasing frequency. This trend of using proteins to control chemical reactivity has been further extended through the development of artificial metalloenzymes, hybrid catalysts comprised of synthetic cofactors linked to protein scaffolds. I will discuss efforts by my group aimed at engineering natural enzymes and artificial metalloenzymes for selective C-H bond functionalization and other challenging transformations. The examples presented will highlight the potential for molecular recognition and evolution to enable new methods and strategies for organic synthesis.

Thursday, December 1, 2016
12:00 NOON
Room 1400 – Biomedical & Physical Sciences
Host: Professor Mitch Smith