

**Thursday, September 27, 2018**

**11:30 a.m.-12:00 p.m.**

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**Discovery of and design of systems for multi-enzyme cascades**

Microbes and plants synthesize a tremendous diversity of chemical compounds that is unmatched by synthetic methods. We are interested in exploring and utilizing these enzymatic machineries to enable the discovery and sustainable synthesis of valuable compounds for use as fine chemicals, pharmaceuticals and chemical building blocks. In this presentation, I will discuss our work on exploring the biosynthetic diversity of higher fungi (Basidiomycota) for the discovery of new natural products pathways and redox enzyme catalysts. In addition to our *in vivo* pathway engineering efforts, I will present our efforts on the design of genetically programmable, protein-based materials for biocatalysis and other applications. Recently, we have developed a robust technology platform for the *in vitro* co-immobilization of multi-enzyme cascades for the production of valuable compounds, which I will discuss.