Nature performs challenging synthetic transformations using powerful enzymes. These enzymes are frequently found in the biosynthetic pathways of natural products, many of which have served as inspirations for generations of synthetic chemists over the last fifty years. With recent advances in our abilities to manipulate biosynthetic pathways, many powerful enzymes have been revealed and characterized. In this talk, I will present a selection of recent work on the identification, characterization and engineering of several enzymes that catalyze difficult transformations and generate structural complexity in fungi. Examples including multifunctional P450s, pericyclases and enzymes that catalyze epoxide rearrangements will be covered.

Interesting biology associated with newly discovered fungal natural products will also be discussed.

**Biography:** Yi Tang completed PhD studies with David Tirrell at the California Institute of Technology and postdoctoral research with Chaitan Khosla at Stanford University, and he recently co-authored the textbook “Natural Product Biosynthesis: Chemical Logic and Enzymatic Machinery” with Christopher T. Walsh (Stanford University). Yi’s primary area of current research interest is fungal natural product biosynthesis. He has more than 150 publications (H-index 46), including numerous recent articles in *Nature, Nat. Chem. Biol.*, *J. Am. Chem. Soc.* and *Angew. Chem.*