

UW Chemical Engineering

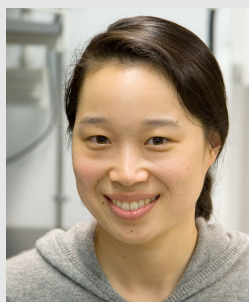
Fall 2013 Seminar Series

Date: Monday, October 28

Time: 4:00 - 5:00 p.m.

Place: PAA A118

Topic: *Building new chemical function in living organisms*



Michelle Chang

Professor, Chemistry and Molecular and Cell Biology

University of California, Berkeley

Biography

Michelle is an associate professor at UC Berkeley in the Departments of Chemistry and Molecular and Cell Biology. She received her Ph.D. from MIT, working with JoAnne Stubbe and Daniel Nocera, and her postdoctoral training with Jay Keasling at UC Berkeley. Her research group works at the interface of enzymology and synthetic biology, with a focus on studying biological fluorine chemistry, formation of mixed-valent nanomaterials by directional-sensing bacteria, and processes involved in developing synthetic biofuel pathways. She has received the Dreyfus New Faculty Award, TR35 Award, Beckman Young Investigator Award, NSF CAREER Award, Agilent Early Career Award, NIH New Innovator Award, DARPA Young Faculty Award, Camille Dreyfus Teacher-Scholar Award, and 3M Young Faculty Award.

Abstract

Living systems have evolved the capacity to carry out many chemical transformations of interest to synthetic chemistry if they could be redesigned for targeted purposes. However, our ability to mix and match enzymes to construct de novo pathways for the cellular production of small molecule targets is limited by insufficient understanding how chemistry works inside a living cell. Our group is interested in using synthetic biology as a platform to study how enzymes function in vivo and to use this understanding to build new synthetic pathways for the production of pharmaceuticals, nanomaterials, and fuels using living cells.