

A2-09

Transition Metal Catalyzed Reactions for Organic Synthesis

Melanie Sanford (University of Michigan)

This presentation will describe my group's development of transition metal catalyzed reactions for applications in organic synthesis. These include group 10 metal catalyzed C–H bond functionalization reactions and decarbonylative coupling reactions that form C–C and C–heteroatom bonds from readily available carboxylic acid derivatives. In all cases, reaction design and development are driven by detailed studies of organometallic intermediates and mechanism.

PROFILE

Melanie Sanford (University of Michigan, Professor / Department of Chemistry, Researcher)

Melanie S. Sanford is currently the Moses Gomberg Distinguished University Professor of Chemistry and Arthur F. Thurnau Professor of Chemistry at the University of Michigan, Ann Arbor. She received her B.S. and M.S. degrees at Yale University and a PhD at California Institute of Technology. Following postdoctoral work at Princeton University, she joined the faculty at the University of Michigan in the summer of 2003 as an Assistant Professor of chemistry. She was promoted to Associate Professor in 2007, to Full Professor in 2010, to Arthur F. Thurnau Professor of Chemistry in 2011, and to Moses Gomberg Professor of Chemistry in 2012. She has won numerous awards, including the American Chemical Society Award in Pure Chemistry, the Sackler Prize, the Blavatnik Award, and a MacArthur Foundation Fellowship. She is a member of the US National Academy of Sciences, a Fellow of the American Academy of Arts and Sciences, and a Fellow of the American Chemical Society. She is the author of >200 research publications. Her research focuses on developing new catalytic reactions that enable the production of pharmaceuticals, agrochemicals, and fuels in a more efficient and environmentally friendly manner.