

"Oxygen driven fragment coupling by activation of C-H, N-H, and O-H bonds"

Dr. Marisa Kozlowski (Pennsylvania)

March 11, 2016, 2:30 p.m. – 3:30 p.m.

Inspired by Nature's use of oxidative couplings to construct carbon-carbon, carbon-oxygen, and carbon-nitrogen bonds in many natural products, we have undertaken studies of these important transformations. The development of selective catalytic processes for naphthol coupling, phenol coupling, N-arylation, and alkyl C–H activation that utilize oxygen as the terminal oxidant will be discussed. Applications to the synthesis of chiral natural products including nigerone, hypocrellin, cercosporin, and bisoranjidiol as well as to the synthesis of novel optically active materials will be presented.

Marisa Kozlowski received an A. B. in Chemistry from Cornell University in 1989 and a Ph.D. from the University of California at Berkeley in 1994 for work on the rational design of enzyme inhibitors under the direction of Paul Bartlett. After studying asymmetric catalysis in the laboratories of David A. Evans at Harvard University as a National Science Foundation postdoctoral fellow, she joined the faculty at the University of Pennsylvania in 1997 and currently holds the rank of Professor of Chemistry. The major focus of Professor Kozlowski's research is the development of new catalytic methods for efficient organic synthesis using computation and high throughput screening. Professor Kozlowski's contributions have been recognized by a DuPont Young Investigator Award in 1998, an NSF CAREER Award in 2001, an Alfred P. Sloan Research Fellowship, the Kahn Award for Distinguished Teaching by an Assistant Professor at the University of Pennsylvania, an American Cancer Society Beginning Research Scholar Award in 2002, an ACS Travel Progress Award in 2007, the Philadelphia Organic Chemists' Club Award in 2010, election as a Fellow of the American Association for the Advancement of Science in 2012, the Philadelphia ACS Section Award in 2012, and election as an American Chemical Society Fellow in 2013. In addition to over 100 independent publications, Professor Kozlowski coauthored with Professor Patrick Walsh the book "Fundamentals of Asymmetric Catalysis", available from University Science Books. She has served on numerous study sections including a term as Chair of the American Cancer Society CDD Study Section. She is currently a member of the Organic Reactions Editorial Board and an Associate Editor for the *Journal of Organic Chemistry*.

She is the guest of [Dr. Xavier Ottenwaelder](#)
and the Centre for Green Chemistry and Catalysis ([CGCC](#))

Where: Room SP-S110, [Richard J. Renaud Science Complex](#) (7141 Sherbrooke W.), Loyola Campus
Speakers: Dr. Marisa Kozlowski

Organizer: [Dajana Vuckovic](#)