



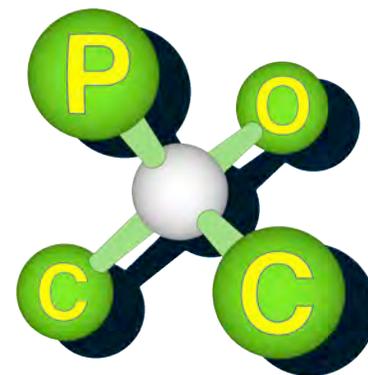
2007-2008 POCC Lecture Series

March 20th, 2008, 8:00 PM

Prof. David W. C. MacMillan
Princeton University

New Catalyst Concepts

Room 102 (Big Auditorium)
Chemistry Building, University of Pennsylvania



Biography: Dave MacMillan received his undergraduate degree in chemistry at the University of Glasgow, where he worked with Dr. Ernie Colvin. In 1990, he left the UK to begin his doctoral studies under the direction of Professor Larry Overman at the University of California, Irvine. In 1996, he moved to a postdoctoral position with Professor Dave Evans at Harvard University where his studies centered on enantioselective catalysis. He began his independent career at University of California, Berkeley in July of 1998 before moving to the California Institute of Technology in June of 2000. In 2003, he was promoted to Full Professor at Caltech, before being appointed the Earle C. Anthony Chair of Organic Chemistry in 2004. In 2006, MacMillan moved to the east coast of the US to take up a position at Princeton University as the A. Barton Hepburn Chair of Chemistry, Director of the Merck Center for Catalysis at Princeton University and Vice-Chairman. Professor MacMillan's research program is centered on chemical synthesis with specific interests in new reaction development, enantioselective organocatalysis and the rapid construction of molecular complexity.

He has received several awards including the Mukaiyama Award (2007), ISHC Award in Heterocyclic Chemistry (2007), ACS Cope Scholar Award (2007), Thieme-IUPAC Prize in Organic Synthesis (2006), Elias J. Corey Award for Outstanding Original Contribution in Organic Synthesis by a Young Investigator (2005), the Tetrahedron Young Investigator Award (2005), the Corday-Morgan Medal (2005), Henry Dreyfus Teacher-Scholar Award (2003), a Sloan Fellowship (2002), and a Woodward Scholarship Award from Harvard University (2001).

Dave is currently a member of the Chemical Communications, Tetrahedron, Tetrahedron Letters, Chemistry—An Asian Journal, Advances in Catalysis and Synthesis editorial advisory boards. He is currently a member of the scientific advisory boards of Lexicon pharmaceuticals and Materia. Dave is currently a scientific consultant with Merck (worldwide), Amgen (worldwide), Sanofi-Aventis, Schering-Plough, Abbott Research Laboratories, Johnson & Johnson Pharmaceuticals, Bayer Pharmaceuticals and Gilead Research Laboratories.

Abstract: “Organocatalysis: the field.” Over the last ten years, the field of organocatalysis has grown from a small collection of chemically unique or unusual reactions to a thriving area of general concepts, atypical reactivities and broadly useful reactions. While the modern era of organocatalysis still remains in its infancy, growth in this new chemical field continues to move at a breathtaking pace.

In this presentation, we will demonstrate a variety of new and valuable transformations based on the paradigms of iminium-activation, enamine-activation, acid catalysis and SOMO catalysis. We will also highlight an alternative strategy for natural product synthesis that we hope will provide the strategic foundations to bypass the “taxol problem.”