

Dr. Sarah Reisman
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3:00 PM

Steele 006

"Necessity is the Mother of Invention: Natural Products and the Chemistry They Inspire"

Bio: Professor Sarah Reisman earned a BA in Chemistry from Connecticut College in New London, CT and her Ph.D. in chemistry from Yale University, conducting research with Prof. John L. Wood in the area of natural product total synthesis. As an NIH post-doctoral fellow, Sarah pursued studies in the field of asymmetric catalysis working with Prof. Eric Jacobsen at Harvard University. In 2008, Sarah joined the faculty at the California Institute of Technology where she is now the Bren Professor of Chemistry. Research in the Reisman laboratory seeks to advance the science of chemical synthesis, through synergistic contributions in both strategy design for natural product synthesis and reaction development. Reisman is recognized as a leader in the area of natural product synthesis, where her group has contributed new strategy-driven approaches a number of complex highly oxidized natural products. In addition to her program in natural product synthesis, Reisman has made impactful contributions to the rapidly advancing field of Ni-catalysis, with an emphasis on asymmetric reductive cross-coupling reactions. Reisman is an editorial board member at *Organic Syntheses* and an associate editor for the *Journal of the American Chemical Society*. Reisman has been recognized with a number of awards for teaching and research, including an Alfred P. Sloan Research Fellowship, a Cottrell Scholar Award, the Arthur C. Cope Scholar Award, the Tetrahedron Young Investigator Award, and the ACS Elias J. Corey Award.

Abstract: The chemical synthesis of natural products provides an exciting platform from which to conduct fundamental research in chemistry and biology. Our group is currently pursuing the synthesis of several structurally complex natural products, with a particular focus on the development of new convergent fragment coupling and annulation strategies. The densely packed arrays of heteroatoms and stereogenic centers that constitute these polycyclic targets challenge the limits of current technology and inspire the development of new synthetic strategies and tactics. This seminar will describe the latest progress in our target-directed synthesis and reaction development efforts.