



## POCC Seminar

Thursday, February 22, 2007

Dr. Alison Frontier

University of Rochester

Title: *New Twists in Nazarov Cyclization Chemistry*

8:00 p.m.

Carolyn Hoff Lynch Lecture Hall

University of Pennsylvania

**Alison Joy Frontier** was born and raised in southeastern Michigan. She attended Harvard University, where she worked in the laboratory of Professor Yoshito Kishi. In June 1992 she graduated with an AB in chemistry and became a research scientist at Merck Research Laboratories in Rahway, New Jersey, in the Basic Medicinal Chemistry division. She enrolled in the doctoral program at Columbia University in September 1994, conducted graduate work under the direction of Professor Samuel Danishefsky, and received her Ph.D. in June 1999. She was an NIH postdoctoral fellow in the laboratory of Professor Barry Trost at Stanford University from 1999-2001, and began her independent career at the University of Rochester in January 2002.

**Abstract:** Recently, reports of catalytic versions of the Nazarov cyclization have attracted renewed attention to this 4- $\pi$  conrotatory electrocyclozation. The ability of the reaction to create adjacent stereocenters stereospecifically, should make it a valuable synthetic tool, but various factors can complicate the efficiency of the reaction. This presentation will address these factors, highlighting the importance of substrate structure to reaction outcome, in terms of both reactivity and stereochemistry. Stereochemical aspects of a new Lewis acid-catalyzed tandem Nazarov cyclization/ Michael addition chemistry will be presented. Finally, the challenges involved in the development of enantioselective Nazarov cyclization, as well as progress toward this goal will be discussed.