THE 76TH IRA REMSEN MEMORIAL LECTURE

Thursday, October 5, 2023 Remsen 101, 6:30 PM Pre-Seminar Refreshments 6:00PM, Remsen 140 Reception immediately to follow, Remsen 140



Professor Scott Miller

Irénée du Pont Professor of Chemistry Yale University

Searching for Selective Catalytic Reactions in Complex Molecular Environments

This lecture will describe recent developments resulting from our efforts to develop catalysts for asymmetric reactions, in particular for the preparation of densely functionalized, stereochemically complex structures. Over time, our foci have been on enantioselectivity, site-selectivity and chemoselectivity. In much of our current work, we are studying issues of enantioselectivity as a prelude to the extrapolation of catalysis concepts to more complex molecular settings where multiple issues are presented in a singular substrate. Complex natural products, for example, will be presented as quintessentially complex scaffolds for catalytic modification. Mechanistic paradigms, and their associated ambiguities – especially in light of catalyst or substrate conformational dynamics – will figure strongly in the lecture. Moreover, our focus on peptide-based catalysts has facilitated analogies to enzymes. Finally, several interesting collaborations – often unanticipated by us – will be discussed.

