

UNIVERSITY OF RHODE ISLAND
Department of Chemistry
SEMINAR

Room 105 Beupre Center
3:00 p.m, Friday, November 22, 2019

Daniel Kim

Princeton University

***“Development of Rh- and Co-Catalyzed
Hydroacylation Reactions & Photoredox Catalyzed
Site-Selective Tyrosine Bioconjugation”***

HOST

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Development of Rh- and Co-Catalyzed Hydroacylation Reactions & Photoredox Catalyzed Site-Selective Tyrosine Bioconjugation

Abstract: Transition metal compounds are ubiquitous throughout the chemical sciences, their presence broadly impacting fields such as organic synthesis and chemical biology. This talk illustrates how we designed new activation modes through careful catalyst design and our understanding of physical organic chemistry. The first part of this presentation will focus on recent developments on Rh- and Co-catalyzed hydroacylation reactions as an atom-economic way to form new C–C bonds. The second half of the seminar will discuss the developments of photoredox catalysis and its impact on chemical synthesis. More specifically how mild, blue-light activation can be used to site-selectively target tyrosine residues in wildtype proteins. In one-step, we can form bioorthogonal-ready proteins, which have led to several pharmaceuticals collaborations for uses in medicinal chemistry and imaging.