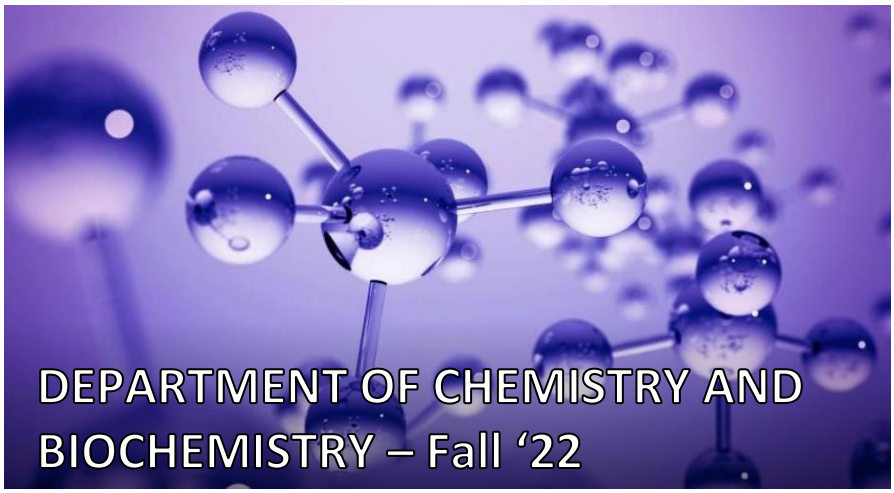

THE SALZBERG CHEMISTRY SEMINAR SERIES

The City College of New York

CREST IDEALS PHASE II

Monday, October 31, 2022 @ 12:00 noon – MR1027

New Strategies for Photocatalytic Bond Activation and the Synthesis of Neuroprotective Natural Products

David Martin

Department of Chemistry
University of Iowa

Abstract: Alcohols are one of the most prevalent classes of organic molecules in natural products, while C–H bonds are ubiquitous in diverse compounds from complex medicines to simple hydrocarbons. We have developed a photoredox C–H bond activation method for the direct functionalization of caged hydrocarbons such as adamantane and higher order diamondoids, a process with an unprecedented selectivity profile between different C–H bonds. In parallel, we are investigating the use of cobalt and iron complexes as light-driven catalysts for the activation of alcohols without prefunctionalization, with applications to deoxygenation as well as C–C bond-forming processes. Recent advances in the synthesis of neuroprotective natural products and biological probes will also be discussed.

Biography: Professor David Martin was born and raised in Calgary (Alberta) Canada, and obtained his Bachelor's degree in Chemistry from the University of British Columbia. He obtained a PhD degree from the University of California, Irvine under the direction of Prof. Chris Vanderwal, where he worked on the application of Zincke aldehydes toward the synthesis of Strychnos alkaloids. After his PhD he went to Princeton to pursue postdoctoral research with Prof. Dave MacMillan. There his work involved new applications of photoredox catalysis, including beta-arylation of aldehydes and ketones. In 2014 he joined the Chemistry department at the University of California Riverside before moving to the University of Iowa in 2019. His research focuses on the development of new catalytic transformations, novel strategies for bond activation and the synthesis of bioactive molecules for the study and treatment of human decease. He has received several awards and recognition including the NSF Career Award in 2018, the University of British Columbia Chemistry Young Alumnus Award in 2017, the Thieme Chemistry Journals Award in 2017, and was Thieme Lecturer, Canadian Society for Chemistry National Meeting also 2017.

Join Meeting in-person at MR-1027 or on Zoom at:

https://ccny.zoom.us/meeting/register/tZYuf-2orDorG9EdR3m8V2yHJsoO9O4cusPY