2020-2021 POCC Lecture Series

January 28, 2021, 7:30 PM

Virtual reception to follow the seminar

Prof. David Nagib

Ohio State University

Harnessing Radicals To Enable Unconventional Reactivity

Virtual Seminar by Zoom (LINK)

The Philadelphia Organic Chemist's Club

POCClub.org

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Radical chemistry can afford opposite or orthogonal reactivity to classic two-electron pathways. By developing radical chaperone strategies that merge open ($1e^-$) and closed shell ($2e^-$) processes, we have harnessed this complementary reactivity and imparted new types of chemo-, regio-, and stereoselectivity for remote, double, or reversed C-H and C-O functionalizations of alcohols, amines, and carbonyls. These radical chaperone tools are continually being developed to streamline the synthesis of complex, medicinally relevant molecules and heterocycles.

Abstract: David grew up near Philly as the eldest of four siblings in an Egyptian family with a strong love for teaching and education. He earned his B.Sc. with honors at Boston College in 2006, studying peptide-catalyzed desymmetrization with Prof. Scott Miller. In 2011, he earned his PhD at Princeton University, developing medicinally relevant trifluoromethylations via photoredox catalysis with Prof. David MacMillan. As an NIH Postdoctoral Fellow at the University of California, Berkeley, he developed oxidative gold mechanisms for C-H activation with Prof. F. Dean Toste and collaborated with Prof. Omar Yaghi to promote catalysis within MOF materials. In 2014, David joined the faculty of The Ohio State University as an Assistant Professor in the Department of Chemistry and Biochemistry, and he was promoted to Associate Professor with tenure in 2020. His team's research on radical-mediated C-H and C-O functionalization has been recognized with awards by the ACS, NIH, NSF, Lilly, and Sloan Foundation. When not working alongside his awesome labmates, David enjoys running along the Scioto River, checking out Columbus' vibrant foodie scene, and planning future world travels.