

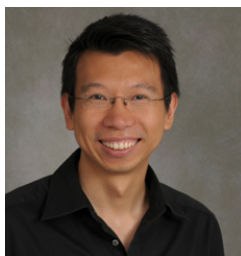
The Department of Chemistry Presents:

Virtual Seminar with

Dr. Ming-Yu Ngai

Department of Chemistry

Purdue University



"Excited-State Catalysis in Organic Synthesis"

Ngai lab aims to establish new molecular editing and assembling technologies for rapid synthesis and late-stage functionalization of biorelevant molecules. Our research efforts have been directed to exploit visible-light-induced excited-state catalysis, a process that involves at least one photoexcited catalytic species, to address unmet challenges in organic synthesis. In this seminar, I will cover our efforts in the development of site-selective modification of carbohydrates and novel fluorinating reagents for late-stage, direct C-H tri- and difluoromethoxylation of aromatic compounds. Since functionalized carbohydrates and fluorinated molecules are ubiquitous in bioactive compounds, our chemistry will allow convenient access to and studies of new functional molecules to aid the discovery of new therapeutics, agrochemicals, and imaging agents.

Brief Biography: Prof. Ming-Yu Ngai was born in Fujian, China and grew up in Hong Kong. He graduated from the University of Hong Kong in 2003 and earned his Ph.D. degree under the guidance of Professor Michael Krische at the University of Texas at Austin in 2008. He then continued his training as a Croucher Postdoctoral Fellow at Stanford University with Professor Barry Trost and at Harvard University with Professor Tobias Ritter. Prof. Ming-Yu Ngai joined the Chemistry Department at the State University of New York - Stony Brook in 2013, was promoted to Associate Professor in 2019, and then moved to Purdue University as a Professor in 2023. The Ngai lab focuses on the establishment of catalytic platforms to edit and prepare organic molecules efficiently and selectively. They combine detailed experimental and computational studies to understand reactivity and mechanisms with which to guide the design of new catalysts and the development of novel applications in organic, bioorganic, and medicinal chemistry. His research programs have been supported and recognized with an NIH Maximizing Investigator Research Award, NSF CAREER Award, ACS Young Academic Investigator. He is also inducted as a member of the National Academy of Inventors.

Monday, November 17, 2025 @ 3 P.M.

Virtual Seminar