



2024-2025 POCC Lecture Series

May 15, 2025, 7:30 PM

Dr. Patrick Fier

Merck & Co.

New Methods for Complex Molecule Functionalization

IN PERSON @:

Carolyn Hoff Lynch Lecture Hall

Chemistry Building, University of Pennsylvania

6:30 Reception in the Nobel Hall

Food and drinks to be provided!

The Philadelphia Organic
Chemist's Club



POCClub.org



[@POCC_Chem](https://twitter.com/POCC_Chem)



[@POCCChem](https://www.facebook.com/POCCChem)

Sponsored By:



&



Abstract: In drug discovery and development, it is often realized that many classes of reactions require harsh conditions and are not suitable for the functionalization and diversification of complex, drug-like molecules. To overcome such limitations, a series of rationally-designed reagents and reactions have been invented that now allow for previously difficult-to-access compounds to be accessed in a single step. We have also developed reactions that enable late-stage functionalization of common, typically inert, functional groups common in drugs and drug-like molecules, opening new avenues in drug discovery. In all cases, the reactions we developed occur under mild conditions with readily available reagents, generate minimal waste, and can be used on complex substrates without the need for protecting groups.

Bio: Patrick was born and raised in Iowa, and received his B.S. degree in chemistry from the University of Northern Iowa. He went on to obtain his Ph.D. in the group of Prof. John Hartwig from the University of California, Berkeley in 2014. In 2015, Patrick joined the process chemistry group at Merck in Rahway, NJ where he is currently a Principal Scientist, project leader, and scientific mentor. He has impacted the company's pipeline through the invention of novel reactions to accelerate drug discovery as well as the development of large-scale manufacturing routes to numerous compounds. Notably, Patrick led the chemistry team in the development of the commercial manufacturing process for Lagevrio (molnupiravir), an orally-dosed antiviral treatment for COVID-19 that has been given to several million patients around the world.

The Philadelphia Organic Chemists' Club • Great chemistry for more than seventy years!