



2025-2026 POCC Lecture Series

Oct 23, 2025, 7:30 PM

Dr. Andrew DeAngelis

FMC

*Discovery of [3.1.0]- and [4.1.0]-Bicyclic Carboxamides for
the Control of Hemipteran Pests*

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!

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Abstract: Effective control of hemipteran pests is essential for maximizing crop productivity. These piercing-sucking insects cause significant plant damage through direct feeding and by transmission of plant viruses. As the global population continues to grow, ensuring a stable and secure food supply remains a critical challenge. The discovery and development of insecticides with novel modes of action is increasingly important, particularly as resistance to existing active ingredients continues to emerge. Further complicating control efforts is the need for compounds that exhibit systemic movement within plants. In this presentation, we describe the discovery and optimization program of novel carboxamide scaffolds featuring unusual [3.1.0]- or [4.1.0]-bicyclic acyl head groups. This new class of compounds demonstrates strong systemic activity against hemipteran pests and represents a promising new scaffold for insecticidal development, with a mode of action that remains to be elucidated.

Bio: Andrew DeAngelis was born and raised in the Allentown, Pennsylvania area. He earned his B.S. degree from Moravian College (now Moravian University) in 2005. He went on to complete his Ph.D. in 2011 at the University of Delaware, working in the research group of Prof. Joe Fox. Following this, he conducted postdoctoral research at MIT in the group of Prof. Steve Buchwald. In 2012, Andrew joined the catalyst development group at Johnson Matthey in West Deptford, NJ, where he served as a research scientist and later as a Senior Product Manager. In 2015, he returned to DE to join the chemical discovery team at DuPont Crop Protection, which was acquired by FMC in 2017. He currently holds the position of Senior Global R&D Scientist at FMC. Andrew has made significant contributions across various stages of the discovery pipeline, including programs focused on insecticides, nematicides, and herbicides. Additionally, Andrew was selected as an IUPAC Young Observer in 2021 and the recipient of an ACS Early Career Investigator Award in 2022.

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