



## 2022-2023 POCC Lecture Series

Sept 22, 2022, 7:30 PM

**Dr. Emma McInturff**

Pfizer

*Development of Nirmatrelvir to treat COVID-19:  
Milligrams to Metric Tons in 18 Months*

IN PERSON Seminar at  
Carolyn Hoff Lynch Lecture Hall Chemistry Building,  
University of Pennsylvania  
6:30 Reception on the Front Porch Area of Penn Chemistry  
*Food and drinks to be provided!*

The Philadelphia Organic  
Chemist's Club



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**Abstract:** During the Covid-19 pandemic, Pfizer built upon previous experience with protease inhibitor research to identify nirmatrelvir, a serine-protease inhibitor for treatment of SARs-COV-19. To address world-wide need for a treatment for Covid, development of nirmatrelvir at unprecedented speed was required. To this end, investment in development of a process for commercial manufacturing and a supply chain for a global pandemic was made. This enabled scale-up of nirmatrelvir from the first synthesis (7 mg) to metric ton scale in under two years and allowed for distribution of a treatment for Covid-19 following the Emergency Use authorization in December of 2021.

**Bio:** Emma is an Idaho native and obtained a B.S. degree from Boise State University in 2009. She received a PhD in organic chemistry at the University of Texas at Austin, conducting research in ruthenium catalysis in the laboratory of Professor Mike Krische. Upon graduation in 2014, Emma joined Pfizer Chemical Research & Development in Groton, Connecticut as a process chemist. Over the past 8 years, Emma has worked in early and late stage process development and is currently a Senior Principal Scientist and group leader.

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