



2023-2024 POCC Lecture Series

The Women in Chemistry Lecture:

May 16, 2024, 7:30 PM

Dr. Danica Rankic

Pfizer

*Gearing in Potency and Properties through
Scalable Molecular Complexity*

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



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Abstract: In medicinal chemistry, conformational constraint is a design strategy used to enhance potency, reduce clearance, and afford selectivity against anti-targets. However, limiting the number of rotatable bonds in a molecule of interest often comes with increased molecular intricacy, which can affect the efficiency of synthesis. This presentation will showcase examples of medicinal chemistry programs that have identified preclinical and/or candidates through the implementation of conformational constraint as well as the synthetic innovation required to scale these compounds from mg to kgs.

Bio: Danica A. Rankic obtained her BSc from the University of Calgary in 2004 and stayed at the same institution for her doctoral studies. Working under the guidance of Prof. Brian Keay, she investigated the effects and applications of sterically congested xylBINAP ligands on asymmetric transition metal-catalyzed reactions, obtaining her PhD in 2010. She then moved to Princeton University to pursue post-doctoral research in the lab of Prof. David MacMillan. There she worked on the development of methodologies for the direct β -arylation of ketones and aldehydes as well as C-H bond arylation utilizing a merger of organocatalysis with photoredox catalysis. In 2013, Danica joined Pfizer's medicinal chemistry group as a Senior Scientist and was eventually promoted to Principal Scientist and Group Lead, where she worked on projects targeting Alzheimer's Disease, depression, diabetes, and pain. In 2017, she brought her talents to Merck's Discovery Process Chemistry group in Boston working at the interface between discovery and development in support of the early oncology pipeline. In June 2020, Danica rejoined Pfizer as Senior Director and Head of Synthesis for Internal Medicine Medicinal Chemistry.