



2022-2023 POCC Lecture Series

Dec 8, 2022, 7:30 PM

Dr. Steven Wisniewski

Bristol-Myers Squibb

Enabling Process Development Through Transition Metal Catalysis

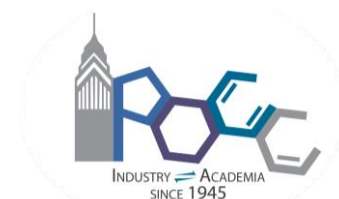
IN PERSON @:

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: Process Chemists consider several factors when designing synthetic routes to active pharmaceutical ingredients (APIs) including amongst others safety, number and type of chemical transformations, availability of starting materials, sustainability, and cost. Enabling disruptive, rather than incremental, innovation that delivers a step change in synthetic efficiency is critical to achieving business goals, especially with the increasing molecular complexity of new pharmaceutical candidates. Many of these routes utilize transition metal catalysis to forge key carbon-carbon and carbon-heteroatom bonds. Our extensive experience in addition to the significant mechanistic work in the field make palladium the go-to catalyst in process chemistry. We believe that additional tools and methods will be required to continue to enable disruptive outcomes in the synthesis of new pharmaceutical candidates. Therefore, we are upinvesting in Earth-abundant metal catalysis as the distinct reactivity of iron, cobalt, and nickel may enable new disconnections and result in shorter, cheaper, and more sustainable routes to APIs. This presentation will cover the development and impact of transition metal catalysis on the synthesis of several clinical candidates from Bristol Myer Squibb's portfolio.

Bio: Steve Wisniewski completed his undergraduate studies at The College of New Jersey. He then moved down I-95 to the University of Pennsylvania for his graduate studies, where he worked in the lab of Gary Molander, focusing on the cross-couplings of potassium organotrifluoroborates and the synthetic utility of azaborines. After graduating in 2014, Steve moved back up I-95 to New Jersey and joined Chemical Process Development at Bristol-Myers Squibb, where he is currently an Associate Scientific Director. Steve co-leads the Catalysis Community of Practice and Base Metals Initiative, where he helps bridge the gap in developing scalable processes utilizing base metals. As part of this initiative, Steve actively collaborates with Keary Engle's lab at The Scripps Research Institute focusing on the development of novel methodology utilizing Ni catalysis as well as the development of air-stable Ni precatalysts. He also collaborates with Paul Chirik's group at Princeton University (as part of the Princeton Catalysis Initiative (PCI)) focusing on the development of sp²-sp³ Suzuki reactions utilizing cobalt catalysis as well as fundamental understanding and methodology development of iron catalysis. Steve was also named an ACS Young Investigator in 2019.