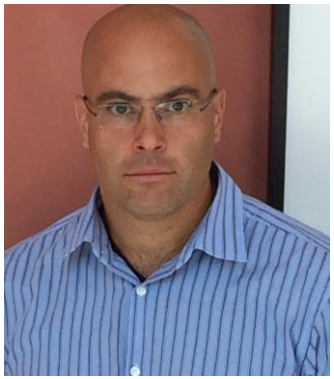

# 2019-2020 POCC Lecture Series

March 19, 2020, 7:30 PM

6:30 reception in the Nobel Hall

## Dr. Matthew M. Bio

Snapdragon Chemistry, Inc.

***Mighty Machines: Efficient Chemical Manufacturing Enabled by Continuous Technology***

Carolyn Hoff Lynch Lecture Hall Chemistry Building, University of Pennsylvania

The Philadelphia Organic Chemist's Club

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Dr. Matthew Bio is President & CEO at Snapdragon Chemistry. Matthew began his career in chemistry more than 20 years ago developing continuous processes for the manufacture and purification of acrylates at the former Rohm & Haas company. Matthew then moved to Columbia University and earned a PhD in Chemistry. Upon graduating, Matthew returned to industry as a process development chemist at Merck Research Laboratories. In 2006 Matthew moved to Amgen where he worked on the development of both batch and continuous processes, and drove innovation in technologies for the manufacture of synthetic – biologic hybrid molecules. In 2015, Matthew joined Snapdragon Chemistry, Inc., a contract development firm specialized in the design of continuous manufacturing technology. Throughout his career, Matthew has been involved in the development of more than 50 clinical candidates and the launch of three new drugs to the market. He is author or inventor on more than 30 peer reviewed publications and patents and numerous regulatory filings. Matthew is driven by a passion for the development of new technologies in organic synthesis to enable safer, more efficient processes and providing access to new chemical architectures.

**Abstract:** Continuous manufacturing (CM) technology creates new opportunities for efficient, single-cycle process development. The complexity of continuous manufacturing systems and the challenges of translating lab results to production are a significant barrier to the use of CM technology. Snapdragon has developed a CM lab development platform that accurately models production-scale systems enabling right-first-time scale-up. An iterative refinement approach of reaction and reactor is able to rapidly deliver production-ready manufacturing machines with product quality control built into the design of the reactor. Delivery of both process technology and the production hardware ensures successful manufacturing. A project demonstrating this capability will be discussed.