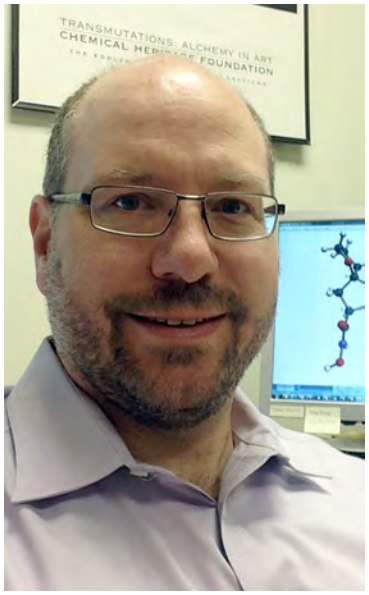

2018-2019 POCC Lecture Series

March 28, 2019, 7:30 PM

6:30 reception in the Nobel Hall

POCC Industrial Award

Sponsored by GSK

Dr. Gregory R. Ott

Teva Pharmaceuticals

N–N *Bond-Containing Heterocycles: Applications & Synthesis*

Carolyn Hoff Lynch Lecture Hall

Chemistry Building, University of Pennsylvania

The Philadelphia Organic Chemist's Club

POCClub.org

Gregory Ott was born in Pittsburgh, PA and attended Shady Side Academy for high school where he took his first organic chemistry course. He received a B.A. in Chemistry from The Johns Hopkins University where he spent 3 years doing research in molecular biology at The Johns Hopkins School of Medicine. Following a different path for graduate school, Greg joined the laboratories of Amos B. Smith, III at The University of Pennsylvania, completing his Ph.D. in 1997 working in the area of total synthesis. Greg continued to pursue natural products total synthesis in the group of Clayton Heathcock as a post-doctoral fellow at the University of California, Berkeley. Greg started his industrial career in at DuPont Pharmaceuticals working in the area inflammation/immunology. Following the purchase of DuPont Pharma by Bristol-Myers Squibb, Greg continued in the discovery group at BMS. In 2005 Greg moved to Cephalon, Inc. and transitioned into the oncology therapeutic area. Following Teva's acquisition of Cephalon, Greg continued to rise through the ranks to Sr. Director and Head of Medicinal Chemistry within their discovery organization. Greg has been active in the POCC holding various positions and chaired the organization in 2005-6. Greg also serves as an adjunct Professor of Chemistry at Villanova University teaching in the areas of heterocyclic chemistry and medicinal chemistry.

Abstract: Natural products that contain nitrogen–nitrogen (*N–N*) bonds are relatively rare. However, *N–N* bonds are pervasive throughout the pharmaceutical industry, specifically in condensed nitrogen heterocycles. This use of *N–N* bond-containing heterocycles is likely due to their novelty and properties relative to the naturally occurring congeners, and thusly, this motif is found in many approved drugs (*cf.* ponatinib, olaparib, sildenafil). Nature has provided little insight into formation of *N–N* bonds and most industrial applications have relied on hydrazine to install the desired motif as well as other methodologies to a lesser extent. However, limitations for these methodologies include functional group tolerance, non-convergence, and long synthetic sequences. This talk will describe three distinct applications of *N–N* bond containing heterocycles and new cascade methodology to create N-N bond-containing heterocycles.