# ORGANIC CHEMISTRY SEMINAR

## *DEAROMATIVE ALKALOID SYNTHESIS*

**Joel Smith**

**Florida State University**

**FRIDAY**

**September 22, 2023 @4:00**

**219 BRL**

Biologically active alkaloids continue to serve as a means of biomedical discovery in addition to serving as forcing functions for the invention of new chemical transformations. Structurally, many of these natural products and rationally designed drugs also contain one or more piperidine rings, making it the most common nitrogenous heterocycle amongst approved therapeutics. Thus, the concise redox-economic construction of these heterocycles in the context of target-oriented synthesis has become a recent research focus in our lab. In particular, leveraging controlled and selective dearomatization reactions has enabled the concise synthesis of several natural products and approved pharmaceuticals from simple feedstock pyridines. Our lab's recent synthetic efforts related to alkaloids from the lupin, ergoline, aspidosperma, morphinan and manzamine families of alkaloids will be discussed, articulating the breadth of targets that can be accessed by this strategic approach. In addition, both fundamental and translational opportunities afforded by our work in this area will be highlighted.

Prof. Joel M. Smith was born and raised in Raleigh, NC. He graduated in 2010 with a BS in Chemistry and Music from Furman University prior to earning his PhD as a NSF GRFP recipient under the advisory of Prof. Neil K. Garg at UCLA in 2015. Following his graduate work, he conducted studies in the laboratory of Prof. Phil S. Baran at Scripps Research as an Arnold O. Beckman Postdoctoral Fellow until 2018. He then joined the faculty at Florida State University, where he is an Assistant Professor of Chemistry. His lab is engaged in the total synthesis of alkaloid natural products and the invention of novel chemical transformations.