

Mechanistic enzymology of flavin-dependent enzymes: Unveiling their roles in iron acquisition and cell wall biosynthesis

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Chemistry
Seminar
*Mechanistic
enzymology of flavin-
dependent enzymes:
Unveiling their roles
in iron acquisition
and cell wall
biosynthesis*

**Tuesday
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pm in 303
Schrenk**

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Abstract: Flavin-dependent enzymes are versatile catalysts involved in microbial virulence, bioremediation, and plant metabolism, among other functions. Our research group has made major contributions to elucidating the mechanism of action of several flavin-dependent enzymes in these areas. This presentation will focus on structural mechanistic studies of flavin-dependent monooxygenases essential for iron acquisition in the pathogenic fungi *Aspergillus fumigatus*. The development of high-throughput assays for inhibitor design will also be described. Additionally, I will discuss the characterization of the unique chemical reactivity of reduced flavin in non-redox reactions important for cell wall biosynthesis.

About the speaker: Pablo Sobrado received his B.A. in Biology at Merrimack College in Massachusetts before getting his Ph.D. in Biochemistry at Texas A&M University under the direction of Dr. Paul Fitzpatrick. After receiving his Ph.D., he was a postdoctoral fellow at the Universidad de Chile with Dr. Jorge Allende and a research associate at University of Wisconsin-Madison with Dr. Brian Fox before starting his independent career at Virginia Tech where his research group has focused on a variety of enzymology problems. He has won many honors during his academic career including an ASBMB Spotlight and Keynote Lecturer at the 8th Southeast Enzyme Conference. Most recently, he was a rotating Program Director in the Division of Chemistry at the National Science Foundation from 2021-2023.