

# GDCB SEMINAR

4:10 p.m. • Tuesday, Sept. 7, 2021

## 'Enzyme evolution and the generation of plant metabolic diversity'

**Abstract:** Plants produce a staggering diversity of chemicals that are not just important to every aspect of plant biology but also in many human applications. The Moghe Lab is interested in characterizing the multi-layered mechanisms that generate this metabolic diversity. In this talk, I will discuss our project on the large BAHD acyltransferase family, which seeks to identify how different clades with different functions arose over evolutionary timescales. I will describe results from enzymology, phylogenetic/comparative genomic and structural simulation experiments that helped characterize the ancestral state and evolution of new functions. We further identified structural features that may make this family robust and evolvable, and able to traverse a wide phytochemical space. Our research provides novel insights on how structural evolution in enzyme families contributes to generation of metabolic diversity.

**Host:** Joe Aung, GDCB assistant professor



**Gaurav Moghe**  
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**Join meeting:**

<https://iastate.webex.com/iastate/j.php?MTID=m34263af5f01bd0c23936ce2d3fce5663>

**IOWA STATE UNIVERSITY**

**Department of Genetics, Development and Cell Biology**