



Biology Seminar

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https://scholar.google.com/citations?user=D_ITphUAAAAJ&hl=en

Functional Genomics of Adaptation to Abiotic Stresses



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12:00PM PST | HCK 132

Plant nutrient metabolism is regulated through a variety of biological processes, many of which are controlled and coordinated by internal factors such as cell type and developmental stage as well as external factors such as soil quality and other environmental conditions. My research focuses on investigating the genetic and molecular underpinnings of developmental and physiological processes that have been altered to allow plants to tolerate challenging nutrient environments. In my graduate work, I mapped a

transcriptional regulatory network and identified novel transcriptional regulators of nitrogen-related metabolism in *Arabidopsis thaliana*. In my postdoctoral work, I have been using natural variation and genomic approaches to investigate local adaptation to serpentine soils in *Mimulus guttatus* (common monkeyflower). I plan to continue my research of serpentine adaptation by investigating the role of single and combinatorial nutrient stresses in the adaptive processes for tolerance to this harsh soil environment. Additionally, I will carry out research to understand the range of natural variation and mechanisms that allow monkeyflowers to adapt to flooded environments.

