

Speaker: David Miller

Lab: Parker lab

Title: Genetic tools in *Dalotia coriaria*, a model rove beetle (Staphylinidae)

Abstract: A fundamental characteristic of metazoan life is symbiosis. A common attribute among these relationships is social interaction, where each species has evolved new behaviors specific to interacting with its symbiotic partner. Studying complex symbiotic interspecies interactions has previously proven intractable, given the lack of symbiotic relationships in traditional model organisms. Rove beetles (the family Staphylinidae) have repeatedly and independently evolved to infiltrate and live inside colonies of social insects and present themselves as an obvious group from which to create a new model system for the study of interspecies symbioses. In order to understand how these complex symbiotic species evolve one must first understand the groundplan from which they emerged. The Parker lab is establishing *Dalotia coriaria*, the greenhouse rove beetle, as a new genetically tractable model organism to understand this groundplan. This talk will discuss how I have adapted the CRISPR Cas9 system and the piggybac transposon system to genetically modify *Dalotia* and start to gain a mechanistic understanding of its behaviors.