



RIVERSIDE

DEPARTMENT OF ENTOMOLOGY
ENTM250 Seminar Series



Speaker:

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Assistant Professor
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Date: Monday, March 9, 2026
Time: 4:00 pm - 4:50 pm
Format: In-Person Seminar & Virtual Access
Location: Genomics Auditorium 1102A

Zoom: 943 6687 2379
Passcode: 453393

Title:

“Resolution of conflict and hierarchy in insect models”

Abstract:

Animals often use ritualistic behaviors, including physical contests, to settle a conflict over limited resources and mating opportunities. Somewhat paradoxically, a dyadic fight is settled when one of the participants chooses to stop fighting and flee – in other words, it is the loser, not the winner, which determines the outcome of a fight. Using the fruit fly *Drosophila melanogaster*, we found that a dedicated circuit controls the timing of the eventual loser to stop fighting by suppressing a specific group of aggression-promoting neurons, in a manner consistent with an evolutionarily stable strategy predicted by game theory. We posit that the basic neural mechanisms that settle dyadic conflicts are foundational for organizing a hierarchy-based group in social insects. To search for a bridge between conflict settlement mechanisms found in *Drosophila* and neural mechanisms underlying reproductive division of labor in social insects, we have begun identifying genetic signature of sociality in Halictids (sweat bees), a diverse group of bees that contain solitary and social species, as well as species that can switch between two modes of reproduction. We first characterized chemoreceptor genes in *Halictus ligatus*, a common, primitively social sweat bee. Their odorant receptor genes show intriguing distribution and expression patterns, giving us the first glimpse of a genetic underpinning for social living in Halictids.

Refreshments will be served in the Entomology Building Courtyard at 3:30pm