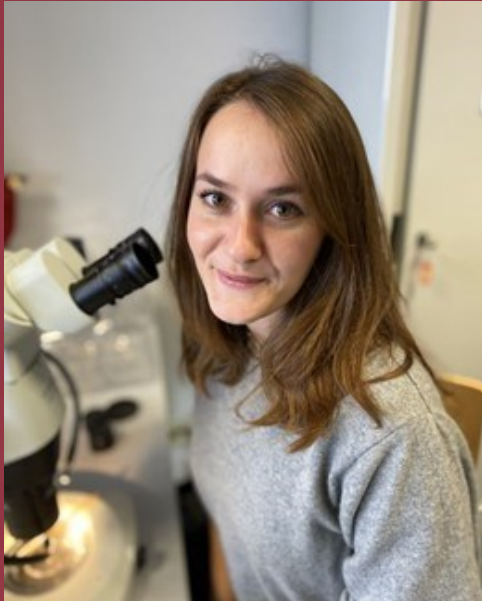




RIVERSIDE

DEPARTMENT OF ENTOMOLOGY

ENTM250 Seminar Series



Speaker:
Giulia Scarparo

Department of Entomology, University of California,
Postdoc-Researcher

Date: Monday, April 17, 2023

Time: 4:00 pm - 4:50 pm

Format: In-Person Seminar & Virtual Access

Location: Genomics Auditorium 1102A

Zoom: 938 1040 4405

Passcode: 833289

Title:

“When the exceptions are the rule: different modes of action of a social supergene in *Formica* ants”

Abstract:

Over the past few decades, advanced omics techniques have provided useful tools to shed light on the genetic basis of complex phenotypes in a wide variety of organisms. Emerging evidence suggests that phenotypic traits, such as wing coloration, mating strategies, and migratory behavior are often genetically regulated by groups of tightly linked co-transmitted genes, otherwise known as supergenes. An ancient genetic polymorphism spanning most of chromosome 3 underlying colony queen number has been described in *Formica* ants, where usually the M haplotype is associated with single-queen colonies, and the P haplotype is found exclusively in multi-queen colonies. However, comparative analyzes are now highlighting major structural and functional differences at the supergene between closely related species. New findings show that some *Formica* species harbor more than two supergene haplotypes that are associated with other phenotypic traits (i.e. sex ratio, body size) in addition to the number of queens. These complex multi-haplotype systems raise questions about how genetic polymorphism is balanced, preventing haplotypes from arriving at fixation. Although multiple events of balancing selection are believed to preserve the polymorphism, preliminary results suggest that loss of polymorphism sometimes happens and could result in speciation. Comparing supergene function and structure in different species will provide an opportunity to explore the evolution of ant diversity and ultimately understand how these regions of suppressed recombination formed and maintained over time.

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