



RIVERSIDE

DEPARTMENT OF ENTOMOLOGY

ENTM250 Seminar Series



Speaker:

Michael E. Scharf

Professor and Endowed Chair in Urban Entomology,
University of Florida

Date: Monday, April 10, 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:

“Challenges and Physiological Implications of Wood Feeding in Termites”

Abstract:

Termites are fascinating insects for a number of reasons, one of which being their specialization on diets of wood lignocellulose. The central theme of this talk will be to consider stress-inducing characteristics of wood and molecular-physiological adaptations in termite guts to attenuate these stressors. Defensive factors present in wood include extractive secondary plant metabolites, lignin and related phenolics, crystalline cellulose, and low nitrogen content. Molecular-physiological adaptations of the termite gut to deal with these factors include robust detoxification and antioxidant machinery, the production of a peritrophic matrix and a wide range of cellulases from host and symbiotic sources, and creation of niches available to nitrogen-fixing and urea-recycling bacterial symbionts. Considering termite gut physiology and symbioses in a stress-response context has applied relevance. Such applied outcomes can include development of efficient biomass breakdown strategies, protection of microbes during industrial processing applications, and safeguarding wooden structures from termite damage.

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