



### Candidate for the position of Assistant Professor of Subtropical IPM: Bodil N. Cass

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**Date:** Tuesday, February 21, 2023  
**Time:** 10:00 am - 10:55 am  
**Format:** In-Person Seminar & Virtual Access  
**Location:** Genomics Auditorium 1102A

**Zoom:** 938 1040 4405  
**Passcode:** 833289

#### Title:

“An Ecoinformatics Approach to Integrated Pest Management of Subtropical Fruit Crops”

#### Abstract:

Integrated pest management (IPM) guidelines for agriculture are typically established from years of experimental research and experience in a crop species. It can be challenging to adapt recommendations to rapid shifts in growing conditions. An ecoinformatics or ‘big data’ approach can be a valuable complement to traditional experimental studies to improve IPM practices.

We have used ecoinformatics methods to update IPM guidelines for citrus. In the last decade, production of this crop in California has seen a drastic shift in acreage away from sweet oranges, *Citrus sinensis*, towards mandarins, including cultivars of *C. reticulata*, *C. clementina* and other species. In the absence of guidelines for these mandarins, growers have been relying on practices developed for oranges.

Drawing on the wealth of field scouting and agronomic records collected as part of IPM efforts by citrus growers and professional pest control advisors (PCAs), we assembled and analyzed a large database for key pests in hundreds of commercial groves. I present case studies for two endemic pests: Fork-tailed bush katydids (*Scudderia furcata*, Orthoptera: Tettigoniidae), and citrus thrips (*Scirtothrips citri*, *Thysanoptera*: Thripidae), which we determined to have very different pest profiles in mandarin species compared with oranges.

Pairing the real-world observational data from commercial groves with traditional field experiments to test hypotheses about the underlying differences in pest feeding and plant response, we have quickly been able to understand the insect-plant interactions for multiple arthropod pests in new citrus species, and update IPM guidelines accordingly. The results are expected to increase the sustainability of citrus production through more effective pest management.

Refreshments will be served in the Entomology Building Lobby at 9:30 am