



# RIVERSIDE

DEPARTMENT OF ENTOMOLOGY  
Entomology Seminar Series



## Speaker:

Jeremy Ka Lok Chan, Ph.D.

**Date:** Thursday, March 6, 2025

**Time:** 4:00 pm - 4:50 pm

**Format:** In-Person Seminar & Virtual Access

**Location:** Student Success Center, Room 316

**Zoom:** 912 7230 4505

**Passcode:** 478039

## Title:

“Impacts of atmospheric degradation of scent signals on chemical communication”

## Abstract:

Jeremy is a postdoctoral researcher at the University of Naples Federico II. He was previously a postdoc at the University of Copenhagen and completed his PhD at the University of Washington. His research examines the effect of the environment on the emission and transport of volatile chemicals from plants, and how this affects plant-pollinator interactions. For his main PhD project, Jeremy studied the pollination ecology of *Oenothera pallida* (*O pall.*) and performed electrophysiological and behavioural studies of the pollinators towards *O pall.* scent. He then studied the atmospheric degradation of *O pall.* scent, and determined the chemical basis for the failure of scent recognition by pollinators. Finally, he applied the results from his atmospheric chemical experiments to the GEOS Chem global atmospheric chemical model to understand the potential global impacts of atmospheric degradation on pollinator olfactory navigation. This revealed severe impacts in industrialised regions of the northern hemisphere, but also unexpected impacts due to geography and natural emissions in regions of Africa and Central Asia. At the University of Copenhagen Jeremy studied how simulated warming of alpine vegetation on Cerro Chirripó in Costa Rica affected volatile chemical emissions. He also measured the flux of volatile chemicals from a Boreal forest, and found discrepancies between the measured and modeled fluxes due to atmospheric degradation of the plant volatiles within the canopy. This highlights the significance of atmospheric degradation of chemical signals in natural environments. At the University of Naples Jeremy studies the correlation between plant and floral traits and measures of urbanization on pollinator visitation in *Raphanus raphanistrum*. He has found correlations between pollinator visitation and urbanization, as well as with certain plant defense compounds and floral volatiles.

<https://ucr.zoom.us/j/91272304505?pwd=qdb9epdVXbvU2dqMrbpy3POkaLbCVo.1>

*Refreshments will be served in the Entomology Building at 3:00 pm*