

**Speaker:**

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Date: Monday, Nov. 29, 2021**Time:** 4:00 pm - 4:50 pm**Zoom:** 948 0131 1028**Passcode:** 347039**Title:**

“Studying microbial communities associated with bees in the nest and in their gut”

Abstract:

Microbes are an invisible factor that is intertwined in pollination interactions. Transmission of microorganisms occurs by physical contact between pollinators and flowers, a process known as environmental transmission. The adult bee-gut microbiota of non-social apids and other wild bees is heavily influenced by this process. However, this is not the first time in the bee's life cycle where they encounter microbes. Before reaching the adult stage, the nest environment is the first arena where bees, both social and solitary, are exposed to microbes. Different microorganisms may be transported to the nest when female bees build and provision brood cells. Presumably, the fermentation of the pollen provision may be induced by the microbial activity before or while the larvae feed on it. Thus, across their lifecycle bees are exposed to a wide variety of microbes in different scenarios but the assembly rules that structure these microbial communities remain unclear. Therefore, for two chapters of my dissertation I am using field data to evaluate the assembly processes that structure the bee-gut microbiota (Chapter 1) and the microbial communities associated with bee brood cells (Chapter 2). Specifically, for my first chapter, I am studying the influence of the taxonomic and functional diversity of the bee-gut microbiota at the regional level (γ -diversity) on the diversity observed among different sites (β -diversity) in Southern California. For my second chapter, I am evaluating how floral diversity acts as a niche space that influences the local diversity of microbes associated with bee brood cells. For this seminar, I am presenting a report on field activities conducted in Spring 2021 for Chapter 1, and preliminary results for Chapter 2 regarding the variation of microbes associated with the brood cells of different bee species.