

**Speaker:**

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Date: Monday, Feb. 01, 2021**Time:** 4:00 pm - 4:50 pm**Zoom:** 952-3324-4564**Passcode:** 835322**Title:**“The use of seminal fluid metabolites as a novel medication for *Nosema ceranae*”**Abstract:**

Honeybee societies consist of thousands of individuals that live in close proximity to each other within their colonies; these conditions are favorable to pathogens and parasites to establish infections and spread among hosts, one such pathogen being *Nosema ceranae*. *Nosema ceranae* is an obligate intracellular fungal parasitic spore of *Apis mellifera*, an individual infected with this microsporidian may display many symptoms including: dysentery, decreased foraging, disorientation, lethargy and will often lead to death. Honeybee drones are even more susceptible to infections, likely due to their haploid genetics; and parasites that infect them have the ability to contaminate semen and hitchhike on the mating process and be transmitted to the queen. However, research has shown that seminal fluid is remarkably efficient in reducing *Nosema* spore viability, this is in part due to antimicrobial proteins found in the seminal fluid. A similar antimicrobial effect was also detected in the non-protein fraction of seminal fluid, but has not been studied in detail so far. We conducted a metabolic analysis of this non-protein fraction and identified several metabolites with known anti-fungal properties. I will provide preliminary evidence that these antifungal metabolites could be used as a novel medication in honeybees against *Nosema ceranae*.