



## **Understanding the transmission route of infectious diseases via social contact networks in honey bees**

In recent years, the spread of infectious diseases such as pig and bird flu, tuberculosis, and foot and mouth disease has become an increased threat. To understand how factors such as contacts in the network, age, genetic relatedness, and immune competence affect disease transmission, we are developing a system with honey bees as the model organism. Honey bees are social insects with elaborate colony organization and social contact networks. They have developed both individual and social defenses against pathogens making them particularly suitable for studies examining social behavior in combination with immune response.

We use observation hives with hundreds of bees in which we at different times after the interaction between individuals can analyze the bees with regard to how infected they are.

In this project the student will investigate transmission of pathogens between adult bees and develop methods to monitor how the pathogen is developing in the honey bee.

**Time:** May-September

**Location:** Department of Ecology, SLU, Uppsala.

**For more information contact:**

Olle Terenius ([olle.terenius@slu.se](mailto:olle.terenius@slu.se)) or Barbara Locke ([barbara.locke@slu.se](mailto:barbara.locke@slu.se)).