

Opportunity Title: USDA-ARS Bee Biology and Pollination Internship

Opportunity Reference Code: USDA-ARS-2021-0194

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2021-0194

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A complete application consists of:

- An application
- Transcripts – [Click here for detailed information about acceptable transcripts](#)
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional recommendations

All documents must be in English or include an official English translation.

Application Deadline 9/8/2021 3:00:00 PM Eastern Time Zone

Description *Applications are reviewed on a rolling-basis and this posting could close before the deadline.

ARS Office/Lab and Location: A research opportunity is available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS) located in Madison, Wisconsin.

The Agricultural Research Service (ARS) is the U.S. Department of Agriculture's chief scientific in-house research agency with a mission to find solutions to agricultural problems that affect Americans every day from field to table. ARS will deliver cutting-edge, scientific tools and innovative solutions for American farmers, producers, industry, and communities to support the nourishment and well-being of all people; sustain our nation's agroecosystems and natural resources; and ensure the economic competitiveness and excellence of our agriculture. The vision the agency is to provide global leadership in agricultural discoveries through scientific excellence.

Research Project: ARS aims to investigate and create new technologies that improve US agriculture. The current opportunity will focus on investigations of the biology/ecology of crop pollinators. Recent studies have shown that most bee species rely on microbial associates that ferment and transform pollen-provisions. To sustain and improve pollination, it is critically important to know what roles are served by these microbial symbionts, because when such microbes are eliminated, bee larvae tend to endure major developmental problems and often do not survive. Clearly, the microbes are important for bee development, and thus to better design bee conservation strategies, knowledge of their microbial symbionts will be key. Under the guidance of an ARS scientist, the participants will gain experience in setting up multi-factorial experiments, culturing microbes, analyzing data, and articulating results. Experiments will involve manipulations of microbial communities as well as native Wisconsin nematodes within fermenting pollen-provisions. Bee fitness and microbial performance metrics (abundance and oxygen consumption rates) will be measured and reported.

Learning Objectives:



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1. Solitary bee culturing methods
2. Understanding impacts of nematodes and bacteria on *Bombus impatiens* bumble bee larvae
3. Culturing methods for nematodes

Mentor(s): The mentor for this opportunity is Shawn Steffan (shawn.steffan@usda.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: August 2021. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for five months, but may be renewed upon recommendation of ARS and is contingent on the availability of funds.

Level of Participation: The appointment is full-time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience.

Citizenship Requirements: This opportunity is available to U.S. citizens, Lawful Permanent Residents (LPR), and foreign nationals. Non-U.S. citizen applicants should refer to the [Guidelines for Non-U.S. Citizens Details page](#) of the program website for information about the valid immigration statuses that are acceptable for program participation.

ORISE Information: This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and ARS. Participants do not become employees of USDA, ARS, DOE or the program administrator, and there are no employment-related benefits. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE.

Questions: Please visit our [Program Website](#). After reading, if you have additional questions about the application process please email USDA-ARS@ornl.gov and include the reference code for this opportunity.

Qualifications The qualified candidate should have received an associate's or bachelor's degree in one of the relevant fields, or be currently pursuing one of the degrees with completion by May 31, 2022. Degree must have been received within the past five years.

Experience with bee biology and pollinator ecology in the US cranberry production system.

- Eligibility Requirements**
- **Degree:** Associate's Degree or Bachelor's Degree received within the last 60 months or anticipated to be received by 5/31/2022 12:00:00 AM.
 - **Discipline(s):**
 - **Environmental and Marine Sciences** (2👁)
 - **Life Health and Medical Sciences** (4👁)
 - **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).