

Opportunity Title: Postdoctoral Opportunity: Chemical Ecology of Insect, Plant, and Microbe Volatile Interactions

Opportunity Reference Code: USDA-ARS-SEA-2026-0248

Organization U.S. Department of Agriculture (USDA)

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How to Apply *To submit your application, scroll to the bottom of this opportunity and click **APPLY**.*

A complete application consists of:

- An application
- Transcript(s) – For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. 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.

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Application Deadline 8/14/2026 3:00:00 PM Eastern Time Zone

Description ***Applications are reviewed on a rolling-basis.**

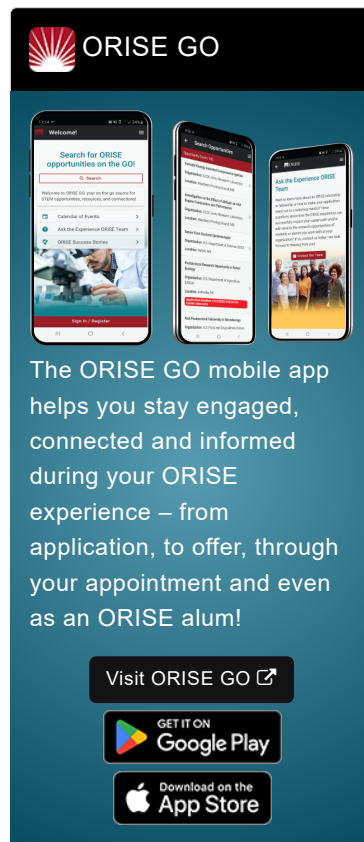
ARS Office/Lab and Location: A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), located in Gainesville, Florida.

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 of the agency is to provide global leadership in agricultural discoveries through scientific excellence.

Research Project: Under the guidance of a mentor, you will engage in research focused on understanding the intricate volatile interactions between insects, plants, and microbes. This ORISE postdoctoral opportunity offers a comprehensive educational and training experience in the dynamic field of chemical ecology, directly contributing to the objectives of USDA-ARS National Project 304.

Learning Objectives: Through this opportunity, you will:

- Participate in cutting-edge scientific investigations designed to unravel



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complex ecological relationships.

- Gain hands-on experience with advanced analytical instrumentation, including gas chromatography-mass spectroscopy (GC-MS), to collect and analyze volatile chemical profiles.
- Conduct and refine insect behavioral and electrophysiological bioassays to assess responses to chemical cues.
- Explore and apply microbial culturing techniques relevant to chemical ecology studies.
- Collaborate with a team of scientists, fostering knowledge exchange and scientific discourse.
- Develop specialized skills desirable for a career in chemical ecology and related scientific disciplines.

Mentor(s): The mentor for this opportunity is John Beck (john.beck@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: September 2026. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for one year, 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. **The anticipated stipend range is \$4,900 - \$5,299.99 monthly.**

Citizenship Requirements: This opportunity is available to U.S. citizens only.

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 ORISE.ARS.Southeast@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should be currently pursuing or have received a doctoral degree in the one of the relevant fields (e.g. Chemical Ecology, Entomology, Plant Biology, Analytical Chemistry, or a closely related scientific discipline).

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Preferred skills:

- **Chemical Ecology Experience:** Demonstrated understanding of insect-plant-microbe volatile interactions.
- **Analytical Chemistry:** Extensive hands-on experience with Gas Chromatography-Mass Spectrometry (GC-MS) for volatile organic compound (VOC) analysis, including sample preparation, instrument operation, data acquisition, and interpretation.
- **Insect Bioassays:** Proficiency in designing, conducting, and analyzing insect behavioral bioassays (e.g., olfactometer, Y-tube).
- **Electrophysiology:** Experience with insect electrophysiological techniques (e.g., electroantennography - EAG).
- **Microbial Culturing:** Familiarity with standard microbial culturing techniques.
- **Data Analysis:** Strong proficiency in statistical software (e.g., R, SAS) for complex biological and chemical datasets.
- **Scientific Communication:** Experience with scientific writing, publications, and presentations.
- **General Research Acumen:** Excellent problem-solving, independent research, and collaborative skills. Strong attention to detail and adherence to laboratory safety protocols are useful.

Stipend \$4,900.00 – \$5,299.99 Monthly

Point of Contact [Sara Beth](#)

Eligibility • **Citizenship:** U.S. Citizen Only

Requirements • **Degree:** Doctoral Degree.

- **Discipline(s):**
 - **Chemistry and Materials Sciences** ([3](#) )
 - **Life Health and Medical Sciences** ([8](#) )