

**Opportunity Title:** USDA-ARS Postdoctoral Fellowship Opportunity: Floral Chemistry, Pollinators, and Microbe Interactions

**Opportunity Reference Code:** USDA-ARS-SEA-2026-0241

**Organization** U.S. Department of Agriculture (USDA)

**Reference Code** USDA-ARS-SEA-2026-0241

**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.

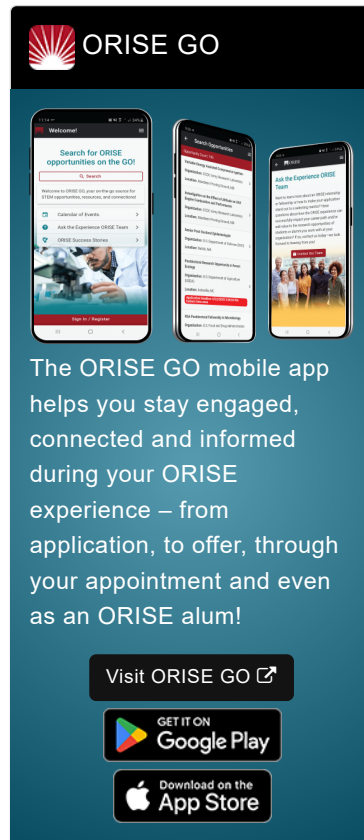
**ARS Office/Lab and Location:** A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), located in Gainesville, Florida.

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:** This opportunity offers a comprehensive educational and training experience centered on the intricate world of floral chemistry and its ecological impacts. This project explores the chemical-mediated interactions between flowers, pollinators, and microbes, with the goal of identifying floral metabolites that influence the microbial communities occurring in flowers and/or pollinator health and behavior. Most of the research conducted on the chemical composition of nectar and pollen focus on the macronutritional value of these resources, e.g., the protein, carbohydrate, and lipid fractions contained. However, flowers are also rich in secondary metabolites, chemical compounds whose primary role is either communication or manipulation of other organisms. Floral secondary





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metabolites include plant defense compounds that help prevent floral pathogens from infecting plants, attractant volatiles that recruit pollinators, and deterrent chemicals that reduce or prevent florivory. The relative focus of the project between either pollinators and/or microbes as partners to the interactions with flowers will be based on both your interests and the trajectory of the results obtained in chemical analyses.

**Learning Objectives:** You will acquire valuable hands-on experience and develop specialized skills such as:

- Research and investigation into the chemical composition of floral tissues (e.g., petals, anthers) and rewards (i.e., nectar and pollen).
- Conducting analyses utilizing advanced analytical techniques, including high-resolution mass spectrometry, liquid chromatography, and gas chromatography, to identify novel bioactive chemicals.
- Designing and implementing bioassays with various microorganisms (both pathogenic and benign) and insects (pollinators and florivores) to understand how floral chemistry influences their interactions.
- Participating in experiments conducted across diverse settings, including controlled laboratory environments, greenhouse facilities, and natural field conditions.
- Gain extensive training in cutting-edge analytical instrumentation and methodologies, as well as specialized expertise in microbiology and insect assay development.
- Collaborate with a team of scientists, fostering knowledge exchange and contributing to scientific discourse.

**Mentor(s):** The mentor for this opportunity is Caitlin Rering ([caitlin.rering@usda.gov](mailto:caitlin.rering@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 \$4,500 - \$5,299 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

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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](mailto: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 (Analytical Chemistry, Chemical Ecology, Phytochemistry, Plant Biology, Entomology, Microbiology, or a closely related field). Degree must have been received within the past five years, or anticipated to be received by end of this year.

**Preferred skills:**

- Familiarity with High-Resolution Mass Spectrometry (HRMS), including method development, data acquisition, and interpretation for complex natural products.
- Adeptness in Liquid Chromatography (LC) (e.g., HPLC, UPLC) and Gas Chromatography (GC) for separating and analyzing plant metabolites and volatiles.
- Experience in preparing diverse biological samples (floral tissues, nectar, pollen) for chemical analysis.
- Familiarity with microbial culturing and conducting bioassays with various microorganisms (e.g., bacteria, fungi).
- Experience conceptualizing, performing, and analyzing insect bioassays (e.g., with pollinators, florivores) to assess responses to chemical cues.
- Experience in laboratory, greenhouse, and field settings.
- Knowledge of statistical software (e.g., R, SAS) for analyzing complex chemical and biological datasets.
- Experience with scientific writing, publications, and presentations.
- Excellent problem-solving, independent research, and collaborative skills.
- Strong attention to detail and adherence to laboratory safety protocols.

**Stipend** \$4,500.00 – \$5,299.99 Monthly

**Point of Contact** [Sara Beth](#)

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

**Requirements** • **Degree:** Doctoral Degree received within the last 60 months or currently pursuing.

- **Discipline(s):**
  - **Chemistry and Materials Sciences** ([2](#))
  - **Life Health and Medical Sciences** ([19](#))