Opportunity Title: USDA-ARS Postdoctoral Associate for Microbial Ecology in Insect-Plant-Microbe Interactions
Opportunity Reference Code: USDA-ARS-PWA-2025-0180

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-PWA-2025-0180

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
- Contact information of two educational or professional recommendations

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

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Application Deadline 3/27/2026 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 Hilo, Hawaii.

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.

The mission of the Tropical Crop and Commodity Protection Research Unit at USDA-ARS in Hilo, Hawaii is to develop pre- and postharvest technologies and management strategies for invasive pests, and to open and maintain market access and improved quality of tropical fruit, vegetable and ornamental crops grown in the Pacific Basin.

Research Project: The postdoctoral research fellow will participate in team research on the microbial ecology of Bactrocera fruit flies, with the goal of understanding how associated microbes shape ecology, foraging behavior, and reproduction of fruit flies. The project

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emphasizes ecological and experimental approaches to insect–microbe interactions, including manipulation of specific microbes or microbial communities to test causal relationships between microbes and insect behavior. Specific activities will include the isolation and characterization of microbes from fruit flies and host plants, manipulation of the fly microbiome using axenic flies and antibiotic treatments, and behavioral assays to assess microbial effects on insect performance and preference. Chemical ecology tools, including profiling of microbe-derived volatiles, will be used as complementary methods to help link microbial communities with behavioral responses. The postdoctoral fellow will participate in planning, experimental design, data analysis, and manuscript preparation.

Learning Objectives: This opportunity will provide exposure to cutting-edge techniques in microbial ecology, insect–microbe interactions, and experimental ecology, with additional exposure to chemical ecology methods and scientific writing, preparing the researcher for independent research in ecological and pest management sciences.

Mentor(s): The mentor for this opportunity is Dong Cha (dong.cha@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: As soon as a suitable candidate is selected. 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.

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.PacificWest@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should have received or be currently pursuing a doctoral degree in the one of the relevant fields (Entomology, Microbiology, Chemistry, Biological or Agricultural Sciences, or related fields).

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Preferred skills:

- Experience in microbial ecology; isolation, identification, and culture of microbes; insect behavior; evolutionary ecology; and/or chemical ecology.
- Fluent in spoken and written English, and have excellent communication skills.
- Demonstrate a solid ability to perform independently and enjoy working in a group environment.
- Expertise in isolation, identification, and culture of yeast and bacteria
- Expertise in microbial manipulation in insect using axenic techniques
- Research experience in insect behavior, insect-plant-microbe interaction, and chemical ecology
- Strong interpersonal skills
- Excellent oral and written communication skills
- Demonstrated experience and publication record in related field

Point of Contact Janeen

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (51 👁)