Opportunity Title: USDA ARS Postgraduate Research Opportunity in Insect Movement Using Harmonic Radar
Opportunity Reference Code: USDA-ARS-PWA-2025-0147

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-PWA-2025-0147

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 1/16/2026 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.

Research Project: The postgraduate will participate in research on insect movement, collecting data using harmonic radar (HR) and then utilizing the data, combined with available environmental data, to improve the management, control, and detection of agriculturally important insect pests. Research focus will be tephritid fruit flies, which are important horticultural pests globally. The successful candidate will participate in the design, execution, and analysis of insect behavioral studies using HR, learning and applying models of insect movement, and develop predictive models. This research aims to collect movement data and produce models

to enhance current surveillance, control, and eradication methods, such as optimizing trap placements and pesticide applications, determining release sites for parasitoids, and setting quarantine boundaries after incursions. We are uniquely positioned to collect insect movement data that provide parameters for models. Additionally, the participant will attend and present findings at conferences and meetings regulatory agencies.

Learning Objectives: The fellow will gain experience planning HR studies, experimental design, field data collection, and presentation of findings. This opportunity will provide the postgraduate with knowledge of Hawaii's unique and economically important horticultural industry, while providing exposure and experience in field tracking insects with HR, agricultural practices, and integrated pest management. This opportunity will provide the training necessary to prepare the postgraduate for an exciting career in agricultural research.

Mentor(s): The mentor for this opportunity is Matthew Siderhurst (matthew.siderhurst@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: January 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 $72,000 - $77,000 annually.**

Citizenship Requirements: This opportunity is available to U.S. citizens and Lawful Permanent Residents (LPR) 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 be currently pursuing or have received a doctoral degree in the one of the relevant fields (e.g. Biology, Ecology,

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Agriculture, Entomology, Integrated Pest Management, Mathematics, Applied Mathematics, Computational Biology, or a related field of study). Degree must have been received within the past five years, or be currently pursuing.

Preferred Skills:

- Knowledge of contemporary statistics, climate change, decision support tools, and insect pest management models are desirable.
- Experience in animal field tracking.
- Experience in animal movement data analysis and modeling.
- Background in statistics, GIS, and R programming.
- Strong interpersonal skills.
- Excellent oral and written communication skills.
- Knowledge of entomology, invasion biology, and integrated pest management.

Stipend $72,000.00 – $77,000.00 Yearly

Point of Contact Janeen

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Doctoral Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Communications and Graphics Design** (1 👁)
  - **Computer, Information, and Data Sciences** (4 👁)
  - **Environmental and Marine Sciences** (3 👁)
  - **Life Health and Medical Sciences** (9 👁)
  - **Mathematics and Statistics** (4 👁)
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).