

Opportunity Title: USDA-ARS Chemistry Intern to Protect Honeybee Health

Opportunity Reference Code: USDA-ARS-MWA-2026-0226

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-MWA-2026-0226

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 6/26/2026 3:00:00 PM Eastern Time Zone

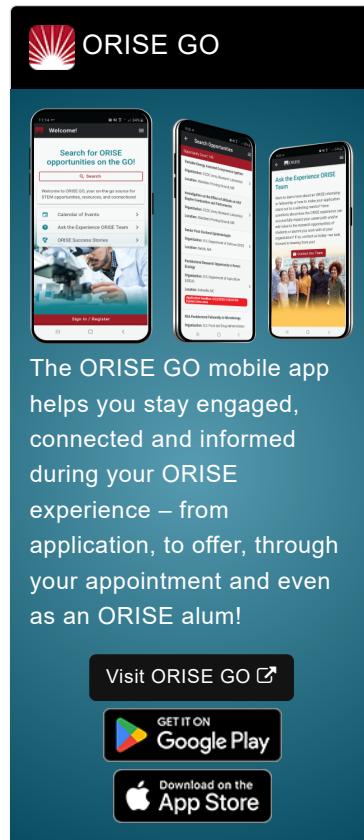
Description *Applications are reviewed on a rolling-basis.

ARS Office/Lab and Location: A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), in the Crop Bioprotection (CBP) Research Unit located in Peoria Illinois.

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 U.S. Dairy Forage Research Center (USDFRC) is to lead the world in integrated dairy forage systems research. The Center is dedicated to providing dairy industry solutions for food security, environmental sustainability, and economic viability through science-based research initiatives focused on improving dairy production systems, soil ecology, forage production, and ecosystem services.


Research Project: The participant will be part of a collaborative research program with


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chemists, entomologists and molecular biologists/microbiologists focused on combating Varroa mites and American Foul Brood disease. Research will be focused on honey bee health to combat *Varroa destructor* mite, a pest that transmit various diseases to honey bees and *Paenibacillus larvae*, the bacterium responsible for American Foul Brood disease. The active compounds will be extracted and isolated from plant materials from various families that are known to possess insecticidal/insect repellent properties, and antibacterial properties and from propolis that are collected from various regions. The structures of the isolated compounds will be determined by NMR (Nuclear Magnetic Resonance) and mass spectroscopy. The active isolated natural products will be modified synthetically to improve efficacy and to determine Structure activity relationship.

Learning Objectives: Under the guidance of a mentor, you will have the opportunity to learn to: detail the major threats to honey bee health, including *Varroa destructor* mites and *Paenibacillus larvae*, the causative agent of American Foul Brood disease, recognize how multidisciplinary teams of chemists, entomologists, and molecular biologists collaborate to address complex agricultural and ecological challenges, extract and isolate bioactive compounds from plant materials and propolis with insecticidal, repellent, and antibacterial properties, apply analytical chemistry methods, including Nuclear Magnetic Resonance (NMR) spectroscopy and mass spectrometry, to determine the structures of natural products, detail principles of natural products chemistry and the identification of compounds with potential activity against bee pests and pathogens, perform synthetic modifications of isolated compounds to enhance biological efficacy, investigate structure–activity relationships (SAR) to understand how chemical structure influences biological function, and contribute to the development of innovative, science-based strategies to improve honey bee health and support sustainable agriculture.

Mentor(s): The mentor for this opportunity is Kumudini M. Meepagala (kumudini.meepagala@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: June 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 is \$3,784.06 monthly.**

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

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

Qualifications The qualified candidate should have received or be currently pursuing a bachelor's or master's degree in one of the relevant fields.

Stipend \$3,784.06 Monthly

Point of Contact [Sara Beth](#)

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Bachelor's Degree or Master's Degree.
 - **Minimum Overall GPA:** 3.50
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** (5 )
 - **Communications and Graphics Design** (1 )
 - **Computer, Information, and Data Sciences** (2 )
 - **Engineering** (1 )
 - **Life Health and Medical Sciences** (9 )
 - **Mathematics and Statistics** (4 )