Opportunity Title: USDA-ARS Research Opportunity in Environmental Sciences
Opportunity Reference Code: USDA-ARS-NE-2023-0429B

Organization	U.S. Department of Agriculture (USDA)
Reference Code	USDA-ARS-NE-2023-0429B
How to Apply	**Connect with ORISE...on the GO!** Download the new ORISE GO mobile app in the Apple App Store or Google Play Store to help you stay engaged, connected, and informed during your ORISE experience and beyond!

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

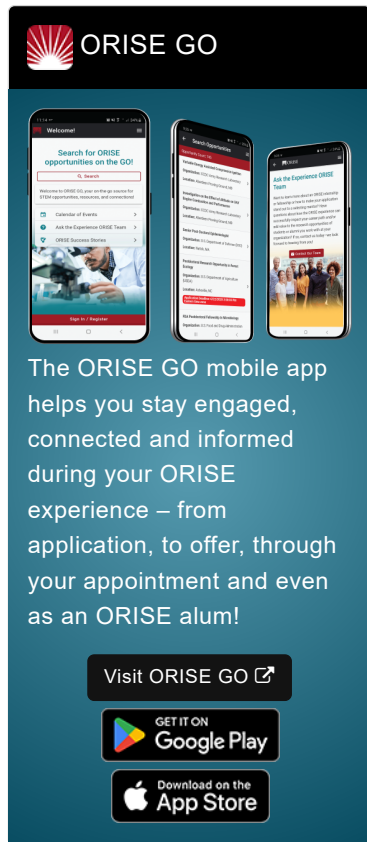All documents must be in English or include an official English translation.

Application Deadline	1/31/2025 3:00:00 PM Eastern Time Zone
Description	***Applications may be reviewed on a rolling-basis, and this opportunity will remain open until filled.**

ARS Office/Lab and Location: A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Sustainable Agricultural Systems Laboratory (SASL) located in Beltsville, Maryland.

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

Research Project: The selected participant will have the opportunity to refine their skills with hands-on research, being involved in executing cover crop-based research experiments. The mission of our group is to address agronomic challenges (e.g., crop, pest and soils) while reducing tillage in cover crop-based field crop production systems. Emphasis will be placed on helping to develop remote sensing applications and computer vision and machine learning technology for estimating cover crop performance. This opportunity involves some physical exertion, such as regular and recurring walking and or bending. In many situations, the duration of the activity (such as most of the day) contributes to the arduous nature of the research. In other situations, there may be special requirements for agility or dexterity such as exceptional hand/eye coordination. The research involves regular and recurring moderate risks or discomforts, which require special safety precautions, e.g. being outside in the sun and exposure to outside temperatures. The participant will use protective clothing, such as boots, goggles and gloves, when conducting research in situations that present a safety hazard.

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Learning Objectives: Under the guidance of a mentor, the participant will collaborate with scientists in a variety of activities including: field, greenhouse, and lab experiments. The participant will learn how cover crops are being used to benefit actual farmers and the environment through interactions with stakeholders throughout the Del-Marva region. This learning experience will follow the life cycle of cover and cash crops from planting to harvest.

Professional development opportunities are available for the participant to meet with farmers, attend scientific meetings, learn how to write and present research posters and/or talks to peers. Specifically the participant will contribute to and learn about strategies for estimating cover crop performance with remote sensing and computer vision and machine learning technology.

Mentor(s): The mentor for this opportunity is Steven Mirsky (steven.mirsky@usda.gov). If you have questions about the nature of the research please contact the mentor.

Anticipated Appointment Start Date: As soon as qualified candidates are identified. 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 extended 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 an annual stipend commensurate with educational level and experience.

Citizenship Requirements: This opportunity is available to U.S. citizens, Lawful Permanent Residents (LPR), and foreign nationals. Non-U.S. citizen applicants should refer to the Guidelines for Non-U.S. Citizens Details page of the program website for information about the valid immigration statuses that are acceptable for program participation.

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

Qualifications

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

Preferred skills:

- Basic knowledge of cover crops
- Knowledge of basic farming practices
- Weed identification skills
- Data collection
- Biomass collection
- Soil sampling procedures

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- Basic knowledge of GIS
- Basic knowledge of remote sensing and NDVI

Point of Contact Janeen

Eligibility Requirements

- **Degree:** Bachelor's Degree.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (17 👁)
  - **Earth and Geosciences** (1 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (2 👁)
  - **Life Health and Medical Sciences** (4 👁)

Affirmation I affirm that:

- I am a US Citizen, OR
- I am a non-US citizen currently living in the United States