

Opportunity Title: USDA-ARS Virtual Soil Organic Matter Testing: Modeling and Data Harmonization

Opportunity Reference Code: USDA-ARS-NEA-2026-0208

Organization U.S. Department of Agriculture (USDA)

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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

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

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Application Deadline 7/3/2026 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). **This opportunity is remote.**

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 Beltsville Agricultural Research Center (BARC), located in Beltsville, MD, is the USDA's largest and most influential agricultural research installation, founded in 1910. It operates under the Agricultural Research Service (ARS) to enhance food security, sustainable agriculture, and nutrition. The Sustainable Agricultural Systems Lab determines principles and practices integral to the development of sustainable agricultural systems. Multidisciplinary research investigates agroecological processes underlying the functioning of sustainable systems. Emphasis is also on the molecular biology of soil–root interactions, developing biologics to suppress soil-borne plant pathogens, and molecular biotechnology to produce nutrient-rich and long-lasting crops. Communication with the agricultural community and consumers who value sustainable agriculture is integral to defining research problems and transferring technology.

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Research Project: The Sustainable Agricultural Systems Lab uses laboratory- and field-based science to provide fundamental and applied knowledge that advances the management and sustainability of agricultural systems. This fellow will investigate how to harmonize existing large datasets with varying soil and environmental variables to test and improve soil organic matter models. They will receive mentoring on how to access and categorize these datasets into standardized workflows applicable to future data collections. They will also receive mentoring on how to use these data to test, compare, and validate existing soil carbon models. In addition to this training, they will receive guidance in manuscript composition, structure, and other essential aspects of scientific publishing.

Learning Objectives: The fellow will contribute to fundamental knowledge by learning how to harmonize large datasets and by evaluating current soil carbon models in order to move toward integrating these models into on-farm decision tools that contribute to reduced fertilizer costs, improved water retention, and more stable crop yields for U.S. farmers. The fellow will also have the opportunity to attend scientific meetings to network with scientists, producers, and industry, and to present scientific advances generated during this fellowship.

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

Anticipated Appointment Start Date: June 1, 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 \$65,000 - \$95,000 annually.**

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

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Qualifications The qualified candidate should have received a doctoral degree in one of the relevant fields (agronomy or a data science-related field).

Preferred skills (one or more preferred):

- Experience harmonizing datasets and working with models.
- Experience with large environmental or soil datasets.
- The ability to organize, categorize, and standardize datasets into reproducible workflows.
- Experience with statistical analysis and interpretation of experimental or observational data.
- Proficiency in at least one scientific computing or scripting environment (e.g., R, Python, MATLAB).
- Experience developing graphs, figures, or visualizations for scientific communication.
- Experience writing or contributing to scientific manuscripts.
- Attention to detail, organizational skills, and an interest in data harmonization.
- The ability to communicate results clearly to scientific audiences.
- A background in collecting or handling soil or plant samples (field, greenhouse, or laboratory).




Stipend \$65,000.00 – \$95,000.00 Yearly

Point of Contact [Janeen](#)

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

Requirements • **Degree:** Doctoral Degree.

• **Discipline(s):**

- **Computer, Information, and Data Sciences** ([3](#) )
- **Environmental and Marine Sciences** ([1](#) )
- **Life Health and Medical Sciences** ([5](#) )