

Opportunity Title: USDA-ARS Research Fellowship in Systems Dynamic Modeling to Determine Optimal Agricultural Production Systems
Opportunity Reference Code: USDA-ARS-MWA-2026-0063

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-MWA-2026-0063

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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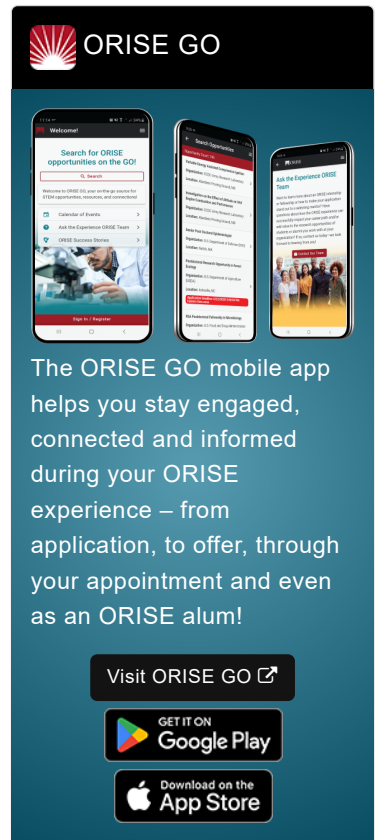
Application Deadline 4/10/2026 3:00:00 PM Eastern Time Zone

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), National Laboratory for Agriculture and The Environment, located in Ames, Iowa.

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 fellow, in concert with scientists at the National Laboratory of Agriculture and Environment (NLAE) in Ames, Iowa, will be conduct research with the focus on enhancing the understanding of the soil-plant-atmosphere system and apply that knowledge to develop improved tools and practices that address the challenges facing the agricultural community. Under the guidance of a mentor, the fellow will participate in a project that seeks to determine and recommend optimal agricultural management systems to maximize crop yields and animal productivity while ensuring that soil and water resources are sustained for economic well-being of US farmers and ranchers.

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Opportunity Title: USDA-ARS Research Fellowship in Systems Dynamic

Modeling to Determine Optimal Agricultural Production Systems

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This project will utilize a systems dynamic modeling framework to identify agricultural production systems that balance between productivity, economic, social, and environmental components.

There will be significant flexibility for the fellow, in collaboration with the mentor and other project members, to refine the focus of these activities based on the knowledge base, skill sets, and interest of the participant. The fellow, with the support of the mentor, will be encouraged to establish robust collaborative relationships with scientists at NLAE and other ARS locations as well as with university and industry partners. The fellow will have the opportunity to be involved in the publication of the research in the appropriate peer-reviewed journals and communicated to stakeholders and the broader scientific community through participation in conferences and meetings.

Learning Objectives: By collaborating closely with the mentor and scientists at NLAE, the fellow will develop the knowledge and skills necessary to advance systems modeling in agricultural research. These objectives focus on enhancing technical, analytical, and communication abilities to address complex agricultural challenges. Specifically, the fellow will have the opportunity to:

- Develop programming skills by creating or adapting software modules in programming languages such as Fortran, C++, Visual Basic, R, or Java for integration into USDA ARS modeling frameworks.
- Strengthen software development skills by designing logical coding structures, integrating them into existing software systems, and recompiling using multiple compilers to ensure seamless functionality while preserving core process integrity and scaling principles.
- Apply systems dynamic modeling concepts to analyze agricultural production systems, identifying strategies that achieve a balance between productivity, economic viability, social considerations, and environmental sustainability at local and national scales.
- Enhance communication skills by presenting research findings to diverse audiences, including farmers, scientific peers, and industry stakeholders, at conferences and professional meetings.
- Contribute to scientific literature by documenting research activities and publishing findings in peer-reviewed journals, advancing knowledge in the field of agricultural systems modeling.

Mentor(s): The mentor for this opportunity is Daniel Moriasi (daniel.moriasi@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

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commensurate with educational level and experience. **The anticipated stipend is \$8,734.**

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

Qualifications The qualified candidate should be currently pursuing a doctoral degree in the one of the relevant fields with the degree anticipated to be received by 5/31/2026.

Preferred skills:

- Experience in object-oriented modeling and multi-model integration
- Prior experience involving USDA-ARS or other agricultural modeling systems.
- Possesses the strong oral and written communication skills to document research activities, to communicate clearly and effectively with other researchers, present and report results to other scientists and stakeholders and generate manuscripts for peer-reviewed publication.

Stipend \$8,734.00 Monthly

Point of Contact [Janeen](#)

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Currently pursuing a Doctoral Degree to be received by 5/31/2026 12:00:00 AM.
 - **Discipline(s):**
 - **Earth and Geosciences** (1👁)
 - **Engineering** (4👁)
 - **Environmental and Marine Sciences** (1👁)