

**Opportunity Title:** USDA ARS Machine Learning Fellow  
**Opportunity Reference Code:** USDA-ARS-SEA-2025-0103

**Organization** U.S. Department of Agriculture (USDA)

**Reference Code** USDA-ARS-SEA-2025-0103

**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 Stuttgart, Arkansas.

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 mission of the Dale Bumpers National Rice Research Center is to improve the competitiveness of the U.S. rice industry in global and domestic markets through research and technology development that assure high yields, value-added grain quality, pest resistance and stress tolerance. The shortage of irrigation water and increased night-time temperature have negatively impacted quality and quantity of rice production by intensification of pressure of both biotic and abiotic stress. The participant will be involved in a team investigation of rice genes that are involved in resisting plant pathogens including



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Magnaporthe oryzae and stresses caused by extreme temperatures, weeds, and herbicides.

**Learning Objectives:** The participant will learn skills in the Protein Function and Phenotype Prediction SCINet group. They will learn to develop and deploy AI-based protein structure prediction tools that are available to the SCINet community of researchers via high-performance computing. They will also gain experience in generating fungal pan-genome resources including the evaluation of disease resistance, yield, protein, grain element, plant and microbe DNA, RNA purification and DNA sequencing analysis using next gen DNA sequencing, gene expression using RNA seq or real time PCR. Open sources of bioinformatic tools including the use of AlphaFold and databases will be used for functional characterization. This opportunity will enable the participant develop skills needed for investigating host-pathogen interactions and improving plant health using machine learning and artificial intelligence.

**Mentor(s):** The mentor for this opportunity is Yulin Jia ([yulin.jia@usda.gov](mailto:yulin.jia@usda.gov)). If you have questions about the nature of the research, please contact the mentor(s).

**Anticipated Appointment Start Date: October 2025.** Start date is flexible and will depend on a variety of factors.

**Appointment Length:** The appointment will initially be for two years, 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 - \$75,000 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.Southeast@orau.org](mailto:ORISE.ARS.Southeast@orau.org) and include the reference code for this opportunity.

**Qualifications** The qualified candidate should be currently pursuing or have received a

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bachelor's, master's, or doctoral degree in the one of the relevant fields.  
Degree must have been received within the past five years, or is currently pursuing.

**Preferred skills:**

- Demonstrated accomplishments in host- microbe and environmental interactions.
- Experienced with high-performance computing, and experience in generating fungal pan-genome resources and functional characterization using AlphaFold and biochemical analysis.

**Stipend** \$65,000.00 – \$75,000.00 Yearly

**Point of Contact** [Janeen](#)

- Eligibility**
- **Citizenship:** LPR or U.S. Citizen
- Requirements**
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or currently pursuing.
  - **Discipline(s):**
    - **Business** ([11](#) 👁)
    - **Chemistry and Materials Sciences** ([12](#) 👁)
    - **Communications and Graphics Design** ([6](#) 👁)
    - **Computer, Information, and Data Sciences** ([17](#) 👁)
    - **Earth and Geosciences** ([21](#) 👁)
    - **Engineering** ([29](#) 👁)
    - **Environmental and Marine Sciences** ([14](#) 👁)
    - **Life Health and Medical Sciences** ([51](#) 👁)
    - **Mathematics and Statistics** ([11](#) 👁)
    - **Other Non-Science & Engineering** ([13](#) 👁)
    - **Physics** ([16](#) 👁)
    - **Science & Engineering-related** ([2](#) 👁)
    - **Social and Behavioral Sciences** ([30](#) 👁)