Opportunity Title: USDA-ARS Training Opportunity in Soybean Breeding and Genetics

Opportunity Reference Code: USDA-ARS-MWA-2026-0064

Organization	U.S. Department of Agriculture (USDA)
Reference Code	USDA-ARS-MWA-2026-0064
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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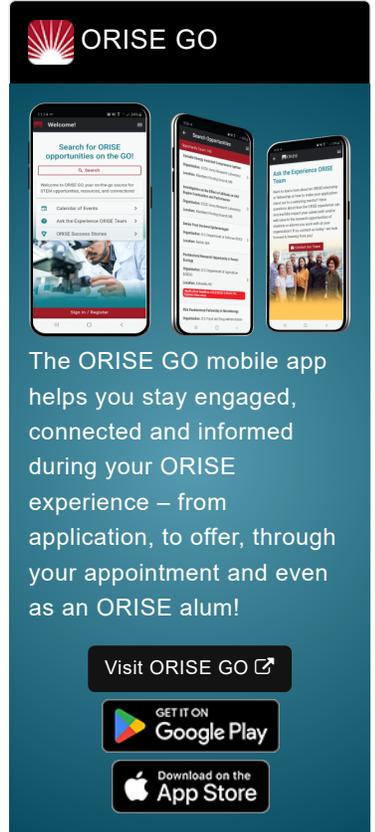|	
Application Deadline	4/10/2026 3:00:00 PM Eastern Time Zone
Description	****Applications are reviewed on a rolling-basis.***

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

Research Project: Our unit's objectives include identifying accessions in the National Plant Germplasm System soybean genetic resource collection with nutritional and stress tolerance traits, particularly among wild soybeans, and applying innovative breeding methods to efficiently introgress exotic and wild genetic variation for yield, seed composition, and disease resistance into agronomically acceptable germplasm lines with minimal yield drag or other undesirable traits. In alignment with ARS National Program 301, we aim to leverage plant genetic diversity and genomics to develop improved germplasm and breeding tools for resilient,

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high-yield crops. This research supports the USDA Agricultural Research Service mission to deliver scientific solutions to agricultural challenges for producers, consumers, and the environment. Consistent with NP301 and NP303 objectives, we integrate trait discovery and disease management strategies to reduce crop losses and enhance sustainability.

The training appointment focuses on identifying and characterizing soybean germplasm—including wild accessions —with stress-tolerance traits relevant to resilient crop development. Under mentorship, the participant will engage in experiential learning across germplasm evaluation and data collection aligned to disease-resistance objectives. The appointment will introduce innovative approaches to introgress exotic variation to agronomically acceptable lines while minimizing yield drag. The participant will learn and practice preparing phenotypic and genotypic datasets for downstream genomic analyses and using these data support candidate gene discovery. The project emphasizes connecting plant genetics theory to practice using mapping populations, sequencing information, and evidence-based analytical workflows.

Learning Objectives: The candidate will learn to:

- Apply foundational concepts in plant genetics to real soybean breeding scenarios, strengthening quantitative reasoning and critical thinking.
- Practice field-based techniques (e.g., planting, controlled pollinations, observational data collection) to connect theory to practical breeding workflows.
- Prepare curated datasets for scientific use; develop skills in data organization and quality checks for technical reporting.
- Use bioinformatic tools for genome-wide association and biparental mapping to identify candidate genes related to disease resistance.
- Strengthen scientific communication by summarizing results in technical reports and manuscript-ready figures/tables.
- Collaborate within a multidisciplinary research environment, enhancing team collaboration skills and professional growth under mentor guidance.

Mentor(s): The mentor for this opportunity is Lilian Miranda (Lilian.Miranda@usda.gov) and Zhanyou Xu (zhanyou.xu@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: April 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 $53,208 – $70,000 annually, plus a health insurance supplement.**

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 or have received a doctoral degree in the one of the relevant fields.

Preferred skills:

- Experience in data organization, genomic analysis, and preparation for manuscript publication.
- Knowledge of plant breeding and plant pathology techniques used to conduct disease inoculations.
- Knowledge of field research is helpful for collaboration with plant scientists in screening experimental germplasm.
- Knowledge of high-throughput phenotyping and genotyping

Stipend

$53,208.00 – $70,000.00 Yearly

Point of Contact

[Janeen](#)

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Life Health and Medical Sciences** ([14](#) 👁)