Opportunity Title: USDA-ARS Computational Plant Biology Fellowship
Opportunity Reference Code: USDA-ARS-MWA-2026-0012

Organization	U.S. Department of Agriculture (USDA)
Reference Code	USDA-ARS-MWA-2026-0012
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.

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!"

Application Deadline	3/27/2026 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 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: Many crop species have relatives that have also been domesticated, with selection independently being applied in the various species to modify traits such as seed size, dormancy, reduction of seed dispersal, changes in taste or toxic compounds, or changes in photoperiod sensitivity or plant architecture. Within the legume family, more than two dozen species have been domesticated, including plants such as pea, soybean, peanut, and common bean. The many related but independently domesticated species offer an opportunity to determine in which cases the domestications have occurred through modification of genetically
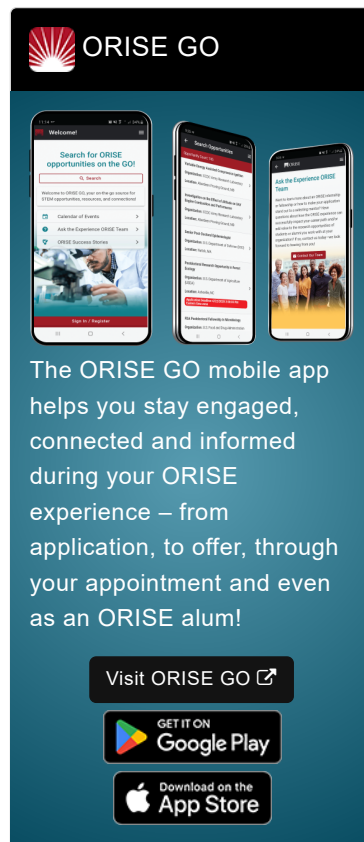
corresponding (orthologous) genes, or via distinct, non-corresponding loci. This project will use a combination of analyses utilizing gene families, synteny relationships, genetic association results, and published gene functional information, to catalog and evaluate the genes involved in domestication in crops within the legume plant family. This research has applied value, through identification of genes that are likely to modify important domestication-related traits across many species. The research also addresses basic questions, such as whether domestication has preferentially operated on genes that have unusually high amounts of standing variation within wild populations.

Under the guidance of a mentor, this opportunity will involve: developing and applying methods in computational biology and artificial intelligence to gather information about gene function in the legume family; using the results to identify gene correspondences at several taxonomic levels – in particular, across genera, typically spanning several species of agronomic importance such as beans or chickpeas and also across the plant family as a whole; and to identify correspondences among agronomically important genes across many crop and model species in this large plant family. After identifying corresponding genes, genomic regions will be evaluated for features such as signatures of selection or diversifying or purifying selection, around genes and regions of agricultural importance.

Learning Objectives: The participant will learn and apply methods in computational biology, genetics, and artificial intelligence, including statistical methods of marker-trait association, methods for determining syntenic relationships and for calculating and representing pan-genome relationships, methods for inferring gene families, and methods for inferring evolutionary events from large collections of gene families. The participant will also have the opportunity to read, evaluate, and participate in writing scientific manuscripts in these areas of focus.

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

Anticipated Appointment Start Date: March 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** $5,185 - $6,273 monthly.

Citizenship Requirements: This opportunity is available to U.S. citizens only.

Opportunity Title: USDA-ARS Computational Plant Biology Fellowship
Opportunity Reference Code: USDA-ARS-MWA-2026-0012

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. Degree must have been received within the past five years or anticipated to be received near start of appointment.

Preferred skills:

- Graduate training in genetics and biology or computer science
- Coursework in statistics and computer science
- Experience with computer scripting languages and Unix command-line tools
- Computer programming and computational biology experience
- Training or experience in plant biology

Stipend $5,185.00 – $6,273.00 Monthly

Point of Contact [Janeen]()

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (2 👁)
  - **Life Health and Medical Sciences** (9 👁)
  - **Mathematics and Statistics** (3 👁)
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).