

**Opportunity Title:** USDA-ARS Fellowship on Plant Genetics and Genomics Program

**Opportunity Reference Code:** USDA-ARS-SEA-2024-0272

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

**Reference Code** USDA-ARS-SEA-2024-0272

**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** 9/27/2024 10:53:22 AM Eastern Time Zone

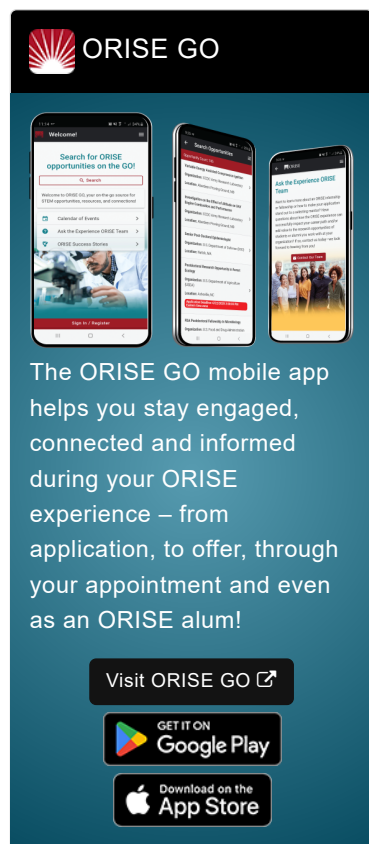
**Description** **\*Applications are reviewed on a rolling-basis.**

**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 Miami, Florida.

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:** This appointment is supported by the USDA-ARS Ornamental Research project in Miami, FL. The fellow participates in a team effort to maintain and characterize Ornamental Genetic Resources (OGRs) by discovering molecular resources using biochemical and computational biology approaches. Specific objectives include:

- Conducting research, characterizing molecular and biological traits in OGR;
- Handling and analyzing multi-omics data sets to assess ornamental plants for their economic traits and their genetic relationships;



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- Analyzing, and publishing research outcome as a scientific article(s) to help mitigate the agricultural problems.

Methodologies used by the fellow range from those requiring considerable modification to routine, and include computational biology/bioinformatics, plant genetics, statistics, molecular biology techniques, and approaches.

**Learning Objectives:** Learning opportunities on the analysis of genetic diversity, comparative genomics, metabolomics, and phylogenetic relationships of ornamental plants will help in the US national germplasm collection and their improvements. Additionally, the participant will gain experience by collaborating with national and international scientists working on OGRs.

**Mentor:** The mentor for this opportunity is Madhugiri Nageswara-Rao ([Madhugiri.Nageswara-Rao@usda.gov](mailto:Madhugiri.Nageswara-Rao@usda.gov)). If you have questions about the nature of the research, please contact the mentor.

**Anticipated Appointment Start Date: 2024.** 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.

**Citizenship Requirements:** This opportunity is available to U.S. citizens, Lawful Permanent Residents (LPR), and foreign nationals. Non-U.S. citizen applicants should refer to the [Guidelines for Non-U.S. Citizens Details page](#) of the program website for information about the valid immigration statuses that are acceptable for program participation.

**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 already received a doctoral degree in the one of the relevant fields (e.g. Plant Genetics, Molecular Biology, Bioinformatics, and/or a related discipline).

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**Preferred skills:**

- Knowledge of plant computational biology, molecular biology, genetics, statistical analysis, and multi-omics analytical skills.
- Knowledge of field research is helpful for collaboration with plant scientists in screening experimental germplasm.
- Experience in addressing biological hypotheses through statistical inference with computational approaches is helpful.
- An optimal research approach would benefit from proficiency in programming languages using Python, Bash, R, SQL, and UNIX shell scripting and experience using data science tools such as pandas, NumPy, SciPy, Scikit-learn, and Jupyter.
- In addition, the project goals would benefit from knowledge and experience with statistical modeling and inference using large, biological datasets and NGS.

**Eligibility Requirements**

- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Life Health and Medical Sciences** ([15](#) 👁)