

Opportunity Title: USDA-ARS Plant Breeding and Genetics Fellowship

Opportunity Reference Code: USDA-ARS-2021-0219

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2021-0219

How to Apply *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!

A complete application consists of:

- An application
- Transcripts – [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.

Application Deadline 10/15/2021 3:00:00 PM Eastern Time Zone

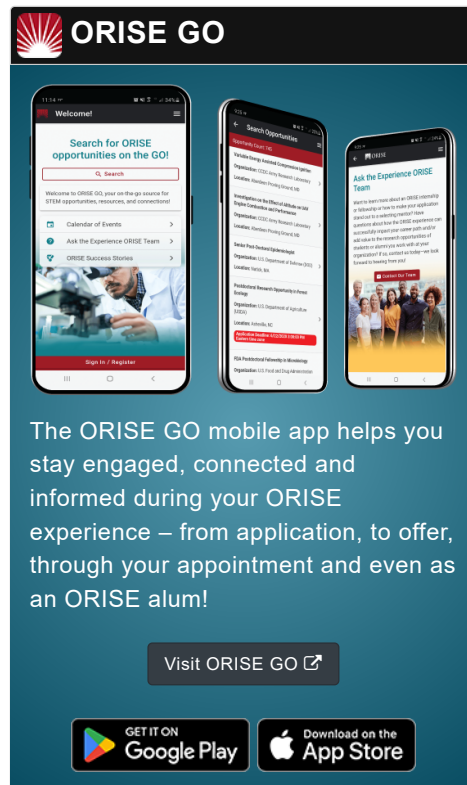
Description *Applications are reviewed on a rolling-basis and this posting could close before the deadline.

ARS Office/Lab and Location: A research opportunity is available with the U.S. Department of Agriculture (USDA) - Agricultural Research Service (ARS), Southern Plains Range Research Station in Woodward, Oklahoma.

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 the agency is to provide global leadership in agricultural discoveries through scientific excellence.

The plant breeding mission at the Southern Plains Range Research Station is to conduct applied molecular and classical plant breeding, and study the quantitative genetics of diverse warm season forage species, in addition to warm and cool season turf grasses.

Research Project: The participant will be involved in collecting phenotypic data from field and greenhouse-grown plants, and conducting genetic mapping using next generation sequencing data with the goal of moving towards implementing marker-based selection to identify plants for advancement in the breeding program. Current research includes, but is not limited to, genetic analysis of forage nutritional quality, development of improved warm and cool season grass cultivars for forage and turf production, and ploidy-based population structure analysis.



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Learning Objectives: This opportunity is designed to provide the Participant with in-depth experience in a plant breeding research laboratory applying next generation sequencing for genetic mapping of forage quality traits, and developing and testing microsatellite and/or SNP markers for selection of improved plants.

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

Anticipated Appointment Start Date: 2021. 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.

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 USDA-ARS@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should have received a master's degree in plant or animal breeding and genetics, genomics, bioinformatics, or a related field. Degree must have been received within the past five years.

Preferred skills:

- Documented experience in plant or animal genetics
- Hands-on computational experience and working in lab and/or field settings
- Fundamental skills include: implementing bioinformatic pipelines for handling next generation sequencing data, utilizing next generation sequence data for genetic mapping, developing and using microsatellite or SNP markers for targeted genotyping, and the propensity for applied studies





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under field conditions

- Highly motivated individuals dedicated to working in an interdisciplinary environment, which includes basic and applied genetics, bioinformatics, and systems biology of plants
- Good teamwork skills
- Proficiency with computers

**Eligibility
Requirements**

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree received within the last 60 month(s).
- **Discipline(s):**
 - **Communications and Graphics Design** (1 )
 - **Computer, Information, and Data Sciences** (4 )
 - **Life Health and Medical Sciences** (12 )
 - **Mathematics and Statistics** (1 )