Opportunity Title: USDA-ARS Molecular Plant Pathology & Genetics Research Opportunity
Opportunity Reference Code: USDA-ARS-SEA-2024-0328

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-SEA-2024-0328

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 12/6/2024 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 Canal Point or 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: The USDA-ARS Sugarcane Field Station (Canal Point, FL) and Subtropical Horticultural Research Station (Miami, FL), both work towards the preservation and enhancement of sugarcane germplasm for the purpose of developing improved sugarcane cultivars for the United States. The appointed fellow will be with both locations and collaborate with a multidisciplinary team to characterize sugarcane germplasm against target pathogens and environmental stresses using molecular biology techniques such as DNA and RNA extractions, polymerase chain reaction, and gel electrophoresis. In addition, the fellow will be a part of the collection, preparation, and analysis of data. Furthermore, the fellow will

utilize SNP assays and/or Next Generation Sequencing and analyze resulting data using blast tools to identify new genetic markers and traits of interest. The fellowship involves showcasing expertise and contributing to the origination of novel scientific principles and notions, offering a distinctive opening for personal and professional advancement.

Learning Objectives:

- The participant will learn how to conduct science as part of a multi-disciplinary team
- The participant will improve communication and professionalism skill in presenting research and interacting with team members and stakeholders
- The participant will become proficient in sugarcane breeding and genetics
- The participant will learn how to apply molecular markers to a crop with a complex genome
- The participant will gain experience in sugarcane disease screening assays

Mentor(s): The mentor for this opportunity is Matthew Rouse (matthew.rouse@usda.gov) in Canal Point, FL and Sukhwinder Singh (sukhwinder.singh@usda.gov) in Miami, FL. If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: 2024/2025. 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, 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

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additional questions about the application process, please email 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 doctoral degree in the one of the relevant fields (plant sciences or a cognate discipline).

Preferred skills:

- Highly adept individual with hands-on experience and proficiency in plant breeding, plant pathology, genetics, and molecular biology techniques, encompassing nucleic acid extractions, PCR, genome sequencing, and bioinformatics.
- A documented history of experiment design and the formulation of efficient laboratory protocols.
- Critical thinking skills and a capacity to discern the significance of unanticipated outcomes are paramount, with a readiness to make minor adjustments to ensure the accuracy of tests and data.
- Independence and teamwork capabilities, along with exceptional communication skills to keep team members apprised and to disseminate results through meetings and peer-reviewed publications.
- Demonstrate a passion for scientific research and a commitment to making a positive impact on the future of agriculture.

Eligibility Requirements

- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Life Health and Medical Sciences** (12 👁)

Affirmation

I affirm that:

I am a US Citizen, OR;
I am a non-US citizen currently living in the United States