Opportunity Title: USDA-ARS Coordinated Approach to Coffee Leaf Rust Fellowship
Opportunity Reference Code: USDA-ARS-SE-2024-0106

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-SE-2024-0106

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
- 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.

Application Deadline 4/12/2024 11:59:00 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 Mayaguez, Puerto Rico.

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. The research will be carried out at the USDA-ARS Tropical Agriculture Research Station (TARS) which is a clonal germplasm repository of the National Plant Germplasm System (NPGS) and consists of locations at Mayaguez and Isabela, Puerto Rico and St. Croix, U.S. Virgin Islands. TARS mission is to conduct agricultural research to: 1) assess tropical sorghum and dry bean genetic resources for disease resistance and genetic diversity and develop germplasm adapted to temperate regions, and 2) to introduce, preserve, evaluate, regenerate, distribute tropical fruit germplasm and develop cultural and management systems for tropical/subtropical crops that are of economic importance to the Continental and Insular U.S.

Research Project: The participant will be assigned to the project to help address the primary goal of investigating races of *Hemileia vastatrix* present in Puerto Rico, screening for susceptibility to coffee leaf

rust (CLR) on different Coffee varieties, and to test natural bio-control of CLR using mycoparasites. The participant will conduct research under the guidance of a mentor. Some level of independence in the research and critical thinking is expected for this opportunity.

Learning Objectives: The participant will gain experience preparing growth media for fungi, using common laboratory equipment and apparatus such as autoclaves, sterilizers, centrifuges, and homogenizers, identifying main symptoms and/or signs of CLR infections, and performing disease surveys (CLR incidence and severity) throughout coffee fields in Puerto Rico. The participant also will gain experience on preparation of *H. vastatrix* inoculum and application of spore solutions on coffee varieties (conduct pathogenicity tests on coffee plants or detached coffee leaf tissue), extract DNA, PCR amplifications, and analysis of *H. vastatrix* and mycoparasites sequences. The participant will learn how to plant, fertilize, control weeds, irrigate, and apply pesticides in the field and greenhouse conditions. The participant will develop or enhance their knowledge and skills to better evaluate plant responses to diseases.

Mentor(s): The mentor for this opportunity is Luz Serrato-Diaz (luz.serrato@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

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 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 ORISE.ARS.Southeast@orau.org and include the reference code for this opportunity.

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Qualifications

The qualified candidate should have received or be currently pursuing a bachelor's or master's degree in the one of the relevant fields. Degree must have been received within the last five years or is anticipated to be received by 5/31/2024.

Depending on the research project objectives, the selected candidate may need to operate a government owned vehicle (GOV) and will be required to show proof of a valid U.S. State Driver's License and provide proof of an active U.S. auto insurance policy.

Preferred skills:

- Knowledge of plant biology, microbiology, plant pathology
- Preference is placed on:
  - Applicants with a bachelor's degree or;
  - Applicants who are currently pursuing a master's degree

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree or Master's Degree received within the last 60 months or anticipated to be received by 5/31/2024 12:00:00 AM.
- **Discipline(s):**
  - **Life Health and Medical Sciences** (8 👁)