

**Opportunity Title:** USDA-ARS Postdoctoral Fellowship in Plant Physiology /

Biology / Ecology

**Opportunity Reference Code:** USDA-ARS-SE-2023-0373

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

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**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** 10/13/2023 3:00:00 PM Eastern Time Zone

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

**ARS Office/Lab and Location:** A postdoctoral research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Tropical Agriculture Research Station (TARS) 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.

**Research Project:** 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.

The overall objective of this research is to study plant traits in cacao (*Theobroma cacao*) that assist in identifying rootstocks with improved drought tolerance and nutrient use efficiency using accessions in the USDA-ARS germplasm collection. Under guidance from the mentor, the



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participant will help design, conduct, and disseminate research to increase the understanding of key phenotypic traits involved in improved cacao production, and help identify superior germplasm with drought tolerance and nutrient use efficiency.

The participant will enhance their knowledge and skills to learn to evaluate plant responses to environmental stress. This may include assessing impacts on plant productivity, photosynthesis, leaf gas exchange, stomatal resistance, and nutrient and water use in response to drought stress. Root architectural traits of germplasms, the temporal pattern of their development and their plasticity in response to soil water availability, will be studied to investigate potential rootstock performance under drought conditions.

**Learning Objectives:** The participant will learn concepts and methodologies of plant physiology, ecology, and soil science. In collaboration with the mentor, the participant will be able to co-publish research results in peer-reviewed journals and disseminate results through presentations at professional society meetings. The participant will also have the opportunity to interact with stakeholders from private industry.

**Mentor(s):** The mentor for this opportunity is Ricardo Goenaga ([ricardo.goenaga@usda.gov](mailto:ricardo.goenaga@usda.gov)). If you have questions about the nature of the research, please contact the mentor.

**Anticipated Appointment Start Date:** October 16, 2023. 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. **The current stipend for this opportunity is within the range of \$69,107 - \$71,410 per year plus a health insurance supplement and travel allowance.**

**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](mailto:ORISE.ARS.Southeast@orau.org) and include the reference code for

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this opportunity.

**Qualifications** The qualified candidate should have received a doctoral degree in one of the relevant fields, or be currently pursuing the degree with completion before December 31, 2023. Degree must have been received within the past five years.

Preferred Skills/Experience:

- Knowledge of plant physiology, plant biology, plant water relations, plant anatomy, leaf gas exchange, photosynthesis, plant mineral nutrition.

- Eligibility Requirements**

  - **Citizenship:** U.S. Citizen Only
  - **Degree:** Doctoral Degree received within the last 60 months or anticipated to be received by 12/31/2023 11:59:00 PM.
  - **Discipline(s):**
    - **Life Health and Medical Sciences** ([Z](#) )
  - **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).