Opportunity Title: Postdoctoral Research Opportunity in Photosynthesis Efficiency
Opportunity Reference Code: USDA-ARS-2020-0013

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2020-0013

How to 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. All transcripts must be in English or include an official English translation. 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.

If you have questions, send an email to USDA-ARS@orau.org. Please include the reference code for this opportunity in your email.

Application Deadline 12/9/2019 3:00:00 PM Eastern Time Zone

Description

***Applications will be reviewed on a rolling-basis.**

A postdoctoral research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Global Change and Photosynthesis Research Unit (GCPRU) located in Urbana, Illinois.

The project aims to genetically map loci associated with variation in soybean and cow pea canopy architecture and photosynthetic traits. Differences in canopy architecture can influence the light environment within a crop canopy and the subsequent rate and efficiency of photosynthesis of leaves. This project will take advantage of diverse collections of soybean and cowpea to characterize differences in canopy architecture in the two crops, understand the impacts of canopy architecture on leaf and canopy photosynthesis, and genetically map and confirm genes associated with physiological traits.

Under the guidance of a mentor, the selected participant will be trained to design and perform experiments to map quantitative trait loci associated variation in canopy architecture traits and canopy photosynthesis, and to use molecular approaches to validate causal genes. The participant will study the genetic basis for variation in canopy architecture traits and collaborate closely with other scientists to modify canopy structure to enhance photosynthesis. This research will support transgenic approaches to manipulate photosynthesis, and will help inform strategies to modify crop canopies for optimum photosynthesis.

The participant will collaborate with other post-docs and professors on the Realizing Improvements in Photosynthetic Efficiency (RIPE) project, which broadly aims to model and manipulate photosynthesis to increase crop yields. The participant will participate and present research in RIPE meetings as well as ARS unit meetings. The participant will also have opportunities to participate in outreach through

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interactions with the University of Illinois, Institute for Genomic Biology. For example, Genome Day is an outreach opportunity at the local Children's science museum, and the participant could participate in that event.

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. The initial appointment is for one year, but may be renewed upon recommendation of ARS and is contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE. The appointment is full-time at ARS in the Urbana, Illinois, area. Participants do not become employees of USDA, ARS, DOE or the program administrator, and there are no employment-related benefits.

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.

For more information about the ARS Research Participation Program, please visit the **Program Website**.

Qualifications

The qualified candidate should have received a doctoral degree in one of the relevant fields.

Preferred skills/experience:

- Strong background in molecular plant physiology, genetics and molecular biology
- Prior experience with cloning, PCR, and gene validation
- Interest in photosynthesis
- Experience with team science
- Strong oral and written communication skills

Eligibility Requirements

- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Life Health and Medical Sciences** (8 👁)