

Opportunity Title: USDA-ARS Fellowship in Plant Metabolism and Photosynthesis

Opportunity Reference Code: USDA-ARS-MW-2024-0068A

Organization U.S. Department of Agriculture (USDA)

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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 7/19/2024 3:00:00 PM Eastern Time Zone

Description *Applications are reviewed on a rolling-basis and will be reviewed as received.

ARS Office/Lab and Location: A plant science research opportunity is available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), within the Donald Danforth Plant Science Center located in Saint Louis, Missouri.

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 [Danforth Center](#) is home to a great set of scientific colleagues, world-class facilities, and an inclusive and supportive environment that embraces core DEI principles and fosters collaboration. This opportunity is part of a collaborative grant, Realizing Increased Photosynthetic Efficiency (RIPE), that involves experts from around the world on photosynthesis that are very supportive of learning and highly engaged in producing exciting science and developing and training scientists collaboratively.

Research Project: The overarching goal of the Allen lab is to describe the carbon and nutrient partitioning within plant tissues through isotopic labeling and metabolic flux analyses that enable the production of crops with increased yield and value-added compositions. This project will examine photosynthesis, photorespiration and metabolic partitioning in engineered soybean lines with altered pathways intended to bypass photorespiration.

Learning Objectives: The selected participant will gain expertise with isotopic labeling, mass spectrometry, analysis of photosynthetic carbon assimilation and central carbon metabolism, and analyses of metabolic flux in an



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important crop, soybean, and enhance skills in biochemistry and biochemical assays that can help mechanistically explore the underlying phenotypes at the cellular and physiological levels. Background and strong interest in plant metabolism, photosynthesis, and mass spectrometry would be very helpful for success with this research experience.

Mentor: The mentor for this opportunity is Doug Allen (doug.allen@usda.gov). If you have questions about the nature of the research please contact the mentor.

Anticipated Appointment Start Date: **As soon as a qualified candidate is identified;** however 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 education and experience **within the range of \$47,000 to \$57,000.**

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 additional questions about the application process, please email ORISE.ARS.Midwest@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should have received a master's degree or PhD in one of the relevant fields or be currently pursuing the degree with completion before the appointment start date.

Preferred skills:

- The preferred candidate will have background and experience with plant metabolism and have worked with mass spectrometry, potentially untargeted metabolomics and/or isotopic labeling studies.




Eligibility Requirements • **Degree:** Master's Degree or Doctoral Degree.

• **Discipline(s):**

- **Chemistry and Materials Sciences** (8👁)
- **Computer, Information, and Data Sciences** (1👁)
- **Earth and Geosciences** (1👁)

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- **Engineering** ([11](#) )
- **Environmental and Marine Sciences** ([4](#) )
- **Life Health and Medical Sciences** ([23](#) )