

Opportunity Title: USDA-ARS Internship in Emerging Cotton Diseases

Opportunity Reference Code: USDA-ARS-SE-2024-0016A

Organization U.S. Department of Agriculture (USDA)

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A complete application consists of:

- An application
- Transcript(s) – For this opportunity, an unofficial transcript or copy of the student academic records, such as a high school diploma, 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 4/26/2024 2:50:47 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), within the Crop Genetics Research Unit at the Jamie Whitten Delta States Research Center located in Stoneville, Mississippi.

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 mission of the Crop Genetics Research Unit is to (1) develop knowledge of the biology of cotton and soybean plants including their genetic, physiological, and pest resistance interactions with the environment; (2) discover heritable plant



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characteristics that confer resistance or tolerance to adverse environmental pressures, pests and diseases and improve quality; (3) coordinate the National Cotton Variety Tests and the Uniform Soybean Tests for the southern U.S.; (4) maintain and evaluate a soybean germplasm collection; (5) release improved germplasm, and use this knowledge and new germplasm to enhance production and improve the environment.

<https://www.ars.usda.gov/southeast-area/stoneville-ms/crop-genetics-research/>

Research Project: The overall goal of the project is to identify resistance to two emerging cotton diseases and transfer the resistant traits from a donor cotton line to improved cotton varieties. This will allow USDA-ARS researchers to help mitigate the effect of the disease and help U.S. farmers continue to grow cotton. The project involves a mix of field evaluation of cotton and laboratory procedures to analyze the quality of the seed and fiber. The participant will have the opportunity to learn classical plant genetic methods as well as basic laboratory assays for fiber and seed, as well as data entry and summarization using standard software programs. There will also be an opportunity to collaborate with and learn from other scientists assigned to this program.

Learning Objectives: During the course of research, the participant will be mentored by a USDA-ARS scientist to help carry out a variety of activities including field techniques for cotton plant hybridization, tissue sampling, digital data collection using tablets and microscopes and basic laboratory assays for seed and fiber quality. There is also the opportunity to learn established lab methods to for selection of the best cotton lines, known as marker assisted selection. The participant will have the opportunity to learn classical plant genetic methods as well as basic laboratory analyses including genotyping use of standard software programs.

Mentor(s): The mentor for this opportunity is Jodi Scheffler (jodi.scheffler@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: Spring/Summer 2024. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for 3 months, but may be renewed upon recommendation of ARS and is contingent on the availability of funds.

Level of Participation: The appointment is full time or part time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience.

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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@ornl.gov and include the reference code for this opportunity.

Qualifications The candidate should be a currently enrolled high school student anticipating graduation in spring of 2024, or have obtained a high school diploma/GED within the last two years, with proof of acceptance/enrollment in a STEM degree-awarding undergraduate program.

Preferred skills:

- The desire to learn a new field
- Laboratory skills useful for plant research.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** High School Diploma/GED received within the last 24 months or currently pursuing.
- **Academic Level(s):** K-12 Students or Undergraduate Students.
- **Discipline(s):**
 - Life Health and Medical Sciences (1 )