

**Opportunity Title:** USDA-ARS Post-baccalaureate Research Fellowship

**Opportunity Reference Code:** USDA-ARS-NEA-2024-0370

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

**Reference Code** USDA-ARS-NEA-2024-0370

**How to Apply** *To submit your application, scroll to the bottom of this opportunity and click **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. 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.

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**Application Deadline** 12/20/2024 3:00:00 PM Eastern Time Zone

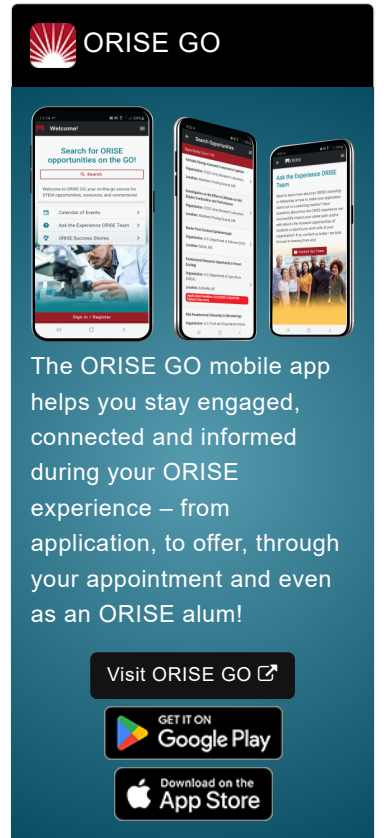
**Description** \*Applications may be reviewed on a rolling-basis.

**ARS Office/Lab and Location:** A post-baccalaureate research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), within the Genetic Improvement for Fruits and Vegetables Lab located in Beltsville, Maryland.

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 Genetic Improvement for Fruits and Vegetables Lab studies multiple microbial pathogens of potato, pepper, and tomato to develop novel disease management tools. Located in Beltsville, MD at the headquarters of the Agricultural Research Service, the research facility includes modern laboratory and greenhouse space and scientific expertise in a wide range of agricultural research subject areas.


**Research Project:** Common scab disease is major biotic constraint of potato




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throughout much of the world. The disease is caused by pathogenic species of *Streptomyces*. Our lab utilizes genomics, transcriptomics, molecular biology, and basic plant pathology approaches to identify *Streptomyces* genes involved in pathogenicity of potato and potato genes involved in plant response to the pathogen. This training opportunity will involve learning all of these techniques to study *Streptomyces* plant pathogens. Specifically, the participant will help collect whole-genome sequence data for pathogenic and non-pathogenic *Streptomyces*. Novel *Streptomyces* genes predicted to be involved in pathogenicity will be expressed in heterologous systems or knocked-out from pathogenic *Streptomyces* to assess their role in the manifestation of disease symptoms. Additionally, alternative chemical treatments that achieve common scab protection through similar mechanisms will also be investigated.

**Learning Objectives:** As a result of this training, the participant will improve their skills in molecular biology, microbiology, and plant pathology.

**Mentor(s):** The mentor for this opportunity is Christopher Clarke ([christopher.clarke@usda.gov](mailto:christopher.clarke@usda.gov)). If you have questions about the nature of the research, please contact the mentor.

**Anticipated Appointment Start Date:** 2024/2025. 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 part time.

**Participant Stipend:** The participant will receive a monthly stipend commensurate with educational level and experience. **The current stipend for this opportunity is \$750-\$1,500 per month.**

**Citizenship Requirements:** This opportunity is available to U.S. citizens and Lawful Permanent Residents (LPR).

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

**Qualifications** The qualified candidate should have received a bachelor's or master's degree in one of the relevant fields or be currently pursuing one of the degrees. Degree must have been received within the past five years or be currently pursuing.

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**Preferred Skills:**

- Knowledge of basic microbiology, genetics, genomics, and molecular biology.
- Demonstrated skill and practical experience in molecular biology techniques (e.g., nucleic acid purification, gene amplification and cloning).
- Ability to recognize the significance of unexpected results, and to make minor modifications to ensure validity of testing and data.
- Ability to operate independently as well as part of a team, with good communication skills to keep team members informed and disseminate results at meetings.

**Point of Contact** [Janeen Pointer](#)

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| <b>Eligibility</b>  | <ul style="list-style-type: none"><li>• <b>Citizenship:</b> LPR or U.S. Citizen</li></ul>   |
| <b>Requirements</b> | <ul style="list-style-type: none"><li>• <b>Degree:</b> Bachelor's Degree or Master's Degree received within the last 60 months or currently pursuing.</li><li>• <b>Discipline(s):</b><ul style="list-style-type: none"><li>◦ <b>Life Health and Medical Sciences</b> (<a href="#">48</a> 👁)</li></ul></li><li>• <b>Veteran Status:</b> Veterans Preference, degree received within the last 120 month(s).</li></ul> |