Opportunity Title: USDA-ARS Bioinformatics Fellowship
Opportunity Reference Code: USDA-ARS-NEA-2025-0019

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-NEA-2025-0019

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.

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!"

Application Deadline 2/14/2025 3:00:00 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), 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.

Research Project: The Animal Parasitic Diseases Laboratory is involved in devising strategies to prevent protozoan and helminth diseases of animals and humans. Approaches include designing live, attenuated or recombinant vaccines based on knowledge of the biology, biochemistry, and molecular biology of these parasites as well as developing rapid methods of parasite detection and drug-resistant parasite strains. This project seeks to compile the genomic sequence of Eimeria, which are protozoa that cause the devastating disease avian coccidiosis. The secondary goal is to compare various Eimeria spp. to identify genes involved in intestinal cell specificity,

virulence, and markers of drug resistance.

Learning Objectives: The participant will learn how to apply bioinformatics software to produce a chromosome-level map of Eimeria parasites. Once this is completed, the participant will learn how to do genome-level comparisons of different Eimeria spp. to identify genes involved in parasite replication, avoids immunity or drugs, and how it causes disease in the host. This training will allow development of ability to apply bioinformatics to gene sequences and thereby understand how microorganisms control gene expression.

Mentor(s): The mentor for this opportunity is Mark Jenkins (mark.jenkins@usda.gov). If you have questions about the nature of the research, please contact the mentor.

Anticipated Appointment Start Date: March 3, 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 full time.

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

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. Foreign national candidates may have a mandatory in-person requirement depending on visa status.

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 and include the reference code for this opportunity.

Qualifications The qualified candidate should have received a master's degree in the one of the relevant fields

Opportunity Title: USDA-ARS Bioinformatics Fellowship
Opportunity Reference Code: USDA-ARS-NEA-2025-0019

Preferred skills:

- Some experience and skill in using coding programs such as Python, Powershell, R, and Java.
- Some experience in DNA genome assembly programs such as SPAdes, PERL, Trimmomatic, and Cutadapt.

Point of Contact Janeen

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree.
- **Discipline(s):**
  - **Business** (3 👁)
  - **Computer, Information, and Data Sciences** (3 👁)
  - **Life Health and Medical Sciences** (2 👁)