

**Opportunity Title:** USDA-ARS Bioinformatics Analysis Fellowship

**Opportunity Reference Code:** USDA-ARS-NE-2023-0257A

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

**Reference Code** USDA-ARS-NE-2023-0257A

**How to Apply** *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!

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.

**Application Deadline** 10/25/2024 3:00:00 PM Eastern Time Zone

**Description** \*Applications may be 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). **This opportunity will be remote.**

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:** Research to be performed includes the computational analysis of gut microbiome data. Types of data include 16S rRNA amplicons, shotgun metagenomic and metabolomic data. The student will document their research and prepare written summaries and figures contributing to scientific publications. A demonstrated ability to multi-task is important as the student may be conducting research on multiple datasets simultaneously.

**Learning Objectives:** The participant will learn about the interdependency of gut microbiome and metabolome.

**Mentor(s):** The mentor for this opportunity is LinShu Liu ([linshu.liu@usda.gov](mailto:linshu.liu@usda.gov)). If you have questions about the nature of the research please contact the mentor(s).

**Anticipated Appointment Start Date:** **Early 2024.** Start date is flexible and will depend on a



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variety of factors.

**Appointment Length:** The appointment will initially be for one year, but may be extended upon recommendation of ARS and is contingent on the availability of funds.

**Level of Participation:** The appointment is full-time during the summer and part-time during the academic year based on the student's availability.

**Participant Stipend:** The participant(s) will receive an annual 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.



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

**Qualifications** The qualified candidate should be currently pursuing a doctoral degree in one of the relevant fields.

Preferred skills:

- Experience in the use of Linux, python, and R/RStudio for data cleaning, installation (as needed), and running analyses based on freely available bioinformatics software.
- Comfortability working with R/RStudio for data visualization and statistical analysis.
- Experience in multivariate statistics, ideally for microbiome data analysis.
- Solid basic computational ability and a willingness to learn is preferred; experience with microbiome-specific bioinformatics software is also preferred.
- Experience with microbiology/microbial physiology or knowledge of the gut microbiome literature is a plus.

- Eligibility Requirements**
- **Degree:** Currently pursuing a Doctoral Degree.
  - **Discipline(s):**
    - **Computer, Information, and Data Sciences** ([3](#) )
    - **Life Health and Medical Sciences** ([3](#) )