

**Opportunity Title:** USDA-ARS Postdoctoral Microbiologist Fellowship in

Antimicrobial Resistance and Microbiome Studies

**Opportunity Reference Code:** USDA-ARS-2022-0222

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

**Reference Code** USDA-ARS-2022-0222

### 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** 7/11/2022 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) at the National Animal Disease Center (NADC) located in Ames, Iowa.

The ARS is the USDA'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 NADC is the premier research institute within the USDA for studying diseases of large animals. At the NADC, scientists are able to investigate microbe-host interactions from every perspective—molecular, microbe, and natural host. Team members and collaborators include microbiologists, molecular biologists, pathologists, veterinarians, and animal scientists.

**Research Project:** The Food Safety and Enteric Pathogens Research Unit in the NADC is seeking a Postdoctoral Research Microbiologist to conduct research on host-microbe interactions within the animal intestinal tract. The selected fellow will use



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transcriptomic, genomic, and microbial community analyses to characterize these interactions, with the goal of identifying alternatives to antibiotics to control foodborne pathogens.

Current research focuses on: reducing colonization and antibiotic resistance of foodborne pathogens (notably *Campylobacter* and *Salmonella*); exploiting interactions among the host, its commensal bacteria, and foodborne pathogens; and establishing links between microbial membership and metabolic function in the gut.

**Learning Objectives:** The participant will gain useful experience designing and conducting experiments in collaboration with a team of microbiologists, immunologists, and veterinarians. The participant will be trained in an array of methodologies and technologies to fulfil the objectives of the project including anaerobic microbiology, microbial genomics, metagenomics, molecular biology, and computational biology.

**Mentor(s):** The mentor for this opportunity is Torey Looft ([torey.looft@usda.gov](mailto:torey.looft@usda.gov)). If you have questions about the nature of the research please contact the mentor.

**Anticipated Appointment Start Date:** June 6, 2022. Start date subject to change based on a variety of reasons, and start date may be flexible to accommodate the needs of a qualified candidate.

**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.

**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.

**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 [USDA-ARS@ornl.gov](mailto:USDA-ARS@ornl.gov) and include the reference code for this opportunity.

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**Qualifications** The qualified candidate should have received a doctoral degree in one of the relevant fields (e.g. Microbiology, Computational Biology), or be currently pursuing the degree with completion by December 31, 2022. Degree must have been received within five years of the appointment start date.

Preferred Skills:

- Specialized research experience in:
  - Microbiology
  - Molecular biology (including next gen sequencing)
  - Use of Linux operating systems
  - Analyses of large datasets
  - Fluency in at least one scripting language
  - Use of biological databases and various bioinformatics tools
  - Technical writing for peer-reviewed publications
- Additional knowledge of statistical inference methods, microbial ecology, molecular biology, and/or genetics
- Good interpersonal and public speaking skills
- Demonstrated skills and research ability investigating microbial-host interactions, including computational analysis of transcriptomic and population-scale metagenomic data

**Eligibility Requirements**

- **Degree:** Doctoral Degree received within the last 60 months or anticipated to be received by 12/31/2022 11:59:00 PM.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (1 )
  - **Life Health and Medical Sciences** (48 )
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).