

**Opportunity Title:** USDA-ARS Postdoctoral Fellowship in Salmonella Interventions and Antibiotic Resistance

**Opportunity Reference Code:** USDA-ARS-MW-2023-0156

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

**Reference Code** USDA-ARS-MW-2023-0156

**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. All transcripts must be in English or include an official English translation. 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** 9/29/2023 3:00:00 PM Eastern Time Zone

**Description** \*Applications will be reviewed on a rolling-basis. The mentor for this opportunity is actively reviewing applications as they are submitted.

**ARS Office/Lab and Location:** A microbiology postdoctoral research opportunity is available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), National Animal Disease Center (NADC), Food Safety and Enteric Pathogens Research Unit (FSEPRU) located in Ames, Iowa.

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 National Animal Disease Center is to conduct basic and applied research on selected diseases of economic importance to the U.S. livestock and poultry industries. [National Animal Disease Center : USDA ARS](#)

**Research Project:** The selected participant will collaborate with a team of microbiologists, immunologists, bioinformaticians, and veterinarians to achieve the learning objectives involving the foodborne pathogen *Salmonella*: investigate host-microbe interactions for the discovery of antimicrobial resistance transfer mechanisms, analyses of genomic and phenotypic factors of emerging *Salmonella* outbreak isolates, and the development of antibiotic alternatives that will benefit animal health and food safety.

**Learning Objectives:** Throughout the appointment the selected participant will learn how to 1) identify novel mechanisms in the interactions of the human foodborne pathogen *Salmonella* with



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the host (swine and poultry) and the host microbiota to develop targeted interventions (such as vaccines, biotherapeutics, feed additives, etc.), 2) discover genomic and phenotypic characteristics associated with *Salmonella* foodborne outbreak isolates, and/or 3) investigate antimicrobial resistance transfer in multi-drug resistant (MDR) *Salmonella* serovars.

**Mentor(s):** The mentor for this opportunity is Shawn Bearson ([shawn.bearson@usda.gov](mailto:shawn.bearson@usda.gov)). If you have questions about the nature of the research please contact the mentor(s).

**Anticipated Appointment Start Date:** As soon as a qualified candidate is identified. 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 for up to four additional years 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. **A Health Insurance Supplement, Relocation Allowance, and Training and Travel Allowance will also be provided.**


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

**Qualifications** The qualified candidate should have received a doctoral degree in one of the relevant fields, or be currently pursuing the degree and will reach completion by June 30, 2023. Degree must have been received within the past five years.

Knowledge, skills, and experience in one or more of the following areas is preferred: bacteriology, in vitro cell culture experiments, immunological assays (e.g. ELISA, flow cytometry, immunohistochemistry), molecular biology techniques (e.g. DNA and RNA isolation, PCR, qRT-PCR, RNAseq, 16S rRNA sequencing for microbiome analysis), computational biology skills such as comparative genomics, transcriptomics, 16S rRNA microbiome analysis, and animal models of infectious disease (particularly swine and turkeys).

- Eligibility Requirements**
- **Citizenship:** LPR or U.S. Citizen
  - **Degree:** Doctoral Degree received within the last 60 months or anticipated to be received by 6/30/2023 11:59:00 PM.
  - **Discipline(s):**
    - **Life Health and Medical Sciences** ([48](#) )
  - **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).

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