

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

**Opportunity Reference Code:** USDA-ARS-2022-0012

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

**Reference Code** USDA-ARS-2022-0012

**How to Apply** *Connect with ORISE...on the GO!* Download the new ORISE GO mobile app in the Apple 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** 3/10/2022 3:00:00 PM Eastern Time Zone

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

**ARS Office/Lab and Location:** A postdoctoral research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Beltsville Agricultural Research Center (BARC) 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 overall aims of the research project are to generate scientific information on characterization, prevention, and mitigation of biofilms with foodborne bacterial pathogens in fresh produce processing and storage environments. Emphases are on metagenomic and metatranscriptomic characterization of multispecies biofilm formation involving foodborne pathogens, and on innovative technologies for mitigating multispecies biofilms. The participant will be a team member conducting



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independent research using advanced microbiological tools to characterize biofilm formation and mitigation, and to characterize/mitigate the survival of foodborne pathogens on fresh produce and processing environments. The participant will also participate in other research projects aimed at improving fresh produce postharvest safety.

Participant activities include: 1) Collaborating with mentors and team leader in designing studies; 2) Executing studies based on research plan and modify research plans when necessary; 3) Collecting and analyzing data to test hypotheses and to draw preliminary conclusions; 4) Collaborating closely with mentor and team leader in report research findings.

**Learning Objectives:** In addition to conducting research and reporting research findings, the participant will gain valuable experience by directly interacting with fresh produce industry to understand the food safety challenges facing fresh produce industry.

**Mentor(s):** The mentor for this opportunity is Xiangwu Nou ([xiangwu.nou@usda.gov](mailto:xiangwu.nou@usda.gov)). If you have questions about the nature of the research please contact the mentor(s).

**Anticipated Appointment Start Date:** Spring 2022. 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 an additional year 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 supplement for an individual health insurance plan will be provided.**

**Citizenship Requirements:** This opportunity is available to U.S. citizens and Lawful Permanent Residents (LPR) only. However, the current USDA policies in responding to the ongoing pandemic may restrict clearance to US citizens and certain permanent residents only.

**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@orau.org](mailto:USDA-ARS@orau.org) and

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include the reference code for this opportunity.

**Qualifications** The qualified candidate should have received a doctoral degree in one of the relevant fields.

Preferred skills:

- Advanced bacteriology, biofilm characterization, food chemistry, DNA sequencing and bacterial genomic analyses
- Statistic analyses of experimental data
- Designing detailed experimental plans and conducting microbiological assays
- Safely handling foodborne pathogens and hazardous chemicals
- Safely operating laboratory equipment with potential of bodily injuries such as autoclave, high speed centrifuge, produce cutting machinery
- Experience in metagenomic analyses of food or environmental microbiota, metatranscriptomic analyses for deciphering microbiological interactions, and advanced microscopy
- Strong verbal and writing communication skills, with demonstrated capability of scientific presentations such as seminars and well-written manuscripts

**Eligibility Requirements**

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Life Health and Medical Sciences** (46 )