

Opportunity Title: USDA-ARS Postdoctoral Fellowship in Agricultural and Mechanical Engineering

Opportunity Reference Code: USDA-ARS-NEA-2025-0247

Organization U.S. Department of Agriculture (USDA)

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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
- A copy of an abstract or reprint of an article

All documents must be in English or include an official English translation.

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Application Deadline 9/25/2026 3:00:00 PM Eastern Time Zone

Description ***Applications are 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), Environmental Microbial and Food Safety Laboratory 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 goal of this engineering project is to develop nondestructive sensing-based tools and techniques to reduce food safety risks in preharvest and post-harvest production and processing. This project will focus primarily on safety and quality inspection using spectral imaging techniques such as fluorescence, reflectance, and Raman, for authentication of food ingredients and detection of food contaminants, improvement of cleaning and sanitation efficacies in food processing facilities, and pre-harvest in-field detection of animal fecal contamination.



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Learning Objectives: Under the guidance of a mentor, the participant will be involved in the following activities:

- Learn and apply hyperspectral fluorescence, reflectance, and Raman imaging technologies for safety and quality evaluation of agricultural products.
- Learn artificial intelligence/machine learning methods to evaluate hyperspectral image data to assess safety and quality attributes of agricultural products.
- Contribute to the development of sensing and instrumentation methods and technologies for rapid safety and quality inspection of agricultural products.
- Participate in the design and development of imaging-based food safety and quality inspection system for applications in bulk-processing environments.
- Present research results at scientific conferences and publish the results of these projects in peer-reviewed scientific journals.

Mentor(s): The mentors for this opportunity are Dr. Jianwei Qin (jianwei.qin@usda.gov), Dr. Moon Kim (moon.kim@usda.gov), and Dr. Insuck Baek (insuck.baek@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: 2026. 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. **The anticipated stipend range is \$80,000 - 90,000 annually.**

Citizenship Requirements: This opportunity is available to U.S. citizens 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 ORISE.ARS.Northeast@ornl.gov and include the reference code for

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this opportunity.

Qualifications The qualified candidate should have received a doctoral degree in one of the relevant fields.
Degree must have been received within the past five years.

Preferred Skills:

A broad understanding of agricultural and mechanical engineering, as well as optical sensing, spectral imaging, and machine learning techniques in food and agricultural area, is desired.

Stipend \$80,000.00 – \$90,000.00 Yearly

Point of Contact [Janeen](#)

- Eligibility**
- Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Doctoral Degree received within the last 60 month(s).
 - **Discipline(s):**
 - **Computer, Information, and Data Sciences** ([3](#) )
 - **Engineering** ([6](#) )
 - **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).