

**Opportunity Title:** Postdoctoral Research – Food Science

**Opportunity Reference Code:** ARS-EMFSL-2015-0063



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

**Reference Code** ARS-EMFSL-2015-0063

**How to Apply** A complete application consists of:

- An application
- Official transcript(s) – scanned copies are acceptable
- A current resume/CV

If you have questions, send an email to [USDA-ARS@oru.org](mailto:USDA-ARS@oru.org). Please include the reference code for this opportunity in your email.

**Description** A postdoctoral research opportunity is available with the Environmental Microbial and Food Safety Laboratory (EMFSL) in Beltsville, Maryland. The selected applicant will engage in research and development of novel functional nanomaterials (e.g., metal-organic framework) for enhancing produce safety and quality; microfluidic devices for validating minimum biocide concentration in sanitization system to avoid cross-contamination; biomimetic materials for studying bacteria-plant interaction, biofilm formation and developing effective control measures. This research will involve the following activities:

1. Perform nanomaterial synthesis and/or micro-device fabrication in support of the development of innovative solutions to critical food safety and quality needs by U.S. Department of Agriculture (USDA).
2. Design, coordination, and execution of projects, including but not limited to, nanomaterial synthesis and characterization, microfluidic device fabrication and operation, and food quality and safety evaluation.
3. Apply the principles of chemistry and engineering to perform experiments and operate instruments and computer programs designed for organic and inorganic synthesis, nanomaterial synthesis, microfluidics design, microfabrication, etc.

The appointment is full-time for one year and may be renewed upon recommendation of the ARS and availability of funding.

The participant must show proof of health and medical insurance. Health insurance can be obtained through ORISE.

**The participant does not become an employee of the ARS or ORISE.**

This opportunity is available to U.S. citizens and Lawful Permanent Residents (LPR).

This is an equal opportunity program open to all qualified individuals without regard to race, color, age, sex, religion, national origin, mental or physical disability, genetic information, sexual orientation, or covered veteran's status.

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For more information about the ARS Research Participation Program, please visit <http://www.orise.orau.gov/usda-ars>.




**Qualifications** To be eligible, applicants must have received a doctorate degree in Food Science at the time of application. A strong background in Chemistry is desired. Candidates should have at least two years of extensive training and hands-on experiences with the engineering and chemistry associated with both microfluidic device fabrication, organic/inorganic nanomaterial synthesis and characterization, and microbiology. Candidates should also have strong knowledge of agricultural and food processing operations.

The ideal candidate will have experience in:

- Food science and technology
- Chemistry
- Microbiology
- Nanomaterial synthesis and characterization
- Microfluidic device fabrication and operation
- Food quality and safety evaluation
- Electron and optical microscopy

Computer software (e.g., Microsoft Office, SigmaPlot, Autodesk CAD and CFD)

**Eligibility  
Requirements**

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (2 )
  - **Life Health and Medical Sciences** (4 )
  - **Science & Engineering-related** (1 )