Opportunity Title: USDA-ARS Postdoctoral Fellowship in Extrusion and Food Processing
Opportunity Reference Code: USDA-ARS-SEA-2026-0430

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-SEA-2026-0430

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

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

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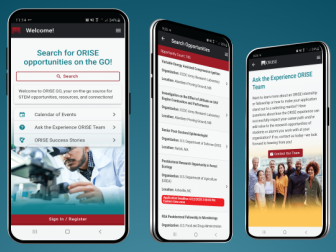
Application Deadline 1/15/2027 3:00:00 PM Eastern Time Zone

Description ***Applications are reviewed on a rolling-basis and applications may close before the deadline.**

ARS Office/Lab and Location: A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), located in New Orleans, Louisiana.

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 USDA Agricultural Research Service's Food Processing and Sensory Quality Research Unit in New Orleans, Louisiana, seeks a postdoctoral fellow to gain experience and learn about new food uses for whole rice, broken kernels, and rice bran. With mentor guidance, you will learn how to design and conduct pilot-scale extrusion trials to determine how rice variety, particle size, formulation, feed moisture, and screw speed affect processing performance and product quality. You will also investigate complementary processes such as milling, stabilization,

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and drying to prepare rice ingredients and improve finished products.

You will connect changes in starch functionality and ingredient composition to practical outcomes such as expansion, texture, color, and aroma. The project will use these findings to develop prototype foods and identify processing conditions that can increase the value of broken rice and bran. You will collaborate with food scientists and engineers and share findings through conference presentations and peer-reviewed publications.

Learning Objectives: Under the guidance of a mentor, you will:

- Gain experience operating and troubleshooting pilot-scale twin-screw extrusion equipment while evaluating how processing conditions influence product quality.
- Develop skills in experimental design and statistical modeling to identify and validate promising formulations and processing conditions.
- Characterize rice ingredients and finished products using analyses such as starch pasting, water absorption, expansion, density, texture, and color measurements.
- Apply milling, stabilization, and drying techniques to address ingredient and product quality challenges in rice-based foods.
- Translate experimental findings into prototype products, practical processing guidance, and scientific publications.

Mentor(s): The mentor for this opportunity is Brennan Smith (brennan.smith@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: February 2027. 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.

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.Southeast@orau.org and include the reference code for this

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opportunity.

Qualifications The qualified candidate should be currently pursuing or have received a doctoral degree in the one of the relevant fields.

Preferred skills:

- Hands-on research experience in food processing or process engineering. Experience with extrusion, particularly pilot-scale twin-screw extrusion, is highly desirable.
- Experience with rice, cereals, or other starch-based ingredients and an interest in developing food uses for broken rice and rice bran.
- Familiarity with methods for evaluating ingredient functionality and product quality, such as starch pasting, water absorption, expansion, bulk density, or texture analysis.
- Experience designing experiments and using statistical analysis to relate formulation and processing conditions to product quality.
- Ability to troubleshoot processing equipment, collaborate with scientists across disciplines, and communicate research findings through technical writing and presentations.

Stipend $74,678.00 Yearly

Point of Contact Janeen

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Engineering** (3 👁)
  - **Life Health and Medical Sciences** (2 👁)