Opportunity Title: USDA-ARS Postdoctoral Chemistry and Chemical Engineering Fellowship
Opportunity Reference Code: USDA-ARS-HQ-2026-0055

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-HQ-2026-0055

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 3/27/2026 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), Sustainable Biofuels and Coproducts Research Unit, Eastern Regional Research Center (ERRC), located in Wyndmoor, Pennsylvania.

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: Under the guidance of mentor, the participant will conduct research on functionalizing waste lipids and the high boiling fraction of fast pyrolysis oil from a variety of farm wastes and study their potential use as asphalt softening agents/modifiers. This will increase the upcycling of farm waste and bring economic and environmental benefits by the increasing use of recycled asphalt binders in new pavements. Under the guidance of a mentor, the participant will participate in the development

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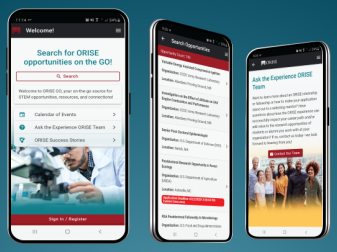
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and optimization of chemical processes to improve the performance of biobased additive/modifiers for asphalt binders and lubricants, research the separation process to produce high boiling FPO fraction, analyze their mechanical properties, and assess their performance evaluation. Resulting products will be characterized by spectroscopic, rheological, thermo-oxidative techniques, and any other analytical techniques as necessary.

Learning Objectives: This research will give the participant exceptional hands-on knowledge and skills involving the use of synthetic methods for chemical modifications, as well as bench and pilot scale reactions that will be invaluable to their future career development.

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

Anticipated Appointment Start Date: April 6, 2026. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will be for two years.

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 $5,000.00 - $6,789.50 monthly.**

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.HQPostdoc@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should have received or be pursuing a doctoral degree in one of the relevant fields (Synthetic Organic/Polymer Chemistry/Chemical Engineering or a closely related field). Degree must have been received within the past four years or anticipated to be complete prior to start of appointment.

Preferred skills:

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- Experience in organic synthesis, analytical chemistry, structure-property relationships, material characterization, and familiarity with asphalt binder characterization
- Knowledge of instruments including nuclear magnetic resonance, Fourier-Transform infrared, mass spectrometry, dynamic mechanical analyzer, thermogravimetric analysis, differential scanning calorimetry, and scanning electron microscopy
- Working knowledge of statistical analysis, data handling and data analysis
- Strong interpersonal and teamwork skills – ability to be self-motivated and to perform both independently and in a team environment
- Strong problem-solving skills
- Excellent written and oral communication skills with good publication record

Stipend $5,000.00 – $6,789.50 Monthly

Point of Contact Janeen

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (4 👁)
  - **Engineering** (6 👁)