

Opportunity Title: USDA-ARS Postdoctoral Fellow in Cotton Quality & Innovation Research

Opportunity Reference Code: USDA-ARS-SEA-2026-0020

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-SEA-2026-0020

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 6/5/2026 3:00:00 PM Eastern Time Zone

Description *Applications are reviewed on a rolling-basis.

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: Research and development emphasis will be placed on cotton fiber science and new product discovery areas where consumer and industrial needs are unmet and value the use of domestically grown cotton. The Cotton Quality and Innovation Research Unit (CQI) will approach this problem by identifying, modifying and developing valuable functionality in cotton that will target markets where the value of domestic cotton products is assessable and shows greatest promise for high value and volume consumption. The fellow's investigation and tech transfer goals will focus on components of the whole cotton fiber as may be applied to develop

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Research

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functional nonwoven or woven fabrics, films, solid composites and medical devices. The development of value-added functionality will have particular focus on:

1. Skin-contacting fabrics with wound healing and antimicrobial;
2. Nanomaterials that enhance agricultural crop protection, and;
3. Material strength and high specific surface area performance value.

The participant will contribute to a collaborative research program focused on understanding the cotton based (barrier protective) nanofiber materials and related applications. Results generated through this project will be communicated to the scientific community through conference presentations and peer reviewed publications.

Learning Objectives: The participant will develop an understanding of cotton fibers as a textile material through chemical transformations and mechanical construction taking into consideration fiber morphology and other characteristics. The participant will learn many innovative techniques (electrospinning, microencapsulation, and layer-by-layer) related the chemical modification of cotton and other natural fibers, nanoparticle synthesis and applications, and a deeper understanding of industrial pilot scale manufacturing techniques for woven and nonwoven fabrics through interactions and collaborations with commercial stakeholders. To accomplish this, the participant will collaborate in a research team that includes chemist, textile engineer, and material scientist. When completed, the participant will have a thorough understanding of chemical modifications and finishings of cotton fiber textiles, and with opportunities to developing scientific communication skills through presentations and manuscript preparation findings to stakeholders and academic conferences.

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

Anticipated Appointment Start Date: August 3, 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 is \$70,000 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

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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 opportunity.

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

Preferred skills:

- A knowledge of the principles of organic, fiber, polymer or textile chemistries.
- Preferred skills in following experience: Flame Retardant, Electrospinning, Microencapsulation and Layer-by-Layer
- Experience in polymer chemistry, multistep synthesis, and/or nanoparticle synthesis.
- Experience in analyzing XRD, SEM, TGA/FTIR, NMR and other spectroscopic methods.
- Ability to independently create novel chemical research approaches, plan and execute experiments, draw conclusions, record data, summarize and communicate research results in oral and written format, and draft manuscripts suitable for publication in peer reviewed scientific journals.

Stipend \$70,000.00 Yearly

Point of Contact [Sara Beth](#)

- Eligibility**
- **Citizenship:** U.S. Citizen Only
- Requirements**
- **Degree:** Doctoral Degree.
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** (10👁)
 - **Engineering** (2👁)
 - **Science & Engineering-related** (1👁)