Opportunity Title: USDA-ARS Research Fellowship in Conservation and Water-Efficient Cropping Systems
Opportunity Reference Code: USDA-ARS-PWA-2026-0343

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-PWA-2026-0343

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 11/6/2026 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 Parlier, California.

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: You will engage in research activities addressing agricultural challenges related to water scarcity and crop production in California's San Joaquin Valley. The region faces increasing constraints in water availability due to climate variability, groundwater restrictions, and long-term declines in surface water supplies. These conditions highlight the need for improved irrigation and water-management strategies, innovative cropping systems, and conservation or regenerative practices that enhance soil health, water retention, and the long-term resilience of agricultural

systems.

You will take part in studies evaluating irrigation technology and strategy, conservation and regenerative practices, low-water-requirement crops, and integrated perennial–annual cropping systems that improve soil ecosystem functions by enhancing soil health, water retention, water-use efficiency, productivity, and crop yield. Additional learning activities may include examining salt-tolerant crops capable of using lower-quality groundwater. Participation in these research activities will provide hands-on experience that complements your academic background and supports learning in areas related to the agency's research mission.

Learning Objectives: Under the guidance and mentorship of several scientists, you will gain exposure to field and laboratory methods used to understand soil-plant-water interactions, crop needs, and conservation processes. Specific learning activities include collecting soil, plant, and water samples; monitoring soil moisture with advanced sensors; organizing and processing research data; and contributing to modeling efforts that examine water and nutrient dynamics. These experiences will help you develop a broad understanding of how technologies, cropping systems, and conservation practices can improve soil health, enhance water-use efficiency, and support sustainable crop production in water-limited environments.

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

Anticipated Appointment Start Date: December 1, 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.

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.PacificWest@orau.org and include the reference code

for this opportunity.

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

Preferred skills:

- A strong academic background in soil science, agronomy, environmental science, plant science, agricultural engineering, hydrology, or a related field.
- Classroom or research experience in areas such as soil–plant–water interactions, water management, conservation agriculture, regenerative practices, or cropping systems is beneficial.
- Familiarity with field or laboratory sampling of soil, plant, or water, and experience using environmental sensors or soil moisture monitoring tools are favorable.
- Skills in organizing, managing, and analyzing research data, including use of software such as R, Python, or similar analytical tools, are helpful.
- Exposure to modeling water or nutrient dynamics, studying low-water-requirement or salt-tolerant crops, or evaluating integrated cropping systems is advantageous.
- Strong communication skills, the ability to be in interdisciplinary settings, and an interest in applied research in water-limited environments will support successful participation.

Stipend $75,055.00 – $92,958.00 Yearly

Point of Contact Janeen

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Environmental and Marine Sciences** (4 👁)