Opportunity Title: USDA-ARS Postdoctoral Fellow in Analytical Chemistry Fruit Quality and Food Science
Opportunity Reference Code: USDA-ARS-PWA-2026-0437

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-PWA-2026-0437

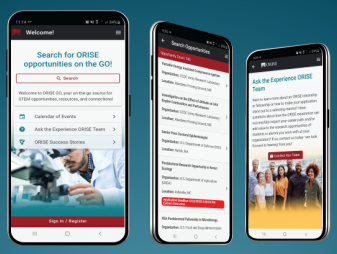
How to Apply ***To submit your application, scroll to the bottom of this opportunity and click APPLY.***

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.**

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.

The San Joaquin Valley Agricultural Sciences Center conducts research to support the sustainability, quality, and productivity of specialty crops industries across California's Central Valley. The Commodity Protection and Quality Research Unit focuses on improving postharvest quality and reducing losses of horticultural specialty crops caused by fungal pathogens, physiological disorders, and the control of quarantine insect pests that threaten market access and export opportunities.

Research Project: This fellowship provides an immersive research and

professional development experience for a postdoctoral scholar interested in postharvest fruit quality, analytical chemistry, and metabolomics. You will participate in collaborative research focused on understanding how postharvest treatments and pathogen infections influence the chemical composition, sensory characteristics, and overall quality of fresh fruits.

You will engage in analytical chemistry investigations designed to characterize volatile and non-volatile metabolites associated with fruit quality and disease responses. Research activities may include chemical profiling of fresh fruit using advanced analytical platforms such as HS-SPME-GC–MS, SIFT-MS, high-resolution mass spectrometry, and related technologies to evaluate changes in flavor compounds, volatile organic compounds (VOCs), and other chemical markers. The fellowship also provides opportunities to integrate chemical data with sensory quality assessments to better understand how postharvest treatments influence aroma, flavor, and consumer-relevant quality attributes.

Throughout the fellowship, you will participate closely with a multidisciplinary research team contributing to the development and refinement of analytical workflows that support broader studies in postharvest biology, fruit metabolomics, and disease management.

Learning Objectives: Through mentorship and applied research training, you will gain experience in:

- Advanced analytical chemistry techniques for profiling fruit metabolites and VOCs
- Operation and application of HS-SPME-GC–MS, SIFT-MS, and high-resolution mass spectrometry platforms
- Experimental design and data interpretation related to postharvest fruit quality
- Integration of metabolomic and sensory quality data
- Research approaches for studying pathogen impacts on fresh produce
- Collaborative scientific research and interdisciplinary teamwork
- Development and optimization of analytical workflows and laboratory methods
- Communication of scientific findings to research and industry audiences

This fellowship offers a hands-on learning environment that supports scientific skill development while contributing to research aimed at improving postharvest fruit quality, enhancing disease management strategies, and supporting agricultural and food industry resilience.

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

Anticipated Appointment Start Date: 2026/2027. Start date is flexible and will depend on a variety of factors.

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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. Degree must have been received within the past five years, or anticipated to be received by 5/31/2027.

Preferred skills:

- A strong background in analytical chemistry, preferably within the context of food science, plant sciences, plant physiology, or related natural products research;
- Demonstrated skills in the analysis of volatile and non-volatile analytes, including hands-on experience with HS-SPME-GC–MS, SIFT-MS, TD-GC–MS, LC–MS, or other comparable advanced analytical platforms;
- Demonstrated skills in the collection and interpretation (including statistical analysis) of high resolution mass spectrometric data, such as time-of-flight mass spectrometry;
- Proven ability to design, optimize, and validate analytical methods for quantitative and qualitative characterization of complex biological samples;
- Experience with “-omic” analysis techniques, i.e.: volatilomics, metabolomics, etc;
- Excellent communication skills and the ability to participate collaboratively in a multidisciplinary research team;
- A record of peer-reviewed publications demonstrating the ability to conduct and disseminate high-quality research.

Stipend $75,000.00 Yearly

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Point of Contact Janeen

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 60 months or anticipated to be received by 5/31/2027 11:59:00 PM.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Life Health and Medical Sciences** (3 👁)
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).