Opportunity Title: USDA-ARS Postdoctoral Fellowship in Plant Biotechnology
Opportunity Reference Code: USDA-ARS-PWA-2024-0367

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-PWA-2024-0367

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 2/28/2025 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 Albany, 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: The research project is focused on developing methods for the genetic engineering of grapevine (Vitis vinifera) and potentially other plants with the goal of generating plant varieties with novel desirable traits. Combinations of tissue culture techniques and gene transfer platforms, like Agrobacterium mediated transformation, will be developed and utilized to introduce CRISPR reagents or other molecular components of interest to create the modified plants. The participant will learn and use multiple molecular biology, synthetic biology and plant biotechnology related tools and techniques including plasmid vector design and assembly, plant

genetic engineering, plant tissue culture, developmental regulator-based regeneration, genome editing and transgenic plant characterization techniques. New technologies and approaches that improve the efficacy or efficiency of performing plant genome engineering may also potentially be developed.

Learning Objectives: The participant will learn and use multiple molecular biology and plant biotechnology-related tools and techniques including plasmid vector design and assembly, design and application of synthetic gene regulatory components, use of developmental regulatory genes for plant transformation, plant genetic engineering, plant tissue culture, genome editing and transgenic plant characterization techniques. Additionally, new technologies and approaches that improve the efficiency of performing plant genome engineering may also potentially be developed.

Mentor(s): The mentor for this opportunity is Ryan Nasti (nasti002@berkeley.edu). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: January 2025. 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.

Citizenship Requirements: This opportunity is available to U.S. citizens and Lawful Permanent Residents (LPR) 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 a doctoral degree in one of the relevant fields. Degree must have been received within the past four years.

Preferred skills:

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- Demonstrated experience in plant biotechnology research (e.g. plant tissue culture, Agrobacterium-mediated transformation, growth of plants in chambers and greenhouses)
- Knowledge and experience with molecular cloning and gene editing technologies (e.g., Golden Gate or similar methods of cloning, CRISPR/Cas9 application and assessment of mutations)
- Demonstrated skill and practical experience in molecular biology techniques (e.g., nucleic acid purification, gene amplification and cloning, bioinformatic analysis of genomic data, qRT-PCR, microbial transformation, growth and manipulation)
- Knowledge and experience in plant biology, genetics, plant physiology, genomics, microbiology, and/or molecular biology
- Demonstrated experience in design of experiments, development of laboratory protocols and keeping a thorough and detailed laboratory notebook
- Ability to act independently as well as part of a team, with good oral and written communication skills to keep team members informed and disseminate results at meetings and in refereed scientific journals

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Engineering** (2 👁)
  - **Life Health and Medical Sciences** (9 👁)