Opportunity Title: USDA-ARS Postdoctoral Fellowship in Molecular Plant-Pathogen Interaction & Sustainable Protection
Opportunity Reference Code: USDA-ARS-HQ-2026-0032

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-HQ-2026-0032

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 research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), located in Wapato, Washington.

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 selected participant will be hosted at the Temperate Tree Fruit and Vegetable Research Unit. This state-of-the-art facility serves as a premier hub for agricultural innovation in the Pacific Northwest. The facility maintains strong collaborative ties with Washington State University and Oregon State University. https://www.ars.usda.gov/pacific-west-area/wapato-wa/temperate-tree-fruit-and-vegetable-research/

Research Project: The selected participant will engage in cutting-edge research focusing on molecular symbiont technology, specifically the

development of transgenic galls that serve as biological platforms to produce and deliver therapeutic or beneficial products into host plants. This appointment provides an opportunity to receive hands-on experience in navigating the complex molecular interface of plant-pathogen interactions. The participant will be encouraged to analyze experimental data, troubleshoot complex transformation protocols, and contribute to the scientific community by preparing research findings for peer-reviewed journals and presenting at professional meetings.

Learning Objectives: Through this program, the participant will gain specialized knowledge in the molecular engineering of *Agrobacterium*-induced galls, facilitating the acquisition of advanced technical skills that complement their doctoral background in molecular biology or plant pathology while contributing to the agency's mission of developing sustainable plant protection systems. As a core component of this educational opportunity, the participant will collaborate on the molecular design, generation, and optimization of complex plasmid constructs and participate in the execution of *Agrobacterium*-mediated transformation of plant tissues. This research involves the design of delivery systems where engineered *Agrobacterium tumefaciens* induce localized transgenic galls, which then function as molecular "bio-factories" for the plant. The participant will gain experience in characterizing these interactions through a variety of high-resolution molecular and biochemical assays, including protein detection, Western blotting, and ELISA, to evaluate the expression and systemic movement of products from the gall into the host plant's vascular system.

This fellowship is designed to foster professional growth within a multicultural, team-based environment, allowing the researcher to refine their communication and collaborative skills while exploring the frontiers of molecular plant-microbe symbiont technology. Throughout the duration of the program, the participant will focus on research and training activities and will not exercise administrative, budgetary, or supervisory authority.

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

Anticipated Appointment Start Date: February 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 is $80,465 annually.**

Citizenship Requirements: This opportunity is available to U.S. citizens only.

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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 currently pursuing a doctoral degree in one of the relevant fields (Plant Pathology, Plant Biology, Molecular Biology, Microbiology or a closely related field). Degree must have been received within the past four years or is anticipated to be received by 3/31/2026.

Preferred skills:

- Possess a strong foundational background in plant-pathogen interactions and a demonstrated proficiency in molecular biology techniques.
- Research experience with plasmid construct generation and *Agrobacterium tumefaciens* transformation systems, particularly as they relate to the induction of galls or stable transgenic plant production.
- Experience with protein-based assays such as Western blotting or ELISA for protein detection is highly desirable.
- Additionally, the ideal participant will demonstrate an interest in using bioinformatic tools for data interpretation and a commitment to disseminating research findings through scholarly publications and professional presentations.

Stipend $80,465.00 Yearly

Point of Contact Janeen

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree received within the last 48 months or anticipated to be received by 3/31/2026 11:59:00 PM.
- **Discipline(s):**
  - **Life Health and Medical Sciences** (5 👁)
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).