Opportunity Title: USDA-ARS High-Throughput In Vitro Screening of Antimicrobial Compounds Against Phytoplasma in Cherry
Opportunity Reference Code: USDA-ARS-PWA-2026-0349

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-PWA-2026-0349

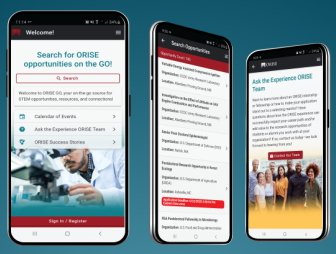
How to Apply ***To submit your application, scroll to the bottom of this opportunity and click APPLY.***

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 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), Pacific West Area (PWA) at the Temperate Tree Fruit and Vegetable Research Unit 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 unit focuses on developing novel biological, molecular, and bio-intensive methods to control insect pests and plant pathogens affecting temperate tree fruits (apples, pears, and stone fruits like sweet cherries) and vegetable crops.

For more information on the agency, visit the USDA Agricultural Research Service Home Page.

Research Project: You will engage in a collaborative research initiative

focused on evaluating therapeutic interventions against Cherry X-disease (*Candidatus* Phytoplasma pruni), a major threat to sweet cherry and stone fruit production in the Pacific Northwest.

Under the mentorship of USDA-ARS research scientists, you will gain hands-on experience utilizing an *in vitro*plant tissue culture and molecular screening platform to evaluate candidate therapeutic compounds (such as EPA-registered antimicrobials, antimicrobial peptides, or biologically active molecules) for their efficacy in suppressing phytoplasma titers.

Learning Objectives: Throughout this educational fellowship, you will have opportunities to receive training and gain practical experience in:

- **Micropropagation & Plant Tissue Culture:** Participating in the maintenance, subculturing, and propagation of micropropagated *in vitro* cherry plantlet culture systems under sterile laboratory conditions.
- **Therapeutic Application & Assay Setup:** Learning and applying protocols to incorporate test therapeutics into plantlet growth media or application systems to evaluate compound uptake and plant physiological responses.
- **Molecular Diagnostics & Quantification:** Collecting plant tissue samples and performing molecular diagnostic assays, including DNA/RNA extractions, end-point PCR, quantitative real-time PCR (qPCR), and reverse transcription qPCR (RT-qPCR) to quantify pathogen dynamics and gene expression.
- **Data Analysis & Synthesis:** Learning to process, analyze, and interpret diagnostic dataset outputs using statistical tools and software to compare treatment efficacy and phytoplasma titer reductions over time.
- **Scientific Communication & Collaboration:** Collaborating with interdisciplinary research teams, presenting findings during internal research updates, and contributing data synthesis for peer-reviewed journal articles, conference presentations, and technical reports.

This opportunity is designed to enhance your professional and technical skills in molecular plant pathology, bio-assay design, and sustainable crop protection methodologies in alignment with the scientific mission of the USDA-ARS.

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: 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.

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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 be currently pursuing a bachelor's degree in the one of the relevant fields.

Preferred skills:

- In vitro plant tissue culture techniques, including aseptic handling, explant preparation, and media preparation
- Preparation of plant culture media and familiarity with sterilization methods
- DNA extraction from plant tissues (manual or kit-based methods)
- qPCR or real-time PCR analysis, including sample preparation, reaction setup, and data interpretation
- General molecular biology techniques (pipetting accuracy, reagent preparation, record keeping)
- Experience maintaining detailed lab notebooks and following established protocols
- Ability to research reliably in a sterile environment and adhere to safety guidelines
- Familiarity with data management or basic laboratory information systems (optional but helpful)

Stipend $3,500.00 – $4,000.00 Monthly

Point of Contact Janeen

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Currently pursuing a Bachelor's Degree.
- **Discipline(s):**
  - **Life Health and Medical Sciences** (8 👁)