

**Opportunity Title:** USDA-ARS Molecular & Physiological Markers for Phytoplasma Disease Diagnosis & Mitigation Fellowship  
**Opportunity Reference Code:** USDA-ARS-2021-0023

**Organization** U.S. Department of Agriculture (USDA)

**Reference Code** USDA-ARS-2021-0023

**How to 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. All transcripts must be in English or include an official English translation. 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.

If you have questions, send an email to [USDA-ARS@orau.org](mailto:USDA-ARS@orau.org). Please include the reference code for this opportunity in your email.

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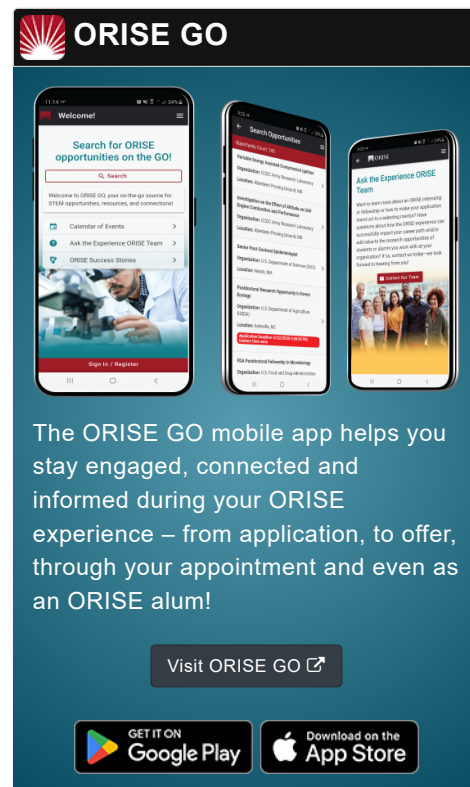
**Application Deadline** 1/7/2021 3:00:00 PM Eastern Time Zone

**Description** \*Applications are reviewed on a rolling-basis and this posting could close before the deadline.

**ARS Office/Lab and Location:** A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Molecular Plant Pathology Laboratory located in Beltsville, Maryland.

**Research Project:** 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 the agency is to provide global leadership in agricultural discoveries through scientific excellence.

The research will address challenges and potential solutions for managing plant diseases caused by phytoplasma infections. Phytoplasmas are cell wall-less bacteria that invade plant phloem sieve cells and are responsible for numerous diseases in agriculturally important crops. Effective management of phytoplasma diseases requires early disease diagnosis and sensitive detection of pathogens so that appropriate measures can be applied in a timely manner. The goal of the project is to identify molecular and physiological markers that are potentially useful for improving early detection of phytoplasmas and mitigation of phytoplasma diseases.



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**Learning Objectives:** Throughout the course of this project, the participant will have opportunities 1) to learn unique genomic and pathological properties of phytoplasmas, 2) to explore physiological signals and gene pathways regulating phytoplasma virulence and plant defense, and 3) to select and evaluate molecular markers suitable for phytoplasma detection during early disease stages before symptom development.

**Mentor(s):** The mentor for this opportunity is Yan Zhao ([yan.zhao@usda.gov](mailto:yan.zhao@usda.gov)). If you have questions about the nature of the research please contact the mentor(s).

**Anticipated Appointment Start Date:** ~Winter 2020. Start date is flexible and will depend on a variety of factors.

**Appointment Length:** The appointment(s) 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(s) 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). Non-U.S. citizen applicants should refer to the [Guidelines for Non-U.S. Citizens Details page](#) of the program website for information about the valid immigration statuses that are acceptable for program participation.

**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 [USDA-ARS@orau.org](mailto:USDA-ARS@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.

Preferred skills:

- Knowledge of principles, theories, and practices of microbiology, molecular biology, plant physiology in the context of pathogen-host interactions
- Experience in working with biological molecules including DNA, RNA, and proteins; experience in working with plant virus-based gene vectors
- Skills in gene expression analysis, comparative genomic analysis, and plant genetic transformation

## Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Doctoral Degree.

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- **Discipline(s):**
  - **Life Health and Medical Sciences** (8 👁)