

Opportunity Title: Molecular Biologist Research Opportunity in Plant Viruses

Opportunity Reference Code: ARS-FNPRU-2016-0191-02

- Organization** U.S. Department of Agriculture (USDA)
- Reference Code** ARS-FNPRU-2016-0191-02
- How to Apply** A complete application package 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. Selected candidate must provide proof of completion of the degree before the appointment can start. Proof must be sent to ORISE directly from the academic institution including graduation date and degree awarded. All transcripts must be in English or include an official English translation. Click [here](#) for detailed information about acceptable transcripts.
 - A current resume/CV
 - Two references – While two references are requested, applications will be considered without reference information. It is preferred that a complete application package contains a minimum of one reference.

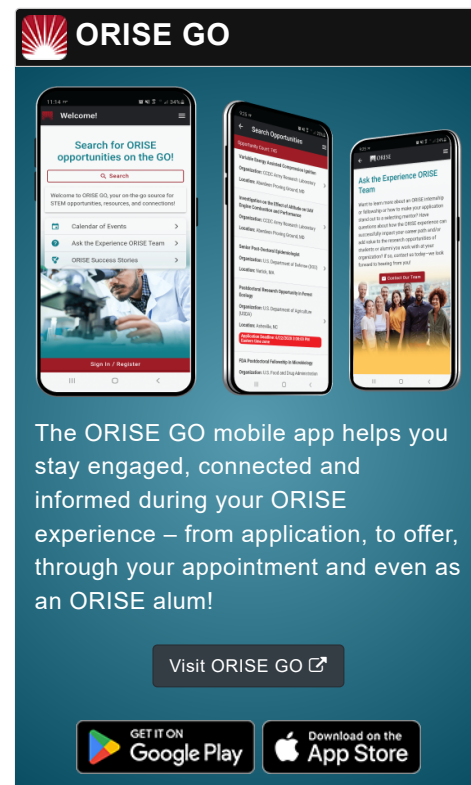
If you have questions, send an email to USDA-ARS@orau.org. Please include the reference code for this opportunity in your email.

Description A postgraduate research opportunity in Molecular Biology is available with the U.S. Department of Agriculture (USDA) Agricultural Research Service (ARS) Floral and Nursery Plants Research Unit (FNPRU) in Beltsville, MD.

The successful applicant will use molecular biology and microbiology in research on plant viruses affecting ornamental plants.

One aspect of the research will focus on developing and characterizing monoclonal antibodies and/or single chain antibodies for detection and identification of plant viruses; with a primary goal of selecting both broad-spectrum cross-reactive antibodies and virus species-specific antibodies, with emphasis on potexviruses and carlaviruses. Antigens for antibody generation and analysis may include: virions purified from virus-infected plants, proteins expressed from cloned genes in bacterial systems, or synthetic peptides of conserved sequence domains (designed based on amino acid sequence alignments and bioinformatic analysis).

A second aspect of research will be to screen a yeast two-hybrid (Y2H) plant cDNA library against plant viral proteins to identify host proteins interacting with viral proteins. Interactions identified through Y2H will be verified using additional

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techniques, such as bimolecular fluorescent complementation, co-precipitation, and other methods, to confirm and localize interactions within host plant cells.

The appointment is full-time for 12 months and may be renewed based upon recommendation of the ARS and availability of funding. The annual stipend rate for this position will be commensurate with experience and training and can range from \$52,668 - \$63,091. The participant must show proof of health and medical insurance. Health insurance can be obtained through ORISE. The participant will not enter into an employee/employer relationship with ORISE, ORAU, USDA, ARS, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

While participants will not enter into an employment relationship with ARS, this position requires a pre-appointment check and a full background investigation.

This opportunity is available to U.S. citizens, Lawful Permanent Residents (LPR), and foreign nationals. 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.

For more information about the ARS Research Participation Program, please visit the [Program Website](#).

Qualifications

To be eligible, applicants must have received a B.S., M.S., or Ph.D. degree (Ph.D. preferred) in molecular biology, plant biology, microbiology, plant pathology, or a related field of study that has equipped the applicant with the necessary knowledge, skills, and abilities to perform the duties and responsibilities of the position.

Preferred skills and/or experience include:

- Knowledge of basic microbiological techniques (bacterial cultures, transformation and selection).
- Demonstrated skill in serological techniques (e.g., ELISA, Western-blots, immuno-precipitation).
- Knowledge of molecular biology techniques, such as gene amplification and cloning, protein expression, and sub-cloning.
- Demonstrated skill and practical experience in molecular biological techniques (e.g., nucleic acid purification, gene amplification and cloning, protein expression; all highly desirable).
- Knowledge of yeast transformation and culture, and

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techniques for screening yeast two-hybrid libraries (highly desirable).

- Ability to recognize the significance of unexpected results, and to make minor modifications to ensure validity of testing and data.
- Ability to work independently as well as part of a team, with good communication skills to keep team members informed and disseminate results.

**Eligibility
Requirements**

- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree.
- **Discipline(s):**
 - **Life Health and Medical Sciences** (15 👁)