

Opportunity Title: USDA-ARS Research Plant Pathologist

Opportunity Reference Code: USDA-ARS-2022-0057

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2022-0057

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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.

Application Deadline 1/31/2022 3:00:00 PM Eastern Time Zone

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


ARS Office/Lab and Location: A research opportunity is available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS) located in Charleston, South Carolina.

Research Project: This project is being conducted to develop advanced molecular and genomic technologies, novel genetic materials and integrated pest management strategies to manage emerging viral diseases of tomato and other vegetables in the U.S. These viruses include Tomato brown rugose fruit virus (ToBRFV) and Tomato mottle mosaic virus (ToMMV) on tomato and Cucumber green mottle mosaic virus (CGMMV) on watermelon and other cucurbit crops. The research objectives are: 1) to conduct genetic analysis and genomic studies to identify molecular markers and apply marker-assisted selection of tomato and pepper with ToBRFV-resistance; 2) to characterize the mechanism of disease resistance in tomato against ToBRFV; 3) to apply CRISPR genome-editing technologies to generate novel genetic materials with enhanced immunity to ToBRFV and other viral diseases; 4) to develop and optimize real-time PCR useful for seed health assays of emerging viruses; and 5) to evaluate disinfectants for field application and seed treatment to prevent mechanical transmission of emerging viruses.

Learning Objectives: Throughout the project, the participant will gain training and experience in using multi-disciplinary approaches including genomics and other omics-based tools, plant pathology, plant genetics, plant tissue cultures, analytical and biochemical methods, next generation sequencing, bioinformatics analysis, molecular marker development, and genome editing technologies. The participant






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will be invited to travel to participate in subject relevant conferences and workshops as feasible.

Mentor(s): The mentor for this opportunity is Kai-Shu Ling (kai.ling@usda.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: Spring 2022. 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. **This position has a monthly stipend of \$5,333.00 (equivalent to an annual stipend of \$64,000). A stipend supplement in the amount of \$1,337 per month will be provided to offset the cost of an individual or family health insurance plan.** The participant must show proof of health and medical insurance. Health insurance can be obtained through ORISE. The rate also includes a travel allowance of \$3,000 per year to reimburse travel-related expenses to scientific and professional development activities. Funding is not available for relocation expenses. The participant does not become an employee of the ARS or ORISE.

Citizenship Requirements: 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.

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 and include the reference code for this opportunity.

Qualifications

The qualified candidate should have received a doctoral degree in one of the relevant fields.

Candidates with experience in plant pathology, virology, botany, plant genetics, horticulture, plant molecular biology or other closely related disciplines are encouraged to apply.

Preferred skills and/or experiences in:

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- Plant pathology, plant virology and entomology
- Working under aseptic conditions for cell and tissue culture and plant transformation
- Growing plants and horticulture, in field or controlled environment
- Genomics, biotechnology, molecular and cell biology, and genome-editing
- Plant genetics, plant biochemistry
- Bioinformatics used in genomic analysis

**Eligibility
Requirements**

- **Degree:** Doctoral Degree.
- **Discipline(s):**
 - **Life Health and Medical Sciences** (18 👁)