

**Opportunity Title:** USDA-ARS Postdoctoral Fellowship on Vegetable Crop

Production and Protection

**Opportunity Reference Code:** USDA-ARS-SE-2023-0007

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

**Reference Code** USDA-ARS-SE-2023-0007

**How to Apply** *Connect with ORISE...on the GO!* Download the new ORISE GO mobile app in the [Apple App Store](#) or [Google Play Store](#) to help you stay engaged, connected, and informed during your ORISE experience and beyond!

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.

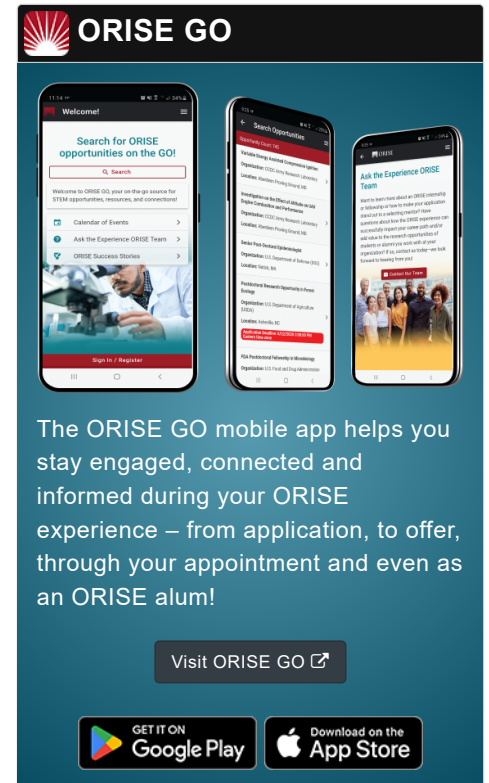
**Application Deadline** 2/16/2023 3:00:00 PM Eastern Time Zone

**Description** **\*Applications may be reviewed on a rolling-basis.**

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

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 U. S. Vegetable Laboratory (USDA, ARS) at Charleston, SC conducts research to solve region-wide and national problems in the production and protection of vegetable crops. This research is conducted in close cooperation with the 13 southeastern agricultural experiment stations. The mission of the laboratory is: a) to improve genetic populations of vegetable crops by combining resistance to diseases and pests (nematodes, insects, and weeds) with favored quality characters and improved yield potentials; and b) to develop knowledge on disease and pest biology, ecology, and epidemiology that can be used as a basis



**Opportunity Title:** USDA-ARS Postdoctoral Fellowship on Vegetable Crop

Production and Protection

**Opportunity Reference Code:** USDA-ARS-SE-2023-0007

for the development and implementation of new, reliable, environmentally sound integrated management systems that rely on host resistance, biocontrol, and natural compounds rather than conventional pesticides. [Vegetable Research : USDA ARS](#)

**Research Project:** Scientists at this unit conduct research to solve region-wide and national problems in the production and protection of vegetable crops. The selected applicant will conduct research on cucurbit crop production and protection. Specific research areas can include; phenotyping and genotyping mapping populations of cucurbit crops for specific traits including disease resistance (powdery mildew, fruit rot etc.), QTL mapping, developing molecular markers for specific traits, analysis of differential gene expression during plant development under various biotic or abiotic stress conditions, and other areas depending upon the candidate's interest. Cucurbit crops that the laboratory primarily works on include watermelon, cucumber, melon, and gourds.

**Learning Objectives:** As a result of this training the participant will:

1. Learn new skills on phenotyping cucurbit crops for resistance to diseases and quality traits.
2. Improve their skills in breeding cucurbit vegetable crops for resistance to diseases.
3. Improve their skills in breeding cucurbit vegetable crops for quality traits.
4. Developing mapping populations in cucurbits.
5. Improve skills in conducting large and small field plot and greenhouse experiments.
6. Improve manuscript writing skills.

**Mentor:** The mentor for this opportunity is Chandrasekar Kousik ([Shaker.Kousik@usda.gov](mailto:Shaker.Kousik@usda.gov)). If you have questions about the nature of the research, please contact the mentor.

**Anticipated Appointment Start Date:** March 2023. 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. **A stipend supplement will also be provided to cover the cost of an individual health insurance plan. The rate also includes a travel allowance of \$3,000 per year to reimburse travel-related expenses to scientific and professional development activities.**

**Citizenship Requirements:** This opportunity is available to U.S.

**Opportunity Title:** USDA-ARS Postdoctoral Fellowship on Vegetable Crop

Production and Protection

**Opportunity Reference Code:** USDA-ARS-SE-2023-0007

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.

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

This is an equal opportunity program open to all qualified individuals without regard to race, color, age, sex, religion, national origin, mental or physical disability, genetic information, sexual orientation, or covered veteran's status.

**Questions:** Please visit our [Program Website](#). After reading, if you have additional questions about the application process, please email [USDA-ARS@ornl.gov](mailto:USDA-ARS@ornl.gov) and include the reference code for this opportunity.

## Qualifications

The qualified candidate should have received a doctoral degree in one of the relevant fields (e.g., Horticulture, Plant Breeding, Plant Pathology). Degree must have been received within one year of the appointment start date.

Preferred Skills:



- Basic knowledge of vegetable crop production and protection, plant diseases, plant breeding and experience in laboratory research is desired.
- Have strong molecular biology skills, including DNA and RNA extraction from plant and fungi, PCR amplification, qPCR, cloning and sequencing.
- Ability to utilize bioinformatics in exploration of sequenced genomes will be an added advantage.
- Basic knowledge of plant genetics and host-resistance is desirable but not required.
- Experience in field research will be advantageous, but is not required.
- The successful candidate must also have strong oral and written communication skills and be able to design experiments, initiate research projects, and participate effectively in team projects.
- Demonstrated ability to publish in peer-reviewed journals will be an added advantage.

---

**Opportunity Title:** USDA-ARS Postdoctoral Fellowship on Vegetable Crop  
Production and Protection

**Opportunity Reference Code:** USDA-ARS-SE-2023-0007

**Eligibility  
Requirements**

- **Degree:** Doctoral Degree received within the last 12 month(s).
- **Discipline(s):**
  - **Communications and Graphics Design** (1 )
  - **Life Health and Medical Sciences** (11 )