

Opportunity Title: USDA-ARS Horticultural Biotechnologist Fellowship

Opportunity Reference Code: USDA-ARS-2022-0262

Organization U.S. Department of Agriculture (USDA)

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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 7/22/2022 3:00:00 PM Eastern Time Zone

Description ***Applications will 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).

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.

Research Project: The USDA ARS operates a laboratory at Disney's Epcot Center and has an existing cooperative agreement with NASA to apply biotechnology tools for the development of highly nutritional fruit crops that are amenable to space flight applications and space exploration. This work involves adapting fruit crops such as tomato and plums to small, controlled environmental growth chambers for efficient propagation, growth, and production using novel biotechnology strategies.

Appointment Activities:

- Tissue culture propagation of novel fruit crop varieties engineered for controlled environments.
- Experimentation using custom designed NASA growth chambers to



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simulate space flight conditions.

- Use of plant growth promotion technologies to optimize fruit crop productivity within controlled environments.
- Coordinate research across Disney and NASA cooperators. This involves significant travel to other locations.

Learning Objectives:

- Function and use of NASA ETCS growth chambers.
- Physiological aspects of plant growth promotion technologies.
- Genetic engineering fruit crops for specialized growing environments.
- Understanding the challenges and opportunities afforded by growing crops in space flight conditions.
- Genetic and molecular pathways associated with plant growth, reproduction, and development.

USDA-ARS Contact: If you have questions about the nature of the research, please contact Chris Dardick (chris.dardick@usda.gov).

Anticipated Appointment Start Date: August 1, 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 the mentor and 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 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](#). If you have additional questions about the application process please email USDA-ARS@ornl.gov and include the reference code for this opportunity.

Qualifications The qualified candidate should have received a bachelor's degree in one of the relevant fields listed below. Degree must have been received within the past ten years.

Preferred skills:


- Extensive experience in tissue culture production and propagation of

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diverse fruit crops

- Skill in operating a tissue culture laboratory, maintaining sterile conditions, and operating under APHIS permits
- Knowledge of fruit crop tissue culture, horticulture, and use of artificial media for plant propagation

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| Eligibility | • Citizenship: U.S. Citizen Only |
| Requirements | • Degree: Bachelor's Degree received within the last 120 month(s). |
| | • Overall GPA: 3.50 |
| | • Discipline(s): |
| | ◦ Life Health and Medical Sciences (6 ) |