

Opportunity Title: USDA-ARS Summer Electrical Engineer Fellowship

Opportunity Reference Code: USDA-ARS-SE-2023-0072

Organization U.S. Department of Agriculture (USDA)

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A complete application consists of:

- An application
- Transcripts – [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 4/28/2023 3:00:00 PM Eastern Time Zone

Description *Applications are reviewed on a rolling-basis.

ARS Office/Lab and Location: A summer undergraduate research internship opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Subtropical Horticulture Research Station located in Miami, Florida.

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 project will focus on the development of automated trapping systems for fruit flies including Caribbean, Mediterranean, and Oriental fruit fly species, among the most destructive invasive pests of tropical crops worldwide. Current Oriental fruit fly quarantine programs require frequent manual checking of traps and handling fruit to check for infestation. Automated systems could alleviate some of the burdens associated with fruit fly surveillance.

The primary goals of this project are (1) to develop and test several iterations of insect detection systems for use inside fruit fly traps, and (2) to develop and test automated chemical detection systems to monitor fruit for larval presence.



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The participant will join a multidisciplinary team of researchers with both entomological and engineering expertise to solve these urgent problems facing American subtropical agriculture.

Learning Objectives: The participant will improve their skills in device design, development, and implementation as well as in lab bioassay design, conducting research with plants and insects, and in collaborative research with the senior scientists and lab technicians.

Mentor(s): The mentor for this opportunity is Barukh Rohde (barukh.rohde@usda.gov). If you have questions about the nature of the research, please contact the mentors.

Anticipated Appointment Start Date: June, 2023. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will be for 5.5 months, 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, time commitment in line with the participant's schedule, and experience.

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 ORISE.ARS.Southeast@ornl.gov and include the reference code for this opportunity.

Qualifications The qualified candidate should be currently pursuing a bachelor's degree having completed three years in one of the relevant fields of study (e.g. Agricultural Engineering, Electrical

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Engineering).

Preferred Skills:

- Experience designing analog and/or digital circuitry
- Experience working with and repairing devices in the field

**Eligibility
Requirements**

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Currently pursuing a Bachelor's Degree.
- **Discipline(s):**
 - **Computer, Information, and Data Sciences** ([17](#) 👁)
 - **Engineering** ([27](#) 👁)