Opportunity Title: USDA-ARS Automating Animal Health Management Through Mass Vaccination
Opportunity Reference Code: USDA-ARS-SEA-2026-0410

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-SEA-2026-0410

How to Apply ***To submit your application, scroll to the bottom of this opportunity and click APPLY.***

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.

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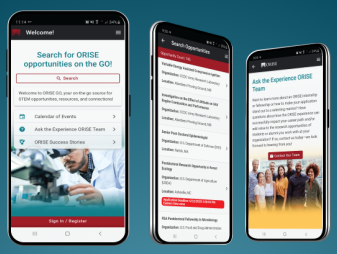
Application Deadline 1/1/2027 3:00:00 PM Eastern Time Zone

Description ***Applications are reviewed on a rolling-basis and applications may close before the deadline.**

ARS Office/Lab and Location: A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), located in Mississippi State, Mississippi. It is expected that the individual will travel to other research sites and to production sites to become familiar with the system and overall research goals of these collaborators.

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: You will be mentored by a collaborative research team in the US Department of Agriculture's Agricultural Research Service at the Poultry Research Unit (PRU). You will learn how to design and integrate automated systems to support mass-vaccination technologies for commercial poultry, applying principles of automation, systems engineering, and mechanical and fluid-systems design. Learning experiences include automation strategies, integrating sensors and actuators, building and testing prototypes, and conducting quantitative

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evaluations of system performance and reliability.

You may also gain experience with additional PRU projects involving data acquisition, system modeling, and specialized instrumentation design. Research activities may include laboratory-scale proof-of-concept testing, with or without live animal subjects, as well as field deployment and evaluation of engineered systems. Collaborations with other USDA Agricultural Research Service unit scientists and land grant university faculty in the region will be expected. Peer-reviewed publication of research findings will be encouraged and supported.

Learning Objectives: Under the guidance of a mentor, you will:

- Learn to design automated systems that support mass-vaccination technologies for commercial poultry.
- Apply automation, systems-engineering, mechanical-design, and fluid-systems principles to agricultural and animal-health challenges.
- Develop experience creating automation strategies and integrating sensors, actuators, and specialized instrumentation.
- Build and test engineering prototypes, including laboratory-scale proof-of-concept systems and field-deployable technologies.
- Conduct quantitative evaluations of system performance, reliability, and operational effectiveness.
- Gain exposure to data acquisition, system modeling, and instrumentation design through additional poultry-research projects.
- Learn to plan and conduct research involving laboratory testing, potential live-animal studies, and field deployment under appropriate guidance.
- Strengthen interdisciplinary collaboration skills with USDA-ARS scientists and regional land-grant university faculty.
- Develop scientific communication skills through preparation of peer-reviewed publications and presentation of research findings.

Mentor(s): The mentor for this opportunity is Joseph Purswell (joseph.purswell@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: 2026/2027. 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.

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. After reading, if you have additional questions about the application process, please email ORISE.ARS.Southeast@orau.org and include the reference code for this opportunity.

Qualifications

The qualified candidate must have received or be currently pursuing a master's or doctoral Degree (PhD preferred, but MS with appropriate experience is acceptable) in a relevant field before the start date of their appointment. Degree must have been received within the past two years, or be anticipated to receive by 5/31/2027.

Preferred skills:

- Proficiency in developing artificial intelligence and/or machine learning towards analyzing behavioral and environmental data.
- Proficiency in using at least one common statistical program (e.g., R, SPSS, SAS, JMP, Stata, etc.).
- Demonstrated skills in integrating software and hardware solutions for prototype system development.
- Knowledge of mechatronics and controls.
- Ability to effectively collaborate with others.
- Demonstrated strong oral and written communication skills.
- Using common engineering software and hardware platforms, familiar with data management, and well-versed in practical applications of engineering science to solve problems in animal agriculture.

Stipend $62,107.00 – $74,361.00 Yearly

Point of Contact Janeen

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree or Doctoral Degree received within the last 24 months or anticipated to be received by 5/31/2027 11:59:00 PM.
- **Discipline(s):**
  - **Engineering** (8 👁)