Opportunity Title: USDA-APHIS New World Screwworm Modeling and Surveillance
Opportunity Reference Code: USDA-APHIS-2026-0421

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-APHIS-2026-0421

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

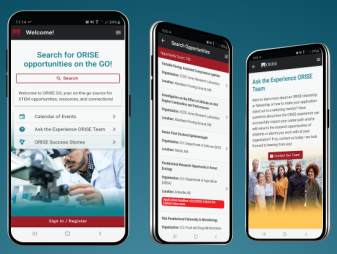
Description ***Applications are reviewed on a rolling-basis and applications may close before the deadline.**

APHIS Office/Lab and Location: Three research opportunities are currently available with the U.S. Department of Agriculture (USDA), Animal Plant Health Inspection Service (APHIS), located in Fort Collins, Colorado.

The Animal and Plant Health Inspection Service (APHIS) is a multi-faceted Agency with a broad mission area that includes protecting and promoting U.S. agricultural health, regulating genetically engineered organisms, administering the Animal Welfare Act and carrying out wildlife damage management activities. These efforts support the overall mission of USDA, which is to protect and promote food, agriculture, natural resources and related issues. APHIS' mission also includes addressing issues such as wildlife damage and disease management; regulation of genetically engineered crops and animal welfare; and protection of public health and safety as well as natural resources that are vulnerable to invasive pests and pathogens.

Research Project: You will learn through collaboration with veterinary medical officers, statisticians, economists, entomologists, and ecologists who specialize in epidemiology, risk analysis, disease modeling, economic evaluation, and surveillance. You will gain experience contributing to the development and operationalization of analytical tools and understanding how they support national and regional risk assessments, emergency preparedness, response, and surveillance planning for New World Screwworm (NWS) in wildlife and domestic livestock populations.

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Learning Objectives: This fellowship will provide opportunities for you to learn about and aid in the development and operationalizing analytical tools that support national scale programmatic decisions and policy. Under the guidance of a mentor, you will:

- Expand experience analyzing domestic livestock, wildlife, and New World Screwworm (NWS) fly surveillance data while accounting for environmental and biological factors that influence NWS occurrence.
- Cultivate analytical skills in developing methods to evaluate surveillance sensitivity and detection probability, determine optimal spatial and temporal surveillance strategies, and forecast surveillance priorities in wildlife and domestic livestock populations under future environmental conditions.
- Build experience in developing and applying statistical and mathematical models of New World Screwworm (NWS) population dynamics, including reproduction, survival, movement, and spread, while learning to incorporate environmental and weather factors into modeling.
- Gain experience using both recent and historical data to evaluate surveillance, mitigation, and prevention strategies.
- Strengthen skills in integrating diverse qualitative and quantitative information, documenting methods and assumptions, communicating findings to varied audiences, and collaborating with SMEs and policymakers.
- Develop practical knowledge of disease risk modeling and learn to translate analytical results into tools that address program needs.

Mentor: The mentor for this opportunity is Katie Portacci (katie.portacci@usda.gov). If you have questions about the nature of the research, please contact the mentor.

Anticipated Appointment Start Date: January 2027. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for two years but may be extended upon recommendation of USDA APHIS 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.

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 APHIS. Participants do not become employees of USDA, APHIS, 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.

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Questions: Please visit our Program Website. After reading, if you have additional questions about the application process, please email USDA-APHIS@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should have received or be currently pursuing a master's or doctoral degree in one of the relevant fields.

Preferred skills:

- Experience in biological, population, or epidemiological modeling and spatial analysis, including population dynamics, infectious disease and ecological processes.
- Strong quantitative skills in Bayesian statistics, machine learning, advanced statistical approaches, geospatial and mathematical modeling in an applied setting.
- Experience with integrated population models or knowledge of their development and application.
- Experience with study design and integrating observational field and experimental data into modeling frameworks.
- Proficiency in R, python, C++, GitHub, ESRI, Bayesian computational methods using MCMC frameworks (e.g., JAGS, STAN, NIMBLE) and mathematical approaches (e.g. ordinary differential equations).
- Strong communication skills, including the ability to communicate complex modeling results.

Stipend $64,000.00 – $90,000.00 Yearly

Point of Contact Michele

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree or Doctoral Degree.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (3 👁)
  - **Earth and Geosciences** (5 👁)
  - **Engineering** (7 👁)
  - **Environmental and Marine Sciences** (5 👁)
  - **Life Health and Medical Sciences** (18 👁)
  - **Mathematics and Statistics** (8 👁)