

Opportunity Title: USDA-APHIS Animal Disease Modeling Fellowship

Opportunity Reference Code: USDA-APHIS-2024-0077

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-APHIS-2024-0077

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. 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.

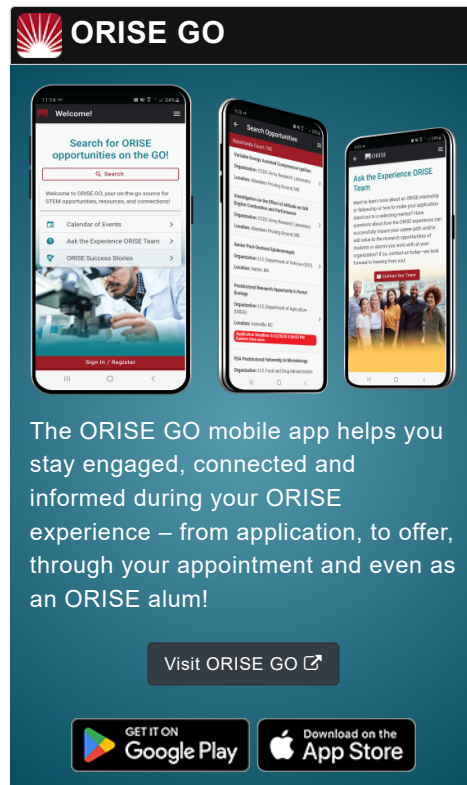
Application Deadline 5/24/2024 3:00:00 PM Eastern Time Zone

Description *Applications are reviewed on a rolling-basis.

APHIS Office/Lab and Location: A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Animal Plant Health Inspection Service (APHIS) located in Fort Collins, Colorado. **This opportunity will be 100% remote.**

Research Project: The participant will collaborate with veterinary medical officers, statisticians, economists and ecologists to operationalize and improve analytical tools. Activities will support program management, emergency preparedness, and surveillance planning for disease transmission. Research activities will include:

- Operationalize, and where needed suggest improvements to previously developed models of the geographic distributions of livestock prior to slaughter.
- Identify and develop data and other model inputs for use in an existing framework for the optimization of slaughter surveillance for diseases such as bovine tuberculosis in cattle.
- Collaborate with subject matter experts and decision makers to ensure analytical tools are developed in a way that meets VS needs. Collaboration would also enhance knowledge and skills in disease risk modeling and application to support programmatic decisions and policy.
- Conducts sensitivity analysis of parameters used in a model of African Swine Fever disease dynamics in feral swine. Research activities would also include running models across a range of additional scenarios and summarizing



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results to inform research associated with understanding time to detection, optimal control and determining disease freedom.

Learning Objectives: The fellowship will provide opportunities for the participant to learn about and aid in ensuring functional analytical tools are applied to support national programmatic decisions and policy.

Mentor: The mentor for this opportunity is Karl Musgrave (Karl.Musgrave@usda.gov). If you have questions about the nature of the research please contact the mentor.

Anticipated Appointment Start Date: June 2024. 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 for a total of five years upon recommendation of APHIS and is contingent on the availability of funds.

Level of Participation: The appointment is full-time.

Participant Stipend: The participants will receive \$57,000- \$87,500 plus benefits, commensurate with educational level and experience.

Citizenship Requirements: This opportunity is available to U.S. citizens and Lawful Permanent Residents (LPR).

Background Investigation Requirements: Background investigations are required for the selected candidate so the individual can be in biocontainment without an escort and handle select agents. Adjudication of a Special Agency Check (SAC) is required before the selected candidate can start at Plum Island Animal Disease Center. An advanced BI security clearance will be conducted/adjudicated after start date, allowing for unescorted access to biocontainment. An APHIS Select Agent Clearance is also required so that the selected candidate can handle select agents. Paperwork for all of these clearances will be sent to the selected candidate after acceptance of the official offer from ORAU.

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.

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.

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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 a master's or doctoral degree in one of the relevant fields (e.g. Statistics, Ecology, Operations Research, Biology, Veterinary Medicine). The candidate is not required to have every discipline included under disciplines, but must have at least one.

Strongly preferred skills:

- Experience with mathematical modeling of biological systems.
- Experience with population modeling, disease modeling, or similar ecological approaches.
- Experience in programming in R, using GitHub, and doing Bayesian statistical analyses with the use of MCMC samplers such as JAGS, STAN, or NIMBLE.

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Master's Degree or Doctoral Degree.
- **Academic Level(s):** Graduate Students, Postdoctoral, or Post-Master's.
- **Discipline(s):**
 - **Computer, Information, and Data Sciences** (3 )
 - **Earth and Geosciences** (1 )
 - **Environmental and Marine Sciences** (3 )
 - **Life Health and Medical Sciences** (12 )
 - **Mathematics and Statistics** (11 )