Opportunity Title: USDA-ARS Modeling the Spread and Control of High-Consequence Zoonotic Pathogens
Opportunity Reference Code: USDA-ARS-PA-2025-0110

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-PA-2025-0110

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 1/1/2026 3:00:00 PM Eastern Time Zone

Description ***Applications are reviewed on a rolling-basis.**

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 Manhattan, Kansas.

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 U.S. Department of Agriculture (USDA) Agricultural Research Service (ARS), Zoonotic and Emerging Disease Research Unit (ZEDRU), located at the National Bio and Agro-Defense Facility (NBAF) in Manhattan, Kansas, invites applications from motivated recent graduates to participate in modeling research that supports preparedness against high-consequence zoonotic pathogens in partnership with scientists at University of California Los Angeles.

Emerging zoonotic diseases represent urgent and complex challenges to

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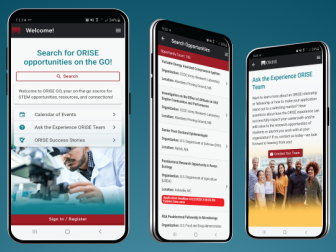

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U.S. agriculture, livestock, and public health. Predicting where and how these pathogens might spread requires integrating diverse data streams—from epidemiology and virology to ecology, environmental conditions, land use, and social drivers. This opportunity will provide training at the cutting edge of interdisciplinary modeling to inform prevention and intervention strategies that protect U.S. farmers, livestock, and food security.

Learning Objectives: Under the guidance of a mentor, the participant will have the opportunity to:

- Develop and refine computational models to predict the emergence and spread of high-consequence zoonotic pathogens.
- Integrate multi-disciplinary datasets (e.g., epidemiological, ecological, environmental, land use, and social determinants) with virological and molecular data.
- Participate in scenario-based modeling to evaluate the potential impact of interventions such as vector control, vaccination, or movement restrictions.
- Collaborate with USDA scientists, academic partners, and federal collaborators to link modeling outputs with real-world decision-making.
- Contribute to peer-reviewed publications, reports, and presentations that communicate modeling outcomes to scientific, agricultural, and policy stakeholders.

This appointment provides a rare chance to apply advanced modeling approaches to problems of national and global importance. Participants will gain experience working with multidisciplinary teams at USDA's premier high-containment research facility, combining laboratory-generated data with ecological, environmental, and social science insights to develop predictive tools that can guide outbreak response and agricultural resilience.

Mentor(s): The mentor for this opportunity is Lisa Hensley (lisa.hensley@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: 2025/2026. 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 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 and experience. **The anticipated annual stipend range is $55,000 - $78,733 for master's level.**

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

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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.Plains@orau.org and include the reference code for this opportunity.

Qualifications

The qualified candidate should be currently pursuing or have received a master's or degree in the one of the relevant fields (e.g. epidemiology, ecology, computational biology, bioinformatics, data science, mathematical modeling, or a related discipline).

Preferred skills:

- Experience with **mathematical, computational, or epidemiological modeling** (e.g., SEIR models, agent-based models, network analysis).
- Proficiency in **statistical programming** (R, Python, Julia, MATLAB).
- Familiarity with **GIS and spatial analysis tools** (ArcGIS, QGIS, or R spatial packages).
- Ability to integrate **multidisciplinary datasets** (epidemiology, ecology, environment, land use, virology, social sciences).
- Knowledge of **infectious disease epidemiology** or outbreak dynamics.
- Strong skills in **data visualization, interpretation, and communication** for scientific and policy audiences.
- Demonstrated **research experience through thesis or applied projects**.
- Interest in applying interdisciplinary data to understand zoonotic pathogen spread and to test potential interventions.
- Strong problem-solving, collaboration, and communication skills.

Stipend

$55,000.00 – $78,733.00 Yearly

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Master's Degree.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (17 👁)
  - **Life Health and Medical Sciences** (51 👁)
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).