

**Opportunity Title:** USDA-APHIS HPAI Modeling Fellowship

**Opportunity Reference Code:** USDA-APHIS-2025-0062

**Organization** U.S. Department of Agriculture (USDA)

**Reference Code** USDA-APHIS-2025-0062

**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** 8/1/2025 3:00:00 PM Eastern Time Zone

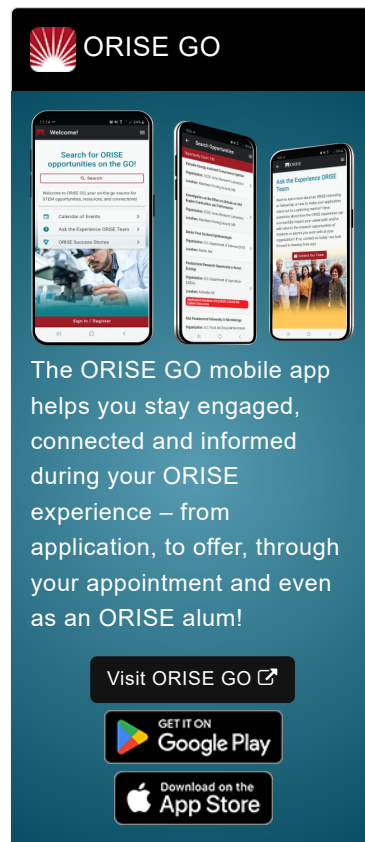
**Description** \*Applications are reviewed on a rolling-basis.

**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), **National Veterinary Services Laboratory (NVSL)**, located in **Manhattan, Kansas** or remote.

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:**

The participant will collaborate with veterinary medical officers, statisticians, economists, and ecologists specializing in epidemiology, risk analysis, disease modeling, economic evaluation, and surveillance to enhance analytical tools. Activities will focus on gaining hands-on experience and contributing to emergency preparedness and surveillance planning for disease transmission. Research activities will include:



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- Collaborate with subject matter experts to learn about the development of analytical tools for assessing Highly Pathogenic Avian Influenza (HPAI) spread and contribute to ensuring these tools align with VS needs. This collaboration will enhance the participant's knowledge and skills in disease risk modeling and its application to support programmatic understanding and policy development.
- Identify gaps in existing models related to domestic animal shipments and contribute to discussions around addressing these gaps.
- Assist in developing data and other model inputs for use in an existing framework to better characterize these shipments and other routes of disease spread.
- Contribute to the evaluation and refinement of previously developed models, such as:
  - Characterizing geographic differences in infection risk of HPAI in domestic animals.
  - Exploring response options, such as vaccination or surveillance strategies.

**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(s):** The mentor for this opportunity is Karl Musgrave ([Karl.Musgrave@usda.gov](mailto:Karl.Musgrave@usda.gov)). If you have questions about the nature of the research, please contact the mentor.

**Anticipated Appointment Start Date: June 2025.** 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 APHIS 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 (range: **\$67,000-\$97,500**), commensurate with educational level and experience.

**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 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.

**Questions:** Please visit our [Program Website](#). After reading, if you have additional questions about the application process, please email [USDA-APHIS@orau.org](mailto: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

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in one of the relevant fields (e.g. Statistics, Ecology, Operations Research, Biology, Veterinary Medicine). Degree must have been received within the past five years.

**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.

**Point of Contact** [Justina](#)

**Eligibility** • **Citizenship:** U.S. Citizen Only

**Requirements** • **Degree:** Master's Degree or Doctoral Degree received within the last 60 month(s).

• **Discipline(s):**

- **Computer, Information, and Data Sciences** ([2](#)👁)
- **Earth and Geosciences** ([1](#)👁)
- **Environmental and Marine Sciences** ([2](#)👁)
- **Life Health and Medical Sciences** ([7](#)👁)
- **Mathematics and Statistics** ([1](#)👁)