

Opportunity Title: USDA-ARS Point-of-Contact Diagnostics for High Consequence Pathogens

Opportunity Reference Code: USDA-ARS-PA-2024-0264

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-PA-2024-0264

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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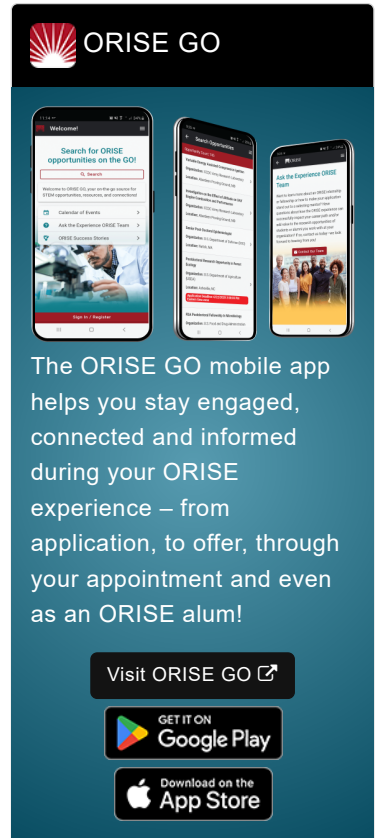
Application Deadline 11/22/2024 3:00:00 PM Eastern Time Zone

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.

The National Bio and Agro-Defense Facility (NBAF) in Manhattan, KS is a state-of-the-art facility operated by the U.S. Department of Agriculture (USDA) that is designed to help protect the nation's agriculture, farmers and citizens against the threat and potential impact of serious animal diseases. Protecting livestock and agricultural interests also protects the economy. Agriculture, food and food processing contribute more than \$1.1 trillion to the U.S. economy's gross domestic product per year. In addition, 11 percent of jobs — about 22 million — have some ties to agriculture. NBAF's mission is to protect the United States against transboundary,



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emerging, and zoonotic animal diseases that threaten our food supply, agricultural economy and public health.

Research Project: This opportunity is for a master's or doctoral level fellow interested in researching field-ready diagnostics for emerging diseases at the interface of production animals, wildlife, and human health. The fellow will engage with research units at NBAF and key partners in the Biologics Development Module to develop novel diagnostics for point-of-contact disease detection and biosurveillance at the forefront of zoonotic pathogens that affect agricultural animals and human health. Primary diseases of interest for this fellowship include highly pathogenic avian influenza, Crimean Congo hemorrhagic fever virus, Nipah virus, and Hendra virus.

Under the guidance of a mentor, fellows will develop an in-depth understanding of disease targets and their genomes, conducting genetic alignments and analyses, designing novel primer sets for disease targets, and performing verification and validation tests on the novel assays they develop. Fellows will conduct research in BSL-2 laboratories and participate in field studies or research conducted in maximum containment, if required.

Learning Objectives: In this opportunity, the fellow will learn how to design genetic assays to answer diagnostic questions and translate laboratory assays to shelf-stable chemistries for point-of-contact diagnostics, gaining real-world experience and best practices for development, verification, and validation of diagnostics. The fellow will also gain experience in scientific methods, experimental design, scientific papers preparation, and technical documentation.

Mentor(s): The mentor for this opportunity is Michael Puckette (michael.puckette@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: 2024. 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.

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

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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@ornl.gov and include the reference code for this opportunity.

Qualifications The qualified candidate should be currently pursuing or have received a master's or doctoral degree in the one of the relevant fields (e.g. virology, molecular biology, genetics, pathology, epidemiology, etc.).

Preferred skills:

- Functional knowledge and background in virology, molecular biology, or genetics
- Experience working in a BSL-2 laboratory and proficiency in wet bench skills
- Experience using or developing molecular biology techniques such as PCR or DNA sequencing.
- Ability to independently design and execute experiments and to analyze and interpret results
- Good communication skills and ability to collaborate with interdisciplinary teams
- Critical thinking skills and curiosity to try new approaches and ways of thinking
- Self-motivated and ability to participate both independently and collaboratively

Point of Contact [Janeen](#)

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Master's Degree or Doctoral Degree.
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([4](#) )
 - **Environmental and Marine Sciences** ([2](#) )
 - **Life Health and Medical Sciences** ([22](#) )