

Opportunity Title: USDA-ARS Fellowship on Pathogenesis of Emerging or Reemerging High Consequence Viruses **Opportunity Reference Code:** USDA-ARS-P-2023-0160

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-P-2023-0160

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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.

Application Deadline 7/5/2024 3:00:00 PM Eastern Time Zone

Description *Applications may be reviewed on a rolling-basis.

ARS Office/Lab and Location: A research opportunities are currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS) within the Rocky Mountain Laboratory located in Hamilton, Montana.

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: Highly pathogenic viruses continue to pose a significant threat to humans and animals with their potential to cause global public health crises. Zoonotic outbreaks have significantly impacted global public health and economic stability. The 2013 multi-country ebola outbreak resulted in over 11,000 deaths. The impact on human health provides a glimpse of the impact of this outbreak. The gross domestic product (GDP) growth in Liberia decreased from 8.7% to 0.7% and similar drops were seen in neighboring countries. Liberia lost an estimated 8% of healthcare providers. A significant disruption of other healthcare services occurred. In total, the estimated cost of the response exceeded 4 billion US dollars. The 1998 Nipah virus outbreak in Malaysia resulted in at least 109 human fatalities and the culling of 1.1 million pigs. It is estimated that almost

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36,000 individuals lost their jobs due to the outbreak. Over the last decade, tremendous advances have been made in developing countermeasures to many high-consequence pathogens. Still, critical gaps remain in our arsenal to detect and curb new and emerging diseases.

Research will be performed at the Rocky Mountain Laboratory an NIH state-of-the-art biomedical research facility in Hamilton, Montana. Projects will be jointly performed with Dr. Andrea Marzi. The focus will be on the immunology and pathogenesis of high-consequence pathogens. Potential areas of study include the identification of viral and host factors driving pathogenicity; analysis of immune responses to vaccination and challenge to identify important components of protection; development of prophylactic and therapeutic strategies against emerging viruses. Depending on the project, conducting research in the biosafety level four laboratory may be required.

Learning Objectives: Participants will enhance the following as a result of participating in the project:

- 1. Knowledge of work in high containment
- 2. Basic understanding of the pathogenesis of filoviruses, henipaviruses and other high-consequence pathogens
- 3. Ability to perform basic and advanced virologic assays in maximum containment
- 4. Ability to perform basic and advanced immunologic assays in maximum containment
- 5. Knowledge of the challenges of inactivation of materials and ability to perform safety testing to confirm inactivation
- 6. Ability to prepare data for scientific presentation (i.e., abstracts, posters, presentations and papers)

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

<u>Anticipated Appointment Start Date</u>: Start date is flexible and will depend on a variety of factors.

<u>Appointment Length</u>: 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.

<u>Participant Stipend</u>: The participant will receive a monthly stipend commensurate with educational level and experience.

Citizenship Requirements: This opportunity is available to U.S. citizens, Lawful Permanent Residents (LPR), and foreign nationals. Non-U.S. citizen applicants should refer to the <u>Guidelines for Non-U.S. Citizens Details</u> page of the program website for information about the valid immigration statuses that are acceptable for program participation.



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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 <u>Program Website</u>. After reading, if you have additional questions about the application process, please email <u>ORISE.ARS.Plains@orau.org</u> 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 or be currently pursuing one of the degrees with completion before start of appointment. Degree must have been received within the past three years.
- Eligibility Requirements

• **Degree:** Master's Degree or Doctoral Degree received within the last 36 months or currently pursuing.

- Discipline(s):
 - Life Health and Medical Sciences (7_)
- Age: Must be 18 years of age