

Opportunity Title: USDA-APHIS Microbiology Research Opportunity

Opportunity Reference Code: USDA-APHIS-2023-0056

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-APHIS-2023-0056

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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. 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. At least one recommendation must be received in order for the mentor to view your application.

Description *Applications are reviewed on a rolling-basis.

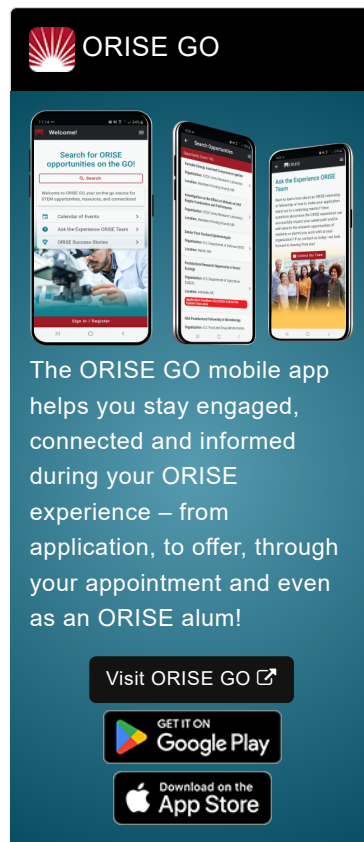
APHIS Office/Lab and Location: A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Animal Plant Health Inspection Service (APHIS), National Veterinary Services Laboratory (NVSL), located in Ames, Iowa.

Diagnostics Bacteriology and Pathology laboratory (DPBL), Diagnostic Virology Laboratory (DVL) and Diagnostic, Bioanalytical, and Reagent Laboratory (DBRL) are individual laboratory units within the National Veterinary Services Laboratories. NVSL is part of the U.S. Department of Agriculture and its primary responsibility is to provide diagnostic services to federal, state, and private veterinarians in the U.S. DBPL/DVL/DBRL primary responsibility is to provide mission support and play a key role in advancement of fundamental science related to bacterial and viral pathogen and diagnostic methods development.

Research Project: This is an opportunity to join this development team and learn to create, evaluate, and validate rapid, accurate, and sensitive diagnostic methods for detecting disease pathogens. The fellow will have an opportunity to collaborate with NVSL diagnosticians, microbiologists, bioinformaticians and researchers to participate in laboratory, diagnostics and developmental project in support of the diagnostic mission.


Learning Objectives: The selected fellow will learn to test, adapt/develop novel diagnostics, verify results, and conduct limited research on molecular and microbiological assays as needed. The fellow will also have an opportunity to learn about zoonotic diseases, their impact on trade, learn surveillance procedures, diagnostic testing methodologies and algorithms, whole genome sequencing, and molecular epidemiology.


Mentor(s): The mentor for this opportunity is Karthik Shanmuganatham




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(karthik.k.shanmuganatham@usda.gov). If you have questions about the nature of the research please contact the mentor.

Anticipated Appointment Start Date: 2023. 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 commensurate with educational level and experience. **The annual stipend rate for this appointment for a person with a Bachelor's degree will be \$35,000, Master's degree will be \$54,000 and with a Ph.D. degree will be \$65,000. Candidates will be eligible to receive a health insurance allowance. Additionally, a travel allowance of \$3,000 will be available to attend relevant trainings and conferences to present research findings.**

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 [Guidelines for Non-U.S. Citizens Details](#) page of the program website for information about the valid immigration statuses that are acceptable for program participation.

Background Investigation Requirements: Adjudication of a Special Agency Check (SAC) is required before the selected candidate can start. Paperwork for this clearance 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.

Questions: Please visit our [Program Website](#). After reading, if you have additional questions about the application process please email USDA-APHIS@oraui.org and include the reference code for this opportunity.

Qualifications The qualified candidate should have received a bachelor's, master's, or doctoral degree in one of the relevant fields (e.g. Virology, Infectious Diseases, Microbiology, Molecular Biology, Pathology, Immunology, Animal Genetics, Animal Science) with emphasis in molecular analysis.

Research is performed in a BSL-2/3 laboratory. Interacting with unknown pathogenic agents mandates the use of biocontainment hoods and wearing

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personal protective gear, which is strenuous on the individual.

Preferred Skills:

- Knowledge and background in virology/ molecular biology/serology/cell biology
- BSL-2 laboratory experience with hands-on experience in wet-lab procedures
- Interest in the development of diagnostic technologies for viral, bacterial and fungal diseases.
- Functional knowledge of molecular techniques such as: PCR; real-time PCR; PCR primer/probe design and DNA sequencing and analysis
- Functional knowledge in cell biology and serology
- Ability to independently design, perform, and interpret experiments
- Experience with diagnostic test interpretation and evaluation
- Excellent organizational skills, ability to multitask, collaborate and work in a team
- Proficiency in technical writing, oral communication, interpersonal and organizational skills
- Critical thinking skills to develop experimental approaches and interpret data.
- Demonstrated flexibility and self-motivation.
- Should be achievement oriented, and welcome use of a variety of approaches to address important, challenging scientific problems.

Point of Contact [Justina](#)

- Eligibility**

Requirements
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree.
 - **Discipline(s):**
 - **Communications and Graphics Design** ([1](#)👁)
 - **Life Health and Medical Sciences** ([10](#)👁)