Opportunity Title: Data Scientist in Microbiology
Opportunity Reference Code: USDA-APHIS-2021-0215

Organization	U.S. Department of Agriculture (USDA)
Reference Code	USDA-APHIS-2021-0215

How to Apply

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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.

All documents must be in English or include an official English translation.

Application Deadline

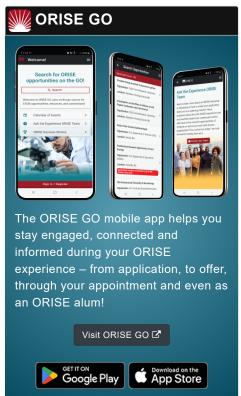10/8/2021 3:00:00 PM Eastern Time Zone

Description

*Applications are reviewed on a rolling-basis and this posting could close before the deadline.

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

The National Veterinary Services Laboratory (NVSL) has the responsibility of identifying several diseases of importance in livestock to maintain public and animal health and protect international trade. The new state-of-the-art National Bio and Agro Defense Facility (NBAF) located in Manhattan, Kansas, which is currently being constructed, will be the new home of the work currently preformed at NVSL-FADDL. The National Veterinary Services Laboratories (NVSL) objective and goal is to safeguard U.S. animal health and contribute to public health by ensuring that timely and accurate laboratory support. This goal is also part of the secretary's initiative of safeguarding American agriculture and ensuring our nation's animal health is safe.

Research Project: The selected participants will assist with moving data from existing inventory and laboratory information management systems (LIMS) to a new platform. This opportunity will focus on how to construct master data, transform biological data from multiple labs, and migrate this data from a legacy system to a new platform ensuring data integrity. The selected participants will have the opportunity to assist a team of Veterinary Medical Officers and Microbiologists in a fast paced setting.

The participants will learn to perform and carry out the following: polymerase chain reaction (PCR), cell culture propagation, animal virus isolation, serologic techniques (such as antibody detection by enzyme-linked immunosorbent assays, complement fixation, virus neutralization), animal inoculation, light and fluorescence microscopy, immunodiffusion, electrophoresis, Western blot, clinical chemistry analysis, chemical testing for xenobiotic analysis in biological samples using techniques such as liquid-liquid extraction and/or solid phase extraction, high pressure liquid chromatography, Kjeldahl protein analysis, colorimetric titrations and spectrophotometric/fluorometric testing, pH testing and other quantitative chemical analysis techniques.

Learning Objectives:

This is an opportunity to be a part of diagnostic team and learn to create, evaluate, and validate rapid, accurate, and sensitive diagnostic methods for detecting disease pathogens.

The participants will have an opportunity to collaborate with NVSL diagnosticians, microbiologists, bioinformaticists, and researchers to participate in projects in support of the diagnostic mission. The selected fellows will learn to adapt/develop novel diagnostics, verify results, on molecular and microbiological assays as needed. The fellows 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 mentors for this opportunity are Karthik Shanmuganatham (Karthik.k.shanmuganatham@usda.gov) and Suelee Robbe-Austerman (suelee.robbe-austerman@usda.gov). If you have questions about the nature of the research please contact the mentors.

Anticipated Appointment Start Date: 2021 Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for six months, 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(s) will receive a monthly stipend commensurate with educational level and experience. **The annual stipend rate will be determined upon selection based on education, experience and location. Relocation expenses are not available. A travel allowance of $3,000 will be available to move between the laboratory sites and participate in relevant trainings as needed.**

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. **Participants will be eligible to receive a health insurance allowance.** Health insurance can be

obtained through ORISE.

Adjudication of a Special Agency Check (SAC) is required before the selected candidate can start and individual must be able to pass appropriate background investigations. Paperwork for this clearance will be sent to the selected candidate after acceptance of the official tentative offer from ORAU. A drug test may be required based on program determination.

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

Qualifications

The qualified candidate should be currently pursuing or have received a bachelor's degree in one of the relevant fields.

Preferred skills:
- Coursework in Biology with emphasis on Microbiological nomenclature
- Proficiency in Excel
- Critical thinking and problem-solving skills
- Methodical and logical approach
- Ability to work in a team
- Good written and verbal communication skills
- Understanding of biological concepts
- Knowledge of common laboratory equipment and mathematics
- A knowledge of laboratory safety equipment and procedures, including ISO 17025 quality assurance procedures
- A working knowledge of computer software to store and retrieve data in databases and spreadsheets

The selected participant should be able to exercise judgment and originality to:
- analyze data
- carry out any of the projects identified above

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree.
- **Discipline(s):**
  - **Life Health and Medical Sciences** (10 👁)
  - **Mathematics and Statistics** (1 👁)