Opportunity Title: Postdoctoral Research Opportunity in Diagnostic Veterinary Sciences

Opportunity Reference Code: USDA-APHIS-2019-0088

Organization	U.S. Department of Agriculture (USDA)
Reference Code	USDA-APHIS-2019-0088
How to 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. 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

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

If you have questions, send an email to USDA-APHIS@orau.org. Please include the reference code for this opportunity in your email.

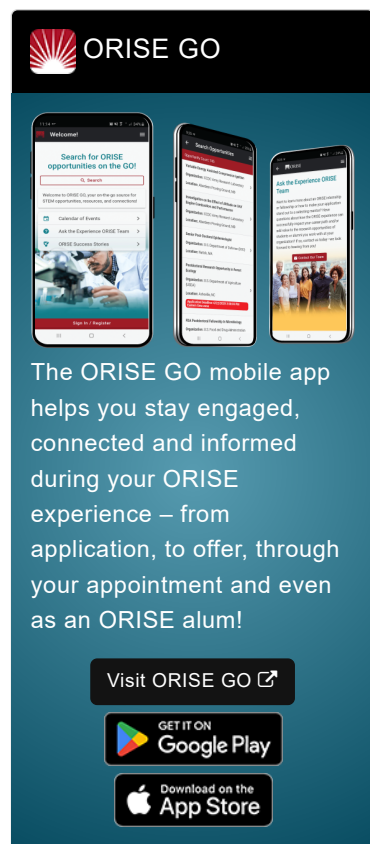|	
Application Deadline	7/31/2019 3:00:00 PM Eastern Time Zone
Description	***Applications will be reviewed on a rolling-basis.**

The Mycobacteria & Brucella Section (MB) at the U.S. Department of Agriculture (USDA)'s National Veterinary Services Laboratories (NVSL) in Ames, Iowa, provides diagnostic services to federal, state, and private veterinarians in the U.S. MB has responsibility of identifying the zoonotic species from the mycobacteria and brucella families as well as genomic support to the sheep and goat scrapie eradication program. The selected participant will collaborate with microbiologists, veterinarians, and biotechnicians to support the diagnostic mission. They will have the opportunity to learn about zoonotic diseases and their impact on interstate trade and community health. They will learn surveillance procedures, diagnostic testing methodologies and algorithms, whole genome sequencing, and molecular epidemiology.

Tuberculosis and Brucellosis are high consequence pathogens. Detection of these pathogens results in quarantine of the herd and additional testing. Rapid identification of these organisms is critical to efficient resolution of the infection and will result in reduced cost to producers and the U.S. government. Two major problems impede quick diagnosis of these diseases. First, culture of these organisms takes from 2 to 6 weeks. The second, both of these pathogens are closely related to other members of the family that are not under regulatory control, increasing the risk of a false positive test. The participant will conduct research to develop molecular diagnostic assays to address these two significant issues. In addition to developing these assays, the participant will learn the process of assay validation and incorporation into a clinical diagnostic lab under ISO-1705 procedures. Additional learning opportunities in the lab include development of bioinformatics approaches to detect scrapie resistant sheep and goats, molecular epidemiology, and development of bioinformatics approaches to aid animal identification and tracing during an outbreak. The participant will present their data at national and international meetings involving researchers, regulatory officials, and producer groups.

Anticipated Appointment Start Date: July-August 2019

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 APHIS. The initial appointment is for one year, but may be renewed upon recommendation of APHIS and is contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. The annual stipend rate for this opportunity will be determined upon selection and will range between $61,000 and $87,000. Relocation expenses are not available. The participant will have an allowance of $3,000 to attend scientific meetings for personal development and presenting data. Proof of health insurance is required for participation in this program. Candidates will be eligible to receive a health insurance allowance. Health insurance can be obtained through ORISE. The appointment is full-time at APHIS in the Ames, Iowa, area. Participants do not become employees of USDA, APHIS, DOE or the program administrator, and there are no employment-related benefits.

This opportunity is available to U.S. citizens, Lawful Permanent Residents (LPR), and foreign nationals (dependent upon immigration status).

Background investigations are required for the selected candidate so the individual can handle select agents and participate in biocontainment without an escort. Adjudication of a Special Agency Check (SAC) is required before the selected candidate can start. An advanced BI security clearance will be conducted/adjudicated after start date, allowing for unescorted access to biocontainment. An APHIS Select Agent Clearance is also required so that the selected candidate can work with select agents. Paperwork for all of these clearances will be sent to the selected candidate after acceptance of the official offer from ORAU.

Research is performed in a BSL-2/3 laboratory. Working with unknown pathogenic agents mandates the use of biocontainment hoods and wearing personal protective gear, which is strenuous on the individual.

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.

Qualifications

The qualified candidate should have received a doctoral degree in one of the relevant fields.

Preferred skills:

- Knowledge of general laboratory practices including aseptic technique and the use of common laboratory equipment (centrifuge, micropipettes, biosafety cabinets, microscope, etc.)
- Functional knowledge of molecular techniques such as: PCR; real-time PCR; PCR primer/probe design and validation; DNA/RNA isolation
- Proficiency in technical writing, oral communication, interpersonal and organizational skills, as well as critical thinking skills to develop experimental approaches and interpret data
- Demonstrates flexibility and self-motivation
- A background in microbiology and diseases
- BSL-3 laboratory experience
- Experience working with select agents
- Experience with diagnostic test interpretation and evaluation
- Experience working with animal tissues in the diagnostic or research setting
- Experience with nucleic acid sequencing and analysis

Eligibility Requirements

- **Degree:** Doctoral Degree.
- **Discipline(s):**

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- **Environmental and Marine Sciences** (1 👁)
- **Life Health and Medical Sciences** (15 👁)