

Opportunity Title: USDA-ARS Animal Immunology/Virology Research Training Fellowship

Opportunity Reference Code: USDA-ARS-2021-0192

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-2021-0192

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A complete application consists of:

- An application
- Transcripts – [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.

Description *Applications are reviewed on a rolling-basis, and this posting will remain open until a qualified candidate is identified.

ARS Office/Lab and Location: The U.S. Department of Agriculture (USDA) Agricultural Research Service (ARS) is seeking motivated post-doctoral research scientists interested in training fellowships conducting research aimed at developing novel strategies to control Foreign Animal Diseases (FADs) of livestock. Specifically the research program focuses on foot-and-mouth disease, classical swine fever, African swine fever and emerging vesicular stomatitis. Opportunities are available on a regular basis, depending on ongoing research projects at the Foreign Animal Disease Research Unit at the Plum Island Animal Disease Center (PIADC).

PIADC is the main U.S. laboratory facility performing research, vaccine development and diagnosis of foreign animal diseases of highest threat to the U.S. This critical national asset is located off the northeast coast of Long Island, New York, and accessible by government-provided ferry from Orient Point, New York, and Old Saybrook, Connecticut. One of the missions of PIADC is to develop technologies to help mitigate the risks of catastrophic economic losses caused by foreign animal disease (FAD) agents accidentally or deliberately introduced into the United States.

Research Project: At PIADC, participants will perform laboratory tests to evaluate the efficacy and potency of vaccine and antivirals against FADs. Research fellows will receive extensive training in biosafety and select agent protocols that will allow them to perform research in a Bio-Safety Level 3 containment laboratory and animal facility.

Common methodologies employed will include virus isolation, propagation, and titration; preparation of vaccines; determination of serum antibody titers using virus neutralization assays and/or ELISAs; evaluation of vaccine and biotherapeutic potency and efficacy in swine; and use of techniques of recombinant DNA technology, DNA sequencing, real time PCR, protein expression, tissue culture, construction of recombinant virus, Western blotting, light and fluorescence microscopy, flow cytometry among others. There are also in-house facilities for RNA-seq, scRNA-seq, microarray analysis, and bioinformatics.

Under the guidance of a mentor, the participant may be involved in the



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following activities:

- Study design for vaccination/biotherapeutic experiments involving exotic viral diseases of livestock
- Sample preparation from living livestock
- Tissue culture and virus isolation and titration
- Flow cytometry and cell sorting
- Serological assays
- Recombinant DNA and protein expression
- Gene expression analysis
- Drafting manuscripts reporting experimental results

Learning Objectives: Being stationed at PIADC offers prospective candidates with the opportunity of learning to work with select agents in livestock species and managing select agent inventories. Participants will have the opportunity of participating at national and international meetings, workshops and training courses for the advancement of their scientific careers in foreign animal diseases and emerging infectious animal diseases.

Mentor(s): The mentor for this opportunity is Dr. James Zhu (James.zhu@usda.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: As soon as a qualified candidate is identified. 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 ARS and is contingent on the availability of funds.

Level of Participation: The appointment is full-time.

Participant Stipend: The participant will receive a stipend and relocation allowance will be provided based on experience (starting at \$60,600) and location. A portion of health insurance and travel/training allowances will be provided.

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

Qualifications The qualified candidate must have or be completing a graduate (DVM, or Ph.D, or equivalent) degree in veterinary medicine, immunology, virology, microbiology or other discipline related to animal transmissible diseases. Degree must have been obtained within the last 5 years.

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Experience in flow cytometry, immunoassays, virus preparation, immune cell isolation, and RNA-seq/scRNA-seq are favorable.

Candidates must have or be eligible to obtain a high security clearance.

- Eligibility Requirements**

- **Citizenship:** U.S. Citizen Only
 - **Degree:** Doctoral Degree received within the last 60 months or currently pursuing.
 - **Discipline(s):**
 - **Life Health and Medical Sciences** ([Z](#)👁)
 - **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).