Opportunity Title: USDA-ARS Postdoctoral Fellowship in Swine Virus Research
Opportunity Reference Code: USDA-ARS-MW-2024-0096

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-MW-2024-0096

How to Apply ***Connect with ORISE...on the GO!*** Download the new ORISE GO mobile app in the Apple App Store or Google Play Store to help you stay engaged, connected, and informed during your ORISE experience and beyond!

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
- A copy of an abstract or reprint of an article

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

Description ***Applications are reviewed on a rolling-basis.**

ARS Office/Lab and Location: A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), located in Ames, Iowa.

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: The participant's specific project will involve assessing the immune response to viral infection in pigs, with an emphasis on understanding host-pathogen interactions at spatial, temporal, and cellular levels in mucosal tissues. The research project may be further shaped based on participant's specific expertise, interests, and goals, as well as emerging needs of the swine industry. *Ex vivo*, *in vitro*, and *in situ* techniques, including flow cytometry, qPCR, bulk RNA sequencing, single-cell RNA sequencing, spatial transcriptomics, immunohistochemistry, RNA *in situ* hybridization, and cell culture may be utilized as needed to investigate research questions. Data analysis and interpretation will also be critical aspects of the project. Computational analysis of transcriptomics data (bulk RNA-seq, single-cell RNA-seq, spatial transcriptomics) may also be incorporated into the project based on participant's expertise and

interest.

Learning Objectives: The participant will help conduct research to study the immune responses to viral challenge in pigs with the overall goal of identifying host-pathogen interactions that can be harnessed to identify and implement immunomodulatory intervention/prevention strategies applicable to the swine industry. The participant will be part of a multidisciplinary team and have the opportunity to participate in facets of the research process which may include scientific literature review, experimental planning, study execution, sample collection, sample processing, data retrieval, data analysis, and communication of research results.

Mentor(s): The mentor for this opportunity is Jayne Wiarda (jayne.wiarda@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: 2024. 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 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 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.

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 ORISE.ARS.Midwest@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should be currently pursuing or have received a doctoral degree in the one of the relevant fields. Degree must have been received within the past five years, or anticipated to be received by 12/31/2024.

Opportunity Title: USDA-ARS Postdoctoral Fellowship in Swine Virus Research
Opportunity Reference Code: USDA-ARS-MW-2024-0096

Preferred skills:

- Essential qualities include willingness to learn new skills, self motivation, independence, and enthusiasm for scientific research
- Ability to collaborate and communicate as a team member
- Willingness to handle livestock and post-mortem specimens
- Wet lab experience (e.g. pipetting, aseptic technique)
- Formal communication of scientific results (e.g. conference presentations, publications)
- Knowledge or willingness to learn basic concepts of immunology/virology
- Experience with some of the following assays: cell culture, cell isolations, nucleic acid isolations, immunohistochemistry, in situ hybridization, qPCR, flow cytometry, RNA-seq (bulk or single-cell)
- Computational experience with bulk RNA-seq or single-cell RNA-seq data analysis is beneficial but not required

Eligibility Requirements

- **Degree:** Doctoral Degree received within the last 60 months or anticipated to be received by 12/31/2024 12:00:00 AM.
- **Discipline(s):**
  - **Life Health and Medical Sciences** (21 👁)
- **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).

Affirmation

I affirm that:

I am a US Citizen, OR
I am a non-US Citizen currently living in the United States