Opportunity Title: USDA-ARS Vaccine and Bacteriophage Research for Aquatic Health
Opportunity Reference Code: USDA-ARS-SEA-2026-0116

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-SEA-2026-0116

How to Apply ***To submit your application, scroll to the bottom of this opportunity and click 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. 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.

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Application Deadline 5/8/2026 3:00:00 PM Eastern Time Zone

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

ARS Office/Lab and Location: A postdoctoral research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Stuttgart National Aquatics Research Center in Dr. Michael Deshotel's laboratory, located in Stuttgart, Arkansas.

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 primary focus of the laboratory is the control and prevention of bacterial diseases in warmwater fish, a critical issue for the U.S. aquaculture industry that causes annual economic losses estimated at over $300 million. The research involves using antibiotic alternatives and vaccine development to address this challenge.

The participant will be involved in projects evaluating novel therapeutic compounds, vaccines, and bacteriophages (phages) for the treatment and

prevention of bacterial diseases. On-going projects include:

- Identification of genes and pathways for disease resistance.
- Phage and lysin therapies, including mastering techniques for purifying and amplifying bacteriophages.
- Efficacy testing of novel antimicrobials, including conducting in vivo and in vitro studies to evaluate the efficacy and toxicity of novel compounds and phages.
- Vaccine development and conducting vaccine trials.

The candidate will collaborate closely with the principal investigator, support scientists, and technicians as part of a multidisciplinary team. They will research both independently and collaboratively, prepare peer-reviewed publications, and create conference presentations.

Learning Objectives: This opportunity offers significant professional development, including exposure to a Federal Research Environment, hands-on scientific experience, and the chance to contribute to high-impact research. The participant will learn to properly design and conduct studies and how to interpret experimental data to evaluate its usefulness for industry stakeholders.

Mentor(s): The mentor for this opportunity is Michael Deshotel (michael.deshotel@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: March 23, 2026. 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. **The anticipated stipend range is $55,000 - $90,000 annually.**

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

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

Qualifications

The qualified candidate should have received or be currently pursuing a doctoral degree in one of the relevant fields (Microbiology, Immunology, Physiology, Cell Biology, Biochemistry, Molecular Biology, or a related field in Biological Sciences).

Preferred skills:

- In vivo animal vaccines, antibody assays, flow cytometry, and chromatography
- Strong immunology and molecular biology background
- A record of peer-reviewed publications
- Well-versed in standard molecular, biochemical, and immunological techniques, cell culture-based assays, and PCR

Stipend

$55,000.00 – $90,000.00 Yearly

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Discipline(s):**
  - **Life Health and Medical Sciences** (20 👁)