

Opportunity Title: Vectors & Vector-Borne Disease Pathogens Molecular Inventory Fellowship at USAFSAM

Opportunity Reference Code: USAFSAM-2022-0001

Organization U.S. Department of Defense (DOD)

Reference Code USAFSAM-2022-0001

How to Apply Click on *Apply* at the bottom of the opportunity to start your application.

Description The U.S. Air Force School of Aerospace Medicine (USAFSAM) is offering a postgraduate fellowship. The host site for this fellowship is the Medical Entomology Laboratory at Wright-Patterson Air Force Base (WPAFB). The Medical Entomology Laboratory primarily provides identification and analysis of vector-borne and zoonotic disease surveillance samples submitted by Public Health personnel from locations worldwide, and conducts some applied research.

What will I be doing?

For this one year project, you will generate and analyze multiple target sequences from various arthropod disease vectors (ticks, mosquitoes) and vector-borne disease pathogens (viruses, bacteria) identified during surveillance. These data will be used to evaluate the taxonomic identity and relatedness of our samples to other taxa within their groups, infer the geographic origin of introduced arthropods, and attempt to resolve cryptic species diversity such as within the *Rhipicephalus sanguineus* (brown dog tick) complex. Learning challenges may include low representation of genetic markers in data repositories and less than optimal quality sample DNA/RNA. Overall sample sizes are small, ranging from four to 40 samples within a group of interest. Based on your interests, you may also have the opportunity to examine genetic diversity, pathogen virulence, associations with host animals or other characteristics of interest using these data.

Why should I apply?

The molecular marker inventory created for this project will constitute an Air Force installation baseline for these organisms/micro-organisms, against which future comparisons can be made across characteristics of interest. Sequences generated for some samples may be the first publicly available for specific locations or species, allowing you to contribute meaningfully to records of global biodiversity.

Where will I be located?

Dayton, Ohio

What is the anticipated start date?

USAFSAM is ready to make appointments immediately. Exact start dates will be determined at the time of selection and in coordination with the selected candidate. Applications are reviewed on an ongoing basis and fellowships will be filled as qualified candidates are identified.

What is the appointment length?

Appointments are initially for one year with the option to extend the appointment for up to four additional years, contingent upon project needs



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and funding availability.

What are the benefits?

You will receive a stipend to be determined by USAFSAM. Stipends are typically based on a participant's academic standing, discipline, experience, and research facility location. Other benefits may include the following:

- Health Insurance Supplement (*Participants are eligible to purchase health insurance through ORISE*)
- Relocation Allowance
- Training and Travel Allowance

About USAFSAM

This opportunity is with the Operations Support Branch Medical Entomology Laboratory, Epidemiology Consult Service in the Public Health and Preventive Medicine Department (PH) at the U.S. Air Force School of Aerospace Medicine (USAFSAM), in the 711th Human Performance Wing (HPW) of the Air Force Research Laboratory (AFRL) at Wright-Patterson Air Force Base in Dayton, OH. The 711th HPW is a unique combination of three units: the Airman Systems Directorate, USAFSAM and the Human Systems Integration Directorate. USAFSAM is the premier institute for research, education, and worldwide operational consultation in Aerospace Medicine. USAFSAM has guided the advancement of aerospace medicine and human performance from the beginnings of aviation through the onset of the space age and into the present, and is the oldest continually operating institution of its kind. It is also host to the largest aeromedical library in the world. For more information, visit <https://www.afrl.af.mil/711HPW/USAFSAM/>.

About ORISE

This program, administered by Oak Ridge Associated Universities (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 DoD. Participants do not enter into an employee/employer relationship with ORISE, ORAU, DoD or any other office or agency. Instead, you will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE. For more information, visit the [ORISE Research Participation Program at the U.S. Department of Defense](#).

Qualifications The qualified candidate will have a PhD or MS in molecular biology, ecology, vector biology, genetics, evolutionary biology, wildlife biology or a related discipline that includes courses in genetics/phylogenetics, population genetics, biodiversity informatics and/or molecular systematics of eukaryotic and/or prokaryotic organisms. Degree must have been received within five years of the appointment start date.

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Highly competitive applicants will have experience in one or more of the following:

- Nucleotide sequence analyses for phylogenies, inference of geographical origin or similar investigations
- Nucleic acid extractions, PCR methods and amplicon (Sanger) sequencing
- DNASTAR Lasergene, Geneious, MegAlign, ClustalW, or similar software involving nucleotide sequences and analysis
- Data repositories such as GenBank, BOLD Systems and EMBL-EBI

Application Requirements

A complete application consists of:

- Zintellect Profile
- Educational and Employment History
- Essay Questions (goals, experiences, and skills relevant to the opportunity)
- Resume (PDF)
- Transcripts/Academic Records - 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.](#)
- Two Recommendations. Your application will be considered incomplete and will not be reviewed until two recommendations are submitted. We encourage you to contact your recommenders as soon as you start your application to ensure they are able to complete the recommendation forms and to let them know to expect a message from Zintellect. Recommenders will be asked to rate your scientific capabilities, personal characteristics, and describe how they know you. You can always log back in to your Zintellect account and check the status of your application.

If you have questions, send an email to AIRFORCE@orise.orau.gov. Please list the reference code of this opportunity [USAFSAM-2022-0001] in the subject line of the email. Please understand that ORISE does not review applications or select applicants; selections are made by the sponsoring agency identified on this opportunity. All application materials should be submitted via the "Apply" button at the bottom of this opportunity listing. Please do not send application materials to the email address above.

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| Eligibility Requirements | <ul style="list-style-type: none">• Citizenship: U.S. Citizen Only• Degree: Master's Degree or Doctoral Degree received within the last 60 month(s).• Discipline(s): |
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- **Environmental and Marine Sciences** ([14](#) )
- **Life Health and Medical Sciences** ([48](#) )