

Opportunity Title: Computational Biologist
Opportunity Reference Code: AFSAM-2020-0006

Organization U.S. Department of Defense (DOD)

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How to Apply Components of the online application are as follows:

- Profile Information
- 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.](#)
- One Recommendation

Submitted documents must have all social security numbers, student identification numbers, and/or dates of birth removed (blanked out, blackened out, made illegible, etc.) prior to uploading into the application system.

If you have questions, send an email to AIRFORCE@orise.orau.gov. Please list the reference code of this opportunity in the subject line of the email.

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

Letter of Recommendation: While a letter of recommendation is not required to be considered, applicants are required to provide contact information for one recommendation in order to submit the application. Applicants are encouraged to request a letter of recommendation before submission as this may help reviewers have a better understanding of the applicant's qualifications and interests. If selected, a letter recommendation must be submitted on your behalf upon acceptance of the appointment.

Description Air Force Research Laboratory (AFRL), 711th Human Performance Wing (711 HPW), U.S. Air Force School of Aerospace Medicine (USAFSAM), Applied Technology and Genomics Division, is the Air Force's only infectious disease and precision medicine research laboratory, focusing on incorporating next generation sequencing and advanced analytics into pathogen identification, biosurveillance, disease surveillance, genetic determinants of health, and medical readiness. The mission is to leverage applied technology and genomics to enhance force health protection and precision medicine. For more information about the USAF School of Aerospace Medicine, please visit <https://www.wpafb.af.mil/afrl/711hpw/USAFSAM/>.

Under the guidance of a mentor, the ORISE participant will assist with next-generation sequencing projects: collecting research data and generating new tools for analyzing sequence data. The research will compare differentially abundant microorganisms or functional elements (genes and pathways) in control groups versus treated groups. The participant will evaluate various parameters of the tools such as sequence assembly, closely related genomes, binning and profiling.

Specific aims of research include:

- 1) Analyze data from clinical, environmental, and insect whole-genome and 16S sequencing for new and existing analysis packages.




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- 2) Set specific evaluation criteria for each dataset (e.g., viral hits, novel viral hits, bacterial background removal, human target removal, antibiotic markers, mutations).
- 3) Create a flow-chart of sample processing and analysis for routine surveillance to further streamline final reporting.

Appointment Length

This appointment is a twelve month research appointment, with the possibility to be renewed for additional research periods. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant.

Participant Benefits

Participants will receive a stipend to be determined by USAFSAM. Stipends are typically based on the 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

Nature of Appointment

The participant will not enter into an employee/employer relationship with ORISE, ORAU, DOD, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.




While participants will not enter into an employment relationship with DOD or any other agency, this opportunity will require a suitability investigation/background investigation. Any offer made is considered tentative pending favorable outcome of the investigation.

Qualifications

Candidate should have a master's degree in computational biology, bioinformatics, or related field. Or a bachelor's degree in a similar discipline with demonstrated experience. Candidate should be proficient in Linux/Unix environments, well-versed in at least one scripting language (e.g. Python, Perl, Bash), experienced in data visualization solutions (e.g. Python, R, Tableau), and adept at interpreting/modifying other people's code. The candidate will be expected to think and work independently and to prioritize tasks and time effectively. Prior experience in the analysis of sequencing data is a plus.

Desired Appointment Start Date: 9/21/2020

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree or Master's Degree received within the last 12 months or currently pursuing.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** (2 )
 - **Computer, Information, and Data Sciences** (16 )
 - **Environmental and Marine Sciences** (1 )

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- **Life Health and Medical Sciences** (45 👁)
- **Mathematics and Statistics** (1 👁)
- **Age:** Must be 18 years of age