

Opportunity Title: CDC Bioinformatics Fellowship
Opportunity Reference Code: CDC-NCIRD-2020-0130

Organization Centers for Disease Control and Prevention (CDC)

Reference Code CDC-NCIRD-2020-0130

How to Apply 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
- One educational or professional recommendation. Your application will be considered incomplete, and will not be reviewed until one recommendation is submitted.

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

If you have questions, send an email to ORISE.CDC.NCIRD@orau.org. Please include the reference code for this opportunity in your email.

Application Deadline 7/3/2020 3:00:00 PM Eastern Time Zone

Description *Applications will be reviewed on a rolling-basis.

Two research opportunities are currently available with the Division of Viral Diseases (DVD), National Center for Immunization and Respiratory Diseases (NCIRD), at the Centers for Disease Control and Prevention (CDC) located in Atlanta, Georgia.

DVD is responsible for surveillance of many viruses associated with vaccine preventable and non-vaccine preventable diseases. The availability of next-generation sequencing (NGS) technologies now makes it possible to routinely obtain full genomic sequence information from clinical samples. As part of implementing Advanced Molecular Detection methodologies for DVD, development of standardized bioinformatics pipelines is key for ensuring timely and accurate analysis of genomic sequencing data for viruses.

To help accomplish this goal, the selected participant will join the DVD NGS Core Bioinformatics Team. Under the guidance of a mentor, opportunities include:

- Evaluating existing bioinformatics protocols for analysis of NGS data from short-read (Illumina) and long-read (PacBio, Oxford Nanopore) platforms, to determine which is most suitable for efficient sequencing of RNA viruses
- Contribute to maintenance, testing and development of an automated NGS bioinformatics pipeline (VPipe) currently utilized by both the Division and external public health scientists for analysis of NGS data
- Optimizing and standardizing bioinformatics protocols, and to develop efficient workflows for generation of whole genome sequences for viruses studied in DVD (i.e., polioviruses, measles virus, rotaviruses, etc.). Particular focus will be spent on development of automated pipelines for analysis of Oxford Nanopore data.
- Participate in the development of solutions for integration of sequencing and epidemiological databases
- Management of NGS data, annotation, and submission of sequence data to




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public databases (i.e. NCBI)

The results of this research project will provide DVD with optimized standardized bioinformatics workflows for assembly and annotation of genome data for viruses, to support surveillance for vaccine-preventable and other viral diseases. The selected participant will collaborate with subject matter experts and team members who are performing research on various viruses throughout DVD, and will provide bioinformatics support for analysis of data derived from several NGS platforms (e.g., Illumina, PacBio, Oxford Nanopore).

Anticipated Appointment Start Date: July 13, 2020

This program, administered by ORAU through its contract with the U.S. Department of Energy to manage the Oak Ridge Institute for Science and Education, was established through an interagency agreement between DOE and CDC. The initial appointment can be up to one year, but may be renewed upon recommendation of CDC contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. The appointment is full-time at CDC in the Atlanta, Georgia, area. Participants do not become employees of CDC, DOE or the program administrator, and there are no employment-related benefits.

Qualifications

The qualified candidate should have received a bachelor's or master's degree in one of the relevant fields, or be currently pursuing one of the degrees and will reach completion by the start date of the appointment. Degree must have been received within five years of the appointment start date.

Preferred skills:

- Experience in bioinformatics and scripting (e.g. Linux/command line, R, Python and/or Perl)
- Experience in molecular biology

Eligibility Requirements

- **Degree:** Bachelor's Degree or Master's Degree received within the last 60 months or anticipated to be received by 7/13/2020 11:59:00 PM.
- **Discipline(s):**
 - **Computer, Information, and Data Sciences** (2 👁)
 - **Life Health and Medical Sciences** (12 👁)