Opportunity Title: CDC Research Opportunity in Bioinformatics
Opportunity Reference Code: CDC-NCHHSTP-2021-0298

Organization	Centers for Disease Control and Prevention (CDC)
Reference Code	CDC-NCHHSTP-2021-0298
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
- 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.

Description

Applications will be reviewed on a rolling-basis, and this opportunity will remain open until filled.

CDC Office and Location: A research opportunity is currently available with the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) at the Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia.

Research Project: Under the guidance of a mentor, the participant will develop methods for detecting homologous recombination events using whole genome data of clinically relevant pathogenic bacteria for the potential application of improving the molecular surveillance of antimicrobial resistance. In addition, the participant will have the opportunity to learn about harmonizing genome-based analysis pipelines from different clinically relevant bacteria into a unified pipeline. The participant will be involved with a branch that is responsible for the growth of genomics in public health through the successful and timely execution of bioinformatics projects.

Learning Objectives:

- Providing customized or guided computational support within a team environment. Co-evaluating existing methods for genomic data analysis
- Performing bioinformatics analyses of large-scale genomics data. Processing data through genomic data analysis pipelines.
- Supporting various research projects as assigned by supervisor. Teaming with department personnel and researchers in the institution.
- Supporting the development of new methods for genomics data analysis
- Helping to integrate statistical analysis to project design and data interpretations
- Participating in the preparation of summaries, presentations, manuscript sections and figures for the visualization and publication of complex data and results
- Enhancing professional growth and development by reviewing current literature and by participation in educational programs, workshops, conferences, and in-service meetings

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Mentor(s): The mentor for this opportunity is Sandeep Joseph (lww9@cdc.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: As soon as a qualified candidate is identified. 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 CDC 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 and Lawful Permanent Residents (LPR) 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 CDC. Participants do not become employees of CDC, 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.CDC.NCHHSTP@orau.org and include the reference code for this opportunity.

Qualifications

The qualified candidate should be currently pursuing or have received a bachelor's or master's degree in one of the relevant fields. Degree must have been received within the past five years.

Preferred skills:
- Demonstrated technical activity involvement
- Knowledge of NGS technology and concrete skills in bioinformatics analysis for Illumina NGS data
- Knowledge of prokaryotic genomics and phylogenetics
- Interest in antibiotic susceptibility and resistance mechanisms
- Proficiency in at least one high level scripting and programming language (e.g. Python (preferred), JAVA, R, C++)
- Knowledge of a Linux environment, running a cluster using SGE and BASH shell scripting
- Knowledge of application programming interfaces (APIs) and their development
- Knowledge of statistical or mathematical analysis packages
- Strong oral and written communication skills and strong interpersonal skills
- Demonstrate initiative in evaluating and experimenting with new technologies

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Bachelor's Degree or Master's Degree received within the last

60 months or currently pursuing.

- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (3 👁)
  - **Life Health and Medical Sciences** (7 👁)
  - **Mathematics and Statistics** (1 👁)