

Opportunity Title: CDC AMD Bioinformatics Internship
Opportunity Reference Code: CDC-NCEZID-DVBD-2022-0372

Organization Centers for Disease Control and Prevention (CDC)

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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.

Application Deadline 12/26/2022 3:00:00 PM Eastern Time Zone

Description ***Applications will be reviewed on a rolling-basis, and this opportunity will remain open until a qualified candidate is identified.**

CDC Office and Location: This research opportunity is available with the Rickettsial Zoonoses Branch (RZB), Division of Vector-Borne Diseases (DVBD) at the Centers for Disease Control and Prevention (CDC) located in Atlanta, Georgia.

Research Project: RZB is responsible for investigations into the pathogenesis, distribution, and control of unique obligate intracellular bacteria from the genera *Rickettsia*, *Anaplasma*, *Ehrlichia*, *Orientia*, and *Coxiella* which are transmitted by infected ticks, fleas, lice, and mites. As part of these efforts, RZB has recently implemented a project to expand and improve tick surveillance in the United States through the development and implementation of advanced molecular techniques for pathogen detection and tick species identification for medically important, human-biting ticks. The use of next generation sequencing methodologies allows for the high-throughput screening of samples, and development of bioinformatic pipelines is crucial for the timely and accurate analysis of this data.

Learning Objectives:

- Evaluate existing bioinformatic pipeline in CLC Genomic Workbench
- Develop new bioinformatic data workflow, including writing new pipeline components to facilitate analysis of next-gen (Illumina MiSeq) data, including writing new code as required
- Documentation for code and pipelines
- Development of database for analysis and retrieval of sequences as needed
- Management of next-gen sequence data, annotation, and submission of sequence data to public databases (e.g. NCBI)



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Mentor(s): The mentor for this opportunity is Sandor Karpathy (evu2@cdc.gov). If you have questions about the nature of the research, please contact the mentor.

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, Lawful Permanent Residents (LPR), and foreign nationals. Non-U.S. citizen applicants should refer to the [Guidelines for Non-U.S. Citizens Details](#) page of the program website for information about the valid immigration statuses that are acceptable for program participation.

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.

The successful applicant(s) will be required to comply with Environmental, Safety and Health (ES&H) requirements of the hosting facility, including but not limited to, COVID-19 requirements (e.g. facial covering, physical distancing, testing, vaccination).

Questions: Please visit our [Program Website](#). After reading, if you have additional questions about the application process please email ORISE.CDC.NCEZID@orau.org and include the reference code for this opportunity.

Qualifications The qualified candidate should have received a bachelor's, master's, or doctoral degree in one of the relevant fields, or be currently pursuing the degree with completion before the appointment start date. Most recent degree must have been received within the past five years.

- Eligibility Requirements**
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or currently pursuing.
 - **Discipline(s):**
 - **Computer, Information, and Data Sciences** ([1](#) )
 - **Life Health and Medical Sciences** ([5](#) )

Affirmation I certify that I have not previously been employed by CDC or by a contractor working directly for CDC. I understand that CDC does not permit individuals with a prior employment relationship with CDC or its contractors

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to participate as trainees in the ORISE program. (Exceptions may be granted for individuals who, since the previous CDC employment, have obtained a new STEM degree which necessitates training in a new field.)