zintellect
climb higher

Opportunity Title: CDC Enteric Diseases Genome Characterization Fellowship
Opportunity Reference Code: CDC-NCEZID-DFWED-2023-0129

Organization Centers for Disease Control and Prevention (CDC)

Reference Code CDC-NCEZID-DFWED-2023-0129

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.

Application Deadline 7/19/2023 3:00:00 PM Eastern Time Zone

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

CDC Office and Location: A research opportunity is available with the Division of Foodborne, Waterborne, and Environmental Diseases (DFWED) in the National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), Enteric Disease Laboratory Branch (EDLB) at the Centers for Disease Control and Prevention (CDC) located in Atlanta, Georgia.

Health and Human Services. CDC works to protect America from health, safety and security threats, both foreign and in the U.S. Whether diseases start at home or abroad, are chronic or acute, curable or preventable, human error or deliberate attack, CDC fights disease and supports communities and citizens to do the same.

Research Project: The selected participant will be involved with an EDLB program on foodborne and diarrheal bacterial diseases. The Bioinformatics and Metagenomics Team's – Applied Bioinformatics Group conducts research into the molecular epidemiology and molecular characterization of enteric pathogens. Whole genome sequencing (WGS) has transformed molecular surveillance for foodborne pathogens; while many foodborne outbreaks are single-occurrence point source outbreaks, WGS-based surveillance has revealed that there are several strains of enteric pathogens that are reoccurring, emerging, or persisting (REP). These REP strains require enhanced genomic study to facilitate a better understanding of their epidemiology and genomic characteristics to improve tracking and to inform prevention efforts. This research project aims to characterize REP strains of foodborne pathogens using advanced genomics methods to understand the phylodynamics of emerging strains.

Learning Objectives: The fellow will select and employ advanced bioinformatics approaches (for example: molecular clock analysis, phylogeographic analysis, etc. REP strains identified for additional characterization include multi-drug resistant (MDR) Salmonella Hadar

associated with poultry, MDR Salmonella Newport associated with beef and Mexican soft cheese, Listeria monoyctogenes associated with potatoes, and Listeria monoycotogenes associated with Mexican soft cheese. Characterization of one or more of these strains will provide opportunities to publish in peer reviewed journals. To aid in their professional development, the fellow will have access to a variety of CDC trainings in genomics, data science, and bioinformatics in addition to opportunities to present at scientific conferences.

Mentor(s): The mentors for this opportunity are Jessica Chen (lly3@cdc.gov) and Lee Katz (gzu2@cdc.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: June 1, 2023. 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 part-time (20 hours per week).

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 master's degree or is currently pursuing an advanced degree in one of the relevant fields (e.g.

Opportunity Title: CDC Enteric Diseases Genome Characterization Fellowship
Opportunity Reference Code: CDC-NCEZID-DFWED-2023-0129

Computer Sciences, Life, Health, and Medical Sciences, or Mathematics and Statistics). Degree must have been received within the past five years.

Preferred skills:

- Excellent oral and written communication skills
- UNIX command line bioinformatics tools
- Phylogenetics analysis
- Experience conducting phylodynamic analysis in BEAST or NextStrain

Eligibility Requirements

- **Degree:** Master's Degree received within the last 60 months or currently pursuing.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (17 👁)
  - **Life Health and Medical Sciences** (48 👁)
  - **Mathematics and Statistics** (11 👁)

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 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.)