Opportunity Title: CDC Parasitic Diseases Bioinformatics Fellowship on Trichomonas
Opportunity Reference Code: CDC-CGH-2022-0128

Organization Centers for Disease Control and Prevention (CDC)

Reference Code CDC-CGH-2022-0128

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 5/31/2022 11:59:00 PM Eastern Time Zone

Description

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

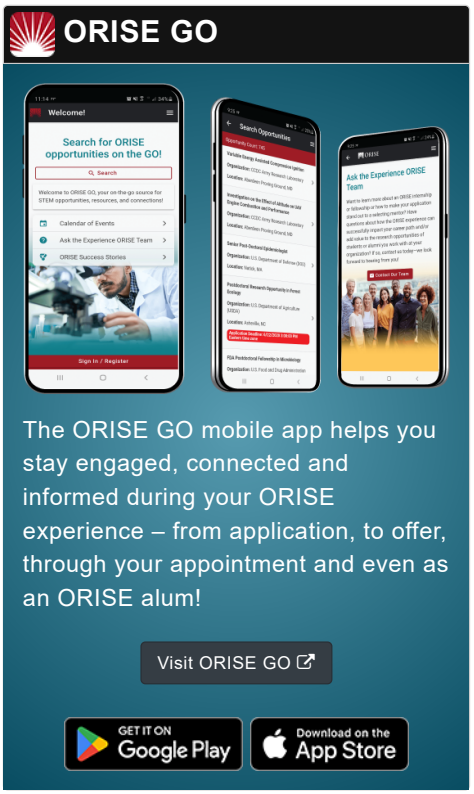
CDC Office and Location: A research opportunity is available within the Division of Parasitic Diseases and Malaria (DPDM) in the Center for Global Health (CGH) at the Centers for Disease Control and Prevention (CDC) located in Atlanta, Georgia.

The Centers for Disease Control and Prevention (CDC) is one of the major operation components of the Department of 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. This fellowship is in the Division of Parasitic Diseases within the Center for Global Health.

Research Project: The parasite *Trichomonas vaginalis* causes the most common non-viral sexually transmitted illness, trichomoniasis, with a global incidence of >220 million. Approximately 5 million new cases occur in the U.S. annually. Chronic *T. vaginalis* infections are serious; infertility, preterm birth, and low birthweights may ensue in women. Chronically infected men may become infertile. The 5-nitroimidazole drugs metronidazole and tinidazole, are the only approved treatments for trichomoniasis and resistance against these drugs is increasing.

This project aims to develop a next generation sequencing based genotyping system for *T. vaginalis* that will help us to elucidate

OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION



this parasites population structure. With this genotyping tool, we hope to potentially distinguish between parasite populations that are resistant and those that are susceptible to 5-nitroimidazoles. Understanding whether specific *T. vaginalis* populations are associated with defined resistance phenotypes will help us to develop more rapid, sequencing-based methods to identify resistance, informing rapid clinical decision making, and improving long-term patient outcomes.

As part of this project, the fellow will be trained in next generation sequencing library preparation and Illumina MiSeq sequencing for targeted amplicon sequencing and whole genome sequencing applications.

Learning Objectives: The fellow will be trained to become highly competent in the development and application of custom bioinformatic workflows for analysis of whole genome sequence data and deep sequenced amplicon data. The fellow will be trained in the development of novel Polymerase Chain Reactions (PCRs) for the purposes of elucidating population structure and will be trained in basic principles in population genetics. The fellow will also be trained in parasite (*Trichomonas*) cultivation techniques.

Mentor(s): The mentor for this opportunity is Joel Barratt (nsk9@cdc.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: July 2022. 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.

Opportunity Title: CDC Parasitic Diseases Bioinformatics Fellowship on Trichomonas
Opportunity Reference Code: CDC-CGH-2022-0128

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.CGH@orau.org and include the reference code for this opportunity.

Qualifications

The qualified candidate should have received a doctoral degree in one of the relevant fields. Degree must have been received within the past five years.

Experience with molecular biology techniques such as PCR, DNA extractions, sequencing library prep, and proficiency in Python and/or R is preferred.

Eligibility Requirements

- **Degree:** Doctoral Degree received within the last 60 month(s).
- **Academic Level(s):** Postdoctoral.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Computer, Information, and Data Sciences** (17 👁)
  - **Engineering** (27 👁)
  - **Life Health and Medical Sciences** (48 👁)
  - **Mathematics and Statistics** (11 👁)