

**Opportunity Title:** CDC Fellowship in Molecular Surveillance of Arboviral Vectors

**Opportunity Reference Code:** CDC-NCEZID-DVBD-2023-0131

**Organization** Centers for Disease Control and Prevention (CDC)

**Reference Code** CDC-NCEZID-DVBD-2023-0131

**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 fellowship opportunity is available in the National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), Division of Vector-Borne Diseases (DVBD), at the Centers for Disease Control and Prevention (CDC) in Fort Collins, Colorado.

The CDC is one of the major operational components of the U.S. Department of Health and Human Services (HHS). 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.

The DVBD is a national and international leader in researching, preventing, and controlling viruses and bacteria spread by vectors including mosquitoes, ticks, and fleas. Our staff includes entomologists, epidemiologists, molecular biologists, laboratorians, microbiologists, physicians, veterinarians, virologists, and zoologists.

**Research Project:** The fellow will support research activities associated with DVBD's Arboviral Diseases Branch (ADB), Virology Team projects. Current projects include the following: 1) Identifying genetic changes associated with insecticide resistance in mosquitoes, and subsequent development of PCR based assays to test for such changes. 2) Population genetics in *Culex pipiens* complex and *Aedes aegypti* mosquitoes using microsatellite markers. 3) Using Nanopore sequencing to conduct exome sequencing of potentially important mosquito vectors of arboviral diseases. 4) Using an enrichment protocol to capture and sequence arboviral genomes from pools of vector mosquitoes.

Training for the selected participant will include primer panel design, and



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assay optimization (specimen rearing and preparation, nucleic acid extraction, real-time and regular PCR, Illumina and Nanopore sequencing library preparation, sequencing) with an eye towards using barcodes to maximize the number of specimens sequenced in a run. The participant will learn how to operate instrumentation such as next-generation sequencers, thermal cyclers, quantification instruments, and fragment analyzers. As well, training will include assisting in the development of data analysis pipelines.

The participant will also have the opportunity to conduct research on other projects underway within the Virology Team and other Teams in ADB. If the participant wishes to develop their own, additional, related side project, we are open to discussing that as well.

**Learning Objectives:** As a result of this training, the participant will gain or improve skills in laboratory techniques used in molecular surveillance of arboviral vectors, including maintaining good records in laboratory notebooks, and troubleshooting unexpected results in order to optimize processes.

As a result of this training, the participant will improve their skills in genetic data analysis, and have the opportunity to contribute to scientific manuscripts describing research projects in which they are involved.

**Mentor(s):** The mentor for this opportunity is Linda Kothera ([lkothera@cdc.gov](mailto:lkothera@cdc.gov)). If you have questions about the nature of the research, please contact the mentor(s).

**Anticipated Appointment Start Date:** July 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 full-time.

**Participant Stipend:** The participant will receive a monthly stipend commensurate with educational level and experience. **The compensation levels are equivalent to the federal GS pay scale: MS: GS-9 Step 1, PhD with no experience: GS-11, Step 1, PhD with two years' relevant experience: GS-12, Step 1. A stipend to purchase health insurance is included.**

**Citizenship Requirements:** This opportunity is available to U.S. citizens 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.

The successful applicant(s) will be required to comply with Environmental,


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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](mailto:ORISE.CDC.NCEZID@orau.org) and include the reference code for this opportunity.

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

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
  - **Degree:** Master's Degree or Doctoral Degree received within the last 60 months or currently pursuing.
  - **Discipline(s):**
    - **Life Health and Medical Sciences** ([48](#) )

**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.)