

Opportunity Title: CDC Public Health Bioinformatics Fellowship

Opportunity Reference Code: CDC-NCEZID-CVDB-2024-0124

Organization Centers for Disease Control and Prevention (CDC)

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How to Apply *To submit your application, scroll to the bottom of this opportunity and click **APPLY**.*

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.

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

CDC Office and Location: A public health laboratory training research opportunity is available in the Chronic Viral Diseases Branch (CVDB) within the Division of High-Consequence Pathogens and Pathology (DHCPP) of the National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) at the Centers for Disease Control and Prevention (CDC), located in Atlanta, Georgia.

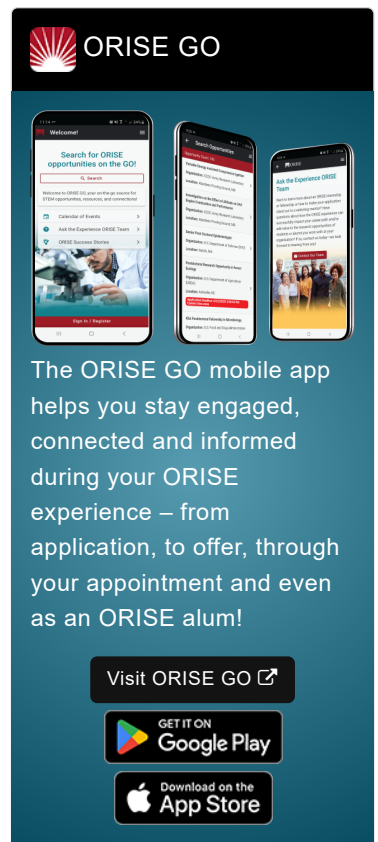
The Centers for Disease Control and Prevention (CDC) is one of the major operation components of the Department of Health and Human Services. CDC works to protect America from health, safety and security threats, both foreign and in the U.S. Whether diseases start at home or abroad, are chronic or acute, curable or preventable, human error or deliberate attack, CDC fights disease and supports communities and citizens to do the same.

CVDB's activities include laboratory-based method development and studies of human papillomavirus (HPV) infection, HPV vaccine effectiveness, and HPV-associated diseases to enable effective control and prevention. HPV is the most common sexually transmitted virus in the U.S and can cause some cancers, warts, and recurrent respiratory papillomatosis. The branch's HPV surveillance projects include the National Health and Nutrition Examination Survey ([NHANES](#)), Human Papillomavirus Vaccine Impact Monitoring Project ([HPV-IMPACT](#)), and supporting partners in other countries.

Research Project: CVDB has many advanced molecular detection assays and materials. These include those that have been developed in-house (PMCID: [PMC7911781](#), [PMC5328449](#), [PMC10527912](#), [PMC11059205](#))





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and adopted from elsewhere ([PMC10436062](#), [PMC6498001](#)). CVDB is developing bioinformatics to examine data from our next-generation sequencing (NGS) assays for viral integration into the host genome, HPV e6/e7 mRNA splice variants, and identification of new HPV types. Bioinformatics also is needed to develop techniques to monitor laboratory quality ([QMS Tools and Resources](#) and [The Next Generation Sequencing Quality Initiative](#)). These data are used to monitor HPV vaccine impact and inform recommendations on HPV vaccination ([Human Papillomavirus \(HPV\) ACIP Vaccine Recommendations](#)).

The participant will develop experience with several projects involving data management, analysis, and visualization. The fellow will develop supporting skills applicable to a wide range of disciplines: collaborating with a team, project management, written and oral communication, supply inventory management, laboratory safety, and QMS. Activities may include:

- Analysis of HPV nucleic acid by next-generation sequencing bioinformatics.
- Validation of software and scripts in accordance with QMS.
- Recording and maintaining records detailing experiments and results.
- Use of electronic databases (e.g. Microsoft Access, SQL and laboratory information systems [LIMS]).
- Analysis and visualization with R, PowerBI, Python, and CLC Genomics
- Use high-performance and cloud computing.
- Operating in Linux and Windows environments.
- Applying git for version control.
- Drafting internal reports of tasks performed as they are requested.
- Adhering to quality control and safety procedures.
- Assisting in laboratory quality management activities as assigned.
- Attending weekly departmental meetings that address current scientific activities of the branch.
- Participating in the CDC Fellows Professional Development Collective which offers periodic seminars, career mentorship, and networking with other fellows across the CDC.
- Supplementing mentor-lead training with CDC trainings or external online courses to further develop new skills that support the team's goal and personal career path.

Learning Objectives: Under mentor guidance, the fellow will be trained to apply bioinformatics techniques to HPV research, surveillance, and laboratory quality. In addition to mentor guidance, the fellow's development will be supported by various resources at CDC including a team of public health laboratory scientists, Quality Management Systems (QMS) Officer, CDC/ATSDR R User Group, CDC/ATSDR Statistical Advisory Group (SAG), and Office of Scientific Computing and Bioinformatics Support.

Mentor(s): The mentor for this opportunity is Troy Querec (hep0@cdc.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: August 19, 2024. Start date is

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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: Stipend rates may vary based on numerous factors, including opportunity, location, education, and experience. If you are interviewed, you can inquire about the exact stipend rate at that time and if selected, your appointment offer will include the monthly stipend rate.

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, 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 in one of the relevant fields. Degree must have been received within the past five years.

Preferred Skills:




- Applied coding experience outside of a classroom setting
- Experience with bioinformatics software and pipelines
- Experience with Microsoft Office (Excel and Access)
- Strong written and oral communication skills
- Ability to collaborate well on a team
- Interest in public health research

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree received within the last 60 month(s).
- **Discipline(s):**
 - **Computer, Information, and Data Sciences** ([17](#) )

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- **Life Health and Medical Sciences** ([51](#) )
- **Mathematics and Statistics** ([11](#) )
- **Physics** ([16](#) )

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.)