

Opportunity Title: CDC Data Science Fellowship
Opportunity Reference Code: CDC-DFWED-2020-0032

Organization Centers for Disease Control and Prevention (CDC)

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How to 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

All documents must be in English or include an official English translation.

If you have questions, send an email to ORISE.CDC.NCEZID@orau.org. Please include the reference code for this opportunity in your email.

Application Deadline 12/27/2019 3:00:00 PM Eastern Time Zone

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

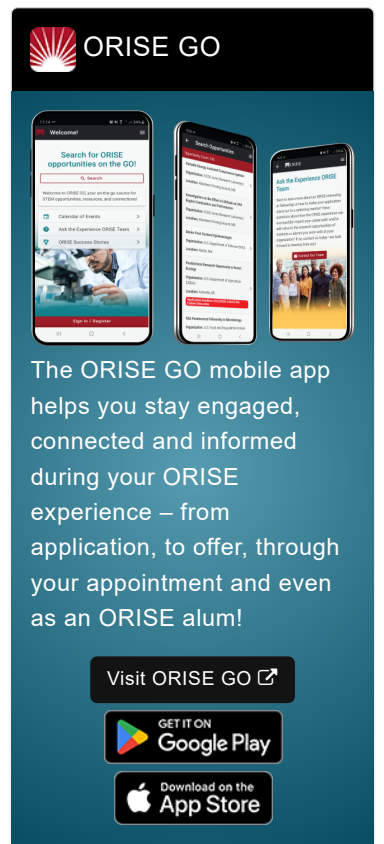
A research opportunity is currently available in the Surveillance, Information Management, and Statistics Office (SIMSO), within the Division of Foodborne, Waterborne, and Environmental Diseases (DFWED) in the National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) at the Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia.

DFWED is dedicated to improving public health through the prevention and control of disease, disability, and death caused by foodborne, waterborne, and environmentally transmitted infections. Working with epidemiologists and laboratory scientists in DFWED's five branches, SIMSO develops and applies analysis and visualization techniques to help gain insights from multiple data sources. SIMSO consists of a motivated, highly skilled, and dynamic group of statisticians and IT professionals who work on a variety of complex projects.

The participant will collaborate with experts in the fields of epidemiology, laboratory sciences, and bioinformatics to develop and apply statistical methods for the analysis of whole genome sequence data and other "big data" resulting from CDC's Advanced Molecular Detection (AMD) initiative. The participant will contribute to developing, evaluating, and validating machine learning algorithms for outbreak detection for multiple pathogens. Reports summarizing findings and tools for implementing finalized algorithms will be produced. The participant will also be involved in the interpretation of results and will participate in providing the Division and external partners with training on tools developed.


Under the guidance of a mentor, the participant will be involved in opportunities that may include:


- Evaluating, extending, and contributing to developing methods for detection and characterization of clusters of foodborne, waterborne and environmental diseases
- Collaborating with others in the Division to prepare complex datasets, often involving data from multiple sources, for the purpose of cluster detection
- Participating with Division branches on statistical and machine learning projects, studies, and investigations involving cluster detection and characterization
- Collaborating with others in the Division to produce software implementation of cluster detection tools
- Contributing to presentations for professional meetings and participating in the writing of




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- reports and published manuscripts
- Collaborating and coordinating with Division Branches, including the Enteric Disease Epidemiology and Laboratory Branches and the Outbreak Response and Prevention Branch, as well as other scientific groups

This program, administered by ORAU through its contract with the U.S. Department of Energy to manage the Oak Ridge Institute for Science and Education, was established through an interagency agreement between DOE and CDC. The initial appointment can be up to one year, but may be renewed upon recommendation of CDC contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. The appointment is full-time at CDC in the Atlanta, Georgia, area. Participants do not become employees of CDC, DOE or the program administrator, and there are no employment-related benefits.

Qualifications The qualified candidate should be currently pursuing or have received a master's or doctoral degree (preferred) in one of the relevant fields. Degree must have been received within five years of the appointment start date.

Preferred skills:

- Strong background in biostatistics or statistics
- Relevant public health experience including basic knowledge of the field of epidemiology
- Experience with study design, including sample size and power calculations
- Familiarity with statistical and machine learning techniques
- Ability to make use of our computational cluster to analyze high-throughput data
- Experience collaborating with scientists, including microbiologists and epidemiologists, on research projects
- Experience with data visualization techniques and statistical methods used for analysis of high-dimensional data, including cluster analysis methods
- Skills to conduct statistical analysis and apply machine learning algorithms in R, SAS, or other statistical or computational software
- Experience with R Shiny and R Markdown as well as scripting experience in Linux, Perl, Python, or Matlab

- Eligibility Requirements**
- **Degree:** Master's Degree or Doctoral Degree received within the last 60 months or currently pursuing.
 - **Discipline(s):**
 - **Communications and Graphics Design** ([1](#) )
 - **Computer, Information, and Data Sciences** ([3](#) )
 - **Life Health and Medical Sciences** ([3](#) )
 - **Mathematics and Statistics** ([3](#) )