Opportunity Title: CDC Biostatistics, Statistics, Mathematical Statistics for Respiratory Virus Epidemiology
Opportunity Reference Code: CDC-NCIRD-2024-0220

Organization Centers for Disease Control and Prevention (CDC)

Reference Code CDC-NCIRD-2024-0220

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 research opportunity is available in the Centers for Disease Control and Prevention (CDC), with the Biostatistics, Economics and Modeling Unit (BEaM), in the Coronavirus and Other Respiratory Viruses Division (CORVD) located at 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.

CDC's Coronavirus and Other Respiratory Viruses Division (CORVD) in the National Center for Immunization and Respiratory Diseases (NCIRD) is dedicated to development and advancement of biomedical research to "improve the health of people by preventing illness, disability, and death from respiratory viruses induced diseases through public health science and practice in the United States and globally". The Biostatistics, Economics and Modeling (BEaM) Unit, works with epidemiologists and laboratory scientists in the Division's four branches to adapt existing analytical methodology and develop new techniques for statistical analysis.

Research Project: The fellow will train with BEaM's statisticians, economists, and modelers and collaborate with the branches in the Division in the area of study design and statistical analysis. The fellow will train in Mathematical Statistics, mentored by senior statisticians in BEaM and will collaborate with epidemiologists and laboratory scientists in CORVD's four

branches. The fellow will learn to apply Bayesian and frequentist analytical techniques, including conditional autoregressive random effects models and probabilistic multiplier models to estimate the burden of COVID-19, RSV, and other respiratory viruses in the United States. This will include collaborating with informatics specialists to automate processes. Various statistical methodologies, adapted from existing and newly developed methods, will be applied to explore the epidemiology and biological science of respiratory viruses, including examining and improving the understanding of viral interference between respiratory viruses. In addition to providing statistical analysis and modeling support, the fellow will gain hands-on experience in the areas of study design, data visualization, and the use of statistical software, as well as authoring and coauthoring publications.

Dissertation data and topic may be available for qualified candidates.

Learning Objectives: The main focus will be training with experts in the fields of statistics, biostatistics, epidemiology, laboratory science to apply/develop statistical methods and tools. The fellow's training projects will include, but are not limited to:

- Evaluating, extending, and developing methods of statistical analysis and applying these to improve understanding of the epidemiology of respiratory viruses using real world data
- Statistical analysis of complex research projects involving epidemiology and laboratory data, including statistical and mathematical model development and diagnostics, and interpretation and presentation of results
- Training with senior statisticians as well as epi and lab subject matter experts to perform complex statistical advisory and consultation functions that involve unconventional or novel issues and reviewing and learning from the statistical work of other statisticians and scientists in the Division.
- Presenting research at professional meetings and participating in the writing of reports and published manuscripts
- Collaborating with other BEaM staff to coordinate the Biostatistics Seminar Series; preparing and presenting talks on various topics in statistical methodology
- Collaborating with informatics subject matter experts to implement cloud technologies to automate data processing, analysis, and visualizations.

Mentor(s): The mentor for this opportunity is Gordana Derado (uwx8@cdc.gov). If you have questions about the nature of the research please contact the mentor(s).

Anticipated Appointment Start Date: January 6, 2025 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.

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

Qualifications The qualified candidate should be currently pursuing or have received a master's or doctoral degree in the one of the relevant fields (Biostatistics, Statistics, Mathematics, or other relevant discipline). Degree must have been received within the past five years, or be currently pursuing. Preference will be given to candidates pursuing a doctoral degree who are ABD and candidates that have completed a doctoral degree are encouraged to apply.

Preferred skills:

- Strong background in statistics/biostatistics, including Bayesian statistics.
- Basic understanding of epidemiological methods
- Experience with data visualization techniques and statistical methods used for analysis of high-dimensional data
- Programming skills to conduct statistical analysis e.g., in R, SAS, Python, Stata, Matlab, or other computational software.
- Familiarity with PowerBI or similar data visualization tools

Point of Contact Michele Morrison

Eligibility

- **Degree:** Master's Degree or Doctoral Degree received within the last 60

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Requirements

months or currently pursuing.

- **Discipline(s):**
  - **Engineering** (1 👁)
  - **Mathematics and Statistics** (4 👁)
  - **Social and Behavioral Sciences** (1 👁)

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.)