

Opportunity Title: Environmental Quality Index Water Domain, Aquatic Condition, Watershed Integrity and Public Health

Opportunity Reference Code: EPA-ORD-NHEERL-EPHD-2016-11

Organization U.S. Environmental Protection Agency (EPA)

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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
- Two educational or professional references

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

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

Description A research opportunity is currently available at the U.S. Environmental Protection Agency's (EPA) Office of Research and Development (ORD)/National Health and Environmental Effects Research Laboratory (NHEERL). This appointment will be served with the Environmental Public Health Division (EPHD) in Chapel Hill, NC.

This postdoctoral research opportunity aims to refine the water domain in the Environmental Quality Index (EQI) by incorporating two new measures: aquatic condition and watershed integrity. These two variables as well as the EQI will be explored as an exposure metric in relation to adverse health outcomes including, but not limited to areas of perinatal outcomes, child health, gastro-intestinal outcomes, elderly health, infant mortality, and overall mortality.

The research participant will collaborate with an EPA team of investigators that have developed the EQI and the ecologic measures of aquatic condition and watershed integrity. The participant may explore nationally available data, conduct statistical and data analyses in development of the water domain. Potential research may include the following: 1) conducting data analysis, documenting statistical code and interpretation of results; 2) conducting and documenting quality assurance and review of data analysis and databases; 3) participating in report preparation, presentation and summaries of the data; 4) presenting at professional meetings data analyses; and 5) participating in authoring manuscripts.

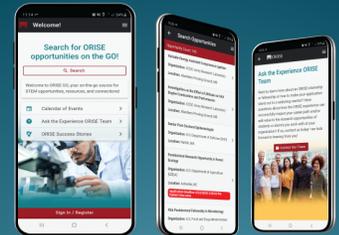
Potential research projects may focus on the following general areas where the research participant will learn: use of principal components analysis for develop of EQI; use of ecology derived measures to investigate health outcomes; use of water aquatic condition and watershed integrity in health outcome research; development and evaluation of statistical tools to handle missing environmental data in epidemiology research; utilization of large publicly available databases to investigate overall environmental quality and adverse health outcomes; development of sensitivity analysis for the overall EQI; and application of Bayesian statistical techniques to



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environmental monitoring data and health outcomes.

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 EPA.

Qualifications Applicants must have received a doctoral degree (PhD or ScD) in epidemiology, biostatistics, statistics, environmental or occupational health sciences, demography, public health or a closely related field within five years of the desired start date, or completion of all requirements for the degree should be expected prior to the start date. Knowledge of advanced regression techniques, such as variance decomposition (principal components analysis, hierarchical clustering, discriminant analysis, etc.), correlated residuals (spatial and temporal autocorrelation, repeated measures, random effects, etc.) is desired. Training and interest in spatio-temporal modeling and Bayesian hierarchical are also desired.

The appointment is full-time for one year and may be renewed upon recommendation of EPA and contingent on the availability of funds. The participant will receive a monthly stipend. Funding may be made available to reimburse the participant's travel expenses to present the results of his/her research at scientific conferences and stakeholder venues. No funding will be made available to cover travel costs for pre-appointment visits, relocation costs, tuition and fees, or participant's health insurance. The participant must show proof of health and medical insurance. **The participant does not become an EPA employee.**

The mentor for this project is Danelle T. Lobdell (lobdell.danelle@epa.gov). The desired start date for this appointment is February 13, 2017.

- Eligibility Requirements**
- **Degree:** Doctoral Degree received within the last 60 month(s).
 - **Academic Level(s):** Postdoctoral.
 - **Discipline(s):**
 - **Earth and Geosciences** ([1](#) )
 - **Engineering** ([1](#) )
 - **Environmental and Marine Sciences** ([4](#) )
 - **Life Health and Medical Sciences** ([5](#) )
 - **Mathematics and Statistics** ([3](#) )
 - **Social and Behavioral Sciences** ([3](#) )