

Postdoctoral Research Position in Environmental Health and Biostatistics

The Department of Environmental Health together with the Biostatistics Department at the Harvard T.H. Chan School of Public Health invites applications for a Postdoctoral Fellow position for the analysis of large-scale environmental health data. The Postdoctoral Fellow will work with a multi-disciplinary team to investigate the impact of air pollution and other exposures on risk for and progression of Alzheimer's disease and related dementias (AD/ADRD), and identify the complex interactions of individual-level, environmental and societal factors that lead to increased vulnerability in AD/ADRD.

The position will be under the supervision of Dr. Antonella Zanobetti in the Department of Environmental Health, and Drs. Francesca Dominici and Danielle Braun in the Biostatistics Department. Applicants should have an interest in applying novel and state-of-the-art statistical and data science methods in environmental health. The specific position involves: (1) analysis of short- and long-term effects of air pollution and temperature on hospital admissions for AD/ADRD in Big Data applications using two cohorts (Medicaid and Medicare enrollees in the continental US), (2) identification of vulnerable subpopulations, (3) exposure-response functions, (4) disentangle the effects of air pollution exposure from other multiple confounding factors (socio-economic (SES), neighborhood-level factors such as green space and noise), (5) development and application of statistical models, including causal inference methods.

Qualifications:

Doctoral degree in Biostatistics, Applied Statistics, Environmental Health, or related field. Experience in analyzing real data, air pollution health studies, public health, strong programming skills, and strong statistical methods are preferred.

Excellent communication and writing skills desired.

The ideal candidate is an independent, solution-oriented thinker with a strong background in statistical methods and processing very large data sets, applying analytical rigor and driving toward actionable insights and novel solutions.

Duties and Responsibilities

The Post-doctoral Fellow will contribute to the effort of:

- Data integration from different data sources
- Analyzing environmental health effects in big data
- Refine and improve statistical methods to disentangle the effects of air pollution exposure from other confounding factors by leveraging approaches for causal inference and correct for potential outcome misclassification and exposure error
- Apply machine learning methods to identify co-occurrence of individual-level, environmental, and societal factors that lead to increased vulnerability
- Collaborate with our biostatistics and data science group
- Writing scientific articles and research proposals
- Participate in weekly meetings with supervisors, reporting on work performed and suggesting additional analysis or modifications in current procedures
- Oversee the activities and mentor other research staff / students.

Basic Qualifications

- PhD in Biostatistics, Applied Statistics, Environmental Health.
- Experience in air pollution health studies.

- Experience in handling very large spatial datasets.
- Experience in applied statistics and computational methods.
- Knowledge of R, SAS, and Python.
- Interest in open-source software, reproducibility and data management.

Additional Qualifications

- Familiarity with multiple data science tools and ability to learn new tools as required.
- Experience with version control systems, in particular Git and GitHub.

To apply

Please submit to Antonella Zanobetti at azanobet@hsph.harvard.edu.

- a cover letter
- a curriculum vitae
- 1 page research statement
- at least three names for references