

**RESEARCH ASSISTANT  
ENVIRONMENTAL EPIDEMIOLOGY/BIostatISTICS**

Dr. Zhanghua Chen, Assistant Professor at the Environmental Health Division, is seeking a promising PhD student to work as a research assistant on omics and environmental health projects. Dr. Chen is an environmental epidemiologist and biostatistician, whose research focuses on investigating disease mechanisms linking environmental risk factors (air pollution, endocrine disrupting chemicals, diet, etc.) and complex disease outcomes by applying integrated multi-omics approaches (genomics, epigenomics and metabolomics).

Dr. Chen is leading several air pollution studies built upon large longitudinal cohort resources of 1000-400,000 mother-child pairs in the United States and China. She is a pioneer in the novel research field pairing metabolomics and other omics approaches with traditional environmental health studies. She aims to apply advanced multi-omics tools to examine disease mechanism and assess effects of environmental exposure mixture. Disease outcomes that are of interest include birth outcomes, growth trajectories, cardiometabolic diseases, asthma and autism. In Dr. Chen's lab, students will obtain multidisciplinary training in epidemiology, environmental science, genetics, epigenetics, metabolomics, biostatistics, bioinformatics, clinical research design, and computational biology. A broad spectrum of advanced statistical methods will be applied to and developed for the ongoing longitudinal cohort studies, such as high dimensional mediation analysis, integrated omics analysis, high dimensional data reduction methods, clustering methods, exposure mixture analysis, advanced machine learning methods, etc. Applications from a broad range of disciplinary backgrounds will be considered, including epidemiology, biostatistics, public health, biology, medicine, bioinformatics, environmental science, etc.

The Department of Preventive Medicine at the University of Southern California has one of the nation's leading research programs in epidemiology and biostatistics, with strengths in environmental health and chronic disease epidemiology and genetics, and the development of statistical methods. In addition to course work and individual mentorship from Dr. Chen in their research area, students will have the opportunity for advanced multidisciplinary training through working in several large longitudinal cohort studies and multi-omics projects and will have numerous opportunities for developing key research skills in clinical and epidemiological study design, statistical methods and programming, data management, scientific presentation, paper writing, and collaboration.

Students must be currently enrolled in the PhD program in a relevant field (epidemiology, biostatistics, statistics, molecular or computational biology, etc.) at the University of Southern California, have a demonstrated interest in environmental and molecular risk factors of disease and/or the development of relevant statistical methodology, and will be expected to pursue a multidisciplinary approach to their training and dissertation under the mentorship of Dr. Chen. Students who are self-motivated and passionate about environmental protection and early prevention of diseases are welcome to apply for the RA position. Interested candidates should submit CV and a cover letter outlining their research and training objectives. Address applications to Dr. Zhanghua Chen at ([zhanghuc@usc.edu](mailto:zhanghuc@usc.edu)).

