



Post-Doctoral Fellow in the Gangarosa Department of Environmental Health Rollins School of Public Health at Emory University

Overview:

We are seeking post-doctoral fellows to assist with multiple NIH- and philanthropic- funded research projects:

1. Prenatal Air Pollution Exposure, Maternal Multi-Omics, and Maternal and Child Health
 - a. Multi-omics measured in longitudinal maternal samples: DNA methylation, transcriptome, metabolomics, lipidomics, and microbiome.
 - b. Well-characterized clinical outcomes related to fetal growth and early birth outcomes (e.g., spontaneous, and medically indicated preterm birth and early birth).
 - c. Possible analytic directions: identifying critical windows, mixture effects, single-omics analysis (e.g., MWAS, EWAS, LWAS, etc), multi-omics integration, and high-dimensional mediation analyses.
2. Single- and Multi-Omics Markers of Chronic Diseases
 - a. Multi-tissue assessments of DNA methylation, proteomics, and metabolomics.
 - b. Chronic diseases of interest include but are not limited to Cancer, Cardiovascular Diseases, and Alzheimer's disease and related dementias.
 - c. Possible analytic directions: Single- and multi-omics analyses, biomarkers, classification, predictive modeling, multi-cohort meta-analyses, omics risk score development.
3. Prenatal and Early Childhood Exposome and Maternal and Child Health
 - a. Targeted and untargeted analyses in characterizing the maternal and child exposome. Exposures of interest include but not limited to ambient and traffic-related air pollution, PFAS, phthalates, PBDE, PCB, metals, insecticides and pesticides, individual and area level socioeconomic status, stress, experiences of racial and gender discrimination, dietary intake and nutrition.
 - b. Clinical biomarkers of oxidative stress and inflammation, and untargeted single- and multi-omics profiling.
 - c. Maternal and child health outcomes include pregnancy complications, fetal growth, birth outcomes, infant neurodevelopment, and growth trajectories.

Qualifications: A recent or prospective doctoral graduate (Ph.D. or equivalent qualification) in an appropriate field, including but not limited to Environmental Health Sciences, Epidemiology, Biostatistics, or Statistical/Computational Omics. The candidate must have excellent analytic skills, scientific writing ability, strong oral communication skills, and an ability to work effectively with colleagues, both in-person and via teleconference. The candidate must have some epidemiologic and biostatistical training and be proficient with R-statistical software. Some prior experience with single omics data and multi-omics integration (e.g., DNA methylation, transcriptomics, proteomics, metabolomics, lipidomics, microbiome, etc) is preferred, but not necessary if the candidate is strong in epidemiology and/or biostatistics.

Brief Job Description: The postdoctoral fellows will work directly with Dr. Donghai Liang (PI) and his research team at Emory and will liaise with collaborators at internal and external sites. The fellow will have opportunities to design and lead independent research projects, publish manuscripts, present findings at conferences and scientific meetings, and be actively involved in the teaching, mentoring, and training of others, including students and research staff. Opportunities for the postdoctoral fellows to apply for independent funding (e.g., K99/R00, ECHO OIF) are available and highly encouraged.

Additional Information:

Learn more about our group's ongoing research here: [The Environmental Metabolomics and Exposomics Research Group at Emory \(EMERGE GROUP\)](#)

To Apply: Questions can be addressed to Dr. Donghai Liang, donghai.liang@emory.edu, Gangarosa Department of Environmental Health, Rollins School of Public Health, Emory University, 1518 Clifton Road, Atlanta, GA 30322. Application materials (*including a cover letter, CV, and contact info for three references*) should be submitted at: <https://apply.interfolio.com/146503>