COLUMBIA UNIVERSITY MEDICAL CENTER

Center for Statistical Genetics
Gertrude H. Sergievsky Center
Taub Institute for Alzheimer's Disease and the Aging Brain
Department of Neurology
Columbia University Medical Center
630 W 168th St, New York, NY 10032

Postdoctoral Research Positions in Computational Genetics: Data Analysis and Methods Development

The Center for Statistical Genetics at Columbia University, New York has available postdoctoral positions in computational genetics for data analysis and methods development.

1. *Data Analysis Track:* The postdoc will be involved in the analysis of large-scale complex trait data that includes Alzheimer's disease, adiposity, asthma, hypertension, type 2 diabetes, late-onset hearing impairment, tinnitus, etc. to detect main effects, interactions, pleiotropy, susceptibility variants through fine mapping, and estimation of polygenic risk scores. In addition to analyzing whole genome sequence, microarray, imputed, and RNA-seq data which has been generated for populations and families, analyses will also include variant functional annotation, quality control, and data integration, e.g. expression, methylation. The postdoc will learn to use a large variety of software and develop bioinformatics workflows to analyze multi-omics data.

   Qualifications: The candidate should have a doctoral degree in epidemiology, bioinformatics, data science, computational biology, or a degree in a related field. The candidate should also have strong English writing skills and be able to write basic scripts to perform data analysis. Experience in analyzing genetic data is preferred but not required.

2. *Methods Development Track:* The postdoc will be responsible for developing methods to study a variety of omics data to elucidate the genetic epidemiology of complex traits. These methods will include those to perform fine mapping, detect associations, pleiotropy, and interactions for multiple phenotypes across different ancestral backgrounds. The postdoc will be involved in developing software to implement these methods and fully evaluate their performance (type I error, power, and comparison with other methods if applicable) using simulation studies. The postdoc will also be able to apply the methods to study a variety of complex traits which include but not limited to Alzheimer's disease, age-related hearing impairment, tinnitus, type 2 diabetes, obesity, and asthma.

   Qualifications: The candidate should have a doctoral degree in statistics, epidemiology, bioinformatics, biostatistics, computational biology, or a degree in a related field. S/he should have a strong statistics background and the ability to program in R, C/C++, or Python. Experience in analyzing multi-omics data is preferred but not required.

For additional information please contact Suzanne Leal sml3@cumc.columbia.edu or Gao Wang gw2411@cumc.columbia.edu