The Keck School of Medicine of the University of Southern California is seeking up to 4 postdoctoral research associates for our new program project grant on "Statistical Methods for Integrative Genomics in Cancer" from the National Cancer Institute. The overall aim of this project is to develop novel statistical methods for analyzing high-dimensional –omics data and applying them to various genetic epidemiology studies of colorectal cancer. Specific projects within this research program are concerned with hierarchical modeling and penalized regression methods for high-dimensional data, phylogenetic inference on gene function, mediation of exposure and genetic effects on disease through the internal environment (e.g., metabolome, microbiome), and modeling tumor evolution. An important part of the project is the translation of novel methods into software that is useable by the wider scientific community. Key investigators include Drs. Duncan Thomas, Jim Gauderman, David Conti, Paul Thomas, Kim Siegmund, and Paul Marjoram, amongst others. We are seeking applicants with a strong background in statistics/biostatistics, bioinformatics, genetics, computer science or related fields, and with a demonstrated interest in both methodological research and data analysis.

The Department of Preventive Medicine has one of the nation's leading research programs in epidemiology and biostatistics, with particular strengths in environmental health, cancer and chronic disease genetics, and the development of statistical methods. The growing USC Health Sciences Campus is home to several world-class research laboratories studying genetics and epigenetics of complex human diseases including cancers, neuro-developmental disorders, and psychiatric diseases.

In addition to individual mentorship in their research area, research associates will have the opportunity for advanced multidisciplinary training through coursework in any of the Department's graduate programs in Epidemiology (with tracks in molecular epidemiology and environmental health) or Biostatistics (with tracks in statistical genetics, environmental biostatistics, and bioinformatics), or from other departments at USC (including Computational Molecular Biology, Systems Biology and Disease, Computer Science, and Genetics, Molecular, and Cell Biology), and will have numerous opportunities for collaboration, various enrichment activities, and experience in guiding pre-doctoral trainees and medical/undergraduate students.

Applicants must have completed a Ph.D. in a relevant field (statistics/biostatistics, genetic epidemiology, computer science, machine learning, data science, molecular or computational biology, etc.) and have strong programming skills. Successful applicants will be expected to collaborate in a multidisciplinary environment under the mentorship of one of the project's senior faculty. Applications from underrepresented minorities are particularly encouraged.

Interested candidates should submit a letter by September 1, 2016, outlining their research and career objectives (one page), CV with prior academic record, reprints of any relevant publications, and names of three references. Address applications to Drs. Duncan Thomas (dthomas@usc.edu) and Jim Gauderman (jimg@usc.edu).