

Chief Laboratory of Computational Medicine, NEI (deadline: open-ended)

The NEI seeks to develop a new program in computational analysis that fully employs human genomic, transcriptomic, proteomic, metabolomic, neurophysiological and clinical data sets to reconstruct biological networks characteristic of normal and disease states. The magnitude, diversity, rich information content, and hierarchical connectivity of these data sets require the utilization and development of novel quantitative tools. The goal is to understand human disease at a molecular level in order to develop mechanism-based therapeutic interventions.

We invite applications for head of a new laboratory of Computational Medicine within the NEI Intramural Research Program. This initiative seeks to integrate and translate knowledge from genetics and biology to a wide range of disease processes using systems, network, statistical and bioinformatics approaches.

* Examples in ocular biology amenable to a systems approach would include neuro-immune interactions, gene regulatory networks during disease pathogenesis, protein interaction pathways, neuron-glia-vascular biological networks in the retina, neuronal networks in the CNS, and developmental conditions and disorders.

* The research program has interest in developing novel computational methodologies for analyzing large genetic, biological, biomedical, neuronal, and functional data sets. Particular attention will be paid to genotype-phenotype correlations, gene-gene and gene-environment interactions. In parallel, we will actively seek to develop disease intermediate phenotypes that reflect the underlying biology and pathophysiology of disease.

* Data sets from large clinical trials, genetic studies (including GWAS), expression profiling in normal and disease conditions, and from the eyeGENE human research repository for monogenic ophthalmic diseases will be developed to reconstruct and understand ocular biological networks that link genetic perturbations, small molecule interactions, and physiological processes, to predict normal and disease states

The NEI/NIH provides an exceptional environment of dedicated scientists as well as a wide range of resources. We currently envision that this program will be located in the newly constructed Porter Neuroscience complex that houses a diverse set of investigators from many different Institutes. The successful candidate will be expected to recruit tenure-track faculty in areas that may include computational medicine or neuroscience, network biology, genetic or molecular epidemiology, cell and molecular biology, statistical genetics, bioinformatics, and biostatistics into the new Laboratory of Computational Medicine. Applicants should have a MD, MD/PhD or PhD and an outstanding record of accomplishments in genetics, epidemiology, neuroscience, cell and molecular biology, biostatistics, or a related quantitative discipline. Senior scientists would have the opportunity to maintain their participation in existing collaborative research in non-eye diseases if desired.

This position will remain open until filled. Applicants should submit curriculum vitae, bibliography, copies of their five most significant publications, a summary of research accomplishments, names of three references, and a detailed experimental plan for the development of this program. These materials should be sent to: The Office of the Scientific Director, National Eye Institute, Attention: Ms. Mica Gordon (gordonmi@nei.nih.gov), NIH Building 31, 31 Center Drive, Room 6A22, Bethesda, MD, 20892. The National Eye Institute does not discriminate in employment on the basis of race, color, religion, sex, national origin, political affiliation, sexual orientation, marital status, disability, age, membership in an employee organization, or other non-merit factor. DHHS and NIH are Equal Opportunity Employers.