Tenure Track/Tenure Investigator Positions in Systems Immunology and Infectious Disease Modeling

The National Institute of Allergy and Infectious Diseases (NIAID), Division of Intramural Research (DIR), is seeking several outstanding individuals for its new Program in Systems Immunology and Infectious Disease Modeling (PSIIM — http://www3.niaid.nih.gov/labs/aboutlabs/psiim/).

Modern technology allows the deep analysis of biological systems at multiple levels—from intracellular signaling networks to individual cell behavior to the functioning of a tissue, organ, and even the whole organism. The challenge is not only to collect the large amounts of data these technologies can generate, but also to organize it in a manner that enhances our understanding of how such systems operate. To do this, it is necessary to develop quantitative models that can be used to predict behavior of these complex systems.

Achieving this goal requires an interdisciplinary effort, and for this reason PSIIM is organized as an integrated team of scientists and support staff. Within PSIIM, there will be groups with expertise in the areas of computational biology, bioinformatics, proteomics, genomics, cell biology, immunology, and infectious diseases. These groups will have access to the latest technology for gene expression profiling, high content screening of RNAi libraries for the discovery of pathway components, imaging tools, genomic and proteomic analysis, cores for the genetic manipulation of animals, and a substantial computer infrastructure. They will also have access to BSL-3 facilities for working with infectious agents of high priority for human health and biodefense.

Although PSIIM has been established within NIAID and has an immune/infectious disease focus, it is also expected to play a major role in fostering the growth of systems biology efforts throughout NIH and involving diverse biomedical areas. PSIIM staff will interact extensively with investigators in other components of the NIH intramural research program, including but not limited to the National Center for Biotechnology Information, NIH Chemical Genomics Center, Center for Information Technology, and Center for Human Immunology, all of which have activities emphasizing systems and informatic approaches to biomedicine.

Current groups in the PSIIM include Computational Biology—Modeling and Simulation, Molecular/ Cell Biology—High-throughput Screening, Proteomics, and Immunology. PSIIM is now recruiting for tenure-track or tenure level team leader appointments in the following areas:

Bioinformatics/Biostatistics: The incumbent will lead a group focused on developing and implementing computational tools and statistical methods for the analysis of large-scale genomic, proteomic, and cell biological datasets. The ideal candidate will have a strong background in statistics, mathematics, programming, and modeling biological systems, as well as a strong interest in collaborating with experimentalists to elucidate biological mechanisms through application of informatic methods, including construction of networks suitable for predictive analysis. The group will include expertise in statistics, software development (C++, Java, Perl, SQL, etc.), knowledge of existing and emerging bioinformatic tools, databases and algorithms, and experience with heterogeneous computer environments.

Genomics: The incumbent will be responsible for applying and, when necessary, developing novel methods for the systems-wide analysis of such issues as transcription factor and epigenetic control of gene expression, quantitative measurement of gene expression, and the role of non-coding regions and small RNAs in regulating gene/gene product expression patterns. PSIIM is especially interested in recruiting an individual with a strong interest in the application of these methods to the study of gene regulatory circuits and to the integration of information on cell signaling events, developmental state, and such gene regulatory circuits into comprehensive models of the control of cellular differentiation, for example, of effector CD4+ T cells or iPS.

These positions and the research activities they conduct are fully funded by the intramural research program of NIAID. Each team leader is expected to build a working group consisting of postdoctoral fellows, students, technicians, and staff scientists. The team leaders will work with the program director to help set the goals for PSIIM and to determine how best to reach these goals as an integrated group. To ensure appropriate career trajectories for those joining the PSIIM team effort, NIH has modified its tenure policies to take specific account of contributions made in such a team science setting. Members of PSIIM will be expected to play a major role in development of an integrated computational systems approach to biology, the application of these methods to questions of substantial biomedical importance, and the dissemination of the tools and techniques developed in PSIIM across the NIH intramural program and in the extramural academic and industrial spheres. Applicants should be seeking a challenge in which creativity, technical expertise, and a strong desire to achieve in a team setting will be critical for success

Interested candidates may contact:

Ronald Germain, M.D., Ph.D., Program Director, PSIIM, DIR, NIAID, at 301-496-1904 or **rgermain@niaid.nih.gov** for additional information about these positions.

Applicants must have a Ph.D., M.D., or equivalent degree in a relevant field with extensive post-doctoral experience, as well as a strong publication record demonstrating potential for creative research.

To apply, submit your curriculum vitae, bibliography, and a detailed statement of how your expertise can contribute to the success of the PSIIM program to Wanda Jackson at **NIAID.DIR.Search@niaid.nih.gov**. In addition, three letters of reference must be sent directly from the referee to Robert Hohman, Ph.D., Chair, NIAID Search Committee, c/o Wanda Jackson at **NIAID.DIR.Search@niaid.nih.gov** or 10 Center Drive, MSC 1356, Building 10, Room 4A22, Bethesda, MD 20892-1356. Email is preferred. **Completed applications MUST be received by May 1, 2009.**

Further information regarding the DIR laboratories is available at **http://www3.niaid.nih.gov/about/organization/dir/default.htm**, and information on working at NIAID is available on our Web site at **http://www.niaid.nih.gov/careers/dps**.

For more information about the NIAID systems biology program, please visit **http://www.nih.gov/catalyst/2006/06.09.01/page1.html**

National Institute of Allergy and Infectious Diseases

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