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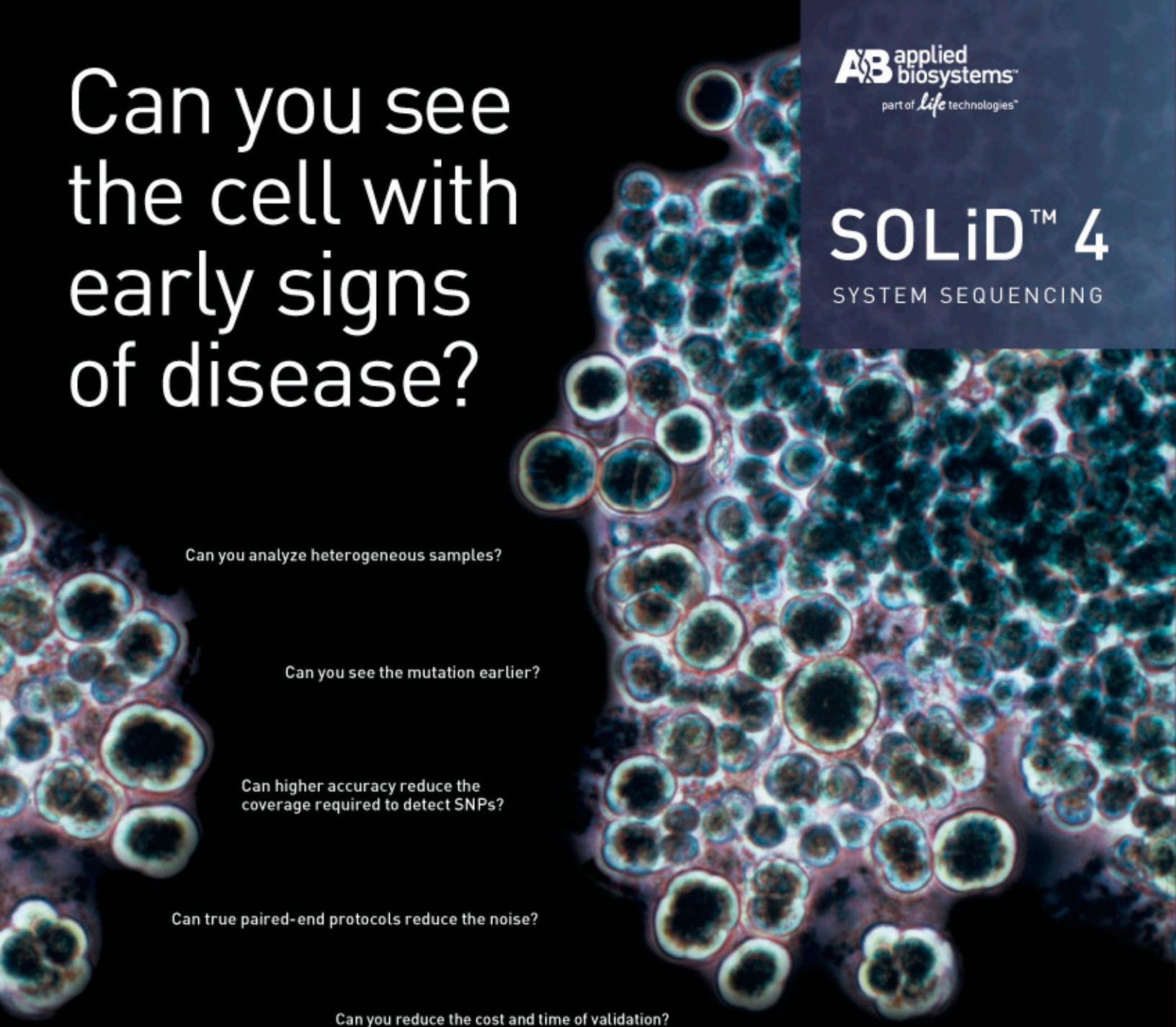

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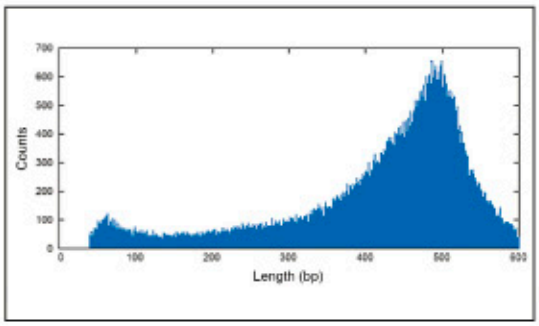

Figure 1: Example Read Length Distribution of 100,000 reads from *E. coli* K-12 (genome size approximately 4.5 Mb), from a single GS Junior System run.

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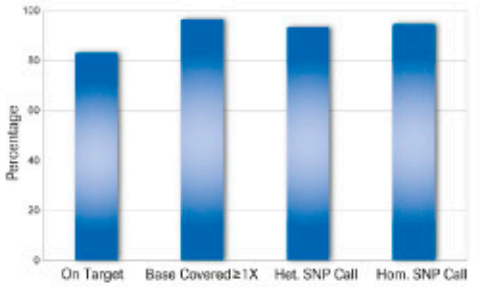

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Tenure/Tenure-Track Investigator Position in Systems Immunology and Infectious Disease Modeling

The National Institute of Allergy and Infectious Diseases (NIAID), Division of Intramural Research (DIR), is seeking an outstanding individual for its new Program in Systems Immunology and Infectious Disease Modeling (PSIIM).

Modern technology allows the deep analysis of biological systems at multiple levels. The challenge is not only to collect the large amounts of data new technologies can generate at different scales of biological organization, but also to organize it in a manner that enhances our understanding of how such systems operate. Achieving this goal requires an interdisciplinary effort, and for this reason PSIIM is organized as an integrated team of scientists and support staff structured in groups. These groups will have access to the latest technology for gene expression profiling, next generation sequencing, high content screening of RNAi libraries, imaging, and genomic and proteomic analysis, as well as a substantial computer infrastructure, together with modern conventional laboratory facilities for cell and animal experimentation. 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. 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 PSIIM include Immunology, Computational Biology—Modeling and Simulation, Molecular/Cell Biology—High-throughput Screening, Proteomics, and Systems Genomics. PSIIM is now recruiting for a tenure-track or tenure level team leader appointment in the following area:

Transcriptional Networks and Control of Differentiation: The incumbent will be responsible for applying and, as required, developing novel experimental and computational methods for the systems-wide analysis of gene regulatory pathways and networks, with a specific emphasis on the transcription factor circuits that define cell fate and that translate extracellular signaling into cellular responses. As part of this effort, the incumbent will engage in quantitative measurements of transcription factor and gene expression, analysis of protein-DNA interactions, and assessment of the contributions of epigenetic modifications/chromatin remodeling events to regulation of the behavior of such transcriptional networks. PSIIM is especially interested in recruiting an individual with a strong interest in the application of these methods to the integration of information on cell signaling events, developmental state, and gene regulatory circuits into comprehensive models of the control of cellular differentiation, for example, of effector CD4+ T cells or iPS.

This position and its research activities are fully funded by the intramural research program of NIAID. The team leader is expected to build a working group consisting of postdoctoral fellows, students, technicians, and staff scientists. The team leader will work with the program director and other PSIIM faculty 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 this position.

Additional information about PSIIM is available online at **http://www.niaid.nih.gov/labsandresources/labs/aboutlabs/psiim/Pages/default.aspx**.

Applicants must have a Ph.D., M.D., or equivalent degree in a relevant field with extensive postdoctoral 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 Hanh Ngo at **PSIIM4Search@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 Hanh Ngo at **PSIIM4Search@niaid.nih.gov** or 10 Center Drive, MSC 1356, Building 10, Room 4A22, Bethesda, MD 20892-1356. E-mail is preferred. Applications will be reviewed starting on **October 3, 2010** and will be accepted until the position is filled.

Further information regarding the DIR laboratories is available at **www.niaid.nih.gov/about/organization/dir/**, and information on working at NIAID is available on our Web site at **www.niaid.nih.gov/careers/psgr**. For more information about the NIAID systems biology program, visit **www.nih.gov/catalyst/2006/06.09.01/page1.html**.

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- Computational Methods and Tools
- Cell Signalling Dynamics
- Systems Biology in Health and Disease
- Parameterising Proteomics
- Biological Rhythms
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15 January 2010	Call for Workshops Deadline
3 May 2010	Call for Papers Deadline
2 June 2010	Early Registration Deadline
4 June 2010	Notification of Acceptance
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  Keynote speakers: Andras Nagy

- **Computational Biology**
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- **Emerging Infectious Diseases**
  October 18-22, Abstracts due July 30
  Organizers: Yi Guan, Margaret Liu, Zihe Rao, Tianyi Wang
  Keynote speakers: Louise Chow, Zihe Rao

- **From Plant Biology to Crop Biotechnology**
  October 25-29, Abstracts due August 29
  Organizers: Nam-Hai Chua, David Jackson, Jiayang Li, Kazuo Shinozaki
  Keynote speakers: Cathie Martin, Marjori Matzke

- **RNA Biology**
  November 1-5, Abstracts due August 13
  Organizers: Xumei Chen, Soo-Chen Cheng, Masatoshi Hagiwara, Adrian Krainer
  Keynote speakers: Thomas Steitz

- **Frontiers of Immunology in Health and Diseases**
  November 7-10, Abstract due Augusts 20
  Organizers: Xuetao Cao, Richard Flavell, Tadatsugu Taniguchi
  Keynote speakers: Xuetao Cao, Richard Flavell

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