PACIFIC SYMPOSIUM ON BIOCOMPUTING 2007

Biomedical computing has become a key component in the biomedical research infrastructure. In 2004 and 2005, the U.S. National Institutes of Health established seven National Centers for Biomedical Computation, focusing on a wide range of application areas and enabling technologies, including simulation, systems biology, clinical genomics, imaging, ontologies and others (see http://www.bisti.nih.gov/ncbc/). The goal of these centers is to help seed an information infrastructure to support biomedical research. The Pacific Symposium on Biocomputing (PSB) presented critical early sessions in most of the areas covered by these National Centers, and we are proud to continue the tradition of helping to define new areas of focus within biomedical computation.

Once again, we are fortunate to host two outstanding keynote speakers. Dr. Elizabeth Blackburn, Professor of Biology and Physiology in the Department of Biochemistry and Biophysics at the University of California, San Francisco will speak on "Interactions among telomeres, telomerase, and signaling pathways." Her work has led our understanding of overall organization and control of chromosomal dynamics. Our keynote speaker in the area of Ethical, Legal and Social implications of technology will be Marc Rotenberg, Executive Director of the Electronic Privacy Information Center (EPIC) in Washington, D.C. He will speak on "Data mining and privacy: the role of public policy." Many biomedical computation professionals have had and continue to grapple with privacy issues as interest in mining human genotype-phenotype data collections has increased.

PSB has a history of providing early sessions focusing on hot new areas in biomedical computation. These sessions are often conceived during the previous PSB meeting, as trends and new results are pondered and discussed. Very often, new sessions are lead by new faculty members trying to define a scientific niche and bring together leaders in the emerging areas. We are proud that many areas in biocomputing received their first significant focused attention at PSB. If you have an idea for a new session, we the organizers, are available to talk with you, either at the meeting or later by e-mail.

Again, the diligence and efforts of a dedicated group of researchers has led to an outstanding set of sessions, with associated introductory tutorials. These organizers provide the scientific core of PSB, and their sessions are as follows:

Indra Neil Sarkar
Biodiversity Informatics: Managing Knowledge Beyond Humans and Model Organisms

Bobbie-Jo Webb-Robertson & Bill Cannon
Computational Proteomics: High-throughput Analysis for Systems Biology

Martha Bulyk, Ernest Fraenkel, Alexander Hartemink, & Gary Stormo
DNA-Protein Interactions and Gene Regulation: Integrating Structure, Sequence and Function

Russ Greiner & David Wishart
Computational Approaches to Metabolomics

Pierre Zweigenbaum, Dina Demner-Fushman, Kevin Bretonnel Cohen, & Hong Yu
New Frontiers in Biomedical Text Mining

Maricel Kann, Yanay Ofran, Marco Punta, & Predrag Radivojac
Protein Interactions in Disease

In addition to the sessions and survey tutorials, this year's program includes two in depth tutorials. The presenters and titles of these tutorials are:

Giselle M. Knudsen, Reza A. Ghiladi, & D. Rey Banatao
Integration Between Experimental and Computational Biology for Studying Protein Function

Michael A Province & Ingrid B Borecki
Searching for the Mountains of the Moon: Genome Wide Association Studies of Complex Traits

We thank the Department of Energy and the National Institutes of Health for their continuing support of this meeting. Their support provides travel grants to many of the participants. Applied Biosystems and the International Society for Computational Biology continue to sponsor PSB, and as a result, we are able to provide additional travel grants to many meeting participants.

We would like to acknowledge the many busy researchers who reviewed the submitted manuscripts on a very tight schedule. The partial list following this preface does not include many who wished to remain anonymous, and of course we apologize to any who may have been left out by mistake.

Aloha!

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