



Institute for Pure and Applied Mathematics  
University of California, Los Angeles presents

## Proteomics: Sequence, Structure, Function

### Workshop II: Medical Applications and Protein Networks

April 19 - 23, 2004

Members of the organizing committee include **Austin Yang**, Chair (USC), **David Eisenberg** (UCLA), **Lisa Ellerby** (Buck Institute), **Bradford Gibson** (Buck Institute) and **Katheryn Resing** (Univ. of Colorado)

**Workshop II: Medical Applications and Protein Networks** is part of an active program of research activities, seminars and workshops throughout the **March 8 – June 11, 2004** period and core participants will be in residence at IPAM continuously for these fourteen weeks. The program will open with tutorials, and will be punctuated by 4 major workshops and a culminating workshop at UCLA's Lake Arrowhead Conference Center. Numerous distinguished researchers will be participating. Between the workshops there will be a program of activities involving the long-term and short-term participants, as well as visitors.

#### Scientific Overview

**Focus:** The rapid advancement of mass spectrometric technologies and the completion of the human genome project have provided powerful avenues for understanding disease etiology, diagnosis, and treatment. The major goal of this workshop is to bring together a wide range of industrial and academic scientists who are interested in application of new proteomic technologies to understanding protein networking and its role in disease. In addition, the workshop will emphasize bioinformatics and development of data-mining for problem-solving with respect to complex disease proteomics.

Despite significant progress in our understanding of the molecular bases of these diseases (e.g. Alzheimer's disease and cancer), major challenges remain in order to develop effective early diagnoses and treatments. Although it is clear that many scientific problems in the field of disease proteomics still remain to be solved, significant progress has been made in the following areas: the identification of unique biomarkers for early detection and disease classification; the identification of potential therapeutic targets for rational drug design; protein profiling of disease cases at the tissue and subcellular structural levels; and the protein identification of protein complexes in biological fluids. Presentations by a panel of speakers will address the outlined issues above and will provide a clear overview on the current status and future directions of disease proteomics and protein interaction pathways. In particular, panel discussions will cover topics within the areas of cancer, neurological disorders, infectious diseases, mass spectrometry imaging, organellar proteomics and protein networks.

#### Confirmed Speakers:

Michael Apicella (University of Iowa)	Robert Hughes (Prolexys Pharm., Inc.)	Richard Smith (Environmental Molecular Sciences Laboratory)
Allan Butterfield (University of Kentucky)	Kelvin Lee (Cornell University)	Jennifer Van Eyk (Johns Hopkins)
Rod Capaldi (University of Oregon)	James Liao (UCLA)	Luis P. Villarreal (UCL)
Brian Chait (The Rockefeller University)	Joseph Loo (UCLA)	Kevin Wang (University of Florida)
Lisa Ellerby (Buck Institute)	Simon Melov (Buck Institute)	Rong Wang (Mt. Sinai School of Medicine)
Bradford Gibson (Buck Institute)	Tatiana Nikolskaya (Geneco)	Jonathan Weissman (UCSF)
David Goodlett (Univ. of Washington)	Maria Pallavicini (UC, Merced)	John Yates (Scripps Res Inst)
Thomas Graeber (UCLA)	Peipei Ping (UCLA)	
Tina Guina (Univ. of Washington)	Katheryn Resing (Univ. of Colorado)	

#### Participation

Financial support for this workshop is available for participants at all academic levels, and recent PhD's, graduate students, and researchers in the early stages of their career are especially encouraged to apply. An online application for support is available at <http://www.ipam.ucla.edu/programs/protws2>. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission and we welcome their applications. Applicants who are interested in becoming core participants and participating in the semester program (March 8 – June 11, 2004) should apply at <http://www.ipam.ucla.edu/programs/prot2004>.

Please visit our website at

<http://www.ipam.ucla.edu/programs/protws2>

or email questions to [protws2@ipam.ucla.edu](mailto:protws2@ipam.ucla.edu)

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