



The conference will explore the theme that many processes in the physical, biological, engineering and social sciences involve information processing at a fundamental level and can be studied through computational models. A conference held in Berkeley in May, 2002 helped crystallize this theme as a promising direction of research, and this second conference will highlight the impact of the computational lens on areas such as quantum information science, statistical physics, social networks, economics and game theory, genetics, molecular biology, evolutionary biology, cognitive science, mathematics, statistics and machine learning.

Program Committee:

Richard M. Karp, Chair
Michael Jordan
Elchanan Mossel
Lior Pachter
Christos Papadimitriou
Alistair Sinclair
Yun Song
Bernd Sturmfels
Umesh Vazirani

Program - Sutardja Dai Hall (Auditorium)

Saturday, May 7

08:45 - 09:15am	Continental Breakfast
09:15 - 09:30am	Welcome, Professor Richard M. Karp , UC Berkeley
09:30 - 10:30am	Professor Ehud Kalai , Northwestern University Robustness and Complexity in Games
10:30 - 11:30am	Professor Christos Papadimitriou , UC Berkeley Algorithms, Games, and the Internet
11:30 - 12:30pm	Professor Leslie Valiant , Harvard University Evolution as a Form of Learning
12:30-02:00pm	Lunch
02:00 - 03:00pm	Professor Michael Kearns , University of Pennsylvania Experiments in Social Computation
03:00 - 04:00pm	Professor Mark Newman , University of Michigan The Structure and Function of Real-world Networks
04:00 -05:00pm	Professor David Haussler , UC Santa Cruz Cancer Genomics

Sunday, May 8

08:45 - 09:15am	Continental Breakfast
09:15 - 10:15am	Professor Andrea Montanari , Stanford University Statistical Mechanics through the Lens of Computation
10:15 - 11:15am	Professor Daniel Fisher , Stanford University Modeling Evolutionary Dynamics: Problems and Prospects
11:15 - 12:30pm	Professor Michael Jordan , UC Berkeley On Joint Inference of Phylogeny and Alignment Professor Sebastien Roch , UCLA Large Phylogenies from Short Sequences: Recent Theoretical Insights Professor Tandy Warnow , UT, Austin Estimating Ultra-Large Phylogenies and Alignments
12:30 - 02:00pm	Lunch
02:00 - 03:00pm	Professor Lior Pachter , UC Berkeley A Computational Approach to Discovery in Biology
03:00 - 04:00pm	Dr. Jonathan Oppenheim , University of Cambridge Computer Science as a Lens on Quantum Theory
04:00 - 05:00pm	Professor Umesh Vazirani , UC Berkeley How Does Quantum Mechanics Scale?

For more information: <http://www.eecs.berkeley.edu/IPRO/lensconference2011/>