

Preface

Research in the field of gene regulation is evolving rapidly in an ever-changing scientific environment. Microarray techniques and comparative genomics have enabled more comprehensive studies of regulatory genomics and are proving to be powerful tools of discovery. The application of chromatin immunoprecipitation and microarrays (chIP-on-chip) to directly study the genomic binding locations of transcription factors has enabled more comprehensive modeling of regulatory networks. In addition, complete genome sequences and the comparison of numerous related species has demonstrated that conservation in non-coding DNA sequences often provides evidence for cis-regulatory binding sites. That said, much is still to be learned about the regulatory networks of these sequenced genomes.

Systematic methods to decipher the regulatory mechanism are also crucial for corroborating these regulatory networks. The core of these methods are the motif discovery algorithms that can help predict cis-regulatory elements. These DNA-motif discovery programs are becoming more sophisticated and are beginning to leverage evidence from comparative genomics (phylogenetic footprinting) and chIP-on-chip studies. How to use these new sources of evidence is an active area of research.

The first RECOMB Regulatory Genomics workshop exceeded the organizers' expectations. More than 130 attendees enjoyed many excellent talks from leading researchers in the field. Ideas were shared during active discussion time between talks and hopefully many collaborations were born. This preceedings contains ten original manuscripts presented by the authors during the workshop. The organizers for the first annual Regulatory Genomics workshop would like to thank all the speakers and participants for their interest and participation in this meeting. The 1st Annual RECOMB Satellite Workshop on Regulatory Genomics would not have been possible without the generous support of UC Discovery and Cal-IT².

Eleazar Eskin
Alkes Price
Ben Raphael
Chris Workman

Organization

Steering Committee

Pierre Baldi	University of California, Irvine
Michael Eisen	Lawrence Berkeley National Lab
Eleazar Eskin (chair)	University of California, San Diego
Pavel Pevzner	University of California, San Diego

Organizing Committee

Eleazar Eskin	University of California, San Diego
Alkes Price	University of California, San Diego
Ben Raphael	University of California, San Diego
Chris Workman	University of California, San Diego

Program Committee

Mathieu Blanchette	McGill University
Julio Collado-Vides	UNAM
Michael Eisen	Lawrence Berkeley National Lab
Mikhail Gelfand	Moscow State University
Sridhar Hannenhalli	University of Pennsylvania
Trey Ideker	University of California, San Diego
Jim Kadonaga	University of California, San Diego
Uri Keich	Cornell University
Manolis Kellis	MIT
Jim Kent	University of California, Santa Cruz
Hao Li	University of California, San Francisco
Dana Pe'er	Harvard University
Yitzhak Pilpel	Weizmann Institute
Mireille Regnier	INRIA
Bing Ren	University of California, San Diego
Marie-France Sagot	INRIA
Eran Segal	Stanford
Ron Shamir	Tel Aviv University
Saurabh Sinha	The Rockefeller University
Rotem Sorek	Compugen
Martin Tompa	University of Washington
Chris Workman	University of California, San Diego
Zohar Yakhini	Agilent
Eric Xing	University of California, Berkeley

Sponsoring Institutions

Industry-University Cooperative Research Program, The UC Discovery Grant
California Institute for Telecommunications and Information Technology, Cal-(IT)²

Regulatory Genomics

RECOMB 2004 International Workshop, RRG 2004, San Diego, CA, USA, March 26-27, 2004, Revised Selected Papers

Eskin, E.; Workman, C. (Eds.)

2005, VIII, 116 p., Softcover

ISBN: 978-3-540-24456-1