

Keystone Symposia: Molecular Basis for Chromatin Structure and Regulation

January 17–22, 2010 • Sagebrush Inn and Conference Center • Taos, New Mexico • USA

Scientific Organizers: Jonathan Widom, Geeta Narlikar and Dinshaw J. Patel

PROGRAM FACULTY & TALKS

C. David Allis*, Rockefeller University, USA

Beyond the Double Helix: Reading and Writing the Histone Code

Geneviève Almouzni, Centre National de la Recherche Scientifique, France
Chromatin Assembly Mechanism

Cheryl Arrowsmith, University of Toronto, Canada
Structural Biology of Histone Code Modules

Shelley L. Berger, Wistar Institute, USA
Chromatin Modifiers

Bradley R. Cairns*, Huntsman Cancer Institute, University of Utah School of Medicine, USA
Structure and Mechanism of ATP Dependent Remodeling Factors

Jason Chin, MRC, Laboratory of Molecular Biology, UK
Novel in vivo Approaches for Histone Chemical Modification

Philip A. Cole, Johns Hopkins School of Medicine, USA
Chemical Approaches to Mechanisms of Histone Modifying Enzymes

Gary Felsenfeld*, National Institutes of Health, USA
Insulators and Enhancer Blockers

Susan M. Gasser, Friedrich Miescher Institute for Biomedical Research, Switzerland
Chromatin Dynamics in vivo

Or P. Gozani, Stanford School of Medicine, USA
New Methods for Module Discovery

Shiv I. S. Grewal, National Institutes of Health, USA
RNA-Mediated Epigenetic Control of the Genome

James T. Kadonaga, University of California, San Diego, USA
Chromatin Assembly and Dynamics

Robert E. Kingston, Massachusetts General Hospital, USA
Nucleosome Occupancy and Transcriptional Regulation

Roger D. Kornberg*, Stanford University, USA
Chromatin Structure and Transcription

Jeannie T. Lee, Massachusetts General Hospital, USA
Molecular Mechanism of Dosage Compensation

John T. Lis, Cornell University, USA
Very Rapid and Locus-Wide Changes in Chromatin Caused by Activation of a Potentiated Gene

Stavros Lomvardas, University of California, San Francisco, USA
Enhancers

Karolin Luger, Colorado State University, USA
Chromatin Assembly Chaperone Structure

Jim G. McNally*, National Institutes of Health, USA
Transcription Factor Binding Dynamics in vivo

Barbara J. Meyer, University of California, Berkeley, USA
Molecular Mechanisms of Dosage Compensation

Danesh Moazed*, Harvard Medical School, USA
RNA-Mediated Heterochromatin Assembly and Function

Tom W. Muir*, Rockefeller University, USA
Novel Chemical Approaches for Histone Modification

Geeta Narlikar, University of California, San Francisco, USA
Structure and Mechanism of ATP Dependent Remodeling Factors

Dinshaw J. Patel*, Memorial Sloan-Kettering Cancer Center, USA
Talk Title to be Determined

Timothy J. Richmond*, ETH Zürich, Switzerland

Eran Segal, Weizmann Institute of Science, Israel
Towards Understanding the Code of Chromatin Regulation

Michelle D. Wang, Cornell University, USA
The Dynamics of Accessing DNA

Jonathan Widom*, Northwestern University, USA
Sunney Xie, Harvard University, USA

Transcription Factor Binding Dynamics in vivo

Yi Zhang, University of North Carolina at Chapel Hill, USA
Molecular Mechanisms of Histone and DNA Modifying Enzymes

Xiaowei Zhuang, Harvard University, USA
Single Molecule Studies of Nucleosome Remodeling Factors



Chromatin structure and dynamics underlie every aspect of genome function. The past several years have seen an exponential growth in our knowledge of facts, ranging from catalogs of histone protein post-translational modifications to complete genome sequences of many organisms to atomic resolution structures of many key molecular players. But our mechanistic understanding lags far behind. New reagents, methodologies and concepts are needed. This meeting will bring together leading experts in diverse areas of chromatin biology who are developing and applying new approaches to develop a concrete mechanistic link between chromatin structure and chromatin function. The topics covered include: fundamental in vivo physical chemical studies of transcription factor binding; real-time single molecule in vivo imaging; state-of-the-art methods for discovery, characterization and manipulation of histone- and nucleosome-modifying enzymes and for the synthesis and characterization of their specifically-modified histone and nucleosome substrates; single molecule biophysics studies of molecular mechanisms; atomic resolution structural studies; and locus- and chromosome-wide phenomena such as heterochromatin formation and dosage compensation.

PROGRAM PLENARY SESSIONS & WORKSHOPS:

- Transcription Factor and Chromatin Dynamics in vivo
- Workshop Panel
- Functional Elements
- Chromatin Assembly and Modification
- Histone Code Modules
- Dynamic Transitions and ATP-Dependent Remodeling
- Chromatin Structure Roundtable
- Enzyme Mechanisms
- Silencing and Dosage Compensation
- Protein Chemistry

DEADLINES:

Abstract & Scholarship: September 18, 2009

Late-Breaking Abstract: October 21, 2009

Early Registration: November 17, 2009

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