

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Chromatin Architecture and Chromosome Organization (X5)

Scientific Organizers: Edith Heard and Peter Fraser

Supported by the Directors' Fund

Gene Control in Development and Disease (X6)

Scientific Organizers: Richard A. Young, Joanna Wysocka and Phillip A. Sharp

March 23-27, 2018 • Whistler Conference Centre • Whistler, British Columbia, Canada

Supported by the Directors' Fund

Abstract & Scholarship Deadline: / Abstract Deadline: / Discounted Registration Deadline:

FRIDAY, MARCH 23

Arrival and Registration

SATURDAY, MARCH 24

Welcome and Keynote Address (X5)

Job Dekker[†], University of Massachusetts Medical School, USA
Chromosome Conformation Capture – insights into Chromosome Architecture

Welcome and Keynote Address (X6)

Janet Rossant[†], Hospital for Sick Children, Canada
Control of Early Mammalian Development

Chromosome Architecture (X5)

Wouter de Laat[†], Hubrecht Institute, Netherlands
Exploring Different Levels of Chromosome Organization and Nuclear Organization in Development

Peter Fraser, Babraham Institute, UK
Chromosome Architecture Dynamics Using Single Cell HiC

Suzana Hadjur[†], University College London, UK
Chromosome Conformation: Cis and Trans Requirements Across Evolution

Short Talk(s) Chosen from Abstracts

Basics (X6)

Patrick Cramer[†], Max Planck Institute for Biophysical Chemistry, Germany
Structure of Transcription Apparatus

Robert T. Tjian[†], HHMI/University of California, Berkeley, USA
Single Cell Analysis of Transcription

Karen Adelman[†], Harvard Medical School, USA
Pause Control in Development and Disease

Short Talk(s) Chosen from Abstracts

Chromatin Architecture and Nuclear Organization (X5)

Karen L. Reddy[†], Johns Hopkins University, USA
The Nuclear Lamina and its Relationship with Chromatin and Gene Expression Dynamics

Martin W. Hetzer[†], The Salk Institute, USA
Chromatin and Nuclear Proteins and their Regulation in Aging

Susan M. Gasser[†], Friedrich Miescher Institute for Biomedical Research, Switzerland
The Role of Nuclear Organization and Chromatin in the Regulation of Gene Expression and Repeats

Short Talk Chosen from Abstracts

Control Elements (X6)

Eileen E.M. Furlong[†], European Molecular Biology Laboratory, Germany
Enhancers

Michael S. Levine[†], Princeton University, USA
Transcriptional Bursting

Joanna Wysocka, Stanford University School of Medicine, USA
Enhancers in Development

Short Talk Chosen from Abstracts

Poster Session 1

SUNDAY, MARCH 25

Chromatin Dynamics and Chromosome Structure (X5)

Gerald R. Crabtree[†], Stanford University, USA
Chromatin Remodelers – New Insights into their Roles in Development

Richard A. Young[†], Whitehead Institute for Biomedical Research, USA
The Roles of DNA Binding Factors, RNA and Chromosome Folding in the Control of Gene Expression

Nicole J. Francis[†], Institut de Recherches Cliniques de Montreal, Canada
Mitotic Chromosomes: Structure and Content

Danny F. Reinberg[†], HHMI/New York University, USA
Polycomb Complexes, Chromosome Architecture and Transcription

Short Talk(s) Chosen from Abstracts

Genome Structure (X6)

Xiaowei Zhuang[†], Harvard University, USA
Single Molecule Biology

Bing Ren[†], Ludwig Institute for Cancer Research, USA
3D Structure and Gene Control

Wendy A. Bickmore[†], MRC Human Genetics Unit, UK
Chromosome Structure and Gene Control

Mitchell Guttman[†], California Institute of Technology, USA
Functional Noncoding RNA

Short Talk(s) Chosen from Abstracts

Spatio-Temporal Dynamics of Chromatin (X5)

Stavros Lomvardas[†], Columbia University, USA
Long Range Interactions in the Control of Gene Expression in Living Cells

Giacomo Cavalli[†], Institute of Human Genetics, France
Cis and Trans Interactions during Development and their Role in Gene Regulation

Amos Tanay[†], Weizmann Institute, Israel
Systems Biology Approaches in Epigenomics and 3D Chromosome Organization

Short Talk Chosen from Abstracts

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Epigenetics (X6)

Geneviève Almouzni[†], Centre National de la Recherche Scientifique, France

Chromatin

Oliver J. Rando[†], University of Massachusetts Medical School, USA

Inheritance

Edith Heard[†], Institut Curie, France

Epigenetic Control

Short Talk Chosen from Abstracts

Poster Session 2

MONDAY, MARCH 26

Physical Modeling of Chromatin and Chromosomes (X5)

William Stafford Noble[†], University of Washington, USA

Modeling the 3D Architecture of the Genome across the Evolutionary Spectrum

Leonid Mirny[†], Massachusetts Institute of Technology, USA

The Loop Extrusion Model for Chromatin Domain Formation

Marc Marti-Renom[†], Centre for Genomic Regulation, Spain

Structural Genomics and Gene Regulation in Stem Cells and Cancer

Luca Giorgetti[†], Friedrich Miescher Institute for Biomedical Research, Switzerland

Predictive Modeling of the Chromatin Fibre

Short Talk(s) Chosen from Abstracts

Development (X6)

Denis Duboule[†], EPFL-SV-ISREC-UPDUB, Switzerland

Roles for Hox Genes in Development

Magdalena Zernicka-Goetz[†], University of Cambridge, UK

Patterning in the Early Mammalian Embryo

Rudolf Jaenisch[†], Whitehead Institute for Biomedical Research, USA

Using iPSCs to Study Development and Disease

Alexander Meissner[†], Harvard University, Broad Institute, USA

Epigenetic Regulation of Development

Short Talk(s) Chosen from Abstracts

Integrating Chromatin States and Genome Architecture to Understand Genome Function (X5)

John A. Stamatoyannopoulos[†], University of Washington, USA

Transcriptional Circuitry and Regulatory Landscapes

William J. Greenleaf[†], Stanford University, USA

Understanding the Physical Genome

Short Talk Chosen from Abstracts

Disease I (X6)

Peter C. Scacheri[†], Case Western Reserve University, USA

Epigenetics of Health and Disease

Manolis Kellis[†], Massachusetts Institute of Technology / Broad Institute, USA

Functional Dissection of Disease-Associated Variation

Bradley E. Bernstein[†], Massachusetts General Hospital, USA

Epigenetic Control of Cancer

Short Talk Chosen from Abstracts

Poster Session 3

TUESDAY, MARCH 27

Chromosome Architecture and Dosage Compensation (X5)

Edith Heard, Institut Curie, France

X-Chromosome Inactivation: From Chromosome Structure to Function

Christine Disteche[†], University of Washington, USA

Dosage Compensation Strategies in Mammals

Mitzi I. Kuroda[†], Harvard Medical School, USA

Chromosome Architecture: Lessons from Drosophila

Barbara J. Meyer[†], University of California, Berkeley, USA

Chromosome Architecture: Lessons from C. elegans Dosage Compensation

Compensation

Short Talk(s) Chosen from Abstracts

Disease II (X6)

Aviv Regev[†], Massachusetts Institute of Technology/Broad Institute, USA

Gene Regulatory Pathways in Evolution and Disease

Leonard I. Zon[†], HHMI/Boston Children's Hospital, USA

Gene Control in Development and Disease

Helen H. Hobbs[†], University of Texas Southwestern Medical Center, USA

Genetic Determinants of Plasma Lipid Levels and Cardiovascular Risk

Stuart H. Orkin[†], Dana-Farber Cancer Institute, USA

The Switch from Fetal to Adult Hemoglobin

Short Talk(s) Chosen from Abstracts

Disrupted Chromatin Architecture and Disease (X5)

Jane A. Skok[†], New York University School of Medicine, USA

Epigenetic Regulation of Lymphocyte Development through Chromosome Dynamics and Nuclear Architecture

Stefan Mundlos[†], Max Planck Institute for Molecular Genetics, Germany

Chromatin Domains and Gene-Enhancer Interactions in Development and Human Disease

and Human Disease

Cigall Kadoch[†], Dana-Farber Cancer Institute, Harvard Medical School, USA

Chromatin Remodeling Factors in Cancer

Therapeutics (X6)

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James E. Bradner[†], Novartis Institutes for BioMedical Research, USA
Transcription and Drug Discovery

Cheryl Arrowsmith[†], University of Toronto, Canada
Drugging Epigenetic Regulators

Scott A. Armstrong[†], Memorial Sloan-Kettering Cancer Center, USA
Epigenetic Therapy in Cancer

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)
(X5)

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)
(X6)

WEDNESDAY, MARCH 28

Departure