

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Gene Regulation: From Mechanisms to Disease (J3)

Scientific Organizers: Karen Adelman and Patrick Cramer

Sponsored by Moderna

Cancer Epigenetics: New Mechanisms and Therapeutic Opportunities (J4)

Scientific Organizers: Cigall Kadoch and Christopher Vakoc

January 26-30, 2020 • Keystone Resort • Keystone, CO, USA

Sponsored by Incyte Corporation

Abstract & Scholarship Deadline: October 1, 2019 / Abstract Deadline: October 29, 2019 / Discounted Registration Deadline: November 26, 2019

SUNDAY, JANUARY 26

Arrival and Registration

MONDAY, JANUARY 27

Welcome and Keynote Address (Joint)

Shelley L. Berger, University of Pennsylvania, USA
Gene Regulation and Epigenetics in Aging

Fundamentals of Gene Regulation (Joint)

Eva Nogales, University of California, Berkeley, USA
Structural Insights into the Regulation of the Gene Silencer PRC2

Patrick Cramer, Max Planck Institute for Biophysical Chemistry, Germany
Mechanisms of Chromatin Transcription

Danny F. Reinberg, HHMI/New York University, USA
Polycomb, Inheritance and Disease

Short Talks Chosen from Abstracts

Workshop 1 (J3)

Short Talks Chosen from Abstracts

Workshop 1 (J4)

Short Talks Chosen from Abstracts

Imaging of Transcriptional Dynamics (J3)

Michael S. Levine, Princeton University, USA
Visualizing Developmental Dynamics in Drosophila Embryos

Ibrahim Cissé, Massachusetts Institute of Technology, USA
Imaging Enhancer Promoter Interactions in Single Cells

Danette L. Daniels, Promega Corporation, USA
Kinetic Monitoring of Protein Interactions and Targeted Degradation in Live Cells

Short Talks Chosen from Abstracts

Enhancer Structure in Cancer (J4)

Ashby Morrison, Stanford University, USA
Epigenetic Regulation of Carcinogen Susceptibility

Richard A. Young, Whitehead Institute for Biomedical Research, USA
Gene Dysregulation, Condensates and Drugs

Bin Wu, Agios Pharmaceuticals Inc, USA
Talk Title to be Announced

Short Talks Chosen from Abstracts

Poster Session 1

TUESDAY, JANUARY 28

Epigenetic Modifications of Chromatin and RNA (Joint)

Tony Kouzarides, University of Cambridge, UK
RNA Modifications and their Roles in Cancer

Asifa Akhtar, Max Planck Institute of Immunobiology and Epigenetics, Germany
Dosage Compensation of the X Chromosome: A Complex Epigenetic Assignment Involving Chromatin Regulators and lncRNAs

Anne Brunet, Stanford University, USA
Epigenetic Regulation of Stem Cell Aging

Salvador Aznar Benitah, ICREA and Institute for Research in Biomedicine, Spain

Epigenetic Influence of Our (Fatty) Diet on Metastatic-Initiating Cells

Short Talks Chosen from Abstracts

Coupling of Transcription and RNA Processing (J3)

Yongsheng Shi, University of California, Irvine, USA
Probing 3' End Formation of Coding and Non Coding RNAs

Karla M. Neugebauer, Yale University, USA
Dynamics of Co-Transcriptional Splicing

Torben Heick Jensen, Aarhus Universitet, Denmark
Transcription Termination and Links to RNA Processing/Decay Pathways

Short Talks Chosen from Abstracts

Human Disease Models of Chromatin Regulation (J4)

Jennifer E. Phillips-Cremins, University of Pennsylvania, USA
Genome Misfolding in Human Neurological Disorders

Hao Zhu, University of Texas Southwestern Medical Center, USA
Targeting Chromatin Remodeling Complexes for Tissue Regeneration

Paola Grandi, Cellzome AG, a GSK Company, Germany
Click Chemistry and Preclinical Evaluation of Targeted Epigenetic Therapies

Short Talks Chosen from Abstracts

Poster Session 2

WEDNESDAY, JANUARY 29

Communication between Promoters and Enhancers (J3)

Geeta J. Narlikar, University of California, San Francisco, USA
Phase-Separation in Heterochromatin

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Eileen E.M. Furlong, European Molecular Biology Laboratory, Germany

Promoter Enhancer Communication during Drosophila Development

Alexander Stark, Research Institute of Molecular Pathology - IMP, Austria

Decoding Regulation: Global Screens to Uncover How Sequence Dictates Gene Activity

Clodagh C. O'Shea, The Salk Institute for Biological Studies, USA
Talk Title to be Announced

Short Talks Chosen from Abstracts

Synthetic Lethal Vulnerabilities in Cancer (J4)

Yael David, Memorial Sloan Kettering Cancer Center, USA
Revealing Cancer-Associated Epigenetic Events using Novel Chemical Tools

Ali Shilatifard, Northwestern University, USA
Principles of Epigenetics and Chromatin in Development and Human Disease

Scott A. Armstrong, Dana-Farber Cancer Institute, USA
Targeting Dependencies in MLL and other Pediatric Cancers

Christopher Vakoc, Cold Spring Harbor Laboratory, USA
Aberrant Transcription in Pancreatic Cancer

Short Talks Chosen from Abstracts

Meet the Editors (J3)

Defining Regulation in Single-Cell Cells (J3)

Nikolaus Rajewsky, Max Delbrück Center for Molecular Medicine, Germany
Insights into Principles of Gene Regulation by Single Cell Sequencing in Space and Time

Rickard Sandberg, Karolinska Institutet, Sweden
Decoding Transcriptional Regulation and Kinetics Using Single-Cell Transcriptomics

William J. Greenleaf, Stanford University, USA
A Single Cell Framework for Multi-Omic Analysis of Disease Identifies Malignant Regulatory Signatures

Short Talks Chosen from Abstracts

Developmental Epigenetics and Transcription (J4)

Edith Heard, European Molecular Biology Laboratory, Germany
Epigenetic Abnormalities in Development and Cancer

Adrian P. Bracken, Trinity College Dublin, Ireland
PRC2 Complexes in Development and Disease

Marcus Buschbeck, Josep Carreras Leukaemia Research Institute, Spain

Histone Variants Regulate 3D Chromatin Architecture and the Inflammatory Response of Cancer Cells

Short Talks Chosen from Abstracts

Poster Session 3

THURSDAY, JANUARY 30

Gene Control in Development (J3)

Emma Farley, University of California San Diego, USA
Enhancer Grammar in Development and Disease

François Fuks, Université Libre de Bruxelles, Belgium
Signaling and Epigenetics in Cell Growth and Cancer

Robert A. Martienssen, Cold Spring Harbor Laboratory, USA
Small Non-Coding RNAs in Epigenetic Regulation of Germ Cells

Kathrin Plath, University of California, Los Angeles, USA
Gene Regulation in Reprogramming Processes

Short Talks Chosen from Abstracts

Chromatin Regulatory Modulation: Novel Small Molecule-Based Approaches (J4)

Eric R. Olson, Syros Pharmaceuticals, USA
Therapeutic Applications of Altering Tumor Cell Gene Expression

Speaker to be Announced

Rab K. Prinjha, GlaxoSmithKline, UK
Epigenetic Inhibition in Cancer: Emerging Strategies and Approaches

Jane A. Skok, New York University School of Medicine, USA
CTCF and its Impact on Gene Regulation and Interplay with CTCF Function

Short Talks Chosen from Abstracts

Workshop 2 (J3)

Short Talks Chosen from Abstracts

Workshop 2 (J4)

Short Talks Chosen from Abstracts

Higher Order Interactions in Transcription Regulation (J3)

Steven L. McKnight, University of Texas Southwestern Medical Center, USA

Low Complexity Sequences in Gene Regulation

Karen Adelman, Harvard Medical School, USA

Interactions Between Coding and Non-Coding RNA loci

Shasha Chong, University of California, Berkeley, USA
Dynamic and Selective Low-Complexity Domain Interactions Control Gene Transcription: A Single-Molecule Study

Short Talk Chosen from Abstracts

Chromatin Structure and Function in Cancer (J4)

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

Mammalian SWI/SNF Complexes in Cancer

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Luciano Di Croce, CRG - Center for Genomic Regulation, Spain
Molecular Mechanisms Governing Cell Identity, Differentiation and Cancer Processes

Jikui Song, University of California, Riverside, USA
Structural Studies in DNA Methylation and Links to Human Cancer

Short Talk Chosen from Abstracts

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)
(J3)

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)
(J4)

FRIDAY, JANUARY 31

Departure