Join Keystone Symposia for the 2016 conference on:

Enhancer Malfunction in Cancer

February 21–24, 2016
Santa Fe Community Convention Center | Santa Fe, New Mexico | USA

Scientific Organizers: Ali Shilatifard and Dale Dorsett

Joint with the conference on Noncoding RNAs in Health and Disease

Why point mutations in a general transcription factor are associated with specific forms of human malignancies has been a major question in cancer biology. Enhancers are DNA regulatory elements that can be transcribed and are key regulators of tissue-specific gene expression in development; their malfunction through point mutations in either regulatory elements or factors modulating enhancer-promoter communication could result in development problems. Indeed, recent genome-wide studies in the cataloging of somatic mutations in cancer have identified mutations in intergenic sequences encoding regulatory elements and in specific transcription factors that function in enhancer-promoter communication. This Keystone Symposia meeting will review recent reports in this regard and discuss the concept of enhancer malfunction in the misregulation of gene expression in development and in disease pathogenesis.

Session Topics:
• Enhancer Biology
• Enhancers in Development
• Enhancer RNA in Development and Disease (Joint)
• Enhancer Chromatin and Noncoding RNA (Joint)
• Enhancers and Regulatory Networks
• Chromatin Structure and Enhancer Promoter Communications

Abstract Deadline: Nov 18, 2015
Discounted Registration Deadline: Dec 18, 2015

For additional details, visit www.keystonesymposia.org/16Q6.
SUNDAY, FEBRUARY 21
Arrival and Registration

MONDAY, FEBRUARY 22
Welcome and Keynote Session (Joint)
* Ramin Shiekhattar, University of Miami, USA
* Ali Shilatifard, Northwestern University, USA
Michael S. Levine, Princeton University, USA
Enhancers/Promoters and Regulation of Gene Expression
* Eric N. Olson, University of Texas Southwestern Medical Center, USA

Modulation of Muscle Development and Disease by Noncoding RNAs
Enhancer Biology (Q6)
* Gerd A. Blobel, Children's Hospital of Philadelphia, USA
Dale Dorsett, St. Louis University School of Medicine, USA
RNA Binding Proteins Aid Association of Cohesin with Genes and Enhancers
Matthias Merkenschlager, Imperial College London, UK
The contribution of cohesin to enhancer connectivity and function.
Alexander Stark, Research Institute of Molecular Pathology - IMP, Austria
EMBO Young Investigator Lecture: Decoding Transcriptional Regulation
Julie Ahringer, University of Cambridge, UK
Short Talk: Properties and Activities of Enhancers
Beatriz Aranda-Orgilles, NYU School of Medicine, USA
Short Talk: Med12 Regulates Enhancer Dynamics in HSCs Independently of Mediator Kinase Activity

Noncoding RNAs in Heterochromatin and Dosage Compensation (Q5)
* François Fuks, Université libre de Bruxelles, Belgium
Howard Y. Chang, Stanford University, USA
Genome Regulation by Long Noncoding RNAs
Joshua T. Mendell, HHMI/University of Texas Southwestern Medical Center, USA
Regulation of Genomic Stability by the Noncoding RNA NORAD
Shiv I. S. Grewal, NCI, National Institutes of Health, USA
RNA Processing Machineries in Gene Silencing
Montserrat Anguera, University of Pennsylvania, USA
Short Talk: Unusual Maintenance of X-Chromosome Inactivation Predisposes Female Lymphocytes for Increased Expression from the Inactive X

Small Noncoding RNA in Transcriptional Silencing (Joint)
Noncoding RNAs and Enhancers in Development (Joint)
* Luciano Di Croce, CRG - Center for Genomic Regulation, Spain
Robert A. Martienssen, Cold Spring Harbor Laboratory, USA
Noncoding RNAs and Transposition
Anindya Dutta, University of Virginia, USA
Short Talk: MUNC and DRAIC: IncRNAs Involved in Differentiation and in Repression of Metastasis
Robin D. Dowell, University of Colorado, USA
Enhancer RNAs Originate from Active Transcription Factor Binding
Gioacchino Natoli, Humanitas University, Italy
Noncoding Transcription at Enhancers and Promoters: Genome-Wide Suppression by Early Termination
Gerd A. Blobel, Children's Hospital of Philadelphia, USA
A Hyperactive Transcriptional State Marks Genome Reactivation during Mitotic Exit
* Panagiotis Ntziachristos, Northwestern University, USA
Short Talk: Characterization of the Oncogenic Enhancer Repertoire in T Cell Leukemia using Chromatin Conformation Studies

Noncoding RNAs in Health and Disease (Q5)
Scientific Organizers: Ramin Shiekhattar and Roberto Bonasio
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Sponsored by Cell Research and Journal of Molecular Cell Biology (JMCB)

Poster Session 1

TUESDAY, FEBRUARY 23
Enhancer RNAs in Development and Disease (Joint)
* Anne Brunet, Stanford University, USA
* Julie Ahringer, University of Cambridge, UK
Ramin Shiekhattar, University of Miami, USA
Biogenesis and Mechanism of Action of Enhancer RNAs
Shelley L. Berger, University of Pennsylvania, USA
CBP Senses its Transcription Environment at Enhancers to Locally Modulate Acetyltransferase Activity
Christopher K. Glass, University of California, San Diego, USA
Mechanisms and Consequences of Enhancer Transcription
Tae-Kyung Kim, University of Texas Southwestern Medical Center, USA
Functional Mechanisms of Neuronal Enhancers
Franziska Petermann, NIAMS, National Institutes of Health, USA
Short Talk: Deletion of NeST Reduces IFN-gamma Expression and Chromosomal Looping at the Ifng locus
Daniel R. Larson, NCI, National Institutes of Health, USA
Short Talk: Coordinate Regulation of Estrogen-Responsive Genes and eRNA in Single Cells
Enhancer Chromatin and Noncoding RNAs (Joint)

*Karen Adelman, Harvard Medical School, USA
*Dale Dorsett, St. Louis University School of Medicine, USA
Ali Shilatifard, Northwestern University, USA
Enhancer Malfunction in Cancer

Tony Kouzarides, University of Cambridge, UK
Role of ncRNAs in Transcription and Cancer

Harinder Singh, Cincinnati Children's Hospital Medical Center, USA
Single-Cell Analysis of Mixed-Lineage Transcriptional States Leading to a Binary Cell Fate Choice

Jesse M. Engreitz, Broad Institute of Harvard and MIT, USA
Short Talk: Many Promoters of IncRNAs and mRNAs Act as Enhancers in Local Gene Regulatory Networks

Poster Session 2

WEDNESDAY, FEBRUARY 24

Enhancers and Regulatory Networks (Q6)

*Dale Dorsett, St. Louis University School of Medicine, USA
Ann Dean, NIDDK, National Institutes of Health, USA
Enhancer Mechanisms Underlying the Erythroid Transcriptome

Warren S. Pear, University of Pennsylvania, USA
Modular Domains within a Super Enhancer Determine Drug Resistance in T-Cell Leukemia

W. Lee Kraus, University of Texas Southwestern Medical Center, USA
Molecular Mechanisms for the Assembly and Function of Cell Type-Specific Enhancers

Denes Hnisz, Whitehead Institute, USA
Enhancer Structure and Function in Health and Disease

Sarah C. Pyfrom, Washington University in St. Louis, USA
Short Talk: Defining and Targeting Pathogenic Enhancers in B Cell Cancers

Noncoding RNAs in Epigenetics (Q5)

*Roberto Bonasio, University of Pennsylvania, USA
François Fuks, Université libre de Bruxelles, Belgium
Mechanisms of TETs and Hydroxymethylation

Anne Brunet, Stanford University, USA
Epigenetic Regulation of Longevity

Chris Marine, VIB-KU Leuven, Belgium
Cancer Cell Addiction to IncRNAs

Gozde Korkmaz, Netherlands Cancer Institute, Netherlands
Short Talk: Functional Genetic Screens for Enhancer Elements in the Human Genome Using CRISPR-Cas9

Luciano Di Croce, CRG - Center for Genomic Regulation, Spain
Polycomb Orchestrates Gene Regulation Dynamics in Cell Differentiation and Cancer

Madoka Chinen, NIDDK, National Institutes of Health, USA
Short Talk: Structure-Function Analysis of Drosophila Argonaute2 in Chromatin Insulator Activity

Chromatin Structure and Enhancer Promoter Communications (Q6)

*Ann Dean, NIDDK, National Institutes of Health, USA
Nadav Ahituv, University of California, San Francisco, USA
Functional Characterization of Gene Regulatory Elements

Robert E. Kingston, Massachusetts General Hospital, USA
Alterations in Nucleosome Accessibility during Regulation

Blaine Bartholomew, University of Texas MD Anderson Cancer Center, USA
Short Talk: Auto-Regulation of SWI/SNF in Cancer and its Relationship to Enhancers

Sharon Y.R. Dent, University of Texas MD Anderson Cancer Center, USA
Short Talk: A SAGA of GCN5 and USP22 in Development and Disease

Noncoding RNAs and Nuclear Architecture (Q5)

*Howard Y. Chang, Stanford University, USA
John L. Rinn, University of Colorado Boulder, USA
Function and Evolution of Local Repeats in the FIRRE Locus

Eric A.J. Simko, Johns Hopkins University, USA
Short Talk: Nuclear Paraspeckle Disruption by C9orf72 Repeat RNA

Karen Adelman, Harvard Medical School, USA
Pol II Pausing and Elongation at Noncoding RNA Loci

Roberto Bonasio, University of Pennsylvania, USA
RNA-Mediated Regulation of Chromatin-Associated Proteins

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (Q6)

Meeting Wrap-Up: Outcomes and Future Directions (Q5)

*Ramin Shiekhattar, University of Miami, USA
*Roberto Bonasio, University of Pennsylvania, USA

THURSDAY, FEBRUARY 25

Departure