

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Non-Coding RNAs: Biology and Applications (EK44)

May 11-14, 2021 • Virtual at your computer

Scientific Organizers: Ling-Ling Chen, David L. Spector and Anna Marie Pyle

Sponsored by Cell Research and Ionis Pharmaceuticals, Inc.

TUESDAY, MAY 11

Welcoming Remarks and Keynote Address (6am Denver/Mountain Time Start)

***David L. Spector**, Cold Spring Harbor Laboratory, USA

Edith Heard, European Molecular Biology Laboratory, Germany
The Multiple Roles of Xist RNA and Its Partners during X-Chromosome Inactivation

Regulation of Long Noncoding RNA in Nuclear Condensates (6:40am Denver/Mountain Time Start)

***Sarah D. Diermeier**, University of Otago, New Zealand

Tetsuro Hirose, Osaka University, Japan
The Elements and Machinery of Architectural Long Noncoding RNAs

***Prasanth V. Kannanganattu**, University of Illinois, USA
Repeat-Containing Noncoding RNAs in the Nucleolus

Ling-Ling Chen, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, China
lncRNA SLERT Maintains Nucleolar Liquidity to Facilitate Pol I Transcription

Jonathan E. Henninger, 275.00
Short Talk: Control of Transcriptional Condensates and Gene Expression by Local Long Noncoding RNAs

Sofia Quinodoz, 275.00
Short Talk: RNA Promotes the Formation of Spatial Compartments in the Nucleus

Noncoding RNA in Therapeutics (8:35am Denver/Mountain Time Start)

***Prasanth V. Kannanganattu**, University of Illinois, USA

David L. Spector, Cold Spring Harbor Laboratory, USA
Targeting Long Noncoding RNAs to Impact Breast Cancer Progression

***Sarah D. Diermeier**, University of Otago, New Zealand
Mammary Tumor Associated RNAs as Drivers of Tumor Cell Growth and Metastasis

Allison Marly Porman Swain, University of Colorado Anschutz Medical Campus, USA
Short Talk: A Single N6-methyladenosine Site in lncRNA HOTAIR Regulates Its Function in Breast Cancer Cells

Dhiraj Kumar, University of Texas MD Anderson Cancer Center, USA
Short Talk: lncRNA Malat1 Facilitates Breast Cancer Metastatic Dormancy and Reactivation by Immune Evasion

Mark W. Feinberg, 275.00
Short Talk: lncRNA-Mediated Regulation of Vascular Senescence and Atherosclerosis

Career Roundtable (11am Denver/Mountain Time Start)

Howard Y. Chang, Stanford University, USA

Lynne E. Maquat, University of Rochester Medical Center, USA

Marco Marcia, EMBL Grenoble, France

Poster Session 1 (12:30pm Denver/Mountain Time Start)

WEDNESDAY, MAY 12

Mechanisms of Long Noncoding RNA Function (6am Denver/Mountain Time Start)

***Jeremy E. Wilusz**, University of Pennsylvania, USA

***Xiaohua Shen**, Tsinghua University, China
A Glimpse of ncRNA-mediated Transcription and Chromatin Regulation

Xuetao Cao, Nankai University and Chinese Academy of Medical Sciences, China

Funations of Long Noncoding RNAs in Innate Immunity

Igor Ulitsky, Weizmann Institute of Science, Israel
Functions of Long Noncoding RNAs in Mammalian Cells

Juan Pablo Unfried, University of Navarra, Spain
Short Talk: lncRNA NIHCOLE Promotes DNA Damage Repair of Hepatocellular Carcinoma Cells

Rory Johnson, 275.00
Short Talk: Systematic Discovery and Characterization of Cis-Regulatory Long Noncoding RNAs

Chun-Kan Chen, 275.00
Short Talk: Structured Elements Drive Circular RNA Translation and Expand the Human Proteome

Enhancer RNAs, Circular RNAs and Small RNAs (8:25am Denver/Mountain Time Start)

***Xiaohua Shen**, Tsinghua University, China

***Jeremy E. Wilusz**, University of Pennsylvania, USA
Harnessing Endonucleases to Control Gene Outputs

Heidi Lempradl, 275.00
Short Talk: Intergenerational Metabolic Priming by Sperm piRNAs

Sean E. McGeary, Whitehead Institute / MIT, USA
Short Talk: Pairing to the MicroRNA 3' Region Occurs through Two Alternative Binding Modes, with Affinity Shaped by Nucleotide Identity as well as Pairing Position

Lamia Wahba, 275.00
Short Talk: An Essential Role for the piRNA Pathway in Regulating the Ribosomal RNA Pool in C. elegans

Meet the Editors (11:30am Denver/Mountain Time Start)

Richard Hodge, PLOS, UK

Emily Marcinkevicius, Cell Reports Methods, USA

Di Jiang, 275.00

Esther Schnapp, European Molecular Biology Organization, Germany

Elisa Zicola, Frontiers Journals, UK

THURSDAY, MAY 13

RNA Structure and Function (6am Denver/Mountain Time Start)

***Lydia M. Contreras**, University of Texas at Austin, USA

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Anna Marie Pyle, Yale University, USA
Structure Insights into Noncoding RNA Function

Amanda E. Hargrove, Duke University, USA
Targeting Long Noncoding RNA with Small Molecules

***Matthew D. Simon**, Yale University, USA
Chemical Probing of RNA Structure in Cells

Marco Marcia, EMBL Grenoble, France
Structure-Functional Relationships in Long Non-Coding RNAs

Roza Kamila Przanowska, University of Virginia, USA
Short Talk: Linking MUNC lncRNA Structure with Its Function in Myogenesis

RNA Technologies (8:15am Denver/Mountain Time Start)

***Matthew D. Simon**, Yale University, USA

Howard Y. Chang, Stanford University, USA
Genome Regulation by Long Noncoding RNAs

Samie Jaffrey, Weill Medical College of Cornell University, USA
Highly Efficient Expression of Circular RNAs in Cells using Autocatalytic Transcripts

***Lydia M. Contreras**, University of Texas at Austin, USA
Expanding Roles and Targeting of ncRNAs via Novel in vivo Characterization Approaches

Qi Chen, 275.00
Short Talk: PANDORA-seq Expands the Repertoire of Regulatory Small RNAs by Overcoming RNA Modifications

Junchao Shi, University of California, Riverside, USA
Short Talk: SPORTS1.1: A Tool for Annotating and Profiling Non-Coding RNAs Optimized for rRNA-and tRNA-Derived Small RNAs

Poster Session 2 (12:30pm Denver/Mountain Time Start)

FRIDAY, MAY 14

Noncoding RNA in Development and Disease (6am Denver/Mountain Time Start)

***Edward B. Chuong**, University of Colorado Boulder, USA

Joshua T. Mendell, University of Texas Southwestern Medical Center, USA
Noncoding RNAs in Post-Transcriptional Regulatory Circuits

***Lin He**, University of California, Berkeley, USA
Noncoding RNAs and Retrotransposons in Development

Erwei Song, Sun-Yat-Sen Memorial Hospital, China
IRENA Determines the Pro-Tumor and Anti-Tumor Properties of Inflammatory Macrophages

John L. Rinn, University of Colorado Boulder, USA
Long Noncoding RNA Regulation in Development

Mukesh Kumar Lalwani, University of Edinburgh, UK
Short Talk: Regulation of Cardiomyocyte Proliferation by LncRNA CARMN during Heart Regeneration in Zebrafish

Murat Can Kalem, University at Buffalo, State University of New York, USA
*Short Talk: Long Noncoding RNA Regulation in Human Fungal Pathogen *Cryptococcus neoformans**

Repetitive RNAs in Gene Regulation (8:20am Denver/Mountain Time Start)

***Lin He**, University of California, Berkeley, USA

***Edward B. Chuong**, University of Colorado Boulder, USA
Retrotransposons as Regulators of Innate Immunity

Maria-Elena Torres-Padilla, Helmholtz Centre Munich, Germany
[NOT AVAILABLE ON DEMAND] Transposon Regulation in Early Development

Lynne E. Maquat, University of Rochester Medical Center, USA
Loss of Fragile X Protein Results in Misregulation of Nonsense-Mediated mRNA Decay

Xuhang Liu, 275.00
Short Talk: A Pro-Metastatic tRNA Fragment Drives Nucleolin Oligomerization and Stabilization of Bound Metabolic mRNAs

Closing Remarks (9:50am Denver/Mountain Time Start)

Anna Marie Pyle, Yale University, USA

Networking Lounge (10am Denver/Mountain Time Start)