

Keystone Symposia in Whistler

RNA-Protein Interactions

Whistler Conference Centre | Whistler, British Columbia, Canada | February 24–28, 2019

Joint with the conference on **Long Noncoding RNAs: From Molecular Mechanisms to Functional Genetics**

Scientific Organizers:

Xiang-Dong Fu, University of California, San Diego, USA

Anne Ephrussi, European Molecular Biology Laboratory, Germany

Douglas L. Black, University of California, Los Angeles, USA

Recent evidence suggests that the human genome encodes ~1500 RNA binding proteins (RBPs), and this number may further increase by identifying additional RBPs that do not contain canonical RNA binding motifs. These proteins control gene expression at transcriptional and post-transcriptional levels in development and disease. As mutations in many RBPs have been linked to human diseases, various RBPs and their regulated events may be potential drug targets. This conference will address some long-standing problems as well as emerging paradigms in this field. In particular, it will bring together leaders in RNA research to: 1) Brainstorm around novel concepts; 2) Share new technology developments; and 3) Explore new disease mechanisms. The conference will be highly mechanism-oriented, rather than centering on a specific biological process or disease theme, which will bring together scientists across multiple fields. Since individual regulatory RNAs must enlist specific RBPs to execute their biological functions, coupling the conference with another on “Long Noncoding RNAs: From Molecular Mechanism to Functional Genetics” will thus present a cohesive theme focused on RNA biology and medicine.

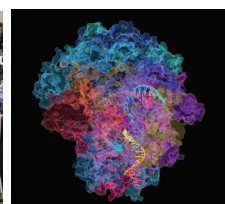
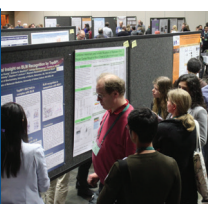
Plenary Session Topics:

- Functional RNA Elements in Mammalian Genomes (Joint)
- RNP in Phase Transition
- Coding and Noncoding RNAs on Chromatin (Joint)
- Dissecting RNP Functions *in vivo*
- RNA Transport and Localization
- Structure and Function of RBPs
- RNP Machines and Regulation
- RNA and RBP in Disease (Joint)

plus two workshops

Scholarship/Discounted Abstract Deadline: Oct 25, 2018; Abstract Deadline: Nov 29, 2018; Discounted Registration Deadline: Jan 10, 2019

Visit www.keystonesymposia.org/19X1 for more details.



KEYSTONE SYMPOSIA[™]
on Molecular and Cellular Biology
Accelerating Life Science Discovery
a 501(c)(3) nonprofit educational organization

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

RNA-Protein Interactions (X1)

Scientific Organizers: Xiang-Dong Fu, Anne Ephrussi and Douglas L. Black

Sponsored by Cell Research

Long Noncoding RNAs: From Molecular Mechanism to Functional Genetics (X2)

Scientific Organizers: Saba Valadkhan and Piero Carninci

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Abstract & Scholarship Deadline: October 25, 2018 / Abstract Deadline: November 29, 2018 / Discounted Registration Deadline: January 10, 2019

SUNDAY, FEBRUARY 24

Arrival and Registration

MONDAY, FEBRUARY 25

Welcome and Keynote Session (Joint)

Jennifer A. Doudna, HHMI/University of California, Berkeley, USA
CRISPR: An RNP Machine

John S. Mattick, Garvan Institute of Medical Research, Australia
The Evolution and Future of lncRNA Research

Functional RNA Elements in Mammalian Genomes (Joint)

Brenton R. Graveley, UConn Health, USA
Large Scale Analysis of Functional RNA Elements in the Human Genome

Thomas R. Cech, HHMI/University of Colorado, USA
RNA-Protein Interactions Regulate Epigenetic Silencing

Chris B. Burge, Massachusetts Institute of Technology, USA
Patterns in the Recognition of RNAs by RBPs

Short Talk(s) Chosen from Abstracts

Workshop 1 (X1)

Short Talks Chosen from Abstracts

Workshop 1 (X2)

Short Talks Chosen from Abstracts

RNP in Phase Transition (X1)

Kathrin Plath, University of California, Los Angeles, USA
Association of Xist RNA with Chromatin

Roy R. Parker, HHMI/University of Colorado, USA
RNP GRANULES IN HEALTH AND DISEASE

Speaker to be Announced

Short Talk(s) Chosen from Abstracts

lncRNAs, Transposons and Evolution of the Genome (X2)

Igor Ulitsky, Weizmann Institute of Science, Israel
lncRNAs, Transposons and Genome Evolution

Lynne E. Maquat, University of Rochester Medical Center, USA
Role of Retrotransposon Elements within Cellular RNAs

Paulo P. Amaral, University of Cambridge, UK
Regulatory Roles of Covalent Modifications in lncRNAs

Short Talk(s) Chosen from Abstracts

Poster Session 1

TUESDAY, FEBRUARY 26

Coding and Non-Coding RNAs on Chromatin (Joint)

Xiang-Dong Fu, University of California, San Diego, USA
Broad Roles of RNA Binding Proteins in Regulated Gene Expression

Yijun Ruan, University of Connecticut, USA
RNA-Chromatin Interactions

Jeannie T. Lee, Massachusetts General Hospital, USA
LncRNAs: Lessons from X Inactivation

Valerio Orlando, King Abdullah University of Science and Technology, Saudi Arabia
Epigenome Plasticity, Nuclear Architecture and Cell Adaptation: A Role for Noncoding RNA

Short Talk(s) Chosen from Abstracts

Dissecting RNP Functions in vivo (X1)

Danesh Moazed, Harvard Medical School, USA
RNAi in Chromatin Remodeling

Joan A. Steitz, HHMI, Yale University, USA
Target-Directed miRNA Decay: yet another function of Ago proteins

Susan L. Ackerman, University of California, San Diego, USA
tRNAs and Neuron Function

Short Talk(s) Chosen from Abstracts

Regulation of Differentiation and Development by lncRNAs (X2)

Saba Valadkhan, Case Western Reserve University, USA
lncRNAs in Cancer and Immunity

Joshua T. Mendell, HHMI/University of Texas Southwestern Medical Center, USA
lncRNAs in Mammalian Physiology and Disease

Susan B. Carpenter, University of California, Santa Cruz, USA
lncRNAs in Immune Function

Short Talk(s) Chosen from Abstracts

Poster Session 2

WEDNESDAY, FEBRUARY 27

RNA Transport and Localization (X1)

Anne Ephrussi, European Molecular Biology Laboratory, Germany
Motor-Mediated RNA Transport and Localization

Robert H. Singer, Albert Einstein College of Medicine, USA
End of Life Decisions for mRNA

Speaker to be Announced

Dierk Niessing, Ulm University, Germany
Molecular Architecture and Dynamics of Transport Complexes

Short Talk(s) Chosen from Abstracts

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on Molecular and Cellular Biology

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lncRNAs in Disease: Tools for Discovery (X2)

Piero Carninci, RIKEN Center for Integrative Medical Sciences, Japan
Functional Genomics of lncRNAs

Arul M. Chinnaiyan, University of Michigan, USA
Identification of Novel Disease-Related lncRNAs

Jonathan S. Weissman, University of California, San Francisco, USA
CRISPR as a Tool in lncRNA Discovery

Joakim Lundeberg, KTH-Royal Institute of Technology, Sweden
Spatial Transcriptome Analysis and Disease

Short Talk(s) Chosen from Abstracts

Structure and Function of RBPs (X1)

Douglas L. Black, University of California, Los Angeles, USA
Splicing Activation by Rbfox Requires Self-Aggregation of its Tyrosine-Rich Domain

Frédéric H.T. Allain, ETH Zurich, Switzerland
Structural Basis for RNA Recognition

Traci M.T. Hall, NIEHS, National Institutes of Health, USA
Natural and Engineered RNA Recognition Specificity

Short Talk(s) Chosen from Abstracts

Novel Insights into Functional Mechanism of lncRNAs (X2)

Howard Y. Chang, Stanford University, USA
Mechanism of Function of lncRNAs

Michael G. Rosenfeld, HHMI/University of California, San Diego, USA
lncRNA Mechanism of Function

John L. Rinn, University of Colorado Boulder, USA
Mechanism of Function of lncRNAs

Short Talk(s) Chosen from Abstracts

Poster Session 3

THURSDAY, FEBRUARY 28

RNP Machines and Regulation (X1)

V. Narry Kim, Institute for Basic Science, South Korea
Modulation of the Microprocessor

Rui Zhao, University of Colorado, USA
Structure and Function of the Spliceosome

Yanli Wang, Institute of Biophysics, Chinese Academy of Sciences, China
CRISPR-Cas Mediated Cleavage of Invading Nucleic Acids

Erik Sontheimer, University of Massachusetts Medical School, USA
CRISPR/Cas Pathways

Short Talk(s) Chosen from Abstracts

lncRNAs: Diversity in Form and Function (X2)

Thomas R. Gingeras, Cold Spring Harbor Laboratory, USA
No RNA Left Behind

Karissa Y. Sanbonmatsu, Los Alamos National Laboratory, USA
Structure-Function Relationship in lncRNAs

Jay W. Shin, RIKEN Yokohama, Japan
Fantom6: from Discovery to Function of lncRNAs

Lingling Chen, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, China
lncRNAs of Novel Origin

Short Talk(s) Chosen from Abstracts

Workshop 2 (X1)

Short Talks Chosen from Abstracts

Workshop 2 (X2)

Short Talks Chosen from Abstracts

RNA and RBP in Disease (Joint)

Maurice S. Swanson, University of Florida, USA
RNA Disease

Mofang Liu, Shanghai Institutes of Biological Sciences, Chinese Academy of Sciences, China
A Novel Function of MIWI/piRNA in Activating Translation of Spermiogenic mRNAs during Spermiogenesis

Frank W. Rigo, Ionis Pharmaceuticals, USA
Targeting RNA with Antisense Oligonucleotides to Treat Disease

Short Talk Chosen from Abstracts

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (X1)

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (X2)

FRIDAY, MARCH 1

Departure