

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Mobile Genetic Elements and Genome Plasticity (B7)

February 11-15, 2018 • Eldorado Hotel & Spa • Santa Fe, New Mexico, USA

Scientific Organizers: Marlene Belfort, Evan E. Eichler, Henry L. Levin and Lynne E. Maquat

Supported by the Directors' Fund

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

SUNDAY, FEBRUARY 11

Arrival and Registration

MONDAY, FEBRUARY 12

Welcome and Keynote Address

Emmanuelle Charpentier[†], Max Planck Institute for Infection Biology, Humboldt University and The Laboratory for Molecular Infection Medicine Sweden, Germany
The Transformative CRISPR-Cas9 Technology in Genome Engineering: Lessons Learned from Bacteria

Mechanisms and Results of Genome Editing

Feng Zhang[†], Broad Institute of MIT and Harvard University, USA
Tools to Better Understand Nervous System Function and Disease

Eric S. Lander[†], Broad Institute, Massachusetts Institute of Technology, USA
Genetic Screens in Human Cells Using the CRISPR-Cas9 System

George M. Church[†], Harvard Medical School, USA
A Multifunctional AAV-CRISPR-Cas9 and its Host Response

Daniel F. Voytas[†], University of Minnesota, USA
High-Frequency, Precise Modification of the Tomato Genome

Short Talk(s) Chosen from Abstracts

Workshop 1

Short Talks Chosen from Abstracts

Dynamics of Plasticity

Marlene Belfort, University of Albany, SUNY, USA
Mobile Introns, Inteins and Genome Plasticity

David M. Kingsley[†], Stanford University, USA
Evolving New Skeletal Traits by cis-Regulatory Changes in Bone Morphogenetic Proteins

Lingling Chen[†], Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, China
Protein Arginine Methyltransferase CARM1 Attenuates the Paraspeckle-Mediated Nuclear Retention of mRNAs

Short Talk Chosen from Abstracts

Poster Session 1

TUESDAY, FEBRUARY 13

Taming Mobile DNA Activity: Self and Non-Self Recognition

Shiv I. S. Grewal, NCI, National Institutes of Health, USA
*Epigenetics in *S. Pombe**

Brenda L. Bass[†], University of Utah, USA
Editing-Site Specificity of ADARs Targeting Alu Elements in Humans
Speaker to be Announced

Robert A. Martienssen[†], Cold Spring Harbor Laboratory, USA
The Expanding World of Small RNAs in Plants

Short Talk(s) Chosen from Abstracts

The Action of Mobile DNA in the Brain and in Cancer

Geoffrey J. Faulkner, Queensland Brain Institute, Australia
L1 Mobilization during Mammalian Development

Haig H. Kazazian, Johns Hopkins University School of Medicine, USA
A Potential Role for Somatic Retrotransposition in Oncogenesis

Kathleen H. Burns[†], Johns Hopkins University School of Medicine, USA
Roles of Human Transposable Elements in Disease

Short Talk Chosen from Abstracts

Poster Session 2

WEDNESDAY, FEBRUARY 14

The Biological Impact of Mobile Elements, the Regulation of Networks

Cedric Feschotte[†], University of Utah, USA
Fighting Fire with Fire: Endogenous Retroviruses Orchestrate the Innate Immune Response

Ruth Lehmann[†], New York University School of Medicine, USA
*The Cellular Basis of Hybrid Dysgenesis in *Drosophila**

Lynne E. Maquat, University of Rochester Medical Center, USA
Retrotransposons as Regulators of Gene Expression

Britt Glaunsinger[†], University of California, Berkeley, USA
SINE RNAs as an Early Warning System to Alert the Cell of an Incoming Virus

Short Talk(s) Chosen from Abstracts

Plasticity of the Primate Genome I

Evan E. Eichler, HHMI/University of Washington, USA
Dynamic Duplications and Primate Genome Evolution

Fred (Rusty) H. Gage, The Salk Institute for Biological Studies, USA
Environment-Driven Somatic Mosaicism in Brain Disorders

Mark A. Batzer[†], Louisiana State University, USA
Mobile Elements and Genomic Variation

Short Talk Chosen from Abstracts

Poster Session 3

THURSDAY, FEBRUARY 15

Plasticity of the Primate Genome II

Joanna Wysocka[†], Stanford University School of Medicine, USA
Intrinsic Retroviral Reactivation in Human Preimplantation Embryos and Pluripotent Cells

M. Joan Curcio[†], Wadsworth Center, New York State Department of Health, USA
Co-Translational Localization of an LTR-Retrotransposon RNA to the Endoplasmic Reticulum Nucleates Virus-Like

Pascale Lesage[†], Institut Universitaire d'Hématologie, France
Ty1 Integration Site Selection in Chromatin with Repair Specific Modifications

Henry L. Levin, National Institutes of Health, USA
Retrotransposon Integration Rewires Gene Regulatory Networks in Response to Stress

Short Talk(s) Chosen from Abstracts

Workshop 2

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Short Talks Chosen from Abstracts

LINE1 Dances and Transposon Architecture

John V. Moran[†], University of Michigan Medical School, USA

A 3' Poly(A) Tract Is Required for LINE-1 Retrotransposition

Christopher A. Walsh[†], Children's Hospital Boston, USA

L1 Retrotransposition and Somatic Mutation in the Human Brain

Jef D. Boeke[†], NYU Langone Medical Center, USA

How Retrotransposons Shape Genome Regulation

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

FRIDAY, FEBRUARY 16

Departure