

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: October 12, 2017 / Abstract Deadline: November 14, 2017 / Discounted Registration Deadline: December 14, 2017

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

Limitation of Horizontal Gene Transfer by CRISPR-Cas Systems in Bacteria: Mechanisms and Plasticity

Mechanisms and Results of Genome Editing

Feng Zhang, Broad Institute of MIT and Harvard University, USA
Mining Microbial Diversity for Genome Editing

Laura Landweber, Columbia University, USA
*Programmed Genome Rearrangements in the Ciliate *Oxytricha**

Josh T. Dubnau, Stony Brook University, USA
*Retrotransposon Activation and Neurodegeneration in *Drosophila**

Short Talk(s) Chosen from Abstracts

Workshop 1: Genome Editing Tools and Computational Methods

Short Talks Chosen from Abstracts

Dynamics of Plasticity

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

Jeffrey L. Bennetzen, University of Georgia, USA
Angiosperm Transposon Dynamics and the Generation of the Flowering Plant Genome

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**

R. Keith Slotkin, Ohio State University, USA
Establishment of Heterochromatin: How the Cell Triggers Transposable Elements for Trans-Generational Silencing

Brenda L. Bass, University of Utah, USA
The Functions of the dsRNAome

Mikiko C. Siomi, University of Tokyo, Japan
PIWI-Interacting RNA: Its Biogenesis and Functions

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

Regulation and Biological Impact of Mobile Elements

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

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

Short Talk(s) Chosen from Abstracts

Genome Structural Variation

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

Christopher A. Walsh, Children's Hospital Boston, USA
L1 Retrotransposition and Somatic Mutation in the Human Brain

Short Talk Chosen from Abstracts

Poster Session 3

THURSDAY, FEBRUARY 15

Retrotransposition and Gene Regulation

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

M. Joan Curcio, Wadsworth Center, USA
The Ty1 Retrotransposon and Asymmetric Cell Division

Pascale Lesage, Institut Universitaire d'Hématologie, France
Regulation of the Yeast Ty1 Retrotransposon Integration Site Selection

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

Short Talk(s) Chosen from Abstracts

Workshop 2

Short Talks Chosen from Abstracts

LINE1 Dances and Transposon Architecture

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: October 12, 2017 / Abstract Deadline: November 14, 2017 / Discounted Registration Deadline: December 14, 2017

John V. Moran, University of Michigan Medical School, USA

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

Gael Cristofari, IRCAN - INSERM/CNRS, France

Genomic Approaches to Study the Activity of Human LINE-1 Elements

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