KEYSTONE SYMPOSIA
on Molecular and Cellular Biology

Genomic Instability and DNA Repair (Z1)

Scientific Organizers: Julia Promisel Cooper, Marco F. Foiani and Geneviève Almouzni

Sponsored by Editas Medicine, Inc. and Journal of Molecular Cell Biology (JMCB)

DNA Replication and Recombination (Z2)

Scientific Organizers: John F.X. Diffley, Anja Groth and Scott Keeney

April 2-6, 2017 • Santa Fe Community Convention Center • Santa Fe, New Mexico, USA

Sponsored by Editas Medicine, Inc.

Abstract & Scholarship Deadline: December 5, 2016 / Abstract Deadline: January 12, 2017 / Discounted Registration Deadline: February 2, 2017

SUNDAY, APRIL 2

Arrival and Registration

MONDAY, APRIL 3

Welcome and Keynote Session (Joint)

Tatsuya Hirano, RIKEN, Japan
Condensin-Based Chromosome Organization

Johannes C. Walter, Harvard Medical School, USA
At the Cross-Roads of Vertebrate DNA Replication and Repair

Mechanisms of DNA Repair (Z1)

Wei Yang, NIDDK, National Institutes of Health, USA
Structural Insights into Translesion DNA Repair Processes

Jiri Lukas, Novo Nordisk Foundation Center for Protein Research, Denmark
Confinement and Heritability of Chromosome Repair Reactions

Michael D. Stone, University of California, Santa Cruz, USA
Single Molecule Approaches to Telomere Biology

Short Talk(s) Chosen from Abstracts

Replication/Repair Structure and Function (Z2)

Michael E. O'Donnell, Rockefeller University, USA
Structure and Function of the Eukaryotic Replisome

Karlene A. Cimprich, Stanford University, USA
Mechanisms for Maintenance of Replication Forks

Alessandro Costa, Francis Crick Institute, UK
Cryo-EM Approaches to Understanding the Eukaryotic Replisome

Short Talk(s) Chosen from Abstracts

RNA Metabolism and Genome Stability (Z1)

Jennifer A. Doudna, HHMI/University of California, Berkeley, USA
Mechanisms of RNA Interference in Chromatin Regulation

Julius Brennecke, IMBA - Institut für Molekulare Biotechnologie GmbH, Austria
An RNA-Based Genome Immune System Safeguards Genome Stability

Speaker to be Announced

Short Talk Chosen from Abstracts

Starting Recombination (Z2)

Scott Keeney, HHMI, Memorial Sloan-Kettering Cancer Center, USA
Mechanism and Regulation of Meiotic Double-Strand Break Formation

Petr Cejka, University of Zurich, Switzerland
Exonucleolytic Processing of Double Strand Breaks

Maria Jasin, Memorial Sloan-Kettering Cancer Center, USA
Protecting the Genome by Homologous Recombination

Short Talk Chosen from Abstracts

Poster Session 1

TUESDAY, APRIL 4

Interplay between Chromatin Structure and DNA Replication/Repair (Joint)

Geneviève Almouzni, Centre National de la Recherche Scientifique, France
Chromatin Dynamics and Genome Maintenance

Gary Karpen, Lawrence Berkeley National Laboratory, University of California, Berkeley, USA
DNA Repair in Heterochromatin

Robert A. Martienssen, Cold Spring Harbor Laboratory, USA
Interface between DNA Replication and Inheritance of Heterochromatin

Bernard de Massy, Institut de Génétique Humaine, France
The Programmed Formation of DNA Double Strand Breaks during Meiosis

Short Talk(s) Chosen from Abstracts

Cell Cycle Regulation of DNA Damage Response (Z1)

Tanya T. Paull, University of Texas at Austin, USA
Oxidative Stress and Genome Stability through the Cell Cycle

David Cortez, Vanderbilt University Medical Center, USA
Maintaining Genome Stability at Replication Forks

Kyle M. Miller, University of Texas at Austin, USA
Chromatin Regulation of the DNA Damage Response

Short Talk Chosen from Abstracts

Regulating Recombination (Z2)

Eva Hoffmann, University of Sussex, UK
Regulating Recombination Outcomes in Yeast and Human Meiosis

Lorraine S. Symington, Columbia University, USA
Recombination Pathway Choice in Yeast

Eric C. Greene, Columbia University, USA
Single-Molecule Studies of Recombination Pathways

Short Talk Chosen from Abstracts

Poster Session 2

WEDNESDAY, APRIL 5

Nuclear Dynamics and Genome Stability (Z1)

Marco F. Foiani, Instituto FIRC di Oncologia Molecolare, Italy
Interplay Between Cellular Deformation and Chromatin Function

Angela Taddei, Institut Curie, France
Impact of Nuclear Organization on Homologous Recombination Efficiency and Outcome

Martin W. Hetzer, The Salk Institute, USA
Nuclear Membrane Function in Aging and Cancer

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Matthieu Piel, Institut Curie/IPGG, France
Nuclear Deformation, Damage and Repair associated to Cell Migration

Short Talk(s) Chosen from Abstracts

Replication Fork Progression and Restart (Z2)

Karim Labib, University of Dundee, UK
'The End of Chromosome Replication

Kenneth J. Marians, Memorial Sloan-Kettering Cancer Center, USA
Replication Fork Progression and DNA Damage in E.coli

Xiaolan Zhao, Memorial Sloan-Kettering Cancer Center, USA
Models for Understanding Replication Restart

Anja Groth, University of Copenhagen, Denmark
Mechanisms of Histone Chaperoning at the Replication Fork

Short Talk(s) Chosen from Abstracts

DNA Repair and Human Diseases (Z1)

Agnel Sfeir, New York University School of Medicine, USA
Telomere Dynamics in Cancer Biology

André Nussenzweig, NCI, National Institutes of Health, USA
DNA Repair Pathways in Cancer

Simon J. Boulton, London Research Institute, Clare Hall Laboratories, UK
Cancer Predisposition Syndromes and DNA Repair

Short Talk Chosen from Abstracts

Replication Initiation Mechanisms (Z2)

Stephen P. Bell, Massachusetts Institute of Technology, USA
Single-Molecule Studies of Replication Initiation

Stephen D. Bell, Indiana University, USA
DNA Replication in Archaea

Anne D. Donaldson, University of Aberdeen, UK
Regulation of DNA Replication and Repair in Yeast

Short Talk Chosen from Abstracts

Poster Session 3

THURSDAY, APRIL 6

Replication Fork Establishment and Replication Coupled Repair (Joint)

James M. Berger, Johns Hopkins University School of Medicine, USA
Structural Approaches to Replication in Three Domains of Life

Ian D. Hickson, University of Copenhagen, Denmark
Mechanism of Fragile Site Replication

Virginia A. Zakian, Princeton University, USA
Promoting Smooth Replication with Pif Family Helicases

Helle D. Ulrich, Institute of Molecular Biology, Germany
Roles of Ubiquitin and Sumoylation in DNA Replication and Repair

Short Talk(s) Chosen from Abstracts

Telomeres and Centromeres (Z1)

Titia de Lange, Rockefeller University, USA
How Telomeres Solve the DNA End Protection Problem

Kerry S. Bloom, University of North Carolina at Chapel Hill, USA
Pericentric Chromatin and the Dynamics of Chromosome Segregation

Julia Promisel Cooper, NCI, National Institutes of Health, USA
Control of Mitotic and Meiotic Centrosomes by Telomeres and Centromeres

Finishing Recombination (Z2)

Stephen C. Kowalczykowski, University of California, Davis, USA
Molecular Functions and Single Molecule Studies of BRCA1, BRCA2, and RAD51 Paralogs

John Rouse, University of Dundee, UK
Nucleases in Recombination Repair

Stephen C. West, Francis Crick Institute, UK
Molecular Scissors Ensure Chromosome Segregation

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (Z1)

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (Z2)

FRIDAY, APRIL 7

Departure