

EPIGENOMICS

FUNCTIONAL

SAARBRÜCKEN · GERMANY · 2024

Day 1, Monday, 27 May

9:00 - 9:30 Registration

9:30 - 9:35 Welcome

9:35 - 10:50 **Session 1 Epigenetic mechanisms**

The role of Tet3 during preimplantation development

Jörn Walter (Saarland University)

tbd

Petra Hajkova (MRC London Institute of Medical Sciences, Imperial College London)

tbd

Azim Surani (University of Cambridge)

10:50 - 11:20 **Coffee Break**

11:20 - 12:35 **Session 1 - continued**

Unraveling the Role of DNA Cytosine Modifications in Environmental Adaptation and Evolution

Guoliang Xu (Shanghai Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences)

Non-canonical epigenetic regulation in early development

Alexander Meissner (Max Planck Institute for Molecular Genetics)

Selected Short Talks

12:35 - 14:00 **Lunch & Poster session**

14:00 - 14:50 **Session 1 - continued**

The second dimension of the genetic code

Thomas Carell (Ludwig Maximilian University of Munich (LMU))

Epigenetic regulation of gastrulation in time and space

Amos Tanay (Weizmann Institute of Science)

14:50 - 15:40 **Session 2 - Computational epigenomics and functional interpretation**

Studying heterogeneity in cell populations using epigenomic data

Maria Colomé-Tatché (Ludwig Maximilian University of Munich (LMU))

Dissecting the epigenome dynamics of human immune cells upon pathogen exposure at single-cell resolution

Fabian Müller (Saarland University)

15:40 - 16:10 **Coffee Break**

16:10 - 17:50

Session 2 - continued

A systematic comparison of methods for the prediction of enhancer-gene interactions from epigenomic data

Marcel Schulz (Goethe University Frankfurt)

Programmed Cells? Epigenetics and Cell Engineering for Cancer and Immunity

Christoph Bock (CeMM Research Center for Molecular Medicine, Medical University of Vienna)

Heterogeneity in chromatin states define a disease spectrum in synovial sarcoma

Martin Hirst (University of British Columbia)

tbd

Oliver Stegle (German Cancer Research Center (DKFZ), European Molecular Biology Laboratory (EMBL))

17:50 - 18:00

Short Break

18:00 - 19:00

Panel discussion - Advancing epigenomic data analysis: integration, archiving, sharing

Maria Colomé-Tatché, Martin Hirst, Joachim Schultze, Oliver Stegle

Day 2, Tuesday, 28 May

9:00 - 10:15

Session 3 - Healthy aging and disease

Parkinson's disease at the nexus of genes, aging, and environment

Julia Schulze-Hentrich (Saarland University)

Epigenetic regulation of T Lymphocytes – Learnings to improve adoptive cell therapies?

Julia Polansky (German Rheumatism Research Centre (DRFZ), Charité Berlin)

Human disease trajectories at single cell resolution: Sporadic Alzheimer as the example

Joachim Schultze (German Center for Neurodegenerative Diseases (DZNE), University of Bonn)

10:15 - 10:45

Coffee Break

10:45 - 12:25

Session 3 - continued

Epigenetics and the Human Lifecourse

Michael Kobor (University of British Columbia)

Evaluating the Impact of Pro-Aging and Rejuvenating Interventions on Epigenetic Age and DNA Methylation

Steve Horvath (Altos Labs San Diego institute of Science)

tbd

Philip Rosenstiel (Kiel University)

Selected Short Talks

12:25 - 14:00

Lunch & Poster session

14:00 - 15:15

Session 3 - continued

Mutations in clonal haematopoiesis compromise heterochromatin integrity

Anjana Rao (La Jolla Institute for Immunology, University of California)

Developmental principles in reprogramming

Jasmin Taubenschmid-Stowers (Altos Labs Cambridge Institute of Science)

Targeting symmetric arginine methylation in cancer and immune cells

Dalia Barsyte-Lovejoy (University of Toronto)

Single cell multi-omics landscape of development and ageing

Wolf Reik (Altos Labs Cambridge Institute of Science)

15:40 - 16:00

Closing Remarks