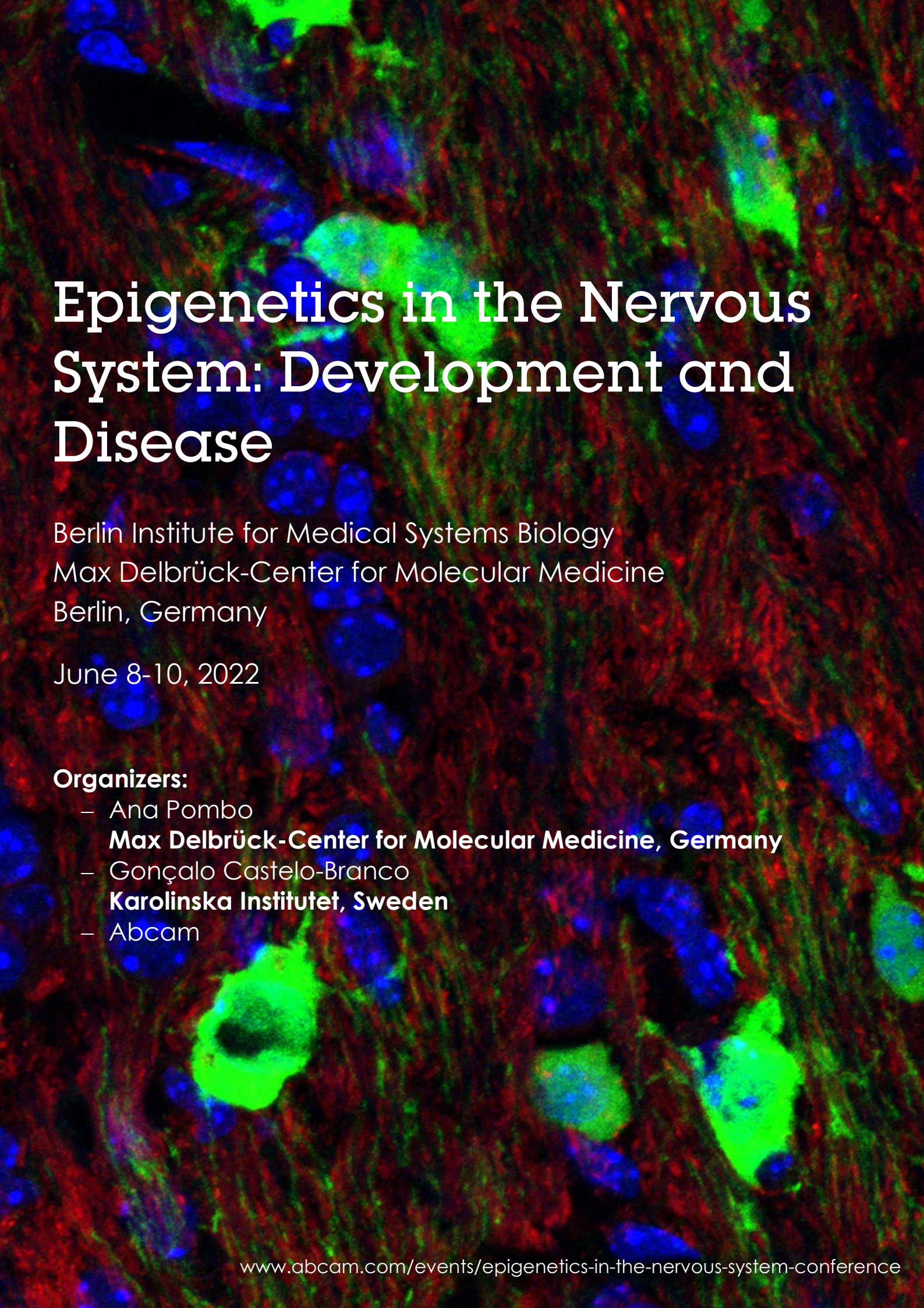

Epigenetics in the Nervous System: Development and Disease

Berlin Institute for Medical Systems Biology
Max Delbrück-Center for Molecular Medicine
Berlin, Germany

June 8-10, 2022

Organizers:

- Ana Pombo
  Max Delbrück-Center for Molecular Medicine, Germany
- Gonçalo Castelo-Branco
  Karolinska Institutet, Sweden
- Abcam

www.abcam.com/events/epigenetics-in-the-nervous-system-conference

Wednesday, June 8

15:00 **Registration and welcome**

16:00 **Sarah Marzi (Imperial College London, UK)**
Cell type-specific epigenetic regulation in Alzheimer's disease

16:35 **Maja Jagodic (Karolinska Institutet, Sweden)**
What can we learn about progressive neurodegeneration in Multiple Sclerosis from the epigenetic marks?

17:10 **Abstract speaker 1**
Warren Winick-Ng (Max-Delbrueck Centre for Molecular Medicine, Germany)
A history of a single cocaine exposure is encoded in the chromatin topology of midbrain dopamine neurons

17:30 **Aniko Karpati (Abcam, UK)**
Tools to interrogate pathways in neuroscience and epigenetics

17:45 **Poster session and drinks reception**

19:45 **End of Day 1**

Thursday, June 9

08:30 **Arrival refreshments**

09:00 **Speed networking session**

10:00 **Angel Barco (Instituto de Neurosciencias UMH-CSIC, Spain)**
Epigenetic etiology of intellectual disability

10:35 **Abstract speaker 2**
Emily Brookes (University College London, UK)
A novel enhancer that regulates Bdnf expression in developing cortical neurons

10:55 **Break**

11:30 **Gonçalo Castelo-Branco (Karolinska Institutet, Sweden)**
Single-cell and spatial transcriptomics/epigenomics of oligodendroglia in development and in multiple sclerosis

12:05 **Abstract speaker 3**
Enric Llorens (Karolinska Institutet, Sweden)
Spatially-resolved chromatin accessibility in the developing mouse brain using spatial-ATAC-seq

12:25 **Lunch**

13:25 **Meet the speakers – session I**

14:00 **Daniele Canzio (University of California San Francisco, US)**
The role of chromosome architecture in brain wiring

14:35 **Abstract speaker 4**
Marek Bartosovic (Karolinska Institutet, Sweden)
Single-cell CUT&Tag-based multimodal profiling the epigenome in the mouse brain

14:55 **Abstract speaker 5**
Boyan Bonev (Pioneer Campus, Helmholtz Zentrum München, Germany)
Joint profiling of 3D genome, DNA methylation, chromatin accessibility and gene expression in human cerebral organoids

15:15 **Break**

15:45 **Zhaolan Zhou (Perelman School of Medicine, University of Pennsylvania, US)**
"Seq-ing" epigenetic insights into stress-related psychiatric disorders

16:20 **Daniel Geschwind (Institute of Precision Health, UCLA, US)**
Integrating functional genomics data to characterize genetic risk factors in neuropsychiatric disease

17:00 **Poster session and drinks reception**

18:30 **Conference social**

Friday, June 10

08:30 **Arrival refreshments**

09:00 **Igor Ulitsky (Weizmann Institute of Science, Israel)**
Functions of long noncoding RNAs in the nervous system

09:35 **Abstract speaker 6**
Cesar Sierra (CRG, Spain)
Single nucleus RNA-seq in the hippocampus reveals Snhg11, a lncRNA, as key player in Down syndrome

09:55 **Flash talks**

10:30 **Break**

11:00 **Hongjun Song (Perelman School of Medicine, University of Pennsylvania, US)**
Epitranscriptomic regulation in the mammalian nervous system

11:35 **Abstract speaker 7**
Mattia Zaghi (Ospedale San Raffaele, Italy)
SETBP1/SET axis regulates chromatin landscape in Schinzel-Giedion syndrome

11:55 **Charlotte Arlt (Nature Neuroscience, Germany)**
Editorial Processes at Nature Neuroscience

12:25 **Lunch**

13:25 **Meet the speakers session II**

14:00 **Olivia Engmann (Friedrich Schiller University Jena, Germany)**
Reversing chronic stress effects through life-style interventions

14:35 **Abstract speaker 8**
Johan Holmberg (Umeå University, Sweden)
PRC2-mediated repression is essential to maintain identity and function of differentiated dopaminergic and serotonergic neurons

14:55 **Tanja Vogel (Institute of Anatomy and Cell Biology, University of Freiburg, Germany)**
Histone methylation determines cell lineage progression in the developing brain by controlling metabolic programs

15:30 **Stefan Stricker (Helmholtz Zentrum München, Germany)**
Reprogramming neural cell fates through targeted manipulation of cell identity barriers applying epigenome editing

16:10 **Closing remarks**

Poster Index

Poster 14 **Clara Penas Perez (Universitat Autònoma de Barcelona, Spain)**
Targeting BET proteins in macrophages for enhancing nerve regeneration after peripheral nerve injury in mice

Poster 15 **Dominik Szabó (Max-Delbrück Centre for Molecular Medicine, Germany)**
Chromatin 'Melting' as a 3D Genome Feature of Highly Expressed Neuronal Genes

Poster 16 **Maria Tsalenchuk (UK Dementia Research Institute, Imperial College London, UK)**
Single-cell epigenetic study of environmental risk factors in Parkinson's disease

Poster 17 **Margherita Zamboni (Karolinska Institutet, Sweden)**
Spatially-resolved chromatin accessibility in the developing mouse brain using spatial-ATAC-seq

Poster 18 **Luna Zea-Redondo (Max-Delbrück Center for Molecular Medicine, Germany)**
Role of chromatin remodeling in regulating activity-dependent gene expression in dopaminergic neurons and its potential implication on drug addiction

Poster 19 **Chao Zheng (Karolinska Institutet, Sweden)**
Dynamics of transcriptomic and epigenomic states of oligodendrocytes in experimental autoimmune encephalomyelitis

Poster 20 **Daniel Connolly (University of Pennsylvania, US)**
Transcriptomic insights into the etiology of Rett syndrome

Poster 21 **Lasse Sinkkonen (University of Luxembourg, Luxembourg)**
Integrated epigenomic analysis identifies novel regulators of midbrain dopaminergic neuron differentiation

Poster 22 **Jacqueline Aw (The Hong Kong University of Science and Technology, Hong Kong)**
DNA repair inhibition leads to release of repetitive sequences in the cytoplasm