

The Brain Conferences

Establishment and Maintenance of Brain Cell States

23 – 26 April 2023
Rungstedgaard, Denmark

PROGRAMME

Sunday, 23 April 2023	
From 14:15	<i>Arrival and registration (35')</i>
14:50-15:00	<i>Welcome address from the Conference Chairs (10')</i>
<i>Afternoon Session Moderator: Anne Schaefer</i>	
15:00-15:40	Joe Ecker , Salk Institute for Biological Studies, USA Single-cell DNA methylome and 3D multi-omic atlas of the adult mouse brain (30'+10' Q&A)
15:40-16:20	Danny Reinberg , New York University, USA Polycomb, Inheritance and Disease (30'+10' Q&A)
16:20-16:50	Coffee Break (30')
16:50-17:05	Short talk 1 Phillip Mews , Icahn School of Medicine at Mount Sinai, USA Epigenome reprogramming underlies cell-type specific priming of striatal gene responses in cocaine relapse
17:05-17:20	Short talk 2 Vijay Tiwari , Queen's University Belfast, United Kingdom Phf21b imprints the spatiotemporal epigenetic switch essential for neural stem cell differentiation
17:20-18:10	Plenary Lecture: Claude Desplan , New York University, USA The generation of neuronal diversity and its evolution (40'+10' Q&A)

19:00-21:30	Welcome Drink & Dinner (2h30')
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Monday, 24 April 2023	
<i>Morning Session Moderator: Elisabeth Binder</i>	
09:00-09:40	Rudolf Jaenisch , Whitehead Institute, MIT, USA Epigenetic editing and therapeutic approaches to autism (30'+10' Q&A)
09:40-10:20	Jens Bruening , Max Planck Institute for Metabolism Research, Germany Hypothalamic neurocircuit integration of internal state (30'+10' Q&A)
10:20-10:50	Group Picture & Coffee Break (30')
10:50-11:30	Agnete Kirkeby , University of Copenhagen, Denmark Modelling and repairing the human brain with stem cells (30'+10' Q&A)
11:30-12:10	Ype Elgersma , Erasmus University Medical Center, Netherlands The role of UBE3A in neurodevelopment and implications for ASO therapy (30'+10' Q&A)
12:10-12:50	Jeanne Lawrence , University of Massachusetts Medical School, USA Silencing Trisomy 21 with XIST Reveals Insights Into Down Syndrome Neurodevelopment and Chromatin Plasticity (30'+10' Q&A)
12:50-14:00	Lunch (1h10')
<i>Afternoon Session Moderator: Jens Bruening</i>	
14:00-14:40	Nael Nadif Kasri , Radboud University Medical Centre, Netherlands Dissecting the cell-type specific role of disease-associated chromatin remodellers in neuronal network function (30'+10' Q&A)
14:40-15:20	Elisabeth Binder , Max Planck Institute of Psychiatry, Germany Modeling the impact of prenatal stress on brain development: use of cerebral organoids (30'+10' Q&A)
15:20-15:35	European Journal of Neuroscience (EJN) presentation (15')
15:35-15:50	Short break (15')

15:50-16:10	Poster Spotlights I * (9 presentations, 90 seconds each) (approx. 20')
16:10-18:10	Poster Session I (2h)
19:00-21:30	Dinner (2h30')

Tuesday, 25 April 2023	
<i>Morning Session Moderator: Anne Brunet</i>	
09:00-09:40	Julio Perez , Max Planck Institute for Brain Research, Germany Exploring Subcellular Diversity in Neuronal Circuits: Advanced Transcriptomic Approaches to Study Compartment-specific RNA Profiles (30'+10' Q&A)
09:40-10:20	Silvia Cappello , Max Planck Institute for Psychiatry, Germany Extracellular Signaling in Neurodevelopmental Disorders (30'+10' Q&A)
10:20-10:35	Short talk 3 Susanne Falkner , University of Basel, Switzerland Patterned activity driven molecular diversification during neonatal cortical circuit formation
10:35-11:00	Coffee Break (25')
11:15-15:15	<i>Social programme (4h)</i>
<i>Afternoon Session Moderator: Ype Elgersma</i>	
15:30-16:10	Alex Joyner , Sloan Kettering Institute, US Stem cell flexibility underlying brain development and repair (30'+10' Q&A)
16:10-16:50	Elly Tanaka , Research Institute of Molecular Pathology, Austria Molecular control of floorplate self-organization in neural organoids (30'+10' Q&A)
16:50-17:00	End of the day: Group discussion and short break (10')
17:00-17:20	Poster Spotlights II ** (8 presentations, 90 seconds each) (approx. 20')

17:20-19:20	Poster Session II (2h)
19:30-21:30	Dinner (2h)

Wednesday, 26 April 2023	
<i>Morning Session Moderator: Agnete Kirkeby</i>	
09:00-09:40	Anne Brunet , Stanford University, USA Mechanisms of brain aging and rejuvenation (30'+10' Q&A)
09:40-10:20	Eric Miska , Gurdon Institute, University of Cambridge, United Kingdom <i>Talk title to be confirmed</i> (30'+10' Q&A)
10:20-10:50	Coffee Break (30')
10:50-11:30	Andrea Brand , Gurdon Institute, University of Cambridge, United Kingdom Time To Wake Up: Regulation of Neural Stem Cell Quiescence (30'+10' Q&A)
11:30-11:45	Short talk 4 Sahba Seddighi , University of Oxford, United Kingdom Mis-spliced transcripts generate de novo proteins in TDP-43-related ALS/FTD
11:45-12:25	Adrian Bird , University of Edinburgh, United Kingdom Understanding the molecular basis of Rett syndrome (30'+10' Q&A)
12:30-14:00	Lunch (1h30')
<i>Afternoon Session Moderator: Adrian Bird</i>	
14:00-14:40	Anne Schaefer , Max Planck Institute for Biology of Ageing, Germany, Icahn School of Medicine at Mount Sinai, USA Plasticity of microglia functional states (30'+10' Q&A)
14:40-14:55	Short talk 5 Emily Osterweil , University of Edinburgh, United Kingdom The long and short of altered mRNA translation in Fragile X syndrome
14:55-15:10	Short talk 6 Fekrige Selimi , Collège de France, France Transient molecular changes and lasting synaptic effects in the cerebellum of a mouse model of schizophrenia
15:10-15:30	Coffee Break (20')

15:30-16:20	Plenary Lecture: Michael Greenberg , Harvard University, USA Experience-dependent control of brain development and function (40'+10' Q&A)
16:20-16:40	<i>Closing Remarks (20')</i>
18:00-19:00	Pre-dinner Drinks (1h)
19:00-22:00	Gala Dinner & Poster Awards (3h)

Thursday, 27 April 2023
Breakfast & departure

Poster Spotlights I *

Monday, 24 April 2023

15:50-16:10

9 presentations, 90" each:

Maela Paul, College de France, France

Synapse-specific molecular rules control the development of excitatory synapse diversity

Michelle Ninochka DSouza, Institute for Stem Cell Science and Regenerative Medicine,

India

Fragile X Mental Retardation Protein interacts with C/D Box snoRNA in the nucleus to regulate ribosome heterogeneity along neuronal differentiation

Michael Latke, Imperial College London, United Kingdom

Identification of defects of human cortical neuron development in Down syndrome
using single cell transcriptomics

Johan Holmberg, Umeå Universitet, Sweden

The role of PRC2-mediated gene repression for the maintenance of differentiated
dopaminergic and serotonergic neuronal identity

Aarthi Krishnan, Uppsala University, Sweden

To establish the molecular mechanism taking place during the transformation of worker
ants to gamergates in *Harpegnathos saltator*

Theresa Kagermeier, Hertie Institute for Clinical Brain Research, Germany

Human organoid model of PCH2a recapitulates brain region-specific pathology

Jacky Guy, University of Edinburgh, United Kingdom

DNA base editing of MeCP2 C-terminal deletions as a therapy for Rett syndrome

Kitty Murphy, Imperial College London/UK DRI, United Kingdom

Investigating epigenetic regulation of microglia in a human-mouse chimera model of
Alzheimer's disease

Sandra Siegert, ISTA (Institute of Science and Technology Austria), Austria

A sexual dimorphic microglia response modulates visual cortex network activity after
ketamine-anesthesia

Poster Spotlights II **

Tuesday, 25 April 2023

17:00-17:20

8 presentations, 90" each:

Andrew Aldridge, Duke University, United States

Replication dependent linker histone H1.4 continues to accumulate in post-mitotic neurons

Marcel Jüngling, Max Planck Institute for Brain Research, Germany

Transcriptomic characterization of synapse types and states

Stefan Dvoretzkii, TU Munich/DTU, Germany

Transfer Entropy for Activity Analysis of iPSC-derived Neuronal Cell Colonies

Poornema Natarajan, Ludwig Maximilian University of Munich, Germany

Exploring transcriptional cascades in cortical astrocytes: the role of Sox9 and Trps1

Lea Cohen, Hebrew University, Israel

Delineating the immediate molecular consequences of the glioblastoma associated H3.3K27M mutation during neural differentiation

Theodora Chalatsi, University of Lausanne, Switzerland

Autophagy in parvalbumin interneurons is required for inhibitory transmission and memory via regulation of synaptic proteostasis

Katie Paton, University of Edinburgh, United Kingdom

The role of ASD associated genes in neurodevelopment versus neuronal maintenance

Dorottya Ralbovszki, University of Copenhagen, Denmark

Single Cell Mapping the Evolution of the Spatial Processing Centre within the Brain