Introductory Remarks to Symposium 3

Developmental mechanisms regulating functional cortical networks

Britta Eickholt and Zoltán Molnar, Berlin and Oxford (UK)

Many neurodevelopmental disorders characterized by abnormal behavioral or cognitive phenotypes originate in utero or during early postnatal life. Such disorders can be of diverse genetic and environmental origins, and manifest clinically as intellectual disability, epilepsy and/or autism. Whilst a number of genetic risk factors for neurodevelopmental disorders have been identified, the specific mechanisms engaged by these factors, which translate into temporal and cell type specific vulnerability and abnormal neuronal circuit development, remains largely unknown.

In this symposium, we aim to go further than basic principles of brain development, to focus on key neuronal processes that trigger neurodevelopmental disease. To explore these processes in detail, we will bring together experts in translational research, who employ a range of state-of-the-art genetic, cellular, and electrophysiological approaches applied to various model systems, including cellular and mouse models, and human induced-pluripotent stem cell-derived cultures to elucidate the etiology of complex neurodevelopmental diseases.

Symposium 3, Wednesday, March 22, 15:15 - 17:15

Symposium 3

Wednesday, March 22, 2023
15:15 -17:15, Lecture Hall 10

Chairs: Britta Eickholt and Zoltán Molnar, Berlin and Oxford (UK)

15:15 **Opening Remarks**

15:20 Zoltán Molnar, Oxford (UK)
REPURPOSED CELLS OF DEVELOPMENT IN THE ADULT BRAIN (S3-1)

15:40 Simone Mayer, Tuebingen
REVEALING MOLECULAR MECHANISMS OF ENVIRONMENTAL IMPACTS ON NEOCORTICAL DEVELOPMENT USING HUMAN BRAIN ORGANOIDS (S3-2)

16:00 Bryan Luikart, Hanover, USA
DENTATE GRANULE NEURON DEVELOPMENT AS A MODEL FOR AUTISM SPECTRUM DISORDER DUE TO *Pten* LOSS (S3-3)

16:20 Ina Köhler, Bochum
CHEMOGENETIC MODULATION OF ACTIVITY SHAPES DIFFERENTIATION OF CORTICAL NEURONS (S3-4)

16:30 Timothy Zolnik and Britta Eickholt, Berlin
THE ELECTROPHYSIOLOGY OF *Pten*-LAYER 6B CONDITIONAL KNOCKOUT MICE (S3-5)

16:55 **Discussion / Concluding Remarks**

Symposia