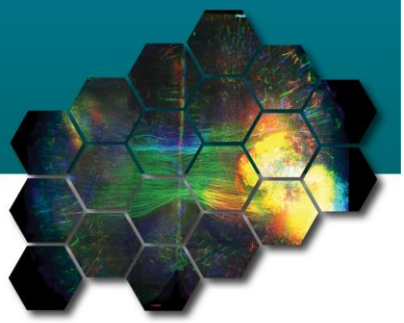
MEETING

9th Tri-Regional stem cell & developmental biology meeting



June 20th 2023

IGBMC Auditorium Illkirch, Strasbourg

PROGRAMME

as of June 2nd

9:20-9:45 *Registration, welcome tea & coffee, poster set-up*

9:45-9:55 Welcoming remarks

10:00-11:00 Keynote Lecture - Prof. Denis JABAUDON

Dept. of Basic Neuroscience and Clinic of Neurology, University of Geneva and Geneva University Hospital

Temporal Controls Over Neuronal Diversity in the Developing Brain

Abstract:
The developing brain exhibits a remarkable diversity of neuronal cell types, each with specialized functions that contribute to the proper function of the mature brain. The mechanisms underlying the generation and specification of neuronal diversity during development are complex and incompletely understood. Here, we investigate temporal controls over this process by analyzing the developmental diversity of neuronal progenitors across multiple brain regions and developmental timepoints. Our results demonstrate that distinct spatial and temporal transcriptional programs control the timing and pattern of neuronal differentiation and specification during brain development. Our findings provide new insights into the mechanisms underlying neuronal diversity in the developing brain and suggest novel strategies for manipulating these processes to direct neuronal identity and connectivity.

11:00-12:00 Session 1

11:00-11:15 **Friedericke FISCHER**, Hilde-Mangold-Haus, Faculty of Biology, University of Freiburg
A cell surface code mediates tissue-intrinsic defense against aberrant cells in epithelia

11:15-11:30 **Fabio SACHER**, DUW Zoology, University of Basel
Towards a molecular understanding of motor neuron-muscle match-making

11:30-11:35 Flash talk by Merck Life Science

11:35-11:50 **Théo HECQUET**, IGBMC, Strasbourg
Identification of the molecular to functional consequences of human cytoplasmic actin variants using the C. elegans model

11:50-12:05 **Umut KILIK**, University of Basel, Roche Pharma Research and Early Development Basel
Human-specific features of intestine epithelial development

12:05-14:00 *Lunch Break, Discussion, Poster session - Marquee*
Video show "Fantazy from a zygote" by Julien Ribot - Auditorium

14:00-15:00 EMBO Young Investigator lecture - Dr Mina GOUTI

Max Delbrück Center for Molecular Medicine, Berlin

Building advanced neuromuscular organoids to study human development and disease

Abstract:
Locomotion results from the interaction between muscles and the nervous system. Dysfunction of such cells results in deadly diseases such as spinal muscular atrophy (SMA) and amyotrophic lateral sclerosis (ALS). Neuromuscular diseases

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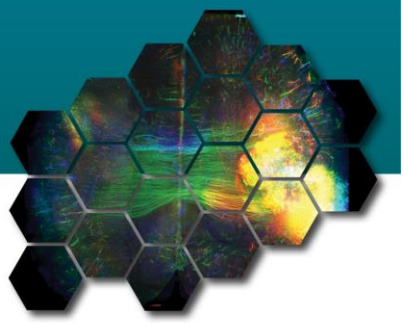

often show regional selectivity but the underlying reasons remain obscure due to the lack of a suitable human model system. We have recently used human pluripotent stem cell derived axial stem cells, the building blocks of the posterior body, to simultaneously generate spinal cord neurons and skeletal muscle cells that self-organize in 3D to generate neuromuscular organoids (NMOs). NMOs contain functional neuromuscular junctions supported by terminal Schwann cells. They contract and develop central pattern generator-like neuronal circuits. We are currently applying NMOs to study the early development of the human neuromuscular system and to model neuromuscular diseases. This approach promises to uncover the sequence of events and provide greater insight into the mechanisms that lead to specific diseases by tackling previously inaccessible features of neuromuscular junction biology.

15:00-16:00 Session 2

15:00-15:15 **Charlotte SOFTLEY**, Renal Division, Department of Medicine, University Freiburg Medical Center - NephroGenetics Collaborative Research Center Freiburg
Coordinated role of alternative splicing factor Transformer2b in development and function of ciliated tissues

15:15-15:30 **Geoffrey SOUSSI**, Developmental Genetics, DBM, University of Basel
Tbx3 function in regulating gene expression during limb development

15:30-15:45 **Linjie LU**, IGBMC, Strasbourg
Generic rules of lumen dynamics: nucleation and fusion in epithelial spheres and organoids

15:45-16:00 **Chiara SCHROEDER**, Institute of Experimental and Clinical Pharmacology and Toxicology, University of Freiburg - Centre for Integrative Biological Signalling Studies Freiburg - Spemann Graduate School of Biology and Medicine (SGBM), University of Freiburg
An EOMES induced epigenetic deflection initiates lineage commitment at mammalian gastrulation

16:00-16:30 *Coffee Break + Posters*

16:30-17:50 Session 3

16:30-17:00 **Tanja VOGEL**, Institute of Anatomy and Cell Biology, University of Freiburg
Histone H3K79 methylation demarcates an epigenetic barrier of progenitor differentiation and neuronal maturation in cerebral cortex and hippocampus development

17:00-17:15 **Efil BAYAM**, IGBMC, Strasbourg
WDR47 bi-allelic variants cause a rare neurodevelopmental disorder with microcephaly and corpus callosum dysgenesis through regulation of different steps of callosal development

17:15-17:30 **Stephen METHOT**, Friedrich Miescher Institute for Biomedical Research, Basel
Dynamic chromatin regulation and the C. elegans molting clock

17:30-17:45 **Sara MONTICELLI**, IGBMC, Strasbourg
Macrophages as signaling hubs in physiological and pathological conditions

17:45-17:50 Concluding remarks

17:50-19:00 *Poster session + Beer & Bretzels*