



**Genetic epilepsies and other neuronal ion channel disorders:
Mechanisms and therapeutic perspectives.
22nd – 24th September 2021, Tübingen, Germany**

Preliminary Program

Wednesday, 22 September, 2021	
7:00 pm	Get-Together
Thursday, 23 September, 2021	
8:30-8:40 am	Introduction: Holger Lerche (Tübingen)
8:40-9:40 am	Session 1: Neurodevelopmental changes of excitability (15 + 5 min each) Chair: Massimo Mantegazza (Nice) & Camila Esguerra (Oslo)
8:40	Olga Garaschuk (Tübingen): Developmental changes in neocortical network activity
9:00	Knut Kirmse (Jena): Multiple functions of GABA during brain development
9:20	Dirk Isbrandt (Cologne/Bonn): Developmental windows of opportunity
09:40-11:05 am	Session 2: From Genotype to Phenotype (15 + 5; 20 + 5 for 2 speakers) Chair: Rikke Møller (Dianalund) & Ulrike Hedrich (Tübingen)
9:40	Rima Nabhout (Paris): Overview of developmental and epileptic encephalopathies
10:00	Rikke Møller (Dianalund) & Yuanyuan Liu (Tübingen): <i>SCN8A</i> variants causing epilepsy or intellectual disability
10:25	Camila Esguerra (Oslo): Zebrafish models: <i>Scn1a</i> and beyond
10:45	Ethan Goldberg (Philadelphia): Mechanisms of <i>SCN3A</i> -related neurodevelopmental disorders
11:05-11:30 am	Coffee Break
11:30 am-12:30 pm	Session 3: Perspectives of gene therapy (15 + 5 min each) Chair: Dirk Isbrandt (Cologne/Bonn) & Niklas Schwarz (Tübingen)
11:30	Snezana Maljevic (Melbourne): Antisense oligonucleotide therapies for neurogenetic disorders
11:50	Dimitri Kullmann (London): Gene therapy in epilepsy
12:10	Federico Zara (Genoa): Promoter-enhancing gene therapies
12.30-1:30 pm	Lunch Break
1:30–3:40 pm	Session 4: From molecules to networks (15 + 5 min each) Chair: Dimitri Kullmann (London) & Heinz Beck (Bonn)
1:30	Massimo Mantegazza (Nice): A new mechanism triggering cortical spreading depression
1:50	Nikolaus Plesnila (Munich): A FHM3 <i>SCN1A</i> mouse model
2:10	Andrew Frank (Iowa City): <i>Drosophila</i> models of migraine-causing mutations and synapse instability
2:30	Christoph Fahlke (Jülich): Molecular and cellular pathophysiology of EA6
2:50	Frank Winkler (Heidelberg): Targeting neuron-brain tumor communication with antiepileptic drugs
3:10	Elena Dragicevic (Munich): Ion channels involved in pain pathways: An automated patch clamp study
3:30-5:00 pm	Poster session (with coffee)

5:00-8:00 pm	Session 5: Molecular therapeutic board (case reports: 5-10 min including discussion) Chair: Holger Lerche & Stephan Lauxmann (Tübingen)
5:00	Holger Lerche (Tübingen) & Roland Krause (Luxembourg): Introduction and Platform to search for small molecule therapy
5:15	Ulrike Hedrich & Stephan Lauxmann (Tübingen): Treatment for <i>KCNA2</i> -related encephalopathy
5:30	Edward Cooper (Texas): <i>KCNA1</i>
5:45	Rebecca Schüle & Holger Lerche (Tübingen): Treatment for <i>KCNA2</i> -related HSP
6:00	Rikke Moller & Yuanyuan Liu (Dianalund/Tübingen): Resistance to Na ⁺ blockers in patients with <i>SCN2A</i> or <i>SCN8A</i> gain-of-function variants
6:15	Knut Brockmann (Göttingen): Treating episodic pain disorder with Na ⁺ channel blockers
6:30	Further cases from the audience
7:40	Dennis Lal (Cleveland/Luxembourg): Novel Epilepsy & Neurodevelopmental Disorder Knowledge Portals
8:15 pm	Dinner Restaurant „Liquid“

Friday, 24 September, 2021	
8:30-10:30 am	Session 6: Lost in translation: what do we learn from human tissue that is not evident from rodents? (15 + 5, 20 + 5 for 2 speakers) Chair: Henner Koch (Aachen) & Thomas Wuttke (Tübingen)
8:30	Rebecca Hodge (Seattle): RNA sequencing of human tissue
8:50	Jörg Geiger (Berlin): Multielectrode network recordings from human vs rodent brain slices
9:10	Huibert Mansvelter (Amsterdam): Cortical micro-architecture and neuronal function supporting human cognitive ability
9:30	Niklas Schwarz/Günther Zeck (Tübingen/Reutlingen): Long-term stability of a human cortical slice culture system – a new tool to study network dynamics in human micro-circuits
9:50	Alex Skupin (Luxembourg): RNA sequencing in Zebrafish models
10:10	Konstantin Khodosevich (Copenhagen)?
10:30-11:00 am	Coffee Break
11:00 am-12:40 pm	Session 6: Collaborative initiatives (all 15 + 5) Chair: Federico Zara (Genoa) & Roland Krause (Luxembourg)
11:00	Sam Berkovic (Melbourne): Large scale sequencing and data sharing initiatives in epilepsy
11:20	Roland Krause (Luxembourg): Integration, harmonization and comparison of clinical phenotypes in epilepsy cohorts
11:40	Sergi Beltran (Barcelona): Solve-RD: Concept, structure and first results
12:00	Sanjay Sisodiya (London): Genetics and imaging in ENIGMA epilepsy
12:20	Ethan Goldberg (Philadelphia): Center without walls: High throughput electrophysiological screening of ion channel variants
12:40-2:00 pm	Farewell Lunch with free discussions

GEFÖRDERT VOM



Inspired by patients.
Driven by science.

