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400 Crona Kliniken
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Ambulante Rehabilitation, Physiotherapie, Psychosomatische Tagesklinik, Sportmedizin, ukfit, Gästehaus

500 Medizinische Klinik

510 Blutspendezentrale

520 Konferenzzentrum
Casino, Cafeteria

530 Nuklearmedizin

600 Hals-Nasen-Ohrenklinik

610 Medizinische Mikrobiologie, Medizinische Virologie

620 Augenklinik

University Clinic Tübingen
Kliniken Berg CRONA
Lecture Hall, 4th floor, room 200
Hoppe-Seyler-Str. 3
72076 Tübingen

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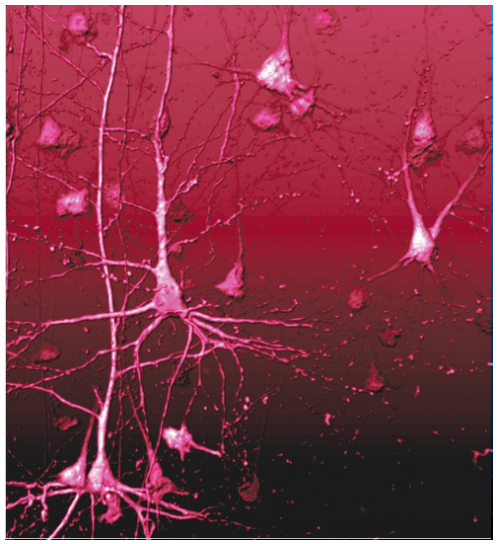
Hertie Institute for Clinical Brain Research

EBERHARD KARLS UNIVERSITÄT TÜBINGEN

2nd Channelopathy Meeting Tübingen

Genetic epilepsies and other neuronal ion channel disorders: Mechanisms and therapeutic perspectives



Program

Thursday, 5th October 2023

8:30-8:40 am	Introduction: Holger Lerche (Tübingen)
8:40-11:45 am	**Session 1: Sodium channelopathies** Chair: Thomas Wuttke (Tübingen) & Moran Rubinstein (Tel Aviv)
8:40 am	Andreas Brunklaus (Glasgow): Emerging phenotypes in sodium channelopathies - the role of functional prediction and therapeutic advances
9:00 am	Evgeniia Rusina (Nice): A homeostatic response boosted as therapeutic approach in *Scn1a*$^{+/-}$ Dravet syndrome mice
9:20 am	Nikolas Layer (Tübingen): Early electrophysiological and transcriptomic alterations drive epileptogenesis in Dravet syndrom
9:35 am	Elena Gardella (Dianalund): *SCN8A*: Clinical complexity and natural history study
9:55 am	Heinz Beck (Bonn): Targeting aberrant dendritic integration to treat cognitive comorbidities of epilepsy
10:15 am (v)	Sanjay Sisodiya (London): Genetic epilepsies: complexities to come - *SCN1A* as an example
10:35-11:05 am	**Coffee Break**
11:05 am	Angelika Lampert (Aachen): Precision Therapy in sodium channel related neuropathic pain
11:25 am	JP Johnson (Xenon, Burnaby): A Selective $Na_v1.1$ Potentiator Enhances Interneuron Excitability to Normalize Motor Performance in a Dravet Syndrome Mouse Model
11:45 am-1:25 pm	**Session 2: Potassium channelopathies** Chair: Philip Ahring (Sydney) & Stephan Lauxmann (Tübingen)
11:45 am (v)	Jennifer Kearney (Chicago): Modeling *Kcnb1*-associated developmental and epileptic encephalopathy in mice
12:05 pm	Peter Müller (Tübingen): Transcriptomic insights into epileptogenesis and compensatory changes in a *Kcna2* loss-of-function mouse model
12:20 pm	Konstantin Khodosevich (Copenhagen): Understanding mechanisms of epileptogenesis using single cell omics
12:40 pm (v)	Annapurna Poduri (Boston): Modeling potassium channelopathies in zebrafish
1:00-2:00 pm	**Lunch Break**
2:00-3:50 pm	**Session 3: HCN, calcium and ligand-gated channelopathies** Chair: Dirk Isbrandt (Cologne/Bonn) & Ulrike Hedrich-Klimosch (Tübingen)
2:00 pm	Bina Santoro (New York): Molecule, cell, organism: multi-level analysis of a sick ion channel
2:20 pm	Christopher Reid (Melbourne): A small-molecule precision medicine for *HCN1* DEE
2:40 pm	Stephan Marguet (Cologne): HCN/h channel modulation of excitation/inhibition balance in the MEC is crucial for cortico-hippocampal information flow and intrahippocampal dynamics
3:00 pm	Jörg Striessnig (Innsbruck): *CACNA1D* L-type calcium channelopathies in neurodevelopmental disorders: opportunities for drug repurposing
3:20 pm	Philip Ahring (Sydney)/Rikke S. Møller (Dianalund): Pathogenic *GABRA3* variants lead to dominant or recessive X-linked disorders depending on functional outcomes
3:50-5:00 pm	**Poster Session (with coffee)**
5:00-7:00 pm	**Session 4: Clinical trials and molecular therapeutic board (case reports: 5-10 min including discussion)** Chair: Holger Lerche (Tübingen) & Michael Alber (Tübingen)
5:00 pm (v)	Steven Petrou (Praxis Precision Medicines, Boston): First in patient data for PRAX-222, an ASO for *SCN2A* gain of function DEE
5:20 pm	Neetha Balaram (Kozhikode): Acetazolamide responsive early-onset absence epilepsy and ataxia in a toddler with a *KCNA2* genetic variant; a case report
5:30 pm	Cristina Franco (Naples): tbd
5:40 pm	Hasnaa Elbendary (Cairo): Mutational Spectrum of Epileptic encephalopathy in a cohort of pediatric Egyptian population
5:50 pm	Sopio Gverdtsiteli (Dianalund): Neonatal developmental and epileptic encephalopathy with movement disorders and arthrogryposis (NDEEMA)
6:00 pm	Rikke Steensbjerre Møller (Dianalund): Treatment responsiveness in LOF and GOF GABA-A receptor related epilepsies
6:10 pm	Stephan Lauxmann/Michael Alber (Tübingen): Drug repurposing in *KCNT1* encephalopathies
6:20 pm	Robert Lauerer-Braun (Tübingen): DECADE-Deciphering the *CACNA1E*-related DEE: a natural history trial
8:00 pm	**Dinner Restaurant „Liquid"**

Friday, 6th October 2023

8:30-10:35 am	**Session 5: Gene therapy and human models** Chair: Maria-Patapia Zafeiriou & Niklas Schwarz
8:30 am	Yichen Qiu (London): On demand gene therapy for epilepsy
8:50 am	Moran Rubinstein (Tel Aviv): Viral-mediated expression of $Na_v1.1$ ameliorates Dravet syndrome in mice post seizure onset
9:10 am	Nael Kasri (Nijmegen): Leveraging spontaneous activity in human stem cell derived neurons to model *SCN1A*-related epilepsies
9:30 am	Maria-Patapia Zafeiriou/Hendrik Rosewich (Göttingen/Tübingen): Modeling *ATP1A3* related disorders in bioengineered neuronal organoids
10:00 am	Sarah Weckhuysen (Antwerp): *KCNQ2*-related epilepsies in iPSC-derived neuronal cultures
10:20 am	Filip Rosa (Tübingen): *KCNQ2*-DEE stem cell model shows a developmental delay along a prolonged culture time up to 6 months
10:35 am	Snezana Maljevic (Melbourne): Insights from in vitro disease models of *SCN2A* DEE
10:55-11:20 am	**Coffee Break**
11:20 am-12:50 pm	**Session 6: Epigenetics, protein structural modeling & prediction tools** Chair: Rikke Steensbjerre Møller & Christopher Reid
11:20 am	Katja Kobow (Erlangen): Epigenetics for diagnosis and mechanistic understanding of drug-resistant focal structural epilepsies
11:40 am	Alison Obergrussberger (Nanion, München): How Nanion's technologies are advancing channelopathy research
12:00 pm	Christian Bosselmann (Cleveland): Predicting the functional effects of ion channel variants: State of the art and future directions
12:15 pm	Tobias Brünger (Cologne): Predicting molecular function and pathogenicity in ion channel disorders
12:30 pm (v)	Giulia Rossetti (Jülich): Studying functional gating mechanisms in wild-type or mutant Na_v channels/*In-silico* variant-specific drug screening
12:50-1:30 pm	**Farewell Lunch with free discussions**