

TUESDAY, MAY 24

- 16⁰⁰** CavX/MCBO Workshop Scientific Communication for Junior Researchers
Heike WAMSER
- 20⁰⁰** WELCOME NOTE (OBERMAIR)
- 20¹⁵** Opening Plenary Lecture: **Steven O. MARX** // Fight-or-flight responses require augmentation of calcium influx via Rad phosphorylation
CHAIR: **Franz HOFMANN**
- 21¹⁵** WELCOME PARTY

WEDNESDAY, MAY 25

Voltage-gated Ca²⁺ channels in disease

- 08¹⁵** CHAIR/Perspectives: **Jörg STRIESSNIG**
- 08²⁵** **Ivy DICK** // Overcoming challenges in the treatment of Cav1.2 channelopathies
- 08⁵⁰** **Gabriel STÖLTING** // Cacna1d^{lle772Met/+} mice are a model of primary aldosteronism, seizures and neurological abnormalities (PASNA) syndrome
- 09¹⁵** **Melanie MARK** // Controlling absence seizures from the cerebellar nuclei via activation of the Gq signaling pathway
- 09³⁰** **Manuel NAVEDO** // S1928 phosphorylation tunes vascular L-type channel Cav1.2 and arterial function during angiotensin II signaling and hypertension
- 09⁴⁵** **Cornelia ABLINGER** // Loss of autism-associated $\alpha_2\delta$ -3 affects synaptic protein expression, presynaptic function, neuronal excitability, and mouse behavior
- 10⁰⁰** COFFEE BREAK

Calcium channel regulation

- 10³⁰** CHAIR/Perspectives: **Gerald ZAMPONI**
- 10⁴⁰** **Nathan DASCAL** // Full reconstitution of the β -adrenergic cascade regulating Cav1.2: the role of Rad and direct channel-PKA interaction
- 11⁰⁵** **Manu BEN-JOHNY** // Regulation of voltage-gated calcium channel complexes by protein depalmitoylases
- 11³⁰** **Wietske TUIJTE** // STAC proteins inhibit calcium and voltage dependent inactivation in L-type Ca²⁺ channels
- 11⁴⁵** **Eder GAMBETA** // Dysregulation of Cav3.2 channel in trigeminal pain
- 12⁰⁰** SHORT BREAK
- 12⁰⁵** **RESEARCH FLASHES A: 7 flash presentations** CHAIR: **Jutta ENGEL**
- 12³⁵** LUNCH
- 14²⁰** **POSTER SESSION A & COFFEE**

Ion channels in networks of excitable cells

- 16²⁰** CHAIR/Perspectives: **Tina PANGRSIC**
- 16³⁰** **Nare KARAGULYAN** // Using Cav1.3^{A749G/A749G} mutant mice to understand sound intensity encoding at the first auditory synapse
- 16⁴⁵** **Rohan KAPOOR** // Reconstitution of synthetic ribbon-type active zones in a heterologous system: In pursuit of understanding the spatial coupling of calcium channels by the synaptic ribbon
- 17⁰⁰** **Lu-Yang WANG** // Facilitation of presynaptic P/Q-type calcium channels dictates the polarity and magnitude of short-term plasticity
- 17¹⁵** **Rosalie DITTRICH** // Non-cell-autonomous functions of Cav1.2 in pancreatic beta-cell regulation
- 17³⁰** DINNER

Special topic: Ion channel structure

- 19⁵⁰** CHAIR/Perspectives: **Bernhard FLUCHER**
- 20⁰⁰** **Thomas JENTSCH** // Molecular identification, structure/function, and physiology of the acid-activated anion channel ASOR
- 20³⁰** **William CATTERALL** // Voltage-gated sodium and calcium channels at atomic resolution: structure, function, and pharmacology
- 21⁰⁰** **Nieng YAN** // How to lock down a VSD?
- 21³⁰** Plenary discussion -
- followed by BEER & CHIPS & POSTERS

THURSDAY, MAY 26

Ion channels in disease 1

- 08²⁰** CHAIR/Perspectives: **Gerald OBERMAIR**
- 08³⁰** **Anjali RAJADHYAKSHA** // Learning to Forget: Could neuropsychiatric risk gene cacna1c underlie individual susceptibility to addiction?
- 08⁵⁵** **Annette DOLPHIN** // A CACNA2D1 point mutation in the Cache domain of $\alpha_2\delta$ -1 leads to loss of function
- 09²⁰** **Bernd FLEISCHMANN** // Modulation of the cardiac scar and impact on electrical vulnerability of the heart
- 09⁴⁵** **Susanna ZIERLER** // Two-Pore Channels: Regulators of inter-organellar calcium homeostasis, mast cell reactivity and anaphylaxis

10⁰⁰ COFFEE BREAK

TRP channels 1

- 11⁰⁰** CHAIR/Perspectives: **Vladimir CHUBANOV**
- 11¹⁰** **Klaus GROSCHNER** // Regulatory lipidation of TRPC channels – new insights into structure-function relations
- 11³⁵** **Shmuel MUALLEM** // TRPC3 channel gating by lipids requires localization at ER-PM junctions defined by STIM1
- 12⁰⁰** **Katharina ZIMMERMANN** // TRPC5 cold sensing: Teeth and beyond
- 12²⁵** SHORT BREAK
- 12³⁰** **RESEARCH FLASHES B: 7 flash presentations** CHAIR: **Stefanie GEISLER**
- 13⁰⁰** LUNCH
- 14⁰⁰** **POSTER SESSION B & COFFEE**

Two pore channels

- 16⁰⁰** CHAIR/Perspectives: **Martin BIEL**
- 16¹⁰** **Michael ZHU** // Mechanism of two-pore channel regulation of mTORC1 during macroautophagy
- 16³⁵** **Andreas GUSE** // NAADP signaling and calcium microdomains
- 17⁰⁰** **Christian GRIMM** // TPC2 modulation rescues lysosomal storage in Mucopolipidosis type IV, Niemann-Pick type C1 and Batten disease
- 17²⁵** **Marc FREICHEL** // Organellar Ca²⁺ regulators (OCaRs) determining NAADP-mediated Ca²⁺ release from acidic intracellular stores in pancreatic acinar cells and cardiomyocytes
- 17⁵⁰** DINNER

Ion channel structure and function

- 19⁴⁰** CHAIR/Perspectives: **Marta CAMPIGLIO**
- 19⁵⁰** **Riccardo OLCESI** // The early molecular transitions governing Cav1.1 opening and EC-coupling in skeletal muscle
- 20¹⁵** **Erick HERNANDEZ-OCCHOA** // Functional site-directed fluorometry of voltage sensor movement of Cav1.1 during an action potential in skeletal muscle fibers
- 20⁴⁰** **Filip VAN PETEGEM** // Channelopathies at high resolution: a structural investigation of muscle excitation-contraction coupling components
- 21⁰⁵** **Elena LILLIU** // On the molecular origin and physiological role of phasic store-operated calcium entry in skeletal muscle
- 21²⁰** BEER & CHIPS & POSTERS

FRIDAY, MAY 27

TRP channels 2

CHAIR: **Andrea FLEIG** / **Indu AMBUDKAR**

08³⁰ **Anant PAREKH** // Targeting CRAC channels in human disease

08⁵⁵ **Indu AMBUDKAR** // STIM2 and Ca²⁺ influx in ER-PM junctions

09²⁰ **Andrea FLEIG** // Crosstalk of magnesium transport and calcium signaling

09⁴⁵ **COFFEE BREAK**

Special workshop: Ion channel Imaging

10¹⁵ CHAIR/Perspectives: **Martin HEINE**

10²⁵ **Tobias MOSER** // Topography of Ca²⁺ channels at the presynaptic active zone

10⁵⁰ **Klaus BENNDORF** // New tools to study the function of ligand-gated ion channels

11¹⁵ **SHORT BREAK**

Ion channels in disease 2

11³⁰ Chair/Perspectives: **Johannes HELL**

11⁴⁰ **Philippe LORY** // Modeling the aberrant Cav3 activity in brain diseases

12⁰⁵ **Andrea MARCANTONI** // Dysregulation of calcium released from ryanodine receptors induces synaptic impairments during Alzheimer's disease onset

12²⁰ **Maximiliano ZULUAGA-FORERO** // Patient derived CACNA1A mutations affect calcium channel localization and synaptic function in an in-vivo model

12³⁵ **Jian YANG** // Midchannel proteolysis of Cav2.1 P/Q-type voltage-gated calcium channel

12⁵⁰ **LUNCH (Packed lunch)**

AFTERNOON ACTIVITIES (Individual dinner)

18⁰⁰ **CavX Workshop for young researchers: Bringing life science ideas into the realm of bioentrepreneurship**
Andreas LAUSTSEN-KIEL

SATURDAY, MAY 28

Physiological roles of calcium channels 1

08³⁰ CHAIR/Perspectives: **Emilio CARBONE**

08⁴⁰ **Samuel M. YOUNG** // Presynaptic Cav2 calcium channel subtype abundance, organization, and the regulation of neurotransmitter release

09⁰⁵ **Stephanie ECKRICH** // Cav1.3 calcium channels show slow turnover rates and are critical for transcriptional regulation of BK channel expression in mature cochlear inner hair cells

09²⁰ **Anouar BELKACEMI** // Role of Cavβ₂ and Cavβ₃ subunits of voltage-gated Ca²⁺ channels in pancreatic β-cells

09⁴⁵ **Hartwig SEITTER** // A novel Cavβ₂ splice variant with unique properties predominates in the retina

10⁰⁰ **COFFEE BREAK**

Calcium regulation

10³⁰ CHAIR/Perspectives: **Mark DELL'ACQUA**

10⁴⁰ **Bernd FAKLER** // Fast Ca²⁺-transport by PMCA-neuroplastin/basigin complexes

11⁰⁵ **Fiona BARTOLI** // Endothelial Piezo1 sustains muscle capillary density and contributes to physical activity

11²⁰ **Beatrix DIENES** // The mechanosensitive Piezo1 channels contribute to the arterial medial calcification

11³⁵ **Mehmet KAPLAN** // Actions of Cav1.1 in the formation of the neuromuscular synapse

11⁵⁰ **SHORT BREAK**

12⁰⁰ **RESEARCH FLASHES C: 7 flash presentations** CHAIR: **Petronel TULUC**

12³⁰ **LUNCH**

14⁰⁰ **POSTER SESSION C & COFFEE**

Physiological roles of calcium channels 2

16⁰⁰ CHAIR/Perspectives: **Christian WAHL-SCHOTT**

16¹⁰ **David BEECH** // PIEZO1 in cardiovascular health and disease

16³⁵ **Rajesh KHANNA** // Unlocking Cav2.2's pain potential

17⁰⁰ **Noelia JACOBO-PIQUERAS** // Molecular mechanisms responsible for the sexual dimorphism in pancreatic β-cell insulin release

17¹⁵ **Matteo MANGONI** // The "pacemaker" L-type Cav1.3 (α1D) calcium channel in heart automaticity

17⁴⁰ **DINNER**

20⁰⁰ **Closing Plenary lecture: Thomas VOETS** // TRPM3 – from the sensory nerve endings to the brain CHAIR: **Thomas GUDERMANN**

21⁰⁰ **Closing remarks** (GUDERMANN / FLOCKERZI / OBERMAIR)

GOODBYE PARTY