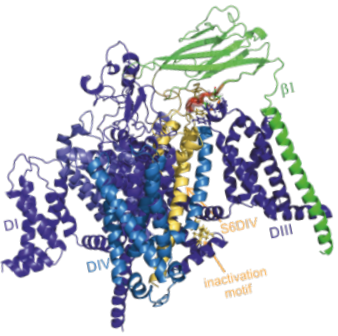
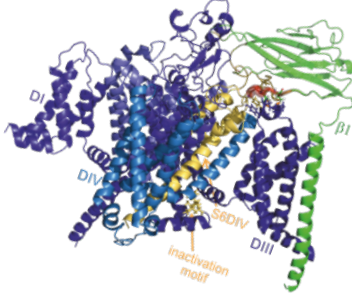


Worldwide Sodium Channel Conference, Jan 31st – Feb 2nd 2024, Grindelwald, Switzerland

Program at a glance - talks

	Wednesday, January 31, 2024	Thursday, February 1, 2024	Friday, February 2, 2024	
		Pain	Structure	
08:30 – 08:45		Alina Troglia	Daniel Minor*	
08:45 – 09:00		Janneke Hoeijmakers*	Yiechang Lin	
09:00 – 09:15		Sidharth Tyagi	Stephan Pless*	
09:15 – 09:30		Alex Deftu	Baron Chanda*	
09:30 – 09:45		Thomas Stiehl	Hendrik Harms	
09:45 – 10:00		<i>Coffee break & Posters</i>	Markos Xenakis	
10:00 – 10:30			<i>Coffee break & Posters</i>	
			CNS	Cardio II
10:30 – 10:45		<i>12:30 – 13:45 Registration 13:45 – 14:00 Welcome</i>	Jeanne Nerbonne*	William Brackenbury*
10:45 – 11:00			Massimo Mantegazza	Mahdi Jamili
11:00 – 11:15	Ahmad Al Saneh		Isabelle Deschenes*	
11:15 – 11:30	Moran Rubinstein*		Jan Kucera*	
11:30 – 11:45	Przemyslaw Radwański		Markus Rapedius – SPONSOR TALK	
11:45 – 12:00	Nael Nadif Kasri		<i>11 :45: – 12:15 Closing remarks</i>	
12:00 – 14:00	<i>12 :00 – 12 :15 Group picture 12 :15 – 14 :00 Lunch break</i>			
	Cardio I	Pharmacology/Toxicology	* Invited Speaker	
14:00 – 14:15	Céline Marionneau*	Jennifer Deuis		
14:15 – 14:30	Serena Pozzi	Fayal Abderemane-Ali*		
14:30 – 14:45	Francisco Cruz	Christina Stanke		
14:45 – 15:00	Jonathan Silva*	Jin-Sung Choi*		
15:00 – 15:15	Andrew Glazer	Manu Ben-Johny*		
15:15 – 15:30	Isabelle Baró	Michael Netzer		
15:30 – 16:00	<i>Coffee break & Posters</i>	<i>Coffee break & Posters</i>		
	Fast inactivation	Excitability		
16:00 – 16:15	Yichen Liu	Phil Köster		
16:15 – 16:30	Kenton Swartz*	Roi Ben-Shalom		
16:30 – 16:45	Peter Hull*	Ali Rasooli-Nejad		
16:45 – 17:00		Michael Gold*		
17:00 – 17:15	Carène Benasolo*	Anna Maxion		
17:15 – 17:30	Elaine Tao	Jenny Tigerholm		
	Free evening	Conference dinner at Schweizerhof Romantik Hotel		
19:30				

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Talk titles	
Céline Marionneau	Dynamics of cardiac Nav1.5 channel complexes upon an acute β -adrenergic stimulation
Serena Pozzi	Enhanced Nav1.5 (SCN5A) activation in CPVT-like arrhythmia
Francisco Cruz	Extracellular Kir2.1 disulfide bond break at Cys122 disrupts Kir2.1-Nav1.5 channelosome function and leads to arrhythmias in Andersen-Tawil Syndrome
Jonathan Silva	Common Genetic Variants of the Cardiac Sodium Channel Alter Patient Response to Class 1b Antiarrhythmics
Andrew Glazer	High-throughput functional studies of the voltage-gated cardiac sodium channel gene, SCN5A (Nav1.5)
Yichen Liu	A Mechanistic Reinterpretation of Fast Inactivation in Voltage-Gated Na ⁺ Channels
Kenton Swartz	Inactivation of the Kv2.1 channel through electromechanical coupling
Peter Hull	Using metaphor to reconceptualize the sodium channel fast inactivation mechanism
Carène Benasolo	Molecular modeling of the channelome illuminates Nav1.7 pharmacology
Elaine Tao	A novel epilepsy mutation reveals a key molecular interaction for sodium channel inactivation
Alina Troglio	Analysis of Action Potentials Shapes in Sleeping Nociceptors Affected by SCN9A Loss-of-function Mutations
Janneke Hoeijmakers*	Small fiber neuropathy and sodium channel mutations
Sidharth Tyagi	Acute TNF- α exposure drives compartment specific regulation of Nav1.7 channels in sensory neurons
Alex Deftu	Sodium channels modulation in dorsal root ganglion nociceptors treated with conditioned medium of non-neuronal cells after spared nerve injury
Thomas Stiehl	Simulating the contribution of different Nav-subtypes to action potentials using a simple in silico model of sleeping nociceptors and A delta fibers
Jeanne Nerbonne*	Loss of Intracellular Fibroblast Growth Factor 14 (iFGF14) Increases the Excitability of Hippocampal and Cortical Pyramidal Neurons
Massimo Mantegazza	Negative dominance, a specific pathological mechanism of autistic spectrum disorder SCN2A/Nav1.2 sodium channel variants
Ahmad Al Saneh	Characterization and Repair of Sodium Channel Premature Stop Codons in SCN2a Syndrome
Moran Rubinstein*	Viral-mediated expression of Nav1.1 reverts Dravet syndrome comorbidities in mice
Przemyslaw Radwański	Nanoscale remodeling of sodium channels in the cardiac transverse tubules contributes to Scn1a haploinsufficiency-associated sudden death in epilepsy (SUDEP)
Nael Nadif Kasri	SCN1A-deficient excitatory neuronal networks display mutation-specific phenotypes
Jennifer Deuis	Pain-causing stinging nettle toxins target TMEM233 to modulate Nav1.7 function
Fayal Abderemane-Ali*	How to survive a toxic environment and take advantage of it? Lessons from poisonous animals
Christina Stanke	Functional interaction of the antimycotic peptide VG16KRP with voltage-gated sodium channels
Jin-Sung Choi*	Mechanism of inhibition by polysorbate 80 on the sensory and cardiac sodium channels
Manu Ben-Johny*	De novo design of a peptide modulator to reverse sodium channel dysfunction linked to cardiac arrhythmias
Michael Netzer	Multi-chamber cardioids unravel human heart development and cardiac defects
Phil Köster	Exploring biophysics of voltage-gated sodium channels during subthreshold depolarization
Roi Ben-Shalom	Linking SCN2A Genotype to Neuronal Phenotype Through Computational Modeling
Ali Rasooli-Nejad	Changes in stem voltage-gated sodium channels and length of sensory neurons during inflammation and injury
Michael Gold*	Injury-induced changes in peripheral axon voltage-gated sodium channels (VGSCs)
Anna Maxion	Integrative function of a human peripheral sensory axon regarding changes in different Nav subtypes: Insights from Microneurography and Computational Modeling
Jenny Tigerholm	Novel nerve fiber excitability testing protocol to identify alterations of Nav1.7, Nav1.8 and Nav1.9 in humans
Daniel Minor*	Electrosome assembly: a first structural view of ion channel biogenesis
Yiechang Lin	A binding site for phosphoinositide modulation of voltage gated sodium channels described by multiscale simulations
Stephan Pless*	The odd one out – function, structure and regulation of the sodium leak channel complex
Baron Chanda*	Structural Basis for Hyperpolarization-dependent Opening of the Human HCN1 Channel
Hendrik Harms	Impact of Disease-Causing Mutations and Phosphorylation on Function and Pharmacology of the Cardiac Sodium Channel Revealed by Protein Semi-Synthesis and Molecular Dynamics Simulations
Markos Xenakis	Voltage-gated sodium channel statistical mechanics: an avenue towards first-principles mutational robustness assessment
William Brackenbury*	Nav1.5 drives glycolytic acidification to promote breast cancer metastasis
Mahdi Jamili	Mg-protoporphyrin IX is a specific and potent inhibitor of human cardiac voltage-gated sodium channels and slows migration of SCN5A-expressing cancer cells
Isabelle Deschenes*	β -adrenergic regulation of the cardiac sodium channel
Jan Kucera*	Cardiac sodium channels: to interact or not to interact?
Isabelle Baró	The augmented cell: hybrid in silico and in vitro human cardiac model to investigate Nav1.5 impairment
Markus Rapedius	NANION – Studying compound effects using adaptive voltage-clamp on a high throughput automated patch clamp system
Poster titles	
Anne-Flore Hämmerli	P01 - Oligomerization of cardiac sodium channel Nav1.5 in the heterologous expression system
Tibor Szanto	P02 - Characterization of a novel mutation in Brugada Syndrome
Mirko Baruscotti	P03 - The novel heterozygous SCN5A S805L Brugada Syndrome mutation exhibits a pathological or wild type phenotype depending on the cell hyperpolarization state
Mirko Baruscotti	P04 - Analysis of the dominant negative effect observed in a compound heterozygosity mutation of the Nav1.5 cardiac sodium channel
Florian Bochen	P05 - TRPM4 influences prostate cancer hallmarks in three-dimensional cell cultures
Sophie Nicole	P06 - Characterization of zebrafish lines with loss-of-function mutations in the two skeletal muscle sodium channel Nav1.4 orthologs
Nikki Kolsters	P07 - Reduced KCC2/NKCC1 ratio in Dravet and GEFS+ patient iPSC-derived neurons suggest delayed GABA shift
Esther Eberhardt	P08 - Neuronal hyperexcitability in an erythromelalgia patient with a variant in the Nav subunit β 3
Kimberly Gomez	P09 - Targeted transcriptional upregulation of SENP1 by CRISPRa enhances deSUMOylation pathways to elicit antinociception in the spinal nerve ligation model of neuropathic pain
Aylin Kesdoğan	P10 - Analgesic effect of Botulinum toxin in neuropathic pain is sodium channel independent
Stanislav Koulchitsky	P11 - Phentolamine can be a selective local anaesthetic, preferably acting on C-fibres
Ralf Hausmann	P12 - Papaverine induced ventricular arrhythmia related to genetic variants of SCN5A encoding the cardiac sodium channel Nav1.5
Damian Bell	P13 - Electrophysiological characterization of hiPSC-derived cardiomyocytes, including voltage-gated ion channels and action potential measurements, using automated patch clamp
Sophia Kriegeskorte	P14 - Temperature intensifies pain-linked sodium channel gating
Vishal Eswaran	P15 - Pore Collapse as a Potential Pathomechanism for Nav1.7 Loss-of-Function related Painlessness
Linlu Li	P16 - Membrane cholesterol depletion impairs the homodimeric assembly of the human Nav1.5 channel in Xenopus laevis oocytes
Margaux Theys	P17 - A study of the distinct Nav1.9 channel using Nav1.9-Nav1.5 chimeras
Fraser McCready, David Jäckel	P18 - SPONSOR POSTER - Maxwell Biosystems AG - Label-Free Functional Characterization of iPSC-derived Neurons at Subcellular Resolution

The Organizers would like to acknowledge the sponsors of the Worldwide Sodium Channel Conference 2024 for their generous financial support!

