

2ND INTERNATIONAL Kv7 CHANNELS SYMPOSIUM PROGRAMME 2023

WEDNESDAY - 13 SEPTEMBER 2023

Time	Title	Chairs/Speakers	Area/room
12:00	Registration opens		Foyer
13:00-13:15	Welcome & Opening Ceremony	Maurizio Tagliatela & Iain Greenwood	Auditorium
13:15-15:00	Session 1: Neuronal Kv7 channels I	Chairs: Ed Cooper & Zhaobing Gao	Auditorium
	Excitatory and inhibitory hippocampal neurons differ in their homeostatic adaptation to chronic M-channel modulation	Bernard Attali, Israel	
	Kv7 increase by Kv7.2-7.5 opener, retigabine, but not specific Kv7.2/Kv7.3 opener, RL648_81, prevents BBB Breakdown after TBI, which is obligatory	Mark Shapiro, USA	
	Pre-clinical research using mouse models of Kv7.2 dysfunction	Laurent Villard, France	
	Roles and mechanisms of Kv7 channel plasticity in hearing loss and tinnitus	Thanos Tzounopoulos, USA	
15:00-15:30	Coffee Break & Exhibition		Exhibition Area
15:30-17:15	Session 2: Cardiac Kv7 channels	Chairs: Sara Liin & Koichi Nakajo	Auditorium
	Large scale characterization of IKs channel variants, lessons learned	Carlos Vanoye, USA	
	Activator binding sites and actions on KCNQ1 and IKs channel complexes	David Fedida, Canada	
	A Full Spectrum Rational Drug Design Targeting Kv7.1 and IKs Channels	Jianmin Cui, USA	
	Phosphatidylinositol 3-phosphate 5-kinase PIKfyve regulates KCNQ1/KCNE1 via two PIP2 binding sites with potential consequences on intermediate-to-open state transition	Guiscard Seeböhm, Germany	
17:15-18:00	Plenary Lecture #1: Ingrid Scheffer, Australia <i>KCNQ2 diseases: a widening phenotypic spectrum</i>	Chair: Maurizio Tagliatela	Auditorium
18:00-19:30	Welcome Reception		3rd Floor

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08:00	Registration desk opens		Foyer
09:00-09:45	Plenary Lecture #2: Geoffrey Abbott, United States <i>Kv7 channel biology and pharmacology: expecting the unexpected</i>	Chair: Iain Greenwood	Auditorium
09:45-10:15	Coffee Break & Exhibition		Exhibition Area
10:15-12:00	Session 3: Neuronal Kv7 channels II	Chairs: Ana Luisa Carvalho & Mark Shapiro	Auditorium
	Regulation of KCNQ channel expression by repressor element 1-silencing transcription factor	Frederick Jones, United Kingdom	
	Kv7 channels modulating arousal neurons: Potential therapeutic targets to treat sleep fragmentation	Oscar Gonzales, USA	
	Targeting neuronal Kv7/M-channels for potential therapies of neuropsychiatric disorders	Kewei Wang, China	
	Anticonvulsant and neuroprotective roles of SGK1.1 by modulating Kv7 channels	Teresa Giraldez, Spain	
12:00-13:30	Lunch & Poster Session		3rd Floor
13:30-15:15	Session 4: Smooth muscle Kv7 channels	Chairs: Guiscard Seebohm & Seva Telezhkin	Auditorium
	Smooth muscle themes: A short tale of manipulation, degradation, and sex	Iain Greenwood, United Kingdom	
	Kv7 channels in the pulmonary circulation: sex, drugs and rocking role	Angel Cogolludo, Spain	
	Targeting the retrograde trafficking of Kv7 channels	Thomas Jepps, Denmark	
	Kv7 channel dysfunction in human labour	Helena Parkington, Australia	
15:15-15:30	Coffee Break & Exhibition		Exhibition Area
15:30-15:50	Xenon Industry Symposium		Auditorium
15:50-16:50	Young Investigators 1	Chairs: Thomas Jepps & Maria Virginia Soldovieri	Auditorium
	Molecular and pharmacological identification of the functional crosslink between the Ca ²⁺ -sensing receptor and neuronal Kv7 channels	Nontawat Chuinsiri, United Kingdom	
	Sex-dependent contractility and response to the Kv7 activator ML213 in rat bladders involves GPER1 and the membrane trafficking protein dynein	Zena Wehbe, United Kingdom	
	Kv7-Kv8: a novel cross-family interaction between Kv channels	Nermina Xhaferri, Germany	
	The endocannabinoid ARA-S shows activating effects on Kv7.1/KCNE1 carrying Long QT Syndrome mutations	Irene Hiniesto-Iñigo, Sweden	
16:50-17:05	Short break		Exhibition Area
17:05-18:50	Session 5: New pharmacological modulators of Kv7 channels	Chairs: Naoto Hoshi & Jianmin Cui	Auditorium
	New retigabine analogues and repurposed compounds as antiseizures drugs	Maurizio Tagliatela, Italy	
	Exploration of molecular improvements for the triaminoaryl metabophore of flupirtine and retigabine	Andreas Link, Germany	
	Retigabine Prodrugs Improve the ADME Properties of Retigabine, Enhance Oral Absorption and Allow for Alternative Routes of Administration	Christopher Crean, USA	
	Development of new hKv7.2/7.3 channel activators	Nina Ottosson, Sweden	
20:00-00:00	Symposium Dinner		Transatlantico Restaurant Address: Via Luculliana 15

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09:00-10:45	Session 6: Kv7 channels structure	Chairs: David Fedida & Alvaro Villarroel	Auditorium
	The dynamic “Hand-and-Elbow” gating mechanism of the Kv7.1 channel	Panpan Hou, Macao	
	Ligand activation mechanisms of KCNQ2	Jiangtao Guo, China	
	Opening of KCNQ2 channels does not require concerted movement of all four voltage sensors	Rene Barro-Soria, USA	
10:45-11:15	Coffee Break & Exhibition		Exhibition Area
11:15-12:30	Young Investigators 2	Chairs: Nina Ottoson & Francesco Miceli	Auditorium
	M-channel modulation and IGF-1 trigger adaptive changes in sensory dorsal root ganglia neurons	Jennyfer Pastor, Israel	
	Type 1 transmembrane AMPA-receptor regulatory proteins are auxiliary subunits of Kv7.2 voltage-gated potassium channels	Marina Ventura Rodrigues, Portugal	
	Kv7 channels as novel regulators of blood-brain barrier function and dysfunction	Camilla Celentano, Italy	
	Validation of novel targeted therapy for KCNQ2-related disorders in an iPSC-derived neuronal model using high-density MEA	Marcus Kaji, Belgium	
	Modeling of Kv7.2 epileptic encephalopathy with iPSC-derived cortical neurons using CRISPR/Cas9	Jaehoon Shim, USA	
12:30-14:00	Lunch & Poster Session		3rd Floor
14:00-15:45	Session 7: Kv7 channels regulation	Chairs: Teresa Giraldez & Geoffrey Abbott	Auditorium
	A novel class of Kv7 channel modulators that attenuate M-current suppression	Naoto Hoshi, USA	
	Redox regulation of Kv7 channels through EF3 hand of calmodulin	Alvaro Villarroel, Spain	
	A role of the S1 segment in KCNQ1 modulation by KCNE	Koichi Nakajo, Japan	
	KCNQ1 (Kv7.1) ion channels in epithelial wound repair	Brian Harvey, Ireland	
15:45-16:15	Coffee Break & Exhibition		Exhibition Area
16:15-17:00	Plenary Lecture #3: Ji Sun, United States <i>Structural basis of KCNQ1 modulation and gating</i>	Chair: Bernard Attali	Auditorium
17:00-17:30	Closing Ceremony/Awards/Farewell		Auditorium