

INTERNATIONAL Kv7 CHANNELS SYMPOSIUM PROGRAMME

THURSDAY - 12 SEPTEMBER 2019

Time	Title	Chairs/Speakers	Abstract no.	Area/room
08:00	Registration desk opens			Foyer
09:00-09:15	Welcome & Opening Ceremony			Auditorium
09:15-10:00	Keynote: David Brown, United Kingdom Neuronal Kv7 M-channels: properties and regulation	Chair: Maurizio Tagliatela	01	Auditorium
10:00-11:45	Session 1: Kv7 channels in neuronal physiology	Chairs: Guiscard Seeböhm & Edward Cooper		Auditorium
10:00-10:25	Of Mice and KCNQ2/3 channels	Anastasios Tzingounis, United States	02	
10:25-10:50	Kv7 channels and pain: what have we learned thus far?	Nikita Gamper, United Kingdom	03	
10:50-11:15	Hyperexcitability during normal aging and amyotrophic lateral sclerosis is governed by changes in M-current and H-current	Lezanne Ooi, Australia	04	
11:15-11:40	Kv7.4 channels and modulation of monoamine neuron excitability	Hailin Zhang, China	05	
11:45-13:30	Lunch & Poster Session			3rd Floor
13:30-15:15	Session 2: Kv7 channels in smooth muscle and cardiac physiology	Chairs: Geoffrey Abbott & Angel Cogolludo		Auditorium
13:30-13:55	Kv7 channels in smooth muscle: providing novel insights into channel trafficking	Thomas Jepps, Denmark	06	
13:55-14:20	Rational design of fatty acid analogues targeting the cardiac Kv7.1 channel	Sara Liin, Sweden	07	
14:20-14:45	An iPSC-based system to study Kv7.1/KCNE1 in human cardiomyocytes	Guiscard Seeböhm, Germany	08	
14:45-15:10	Organotypic expression of vascular smooth muscle Kv7.1 channels - potential for renoprotection?	Rudolf Schubert, Germany	09	
15:15-15:45	Coffee Break & Exhibition			Exhibition Area
15:45-17:30	Session 3: Kv7 channel regulation	Chairs: Nikita Gamper & Alvaro Villarroel		Auditorium
15:45-16:10	Phosphorylation of Kv7.2 subunits and its role in pathology	Naoto Hoshi, United States	010	
16:10-16:35	Activity-dependent regulation of neuronal KCNQ channel transcription: from peripheral ganglia to brain	Mark Shapiro, United States	011	
16:35-17:00	Structural determinants of Kv7.5 potassium channels that confer changes in phosphatidylinositol 4,5-bisphosphate affinity and signaling sensitivities in vascular smooth muscle cells	Kenneth Byron, United States	012	
17:00-17:25	Kv7.1 channels in colorectal cancer and epithelial repair	Brian J. Harvey, Ireland	013	
18:00-19:30	Welcome Reception (included in registration fee)			First floor

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08:00	Registration desk opens			Foyer
08:30-08:50	Industry workshop: Introducing Alomone Labs portfolio for your KCNQ (Kv7) Channel Research	Speaker: Noemi Bronstein, Israel		Auditorium
09:00-09:45	Keynote: Bernard Attali, Israel Multifaceted Kv7 potassium channels: from heart waves to neuronal plasticity	Chair: Iain Greenwood	O14	Auditorium
09:45-10:15	Coffee Break & Exhibition			Exhibition Area
10:15-12:00	Session 4: Structural aspects of Kv7 channel function	Chairs: Harley Kurata & Mark Shapiro		Auditorium
10:15-10:40	A closer look at calcium regulation of KCNQ channels	Alvaro Villarroel, Spain	O15	
10:40-11:05	High resolution views of KCNQ modulation	Dan Minor, United States	O16	
11:05-11:30	Mechanism of voltage-dependent activation of Kv7.1	Jianmin Cui, United States	O17	
11:30-11:55	Stepwise activation of tetrameric KCNQ1 channel complexes, in the presence and absence of KCNE1	David Fedida, Canada	O18	
12:00-13:30	Lunch & Poster Session			3rd Floor
13:00-13:20	Industry workshop: XEN1101: A KCNQ2 Modulator for the Treatment of Epilepsy	Speaker: Charles Cohen, Canada		Auditorium
13:30-15:15	Session 5: Novel interactions and associations	Chairs: Tom Jepps & Frederik Elinder		Auditorium
13:30-13:55	Digging deeper: G protein beta gamma subunit regulation of cardiovascular Kv7 channels	Jennifer Stott, United Kingdom	O19	
13:55-14:20	Kv7 channels transporter complexes	Geoffrey Abbott, United States	O20	
14:20-14:45	KCNQ1 an unexpected mediator of cold avoidance	Aytug Kiper, Germany	O21	
14:45-15:10	Versatile modulation of Kv7-mediated K ⁺ currents through (silent) modifier Kv channel subunits	Michael Leitner, Austria	O22	
15:15-15:45	Coffee Break & Exhibition			Exhibition Area
15:45-17:30	Session 6: Perspectives from the industry	Chairs: Vincenzo Calderone & Stefan Boehm		Auditorium
15:45-16:10	Identification of Novel Kv7.2/Kv7.3 Openers Using Advanced High-Throughput Screening Tools	Barbara Garofalo (Angelini), Italy	O23	
16:10-16:35	Lu AA41178: A novel, brain penetrant, pan-selective KCNQ/Kv7 potassium channel opener with efficacy in preclinical models of neurological and psychiatric disorders	Morten Grupe Larsen (Lundbeck), Denmark	O24	
16:35-17:00	The Re-emergence of Kv7 Drug Discovery	Steven Dworetzky (Knopp), United States	O25	
17:00-17:25	Rational Design of Highly Potent & Selective Kv7.2/3 Agonists as Potential Analgesic Drugs	Sven Kühnert (Grunenthal), Germany	O26	
17:30-19:15	Zoom Presentations by Young Investigators	Chairs: Nina Ottoson & David Fedida		Auditorium
17:30-17:37	Screening of negative charges by Ca ²⁺ in the turret region controls Kv7.1 inactivation gating	Maya Lipinsky, Israel	O27	
17:37-17:44	Phosphorylation-dependent regulation of helix B in Kv7.2 C-terminus alters Kv7 channel function and expression on neuronal axon	Jiaren Zhang, United States	O28	
17:44-17:51	Venom molecules as novel therapeutic agents to treat Kv7.2/7.3 related disorders	Linda Blomster, Australia	O29	
17:51-17:58	Identification and pharmacological characterization of novel indole derivatives acting as potent Kv7 channel activators	Francesco Miceli, Italy	O30	
17:58-18:05	Mapping Kv7.3 binding site by in silico driven structure based approach	Carmine Ostacolo, Italy	O31	
18:05-18:12	Platelet-derived growth factor activates nociceptive neurons by inhibiting Kv7/M-currents and plays a role in inflammatory pain	Omer Barkai, Israel	O32	
18:12-18:19	Transcriptome Profiling of the Kcnq2 pyramidal neuron null forebrain reveals upregulation of neuropeptides and inflammatory genes	Kirsten Springer, United States	O33	
18:19-18:26	Loss-of-function missense variants in the KCNQ5 gene are associated with genetic generalized epilepsies	Johanna Krueger, Germany	O34	
18:26-18:33	A novel gain-of-function variant in KCNQ5 in a patient with neurodevelopmental delay and drug-resistant epilepsy	Mario Nappi, Italy	O35	
18:33-18:40	Kv7 channels interact with the myo-inositol transporter SMIT1 in arterial smooth muscle cells	Vincenzo Barrese, United Kingdom	O36	
18:40-18:47	KCNQ2-Encephalopathy in a dish: mechanistic insight through 2D and 3D neuronal models	Nina Dirx, Belgium	O37	
18:47-18:54	Role of Kv7 channels and KCNE ancillary subunits in the pulmonary vasculature: Implication in pulmonary hypertension	Gema Mondejar Parreño, Spain	O38	
18:54-19:01	Destabilization of Kv7.2 channels activated configuration as a pathogenetic mechanism for epileptic encephalopathy	Maria Virginia Soldovieri, Italy	O39	
20:00-00:00	Symposium Dinner (not included in the registration fee, registration required)			Transatlantico Restaurant Address: Via Luculliana 15

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09:00-09:45	Keynote: Silvia Priori, Italy Genotype to Phenotype Correlations of KCNQ1 mutations associated with Type 1 Long QT Syndrome	Chair: Jeffrey L. Noebels, United States	O40	Auditorium
09:45-10:15	Coffee Break & Exhibition			Exhibition Area
10:15-12:00	Session 7: Kv7 channels in neuropsychiatric disorders	Chairs: Lezanne Ooi & Tristan Sands		Auditorium
10:15-10:40	The expanding phenotypical spectrum of KCNQ2 and KCNQ3 encephalopathy	Sarah Weckhuysen, Belgium	O42	
10:40-11:05	From RIKEE to ERGENT: assessing neuronal KCNQ genetic variants to enable clinical diagnosis, prognostication, and development of precision medicines	Edward Cooper, United States	O41	
11:05-11:30	Kv7 Channels in Stress Resilience: from the Preclinical Model to the Patient	Ming-Hu Han, United states	O43	
11:30-11:55	Modeling KCNQ2 Epileptic Encephalopathy Using iPSC-based Technologies	Evangelos Kiskinis, United States	O44	
12:00-13:45	Session 8: Emerging pharmacology of Kv7 channels	Chairs: Sarah Weckhuysen & Anastasios Tzingounis		Auditorium
12:00-12:25	Varied mechanisms and sites of action of anti-epileptic potassium channel activators	Harley Kurata, Canada	O45	
12:25-12:50	Discovery of a novel anti-epileptic drug targeting KCNQ channels	Zhaobing Gao, China	O46	
12:50-13:15	Resin acid derivatives open the hKv7.2/7.3 channel and prevent epileptic activity in zebrafish larvae	Nina Ottoson, Sweden	O47	
13:15-13:40	Neuronal Kv7 channels as targets for the analgesic action of paracetamol	Isabella Salzer, Austria	O48	
13:45-14:00	Closing Ceremony			Auditorium
14:00-15:00	Farewell lunch			