Calcium Signalling at Membrane Junctions - May 14-16 2023, Haifa, Israel

Chairs

Raz Palty, Technion – Israel Institute of Technology Michal Hershfinkel, Ben-Gurion University Israel Sekler, Ben-Gurion University

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About the Conference: Calcium signaling is fundamental for all cellular function. An important objective of this conference is to share and discuss new developments and research avenues in the field of calcium signaling at membrane junctions. Presentations in this meeting will show state-of-the-art technics and groundbreaking studies in a broad range of topics ranging from biophysical studies at the single molecule level to studies of animal physiology with emphasis on brain, muscle and immune function under normal and diseased states. We expect the meeting to include scientifically exciting topics delivered in a highly collegial and friendly atmosphere aimed to develop and nurture relationships between scientists in the field of calcium signaling and to promote new collaborations.

Sunday May 14th

9:00-21:00 Check-in Hotel Dan Panorama

10:30-12:30 Student workshop – Calcium Signaling at membrane junctions

10:30-11:30 Anant Parekh (Oxford University)

Local calcium signalling at ER-PM junctions through CRAC channels

11:30-12:30 Alicia Kowaltowski (University of São Paulo)

Mitochondrial Calcium Transport: a Central Regulatory Node in Energy Metabolism

11:30-12:00 Workshop open discussion

12:30-13:30 Lunch

13:30-15:30 Student workshop – Calcium Signaling at membrane junctions

13:30-14:30 Varda Shoshan Barmatz (Ben-Gurion University)

Calcium and VDAC1 overexpression in diseases: from cancer to diabetes, neurodegenerative and autoimmune diseases: a common target and treatment

14:30-15:30 Shmuel Muallem (NIH)

PtdSer at the ER/PM junctions regulates the bicarbonate transporters CFTR and NBCe1-B

15:30-17:00 Student workshop – Poster presentations

20:00-22:30 Welcome reception and memorial session in honor of Prof. Tulio Pozzan

21:30-21:40 Opening remarks – Israel Sekler

21:40-22:30 Memorial session in honor of Prof. Tulio Pozzan

Rosario Rizzuto (University of Padua) and Paula Pizzo (University of Padua)

Monday May 15th

8:30-12:30 Session 1: The ER-PM junction, Session leader: Barbara Niemeyer

8:30-8:40 Introduction
8:40-9:10 Jen Liou (UT Southwestern)
The cell biology of STIM1: an ER membrane protein that dynamically forms puncta and comets
9:10-9:40 Shmuel Muallem (NIH)
Lipids and regulation of Calcium entry
9:40-10:10 Jonathan Soboloff (Temple University)
STIM1 translocation to the Immunological Synapse is controlled by its K-rich domain.
10:10-10:40 Coffee break
10:40-11:10 Anant Parekh (Oxford University)
Physiological Ca²⁺ signalling through CRAC channels
11:10-11:40 Andreas Guse (University of Hamburg)
NAADP signaling at plasma membrane-ER junctions
11:40-12:10 Nicolas Demaurex (University of Geneva)
Regulation and function of store-operated and mechanosensitive channels in neutrophils
12:10-12:30 Session discussion

12:30-14:00 Lunch

14:00-18:00 Session 2: Store and receptor operated Ca²⁺ channels, Session leader Shmuel Muallem

14:00-14:10 Introduction
14:10-14:40 Indu Ambudkar (NIH)
Mechanisms underlying Ca²⁺ sensing and activation of STIM2
14:40-15:10 Barbara Niemeyer (Saarland University)
Context dependent compositional heterogeneity of SOCE
15:10-15:40 Mohamed Trebak (University of Pittsburgh)
CRAC channels in (patho)physiology

15:40-16:10 Coffee break

16:10-16:40 Rainer Schindl (Medical University of Graz)
Combining MD simulation with experiments to determine STIM1 activation mechanism
16:40-17:10 Michael Zhu (UTHealth Houston)
New function of TRPC4 in cell-cell and cell-ECM interactions
17:10-17:40 Klaus Groschner (Medical University of Graz)
Decoding, integration and processing of lipid- and Ca²⁺ signals at TRPC channels
17:40-18:00 Session discussion

19:00-21:00 Dinner

Tuesday May 16th

8:30-13:00 Session 3: Calcium Signaling in excitable tissues, Session leader Michael Zhu

8:30-8:40 Introduction

8:40-9:10 Eitan Reuveny (Weizmann Institute)

Store-operated Ca²⁺ entry regulatory factor (SARAF) alters murine metabolic state agedependent via hypothalamic pathways

9:10-9:40 Gaiti Hasan (NCBS India)

Neuronal store-operated Ca²⁺ entry shapes the expression profile of adult neurons

9:40-10:10 Alexei Verkhratsky (University of Manchester)

Ionic signaling in astroglia beyond calcium

10:10-10:40 Coffee break

10:40-11:10 Bernard Attali (Tel-Aviv University)

Targeting the calmodulin-PIP2 interface of Ca²⁺-activated SK4 K⁺ channels with allosteric inhibitors to treat atrial fibrillation

11:10-11:40 Yubin Zhou (Texas A&M University)

Remote control of calcium signaling with tailored function

11:40-12:00 Session discussion

12:30-21:00 Tour to Acre