



2019 RITA LEVI-MONTALCINI LECTURE

&

2ND JOINT «EBRI - HEBREW UNIVERSITY OF JERUSALEM - MCGILL UNIVERSITY» SYMPOSIUM

“Emerging concepts on synaptic dynamics and their dysfunction in neurological disorders”

ROME, 28-29 OCTOBER 2019
ACCADEMIA NAZIONALE DEI LINCEI

MONDAY, 28 OCTOBER

8:15-8:45 Arrival & Registration

8:45-9:00 Introduction and Welcome Addresses

2019 RITA LEVI-MONTALCINI LECTURE (CHAIR: ANTONINO CATTANEO, EBRI)

9:00-9:45 PAOLA ARLOTTA, (Harvard University, USA)
From embryos to organoids: understanding human brain development

9:45-10:30 ERIN SCHUMAN, (Max Planck Institute for Brain Research, Germany)
Local Protein Synthesis in Neurons

10:30-11:15 SILVIA ARBER, (Biozentrum - University of Basel, Switzerland)
Circuits Solutions for Programming Actions

11:15-11:40 Coffee break

2ND JOINT MCGILL - HEBREW UNIVERSITY OF JERUSALEM - EBRI SYMPOSIUM

SESSION 1 - DEVELOPMENT, FUNCTION AND DYSFUNCTION OF MOTOR NETWORKS (CHAIR: ANNE MCKINNEY, MCGILL UNIVERSITY)

11:40-12:00 AVIHU KLAR (The Hebrew University of Jerusalem)
Evolution of spinal neuronal circuits underlying species-specific motor behavior

12:00-12:20 GARY ARMSTRONG (McGill University)
Zebrafish ALS knockin models of TDP-43 and FUS have a degenerative phenotype

- 12:20-12:40 AHARON LEV-TOV (The Hebrew University of Jerusalem)
Sacral control of lumbar pattern generators in the mammalian spinal cord
- 12:40-13:00 STEFANO STIFANI (McGill University)
Human iPSC-derived neurons and glia to model ALS
- 13:00-14:30 Lunch

**SESSION 2 - SYNAPTIC DYNAMICS: PHYSIOLOGICAL AND PATHOLOGICAL CONDITIONS
(CHAIR: AVIHU KLAR, THE HEBREW UNIVERSITY OF JERUSALEM)**

- 14:30-14:50 DEREK BOWIE (McGill University)
NMDA receptor dysfunction in the Fragile X brain
- 14:50-15:10 YAEL STERN-BACH (The Hebrew University of Jerusalem)
Regulation of AMPA-type glutamate receptors by auxiliary proteins
- 15:10-15:30 ANTONINO CATTANEO (EBRI)
New tools to study synaptic engrams: local expression of optogenetic probes and other reporters at potentiated synapses.
- 15:30-15:50 ANNE MCKINNEY (McGill University)
The function of the sodium hydrogen exchanger in plasticity and learning
- 15:50-16:10 Coffee break
- 16:10-16:30 SILVIA MARINELLI (EBRI)
Cannabinoid receptor Type 2 as a hub of GABAergic transmission
- 16:30-16:50 ARIEL GILAD (The Hebrew University of Jerusalem)
Wide-field imaging of cortical dynamics during learning and short-term memory
- 16:50-17.10 MASSIMO AVOLI (McGill University)
Involvement of inhibitory interneurons in focal seizures and epileptogenesis : an optogenetic approach

TUESDAY, 29 OCTOBER

**SESSION 3 - DEVELOPMENT AND FUNCTION OF SENSORY SYSTEMS
(CHAIR: ENRICO CHERUBINI, EBRI)**

- 9:00-9.20 JEAN-FRANCOIS CLOUTIER (McGill University)
Wiring the nervous system to regulate innate social behaviors
- 9:20-9:40 YORAM BEN-SHAUL (The Hebrew University of Jerusalem)
Vomeronal representations of innately relevant stimuli
- 9:40-10:00 ED RUTHAZER (McGill University)
Neuron-glia interactions in the developing visual system
- 10:00-10:20 IVAN ARISI (EBRI)
A monoclonal anti-TrkA antibody in neuropathic pain: transcriptomics and epigenomics of a long-lasting analgesia

- 10:20-10:40 DAN ROKNI (The Hebrew University of Jerusalem)
The olfactory cocktail party problem
- 10:40-11:00 Coffee break
- 11:00-11:20 ALEXANDER BINSHTOK (The Hebrew University of Jerusalem)
The SIZ of Pain: Inflammation induced plasticity of action potential initiation in peripheral nociceptive neurons

**SESSION 4 - NEW APPROACHES TO NEURODEGENERATION
(CHAIR: STEFANO STIFANI, MCGILL UNIVERSITY)**

- 11:20-11:40 AYAL BEN-ZVI (The Hebrew University of Jerusalem)
Neurodegeneration, autoimmunity and brain barriers
- 11:40-12:00 GIOVANNI MELI (EBRI)
Subcellular mechanisms and targeting of Amyloid beta oligomers: a new perspective in the amyloid hypothesis of Alzheimer's Disease
- 12:00-12:20 EDWARD FON (McGill University)
Harnessing the biology of PD genes for therapeutics
- 12:20-12:40 CRISTINA MARCHETTI (EBRI)
Mechanisms underlying early hyperexcitability in the hippocampus of an animal model of Alzheimer's disease
- 12:40-13:00 General Discussion & Closing remarks

VENUE OF THE MEETING
Accademia Nazionale dei Lincei
Palazzo Corsini, Via della Lungara 10
Rome

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