

European Brain Research Institute (EBRI)

**Rita Levi-Montalcini Lecture
2019**



2nd Joint Symposium

**Emerging concepts
on synaptic dynamics
and their dysfunction
in neurological disorders**

**Rome
28-29 October 2019**

**The Rita Levi-Montalcini Lecture 2019
is sponsored by**



Symposium Scientific Planning Committee

Antonino Cattaneo (EBRI)

Enrico Cherubini (EBRI)

Avihu Klar (Huj)

Stefano Strfani (McGill University)

Venue of the Meeting

Accademia Nazionale dei Lincei

Palazzo Corsini

Via della Lungara 10 - Rome

Meeting Secretariat

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Meeting Venue
Accademia Nazionale dei Lincei
Palazzo Corsini, Rome, Italy

Program

Monday, 28 October

- 08.15 Arrival & Registration
- 08.45 Introduction and Welcome Addresses

Rita Levi-Montalcini Lecture 2019 (Chair: Antonino Cattaneo, EBRI)

- 09.00 Paola **ARLIOTTA**, (Harvard University, Usa)
From embryos to organoids: understanding human brain development
- 09.45 Erin **SCHUMAN**, (Max Planck Institute for Brain Research, Germany) Local Protein Synthesis in Neurons
- 10.30 Silvia **ARBBER**, (Biozentrum, University of Basel, and FMI, Basel, Switzerland) Circuit Solutions for Programming Actions

11.15 Coffee break

- 2nd Joint EBRI - McGill University - The Hebrew University of Jerusalem - Symposium

Session 1 - Development, function and dysfunction of motor networks (Chair: Anne McKinney, McGill University)

- 11.40 Avihu **KLAR** (The Hebrew University of Jerusalem)
Evolution of spinal neuronal circuits underlying species-specific motor behavior
- 12.00 Gary **ARMSTRONG** (McGill University)
Zebrafish ALS knockin models of TDP-43 and FUS have a degenerative phenotype
- 12.20 Aharon **LEV-TOV** (The Hebrew University of Jerusalem)
Sacral control of lumbar pattern generators in the mammalian spinal cord
- 12.40 Stefano **STIFANI** (McGill University)
Human iPSC-derived neurons and glia to model ALS

13.00 Lunch

Session 2 - Synaptic dynamics: physiological and pathological conditions (Chair: Avihu Klar, The Hebrew University of Jerusalem)

- 14.30 Derek **BOWIE** (McGill University)
NMDA receptor dysfunction in the Fragile X brain
- 14.50 Yael **STERN-BACH** (The Hebrew University of Jerusalem)
Regulation of AMPA-type glutamate receptors by auxiliary proteins
- 15.10 Antonino **CATTANEO** (EBRI)
New tools to study synaptic engrams: local expression of optogenetic probes and other reporters at potentiated synapses.
- 15.30 Anne **MCKINNEY** (McGill University)
The function of the sodium hydrogen exchanger in plasticity and learning

15.50 Coffee break

- 16.10 Silvia **MARINELLI** (EBRI)
GABAergic receptor Type 2 as a hub of GABAergic transmission
- 16.30 Ariel **GILAD** (The Hebrew University of Jerusalem)
Wide-field imaging of cortical dynamics during learning and short-term memory
- 16.50 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)

- 09.00 Jean-Francois **CLOUTIER** (McGill University)
Wiring the nervous system to regulate innate social behaviors

- 09.20 Yoram **BEN-SHAUL** (The Hebrew University of Jerusalem)
Vomeronal representations of innately relevant stimuli

- 09.40 Ed **RUTHAZER** (McGill University)
Neuron-glia interactions in the developing visual system

- 10.00 Ivan **ARISI** (EBRI)

A monoclonal anti-TrkA antibody in neuropathic pain: transcriptomics and epigenomics of a long-lasting analgesia

- 10.20 Dan **ROKNI** (The Hebrew University of Jerusalem)
The olfactory cocktail party problem

10.40 Coffee break

- 11.00 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 Ayal **BEN-ZVI** (The Hebrew University of Jerusalem)
Neurodegeneration, autoimmunity and brain barriers

- 11.40 Giovanni **MELLI** (EBRI)

Subcellular mechanisms and targeting of Amyloid beta oligomers: a new perspective in the amyloid hypothesis of Alzheimer's Disease

- 12.00 Edward **FON** (McGill University)

Harnessing the biology of PD genes for therapeutics

- 12.20 Cristina **MARCHETTI** (EBRI)

Mechanisms underlying early hyperexcitability in the hippocampus of an animal model of Alzheimer's disease

- 12.40 General Discussion & Closing Remarks