



Ministry of
Science and
Technology



ISRAEL
SCIENCE
FOUNDATION



CGMB
Center for
Gene Manipulation
in the Brain



Regulation of mRNA translation by miRNA, proteostasis, or epigenetics and its role in learning and memory and synaptic plasticity in normal and abnormal brain function

University of Haifa

RESEARCH WORKSHOP OF THE ISRAEL SCIENCE FOUNDATION AND THE MIZRACHI FOUNDATION

Day I: Monday, Dec. 10th, 2018

9:00-9:05 Welcome: Kobi Rosenblum (University of Haifa, Israel)

9:05-9:10 In memory of Mr. Albert Mizrachi, RIP. Prof. Joseph (Giuseppe) Zaccai

Session1: Regulation of proteostasis in the brain: Regulation via translation factors, miRNAs, RNAs, or degradation

Chair: Eloisa Herrera (Instituto de Neurociencias, Spain)

09:10-09:50 Eran Hornstein (Weizmann Institute of Science, Israel). RNA regulation in motor neurons and insufficiency in ALS

09:50-10:30 Reut Shalgi (Technion, Israel Institute of Technology, Israel) Translational control in the mammalian stress response

10:30-11:00 Break

Session2: Regulation of proteostasis in the brain: Regulation via translation factors, miRNAs, RNAs, or degradation

Chair: Adonis Yiannakas (University of Haifa, Israel)

11:00-11:40 Orna Elroy-Stein (Tel Aviv University, Israel). Glial cells are hyper-sensitive to subtle alterations in global translation regulation.

11:40-12:20 Noam Ziv (Technion, Israel Institute of Technology, Israel). Title is to be determined.

12:20-13:00 Joel Richter (University of Massachusetts, USA). Translational Control of Neurologic Disease.

13:00-15:00 Lunch

Session 3: Regulation of protein expression by epigenetics in the brain

Chair: Giovanna Mallucci (University of Cambridge, UK).

15:00-15:40 Hanoch Kaphzan (University of Haifa, Israel). Functional genomics in Angelman syndrome





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15:40-16:20 Angel Barco (Instituto de Neurociencias, Spain). KAT3 regulation of neuronal maturation and maintenance of neuronal identity.

16:20-16:50 Break

16:50-17:30 Eloisa Herrera (Instituto de Neurociencias, Spain). Molecular mechanisms controlling the development and assembly of bilateral circuits

17:30-18:10 Lidia Larizza (IRCCS Istituto Auxologico Italiano, Italy). Morphological alterations and hypoexcitability of iPSC-derived neurons of CREBBP- and EP300-mutated Rubinstein-Taybi syndrome patients

19:00 Dinner for speakers

Day II: Tuesday, Dec. 11th, 2018

Session1: Altered mRNA translation as a pathogenic mechanism across neurodegenerative and neurodevelopmental diseases

Chair: Angel Barco (Instituto de Neurociencias, Spain)

09:00-09:40 Erik Storkebaum (Radboud University, Netherlands). mRNA translation defects in Charcot-Marie-Tooth peripheral neuropathy

09:40-10:20 Beatriz Alvarez Castela (Max Planck Institute for Brain Research, Germany). Cell-type-specific metabolic labelling of proteomes in vivo

10:20-11:00 Giovanna Mallucci (University of Cambridge, UK). The role of non-cell autonomous regulation of protein synthesis rates in neurodegenerative disease

11:00-11:30 Bella Koltun (University of Haifa, Israel). Optically measured bi-phasic mRNA translation up-regulation following chemical LTP in cortical primary culture

12:00-18:00 Excursion for speakers

Day III: Wednesday, Dec. 12th, 2018

Session1: Molecular and cellular mechanisms of learning and memory and synaptic plasticity

Chair: Erik Storkebaum (Radboud University, Netherlands)

09:00-09:40 Elham Taha (University of Haifa, Israel). Activation of the eEF2 pathway in the dentate gyrus excitatory neurons enhances neurogenesis and cognitive function in young and old mice.





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09:40-10:20 Carlo Sala (CNR Neuroscience Institute, Milan Italy). The role of protein translation pathways in regulating excitation/inhibition balance and epilepsy

10:20-11:00 Michal Linial (Hebrew University of Jerusalem, Israel). Title is to be determined.

11:00-11:30 Break

Session 2: Molecular and cellular mechanisms of learning and memory and synaptic plasticity

Chair: Noga Gershoni-Emek (University of Haifa, Israel)

11:30-12:10 Rafi Lamprecht (University of Haifa, Israel). The roles of Ephs and ephrins in memory formation

12:10-12:50 Marco Terenzio (Weizmann institute of science, Israel). Regulation of axonal local translation in sensory neurons

12:50-13:30 Deepak Nair (Indian Institute of Science). Role of translation in the regulation and maintenance of nanoscale architecture of synapses

13:30-15:00 Lunch

Session 3: Molecular and cellular mechanisms of learning and memory and synaptic plasticity

Chair: Iliana Barrera (University of Haifa, Israel)

15:00-15:40 Eric Klann (New York University, USA). Cell type-specific translation in emotional memory

15:40-16:20 Nahum Sonenberg (McGill University, Canada). Translational control of learning and memory via eIF2 phosphorylation.

16:20-16:25 Concluding remarks: Kobi Rosenblum (University of Haifa, Israel)

