

**Israel Society for Physiology and Pharmacology**

**Annual Meeting**

**Maale Hachamisha**

**4.1.2012**

08:30 - 09:20      *Registration and coffee*

## 9:20-11:20 Morning Sessions

Session A:

### **A window into the working cells and the door to change cell function: an application of novel tools to monitor cellular functions (Hall A)**

Chair:                    **Ilya Fleidervish** (*Ben-Gurion University*)

09:20-09:50            **Ofer Yizhar** (*Weizmann Institute*)

Light-based modulation of cortical excitation and inhibition.

09:50-10:20            **Michal Hershinkel** (*Ben-Gurion University*)

Live cell imaging elucidates the physiological role of a Zn-sensing receptor.

10:20-10:50            **Itamar Kahn** (*Technion*)

Regulation of neocortical excitation-inhibition balance revealed by optogenetic fMRI.

10:50-11:20            **Leah Gheber** (*Ben-Gurion University*)

Directionality and intracellular functions of mitotic Kinesin-5 nanomachines.

Session B:

### **Drug design and delivery to optimize drug targeting (Hall B)**

Chairs:                    **Amnon Hoffman** (*Hebrew University*);

**David Stepensky** (*Ben-Gurion University*)

09:20-09:50            **Amnon Hoffman** (*Hebrew University*)

Nano-liposphere formulation for improved oral bioavailability of lipophilic and peptide drugs

09:50-10:20            **David Stepensky** (*Ben-Gurion University*)

Quantitative analysis of nano-drug delivery systems intended for intracellular targeting

10:20-10:50            **Ayelet David** (*Ben-Gurion University*)

Novel Polymer-Drug Conjugates for Cancer Therapy

10:50-11:20            **Gershon Golomb** (*Hebrew University*)

Immuno-modulation by Nanoparticles for Anti- inflammatory Therapy

**Session C:**

**Energy sources in health and disease: Oxygen, ATP and mitochondria (Hall C)**

**Chairs:** Israel Sackler (*Ben-Gurion university*)

Dov Lichtenberg (*Tel Aviv university*)

**09:20-09:50** Varda Shoshan-Barmatz (*Ben-Gurion university*)

Mitochondria, VDAC, cell death and cancer

**09:50-10:20** Yael Pewzner-Jung (*Weizmann Institute*)

Ceramide synthase 2 deficiency leads to oxidative stress in liver

**10:20-10:50** Oren Tirosh (*Hebrew university*)

Involvement of redox changes in the metabolic status of liver steatosis and mitochondrial biogenesis

**10:50-11:20** Dov Lichtenberg (*Tel Aviv university*)

Oxidative Stress (OS) is not our enemy; Antioxidants are not always good

**11:20 - 11:45** *Coffee break*

**Session D:**

**11:45-12:45** **Students presentations**

**11:45-11:57** **Limor Cohen**

Activation of the novel zinc sensing receptor-GPR39 is highly regulated by extracellular pH

**11:57-12:09** **Lior Shaltiel**

The visual phenotype of Ca<sub>v</sub>1.4-deficient mice

**12:09-12:21** **Keren Ettinger**

Nerve growth factor (NGF) stimulation of ERKs phosphorylation by a cross talk between p75<sup>NTR</sup> and α9β1 integrin in C2C12 muscle cell model

**12:21-12:33** **Anat Marom**

Optical probing of three-dimensional engineered neural-networks

**12:33-12:45** **Moran Dvela**

Involvement of endogenous ouabain in the regulation of cell viability

12:45 - 14:00      *Lunch and poster session*

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14:00 - 15:00      **Magnes Plenary Lecture**

**Prof. Bruce P. Bean** (Harvard University)

***Pharmacology of voltage-dependent ion channels***

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15:00 - 15:15      *Coffee break and business meeting*

15:15-17:15      **Afternoon Sessions**

Session E:

**Detection of sensory stimuli: from the pleasure of light touch to suffering from devastating pain**

**Chairs:**              **Alex Binshtock** (*Hebrew University*)

**Avraham Yaron** (*Weizmann Institute*)

15:15 - 15:45      **Yehuda Shavit** (*Hebrew University*)

Interleukin-1 (IL-1) Antagonizes Morphine Analgesia and Underlies Morphine Tolerance

15:45 - 16:15      **Avi Priel** (*Hebrew University*)

Probing the pain pathway using natural toxins

16:15 - 16:45      **Avraham Yaron** (*Weizmann Institute*)

Illuminating diabetic neuropathy - novel systems facilitating *in-vivo* and *in vitro* investigations.

16:45 - 17:15      **Ehud Ahissar** (*Weizmann Institute*)

Mechanisms and coding of object localization by whisking rats

**Session F:**

**Modeling human diseases in the lab**

**Chairs:**                **Ofer Binah** (*Technion*)

**Ronen Beeri** (*Hebrew University*)

**15:15 - 15:45**        **Ronen Beeri** (*Hebrew University*)

Experimental models of volume overload

**15:45 - 16:15**        **Neville Berkman** (*Hadassah Medical center*)

Using a murine model of "Asthma" to investigate the link between airway hyperresponsiveness and airway remodeling.

**16:15 - 16:45**        **Jacob Bortman** (*Ben-Gurion university*)

Finite elements model for cardiac function.

**16:45 - 17:15**        **Ofer Binah** (*Technion*)

Modeling Catecholaminergic Polymorphic Ventricular Tachycardia – a congenital cardiac arrhythmia, using induced pluripotent stem cells-derived cardiomyocytes

**17:15**                **Concluding Remarks**