KOKI – WEIZMANN BRAIN SCIENCES WORKSHOP 2024

VENUE ADDRESS: SZIGONY UTCA 43. 1083 BUDAPEST

AGENDA – DAY 1

Monday, 28th October 2024

08:30 - 09:00	*Gathering*
09:00 - 09:30	**Welcome & Opening remarks** ***Beáta Sperlágh, Rony Paz, Yoav Livneh, Balázs Hangya***
9:30 - 10:30	**Keynote Address** ***Balázs Gulyás, President of HUN-REN*** The maintenance of high cognitive performance during ageing
10:30 - 11:00	*Coffee & Networking break*
11:00 - 12:30	**Synaptic plasticity and physiology – *Chaired by: Balázs Ujfalussy*** ***Zoltán Nusser*** Functional and structural properties of silent hippocampal pyramidal cells ***Meital Oren-Swissa*** Sexually dimorphic circuits: from molecular mechanisms to synapses and behavior ***Judit Makara*** Adaptation of hippocampal neuronal representations to task structure during virtual navigation
12:30 - 14:00	*Lunch*

14:00 - 15:00	**Subcortical modulation of behavior and cortical function – *Chaired by: Yoav Livneh*** ***Viktor Varga*** Tuning of hippocampal and median raphe-targeting anterior cingulate neurons during a complex spatial alternation task ***Balázs Hangya*** Neuromodulatory signals during statistical learning
15:00 - 15:30	*Coffee & Networking break*
15:30 - 17:00	**Molecular mechanisms of circuit function and dysfunction – *Chaired by: Krisztina Kovács*** ***Ivo Spiegel*** Behavioral state-dependent modulation of sensory processing and plasticity in cortical circuits ***Beáta Sperlágh*** Neuroinflammation and psychiatric disorders: cause or consequence? ***Erik Hrabovszky*** Sexually dimorphic sex steroid regulation of kisspeptin neuronal circuitries regulating fertility in mice

AGENDA – DAY 2

Tuesday, 29th October 2024

09:00 - 09:30	Gathering
09:30 - 10:30	**Brain-body interactions – *Chaired by: Ferenc Mátyás*** ***Yoav Livneh*** Cortical estimation of current and future interoception within the brain-body loop ***Krisztina Kovács*** Involvement of PVH^{CRH} neurons in behavioral and hormonal adaptation to chronic stress
10:30 - 11:00	*Coffee & Networking break*
11:00 - 12:30	**Natural behavior – *Chaired by: Rony Paz*** ***Michal Ramot*** Characterizing the causal role of large-scale network interactions in supporting human cognition ***Balázs Ujfalussy*** Contribution of active dendrites to hippocampal computations ***Yarden Cohen*** Dynamic properties of canary mating season song syntax and its underlying neural states
12:30 - 13:30	*Lunch*
13:30 - 15:00	**Affective circuits – *Chaired by: Balázs Hangya*** ***Rony Paz*** Cortico-amygdala circuits in affective learning ***Norbert Hájos*** Midbrain input to central amygdala controls contextual fear memory formation ***Ferenc Mátyás*** Cortico-thalamic principles define the information processing in mouse and human amygdala

15:00 - 15:30	*Coffee & Networking break*
15:30 - 16:30	**Brain states – *Chaired by: Ivo Spiegel*** ***László Acsády*** Region selective communication between the cortex and thalamus ***Ilan Lampl*** Detection and neural encoding of whisker-generated sounds in mice
16:30 - 17:00	**Concluding remarks**

ABOUT THE WEIZMANN INSTITUTE OF SCIENCE, DEPARTMENT OF BRAIN SCIENCES

The Department of Brain Sciences has more than 20 research groups studying different levels of brain function, design, and pathologies. These studies rely on multidisciplinary cutting-edge methodologies, ranging from molecular biology and genetics to electrophysiology (in vitro and in vivo), behavioral analysis, functional imaging, virtual reality, and computational modeling.

The Institute investigates how neural circuits function and guide behavior, how one learns, what one remembers, including, sensory perception and processing; navigation; group behavior; cortical organization; neural coding; synaptic and circuit dynamics; neural plasticity; emotions; neuromodulation; regeneration; and more.

The Department of Brain Sciences is a part of the faculty of Biology, and the department has over 100 graduate students and postdocs from multiple fields, including biology; computer sciences; physics; mathematics; chemistry; medicine; psychology; and engineering. They perform highly integrative and interdisciplinary research in a stimulating intellectual atmosphere using research facilities that are amongst the most advanced available, and where, they closely interact with top research institutions worldwide.

ABOUT THE HUN-REN INSTITUTE OF EXPERIMENTAL MEDICINE, KOKI

The main theme of the Institute of Experimental Medicine is the exploration and understanding of the nervous system in order to increase knowledge of the brain and to contribute to the treatment of neurological diseases which is a huge burden on society and to the development of medical diagnostics and brain research methods.

The Institute was founded in 1952 to carry out biomedical research, and has developed over the last 20 years into the country's leading Centre for Neuroscience and has become a world-renowned Neurobiological Research Institute.