

Brains: From Synapses, Circuits and Systems to the Clinic

German-Israel Inter-Academy Meeting

November 28-30, 2016

Israel Academy of Sciences and Humanities, Jerusalem

Monday, November 28

08:30 *Gathering, Light Refreshments*

09:00 Opening remarks

Session I (Chair: Ad Aertsen, Freiburg (DE))

09:10 Arthur Konnerth, Munich (DE) Functional mapping of individual synapses in vivo

09:40 Noam Ziv, Haifa (IL) Synaptic tenacity: when everything changes, do things really stay the same?

10:10 Carolin Wichmann, Goettingen (DE) Correlation of function and structure to unravel the vesicle release at inner hair cell ribbon synapses

10:40 - 11:00 *Coffee break*

Session II (Chair: Yadin Dudai, Rehovot (IL))

11:00 Moritz Helmstaedter, Frankfurt (DE) Cerebral cortex connectomics

11:30 Yael Hanein, Tel-Aviv (IL) modularity induced gating and delays in neuronal networks

12:00 Peter Hegemann, Berlin (DE) Novel optogenetic approaches for the analysis of neuronal networks

12:30-14:00 *Lunch*

Session III (Chair: Peter Riederer, Wuerzburg (DE))

14:00 Michal Rivlin, Rehovot (IL) Multiple mechanisms underlie the computation of motion direction in the retina

14:30 Andreas Draguhn, Heidelberg (DE) Neural network oscillations: features, mechanisms and potential 'meaning'

15:00 Alexander Borst, Martinsried (DE) Neural circuits for motion vision in the fly

15:30 Yifat Prut, Jerusalem (IL) Time to go: controlling timing and coordination of voluntary movements

16:00 - 16:20 *Coffee break*

Session IV (Chair: Yael Hanein, Tel-Aviv (IL))

16:20 Adi Mizrahi, Jerusalem (IL) Stability and plasticity in the adult auditory cortex

16:50 Inbal Goshen, Jerusalem (IL) Glial and neuronal mechanisms of long-term memory

17:20 Carsten Mehring, Freiburg (DE) Computational mechanisms of human motor control and learning

17:50 Interim remarks (Aertsen, Dudai, Riederer)

18:10 End of scientific program, Day 1

19:00 *Dinner*

Tuesday, November 29

Session V (Chair: Michael Frotscher, Hamburg (DE))

09:00 Nachum Ulanovsky, Rehovot (IL) Towards a neuroscience of natural navigation

09:30 Ilka Diester, Freiburg (DE) A functional gradient in the rodent prefrontal cortex supports behavioral inhibition

10:00 Rony Paz, Rehovot (IL) Adaptive learning in primate circuits

10:30 Amir Amedi, Jerusalem (IL) An alternative view of 'visual' cortex organization and its dependence on visual experience and visual input

11:00 - 11:20 *Coffee Break*

Session VI: Posters

11:20 - 13:00 - Posters (*to remain displayed also after the session*)
Poster presentations by German and Israeli young investigators

13:00 - 14:00 *Lunch*

Session VII (Chair: Moussa Youdim, Haifa (IL))

14:30 Asya Rolls, Haifa (IL) Programing the brain to fight cancer

15:00 Netta Levin, Jerusalem (IL) Temporal aspects of demyelination in neurodegenerative diseases

15:30 - 16:30 *Coffee* and Posters

Session VIII (Chair: Oded Abramsky, Jerusalem (IL))

16:30 Abigail Morrison, Jülich (DE), The effect of Alzheimer's disease on network connectivity and computational performance

17:00 Moshe Bar, Ramat-Gan (IL) States of mind

17:30 General discussion and Concluding Remarks (Abramsky, Aertsen, Dudai, Frotscher, Riederer, Youdim)

18:30 End of scientific program

19:30 *Dinner*

Wednesday, Nov 30

Lab visits (*to be pre-arranged with the Israeli participants*)

Optional: Sightseeing