

**Mystery of the Brain:  
Science's Ultimate Frontier  
Symposium in honor of Prof. Nikos K. Logothetis**

16-19 September, 2019  
Tuebingen, Germany

## Monday, September 16, 2019

*Registration opens at 8:00*

9:00 - 9:15 *Opening Remarks and Welcome Address: **Ernst Pöppel***

### **Session 1: Visual perception**

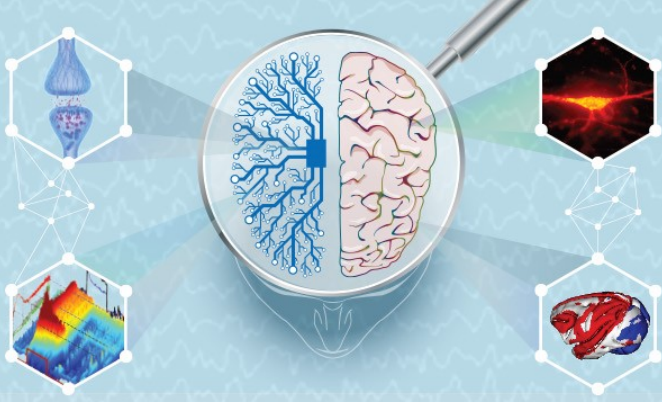
*Chair: Ernst Pöppel*

9:30 - 10:15	<b>Semir Zeki</b> <i>UC London, UK</i>	<i>The parallel feed-forward inputs to the visual areas of the brain and their significance</i>
10:15 - 11:00	<b>J. Anthony Movshon</b> <i>New York U, USA</i>	<i>Brain mechanisms of visual form perception</i>
11:00 - 11:15	<i>Coffee break</i>	
11:15 - 12:00	<b>Lynne Kiorpes</b> <i>New York U., USA</i>	<i>Development of global visual perception in macaque monkeys</i>
12:00 - 12:45	<b>Pieter R. Roelfsema</b> <i>NIN Amsterdam, NL</i>	<i>The visual brain's cognitive blackboard</i>
	<i>End of morning session</i>	
	<i>Lunch break</i>	

### **Session 2: Insights from whole-brain Imaging**

*Chair: Andreas Meyer-Lindenberg*

14:00 - 14:45	<b>Seiji Ogawa</b> <i>Tohoku Fukushi U, JP</i>	<i>Two features of BOLD MRI</i>
14:45 - 15:30	<b>Brian A. Wandell</b> <i>Stanford U., USA</i>	<i>Neural circuitry for vision and reading</i>
15:30 - 15:45	<i>Coffee Break</i>	
15:45 - 16:30	<b>Wim Vanduffel</b> <i>KU Leuven, BEL</i>	<i>Mesoscale functional magnetic resonance imaging at 3T in awake behaving monkeys</i>
16:30 - 17:15	<b>Gustavo Deco</b> <i>UPF Barcelona, SP</i>	<i>Awakening: predicting external stimulation to force transitions between different brain states</i>
17:15 - 17:30	<i>Coffee Break</i>	
17:30 - 17:45	<i>Special addresses: <b>Boris Palmer, Mayor of Tübingen and Prof. Peter Thier, University of Tübingen</b></i>	
17:45 - 18:30	<b>Nikos K. Logothetis</b> <i>MPIK Tübingen, GER</i>	<i>What is the brain state?</i>
	<i>End of afternoon session</i>	



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Tuesday, September 17, 2019

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**Session 3: Sensation, memory and action**

Chair: Susan Sara

9:00 – 9:45	<b>Ann M. Graybiel</b> MIT Cambridge, USA	<i>Unraveling the Mysteries of the Basal Ganglia</i>
9:45 – 10:30	<b>Peter Mombaerts</b> MPR Frankfurt, GER	<i>Targeting olfaction</i>
10:30 – 10:45	<i>Coffee Break</i>	
10:45 – 11:30	<b>Susumu Tonegawa</b> RIKEN-MIT, JP-USA	<i>Chunk Code: A new hippocampal code for experience</i>
11:30 - 12:15	<b>Richard G. M. Morris</b> U. Edinburgh, UK	<i>The making and keeping of memory</i>
	<i>End of morning session</i>	
	<i>Lunch break</i>	

**Session 4: Structural and functional brain networks**

Chair: Andreas Kreiter

14:00 – 14:45	<b>Eve Marder</b> Brandeis U., USA	<i>Differential Resilience to Perturbation of Circuits with Similar Performance</i>
14:45 – 15:00	<i>Coffee Break</i>	
15:00 – 15:45	<b>Kathleen S. Rockland</b> Boston U., USA	<i>Questions posed by the complex architecture of single axons</i>
15:45 – 16:30	<b>Roberto Caminiti</b> Sapienza U. Rome, IT	<i>On the local nature of command functions in the parieto-frontal system</i>
	<i>End of afternoon session</i>	
17:30 – 19:30	<b>Public Forum</b>	<i>Importance of basic research to solving mysteries of the brain</i>



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## Wednesday, September 18, 2019

Registration opens at 8:30

### Session 5: *Sensorimotor control of complex behaviors*

Chair: Klaus-Peter Hoffmann

9:00 – 9:45	<b>Ranulfo Romo</b> UNAM Mexico City, MEX	<i>Subjective sensory experience and uncertainty of perceptual decisions: where and how in the brain?</i>
9:45 – 10:30	<b>Alexandra Battaglia-Mayer</b> Sapienza U. Rome, IT	<i>Two brains in action: joint-action coding in the primate frontal and parietal cortex</i>
10:30 – 10:45	<i>Coffee Break</i>	
10:45 – 11:30	<b>Robert H. Wurtz</b> NIH Bethesda, USA	<i>Corollary Discharge: A Multi-Purposed Anticipatory System Within the Brain</i>
11:30 - 12:15	<b>Michael E. Goldberg</b> Columbia U., USA	<i>Oculomotor proprioception and corollary discharge. Two strategies for spatially accurate movement</i>
	<i>End of morning session</i>	
	<i>Lunch break</i>	

### Session 6: *Neural networks underlying sleep and cognition*

Chair: Patrick Cavanagh

14:00 – 14:45	<b>Yang Dan</b> UC Berkeley, USA	<i>A motor theory of sleep-wake control</i>
14:45 – 15:30	<b>Giulio Tononi</b> U. Wisconsin, USA	<i>Sleep and synaptic down-selection</i>
15:30 – 15:45	<i>Coffee Break</i>	
15:45 – 16:30	<b>Kevan A. C. Martin</b> ETH Zürich, CH	<i>What are all these wires for? Organizing Principles of Neocortical Circuits and Their Function</i>
16:30 – 17:15	<b>David A. McCormick</b> U. Oregon, USA	<i>The Brain is a Precise Functional Connectivity Machine</i>
17:15 – 17:30	<i>Coffee Break</i>	
17:30 – 18:15	<b>György Buzsáki</b> New York U., USA	<i>Ways to think about the brain: Space, time and memory</i>
	<i>End of afternoon session</i>	



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Thursday, September 19, 2019

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**Session 7: Understanding brain development and disorders**

Chair: Rainer Spanagel

9:00 – 9:45	<b>Mu-Ming Poo</b> ION-CAS Shanghai, CN	<i>Non-human primate studies in neuroscience and biomedicine</i>
9:45 – 10:30	<b>Robert Desimone</b> MIT Cambridge, USA	<i>A SHANK3 monkey model for autism</i>
10:30 – 10:45	<i>Coffee Break</i>	
10:45 – 11:30	<b>Charles Jennings</b> Harvard U., USA	<i>The brain's sorrowful mysteries: the challenge of developing new treatments for neurological disease</i>
11:30 – 12:15	<b>Christina Dalla</b> U. Athens, GR	<i>Sex differences in neuropsychopharmacology: the antidepressant paradigm</i>
	<i>End of morning session</i>	
	<i>Lunch break</i>	

**Session 8: Frontiers in neuroprosthetics research**

Chair: Eva Ruhnau

14:00 – 14:45	<b>Alireza Gharabaghi</b> U. Tübingen, GER	<i>Rewiring corticospinal connectivity in the human brain</i>
14:45 - 15:30	<b>Hans Scherberger</b> DPZ Göttingen, GER	<i>Sensori-motor networks for grasping in the primate brain</i>
15:30 – 15:45	<i>Coffee Break</i>	
15:45 - 16:30	<b>Niels Birbaumer</b> Wyss Center, CH	<i>Brain Communication in Paralysis: Return of the Grandmother Cell?</i>
16:30 – 16:45	<i>Concluding remarks</i>	
	<i>End of symposium</i>	