

Imaging, genetics and other nifty techniques in Neuroscience

Natal, 18th to 20th of January 2010

Program

18/01/2010

Guest Lecture

9:30 – 10:30: Optically driven neural networks, Professor Walter Stühmer, Max Planck Institute, Germany

10:30 – 10:40: Break

Imaging

10:40 – 11:30: What Brain Hemodynamics Can and Cannot Tell Us About Neural Activity - Aniruddha Das, Columbia University, USA

11:30 – 12:20: In vivo voltage sensitive dye (VSD) and intrinsic imaging and multi-electrode recordings - exploring contextual integration in visual cortex – Kerstin Schmidt, Max-Planck Institute, Germany

12:20 – 14:00: Lunch

Imaging (cont.)

14:00 – 14:50: Fast 3D two-photon imaging on the study of visual neural networks: 'Ratatouille or what happens when rats watch a movie.' – Björn Kampa, UZH, Neuroscience Center Zurich, Switzerland

14:50 – 15:40: Continuous live imaging of adult neural stem cell division and lineage progression in vitro – Marcos Costa, IINN-ELS/UFRN, Natal

15:40 – 16:40: New advances in confocal microscopy and laser microdissection – Zeiss Microscopy

16:40 – 17:00: Break

Guest Lecture

17:00 – 18:00: Optogenetic Imaging of Neuronal Circuit Dynamics, Professor Thomas Knöpfel, Riken Institute, Japan

Registration and Information:
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19/01/2010

Creative techniques in Electrophysiology

10:00 – 10:50: Building expectations: A new role for gamma oscillations in perception – Sergio Neuenschwander, Max-Planck Institute, Germany

10:50 – 11:40: Insights into neural encoding from patch-clamp recording of cortical axons – Maarten Kole, Australian National University, Australia

11:40 – 12:30: Functional consequences of interferon-induced editing of 5-HT2C and Kv1 mRNA in mouse brain – Clarke Raymond, Australian National University, Australia

12:30 – 14:20: Lunch

Genetics

14:20 – 15:10: Conditional knockout techniques used to assess synaptic transmission – Åsa Mackenzie, Uppsala University, Sweden

15:10 – 16:00: DNA oxidative damage repair and epigenetic mechanisms regulating stem cell state and fate – Amilcar Reis, Karolinska Institute, Sweden

16:00 – 16:50: Identification of gene clusters in motor neurons under common regulatory control relating to motor dysfunction after spinal cord injury – Jesper Ryge, Karolinska Institute, Sweden

16:50 – 18:50: Presentation of the spinning disk confocal microscope and cocktail, sponsored by Olympus Microscopy.

20/01/2010

Genetics (cont.)

10:00 – 10:50: Rabies virus mediated transsynaptic tracing of inputs into newly generated neurons in the adult olfactory bulb and dentate gyrus – Benedikt Berninger, University of Munich, Germany

10:50 – 11:40: Quantitative PCR, RNA interference and viral vectors: 'Molecular characterisation of the reactive astrocytes of the injured spinal cord' – Simone Codeluppi, Karolinska Institute, Sweden

11:40 - 12:30: Genetic probes on the study of rhythmogenesis in the limbic system – Richardson N Leão, Karolinska Institute, Sweden

12:30 – 14:00: Lunch

14:00 – 16:30: Student presentations

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