NEUROSCIENCE WINTER CONFERENCE

14th International

Sölden Austria
April 10-April 14 2012

Central Spa Hotel

Preliminary Scientific Program

Time schedule of plenary lectures, symposia and special interest sessions

Program Committee:

Tobias Bonhoeffer
Nils Brose
Alois Saria
Stephan Schwarzacher

Contributors:

- Austrian Neuroscience Association
- International Society for Neurochemistry
- Central Spa Hotel Sölden

Organizer & Conference Chair:

Alois Saria, Austria

Tuesday
April 10

15:00 – 17:00 Registration

17:00 – 17:45 Keynote Lecture 1
Leslie Vosshall (USA)
The Genetics of Innate Behavior: Courtship and Feeding

17:45 – 18:00 Break

18:00 - 20:00 Symposium 1
Neural Circuits and Behavior in Drosophila
(Chair: Alexander Borst)

Ian Meinertzhagen (Canada) Progress towards the connectome of the Drosophila visual system
Alexander Borst (Germany) ON and OFF Pathways in Drosophila Motion Vision
Michael Dickinson (USA) Straighten up and fly right: Visual navigation in Drosophila
Vivek Jayaraman (USA) Probing sensorimotor integration in Drosophila

Wednesday
April 11 Morning

08:15 – 09:00 Keynote Lecture 2
Martin Schwab (Switzerland)
Structural Plasticity and Hardware Repair After CNS Injury

09:00 – 11:00 Symposium 2
Cortical Reorganisation following Brain Injury
(Chairs: Mathias Bähr & Melanie Wilke)

Melanie Wilke (Germany) Reorganisation of spatial networks following reversible lesions in thalamo-cortical circuits: fMRI and single cell studies in monkeys
Christian Gerloff (Hamburg) Reorganisation of the motor network following irreversible brain lesions in stroke patients
Giacomo Koch (Italy) Hyperexcitability of parietal-motor functional connections in the intact left-hemisphere of patients with neglect: combined TMS and MRI studies in human patients
Andreas Luft (Switzerland) Neurophysiology-based approaches for neurorehabilitation

11:00 - 11:30 Coffee Break

11:30 - 13:30 Special Interest Session 1
Accumbens cholinergic interneurons as a therapeutic target in substance-use disorders: basic science (Chair: Gerald Zernig)

Ilka Diester and Karl Deisseroth (USA) Cholinergic Interneurons Control Local Circuit Activity and Cocaine Conditioning
Louk Vanderschuren (The Netherlands) The neurobiology of social play behaviour in rats
Karine Guilleme (France) Feasibility of studying accumbens network activity with microelectrode arrays and of correlating electrophysiologic data with neurochemistry
Gerald Zernig (Austria) Possible differential role of accumbens cholinergic interneurons in drug- vs social interaction reward

Wednesday
April 11 Afternoon

16:00 – 16:45 Keynote Lecture 3
Edvard Moser (Norway)
Brain Maps for Space

16:45 – 17:15 Coffee Break

17:15 – 19:15 Symposium 3
Axonal Computation of Neurotransmitter Release (Chair: Dimitri Rusakov)

Beverley Clark (UK) Direct measurement of signalling in mammalian central axons
Dominique Debanne (France) Analog-digital signaling in hippocampal axons
Yuji Ikegaya (Japan) Functional and structural role of axon cables in synaptic output
Nigel Emptage (UK) The role of glutamate autoreceptors in transmitter release

Thursday
April 12 Morning

08:15 – 09:00 Keynote Lecture 4
Anne-Marie Craig (Canada)
Cell surface synaptic organizing complexes

09:00 – 11:00 Symposium 4
Ubiquitin-Like Proteins in Nerve Cell Development and Synaptic Function and Plasticity (Chairs: Damian Refojo & Nils Brose)

Nils Brose (Germany) Nedd4-family ubiquitin ligases in nerve cell development and differentiation
Damian Refojo (Germany) Needing Neddylation: A role for Nedd8 in neuronal development
Andreas W. Püschel (Germany) Regulation of neuronal polarity by Rap1 GTPases
Azad Bonni (USA) Regulation of neuronal connectivity by ubiquitin signaling

11:00 - 11:30 Coffee Break

11:30 - 13:30: Special Interest Session 2
Conditioned vulnerability elicited by metabolic insults occurring at birth: new paradigms for understanding neuropsychiatric disorders with delayed clinical onset
(Chair: Mario Herrera-Marschitz)

Peter J Gebicke-Haerter (Germany) Systems biology, epigenetics, and beyond: new paradigms and understandings on development of mental diseases.
Andre Fischer (Germany) Epigenetics in schizophrenia
R. Andrew Tasker (Canada) Repetitive insults facilitate disease progression and disease diversity
Mario Herrera-Marschitz (Chile) Pharmacodynamics and pharmacokinetics studies showing that PARP-1 inhibition protects against the long-term consequences of perinatal asphyxia.

Thursday
April 12 Afternoon

16:00 – 16:45 Keynote Lecture 5
Erin Schuman (Germany)
Local Translation in Neurons

16:45 – 17:15 Coffee Break

17:15 – 19:15 Symposium 5
The neurobiology of Sleep
(Chair: William Wisden)

Helmut Haas (Germany) Waking with the hypothalamus
Raphaelle Winsky-Sommerer (UK) Physiology and pharmacology of sleep: novel insights into the role of GABAergic and adenosinergic transmission
Giorgio F. Gilestro (UK) Sleep in Drosophila Melanogaster
William Wisden (UK) Neuronal pathways of sleep and anaesthesia.

19:15 – 20:30 Poster Session

Friday
April 13 Morning

08:15 – 09:00 Keynote Lecture 6
Gilles Laurent (Germany)
Theme and variations on STDP

09:00 – 11:00 Symposium 6
Stem Cells and Neurodegenerative Diseases (Chairs: Govindan Dayanithi and Eva Sykova)

Zaal Kokaia (Sweden) Stem cells and stroke
Eva Sykova (Czech Republic) Treating spinal cord injury using an immortalized human neural stem cell line (SPC-01)
Lawrence Rajendran (Switzerland) Cellular complexity underlying Alzheimer's Disease
Govindan Dayanithi and Eva Sykova (France and Czech Republic) Calcium homeostasis in stem cells

Friday
April 13 Afternoon

16:00 – 16:45 Keynote Lecture 7
Idan Segev (Israel)
Inhibiting the Brain - Design Principles

16:45 – 17:15 Coffee Break

17:15 – 19:15 Symposium 7
Imaging neuron subcellular organization and activity; from molecules to function (Chair: Daniel Choquet)

Daniel Choquet (France) A nanoscale view into the dynamic of AMPA receptor organization in synapses
Thomas Oertner (Germany) Synaptic plasticity: adjusting weights or changing topology?
Valentin Nägerl (France) Superresolution imaging of glianeuron interactions at synapses
Antoine Triller (France) The synapse as a statistical nanomachine

19:30 Gala Dinner (free for Central Spa hotel residents, others book at hotel front desk for 50,- €)

Saturday
April 14

08:15 – 10:15 Symposium 8
Neuroethology: Novel Approaches to Studying the Brain in Action (Chair: Georg Keller)

Florian Engert (USA) A neural circuit controlling motor learning in larval zebrafish
Richard Hahnloser (Switzerland) Auditory feedback and song learning
Michael Häusser (UK) Spatial navigation: the view from inside a single cell
Carl Petersen (Switzerland) Synaptic mechanisms of sensory perception

10:15 – 10:45 Coffee Break

10:45 – 12:45 Symposium 9
Neurogenesis and Glial function and dysfunction in aging and neurodegeneration: the ultimate neural symbiosis (Chair: Jose Julio Rodriguez Arellano)

Djoher Nora Abrous (France): Neurogenic changes in aging
Prof. José Julio Rodriguez Arellano (Spain) Neurogenic impairment and recovery in Alzheimer's disease: a concomitant process with glial alterations
Alexei Verkhratsky (UK): Astroglial ionotropic receptors in neurodegeneration: gliotransmission vs. neurotransmission
Lydia Vargova (CZ): Changes in CNS diffusion parameters during aging and Alzheimer´s disease

12:45 End of meeting and departure

Thursday
April 12
19:15 - 20:30
Poster Session