

NEUROSCIENCE WINTER CONFERENCE

15th International

Sölden Austria
April 9 - April 13 2013
Das Central



Final Scientific Program

Time schedule of keynote lectures and symposia

List of Poster Sessions

List of Participants

Program Committee:

Tobias Bonhoeffer
Nils Brose
Alois Saria
Stephan Schwarzacher

Organizer:

brainplatform.net e.U.

Conference Chair:

Alois Saria, Austria

Contributors:

- Austrian Neuroscience Association
- International Society for Neurochemistry
- Das Central
- AB Sciex Austria GmbH
- Zeiss
- Acal-BFI
- HORIBA Scientific
- Peqlab
- TSE Systems GmbH

Exhibitors:

- Sigma Aldrich
- Novus Biologicals



Tuesday April 9

15:00 – 16:30 Registration

16:30 - 17:00 Welcome Cocktail

17:00 - 19:00 Symposium 1
Multiple facets of serotonin receptors in regulation of brain functions

Chair: Evgeni Ponimaskin (Germany)

Vera Niederkofler (USA) Decoding the brain serotonergic system: Intersectional genetics and functional probing
Valerie Compan (France) Toggling the serotonin 5-HT₄ receptors between active and silencing state switches motivation from restrictive diet towards overeating
Alexandre Dayer (Switzerland) Regulation of neuronal migration by the 5-HT₆ receptor
Evgeni Ponimaskin (Germany) Development-dependent regulation of synaptogenesis and synaptic plasticity via serotonin receptors

Wednesday April 10 Morning

08:15 – 09:00 Keynote Lecture 1

Peter Scheiffele (Switzerland) Molecular diversity, recognition, and synaptic differentiation

09:00 – 11:00 Symposium 2

Cell signaling in chronic diseases

Chair: Gregor Wenning (Austria)

Poul Henning Jensen (Denmark) Oligodendroglial degeneration in multiple systems atrophy – FAS and NF-κB related signaling

Timothy Bredy (Australia) Neocortical Tet3-mediated DNA hydroxymethylation promotes rapid behavioural adaptation

Nicolas Singewald (Austria) Vulnerability to emotional trauma: Novel treatment strategies

Jörg Striessnig (Austria) Voltage gated L-type calcium channels as drug targets in brain disorders

11:00 - 11:30 Coffee Break

11:30 - 13:30 Symposium 3
Regulation of growth factor signals during neuronal development and regeneration

Chair: Lars Klimaschewski (Austria)

Georg Dechant (Austria) Role of the chromatin organizer Satb2 in growth factor driven neuronal plasticity

Peter Claus (Germany) FGF signaling in neuronal development

Lars Klimaschewski (Austria) Novel approaches to accelerate axon elongation by enhancing FGF signaling

Karel Dorey (UK) Molecular and cellular mechanisms regulating axonal branching

Wednesday April 10 Afternoon

16:00 – 16:45 Keynote Lecture 2

Pierre-Marie Lledo (France) Impact of adult neurogenesis on olfaction

16:45 – 17:15 Coffee Break

17:15 – 19:15 Symposium 4

Stem cells and adult neurogenesis

Chairs: Sebastian Jessberger (Switzerland)
Stephan Schwarzacher (Germany)

Dieter Chichung Lie (Germany) SoxC

transcription factors: Bifunctional regulators of adult neurogenesis

Verdon Taylor (Switzerland)

Heterogeneous neural stem cells in health and regeneration

Sebastian Jessberger (Germany) Metabolic control of adult neural stem cell activity

Benedikt Berninger (Germany)

Oligodendroglial and neurogenic adult subependymal zone neural stem cells constitute distinct lineages and exhibit differential responsiveness to Wnt signaling

19:30 Gala Dinner (free for Das Central residents, others book at registration desk for 50,- €)

Thursday April 11 Morning

08:15 – 09:00 Keynote Lecture 3

Michael Brecht (Germany) Social neural constructs in the rat barrel cortex

09:00 – 11:00 Symposium 5

ISN Symposium: Optogenetic control of motion and motivation

Chair: Ilka Diester (Germany)

Ilka Diester (Germany) Optogenetics in the motor system

Ofer Yizhar (Israel) Optogenetic tool design and application in cortical microcircuits

Claire Wyart (France) Optogenetic dissection of spinal circuits underlying locomotion in vertebrates

Christian Lüscher (Switzerland)

Optogenetics and addiction

11:00 - 11:30 Coffee Break

Thursday April 11 Afternoon

16:00 – 18:00 Symposium 6

Mouse models for autism spectrum disorders

Chairs: Yuri Bozzi (Italy)

Michela Fagiolini (USA)

Michael Saxe (Switzerland) Rodent models of autism in drug discovery

Yuri Bozzi (Italy) GABAergic dysfunction in engrailed-2 mutant mice

Jennifer Brielmaier (USA) Pharmacological reversal of depression-related and social deficits in engrailed-2 knockout mice

Michela Fagiolini (USA) Circuit dissection in neurodevelopmental disorders

18:00 – 18:30 Coffee Break

18:30 – 20:30 Symposium 7

Altered synaptic function in mouse models for autism spectrum disorders

Chairs: Tobias Böckers (Germany)

Carlo Sala (Italy)

Stephan Schwarzacher (Germany)

Neuroligins as candidate genes for autism spectrum disorders: Regulation of synaptic activity and plasticity in vivo

Markus Missler (Germany) Towards a pathomechanism of autism: Regulation of synaptic function through Neurexophilin-1/α-Neurexin complex formation

Tobias Böckers (Germany) ProSAP/Shanks at the synapse: Function, dynamics and their role in autism spectrum disorders

Carlo Sala (Italy) The function of the X-linked intellectual disability IL1RAPL1 protein complex at synapses

Friday April 12 Morning

08:15 – 09:00 Keynote Lecture 4
Botond Roska (Switzerland) Cell type specific computations in retina and cortex

09:00 – 11:00 Symposium 8
Reinforcement and decision making in the developing brain
 Chair: Gunter Schumann (UK)

Georgy Bakalkin (Sweden) Shift in epigenetic regulation of opioid genes in brain of human alcoholics
Sylvane Desrivieres (UK) Identification and functional characterisation of neurodevelopmental genes involved in human cognition
Gunter Schumann (UK) A genome-wide association study of co-expression networks of brain activation during reward anticipation

11:00 - 11:30 Coffee Break

11:30 - 13:30 Symposium 9
Function of the auditory system - From the cochlea to auditory brainstem
 Chair: Josef Syka (Czech Republic)

Pavel Mistrík and Jonathan Ashmore (UK) Molecular motor prestin in a cellular network and its role in sound amplification
Wei Liu (Sweden) The structure of human cochlea
Marlies Knipper (Germany) Learning about hearing from cell specific deletion of genes
Josef Syka (Czech Republic) Influence of postnatal acoustic stimulation on neuronal responsiveness in the adult auditory midbrain in rat

Friday April 12 Afternoon

16:00 – 18:00 Symposium 10
Physiology of oxytocin and vasopressin in the central and peripheral system
 Chair: Eva Sykova (Czech Republic)
 Govindan Dayanithi (France)

Govindan Dayanithi (France) Calcium homeostasis in the hypothalamic vasopressin and oxytocin neurons and terminals
Eva Sykova (Czech Republic) Extrasynaptic volume transmission and diffusion parameters of the extracellular space
Hana Zemkova (Czech Republic) Potentiation of neurotransmitter release in neurons of supraoptic nucleus by presynaptic P2X receptors
Izumi Shibuya (Japan) Actions of vasopressin in dorsal root ganglion

18:00 – 19:30 Coffee and Poster Session

Saturday April 13

08:15 – 09:00 Keynote Lecture 5
Karl Deisseroth (USA)
 Optical deconstruction of fully-assembled biological systems

09:00 – 09:30 Coffee Break

09:30 – 11:30 Symposium 11
Signal integration by astroglia: new insights
 Chair: Dmitri Rusakov (UK)

Christian Steinhäuser (Germany) Distinct astrocyte network communication in the thalamus
Alfonso Araque (Spain) Synaptic function regulated by astroglia via endocannabinoid and cholinergic signaling
Brian MacVicar (Canada) Neuron-Glia signaling to maintain a healthy brain
Dmitri Rusakov (UK) Deciphering key elements of Ca²⁺ signal processing in astrocytes

11:30 End of meeting and departure

Friday
April 12
18:00 - 19:30
Poster Session

- 1. Spontaneous mouse model of aggressive behavioral: Using the regroup system to study social interactions**
Mariana Acquarone, Frederico Villas Bôas, Gabriel Oliveira
- 2. Intranasal delivery to target brain after ischemic brain injury in rat**
Mikko Airavaara, Mari Raki, Kim Bergström
- 3. Antidepressant effect of unpolished Thai purple sticky rice (variety Luem Phua) aqueous extract in mice**
Tarinee Arkaravichien, Jintana Sattayasai, Supawadee Srisuwan, Sontaya Simasathiansophon, Prapawadee Puapairoj, Acharaporn Na Lampang Noenplab
- 4. Over claimed of dietary supplements and herbal products for Dementia and Alzheimer's disease surveyed in drug store and internet**
Wiwat Arkaravichien, Piyanoot Samanchai, Onnichia Noinam, Piyanut Choengsa-ard, Tarinee Arkaravichien
- 5. Convergent pathways and synaptic pathophysiology in models of autism and Fragile X**
Stéphane J. Baudouin, Julien Gaudias, Stefan Gerharz, Laetitia Hatstatt, Kuikui Zhou, Pradeep Punnakkal, Kenji F. Tanaka, Will Spooren, Rene Hen, Chris I. De Zeeuw, Kaspar Vogt, Peter Scheiffele
- 6. Human Cav1.4 mutations associated with congenital stationary night blindness type 2: New aspects on wildtype and mutant channels**
Verena Burtscher, Klaus W Schicker, Sakine Korkmaz, Christof Kugler, Anamika Singh and Alexandra Koschak
- 7. Generation of novel culture methods for the differentiation of mammalian pluripotent stem cells into retinal neurons**
Tania Incitti, Angela Bozza, Andrea Messina, Roberta De Filippis, Yuri Bozzi & Simona Casarosa
- 8. Don't dream it's over – Processing aversive experiences increases rapid eye movement sleep chronically in mice**
Stephanie A. Polta, Thomas Fenzl, Matthias Kreuzer, Carsten T. Wotjak
- 9. Mediating amnesia? - The information content of amygdalo-hippocampal interactions is reduced by volatile anesthetics**
Matthias Kreuzer, Stefan Kratzer, Stephanie Polta, Eberhard F. Kochs, Thomas Fenzl
- 10. Involvement of TLR-2-related signaling pathway in the mouse brain after ischemic injury**
Srećko Gajović, Ivan Boháček, Dunja Gorup, Dinko Mitrečić, Jasna Križ
- 11. Monitoring of oxygen in brain tissue for patients with severe brain injury**
R. Gal, M. Slezak, M. Smrcka, A. Mrljan, M. Colonova
- 12. The 5-HT6 receptor regulates pyramidal neuron migration**
M. Jacobshagen, M. Niquille, A. Dayer
- 13. Gradual synaptic integration of maturing adult-generated hippocampal granule cells**
Tassilo Jungenitz, Tijana Radic, Peter Jedlicka, Stephan W. Schwarzacher
- 14. Fast network oscillations in the lateral septum in vivo**
Tatiana Korotkova, Natalia Denisova, Alexey Ponomarenko
- 15. Prevention of cocaine conditioning relapse by social interaction: Investigating accumbens neuronal network activity by multi-electrode array**
Kummer, K., Prast, J., Kress, M., Saria, A. and Zernig, G.
- 16. Effects of simultaneous use of ethanol and caffeine on neurogenesis in the hippocampus of UChB rats (voluntary ethanol consumers)**
L. F. Takase; M. Martinez; D. R. Baltazar; F. S. N. Lizarte; L. F. Tirapelli; G. Chuffa; P. F. F. Pinheiro; F. E. Martinez
- 17. CDNF is not protective in the rodent model of ischemic injury**
Kert Mätlik, Urmas Arumäe & Mikko Airavaara
- 18. Erythrina abyssinica ameliorates meningoencephalitis and conserves proteins in trypanosoma brucei brucei chronic mice model**
Nasimolo J., Kiama S, Makanya A, Gathumbi P and Kagira J
- 19. Heat-stabilizing tissue samples for maintained protein integrity**
Beatrice Orback, Marcus Söderquist, Mats Borén, Karl Sköld, Per Svenningsson, Per E. Andrén
- 20. Arginine level in right inferior parietal cortex and visuospatial memory decline**
Kozlovskiy S.A., Vartanov A.V., Pyasik M.M., Polikanova I.S.
- 21. Stargazin (TARP γ -2) regulates presynaptic AMPA receptor function in cerebellar molecular layer interneurons**
Rigby M., Cull-Candy S.G. & Farrant M.
- 22. A novel animal model to study the in vivo role of a C-terminal regulatory domain in Cav1.3 L-type calcium channels**
Anja Scharinger, Kai Schöning, Dusan Bartsch, Gurjot Kaur, Mathias Gebhart, Anupam Sah, Nicolas Singewald, Amy Lee, Alexandra Koschak, Martina J. Sinnegger-Brauns, Joerg Striessnig
- 23. Direction of attention indicated by brain direct current (DC) potentials and their modulation by noise**
Karin Trimmel and Michael Trimmel

List of Participants

Last Name	Name	Country
Acquarone	Mariana	Brazil
Aigner	Ludwig	Austria
Airavaara	Mikko	Finland
Alqahtani	Mohammed	Saudi Arabia
Araque	Alfonso	Spain
Arkaravichien	Wiwat	Thailand
Arkaravichien	Tarinee	Thailand
Bähr	Mathias	Germany
Bakalkin	Georgy	Sweden
Baudouin	Stephane	Switzerland
Bavassano	Carlo	Austria
Benedetti	Bruno	Italy
Berninger	Benedikt	Germany
Bock	Gabriella	Austria
Böckers	Tobias	Germany
Bonhoeffer	Tobias	Germany
Bozzi	Yuri	Italy
Brecht	Michael	Germany
Bredy	Timothy	Australia
Brielmaier	Jennifer	USA
Burtscher	Verena	Austria
Casarosa	Simona	Italy
Claus	Peter	Germany
Compan	Valerie	France
Cools	Guy	Belgium
Couillard-Després	Sébastien	France
Daschil	Nina	Austria
Dayanithi	Govindan	Czech Rep.
Dayer	Alexandre	Switzerland
Dechant	Georg	Austria
Deisseroth	Karl	USA
Desrivieres	Sylvane	UK
Diester	Ilka	Germany
Dorey	Karel	UK
Ebner	Karl	Germany
Egger-Büssing	Monika	Austria
Fagiolini	Michaela	USA
Fanciulli	Alessandra	Austria
Fellner	Lisa	Austria
Fenzl	Thomas	Austria
Fischer	Andre	Germany
Flucher	Bernhard	Austria
Gajovic	Srecko	Croatia
Gal	Roman	Czech Republic
Gstir	Ronald	Austria
Hahnloser	Richard	Switzerland

Haushott	Barbara	Austria
Humpel	Christian	Austria
Hüttenhofer	Alexander	Austria
Illes	Sebastian	Austria
Irschick	Regina	Austria
Jacobshagen	Moritz	Switzerland
Jensen	Poul Henning	Denmark
Jessberger	Sebastian	Switzerland
Jungenitz	Tassilo	Germany
Kainldorfer	Christine	Austria
Keller	Georg	Switzerland
Kenneth	Hovis	USA
Klimaschewski	Lars	Austria
Knipper	Marlies	Germany
Knoflach	Dagmar	Austria
Korotkova	Tatiana	Germany
Koschak	Alexandra	Austria
Kreutmayer	Simone	Sigma Aldrich
Krismer	Florian	Austria
Kummer	Kai	Austria
Kuzdas	Daniela	Austria
Lakovleva	Tatiana	Sweden
Lamarcq	Laurence	UK
Lange	Simona	Austria
Lehrmann	Heike	Sigma Aldrich
Lie	Dieter Chichung	Germany
Lieb	Andreas	Austria
Liss	Birgit	Germany
Liu	Wei	Sweden
Lledo	Pierre-Marie	France
Lüscher	Christian	Switzerland
Lusser	Alexandra	Austria
MacVicar	Brian	Canada
Marksteiner	Josef	Austria
Marschallinger	Julia	Austria
Martinez	Marcelo	Brazil
Marvaldi	Letizia	Austria
Mätlik	Kert	Finland
Maurer	Verena	Austria
Missler	Markus	Germany
Mistrik	Pavel	Austria
Murphy	Connor	Austria
Nasimolo	Johnson	Kenya
Niederkofler	Vera	USA
Nykjaer	Anders	Denmark
Obermair	Gerald	Austria
Orback	Beatrice	Sweden
Ortner	Nadine	Austria
Park	Hae-Jeong	Republic of Korea
Piatti	Paolo	Austria

Pinggera	Alexandra	Austria
Ponimaskin	Evgeni	Germany
Pyasik	Maria	Russian Federation
Rettig	Jens	Germany
Riedl	Christiane	Austria
Rigby	Mark	UK
Rohl	Tatjana	Sigma Aldrich
Rohlmann	Astrid	Germany
Rosenblum	Kobi	Israel
Roska	Botond	Switzerland
Rotheneichner	Peter	Austria
Rusakov	Dmitri	UK
Russig	Holger	Germany
Sala	Carlo	Italy
Saria	Alois	Austria
Sartori	Simone	Austria
Saxe	Michael	Switzerland
Schafferer	Simon	Austria
Scharinger	Anja	Austria
Scheiffele	Peter	Switzerland
Schumann	Gunter	UK
Schwarzacher	Stephan	Germany
Shibuya	Izumi	Japan
Singewald	Nicolas	Austria
Sinitsyn	Dmitry	Russian Federation
Stanica	Ruslan	Austria
Stefanova	Nadia	Austria
Steinhäuser	Christian	Germany
Sticher	Udo	Sigma Aldrich
Striessnig	Jörg	Austria
Sturm	Edith	Austria
Syka	Josef	Czech Republic
Sykova	Eva	Czech Republic
Taylor	Verdon	Switzerland
Thongrong	Sitthisak	Austria
Trimmel	Michael	Austria
Trimmel	Karin	Austria
Tuluc	Petronel	Austria
Vavra	Vojtech	Czech Republic
Veit	Markus	Sigma Aldrich
Villas Boas	Frederico	Brazil
Wenning	Gregor	Austria
Whisböck	Karin	AB Sciex
Whittle	Nigel	Austria
Wille	Alexandra	Austria
Wyart	Claire	France
Yizhar	Ofer	Israel
Zemkova	Hana	Czech Republic

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Das Central, Sölden, Austria

www.winterneuroscience.org/2014