

Final Program

Wednesday, May 7th

10:00 *Registration at HANSA –Hotel*

15:00 **Welcome Addresses**

Klaus Reymann, Leibniz Institute for Neurobiology and FAN
Jan-Hendrik Olbertz, Minister for Cultural Affairs of Saxony-Anhalt
Klaus Erich Pollmann, Rector of the Otto-von-Guericke-University Magdeburg

15:30-19:00 **Molecular neuropathology of brain damage I**
(Chair: Georg Reiser and Nancy Rothwell)

15:30-15:55 *David G. Nicholls (Novato, USA)*
Mitochondria, proton leaks and the life and death of neurons

15:55-16:20 *Guy C. Brown (Cambridge, UK)*
Glial-neuronal communication via NO and glutamate in inflammatory neurodegeneration

16:20-16:45 *Michael Sendtner (Würzburg, Germany)*
Neuroprotective effects of neurotrophic factors: Basics and clinical application

16:45-17:15 *Coffee Break*

17:15-17:40 *Nancy Rothwell (Manchester, UK)*
Role of cytokines in neurodegeneration and neurorepair

17:40-18:05 *Ana Martin-Villalba (Heidelberg, Germany)*
The Janus face of CD-95 in the nervous system

18:05-18:30 *Pierluigi Nicotera (Leicester, UK)*
Molecular switches and spatial control in neuronal cell death

18:30-18:55 *Klaus-Armin Nave (Göttingen, Germany)*
Oligodendroglial function in myelination and axonal survival

19:00-20:00 *Welcome reception*

Thursday, May 8th

8:30-13:00 **Trauma and axonal regeneration**
(Chair: Bernhard Bogerts and Christine Bandtlow)

8:30-8:55 *Robert Adalbert (Cologne, Germany)*
Neuroprotection by the WldS gene in disease models

- 8:55-9:20 *Hans Werner Müller (Düsseldorf, Germany)*
Long-distance axon regeneration and functional improvement following suppression of collagenous scarring in spinal cord injury
- 9:20-9:45 *Michael R. Kreutz (Magdeburg, Germany)*
Epigenetics, inflammation and post-lesion plasticity
- 9:45-10:10 *Christoph Wiessner (Basel, Switzerland)*
Nogo-A restricts recovery and brain plasticity after focal cortical injury
- 10:10-10:40** *Coffee Break*
- 10:40-11:05 *Christine E. Bandtlow (Innsbruck, Austria)*
The role of p75-NTR in mediating the neuronal response to Nogo and MAG
- 11:05-11:30 *Mathias Bähr (Göttingen, Germany)*
Viral vector- and protein-transduction-domain-mediated neuroprotection in focal cerebral ischemia
- 11:30-11:55 *Wolfram Kunz (Bonn, Germany)*
Epilepsy-related cell death and neuroprotection by antiepileptic drugs
- 11:55-12:20 *Eckart D. Gundelfinger (Magdeburg, Germany)*
Synaptic function and epilepsy
- 12:20-12:45 *Michel Lazdunski (Valbonne, France)*
Potassium channels and neuronal death.
- 13:00-15:00** *Lunch and Poster session*
- 14:00 – 18:00** *Guided City Tour (optional)*
- 15:00-19:00** **Ischemia: basic mechanisms and neuroprotection**
(Chair: Volker Höllt and Nicolas Bazan)
- 15:00-15:25 *Nicolas Bazan (New Orleans, USA)*
Synaptic signaling in the repair/neuroprotective response in ischemia-reperfusion damage: Pharmacologic targets in synaptic lipid signaling
- 15:25-15:50 *Wulf Paschen (Cologne, Germany)*
Endoplasmic reticulum functioning is impaired in transient cerebral ischemia
- 15:50-16:15 *Domenico E. Pellegrini-Giampietro (Firenze, Italy)*
The role of poly(ADP-ribose) polymerase in necrotic and apoptotic neuronal injury following cerebral ischemia
- 16:15-16:40 *Pietro Ghezzi (Milano, Italy)*
Tissue protective cytokines
- 16:40-17:10** *Coffee Break*

17:10-17:35 *Frank F. Sharp (Cincinnati, USA)*
Use of TAT-PTD Hsp70 proteins as therapeutic agents: Hsp70 DXXD mutants block active caspase-3 and Hsp70WT binds IkK to prevent NF-kB activation: Opposing effects on cell survival

17:35-18:00 *Mathias Hoehn (Cologne, Germany)*
Regeneration potential of embryonic stem cells in experimental infarct: In vivo MRI investigation of stem cell dynamics

18:00-18:25 *Kenneth Maiese (Detroit, USA)*
Cellular pathways for neurovascular protection: Akt, Apaf-1, and cytochrome c lead the way

18:25-18:50 *Carsten Culmsee (Marburg, Germany)*
Neuroprotection by p53 inhibitors

19:00 *Dinner*

21:00 KeyNote Speech:
Masato Nakafuku (Tokyo, Japan)
Regenerative capacity of neural stem cells in the adult mammalian brain

Friday May 9th

8:30-12:00 Molecular neuropathology of brain damage II
(Chair: Frank Sharp and Pierluigi Nicotera)

8:30-8:55 *Cord-Michael Becker (Erlangen-Nürnberg, Germany)*
Early events in apoptotic cell death: Beta-bungarotoxin as a model of neurodegeneration

8:55-9:20 *Gerald Wolf (Magdeburg, Germany)*
Nitrosative and oxidative stress in brain tissue: Protective effects of hydroxystilbenes

9:20-9:45 *Thomas Herdegen (Kiel, Germany)*
The c-Jun N-terminal kinases – from regulation of brain development to execution of neuronal death

9:45-10:15 *Coffee Break*

10:15-10:40 *Michal Schwartz (Rehovot, Israel)*
Protective autoimmunity and therapeutic vaccination for central nervous system neuroprotection

10:40-11:05 *Hannelore Ehrenreich (Göttingen, Germany)*
Erythropoietin: A promising neuroprotective approach to human stroke

11:05-11:30 *Marcel Leist (Valby, Denmark)*
Development of new neuroprotectants based on naturally occurring molecules

12:00 *Lunch and Poster session*

14:00-15:15 Proliferation, migration and differentiation of CNS stem cells

(Chair: Arnold Kriegstein and Klaus Reymann)

14:00-14:25 *Oliver Brüstle (Bonn, Germany)*
Embryonic stem cells as donor source for neurorepair

14:25-14:50 *Arnold R. Kriegstein (New York, USA)*
Radial glia divide asymmetrically to generate clones of pyramidal neurons and then transform into astrocytes in developing neocortex

14:50-15:15 *Hermann Rohrer (Frankfurt, Germany)*
Role of bone morphogenetic protein signaling in autonomic neuron development

15:15-17:50 Plasticity after neuronal injury and restitution

(Chair: Henning Scheich and Masato Nakafuku)

15:15-15:40 *Golo Kronenberg (Berlin, Germany)*
From progenitor cells to new neurons in the adult brain

15:40-16:05 *Otto Witte (Jena, Germany)*
Compensation and recovery: Neurobiological determinants of brain plasticity following stroke

16:05-16:35 *Coffee Break*

16:35-17:00 *Julietta U. Frey (Magdeburg, Germany)*
Synaptic tagging and long-term depression: interactions with long-term potentiation

17:00-17:25 *Ariel Schoenfeld (Magdeburg, Germany)*
Functional neuroanatomy and reorganization of the human visual system after lesions of the striate cortex

17:25-17:50 *Ulrich Dirnagl (Berlin, Germany)*
Ischemic stroke: Marrow to the rescue?

18:00 *Supper*

19:30 *Organ concert, Monastery "Kloster Unser Lieben Frauen"*

Saturday, May 10th

8:30-12:00 In vitro-models for study of neurorepair and neuroprotection

(Chair: Reinhard Jork and David Nicholls)

8:30-8:55 *Jens Zimmer (Odense, Denmark)*
Dentate neurogenesis in hippocampal slice cultures, and slice culture models for migration and homing

- 8:55-9:20 *Klaus G. Reymann (Magdeburg, Germany)*
Ischemia increases cell proliferation and neurogenesis in non-neurogenic areas of the hippocampus: in vivo and in in vitro studies
- 9:20-9:55 *Jörg B. Schulz (Tübingen, Germany)*
Endogenous antiapoptotic pathways: lessons from hypoxic preconditioning and resistance of cerebellar granule neurons to CD95L/FasL
- 9:55-10:25 **Coffee Break**
- 10:25-10:50 *Lars Sundstrom (Southampton, UK)*
Mechanisms of ischaemic neurodegeneration in organotypic hippocampal slice cultures
- 10:50-11:15 *Georg Reiser (Magdeburg, Germany)*
Calcium and oxidative stress determine mitochondrial sensitivity of neurons and astrocytes, causing different vulnerabilities to ischemic insults
- 11:15-11:40 *Uwe Heinemann (Berlin, Germany)*
Changes of coupling between neuronal and metabolic activity during experimental status epilepticus in rat hippocampal slice cultures
- 12:00 **Lunch**
- 13:30-17:25 Endogenous stem cells as a source for neurorepair**
(Chair: Bernd Seilheimer and Georg Kuhn)
- 13:30-13:55 *H. Georg Kuhn (Regensburg, Germany)*
Adult neurogenesis: A balance of proliferation and cell death
- 13:55-14:20 *Sanjay S.P. Magavi (Boston, USA)*
Induction of cortical neurogenesis and experience dependent modification of adult-born olfactory neurons
- 14:20-14:45 *Michael A. Hack (Munich, Germany)*
Glial cells generate neurons: molecular and cellular mechanisms of neurogenesis
- 14:45-15:10 *Christian Steinhäuser (Bonn, Germany)*
Identification of distinct astroglial cell types co-existing in the postnatal mouse hippocampus.
- 15:10-15:45 **Coffee Break**
- 15:45-16:10 *Robert M. Cassidy (Stockholm, Sweden)*
Stem cells and functional neurogenesis in the adult brain
- 16:10-16:35 *Olle Lindvall (Lund, Sweden)*
Neurogenesis in stroke and epilepsy
- 16:35-17:00 *Per Wester (Umea, Sweden)*
Stroke-induced endogenous neurogenesis in the cortex of adult rats

17:00-17:25

Evan Y. Snyder (Boston, USA)

Neural stem cells may be well suited for CNS repair

17:30

Round Table:

Therapy with endogenous versus transplanted stem cells

Frank Sharp, Cincinatti, Olle Lindvall, Lund, Dirnagl, Berlin, Masato Nakafuku, Tokyo, Evan Snyder, Boston, Klaus Reymann, Magdeburg, Georg Kuhn, Regensburg, Otto Witte, Jena; Arnold Kriegstein, New York; Nicolas Bazan, New Orleans

19:00

Concluding remarks: Georg Reiser, University Magdeburg

19:30

Farewell party in the cellar restaurant “Buttergasse”