



**Tuesday, July 2, 2013**

**10:00-19:00** **Introductory Course** (taking place at the Max Delbrück Center for Molecular Medicine Berlin)

**09:00-18:00** **Therapeutic strategies for Leukodystrophies: Outcomes and Perspectives**  
(taking place at the Estrel Hotel & Convention Center Berlin)

**Wednesday, July 3, 2013**

**09:00-13:00** **Workshops**

**13:00-14:00** **Lunch Break**

**14:00-14:15** **Opening**

**14:15-15:15** **Plenary Lecture P-01**

**Chair:** Frank Kirchhoff (Homburg, Germany)

**The tripartite synapse and sleep/wake cycles**

*Philip G. Haydon*

*Tufts University School of Medicine, Department of Neuroscience, Boston, United States*

**15:15-17:15** **Symposia I**

**Symposium S01**

**GLIAL CELLS IN EPILEPSY: NOVEL ASPECTS ON PATHOGENESIS AND TREATMENT**

**Organizers:** Asla Pitkänen (Kuopio), Rebecca Matsas (Athens)

S01-01

Bridging the gap between glial dysfunction and the seizing patient - a translational approach

*Kjell Heuser*

*Oslo University Hospital, Oslo, Norway*

S01-02

Neural stem cell transplantation in experimental temporal lobe epilepsy

*Rebecca Matsas*

*Hellenic Pasteur Institute, Athens, Greece*

S01-03

Novel treatment targets to combat epilepsy

*Asla Pitkänen*

*University of Eastern Finland, Kuopio, Finland*

S01-04

Astrocyte dysfunction in temporal lobe epilepsy.

*Christian Steinhäuser*

*University of Bonn, Bonn, Germany*

**Symposium S02**

**AXOGLIAL INTERACTIONS IN THE ASSEMBLY AND STABILITY OF AXONAL DOMAINS ESSENTIAL FOR RAPID NERVE IMPULSE CONDUCTION**

**Organizer:** Peter Brophy (Edinburgh)

S02-01

Axonal domains in myelinated nerves: assembly and function



*Peter Brophy*  
*University of Edinburgh, Centre for Neuroregeneration, Edinburgh, United Kingdom*

S02-02  
Functional organization of the axon initial segment  
*Bénédicte Dargent*  
*Aix Marseille University - CNRS, UMR 7286, Faculté de Médecine-Nord, Marseille, France*

S02-03  
Proteolytic processing of gliomedin regulates sodium channel clustering at the developing nodes of Ranvier  
*Elior Peles*  
*Weizmann Institute of Science, Rehovot, Israel*

S02-04  
'Ankyrin' the paranode.  
*Matthew N. Rasband*  
*Baylor College of Medicine, Houston, TX, United States*

**Symposium S03**  
**GLIAL CELLS AND CHRONIC PAIN**  
**Organizer: Marzia Malcangio (London)**

S03-01  
TRPV1-dependent and -independent alterations in the limbic cortex of neuropathic mouse: impact on glial caspases and pain perception.  
*Sabatio Maione*  
*Second University of Naples, Naples, Italy*

S03-02  
Mechanisms for neuron-microglia communication after peripheral insult  
*Marzia Malcangio*  
*King's College London, London, United Kingdom*

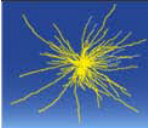
S03-03  
What links peripheral nerve injury to spinal cord microglial reactivity?  
*Marc Suter*  
*CHUV-Lausanne University Hospital Center, Lausanne, Switzerland*

S03-04  
Role of spinal glia and toll-like receptor 4 in inflammation-induced pain  
*Camilla Svensson*  
*Karolinska Institutet, Stockholm, Sweden*

**Symposium S04**  
**MICROGLIAL PHAGOCYTOSIS AND ROS IN DEVELOPMENT AND NEURODEGENERATION**  
**Organizers: Guy Brown (Cambridge), Jau-Shyong Hong (Research Triangle Park)**

S04-01  
Inflamed microglia kill neurons by phagocytosing them  
*Guy Brown*  
*University of Cambridge, Cambridge, United Kingdom*

S04-02  
Pattern recognition-related inflammatory oxidative insult from microglia mediates chronic neurodegeneration  
*Huiming Gao*  
*Nanjing University, Nanjing, China*



S04-03

Phagocytosis executes delayed neuronal death after focal brain ischemia  
*Jonas Neher*  
*University of Tübingen, Tübingen, Germany*

S04-04

Microglia in the developing brain: pruning synapses and sculpting neural circuits  
*Rosa C. Paolicelli*  
*University of Zurich, Zurich, Switzerland*

**Symposium S05**

**GENETIC DISSECTION OF GLIAL CELL DEVELOPMENT AND FUNCTION IN DROSOPHILA**

**Organizer: Christian Klämbt (Münster)**

S05-01

Neuron-glia interactions through the Heartless FGF receptor signaling pathway mediate morphogenesis of *Drosophila* astrocyte-like glia  
*Marc R. Freeman*  
*University of Massachusetts, Medical School, Dept of Neurobiology, Worcester, MA, United States*

S05-02

A Gene Network Underlying the Glial Regenerative Response to central nervous system injury in fruit-flies and mammals  
*Alicia Hidalgo*  
*University of Birmingham, Birmingham, United Kingdom*

S05-03

Vesicle release mechanisms and glia-to-neuron signaling are critical in *Drosophila* for astrocyte regulation of circadian behavior  
*F. Rob Jackson*  
*Tufts University School of Medicine, Boston, United States*

S05-04

Development and function of *Drosophila* wrapping glia  
*C. Klämbt*  
*Universität Münster, Institut für Neuro- und Verhaltensbiologie, Münster, Germany*

**17:15-19:15**      **Poster Session I and Coffee Break**

**19:15**            **Opening Reception**

**Thursday, July 4, 2013**

**09:00-10:00**

**Plenary Lecture P-02**

**Chair:** Robin Franklin (Cambridge, United Kingdom)

**Contribution of endogenous and exogenous stem cells to remyelination of the central nervous system.**

*Anne Baron-Van Evercooren*  
*INSERM, UPMC, CNRS, Paris, France*

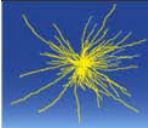
**10:00-10:15**

**Coffee Break**

**10:15-12:15**

**Symposia II**

**Symposium S06**



**IDENTITY AND PLASTICITY OF ASTROGLIAL STEM CELLS IN ADULT  
NEUROGENIC NICHES**

**Organizers: Masato Nakafuku (Cincinnati), Verdon Taylor (Basel)**

S06-01

Regulation of stem cell divisions in the adult brain

*François Guillemot*

*National Institute for Medical Research, London, United Kingdom*

S06-02

Molecular control of stem cell activity in the adult brain

*Sebastian Jessberger*

*University of Zurich, Zurich, Switzerland*

S06-03

Identity and Plasticity of Astroglial Stem Cells in Adult Neurogenic Niche

*Masato Nakafuku*

*Cincinnati Children's Hospital Medical Center, Cincinnati, United States*

S06-04

Molecular and functional diversity in the adult forebrain neural stem cell  
population

*Verdon Taylor*

*Max Planck Institute of Immunobiology, Department of Molecular Embryology,  
Freiburg, Germany*

*University of Basel, Department of Biomedicine, Embryology and Stem Cell  
Biology, Basel, Switzerland*

**Symposium S07**

**CROSS-TALK BETWEEN IONS AND ENERGY METABOLISM IN  
ASTROCYTES: NEW INSIGHTS FROM IN VITRO AND IN VIVO STUDIES  
WITH OPTICAL PROBES**

**Organizers: Christine Rose (Düsseldorf), L. Felipe Barros (Valdivia)**

S07-01

New tricks for an old cation: fast modulation of astrocytic glucose and lactate  
metabolism by extracellular K<sup>+</sup>

*L. Felipe Barros*

*Centro de Estudios Científicos, Valdivia, Chile*

S07-02

Methodological and functional aspects of cytosolic and mitochondrial ion  
signaling

*Jean-Yves Chatton*

*University of Lausanne, Department of Fundamental Neurosciences, Lausanne,  
United Kingdom*

S07-03

Local and global sodium signalling in astrocytes and astrocyte networks

*Christine Rose*

*Heinrich Heine University, Duesseldorf, Germany*

S07-04

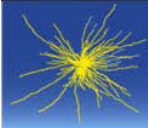
In vivo two-photon imaging of energy substrate levels in neurons and  
astrocytes

*Bruno Weber*

*University of Zurich, Zurich, Switzerland*

**Symposium S08**

**MICROGLIAL PRIMING: HOW THE MICROGLIAL POPULATION  
BECOMES A CNS AMPLIFIER OF SYSTEMIC INFLAMMATION AND WHY  
IT MATTERS?**



**Organizers: Sophie Layé (Bordeaux), Colm Cunningham (Dublin)**

S08-01

Systemic inflammation exacerbates cognitive dysfunction in neurodegenerative disease: influence of acetylcholine and type I interferons in microglial priming and IL-1 $\beta$  expression

*Colm Cunningham*

*Trinity College Dublin, Dublin, Ireland*

S08-02

Microglial priming - affecting and perpetuating damage in the perinatal brain?

*Pierre Gressens*

*Inserm U676, Paris, France*

S08-03

Dietary lipids and microglia priming

*Sophie Layé*

*Univ Bordeaux, UMR INRA, Nutrition and Integrative Neurobiology (Nutrineuro), Bordeaux, France*

S08-04

Complement activation as a trigger for microglial priming in models and man.

*Paul Morgan*

*Cardiff University, Cardiff, United Kingdom*

**Symposium S09**

**BIOMARKERS OF GLIAL INJURY IN CSF AND BLOOD**

**Organizer: Albee Messing (Madison)**

S09-01

Astroglial proteins as biomarkers in stroke

*Christian Foerch*

*Goethe-University, Frankfurt, Germany*

S09-02

Serum S100B: A reporter of BBB function and mediator of long-term neuroimmune signaling

*Damir Janigro*

*Cleveland Clinic, Cerebrovascular research NB20 LRI, Cleveland, OH, United States*

*University of Rochester, Medical Center, Rochester, United States*

S09-03

Biomarkers for Alexander disease, a primary disorder of astrocytes

*Albee Messing*

*University of Wisconsin-Madison, Madison, United States*

S09-04

Glial fibrillary acidic protein: a biomarker for glial pathology in human disease

*Axel Petzold*

*VU Medical Centre, Department of Neurology, MS Center Amsterdam, Amsterdam, Netherlands*

**Symposium S10**

**ENDOPLASMIC RETICULUM STRESS AND NEUROLOGICAL DISORDERS**

**Organizer: Una FitzGerald (Galway)**

S10-01

Calreticulin: a new twist in the endoplasmic reticulum and multiple sclerosis tale



*Una FitzGerald*  
National University of Ireland, NCBES, Galway, Ireland

S10-02  
The integrated stress response protects oligodendrocytes from inflammatory demyelination  
*Brian Popko*  
The University of Chicago, Chicago, United States

S10-03  
Induction of endoplasmic reticulum (ER) stress in glia by the human endogenous retrovirus-W glycoprotein, Syncytin-1: implications for neuroinflammation.  
*Christopher Power*  
University of Alberta, Department of Medicine (Neurology), Edmonton, Canada

S10-04  
Protein folding homeostasis in the endoplasmic reticulum and myelin physiology  
*David Ron*  
University of Cambridge, Cambridge, United Kingdom

**12:15-13:15**      **Lunch Break**

**13:15-15:15**      **Poster Session I**

**15:15-17:15**      **Symposia III**

**Symposium S11**  
**THE NEURO-GLIA INTERACTIONS THAT CONTROL REPAIR IN THE NERVOUS SYSTEM**  
**Organizer: Kristjan Jessen (London)**

S11-01  
Moderate microtubule stabilization reduces scarring and causes axonal regeneration after spinal cord injury  
*Frank Bradke*  
DZNE, Bonn, Germany

S11-02  
Nerve repair depends on c-Jun driven Schwann cell transdifferentiation to generate a specialized repair cell in injured nerves.  
*Kristjan Jessen*  
University College London, Department of Cell and Developmental Biology, London, United Kingdom

S11-03  
Myelin-derived Nogo-A inhibits regeneration and plastic fiber growth after spinal cord or brain injury  
*Martin Schwab*  
University of Zurich and ETH Zurich, Zurich, Switzerland

S11-04  
Peripheral nerve injury and repair in animals and humans: problems and solutions  
*Tessa Gordon*  
Hospital for Sick Children, Toronto, Canada



**Symposium S12**  
**ROLE OF GLIAL GABA TRANSPORTERS IN CONTROLLING**  
**NEUROTRANSMISSION**  
**Organizer: László Héja (Budapest)**

S12-01

Astrocytes convert network excitation to tonic inhibition of neurons  
*László Héja*  
*Research Centre for Natural Sciences, Institute of Molecular Pharmacology,*  
*Budapest, Hungary*

S12-02

Local crosstalk between glutamate and GABA transporters modulate neuronal activity in the neonatal neocortex  
*Sergei Kirischuk*  
*University Medical Center of the Johannes Gutenberg University Mainz,*  
*Institute of Physiology and Pathophysiology, Mainz, Germany*

S12-03

Reduced glial GABA uptake retards functional recovery after stroke  
*Istvan Mody*  
*The David Geffen School of Medicine at UCLA, Departments of Neurology and*  
*Physiology, Los Angeles, CA, United States*

S12-04

Functional role for glial and extrasynaptic GABA transporters in the control of seizure activity  
*H. Steve White*  
*University of Utah, Pharmacology and Toxicology, Salt Lake City, United States*

**Symposium S13**  
**GLIAL CELLS IN MEMORY, NEURAL PLASTICITY AND NEUROGENESIS:**  
**FOCUS ON INTERLEUKIN 1**  
**Organizers: Luisa Minghetti (Rome), Staci Bilbo (Durham)**

S13-01

Early life infection, microglia, and cognition throughout the lifespan.  
*Staci Bilbo*  
*Duke University, Durham, United States*

S13-02

Functional polarisation of microglial cells and neurogenesis: evidence from in vitro models  
*Luisa Minghetti*  
*Istituto Superiore di Sanità, Rome, Italy*

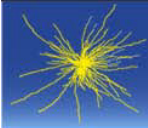
S13-03

How neurons adapt to sense glial response: the role of Interleukin-1 receptor type I  
*Barbara Viviani*  
*Università degli Studi di Milano, Scienze Farmacologiche e Biomolecolari,*  
*Milan, Italy*

S13-04

Modulation of behavioral and neural plasticity by glia and IL-1 signaling  
*Raz Yirmiya*  
*The Hebrew University of Jerusalem, Jerusalem, Israel*

**Symposium S14**



**ROLE OF MICROGLIA DURING THEIR INVASION OF THE DEVELOPING CENTRAL NERVOUS SYSTEM**

**Organizers: Pascal Legendre (Paris), Michel Rigo (Diepenbeek)**

S14-01

Microglial functions in the developing retina

*José Luis Marín-Teva*

*University of Granada, Granada, Spain*

S14-02

Microglial cells influence the functional maturation of thalamo-cortical synapses in the developing somatosensory "barrel" cortex

*Etienne Audinat*

*Paris Descartes University, Paris, France*

S14-03

Microglia-cells interactions during the invasion of the mouse embryonic spinal cord by microglia

*Pascal Legendre*

*INSERM U259/CNRS UMR 7224/UPMC, Paris, France*

S14-04

Complex behaviour of microglia during the embryonic development of the cerebral cortex

*Jean-Michel Rigo*

*University Hasselt, Diepenbeek, Belgium*

**Symposium S15**

**ASTROCYTE NETWORK CONTRIBUTION IN NEUROIMAGING SIGNALS**

**Organizers: Jérôme Badaut (Loma Linda), Anne-Karine Bouzier-Sore (Bordeaux)**

S15-01

Contribution of the astrocyte network in brain water diffusion: influence in DWI and DTI signals

*Jérôme Badaut*

*Loma Linda University, Loma Linda, United States*

S15-02

Functional neuro-energetic and brain imaging: how do astrocytes contribute to the signal?

*Anne-Karine Bouzier-Sore*

*CNRS, Bordeaux, France*

S15-03

Compartmentalization of glucose uptake between astrocytes and neurons in vivo.

*Julien Chuquet*

*University of Rouen, Mont-Saint-Aignan, France*

S15-04

Role of the transcription factor HIF-1alpha for the metabolic profile of astrocytes

*Olaf Jöhren*

*University of Lübeck, Lübeck, Germany*

**17:15-17:30**

**Coffee Break**

**17:30-18:30**

**Plenary Lecture P-03**

**Chair:** Magdalena Götz (Munich, Germany)

**How stem cells speak with immune cells**





*Stefano Pluchino*  
*University of Cambridge, Dept of Clinical Neurosciences, John van Geest  
Centre for Brain Repair and Wellcome Trust-Medical Research Council Stem  
Cell Institute, Cambridge, United Kingdom*

**Friday, July 5, 2013**

**09:00-10:00**

**Plenary Lecture P-04**

**Chair:** Vittorio Gallo (Washington, United States)

**Wrapping it up: functions of NG2 glia in myelination and at synapses**

*Jacqueline Trotter*

*Johannes Gutenberg University of Mainz, Mainz, Germany*

**10:00-10:15**

**Coffee Break**

**10:15-12:15**

**Symposia IV**

**Symposium S16**

**SIGNALING PATHWAYS IN MYELINATION**

**Organizers:** Kelly Monk (Saint Louis), Rashmi Bansal (Farmington)

S16-01

Role of Erk-MAP-Kinase Signaling in Myelinating Glial Cells

*Rashmi Bansal*

*University of Connecticut Medical School, Farmington, United States*

S16-02

Role of mTOR complex signaling in oligodendrocyte development

*Wendy Macklin*

*University of Colorado School of Medicine, Aurora, United States*

S16-03

Molecular mechanisms that control Schwann cell development and myelination: emerging roles for adhesion G protein-coupled receptors

*Kelly Monk*

*Washington University School of Medicine, Saint Louis, United States*

S16-04

Neuregulin-1 type III intracellular domain signaling in PNS myelination

*Carla Taveggia*

*San Raffaele Scientific Institute, Milan, Italy*

**Symposium S17**

**GLIA IN THE PATHOGENESIS OF POLYGLUTAMINE  
NEURODEGENERATION**

**Organizers:** Thomas Moeller (Paramus), Gwenn Garden (Seattle)

S17-01

Two Mouse Models of Polyglutamine Neurodegeneration Demonstrate Early Myelin Pathology: Cause, Effect or Catalyst for Disease Progression?

*Gwenn Garden*

*University of Washington, Seattle, United States*

S17-02

The kynurenine pathway, neurodegeneration, and glia: mechanisms and therapeutic targets

*Flaviano Giorgini*

*University of Leicester, Leicester, United Kingdom*



S17-03

Loss of CNS-endogenous IGF-1 in Huntington's disease can be countered using ex vivo gene therapy

*Thomas Moeller*

*Lundbeck Research USA, Neuroinflammation Disease Biology Unit, Paramus, NJ, United States*

S17-04

Imaging of activated microglia in Huntington's disease

*Paola Piccini*

*Imperial College London, London, United Kingdom*

### **Symposium S18**

#### **THE MÜLLER CELL – THE GLIAL ALL-ROUNDER OF THE RETINA**

**Organizer: Antje Grosche (Leipzig)**

S18-01

Müller Cell Regulation of Blood Flow in the Normal and Diabetic Retina

*Eric Newman*

*University of Minnesota, Minneapolis, United States*

S18-02

Gliotransmitter release from retinal (Müller) glia cells

*Antje Grosche*

*Paul Flechsig Institute for Brain Research, Leipzig, Germany*

S18-03

Reprogramming Zebrafish Müller Glia for Retinal Repair

*Dan Goldman*

*University of Michigan, Ann Arbor, United States*

S18-04

Reprogramming mouse Muller glia to retinal progenitors

*Thomas Reh*

*University of Washington, Seattle, United States*

### **Symposium 19**

#### **MICROGLIAL ATP SIGNALING: A KEY REGULATOR OF SYNAPTIC TRANSMISSION AND NEURONAL DISEASES**

**Organizer: Schuichi Koizumi (Yamanashi)**

S19-01

Microglial ATP exocytosis and its pathophysiological consequences

*Schuichi Koizumi*

*University Yamanashi, Dept Neuropharmacology, Faculty of Medicine, Yamanashi, Japan*

S19-02

Modulation of astrocytic gliotransmission by microglia

*Olivier Pascual*

*IBENS, Neuroscience, Paris, France*

S19-03

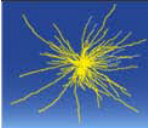
Role of Microglia in Opioid-Induced Hyperalgesia

*Michael W. Salter*

*Neurosciences & Mental Health Program, Hospital for Sick Children, Dept. of Physiology, University of Toronto, Toronto, Ontario, Canada*

S19-04

The microglial suicide receptor P2X7 is present at adult neural precursor cells of the mouse subventricular zone



*Peter Illes*  
*University of Leipzig, Leipzig, Germany*

**Symposium S20**  
**NG2 CELLS IN THE INTACT AND INJURED BRAIN: A HETEROGENEOUS POPULATION?**

**Organizers: Leda Dimou (Munich), Akiko Nishiyama (Connecticut)**

S20-01  
Diversity of NG2 cell number and properties  
*David Attwell*  
*University College London, London, United Kingdom*

S20-02  
Diversity of adult NG2<sup>+</sup>-cells: differentiation properties and reaction to injury  
*Leda Dimou*  
*Ludwig-Maximilians University, Institute of Physiology, Munich, Germany*  
*Helmholtz Zentrum Munich, Institute for Stem Cell Research, Neuherberg, Germany*

S20-03  
Regional heterogeneity of NG2 cells (polydendrocytes)  
*Akiko Nishiyama*  
*University of Connecticut, Storrs, Connecticut, United States*

S20-04  
A role for Sox17 in oligodendrocyte development and regeneration  
*Brahim Nait Oumesmar*  
*UPMC/Inserm UMR-S975, CNRS UMR 7225, Paris, France*

**12:15-13:15**      **Lunch Break**

**13:15-15:15**      **Poster Session II**

**15:15-17:15**      **Symposia V**

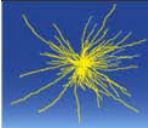
**Symposium S21**  
**(DYS-) REGULATION OF MYELIN MEMBRANE SYNTHESIS**  
**Organizers: Ueli Suter (Zürich), Mark Verheijen (Amsterdam)**

S21-01  
Lipid metabolism in aging and disease-affected myelinating glial cells  
*Roman Chrast*  
*University of Lausanne, Department of Medical Genetics, Lausanne, Switzerland*

S21-02  
Lipid synthesis and the regulation of myelin membrane growth  
*Markus Schwab*  
*Max-Planck-Institut für Experimentelle Medizin, Neurogenetics, Göttingen, Germany*

S21-03  
Lipid Biosynthesis, mTOR Signaling and Myelination  
*Ueli Suter*  
*ETH Zürich, Zürich, Switzerland*

S21-04  
Involvement of astrocyte SREBP in CNS myelin membrane synthesis  
*Mark H. G. Verheijen*  
*VU University, Neuroscience Campus Amsterdam, Dept. Molecular and Cellular Neurobiology, Amsterdam, Netherlands*



**Symposium 22**  
**FAMILY OF GP130 CYTOKINES AS PROTECTIVE MEDIATORS OF**  
**NEUROLOGICAL DISEASE**  
**Organizers: Niels Hellings (Diepenbeek), Trevor Kilpatrick**  
**(Melbourne)**

S22-01  
Family of GP130 cytokines control auto-immune CNS lesions  
*Niels Hellings*  
*Hasselt University, Diepenbeek, Belgium*

S22-02  
Investigating the influence of LIF-receptor signaling upon neural precursors  
and oligodendroglia as a modulator of demyelinating disease  
*Trevor J. Kilpatrick*  
*The University of Melbourne, Melbourne, Australia*  
*The Florey Institute of Neuroscience and Mental Health, Melbourne, Australia*

S22-03  
NANOMEDICINE: development of LIF-nano for treatment of Multiple Sclerosis  
*Su Metcalfe*  
*University of Cambridge, Cambridge, United Kingdom*

S22-04  
Gp130-dependent activation of astrocytes and neurons is critical to control  
CNS infections and autoimmune diseases  
*Dirk Schlüter*  
*Otto-von-Guericke-University, Institute of Medical Microbiology, Magdeburg,*  
*Germany*

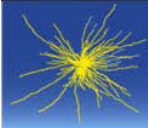
**Symposium S23**  
**MITOCHONDRIAL CA<sup>2+</sup> SIGNALING IN LIFE AND DEATH OF GLIAL**  
**CELLS. Organizers: Israel Sekler (Beer Sheva)**

S23-01  
Role of astrocyte signalling in the neurotoxicity of  $\beta$ -amyloid: roles of  
astrocytes in neuronal death in Alzheimer's Disease?  
*Andrey Y. Abramov*  
*University College London, London, United Kingdom*

S23-02  
Targeting Astrocyte Mitochondrial ATP Production as a Strategy to Treat Brain  
Injuries  
*James Lechleiter*  
*University of Texas Health Science Center San Antonio, San Antonio, United*  
*States*

S23-03  
The Role of the Mitochondrial Exchanger NCLX in Astrocytic Ca<sup>2+</sup> Signaling,  
Gliotransmission and Proliferation.  
*Israel Sekler*  
*Ben-Gurion University, Beer-Sheva, Israel*

**Symposium S24**  
**ROLE OF EXTRACELLULAR VESICLE SECRETION FROM GLIAL CELLS IN**  
**HEALTH AND DISEASE**  
**Organizer: Felipe Court (Santiago)**



S24-01  
Role of Schwann cell to axon transfer of vesicles during axonal regeneration  
*Felipe Court*  
*Pontifical Catholic University of Chile, Santiago, Chile*

S24-02  
Delivery on call: the role of exosomes in neuron-glia communication  
*Eva-Maria Krämer-Albers*  
*Johannes Gutenberg University Mainz, Mainz, Germany*

S24-03  
Glioma microvesicles (exosomes) as biomarkers  
*Johan Skog*  
*Exosome Diagnostics Inc, New York, United States*

S24-04  
Pathogenic role of microglia-derived microvesicles in neuroinflammation and neurodegeneration  
*Claudia Verderio*  
*CNR Institute of Neuroscience, Milan, Italy*

**Symposium S25**  
**TRANSLATIONAL REGULATION IN GLIAL CELLS**  
**Organizer: Martin Theis (Bonn)**

S25-01  
MicroRNA in glioblastoma: regulatory functions and clinical applications  
*Anna Krichevsky*  
*Brigham and Women's Hosp, Harvard Medical School, Boston, United States*

S25-02  
Astroglial FMRP-Dependent Translational Down-regulation of mGluR5 Underlies Glutamate Transporter GLT1 Dysregulation in the Fragile X Mouse  
*Yongjie Yang*  
*Tufts University School of Medicine, Boston, United States*

S25-03  
Diurnal control of trafficking and post-transcriptional processing of the astrocyte Fabp7 mRNA  
*Jason Gerstner*  
*University of Pennsylvania School of Medicine, Center for Sleep and Circadian Neurobiology, Philadelphia, Pennsylvania, United States*

S25-04  
Coordinated control of key astrocytic proteins by CPEB3  
*Vamshi Vangoor*  
*University of Bonn, Bonn, Germany*

**17:15-17:30**

**Coffee Break**

**17:30-18:30**

**Plenary Lecture P-05**

**Chair:** Eva Syková (Prague, Czech Republic)

**You don't mess with the glia: evolution of brain size with conserved non-neuronal scaling rules in mammals**

*Suzana Herculano-Houzel*

*Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil*



**Saturday, July 6, 2013**

**09:00-10:00**

**Plenary Lecture P-06**

**Chair:** Trevor Owens (Odense, Denmark)

**Molecular Control of CNS Inflammation at the BBB by Brain Morphogens**

*Alexandre Prat  
CHUM, Montreal, Canada*

**10:00-10:15**

**Coffee Break**

**10:15-12:15**

**Symposia VI**

**Symposium 26**

**ADAMS AND MMPS DURING MYELIN DEVELOPMENT AND MYELIN REPAIR**

**Organizer:** Adan Aguirre (Stony Brook)

S26-01

Role of ADAM10 and ADAM17 in central nervous system myelination and remyelination

*Adan Aguirre  
SUNY at Stony Brook University, Stony Brook, United States*

S26-02

Differential regulation of myelination by BACE1 and ADAM proteases

*Riqiang Yan  
Cleveland Clinic Lerner Research Institute, Cleveland, United States*

S26-03

MMP-9/TIMP-1 axis in regulation of the function of myelin-forming Schwann cells in nerve repair and pain.

*Veronica Shubayev  
University of California, Department of Anesthesiology, La Jolla, CA, United States  
VA San Diego Healthcare System, La Jolla, CA, United States*

S26-04

Effect of silencing ADAM17 expression by an adenoviral vector-mediated RNA interference approach in chronic relapsing experimental autoimmune encephalomyelitis.

*Nicola Woodroffe  
Sheffield Hallam University, Biomedical Research Centre, Sheffield, United Kingdom*

**Symposium S27**

**MULTIPLE ROLES OF GLIAL CELLS IN POSTSTROKE INFLAMMATION**

**Organizers:** Karsten Ruscher (Lund), Jasna Kriz (Quebec)

S27-01

Essential Role of Interleukin-6 for Post-Stroke Angiogenesis

*Karen Gertz  
Charité – Universitätsmedizin Berlin, Berlin, Germany*

S27-02

Galectin-3 as endogenous modulator of injury-induced microglia polarization

*Jasna Kriz  
Laval University, Quebec City, Canada*



S27-03

Impact of microglia and immune cell dynamics on neuronal plasticity and recovery after stroke

*Karsten Ruscher*

*University of Lund, Lund, Sweden*

S27-04

Microglial cells and neurovascular integrity after stroke

*Zena Vexler*

*University California San Francisco, San Francisco, United States*

### **Symposium S28**

#### **THE BRAINS BEST FRIEND: THE PROTECTIVE SIDE OF MICROGLIA ACTION**

**Organizers: Knut Biber (Freiburg)**

S28-01

Neuroprotective function for ramified microglia in hippocampal excitotoxicity

*Knut Biber*

*University Hospital Freiburg, Freiburg, Germany*

S28-02

Neuroprotective microglial cytokines in experimental stroke

*Kate L. Lambertsen*

*University of Southern Denmark, Department of Neurobiology, Odense C, Denmark*

S28-03

Neuroprotective activities of CX3CL1 requires cross talk between microglia and astrocytes

*Cristina Limatola*

*Sapienza University, Rome, Italy*

S28-04

Chi3l3 induces Oligodendrogenesis in a Model of Multiple Sclerosis

*Sarah C. Starossom*

*Charité Berlin, Department of Neuropathology, Berlin, Germany*

*Harvard Medical School, Brigham and Women's Hospital, Department of Neurology, Boston, United States*

### **Symposium 29**

#### **ASTROCYTE CONTROL OF PRE-SYNAPTIC FUNCTION VIA GLIOTRANSMISSION: MECHANISMS AND FUNCTIONAL**

**Organizer: Andrea Volterra (Lausanne)**

S29-01

Neuron-astrocyte communication mediated by endocannabinoid/mGluR signaling at tripartite synapses

*Marta Navarrete*

*Instituto Cajal, CSIC, Madrid, Spain*

S29-02

The control of cortical spike-timing dependent depression by astrocytes

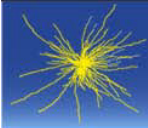
*Thomas Nevian*

*University of Berne, Berne, Switzerland*

S29-03

Astrocytes detect and regulate basal synaptic transmission at single CNS synapses

*Richard Robitaille*



*Université de Montréal, Montreal, Canada*

S29-04

Ca<sup>2+</sup>-dependent gliotransmission controls physiological synaptic function and plasticity at hippocampal synapses via atypical presynaptic NMDAR

*Andrea Volterra*

*University of Lausanne, Lausanne, Switzerland*

**Symposium S30**

**ADVANCES IN NEUROTRANSMITTER SIGNALING IN PERIPHERAL GLIAL CELLS**

**Organizers: Douglas Fields (Bethesda), Valerio Magnaghi (Milan)**

S30-01

How do peripheral glial cells communicate with their environment?

*Menachem Hanani*

*Hadassah Medical Organization, Jerusalem, Israel*

S30-02

Acetylcholine and M2 muscarinic receptor contribute to modulate Schwann cell proliferation and differentiation

*Ada Maria Tata*

*"Sapienza" University of Rome, Rome, Italy*

S30-03

GABAergic modulation in Schwann cells contributes to myelination and nociception

*Valerio Magnaghi*

*University of Milan, Dept. of Pharmacological and Biomolecular Sciences, Milan, Italy*

S30-04

Do axons in peripheral nerves communicate with Schwann cells via glutamate release?

*Maria Kukley*

*University of Tübingen, Centre for Integrative Neuroscience, Tübingen, Germany*

**12:15-13:00**

**Lunch Break**

**13:00-15:00**

**Poster Session II**

**15:00-16:00**

**Plenary Lecture P-07**

**Chair:** Frank Heppner (Berlin, Germany)

**Astrocyte roles in CNS disorders**

*Michael V. Sofroniew*

*University of California, Department of Neurobiology, Los Angeles, CA, United States*

**16:00**

**Departure**