



XI European Meeting  
on Glial Cells in Health and Disease  
**Estrel Hotel Berlin**  
July 3–6, 2013

# Meeting Program

[www.gliameeting.eu](http://www.gliameeting.eu)

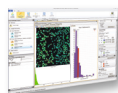
**Thermo**  
SCIENTIFIC

# launch a revolution

Push the limits of cell biology and gain more knowledge about the cell with new tools that can image, analyze and measure cells. Getting the answers to your most important research questions has never been easier. Experience the cell biology revolution today.

with the power of  
**high content**

• [thermoscientific.com/highcontent](http://thermoscientific.com/highcontent)



#### HCS Studio

- Integrated image analysis
- Intuitive workflows
- Data and images linked
- Powerful visualization tools



#### CellInsight NXT HCS Platform

- More cellular knowledge
- Reliable and fast
- Easily integrated with robotics
- Optimized out-of-the-box software



#### ArrayScan XTI HCA Reader

- Assay development through screening
- Modular for diverse assays
- Multiple imaging modes
- More cellular knowledge

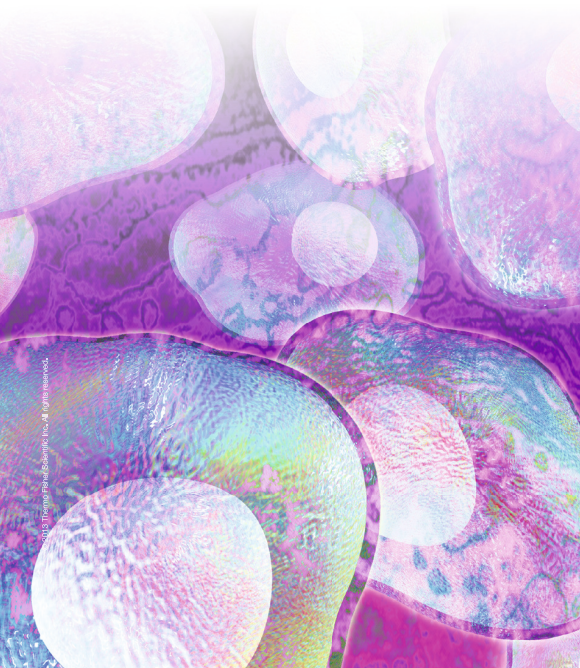
## Meeting Program

**XI European Meeting**

**on Glial Cells in Health and Disease**

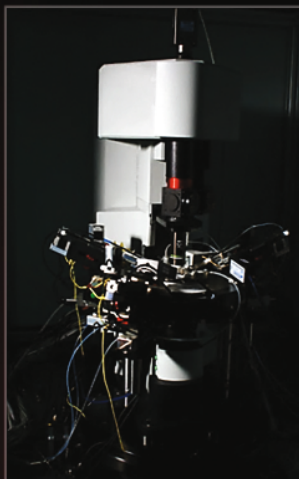
**Estrel Hotel Berlin**

**July 3–6, 2013**



# Femtonics

ADVANCED MICROSCOPY



*Image your imagination  
in 3D*

Visit our booth Nr.1  
and get familiar with our  
Two-Photon Laser Scanning  
Microscopes

Website: [www.femtonics.eu](http://www.femtonics.eu)

E-mail: [info@femtonics.eu](mailto:info@femtonics.eu)

Phone: +36 1 210 3349



## Table of contents

Acknowledgements.....	4
Committees .....	5
Sponsors and exhibitors.....	6
Floor plan.....	8
Surrounding map .....	10
General information.....	12
Schedule .....	16
Tuesday, July 2, 2013 .....	16
Wednesday, July 3, 2013 .....	18
Thursday, July 4, 2013 .....	24
Friday, July 5, 2013 .....	30
Saturday, July 6, 2013 .....	36
Poster sessions.....	40
Map of Berlin subway and commuter railway system.....	120
Notes .....	122
Program at a glance.....	128

# Acknowledgements

The Network Glia e. V. and the organizers of the XI European Meeting on Glial Cells in Health and Disease gratefully acknowledge the collaboration and the financial support of the following partners (in alphabetic order):



Center for Stroke Research Berlin



Deutsche Forschungsgemeinschaft (DFG)



Max Delbrück Center for Molecular Medicine Berlin-Buch



NeuroCure  
Exzellenzcluster



SFB 665: Developmental Disturbances in the Nervous System



SFB TRR 43: The Brain as a Target of Inflammatory Processes



Wiley-Blackwell

# Committees

## PROGRAM COMMITTEE

Sue Barnett, Chair (UK)  
Alfonso Araque (Spain)  
Dwight E. Bergles (USA)  
Robin Franklin (UK)  
Vittorio Gallo (USA)  
Christian Giaume (France)  
Magdalena Götz (Germany)  
Helmut Kettenmann (Germany)  
Frank Kirchhoff (Germany)  
Shinichi Kohsaka (Japan)  
Roberto Melcangi (Italy)  
Maiken Nedergaard (USA)  
Harald Neumann (Germany)  
Trevor Owens (Denmark)  
Eva Sykova (Czech Republic)

## ORGANIZING COMMITTEE

Helmut Kettenmann, Chair (Germany)  
Anne Baron-Van Evercooren (France)  
Hendrikus W. G. M. Boddeke (Netherlands)  
Bernardo Castellano (Spain)  
Christine Dijkstra (Netherlands)  
Kristjan Jessen (UK)  
Rebecca Matsas (Greece)  
Rhona Mirsky (UK)  
Eva Sykova (Czech Republic)  
Dionysia Theodosis (Greece)

## LOCAL ORGANIZING COMMITTEE

Carmen Birchmeier (MDC)  
Ulrich Dirnagl (Charité)  
Matthias Endres (Charité)  
Frank Heppner (Charité)  
Helmut Kettenmann, Chair (MDC)  
Seija Lehnardt (Charité)  
Josef Priller (Charité)  
Michael Synowitz (Charité)

# Sponsors and exhibitors

We would like to thank the following sponsors and exhibitors for their support (alphabetical order, as at June 2013):

## GOLD SPONSOR



## SILVER SPONSORS



## SPONSORS

**3Dtro**

[www.3dtro.com](http://www.3dtro.com)

**Miltenyi Biotec GmbH**

[www.miltenyibiotec.com](http://www.miltenyibiotec.com)

## EXHIBITORS

Booth No.6 **Bitplane AG**

[www.bitplane.com](http://www.bitplane.com)

Booth No.12 **Cenibra GmbH**

[www.cenibra.de](http://www.cenibra.de)

Booth No.1 **Femtonics Ltd.**

[www.femtonics.eu](http://www.femtonics.eu)

Booth No.4 **Jackson ImmunoResearch Europe Ltd.**

[www.jireurope.com](http://www.jireurope.com)

Booth No.9 **LaVision BioTec GmbH**

[www.lavisionbiotec.com](http://www.lavisionbiotec.com)

Booth No.2 **Multi Channel Systems MCS GmbH**

[www.multichannelsystems.com](http://www.multichannelsystems.com)

Booth No.7 **npi electronic GmbH**

[www.npielectronic.com](http://www.npielectronic.com)

Booth No.10 **Oxford University Press**

[www.oup.com](http://www.oup.com)

Booth No.3 **PeproTech GmbH**

[www.peprotech.com](http://www.peprotech.com)

Booth No.5 **Thermo Scientific**

[www.thermofisher.com](http://www.thermofisher.com)

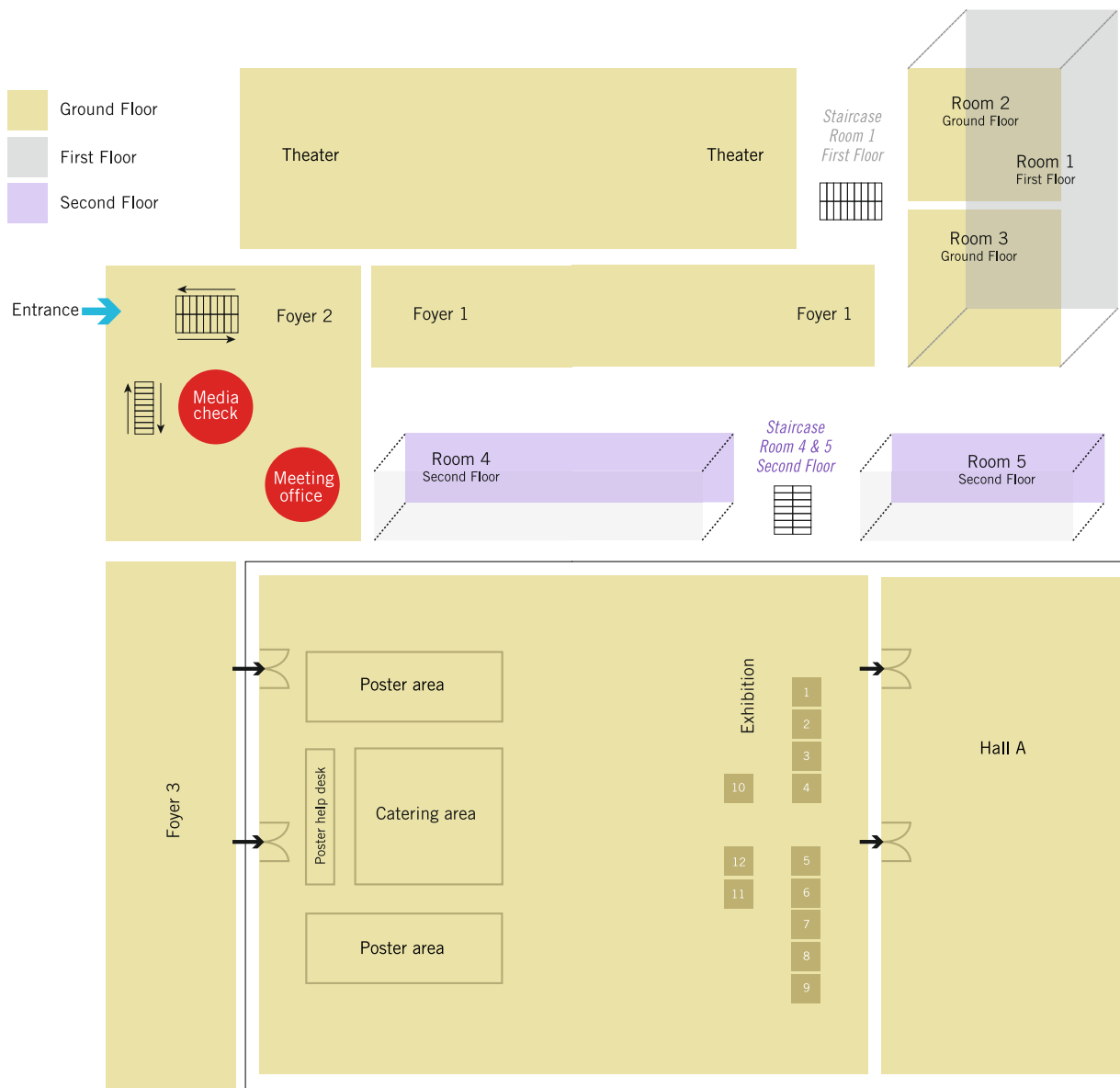
Booth No.8 **Tocris Bioscience**

[www.tocris.com](http://www.tocris.com)

Booth No.11 **Wiley-Blackwell**

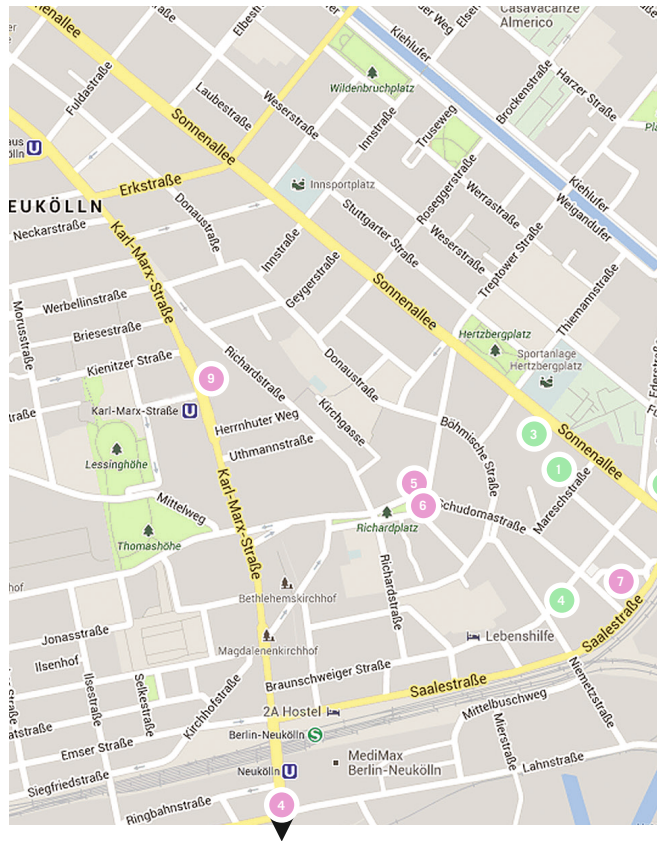
[www.wiley.com](http://www.wiley.com)

# Floor plan



# Floor plan

# Surrounding map



**1** Melina's Coffee Bar  
Sonnenallee 293,  
12057 Berlin

**2** Bakery & Confectionary Thürmann  
Grenzallee 4-6, 12057 Berlin

**3** McDonald's Restaurant Berlin  
Sonnenallee 254, 12057 Berlin

**4** Restaurant Kathy's  
Karl-Marx-Str. 266,  
12057 Berlin

**5** Coffee Bar & Restaurant Louis  
Richardplatz 5, 12055 Berlin

**6** Restaurant Shaan  
Richardplatz 20,  
12055 Berlin

**7** Coffee Bar Geschwister Nothhaft  
Schwarzastraße 9, 12055 Berlin

**8** Marin – Fish + Meat Turkish Restaurant  
Ziegrastraße 1, 12057 Berlin

**9** Coffee Bar Rix  
im Saalbau Neukölln  
Karl-Marx-Str. 141, 12043 Berlin

**10** Trattoria La Terrazza  
Steinbockstr. 20  
12057 Berlin

**1** Der kleine Buddha (Organic grocery store)  
Mareschstraße 14,  
12055 Berlin

**2** Supermarket  
Sonnenallee 215,  
12057 Berlin

**3** Supermarket  
Sonnenallee 192,  
12059 Berlin

**4** Supermarket  
Braunschweiger Straße  
21, 12057 Berlin

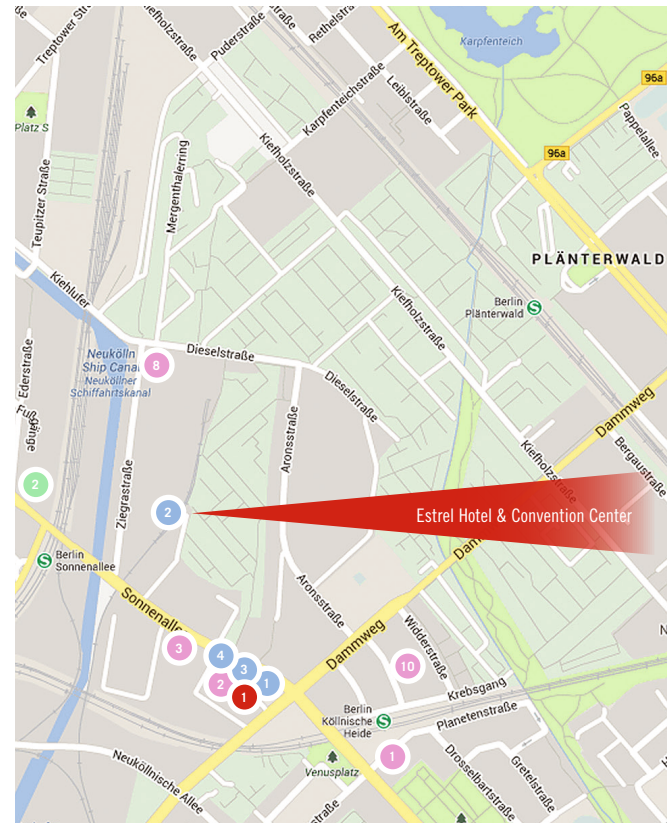
**1** Post office  
Neukölln Carree  
Grenzallee 4-6, Ecke  
Sonnenallee, 12057 Berlin

**2** ATM  
Berliner Volksbank  
Sonnenallee 225, 12057 Berlin (inside the Estrel Hotel)

**3** ATM  
ING-DiBa  
Grenzallee 4-6, 12057 Berlin

**4** ATM  
Berliner Sparkasse  
Grenzallee 4-6, 12057 Berlin

**1** Pharmacy  
Neukölln Carree  
Grenzallee 4-6, Ecke  
Sonnenallee, 12057 Berlin



# General information

## IN ALPHABETIC ORDER

### CREDIT POINTS FOR MEDICAL DOCTORS PRACTICING IN GERMANY

Tuesday, July 2, 2013: Introductory Course 8 points (Category A)

Wednesday, July 3, 2013: Glia Meeting 6 points (Category B)

Thursday, July 4, 2013: Glia Meeting 6 points (Category B)

Friday, July 5, 2013: Glia Meeting 6 points (Category B)

Saturday, July 6, 2013: Glia Meeting 6 points (Category B)

### ELECTRICITY SUPPLY

220 V – 50 Hz AC

### EXHIBITION

Exhibition opening times:

Wednesday, July 3, 2013 14:00 – 20:00

Thursday, July 4, 2013 10:00 – 18:30

Friday, July 5, 2013 10:00 – 18:30

Saturday, July 6, 2013 10:00 – 15:00

### INSURANCE

The organizers do not take responsibility for individual medical, travel or personal insurance. Participants are advised to carry out their own insurance policies.

### INTERNET ACCESS

Wireless internet access is available free of charge. Kindly note: As extensive use of wireless usually slows down the internet connection drastically a good quality connection cannot be guaranteed.

**Login:** glia2013

**Password:** glia2013

### MEDIA CHECK/ SPEAKERS' SERVICE

The media check for oral presentations is located near to the meeting office (see floor plan on page 8+9). We kindly ask you to hand in your presentation on a memory stick/CD ROM about 2 hours in advance of your talk, at the latest, or the day before.

### MEETING OFFICE

**Opening times:**

Wednesday, July 3, 2013 07:30 to 21:00

Thursday, July 4, 2013 08:00 to 19:00

Friday, July 5, 2013 08:00 to 19:00

Saturday, July 6, 2013 08:00 to 15:00

Phone: +49 (0)176 70921007

E-Mail: glia2013@kit-group.org

### ORGANIZATION

Network Glia e. V.

Max Delbrueck Center for Molecular Medicine (MDC) Berlin-Buch

Robert-Rössle-Straße 10, 13125 Berlin, Germany

E-mail: gibson@mdc-berlin.de

www.networkglia.eu

Network Glia



K.I.T. Group GmbH

Münzgasse 2, 01067 Dresden, Germany

E-mail: info@kitdresden.de

www.kit-group.org

### POSTER SESSIONS

Each poster will hang for two days: Posters with poster number ending with an A will hang on Wednesday and Thursday, posters with poster numbers ending with a B will hang on Friday and Saturday.

The presenting author of each poster is requested to be present at her/his poster during the poster session. The poster sessions are divided into even and uneven serial numbers. Each poster is presented in two sessions of 60 min.

#### Posters with numbers ending of an A:

(Hanging of posters: Wednesday, July 3, before 17:00)

Wednesday, July 3, 2013 17:15 – 18:15 and

Thursday, July 4, 13:15 – 14:15

Uneven serial numbers (e.g. T03-03A)

Wednesday, July 3, 2013, 18:15 – 19:15 and

Thursday, July 4, 14:15 – 15:15

Even serial numbers (e.g. T03-04A)

*All posters must be removed on Thursday, directly after the poster session.*

#### Posters with numbers ending of a B:

(Hanging of posters: Friday, July 5, before 13:00)

Friday, July 5, 2013, 13:15 – 14:15 and

Saturday, July 6, 13:00 – 14:00

Uneven serial numbers (e.g. T03-03B)

Friday, July 5, 2013, 14:15 – 15:15 and

Saturday, July 6, 14:00 – 15:00

Even serial numbers (e.g. T03-04B)

The size of a poster is DIN A0 landscape format (85 cm height, 119 cm width).

Power strips to hang your poster are available at the poster help desk.



## PUBLIC TRANSPORTATION AND TRAVEL

### From Berlin Tegel Airport TXL:

Take the X9 bus line from the airport to the “Jungfernheide” bus stop. Transfer then to the S42 S-Bahn commuter train line (Ringbahn) until you reach the “Sonnenallee” stop.

Public transport journey duration: roughly 40 minutes

Taxi journey duration: roughly 30 minutes

Taxi price: roughly € 35

### From Berlin Schönefeld Airport SXF:

Take the 171 bus line until you reach the “Sonnenallee” stop.

Public transport journey duration: roughly 40 minutes

Taxi journey duration: roughly 15 minutes

Taxi price: roughly € 25

### From Berlin Central Train Station (Hauptbahnhof):

Take the M41 bus line until you reach the “Ziegrastraße” stop.

Public transport journey duration: roughly 40 minutes

Taxi journey duration: roughly 18 minutes

Taxi price: roughly € 20

### From Südkreuz Station:

Take the S42 S-Bahn commuter train line (Ringbahn) until you reach the “Sonnenallee” stop.

Public transport journey duration: roughly 10 minutes

Taxi journey duration: roughly 10 minutes

Taxi price: roughly € 18

### From Ostbahnhof Station:

Take either one of the S5, S75 or S9 S-Bahn commuter train lines until you reach the “Ostkreuz” station. Then transfer to the S41 S-Bahn line (Ringbahn) and continue until you reach the “Sonnenallee” stop.

Public transport journey duration: roughly 15 minutes

Taxi journey duration: roughly 12 minutes

Taxi price: roughly € 16

### From the Park Hotel Blub:

Take the bus 171 at bus stop “Franz-Körner-Straße”, direction “U Hermannsplatz” (bus stop is about 150 m from the Park Hotel Blub). Go out at the “Sonnenallee” stop. Then you have to walk about 250 m to the Estrel Hotel.

### Public transport tickets:

To reach the Estrel using Berlin's public transport facilities, you will require a single journey ticket for the AB zone costing € 2.40 (Exception: Please note that when travelling from the Berlin-Schönefeld Airport SXF, you will require an ABC zone ticket costing € 3.10). You can purchase tickets at the BVG service counters, the BVG ticket vending machines located in the S-Bahn and U-Bahn stations or on busses directly from the driver (please have change ready for bus drivers).

## REGISTRATION

On-site registration will be available on all conference days, registration fees can be paid in cash or by VISA, Mastercard or American Express.

### Full registration (all days):

Scientists:	€ 550
Students:	€ 350
Commercials:	€ 595
Introductory Course on Glial Biology:	€ 30.00 / € 65.00*

\* On-site payment for the Introductory Course is only accepted in cash.

### Registration per day:

Scientists:	€ 170
Students:	€ 120
Commercials:	€ 230

Students must show their valid student identity card!

### Registration fee includes

Admission to all sessions, poster area and exhibition

Lunch on July 4 to 6

Admission to the welcome reception

Conference bag including abstract book, final program, city map

## TAXI

There are several Taxi cooperations in Berlin. One of the biggest is Taxi Funk Berlin, Tel. +49 30 44 33 22.

## VENUE

Estrel Hotel & Convention Center

Sonnenallee 225, 12057 Berlin

[www.estrel.com](http://www.estrel.com)

## VENUE INTRODUCTORY COURSE

Max Delbrück Center for Molecular Medicine (MDC)

Robert-Rössle-Str. 10, 13125 Berlin-Buch

Max-Delbrück Communications Center, Hall Axon (2. Floor)

# Scientific program

TUESDAY, JULY 2, 2013

**9:30–17:45** **Introductory Course** (taking place in the Max Delbrück Communications Center (MDC.C), Hall Axon)

**9:30 – 10:00** **Helmut Kettenmann** Berlin, Germany  
Introduction and history of glial research

**10:00 – 10:45** **Susan C. Barnett** Glasgow, UK  
Development of glial cells

**10:45 – 11:15** **Frank Kirchhoff** Homburg, Germany  
Astrocytes

**11:15 – 11:45** **Coffee Break**

**11:45 – 12:30** **Vittorio Gallo** Washington, USA  
Oligodendrocytes

**12:30 – 13:15** **Harald Neumann** Bonn, Germany  
Microglia

**13:15 - 14:15** **Lunch Break**

**14:15 – 15:00** **Kristjan R. Jessen** London, UK  
Schwann cells

**15:00 – 15:45** **Frank Heppner** Berlin, Germany  
Microglia actions in neurodegeneration

**15:45 - 16:15** **Coffee Break**

**16:15 – 17:00** **Trevor Owens** Odense, Denmark  
Glial cells in inflammatory disorders

**17:00 – 17:45** **Michael Synowitz** Berlin, Germany  
Glioma

**09:00-18:00** **Therapeutic strategies for leuko-dystrophies: outcomes & perspectives**  
**Room 4**  
(taking place at the Estrel Hotel & Convention Center Berlin)

**9:00 – 9:30** **Odile Boespflug-Tanguy** Paris, France  
Welcoming of the participants

**9:30 – 11:00** **Patrick Aubourg** Paris, France  
Gene and cell therapies: why, how and when?

**11:00 – 11:30** **Coffee Break**

**11:30 – 13:00** **Anne Baron-Van Evercooren** Paris, France  
Gene and cell therapies: why, how and when?

**13:00 – 14:00** **Lunch Break**

**14:00 – 16:00** **Aurora Pujol** Barcelona, Spain,  
**Hauke Werner** Göttingen, Germany  
Oxydative stress: a common mechanism for therapeutic target

**16:00 – 16:30** **Coffee Break**

**16:30 – 18:00** **European database for therapeutic issues: needs and pitfalls**  
**Odile Boespflug-Tanguy** Paris, France  
Creation, management and sustainability of a European database  
**Grégoire Moutel** and **Nathalie Duchange** Paris, France  
Ethical issues and patients' needs

## WEDNESDAY, JULY 3, 2013

### 09:00-13:00 Workshops

#### 09:00-13:00 Workshop I

Hall A

#### IMAGING OF GLIAL CELL ACTIVITY

Organizers: Hajime Hirase Wako, Japan  
Frank Kirchhoff Homburg, Germany

9:00 – 9:10 Frank Kirchhoff Homburg, Germany  
Introduction

9:10 – 9:45 Yuji Ikegaya Tokyo, Japan  
Functional imaging of neuro-glio-vascular network activity

9:45 – 10:20 Hajime Hirase Wako, Japan  
Astrocytic Ca<sup>2+</sup> surges, gamma oscillations, and synaptic plasticity

10:20 – 10:55 Amit Agarwal Baltimore, USA  
Imaging Ca<sup>2+</sup> transients in astrocyte microdomains using the genetically encoded indicator GCaMP3

### 10:55 – 11:10 Coffee Break

11:10 – 11:45 Ko Matsui Okazaki, Japan  
Optogenetic control of glial cell activity

11:45 – 12:20 Franck Debarbieux Marseille, France  
Influence of blood supply on glioblastoma progression: a two photon imaging study

12:20 – 12:55 Valentin Nägerl Bordeaux, France  
Dual-color superresolution imaging of synapses and glia cells in living brain slices using STED microscopy

#### 09:00-13:00 Workshop II

Room 1

#### IN VIVO ANALYSIS OF GLIAL CELLS: PROMISES AND PITFALLS OF GENETIC MANIPULATION

Organizer: Dwight E. Bergles Baltimore, USA

9:00 – 9:10 Dwight E. Bergles Baltimore, USA  
Introduction

9:10 – 9:45 Leda Dimou Munich, Germany  
Mouse models to study adult oligodendrocyte progenitor cells: their limitations and benefits

9:45 – 10:20 Sandra Goebbels Göttingen, Germany  
Of mice and man: Prospects and limitations of glial disease models

10:20 – 10:55 Brian Popko Chicago, USA  
Inducible Cre mice for manipulating oligodendrocytes: promises and problems

### 10:55 – 11:10 Coffee Break

11:10 – 11:45 Frank W. Pfrieger Strasbourg, France  
Neuron-glia interactions: models matter

11:45 – 12:20 Hui Zong Charlottesville, USA  
In vivo analysis of genetic contribution to glial development and functions at cellular resolution using MADM mouse model

12:20 – 12:55 Dwight E. Bergles Baltimore, USA  
Challenges of manipulating gene expression in dynamic glial cells

#### 09:00-13:00 Workshop III

Room 2

#### ASTROCYTE HETEROGENEITY AND TRANSCRIPTOME ANALYSIS

Organizers: Maiken Nedergard Rochester, USA  
Alexei Verkhratsky Manchester, UK

9:00 – 9:05 Alexei Verkhratsky Manchester, UK  
Introduction

9:05 – 9:40 Alexei Verkhratsky Manchester, UK  
Evolution, physiology and pathophysiology of neuroglia

9:40 – 10:15 Andreas Reichenbach Leipzig, Germany  
Structural heterogeneity of astrocytic cells in vertebrate CNS

10:15 – 10:50 Magdalena Götz Munich, Germany  
How glial are neural stem cells – insights from genome-wide analysis

### 10:50 – 11:10 Coffee Break

11:10 – 11:45 Vittorio Gallo Washington, USA  
Endothelin-1: An astrocyte-derived signal that regulates oligodendrocyte development and regeneration

11:45 – 12:20 **Fraser Sim** Buffalo, USA  
**Identification and genomic analysis of human neural and oligodendrocyte progenitor cells**

12:20 – 12:55 **Sergey Kasparov** Bristol, UK  
**Fluorescent labelling of astroglial vesicular compartments in cultures and *in situ***

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

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

Hall A

14:15-15:15 **Plenary Lecture P-01**  
**Chair: Frank Kirchhoff** Homburg, Germany

**Philip G. Haydon** Boston, USA  
**The tripartite synapse and sleep/wake cycles**

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

**Room 2** **Symposium S01**  
**GLIAL CELLS IN EPILEPSY: NOVEL ASPECTS ON PATHOGENESIS AND TREATMENT**  
**Organizers: Asla Pitkänen** Kuopio, Finland  
**Rebecca Matsas** Athens, Greece

**S01-01** **Kjell Heuser** Oslo, Norway  
**Bridging the gap between glial dysfunction and the seizing patient – a translational approach**

**S01-02** **Rebecca Matsas** Athens, Greece  
**Neural stem cell transplantation in experimental temporal lobe epilepsy**

**S01-03** **Asla Pitkänen** Kuopio, Finland  
**Novel treatment targets to combat epilepsy**

**S01-04** **Christian Steinhäuser** Bonn, Germany  
**Astrocyte dysfunction in temporal lobe epilepsy**

**Room 1** **Symposium S02**  
**AXOGLIAL INTERACTIONS IN THE ASSEMBLY AND STABILITY OF AXONAL DOMAINS ESSENTIAL FOR RAPID NERVE IMPULSE CONDUCTION**  
**Organizer: Peter Brophy** Edinburgh, UK

**S02-01** **Peter Brophy** Edinburgh, UK  
**Axonal domains in myelinated nerves: assembly and function**

**S02-02** **Bénédicte Dargent** Marseille, France  
**Functional organization of the axon initial segment**

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

**S02-04** **Matthew N. Rasband** Houston, USA  
**'Ankyrin' the paranode**

**Room 3** **Symposium S03**  
**GLIAL CELLS AND CHRONIC PAIN**  
**Organizer: Marzia Malcangio** London, UK

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

**S03-02** **Marzia Malcangio** London, UK  
**Mechanisms for neuron-microglia communication after peripheral insult**

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

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

- 
- Hall A**      **Symposium S04**  
**MICROGLIAL PHAGOCYTOSIS AND ROS IN DEVELOPMENT AND NEURODEGENERATION**  
**Organizers: Guy Brown** Cambridge, UK  
**Jau-Shyong Hong** Research Triangle Park, USA
- S04-01**      **Guy Brown** Cambridge, UK  
**Inflamed microglia kill neurons by phagocytosing them**
- S04-02**      **Huiming Gao** Nanjing, China  
**Pattern recognition-related inflammatory oxidative insult from microglia mediates chronic neurodegeneration**
- S04-03**      **Jonas Neher** Tübingen, Germany  
**Phagocytosis executes delayed neuronal death after focal brain ischemia**
- S04-04**      **Rosa C. Paolicelli** Zurich, Switzerland  
**Microglia in the developing brain: pruning synapses and sculpting neural circuits**
- 

- Room 5**      **Symposium S05**  
**GENETIC DISSECTION OF GLIAL CELL DEVELOPMENT AND FUNCTION IN DROSOPHILA**  
**Organizer: Christian Klämbt** Münster, Germany
- S05-01**      **Marc R. Freeman** Worcester, USA  
**Neuron-glia interactions through the Heartless FGF receptor signaling pathway mediate morphogenesis of *Drosophila* astrocyte-like glia**
- S05-02**      **Alicia Hidalgo** Birmingham, UK  
**A gene network underlying the glial regenerative response to central nervous system injury in fruit-flies and mammals**
- S05-03**      **F. Rob Jackson** Boston, USA  
**Vesicle release mechanisms and glia-to-neuron signaling are critical in *Drosophila* for astrocyte regulation of circadian behavior**
- S05-04**      **Christian Klämbt** Münster, Germany  
**Development and function of *Drosophila* wrapping glia**
- 

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

---

**19:15**      **Opening Reception**

# CNS is our Sandbox



As a global pharmaceutical company with a mission to improve the quality of life for people diagnosed with psychiatric and neurological disorders, Lundbeck is committed to accelerating our work in central nervous system (CNS) disorders – propelled by decades of cutting-edge innovation. Lundbeck has a deep heritage of discovery and development in psychiatry dating back to the 1950s. We continue to pursue new discoveries with a robust pipeline of psychiatric and neurologic compounds.

Working toward addressing unmet medical needs fuels our passion and drives us forward to make a difference... one patient at a time.

To learn more about Lundbeck, go to [www.lundbeckus.com](http://www.lundbeckus.com)

*Welcome to our sandbox. It's expanding all the time.*



## THURSDAY, JULY 4, 2013

09:00-10:00 Plenary Lecture P-02

Hall A Chair: Robin Franklin Cambridge, UK

Anne Baron-Van Evercooren Paris, France  
 Contribution of endogenous and exogenous stem cells to  
 remyelination of the central nervous system

10:00-10:15 Coffee Break

10:15-12:15 Symposia II

Room 1 Symposium S06  
**IDENTITY AND PLASTICITY OF ASTROGLIAL STEM CELLS IN  
 ADULT NEUROGENIC NICHES**  
 Organizers: Masato Nakafuku Cincinnati, USA  
 Verdon Taylor Basel, Switzerland

S06-01 François Guillemot London, UK  
 Regulation of stem cell divisions in the adult brain

S06-02 Sebastian Jessberger Zurich, Switzerland  
 Molecular control of stem cell activity in the adult brain

S06-03 Masato Nakafuku Cincinnati, USA  
 Identity and plasticity of astroglial stem cells in adult  
 neurogenic niche

S06-04 Verdon Taylor Basel, Switzerland  
 Molecular and functional diversity in the adult forebrain  
 neural stem cell population

Room 2 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 R. Rose Düsseldorf, Germany  
 L. Felipe Barros Valdivia, Chile

S07-01 L. Felipe Barros Valdivia, Chile  
 New tricks for an old cation: fast modulation of astrocytic  
 glucose and lactate metabolism by extracellular K<sup>+</sup>

S07-02 Jean-Yves Chatton Lausanne, Switzerland  
 Methodological and functional aspects of cytosolic and  
 mitochondrial ion signaling

S07-03 Christine R. Rose Düsseldorf, Germany  
 Local and global sodium signalling in astrocytes and  
 astrocyte networks

S07-04 Bruno Weber Zurich, Switzerland  
 In vivo two-photon imaging of energy substrate levels in  
 neurons and astrocytes

Hall A Symposium S08  
**MICROGLIAL PRIMING: HOW THE MICROGLIAL POPULATION  
 BECOMES A CNS AMPLIFIER OF SYSTEMIC INFLAMMATION  
 AND WHY IT MATTERS?**  
 Organizers: Sophie Layé Bordeaux, France  
 Colm Cunningham Dublin, Ireland

S08-01 Colm Cunningham Dublin, Ireland  
 Systemic inflammation exacerbates cognitive dysfunction  
 in neurodegenerative disease: influence of acetylcholine  
 and type I interferons in microglial priming and IL-1 $\beta$   
 expression

S08-02 Pierre Gressens Paris, France  
 Microglial priming – affecting and perpetuating damage in  
 the perinatal brain?

S08-03 Sophie Layé Bordeaux, France  
 Dietary lipids and microglia priming

S08-04 Paul Morgan Cardiff, UK  
 Complement activation as a trigger for microglial priming  
 in models and man

Room 3 Symposium S09  
**BIOMARKERS OF GLIAL INJURY IN CSF AND BLOOD**  
 Organizer: Albee Messing Madison, USA

S09-01 Christian Foerch Frankfurt, Germany  
 Astroglial proteins as biomarkers in stroke

S09-02 Damir Janigro Cleveland and Rochester, USA  
 Serum S100B: A reporter of BBB function and mediator of  
 long-term neuroimmune signaling

S09-03 Albee Messing Madison, USA  
 Biomarkers for Alexander disease, a primary disorder of  
 astrocytes

- S09-04** **Axel Petzold** Amsterdam, Netherlands  
**Glial fibrillary acidic protein: a biomarker for glial pathology in human disease**
- 
- Room 5** **Symposium S10**  
**ENDOPLASMIC RETICULUM STRESS AND NEUROLOGICAL DISORDERS**  
**Organizer: Una FitzGerald** Galway, Ireland
- S10-01** **Una FitzGerald** Galway, Ireland  
**Calreticulin: a new twist in the endoplasmic reticulum and multiple sclerosis tale**
- S10-02** **Brian Popko** Chicago, USA  
**The integrated stress response protects oligodendrocytes from inflammatory demyelination**
- S10-03** **Christopher Power** Edmonton, Canada  
**Induction of endoplasmic reticulum (ER) stress in glia by the human endogenous retrovirus-W glycoprotein, Syncytin-1: implications for neuroinflammation**
- S10-04** **David Ron** Cambridge, UK  
**Protein folding homeostasis in the endoplasmic reticulum and myelin physiology**
- 
- 12:15-13:15** **Lunch Break**
- 
- 13:15-15:15** **Poster Session I**  
**Poster hall**
- 
- 15:15-17:15** **Symposia III**
- 
- Hall A** **Symposium S11**  
**THE NEURO-GLIA INTERACTIONS THAT CONTROL REPAIR IN THE NERVOUS SYSTEM**  
**Organizer: Kristjan Jessen** London, UK
- S11-01** **Frank Bradke** Bonn, Germany  
**Moderate microtubule stabilization reduces scarring and causes axonal regeneration after spinal cord injury**
- S11-02** **Tessa Gordon** Toronto, Canada  
**Peripheral nerve injury and repair in animals and humans: problems and solutions**

- S11-03** **Kristjan Jessen** London, UK  
**Nerve repair depends on c-Jun driven Schwann cell transdifferentiation to generate a specialized repair cell in injured nerves**
- S11-04** **Martin Schwab** Zurich, Switzerland  
**Myelin-derived Nogo-A inhibits regeneration and plastic fiber growth after spinal cord or brain injury**
- 
- Room 5** **Symposium S12**  
**ROLE OF GLIAL GABA TRANSPORTERS IN CONTROLLING NEUROTRANSMISSION**  
**Organizer: László Héja** Budapest, Hungary
- S12-01** **László Héja** Budapest, Hungary  
**Astrocytes convert network excitation to tonic inhibition of neurons**
- S12-02** **Sergei Kirischuk** Mainz, Germany  
**Local crosstalk between glutamate and GABA transporters modulate neuronal activity in the neonatal neocortex**
- S12-03** **Istvan Mody** Los Angeles, USA  
**Reduced glial GABA uptake retards functional recovery after stroke**
- S12-04** **H. Steve White** Salt Lake City, USA  
**Functional role for glial and extrasynaptic GABA transporters in the control of seizure activity**
- 
- Room 2** **Symposium S13**  
**GLIAL CELLS IN MEMORY, NEURAL PLASTICITY AND NEUROGENESIS: FOCUS ON INTERLEUKIN 1**  
**Organizers: Luisa Minghetti** Rome, Italy  
**Staci Bilbo** Durham, USA
- S13-01** **Staci Bilbo** Durham, USA  
**Early life infection, microglia, and cognition throughout the lifespan**
- S13-02** **Luisa Minghetti** Rome, Italy  
**Functional polarisation of microglial cells and neurogenesis: evidence from in vitro models**
- S13-03** **Barbara Viviani** Milan, Italy  
**How neurons adapt to sense glial response: the role of Interleukin-1 receptor type I**

**S13-04** **Raz Yirmiya** Jerusalem, Israel  
**Modulation of behavioral and neural plasticity by glia and IL-1 signaling**

**Room 1** **Symposium S14**  
**ROLE OF MICROGLIA DURING THEIR INVASION OF THE DEVELOPING CENTRAL NERVOUS SYSTEM**  
**Organizers:** **Pascal Legendre** Paris, France  
**Michel Rigo** Diepenbeek, Belgium

**S14-01** **José Luis Marín-Teva** Granada, Spain  
**Microglial functions in the developing retina**

**S14-02** **Etienne Audinat** Paris, France  
**Microglial cells influence the functional maturation of thalamo-cortical synapses in the developing somatosensory “barrel” cortex**

**S14-03** **Pascal Legendre** Paris, France  
**Microglia-cells interactions during the invasion of the mouse embryonic spinal cord by microglia**

**S14-04** **Jean-Michel Rigo** Diepenbeek, Belgium  
**Complex behaviour of microglia during the embryonic development of the cerebral cortex**

**Room 3** **Symposium S15**  
**ASTROCYTE NETWORK CONTRIBUTION IN NEUROIMAGING SIGNALS**  
**Organizers:** **Jérôme Badaut** Loma Linda, USA  
**Anne-Karine Bouzier-Sore** Bordeaux, France

**S15-01** **Jérôme Badaut** Loma Linda, USA  
**Contribution of the astrocyte network in brain water diffusion: influence in DWI and DTI signals**

**S15-02** **Anne-Karine Bouzier-Sore** Bordeaux, France  
**Functional neuro-energetic and brain imaging: how do astrocytes contribute to the signal?**

**S15-03** **Julien Chuquet** Mont-Saint-Aignan, France  
**Compartmentalization of glucose uptake between astrocytes and neurons in vivo**

**S15-04** **Olaf Jöhren** Lübeck, Germany  
**Role of the transcription factor HIF-1alpha for the metabolic profile of astrocytes**

**17:15-17:30** **Coffee Break**

**17:30-18:30** **Plenary Lecture P-03**  
**Hall A** **Chair: Magdalena Götz** Munich, Germany

**Stefano Pluchino** Cambridge, UK  
**How stem cells speak with immune cells**



## FRIDAY, JULY 5, 2013

## 09:00-10:00 Plenary Lecture P-04

Hall A Chair: Vittorio Gallo Washington, USA

Jacqueline Trotter Mainz, Germany

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

## 10:00-10:15 Coffee Break

## 10:15-12:15 Symposia IV

## Hall A Symposium S16

## SIGNALING PATHWAYS IN MYELINATION

Organizers: Kelly Monk Saint Louis, USA

Rashmi Bansal Farmington, USA

## S16-01 Rashmi Bansal Farmington, USA

Role of Erk-MAP-kinase signaling in myelinating glial cells

## S16-02 Wendy Macklin Aurora, USA

Role of mTOR complex signaling in oligodendrocyte development

## S16-03 Kelly Monk Saint Louis, USA

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

## S16-04 Carla Taveggia Milan, Italy

Neuregulin-1 type III intracellular domain signaling in PNS myelination

## Room 3 Symposium S17

## GLIA IN THE PATHOGENESIS OF POLYGLUTAMINE NEURODEGENERATION

Organizers: Thomas Moeller Paramus, USA

Gwenn Garden Seattle, USA

## S17-01 Gwenn Garden Seattle, USA

Two mouse models of polyglutamine neurodegeneration demonstrate early myelin pathology: cause, effect or catalyst for disease progression?

## S17-02 Flaviano Giorgini Leicester, UK

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

## S17-03 Thomas Moeller Paramus, USA

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

## S17-04 Paola Piccini London, UK

Imaging of activated microglia in Huntington's disease

## Room 5

Symposium S18  
THE MÜLLER CELL – THE GLIAL  
ALL-ROUNDER OF THE RETINA

Organizer: Antje Grosche Leipzig, Germany



## S18-01 Eric Newman Minneapolis, USA

Müller cell regulation of blood flow in the normal and diabetic retina

## S18-02 Antje Grosche Leipzig, Germany

Gliotransmitter release from retinal (Müller) glia cells

## S18-03 Dan Goldman Ann Arbor, USA

Reprogramming zebrafish Müller glia for retinal repair

## S18-04 Thomas Reh Seattle, USA

Reprogramming mouse Muller glia to retinal progenitors

## Room 1

Symposium S19  
MICROGLIAL ATP SIGNALING: A KEY REGULATOR OF  
SYNAPTIC TRANSMISSION AND NEURONAL DISEASES  
Organizer: Schuichi Koizumi Yamanashi, Japan

## S19-01 Schuichi Koizumi Yamanashi, Japan

Microglial ATP exocytosis and its pathophysiological consequences

## S19-02 Olivier Pascual Paris, France

Modulation of astrocytic gliotransmission by microglia

## S19-03 Michael W. Salter Toronto, Canada

Role of microglia in opioid-induced hyperalgesia

## S19-04 Peter Illes Leipzig, Germany

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

<b>Room 2</b>	<p><b>Symposium S20</b>  <b>NG2 CELLS IN THE INTACT AND INJURED BRAIN: A HETEROGENEOUS POPULATION?</b>  <b>Organizers:</b> Leda Dimou Munich, Germany  Akiko Nishiyama Connecticut, USA</p>
<b>S20-01</b>	<p><b>David Attwell</b> London, UK  <b>Diversity of NG2 cell number and properties</b></p>
<b>S20-02</b>	<p><b>Leda Dimou</b> Munich, Germany  <b>Diversity of adult NG2<sup>+</sup>-cells: differentiation properties and reaction to injury</b></p>
<b>S20-03</b>	<p><b>Akiko Nishiyama</b> Storrs, USA  <b>Regional heterogeneity of NG2 cells (polydendrocytes)</b></p>
<b>S20-04</b>	<p><b>Brahim Nait Oumesmar</b> Paris, France  <b>A role for Sox17 in oligodendrocyte development and regeneration</b></p>
<b>12:15-13:15</b>	<b>Lunch Break</b>
<b>13:15-15:15</b>	<b>Poster Session II</b>
	<b>Poster hall</b>
<b>15:15-17:15</b>	<b>Symposia V</b>
<b>Room 2</b>	<p><b>Symposium S21</b>  <b>(DYS-) REGULATION OF MYELIN MEMBRANE SYNTHESIS</b>  <b>Organizers:</b> Ueli Suter Zürich, Switzerland  Mark Verheijen Amsterdam, Netherlands</p>
<b>S21-01</b>	<p><b>Roman Chrast</b> Lausanne, Switzerland  <b>Lipid metabolism in aging and disease-affected myelinating glial cells</b></p>
<b>S21-02</b>	<p><b>Markus Schwab</b> Göttingen, Germany  <b>Lipid synthesis and the regulation of myelin membrane growth</b></p>
<b>S21-03</b>	<p><b>Ueli Suter</b> Zurich, Switzerland  <b>Lipid biosynthesis, mTOR signaling and myelination</b></p>
<b>S21-04</b>	<p><b>Mark H. G. Verheijen</b> Amsterdam, Netherlands  <b>Involvement of astrocyte SREBP in CNS myelin membrane synthesis</b></p>

**Network Glia e.V. was founded in 2011 with the goal of enhancing public awareness and scientific exchange on glial cells.**

NetwOrk Glia

**The association has two major activities:**

**The WEBSITE offers material both for the general public such as**

- an introduction to glial cells
- a list of animal models for glia research
- an online library with classic glia papers
- a list of scientific networks in glial research

**Supporting the EUROPEAN MEETINGS ON GLIAL CELL FUNCTION IN HEALTH AND DISEASE.**

Network Glia e.V.  
Max Delbrück Centrum für Molekulare Medizin (MDC) Berlin-Buch  
Robert-Rössle-Str. 10, 13125 Berlin, Germany  
Tel.: +49 30 9406 3336, Email: gibson@mdc-berlin.de

[www.networkglia.eu](http://www.networkglia.eu)

Picture: Joostan Meier, MDC, Berlin

Sponsored by

**GLIA**



- 
- Room 5**      **Symposium S22**  
**FAMILY OF GP130 CYTOKINES AS PROTECTIVE MEDIATORS OF NEUROLOGICAL DISEASE**  
**Organizers:** Niels Hellings Diepenbeek, Belgium  
Trevor Kilpatrick Melbourne, Australia
- S22-01**      **Niels Hellings** Diepenbeek, Belgium  
**Family of GP130 cytokines control auto-immune CNS lesions**
- S22-02**      **Trevor J. Kilpatrick** Melbourne, Australia  
**Investigating the influence of LIF-receptor signaling upon neural precursors and oligodendroglia as a modulator of demyelinating disease**
- S22-03**      **Su Metcalfe** Cambridge, UK  
**NANOMEDICINE: development of LIF-nano for treatment of multiple sclerosis**
- S22-04**      **Dirk Schlüter** Magdeburg, Germany  
**Gp130-dependent activation of astrocytes and neurons is critical to control CNS infections and autoimmune diseases**
- 

- Room 3**      **Symposium S23**  
**MITOCHONDRIAL CA<sup>2+</sup> SIGNALING IN LIFE AND DEATH OF GLIAL CELLS.**  
**Organizer:** Israel Sekler Beer Sheva, Israel
- S23-01**      **Andrey Y. Abramov** London, UK  
**Role of astrocyte signalling in the neurotoxicity of  $\beta$ -amyloid: roles of astrocytes in neuronal death in Alzheimer's disease**
- S23-02**      **James Lechleiter** San Antonio, USA  
**Targeting astrocyte mitochondrial ATP production as a strategy to treat brain injuries**
- S23-03**      **Israel Sekler** Beer-Sheva, Israel  
**The role of the mitochondrial exchanger NCLX in astrocytic Ca<sup>2+</sup> signaling, gliotransmission and proliferation**
- S23-04**      **Shinguan Ding** Columbia, USA  
**The interplay between cytosolic and mitochondrial Ca<sup>2+</sup> signaling in astrocytes during ischemia**

- 
- Hall A**      **Symposium S24**  
**ROLE OF EXTRACELLULAR VESICLE SECRETION FROM GLIAL CELLS IN HEALTH AND DISEASE**  
**Organizer:** Felipe Court Santiago, Chile
- S24-01**      **Felipe Court** Santiago, Chile  
**Role of Schwann cell to axon transfer of vesicles during axonal regeneration**
- S24-02**      **Eva-Maria Krämer-Albers** Mainz, Germany  
**Delivery on call: the role of exosomes in neuron-glia communication**
- S24-03**      **Johan Skog** New York, USA  
**Glioma microvesicles (exosomes) as biomarkers**
- S24-04**      **Claudia Verderio** Milan, Italy  
**Pathogenic role of microglia-derived microvesicles in neuroinflammation and neurodegeneration**
- 

- Room 1**      **Symposium S25**  
**TRANSLATIONAL REGULATION IN GLIAL CELLS**  
**Organizer:** Martin Theis Bonn, Germany
- S25-01**      **Anna Krichevsky** Boston, USA  
**MicroRNA in glioblastoma: regulatory functions and clinical applications**
- S25-02**      **Yongjie Yang** Boston, USA  
**Astroglial FMRP-dependent translational down-regulation of mGluR5 underlies glutamate transporter GLT1 dysregulation in the fragile X mouse**
- S25-03**      **Jason Gerstner** Philadelphia, USA  
**Diurnal control of trafficking and post-transcriptional processing of the astrocyte Fabp7 mRNA**
- S25-04**      **Martin Theis** Bonn, Germany  
**Coordinated control of key astrocytic proteins by CPEB3**
- 
- 17:15-17:30**      **Coffee Break**
- 
- 17:30-18:30**      **Plenary Lecture P-05**  
**Hall A**      **Chair:** Eva Syková Prague, Czech Republic

**Suzanaerculano-Houzel** Rio de Janeiro, Brazil  
**You don't mess with the glia: evolution of brain size with conserved non-neuronal scaling rules in mammals**

## SATURDAY, JULY 6, 2013

09:00-10:00 Plenary Lecture P-06

Hall A Chair: Trevor Owens Odense, Denmark

Alexandre Prat Montreal, Canada

Molecular control of CNS inflammation at the BBB by brain morphogens

10:00-10:15 Coffee Break

10:15-12:15 Symposia VI

Room 2 **Symposium S26**  
**ADAMS AND MMPs DURING MYELIN DEVELOPMENT AND MYELIN REPAIR**  
 Organizer: Adan Aguirre Stony Brook, USA

S26-01 Adan Aguirre Stony Brook, USA  
 Role of ADAM10 and ADAM17 in central nervous system myelination and remyelination

S26-02 Riqiang Yan Cleveland, USA  
 Differential regulation of myelination by BACE1 and ADAM proteases

S26-03 Veronica Shubayev La Jolla, USA  
 MMP-9/TIMP-1 axis in regulation of the function of myelin-forming Schwann cells in nerve repair and pain

S26-04 Nicola Woodroffe Sheffield, UK  
 Effect of silencing ADAM17 expression by an adenoviral vector-mediated RNA interference approach in chronic relapsing experimental autoimmune encephalomyelitis

Room 3 **Symposium S27**  
**MULTIPLE ROLES OF GLIAL CELLS IN POSTSTROKE INFLAMMATION**  
 Organizers: Karsten Ruscher Lund, Sweden  
 Jasna Kriz Quebec, Canada

S27-01 Karen Gertz Berlin, Germany  
 Essential role of interleukin-6 for post-stroke angiogenesis

S27-02 Jasna Kriz Quebec City, Canada  
 Galectin-3 as endogenous modulator of injury-induced microglia polarization

S27-03 Karsten Ruscher Lund, Sweden  
 Impact of microglia and immune cell dynamics on neuronal plasticity and recovery after stroke

S27-04 Zena Vexler San Francisco, USA  
 Microglial cells and neurovascular integrity after stroke

Hall A **Symposium S28**  
**THE BRAINS BEST FRIEND: THE PROTECTIVE SIDE OF MICROGLIA ACTION**  
 Organizer: Knut Biber Freiburg, Germany

S28-01 Knut Biber Freiburg, Germany  
 Neuroprotective function for ramified microglia in hippocampal excitotoxicity

S28-02 Kate L. Lambertsen Odense, Denmark  
 Neuroprotective microglial cytokines in experimental stroke

S28-03 Cristina Limatola Rome, Italy  
 Neuroprotective activities of CX3CL1 requires cross talk between microglia and astrocytes

S28-04 Sarah C. Starossom Berlin, Germany and Boston, USA  
 Chi313 induces oligodendrogenesis in a model of multiple sclerosis

Room 1 **Symposium S29**  
**ASTROCYTE CONTROL OF PRE-SYNAPTIC FUNCTION VIA GLIOTRANSMISSION: MECHANISMS AND FUNCTIONAL**  
 Organizer: Andrea Volterra Lausanne, Switzerland

S29-01 Marta Navarrete Madrid, Spain  
 Neuron-astrocyte communication mediated by endocannabinoid/mGluR signaling at tripartite synapses

S29-02 Thomas Nevian Berne, Switzerland  
 The control of cortical spike-timing dependent depression by astrocytes

S29-03 Richard Robitaille Montreal, Canada  
 Astrocytes detect and regulate basal synaptic transmission at single CNS synapses

S29-04 Andrea Volterra Lausanne, Switzerland  
 Ca<sup>2+</sup>-dependent gliotransmission controls physiological synaptic function and plasticity at hippocampal synapses via atypical presynaptic NMDAR

- Room 5**     **Symposium S30**  
**ADVANCES IN NEUROTRANSMITTER SIGNALING IN PERIPHERAL GLIAL CELLS**  
**Organizers: R. Douglas Fields** Bethesda, USA  
**Verlio Magnaghi** Milan, Italy
- S30-01**     **Menchachem Hanani** Jerusalem, Israel  
**How do peripheral glial cells communicate with their environment?**
- S30-02**     **Ada Maria Tata** Rome, Italy  
**Acetylcholine and M2 muscarinic receptor contribute to modulate Schwann cell proliferation and differentiation**
- S30-03**     **Valerio Magnaghi** Milan, Italy  
**GABAergic modulation in Schwann cells contributes to myelination and nociception**
- S30-04**     **Maria Kukley** Tübingen, Germany  
**Do axons in peripheral nerves communicate with Schwann cells via glutamate release?**

**12:15-13:00**     **Lunch Break**

**13:00-15:00**     **Poster Session II**

Poster hall

**15:00-16:00**     **Plenary Lecture P-07**

**Hall A**     **Chair: Frank Heppner** Berlin, Germany

**Michael V. Sofroniew** Los Angeles, USA  
**Astrocyte roles in CNS disorders**

**16:00**     **Departure**

# Choose *GLIA* for your research

Edited by **Bruce R. Ransom** and **Helmut Kettenmann**

## Advantages of Publishing in *GLIA*

**Reaching a Multidisciplinary Audience of Dedicated Biomedical Researchers.** *GLIA*, the journal that launched the field of glial research, is still the journal of choice for neuroscientists, neurobiologists, neurologists, cell and developmental biologists, anatomists, pathologists, and neurochemists, looking for the most comprehensive coverage in this field of study.

**Securing Rapid Online Publication through EarlyView®.** Your article will be posted online as soon as it is ready, before the release of the compiled print issue.

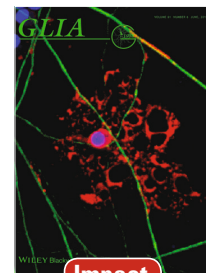
**Accessing a State-of-the-Art Submission System.** *GLIA* offers online manuscript submission and peer-review via ScholarOne Manuscripts (formerly known as Manuscript Central), a user-friendly system making manuscript submission and tracking quick, easy, and safe.

**Attaining High Visibility.** *GLIA* is available online through Wiley Online Library®, Wiley's Internet publishing platform. Wiley Online Library® has more than 29 million user sessions per year.

**Open Access Publishing Available.** OnlineOpen® allows authors or funders to pay a fee to make their articles freely available and compliant with government mandates.

**Joining into an Intellectual Partnership with Wiley.** Publishing at Wiley is truly a collaborative process. We value the long-term relationships we have with our authors and we are committed to maintaining the standard of excellence that has been essential to Wiley's success for nearly two centuries.

[www.wileyonlinelibrary.com/journal/glia](http://www.wileyonlinelibrary.com/journal/glia)



**Impact Factor: 4.82**

Scan for **GLIA news, virtual issues, top articles, and more**



Join us on Facebook



Facebook.com/gliajournal

**WILEY**

# Poster sessions

## POSTER SESSION I

**Wednesday, July 3**  
**Thursday, July 4**

**17:15 – 19:15**  
**13:15 – 15:15**

## POSTER SESSION II

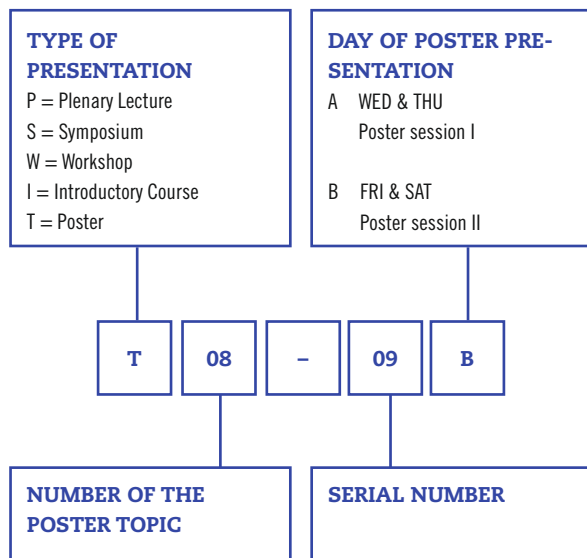
**Friday, July 5**  
**Saturday, July 6**

**13:15 – 15:15**  
**13:00 – 15:00**

There is one poster session per day: Poster session I on Wednesday and Thursday, poster session II on Friday and Saturday. Posters with poster numbers ending with an A are displayed on Wednesday and Thursday (= poster session I), posters with a poster number ending with a B are displayed on Friday and Saturday (= poster session II). So every poster will be discussed during two days.

Each poster session (120 min) is divided into two parts (each 60 min): uneven and even serial numbers. In the first part of a session of a day posters with uneven serial numbers will be discussed (e.g. T12-03B). In the second 60 min of a session posters with even serial numbers will be discussed (e.g. T12-02B). Posters should be mounted on the day of presentation until 10:00 h and are supposed to remain displayed until 17:30 (except Saturday; posters can be taken down directly after the poster session).

## Explanation of abstract numbers



## Poster topics

- T01** Cell proliferation, lineages and differentiation
- T02** Cell signaling
- T03** Degenerative disease, toxicity and neuroprotection
- T04** Extracellular matrix and cell adhesion molecules
- T05** Gene expression and transcription factors
- T06** Glial-neuronal interactions
- T07** Ischemia and hypoxia
- T08** Myelin
- T09** Neural stem/progenitor cells
- T10** Neuroimmunology and neuroinflammation
- T11** Neurovascular interactions
- T12** Regeneration and repair
- T13** Transmitter receptors, ion channels and gap junctions
- T14** Tumors
- T15** Late poster session

# Poster session I

Wednesday, July 3

17:15 – 19:15

Thursday, July 4

13:15 – 15:15

## T01 CELL PROLIFERATION, LINEAGES AND DIFFERENTIATION

### T01-01A

**Function of the Nkx2.2 transcription factor in oligodendrocytes and their progenitor cells**

C. Fenger, M. Thomassen, B. Emery, T. Kuhlmann, T. Kruse, B. Finsen

### T01-02A

**Oligodendrocyte precursor cells generate astrocytes after acute cortical injury**

X. Bai

### T01-03A

**Glial differentiation is delayed in the hypothalamus of rats malnourished during a restrict period in early life**

M. Rocha, P. Fernandes, A.C. Manhães, P.C. Barradas, F. Tenorio

### T01-04A

**Enhanced human and murine oligodendrocyte differentiation in response to a selective thyroid hormone  $\beta$  receptor agonist**

E. Baxi, A. Fairchild, C. Pardo-Villamizar, J. Rothstein, D. Bergles, P. Calabresi

### T01-05A

**Intrinsic mechanisms regulating oligodendrocyte progenitor cell division: the role of Citron-kinase**

E. Boda, S. Piretta, F. Bianchi, F. Di Cunto, A. Buffo

### T01-06A

**Fast repopulation of microglia after ablation**

J. Bruttger, S. Woertge, S. Yona, Y. Wolf, M. Prinz, S. Jung, A. Waisman

### T01-07A

**Proliferation of reactive astrocytes is enriched in juxtavascular positions**

J. Friik, S. Bardehle, M. Krüger, I. Bechmann, L. Dimou, N. Plesnila, M. Götz

### T01-08A

**Enteric glia: S100B, GFAP and beyond**

D. Grundmann, E. Loris, D. Simon, F. Markwart, W. Huang, F. Kirchhoff, K.-H. Schäfer

### T01-09A

**Continuous live imaging of reactive astrocyte divisions in vitro**

G. Heimann, M. Götz, S. Sirko

### T01-10A

**Thyroid hormone mediated OPC differentiation is ‘Hairless’**

M. Hofer, A. Baer, M. Rossner, M. Trotter, M. Kotter

### T01-11A

**Mouse Schwann cell culture and the expression of L-MAG in Schwann cells and in myelinating cocultures**

H. Honkanen, A. Heape

### T01-12A

**Variable differentiation potential of NG2 glia during mouse development**

W. Huang, N. Zhao, A. Cupido, X. Bai, A. Scheller, S. Goebbels, F. Kirchhoff

### T01-13A

**The effect of microglia and secreted factors on cell density in oligodendrocyte precursor cell culture**

K. Kleinsimlinghaus, M. Serdar, R. Marx, I.D. Dietzel

### T01-14A

**Use of genetic tools to perform in vivo analysis of glia in the enteric nervous system**

R. Lasrado, S. McCallum, W. Boesmans, P.V. Berghe, V. Pachnis

### T01-15A

**ROCK inhibition with Y27632 promotes the proliferation and cell cycle progression of cultured astrocyte from spinal cord**

X. Luo

### T01-16A

**Inhibition of endogenous Phosphodiesterase 7 promotes oligodendrocyte precursor survival and differentiation**

E.M. Medina-Rodriguez, F.J. Arenzana, J. Pastor, M. Redondo, V. Palomo, R. Garcia de Sola, C. Gil, A. Martinez, A. Bribian, F. de Castro

**T01-17A**

**Specification and maintenance of oligodendrocyte precursor cells from neural progenitor cells: involvement of microRNA-7a**

X. Zhao

**T02 CELL SIGNALING****T02-01A**

**Cell-specific receptor expression defines the differential response of astrocytes versus microglia to oncostatin M**

I. Campbell, M.-P. Hsu

**T02-02A**

**High-resolution electrophysiological determination of unitary exocytic events in cultured astrocytes**

A. Guček, J. Jorgačevski, B. Rituper, M. Kreft, R. Zorec

**T02-03A**

**RXR signalling and regulation in oligodendrocyte lineage cells**

A. Guzman de la Fuente, J. Huang, B. Nait Oumesmar, C. ffrench-Constant, R. Franklin

**T02-04A**

**TLR-signaling induces Type I interferon responses in microglia and astrocytes and regulates leukocyte infiltration to the CNS**

R.M.H. Khorrooshi, T. H. Holm, C. Tue Berg, R. Truong Dieu, D. Dræby, S. Lienenklaus, T. Owens

**T02-05A**

**The involvement of NO-mediated signaling in PDT-induced injury of neurons and glial cells**

V. Kovaleva, E. Berezhnaya, M. Rudkovskii, A. Uzdensky

**T02-06A**

**Laquinimod reduces astrocytic but not microglial NFκB activation in vitro and in vivo**

N. Kramann, R. Pfortner, U.-K. Hanisch, K. Hagemeier, T. Kuhlmann, W. Brück, C. Wegner

**T03 DEGENERATIVE DISEASE, TOXICITY AND NEUROPROTECTION****T03-01A**

**In vivo imaging of inflammation, de- and remyelination using Fluorescence Molecular Tomography (FMT)**

S. Albrecht, C. Geyer, L. Wachsmuth, T. Vogl, C. Faber, M. Eisenblätter, T. Kuhlmann

**T03-02A**

**Beta-amyloid induces apoptosis of phagocytic microglia and macrophages**

A. Babcock, L. Illkjær, M. Wirenfeldt, T. Krøigård, C. Myhre, H. Toft-Hansen, L. Dissing-Olesen, T. Deierborg, S. Darvesh, M. Jensen, M. West, B. Finsen

**T03-03A**

**Decreased expression of alpha1 subunit of Na<sup>+</sup>/K<sup>+</sup>-ATPase in the ALS rat brain**

D. Bataveljic, L. Nikolic, P. Andjus

**T03-04A**

**Olesoxime for the treatment of hereditary dysmyelinating diseases: the importance of the therapeutic window**

M. Begou, B. Depiets, F. Giraudet, J. Barbier, C. Bechon, M. Michaud, R. Pruss, T. Bordet, O. Boespflug-Tanguy

**T03-05A**

**CD38 deficiency inhibits Alzheimer's disease pathology in a mouse model**

E. Blacher

**T03-06A**

**Lack of microglial TREM2 receptor increases susceptibility to dopaminergic degeneration triggered by systemic inflammation**

L.-G. Bodea, M. Colonna, H. Neumann

**T03-07A**

**Pericytes are preserved in Alzheimer's disease**

L. Brandt, F. Fernández-Klett, L.W. Harris, S. Bahn, J. Priller

**T03-08A**

**Emergence of tyrosine hydroxylase-positive cells in rat cortex after intraventricular injection of 6-hydroxydopamine (6-OHDA)**

S. Caradonna, B. Wachter, E. Küppers



**T03-09A**

**Changes of the extracellular space diffusion parameters during aging in a triple transgenic animal model of Alzheimer's disease**

M. Cicanic, L. Vargova, M. Kulijewicz-Nawrot, J.J. Rodriguez, E. Sykova

**T03-10A**

**Vanishing white matter-mutated astrocytes impair oligodendrocyte maturation in vitro**

S. Dooves, A. van de Kreeke, N. Land, G. Jacobs, M. van der Knaap, V. Heine

**T03-11A**

**Intravital characterization of microglia in Alzheimer's disease**

N.H. Drost, J.-L. Rinnenthal, D. Pehl, F.L. Heppner

**T03-12A**

**Alpha-synuclein impairs differentiation of oligodendrocytic CG4 cells**

B. Ettl, V. May, M. Wegner, E. Masliah, J. Winkler

**T03-13A**

**Treatment early in life with the lectin ConA decelerates spreading depression in well-nourished and early-malnourished adult rats**

G. S. Ferreira Soares, L. Cabral Cavalcanti, R.C. Araújo Guedes

**T03-14A**

**Glial Lazarillo protects neurons from type I Spinocerebellar Ataxia (SCA1) degeneration by a mechanism involving the control of autophagy flow and of lipid peroxide clearance**

M. del Caño-Espinel, D. Sanchez, M.D. Ganfornina

**T03-15A**

**N-Arachidonoyl-Dopamine (NADA) is a novel neuroprotective endocannabinoid**

U. Grabiec, M. Koch, R. Kraft, K. Hill, C. Merkwitz, C. Ghadban, B. Lutz, A. Straiker, F. Dehghani

**T03-16A**

**Antagonizing the TGF- $\beta$ 1 receptor ALK5 reduces gliosis after neonatal hypoxia-ischemia**

M. Guardia Clausi, Z. Ren, D. Giannakidis, S.W. Levison

**T03-17A**

**Ammonium induces an astroglial calcium dysbalance in different brain regions**

N. Haack, C.R. Rose

**T03-18A**

**Astrocytes in the degenerating brain are primed to synthesize exaggerated levels of CXCL1 and CCL2 in response to IL-1 $\beta$ /TNF- $\alpha$  stimulation**

E. Hennessy, C. Cunningham

**T03-19A**

**The L-type voltage-gated calcium channel subunit alpha1C (Ca<sub>v</sub>1.2) is expressed in astrocytes around beta-amyloid plaques in an Alzheimer mouse model**

C. Humpel, N. Daschil, G.J. Obermair, B.E. Flucher, B. Hutter-Paier, M. Windisch, J. Marksteiner

**T03-20A**

**Neuroprotective effects of Withaferin A in three mouse models of amyotrophic lateral sclerosis**

P. Patel, V. Swarup, D. Phaneuf, J. Kriz, J.-P. Julien

**T03-21A**

**Lysosomal enzymes in the hippocampal glial cells of kainic acid treated rats: potential implication in temporal lobe epilepsy**

S. Kar, M. Banerjee, A. Sasse, Y. Wang, M. Maulik

**T03-22A**

**Deletion of TLR-associated signaling adaptor TRIF significantly accelerates disease progression of ALS mice**

O. Komine, N. Fujimori-Tonou, H. Yamashita, Y. Moriwaki, H. Misawa, K. Yamanaka

**T03-23A**

**Early activation of microglia has a central role in the disease pathogenesis of progressive myoclonus epilepsy, EPM1**

L. Körber, T. Joensuu, A.-E. Lehesjoki, O. Kopra

**T03-24A**

**Connexin hemichannels are activated in astrocytes of a murine model of Alzheimer's disease**

A. Koulakoff, C. Yi, X. Mei, C. Giaume

**T03-25A****GDNF induces secretion of Cyr61 from retinal Müller glial cells – a novel neuroprotective factor in retinal degeneration**

J. Kucharska, P. del Rio, B. Arango-Gonzalez, M. Gorza, A. Feuchtinger, M. Ueffing, S. Hauck

**T03-26A****Glia impair neuron health in juvenile neuronal ceroid lipofuscinosis**

J. Lange, L. Parviainen, G. Anderson, S. Dihanich, P. Rezaie, H. Mitchison, B. Williams, J. Cooper

**T03-27A****Axonal degeneration is limited in the optic nerve of EAE-induced mice by AAV2 transduction of Retinal ganglion cells (RGCs) with a site-specific phospho-mutant CRMP-2**

J.Y. Lee, R. Kenny, M.F. Azari, P.M. Aui, K. Magee, A. Harvey, S. Petratos

**T03-28A****Nrf2 activators: a novel strategy to promote oligodendrocyte survival in multiple sclerosis?**

J. Lim, S. van der Pol, J. Drexhage, E. de Vries, J. van Horsen

**T03-29A****Glial pathology in the prefrontal cortex affects the cognitive function of the rat**

A. Lima, M. Reis, A.F. Oliveira, V.M. Sardinha, C. Mota, L. Pinto, F. Marques, J. Cerqueira, N. Sousa, J. Oliveira

**T03-30A****Time-course study of NG2 glia activation in the MPTP mouse model of Parkinson's disease**

Y. Liu, J. Zhou

**T03-31A****Assessment of cell toxicity and matrix metalloproteinase-9 expression by antiretroviral drugs in cultured primary astrocytes**

T. Latronico, E. Raimondo, F. Mengoni, M. Lichtner, C.M. Mastroianni, G.M. Liuzzi, G.M. Liuzzi

**T03-32A****Molecular mechanisms in astrocytic degradation**

C. Lööf, A. Erlandsson

**T03-33A****Effects of prenatal drinking on astrocytes parameters and behavior**

P. Lunardi, G. Brolese, D. Engelke, F. L. Pedroso, N. B. Cunha, P. Nardin, C. Batassini, A.C. Tramontina, C.A. Gonçalves

**T03-34A****Energy metabolism deficits in Huntington's disease: key role of astrocytes-neurons interactions**

L. Boussicault, A.-S. Hérard, F. Petit, C. Malgorn, N. Merienne, M.C. Gaillard, C. Escartin, T. Delzescaux, E. Brouillet, P. Hantraye, J. Mariani, C. Vega Roiatti, G. Bonvento

**T03-35A****Poster will not be presented****T03-36A****Expression and function of the late-onset Alzheimer disease associated CD33 in human microglia**

M.A. Mathews, M. Grobe-Einsler, K. Roy, H. Neumann

**T03-37A****Oligodendrocytes, small heat shock protein HSPB5 (alpha-B-crystallin) and Huntington's disease: What is the link?**

N. Matinyarare, U. Puentener, J. Teeling, J. Morton, A. Wyttenbach, V.H. Perry, V. O'Connor, S. Quraishe

**T03-38A****In vivo therapeutic effects and oligodendrocyte protection from excitotoxicity by the magl inhibitor JZL184**

S. Mato, A. Bernal-Chico, M. Canedo, M.V. Sánchez-Gómez, A. Pérez-Samartín, R. Rodríguez-Puertas, C. Matute

**T03-39A****The role of Connexin43 gap junctions and hemichannels in the pathophysiology of amyotrophic lateral sclerosis (ALS)**

A. Almad, N. Maragakis

**T03-40A****The complex interplay between astrocytes and microglia during the development of Alzheimer's-like symptomatology in a mouse model**

D. Bouvier, E.V Jones, R. Quirion, K. K. Murai

## T04 EXTRACELLULAR MATRIX AND CELL ADHESION MOLECULES

### T04-01A

#### Roles of anosmin-1 and FGF-2 in the biology of adult oligodendrocyte precursor cells

A. [Bribian](#), E. Medina-Rodríguez, F.J. Aranzana, V. Murcia-Belmonte, P.F. Esteban, F. de Castro

### T04-02A

#### Intracellular trafficking, matrix association and function of VEGF in astroglial cells

K. [Egervari](#), G. Potter, M.-L. Guzmán-Hernández, P. Salmon, T. Balla, B. Wehrle-Haller, J.Z. Kiss

### T04-03A

#### Astrocyte-derived TG2 contributes to ECM production and aggregation, and cell adhesion

N. [Espitia Pinzon](#), W. Baron, J.J. Breve, B. Drukarch, A.-M. van Dam

### T04-04A

#### Characterization of adhesional and cytomechanical properties of single living cells and tissue slices by AFM

T. [Müller](#), T. Neumann, A. Hermsdörfer, C. Pettersson, G. Behme

## T05 GENE EXPRESSION AND TRANSCRIPTION FACTORS

### T05-01A

#### Cyclic AMP signaling promotes differentiation of astrocyte transcriptome

S. Paco, M. Hummel, V. Pla, L. Sumoy, F. [Aguado](#)

### T05-02A

#### The role of FoxO3a in oligodendrocyte precursor cell differentiation

S. [Ali Abdulla](#), Y. Ahmed Syed, M. Kotter

### T05-03A

#### PGC-1 $\alpha$ expression in neurons and glia cells

H. [Bayer](#), D. Pasche, I. Merdian, J. Eschbach, P. Weydt, A. Witting

### T05-04A

#### Gene regulatory networks underlying astrocyte identity and potential

A. [Bithell](#), A. Michelucci, I. Crespo, M. Burney, C. Johnston, K.-Y. Wong, S.-W. Teng, B. Williams, L. Stanton, A. Del Sol, N. Buckley

### T05-05A

#### Analysis of astrocyte-specific gene recombination in the brain

C. [Bohn](#), H. Jahn, F. Kirchhoff

### T05-06A

#### NFAT-c3 promotes calcium-dependent MMP3 expression in activated astroglial cells

E. [Cano](#), F. Neria, M. Serrano-Pérez, P. Velasco, P. Tranque

### T05-07A

#### Poster will not be presented

### T05-08A

#### Overexpression of CPEB3 leads to astrocyte dysfunction

T. [Deshpande](#), V. Vangoor, S. Turimella, L. Kaczmarczyk, P. Bedner, E. von Staden, A. Derouiche, R. Jabs, G. Seifert, C. Steinhäuser, M. Theis

### T05-09A

#### Understanding the role of microRNAs in microglia-mediated neuroinflammation

S. [Jadhav](#), M. Choolani, E.-A. Ling, J. Lu, T. [Dheen](#)

### T05-10A

#### Transcriptional remodeling in microglia from the penumbra area in an experimental mouse stroke model

H. [Hirbec](#), C. Rey, A. Menteyne, N. Nazaret, M. Boulpicante, J. Lachuer, E. Audinat, F. Rassendren

### T05-11A

#### The RNA helicase DDX5 binds MBP mRNA and regulates MBP expression on a posttranscriptional level

P. [Hoch-Kraft](#), C. Gonsior, R. White, E.-M. Kraemer-Albers, J. Trotter

### T05-12A

#### Promises and pitfalls of Pannexin1 transgenic mice

R. Hanstein, H. Negoro, N. Patel, A. Charollais, P. Meda, D. Spray, S. Suadicani, E. [Scemes](#)

## T06 GLIAL-NEURONAL INTERACTIONS

### T06-01A

#### Novel conditional GCaMP3 mouse lines for imaging Ca<sup>2+</sup> signals in astrocytes

A. Agarwal, E. Hughes, D. Bergles

### T06-02A

#### Lactate modifies neuronal excitability through both NMDA and KATP receptors: importance for plasticity genes expression

I. Allaman, J. Yang, J.-M. Petit, G. Grenningloh, E. Ruchti, P. Jourdain, P. Magistretti

### T06-03A

#### Contribution of different carbonic anhydrase isoforms to proton dynamics in mouse cerebellar glial cells and neurons

M.D. Alt, J.W. Deitmer

### T06-04A

#### Astrocytes in the striatum act as a reservoir of L-DOPA but less convert to dopamine

M. Asanuma, I. Miyazaki

### T06-05A

#### Axon initial segment associated microglia

K. Baalman, M. Rasband

### T06-06A

#### Postnatal down-regulation of the $\gamma_2$ subunit of GABA<sub>A</sub> receptors in NG2 cells precedes synaptic-to-extrasynaptic change in GABAergic transmission mode

M. Balia, M. Vélez-Fort, S. Passlick, C. Schäfer, E. Audinat, C. Steinhäuser, G. Seifert, M.C. Angulo

### T06-07A

#### Role of neuronal injury in the control of microglia reactivity exerted by GDNF

G. Baltazar, J. Oliveira, T. Roxo, C. Fonseca

### T06-08A

#### Volume coverage by microglial processes is reduced in the aging brain and occurs significantly earlier in mouse models of Alzheimer's disease

R. Baron, A. Nemirovsky, A. Monsonego

### T06-09A

#### Synaptically evoked calcium signals in astrocytic processes enhance the stability of excitatory synapses

Y. Bernardinelli, E. Janett, I. Nikonenko, E.V. Jones, C.E. Flores, B. Boda, K.K. Murai, C. Bochet, D. Muller

### T06-10A

#### Histamine triggers microglial phagocytosis

L. Bernardino, T. Saraiva, A.C. Cristóvão, M. Esteves, G. Baltazar, S.M. Rocha

### T06-11A

#### Strongly reduced density of gray matter glutamine synthetase expressing astroglial cells in major depression but not bipolar disorder

H.-G. Bernstein, G. Meyer-Lotz, M. Walter, H. Dobrowolny, J. Steiner, B. Bogerts

### T06-12A

#### Astrocytes uptake extracellular plasminogen and plasmin to control their levels

A. Briens, M. Schwalb, F. Docagne, D. Vivien

### T06-13A

#### Microglia reactivity to amyloid- $\beta$ oligomers (A $\beta$ O) changes according to experimental ageing

C. Caldeira, A. Frederico, A.R. Vaz, A. Fernandes, D. Brites

### T06-14A

#### Proteomic identification of astrocyte proteins involved in synaptic plasticity

K. Carney, P. van Nierop, K.W. Li, A. Smit, S. Olijet, M. Verheijen

### T06-15A

#### Axonal degeneration is assisted cell non-autonomously by glial cells

A. Catenaccio, P. Silva, F. Court

### T06-16A

#### Astroglial networks set the dynamics of neuronal bursting activity

O. Chever, E. Dossi, N. Rouach

### T06-17A

#### Microglial modulation of synaptic strength at the first synapse in the nociceptive pathway

A.K. Clark, D. Gruber-Schoffnegger, J. Sandkühler

**T06-18A****Exploring motor neuron signaling dynamics to microglia in ALS**

J.C. Cunha, A.R. Vaz, D. Brites

**T06-19A****Tailoring substrates for long-term organotypic culture of adult neuronal tissue**

V. Dallacasa grande, M. Zink, S. Huth, A. Jacob, M. Müller, J. Käs, S. Mayr, A. Reichenbach

**T06-20A****The age-related hippocampal alterations of glutamatergic neurotransmission are aggravated by  $\omega$ 3 PUFA deficiency and reduced by fish oil supplementation in rats**

I. Denis, B. Potier, A. Latour, G. Champeil-Potokar, M. Hennebelle, E. Maximin, B. Langelier, M. Lavalie, J.-M. Billard, C. Heberden, S. Vancassel

**T06-21A****The “Yin and Yang” in depression: how astrocytes and neurons differently respond to antidepressants to remodel neuronal synaptic contacts**

B. Di Benedetto, S. Giusti, A. Vogl, E. Butz, T. Rein, D. Refojo, R. Rupprecht

**T06-22A****The role of glia cells in thyroid hormone induced regulation of neuronal sodium current and  $\text{Na}^+/\text{K}^+$ -ATPase density**

I. Dietzel-Meyer, B. Igelhorst, V. Niederkinkhaus, S. Mohanasundaram

**T06-23A****D-Serine released by astrocyte can modulate the respiratory rhythm in neonatal mice**

J. Eugenin, S. Beltran-Castillo, I. Llona

**T06-24A****Role of the  $\alpha$ -secretase TACE in central nervous system myelination**

E. Fredrickx, G. Dina, K.-A. Nave, A. Quattrini, C. Taveggia

**T06-25A****Neurofilaments protect oligodendrocytes from lysolecithin toxicity in vitro**

C. Fressinaud, J. Eyer

**T06-26A****Characterization of Schwann cells in mouse sciatic nerve slice: electrophysiological properties and neurotransmitter receptor expression**

N. Fröhlich, D. Eißler, M. Kukley

**T06-27A****Transfer of exosomes from oligodendrocytes to neurons**

D. Fröhlich, W.P. Kuo, C. Frühbeis, W. Möbius, K.-A. Nave, A. Schneider, M. Simons, M. Klugmann, S. Pinto, B. Kyewski, J. Trotter, E.-M. Krämer-Albers

**T06-28A****Neurotransmitter signaling controls exosome secretion from oligodendrocytes**

C. Frühbeis, D. Fröhlich, S. Tenzer, W.P. Kuo, W. Möbius, A. Saab, F. Kirchhoff, J. Trotter, E.-M. Krämer-Albers

**T06-29A****Characterization of glial cells in organotypic cultures of rat retina**

B.I. Gallego, A.I. Ramírez, M. Dierstein, R. de Hoz, B. Rojas, A. Triviño, J. Ramírez, M. Ueffing, J.J. Salazar, B. Arango-Gonzalez

**T06-30A****Neuron-astrocyte-microglia interactions in a rat model of chronic cerebral ischemia**

M.G. Giovannini, D. Lana, A. Melani, F. Pedata

**T06-31A****Epigenetic induction of the *Ink4a/Arf* locus prevents Schwann cell overproliferation during nerve regeneration and after tumorigenic challenge**

C. Gomis Coloma, J.A. Gomez-Sanchez, C. Morenilla-Palao, G. Peiro, E. Serra, M. Serrano, H. Cabedo Marti

**T06-32A****Tonic suppression of synaptic and extrasynaptic inhibition in the striatum as a consequence of GLT-1 deficiency in mice carrying a mutant form of huntingtin**

A. Dvorzhak, A. Wojtowicz, R. Grantyn

**T06-33A****Basal forebrain lesions reduce acetylcholinergic tone, induce microglial priming and predispose mice to inflammation-induced cognitive deficits**

E.W. Griffin, R. Field, C. Cunningham

**T06-34A****A specific role for the Na,K-ATPase  $\alpha 2$  isoform in the support of astrocyte glutamate uptake**

N. Illarionova, H. Brismar, A. Aperia, E. Gunnarsson

**T06-35A****Astrocyte TNF $\alpha$ -dependent alteration of hippocampal excitatory synaptic transmission in a mouse model of multiple sclerosis**

S. Habbas, M. Santello, H. Stubbe, G. Zappia, N. Liaudet, G. Kollias, A. Fontana, T. Suter, A. Volterra

**T06-36A****The P2X<sub>2</sub>/R-Panx1 complex in glia: role in orofacial hypersensitivity**

R. Hanstein, M. Gulinello, M. Hanani, D.C. Spray

**T06-37A****Quantitative profiling of retinal Müller glial cell surface proteome changes in response to LPS treatment**

S. Hauck, C. von Toerne, J. Behler, J. Merl, M. Ueffing

**T06-38A****Bidirectional expression of Lck-GCaMP3 and DsRed in NG2-cells as an approach for monitoring glial Ca<sup>2+</sup>-microdomains**

B.V. Herl, M. Theis, C. Steinhäuser, R. Jabs

**T06-39A****Neuroprotection of retinal ganglion cells by Müller glia and astrocytes**

J. Higginson, D. Piso, P. Veiga-Crespo, S. Sharma, E. Vecino

**T06-40A****Dehydroepiandrosterone sulfate and Sulforhodamine 101 compete for active uptake by an organic anion transporting polypeptide in hippocampal astrocytes**

C. Schnell, Y. Hagos, S. Hülsmann

**T06-41A****Neuron-astrocyte interactions during the development of the somatosensory cortex in a genetic model of absence epilepsy: from morphology to *in vivo* calcium imaging**

G. Jarre, S. Stambouljan, A. Depaulis, J.-C. Platel, I. Guillemain

**T06-42A****Mapping astrocyte heterogeneity by analysis of specific cell surface marker expression**

C. Kantzer, A. Bosio, M. Jungblut

**T06-43A****Misfolded truncated tau protein influences neuron-glia interaction via regulation of the “On” and “Off” signalling molecules**

Z. Kazmerova, N. Zilka, M. Zilkova, T. Smolek, M. Novak

**T06-44A****Glial GABA transporters downregulate enhanced neuronal activity**

O. Kékesi, G. Nyitrai, P. Szabó, R. Fiáth, I. Ulbert, J. Kardos, L. Héja

**T06-45A****Protection effect of glial cell line-derived neurotrophic factor on neurons and glial cells under photodynamic injury**

M. Komandirov, E. Knyazeva, M. Rudkovsky, U. Fedorenko, G. Fedorenko, A. Uzdensky

**T06-46A****Macrophages and microglia play distinct roles in neuropathic pain perception**

S. Kraft, K.R. Miller, C. Witzel, R.E. Kälin, G. Pfuhl, Y. Winter, M. Endres, F.L. Heppner

**T06-47A****Impact of oligodendrocyte-derived exosomes on neuronal metabolism: a role in neuroprotection?**

W.P. Kuo, D. Fröhlich, C. Frühbeis, C. Zehendner, H. Luhmann, J. Trotter, E.-M. Krämer-Albers

**T06-48A****Mechanisms of K<sup>+</sup>-clearance in the brain: the Na<sup>+</sup>/K<sup>+</sup>-ATPase as the key contributor**

B.R. Larsen, M. Assentoft, S.Z. Hua, K. Kaila, J. Voipio, N. MacAulay

## T07 ISCHEMIA AND HYPOXIA

### T07-01A

**The fate of mDach1-expressing cells in the dorsal part of the lateral ventricles following focal cerebral ischemia**

M. Anderova, H. Pivonkova, P. Honsa

### T07-02A

**Age-dependent activity of nitric oxide synthase during ischemic white matter injury**

J. Zaleski, A. Bachleda, A. Runkle, S. Baltan

### T07-03A

**Lactate increases TREK channel activity in CA1 stratum radiatum astrocytes**

A. Banerjee, S. Ghatak, S. Sikdar

### P07-04A

**Neuroprotection in stroke by gonadal steroids: an active role for microglia and astroglia-microglia crosstalk**

P. Habib, J. Dang, D. Dreytmüller, C. Beyer

### T07-05A

**Pyruvate carboxylation in astrocytes and the pentose phosphate pathway are affected after neonatal hypoxic-ischemic brain injury – a <sup>13</sup>C NMR spectroscopy study**

E. Brekke, T. Morken, M. Widerøe, A. Håberg, A.-M. Brubakk, U. Sonnewald

### T07-06A

**The isolectin IB4 binds RET receptor tyrosine kinase in microglia**

A. Casamassa, L. Cerchia, C.L. Esposito, V. de Franciscis, L. Annunziato, F. Boscia

### T07-07A

**Hypoxia/ischemia increases the expression of TREM2 in gray and white matter of neonatal mice brain**

M. Chertoff, K. Shrivastava, L. Gimenez Llort

### T07-08A

**Post-ischemic treatment of the standardized *Cordyceps militaris* extract, WIB-801C reduces cerebral ischemic injury and improved long-term survival in rats**

G.S. Cho, S. Hwang, C. Ju, W.-K. Kim

### T07-09A

**Distinct subsets of interleukin-1 receptor antagonist producing cells are neuroprotective after focal cerebral ischemia in mice**

B.H. Clausen, K.L. Lambertsen, A. Babcock, C. von Linstow, T. Deierborg, B. Finsen

### T07-10A

**Heterogeneity of GFAP-positive glia in the cerebral cortex: from development to injury – single cell gene expression profiling**

D. Dzamba, P. Honsa, V. Rusnakova, A. Stahlberg, M. Kubista, M. Anderova

### T07-11A

**Attenuated inflammatory response in triggering receptor expressed on myeloid cells 2 (TREM2) knock-out mice following stroke**

C. Frahm, M.W. Sieber, N. Jaenisch, M. Brehm, M. Guenther, B. Linnartz-Gerlach, H. Neumann, O.W. Witte

### T07-12A

**Comparative analysis of neuronal loss, glial activation and tissue degeneration in different cortical areas of adult rats following focal ischemia**

W. Gomes-Leal, R. Fernandes, R. Rodrigues Lima, E.M.N. Dos Santos

### T07-13A

**Increased expression of hyperpolarization-activated cyclic nucleotide-gated channels in reactive astrocytes after ischemia**

P. Honsa, L. Harantova, H. Pivonkova, V. Rusnakova, D. Dzamba, M. Kubista, M. Anderova

## T08 MYELIN

### T08-01A

**[1,6-<sup>13</sup>C]glucose metabolism in immature and in differentiated oligodendrocytes in vitro**

A. Amaral, U. Sonnewald, M. Kotter

### T08-02A

**A vertebrate specific Glutaredoxin affects cellular functions of oligodendrocytes**

C. Berndt, K. Lepka, K. Volbracht, R. Schneider, H.-P. Hartung, T. Prozorovski, O. Aktas

**T08-03A****Silencing or knocking-out of the Na<sup>+</sup>/Ca<sup>2+</sup> exchanger 3 (NCX3) impairs oligodendrocyte differentiation**

F. Boscia, C. D'Avanzo, A. Pannaccione, A. Secondo, A. Casamassa, L. Formisano, N. Guida, L. Annunziato

**T08-04A****Resetting translational homeostasis restores myelination in CMT1B mice**

M. D'Antonio, N. Musner, C. Scapin, D. Ungaro, U. Del Carro, D. Ron, M.L. Feltri, L. Wrabetz

**T08-05A****The growth factor NRG induces NMDA receptor dependent myelination by oligodendrocytes, employing Akt and CREB signalling**

K. Evans, I. Lundgaard, A. Luzhynskaya, J. Stockley, Z. Wang, C. French-Constant, D. Attwell, R. Karadottir

**T08-06A****Effects of TrkB expression and signalling on oligodendrocyte myelination**

A. Ferner, J. Xiao, L. Giuffrida, A. Wong, H. Peckham, T. Kilpatrick, S. Murray

**T08-07A****Dysregulation of GPR17, a key receptor involved in oligodendrocyte maturation, as a novel potential pathogenetic mechanism in demyelinating diseases**

M. Fumagalli, E. Bonfanti, S. Daniele, D. Lecca, G.T. Coppolino, M.L. Trincavelli, C. Martini, M.P. Abbraccio

**T08-08A****Role of apolipoprotein D in macrophage recruitment and myelin phagocytosis upon peripheral nerve injury**

N. Garcia Mateo, D. Sánchez, C. Lillo, M.D. Ganfornina

**T08-09A****GPR56, an adhesion-GPCR, regulates oligodendrocyte development and CNS myelination**

S. Giera, Y. Deng, M. Makinodan, S. DeGenova, K.R. Monk, G. Corfas, X. Piao

**T08-10A****Post-transcriptional regulation of myelin basic protein during cell stress conditions**

C. Gonsior, J. Trotter

**SFB 665 "DEVELOPMENTAL DISTURBANCES IN THE NERVOUS SYSTEM"**

Collaborative research center (SFB) 665 "Developmental Disturbances in the Nervous System" brings together basic and clinical researchers to identify novel mechanisms of normal and disturbed nervous system development. Nervous system diseases take an enormous toll on individuals and their families, and have emerged as one of today's most important public health issues. Although such diseases cover a vast range of clinical profiles, many originate during development, which is an extraordinarily complex and lengthy process. The key challenges currently facing this research area can be summarized by the following questions: How can we combine genetic, cellular and biochemical approaches to understand genes and their functions on a mechanistic level? How can insight into molecular mechanisms gained from animal models inform our understanding of developmental disturbances in patients? Conversely, how can new understanding of phenotypes observed in humans advance analysis of gene function in animals? To address these questions, we focus on transcription factors, small inhibitory RNAs, signaling molecules, transporters and molecules that control neural transmission to analyze the molecular and structural basis of higher order functions of the nervous system.

Together, our laboratories have a vast range of investigative techniques and technologies at their disposal, including in genetics, genomics, molecular biology, cell biology, biochemistry, and electrophysiology. A particular expertise of our scientists is the development of specific mouse models, in which a mutation's functional consequences for network behavior can be studied. Over the SFB's eight years of funding to date, this interdisciplinary approach has proven successful, with our research contributing novel pathophysiological mechanisms involved in disorders of the developing human nervous system and paving the way for novel treatments, including in particular a recent major contribution to the treatment of juvenile epilepsy.

For more information about SFB665, please visit [www.charite.de/sfb665](http://www.charite.de/sfb665)

**SPOKESPERSON:**

Prof. Dr. Christian Rosenmund  
Neuroscience Research Center (NWFZ)  
Charite - Universitaetsmedizin Berlin  
10115 Berlin  
Email: [christian.rosenmund@charite.de](mailto:christian.rosenmund@charite.de)



**T08-11A****[A<sub>3</sub> adenosina receptor triggers oligodendrocyte death and myelin loss](#)**

[E. González-Fernández](#), R. Arellano, A. Pérez-Samartín, M. Sánchez-Gómez, C. Matute

**T08-12A****[Long-term consequences of perinatal inflammation on de- and remyelination in the central nervous system](#)**

[V. Gudi](#), K. Bénardais, J. Neßler, V. Singh, L. Gai, T. Skripuletz, M. Stangel  
Hannover Medical School, Hannover, Germany

**T08-13A****[Histone methyltransferase enhancer of zeste homolog 2 regulates Schwann cell differentiation](#)**

[A. Heinen](#), N. Tzekova, N. Graffmann, K.J. Torres, M. Uhrberg, H.P. Hartung, P. Küry

**T08-14A****[Electrical activity-dependent control of myelin gene expression in vivo](#)**

[J. Hines](#), B. Appel

**T08-15A****[Remyelination after Cuprizone treatment: Galectin-3 involvement](#)**

[H. Hoyos](#), M. Marder, G. Rabinovich, L. Pasquini, J. Pasquini

**T08-16A****[Unravelling protein networks involved in peripheral nerve myelination](#)**

[S. Kangas](#), S. Ohlmeier, R. Sormunen, A. Heape

**T08-17A****[2',3'-cyclic nucleotide 3'-phosphodiesterase \(CNP\) deficiency causes axonal loss and hypermyelination in the sensory peripheral nervous system](#)**

[T. Kungl](#), T. Nientiedt, K.J. Neufeld, M.W. Sereida, K.-A. Nave

**T08-18A****[Transport and translation of MBP mRNA is differentially regulated by distinct hnRNP proteins](#)**

J. Torvund-Jensen, J. Stensgaard, L. Fihl, L. Reimer, [L. Laursen](#)

**T08-19A****[Transferrin and thyroid hormone converge in the control of myelinogenesis](#)**

[L. Marziali](#), P. Franco, J. Pasquini

**T09 NEURAL STEM/PROGENITOR CELLS****T09-01A****[Wnt-signalling regulates oligodendrogenesis in the dorsal postnatal subventricular zone](#)**

[K. Azim](#), B. Fischer, K.Basler, L. Sommer, A. Butt, O. Raineteau

**T09-02A****[Modulation of the proliferation and differentiative potential of adult brain subventricular zone cells by purinergic signaling in vitro and in vivo: contribution of reactive astrocytes](#)**

[S. Ceruti](#), M. Boccazzi, C. Rolando, M.P. Abbracchio, A. Buffo

**T09-03A****[Enteric stem cell niche in Hirschsprung's disease](#)**

[C.I. Hagl](#), T. Marie, H. Sabine, W. Elvira, S. Karl-Herbert

**T09-04A****[Hypothalamic tanocytes: a neurogenic population of radial-glia like cells in the postnatal and adult brain](#)**

N. Haan, T. Goodman, A. Nadji-Samieir, C. Stratford, R. Rice, E. Al Agha, S. Bellusci, [M.K. Hajihosseini](#)

**T09-05A****[microRNA regulation of neural precursor maintenance and specification](#)**

[L. Hudish](#), B. Appel

**T09-06A****[Mesenchymal stem cell conditioning promotes oligodendroglial maturation](#)**

[J. Jadasz](#), D. Kremer, P. Göttle, N. Tzekova, F.J. Rivera, H.-P. Hartung, L. Aigner, P. Küry

**T09-07A****[Adult neural stem cells generate waves of oligodendrocyte progenitor cells that populate transiently the corpus callosum but do not contribute to its pool of oligodendrocytes](#)**

[I. Kazanis](#), R. Franklin

**T09-08A****[Artificial cell fate regulation of the progenitor cells in the adult spinal cord](#)**

[M. Kitada](#), J.-I. Suzuki, M. Dezawa

**T09-09A**

**Isolation of radial glia-like neural stem cells from fetal and adult mouse brain via selective adhesion to a novel adhesive peptide-conjugate**

T. Kohidi, K. Markó, N. Hádinger, T. Andrásí, G. Mező, E. Madarász

**T09-10A**

**Endogenous retinoic acid synthesis contributes to neural stem cell differentiation**

B. Orsolits, A. Borsy, E. Madarász, Z. Mészáros, T. Kóhidi, K. Markó, M. Jelítai, E. Welker, Z. Környei

**T09-11A**

**The Wnt signaling pathway affects the differentiation potential of neonatal neural stem cells in vitro**

J. Kriska, P. Honsa, D. Dzamba, L. Tumova, V. Korinek, M. Anderova

**T09-12A**

**Selective ablation of CNS-resident microglia disturbs homeostasis within the adult hippocampal neurogenic niche**

K. Miller, C. Baufeld, J. Winterer, S. Prokop, K.E. Carney, D. Schmitz, F.L. Heppner

**T09-13A**

**Influence of demyelination and aging on adult oligodendrocyte precursor cells RNA profil: towards an identification of new molecular cues for myelin repair**

S. Moyon, M.-S. Aigrot, L. Dauphinot, M.-C. Potier, M. Trotter, J. Huang, R. Franklin, C. Lubetzki

**T09-14A**

**Characterization of neural precursors derived from mouse iPS cells: in vitro and in vivo after transplantation into the central nervous system**

S. Mozafari, A. Marteyn, C. Laterza, C. Deboux, G. Martino, A. Baron-Van Evercooren

**T09-15A**

**Regulation of ischemia-induced progenitor cell proliferation in the adult mouse hippocampus by the ERK/MAPK effector ribosomal S6 kinase**

K. Karelina, D. Alzate-Correa, K. Obrietan

**T09-16A**

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

F. Ortega, S. Gascon, G. Masserdotti, A. Deshpande, C. Simon, J. Fischer, L. Dimou, D. Chichung Lie, T. Schroeder, B. Berninger

**T10 NEUROIMMUNOLOGY AND NEUROINFLAMMATION****T10-01A**

**Astrocyte-tissue inhibitor of metalloproteinases-1: the TIMP-ed balance of neuroinflammation: relevance to HIV-1-associated neurocognitive disorders**

A. Ghorpade, J.A. Fields, C. Chao, K. Borgmann, L. Tang

**T10-02A**

**GCL-1 in the spinal cord contributes to neuropathic pain induced by nerve injury**

N. Akimoto, K. Honda, D. Uta, H. Furue, M. Kido, K. Imoto, Y. Takano, M. Noda Kyushu University, Pathophysiology, Fukuoka, Japan

**T10-03A**

**Impact of microglia-mediated inflammation on hypothalamic homeostasis**

C. Baufeld, K. Miller, F.L. Heppner

**T10-04A**

**Therapeutic efficacy of suppressing the JAK/STAT pathway in multiple models of neuroinflammation**

E. Benveniste

**T10-05A**

**Immune complexes of beta amyloid with specific monoclonal antibodies induce neuronal loss via microglial activation**

V. Borutaitė, R. Morkuniene, A. Zvirbliene, I. Dalgediene, P. Cizas, S. Jankeviciute, G. Valincius

**T10-06A**

**Primary microglia lack strict regulation of inflammasome-mediated activation as compared to myeloid macrophages**

S. Burm, E. Zuiderwijk-Sick, A. 't Jong, C. van der Putten, L. van Straalen, S. Amor, P. van der Valk, J. van Horssen, J. Bajramovic

**T10-07A****Cannabigerol quinone exerts therapeutic effects in experimental autoimmune encephalomyelitis**

F.J. Carrillo-Salinas, M. Mecha, A. Feliu, L. Mestre, I. Cantarero, C. Navarrete, E. Muñoz, C. Guaza

**T10-08A****Lipopolysaccharide-induced brain activation of the indoleamine 2,3-dioxygenase and depressive-like behavior are impaired in obese and diabetic db/db mice**

N. Castanon, A.-L. Dinel, C. André, A. Aubert, S. Layé

**T10-09A****Complement-independent modulation of chemokine expression by antibodies in myelinated cultures**

K.J. Chapple, E.-M. Oesau, M. Lindner, C. Linington

**T10-10A****Does tissue transglutaminase play a role in leukocyte/monocyte infiltration during experimental multiple sclerosis?**

N. Chrobok, C. Sestito, E.N. Bakker, S. van der Pol, E.H. de Vries, K.K. Ferlich, F. Debarbieux, M.M. Wilhelmus, B. Drukarch, A.-M. van Dam

**T10-11A****Neuroprotective function of microglial Siglec-E**

J. Claude, B. Linnartz-Gerlach, H. Neumann

**T10-12A****The modification of myeloid-derived suppressor cell population by the synthetic retinoid AM80 abolishes symptom recovery in a murine model of multiple sclerosis**

V. Moliné-Velázquez, F. de Castro, D. Clemente

**T10-13A****Characterization of the role of the metallothionein-1 in an animal mouse model of Alzheimer's disease**

G. Comes, Y. Manso, M. Belfiore, J. Carrasco, J. Hidalgo

**T10-14A****Cox-2 inhibitors reduce microglia inflammation in vivo**

A. Cupido, B. Catalin, F. Kirchoff

**T10-15A****Anti-epileptic drugs (AEDs) alter the microglial in-/activation state in astroglia/microglia cocultures**

H. Dambach, D. Hinkerohe, Z. Moinfar, N. Prochnow, A. Hufnagel, P.M. Faustmann

**T10-16A****IOP induces upregulation of MHC-II and GFAP in the glia of contralateral mice retina to experimental glaucoma**

R. De Hoz Montaña, B.I. Gallego, B. Rojas, J.J. Salazar, A.I. Ramirez, A. Triviño, F.J. Valiente-Soriano, M. Vidal-Sanz, J.M. Ramirez

**T10-17A****Peroxisome proliferator-activated receptor- $\gamma$  agonists protect oligodendrocyte from mitochondrial stress**

R. De Simone, A. Bernardo, C. De Nuccio, S. Visentin, L. Minghetti

**T10-18A****Quantitative and phenotypic analysis of mesenchymal stromal cell graft survival and recognition by microglia and astrocytes in mouse brain**

N. De Vocht, D. Lin, J. Praet, C. Hoornaert, K. Reekmans, D. Le Blon, J. Daans, P. Pauwels, H. Goossens, N. Hens, Z. Berneman, A. Van der Linden, P. Ponsaerts

**T10-19A****N-3 polyunsaturated fatty acids protect against the cognitive effects of a peripheral inflammation by targeting microglia morphofunctional activity**

J.-C. Delpech, C. Madore, A. Aubert, C. Joffre, S. Layé, A. Nadjar

**T10-20A****The neuroprotective effect of a PPAR- $\gamma$  agonist in microglia-induced neuronal death is abrogated if CD200-CD200R1 interaction is disrupted**

G. Denteseano, J. Serratosa, J.M. Tusell, U. Perpiñà, J. Saura, C. Solà

**T10-21A****Microglial activation beyond the Substantia Nigra in Parkinson's disease**

K. Doorn, P.J. Lucassen, J.G.J. Bol, B. Drukarch, W.D.J. van de Berg, A.-M. van Dam

**T10-22A**

**Characterization and modulation of Hm1ba1 as an activation marker for microglia in the invertebrate model, the leech *Hirudo medicinalis***

F. Drago, A. Accorsi, P.-E. Sautière, F. Croq, C. Lefebvre, C. Van Camp, J. Vizioli

**T10-23A**

**Inflammatory profiling of the satellite glial cells in the dorsal root ganglia of rat experimental neuropathic pain models**

P. Dubovy, V. Brazda, I. Hradilova-Svizenska, I. Klusakova, L. Strejckova

**T10-24A**

**Acidosis affects interleukin-1 $\beta$  processing in glial cells**

M. Edye, S. Allan, D. Brough

**T10-25A**

**I-TAC signalling in primary rodent astrocytes and human glioma cells requires CXCR4**

J. Engele, M. Puchert, V. Ödemis

**T10-26A**

**Astrocytary IL-6 involment in EAE and traumatic lesions**

M. Erta, M. Giral, S. Jimenez, G. Comes, J. Hidalgo

**T10-27A**

**Imaging reactive astrocytes in vivo by positron emission tomography with TSPO radioligands**

S. Lavisse, M. Guillermier, A.-S. Hérard, F. Petit, M. Delahaye, N. Van Camp, L. Ben Haim, V. Lebon, F. Dollé, T. Delzescaux, G. Bonvento, P. Hantraye, C. Escartin

**T10-28A**

**Cross-talk between neurons and non-neuronal cells within sensory neurons: effects on ATP-gated P2X3 receptors**

A. Franceschini, S. Vilotti, T. Bele, A.M.J. Van Den Maagdenberg, A. Nistri, E. Fabbretti

**T10-29A**

**Cannabidiol provides long-lasting protection against the deleterious effects of inflammation in a viral model of multiple sclerosis: a role for A<sub>2A</sub> receptors**

A. Feliu, M. Mecha, F.J. Carrillo-Salinas, C. Guaza

**T10-30A**

**Lack of astrocytic interleukin-6 enhances high-fat diet-induced obesity in mice**

O. Fernández Gayol, M. Giral, A. Molinero, B. Ferrer, G. Comes, J. Hidalgo

**T10-31A**

**A novel human in vitro microglia model**

L. Filgueira, S. Etemad, M. Ruitenber

**T10-32A**

**Expression of calreticulin and other endoplasmic reticulum stress molecules in a rat model of inflammatory demyelination**

U. FitzGerald, M. Ni Fhlathartaigh, J. McMahon, R. Reynolds

**T10-33A**

**Brain response to traumatic brain injury: interleukin-6 relevance**

M. Giral, O. Fernandez, R. Ramos, A. Molinero, J. Hidalgo

**T10-34A**

**Are microglia just macrophages? Analysis of both cell types functions after brain injury**

S. Girard, D. Brough, S. Allan

**T10-35A**

**Regulation of microglial proliferation in chronic neurodegeneration**

D. Gomez-Nicola, N.L. Fransen, S. Suzzi, V.H. Perry

**T10-36A**

**Altered microglial response in pre-symtomatic SOD1 mutant mediated disease**

M. Gravel, J. Kriz, E. Abdelhamid

**T10-37A**

**Stimulation of the IL-1 signaling pathway by CNS-infiltrating myelin reactive T cells in zones of axonal degeneration**

M. Lamberts, H.H. Nielsen, C. Fenger, M. Söderman, K.T. Jensen, B.H. Clausen, K.L. Lambertsen, M. Thomassen, T.A. Kruse, B. Finsen

**T10-38A**

**Upregulation of c-Jun in the 3xTrg AD model regulates miR-155 expression in glial cells and contributes to neuroinflammation**

J. Guedes, L. Pereira de Almeida, M.C. Pedroso de Lima, A.L. Cardoso

**T10-39A**

**Ageing augments the behavioural response to systemic Salmonella Typhimurium infection in mice – do microglia play a role?**

A. Hart, S.G. Booth, U. Püntener, H. Perry, J. Teeling

**T10-40A**

**Peripheral poly I:C-induced neuroinflammation: role of Toll-like receptor 3 (TLR3) in microglia**

M. Ifuku, S. Hossain, M. Noda, T. Katafuchi

**T10-41A**

**Is an inflammation caused by injury necessary for the brain?**

H. Ikeshima-Kataoka, S. Inui, Y. Matsui, T. Uede, M. Yasui

**T10-42A**

**Phenotype and function of CD11c (dendritic) cells within the CNS**

K. Immig, M. Gericke, A. Lösche, J. Kathrin, L. Wendeburg, U.-K. Hanisch, K. Biber, I. Bechmann

**T10-43A**

**Does systemic inflammation contribute to the progression of age-related hearing loss?**

B. Impey, A.E. Causon, A. Agyemang-Prempeh, J.L. Bailey, C. Verschuur, T.A. Newman

**T10-44A**

**CD14 as a key regulator of TLR-mediated responses of microglia**

H. Janova, T. Regen, D. van Rossum, S. Ribes, A. Götz, R. Nau, W. Brück, U.-K. Hanisch

**T10-45A**

**Immunomodulatory properties of LIF and OSM in multiple sclerosis**

K. Janssens, H. Slaets, B. Vanwijmeersch, P. Stinissen, J. Hendriks, N. Hellings

**T10-46A**

**Role of anti-inflammatory lipid mediators in the resolution of inflammation in microglial cells**

C. Joffre, C. Rey, A. Aubert, S. Layé

**T10-47A**

**Correlation of binding of [<sup>3</sup>H]PK11195 to lesion type and presence of activated microglia in human multiple sclerosis tissues**

S. Johansson, N. Fouladi, J. Goggi, P. Jones, W. Trigg

**T10-48A**

**Microglial P2Y receptor-mediated motility in situ**

R. Jolivet, C. Madry, D. Attwell

**T10-49A**

**Mesenchymal stem cells require to be in close vicinity with microglia to arrest cell cycle**

S. Jose, S. Vidyadaran

**T10-50A**

**Transcriptional and epigenetic control of microglia polarization into inflammatory or alternative phenotype**

B. Kaminska, M. Dabrowski, M. Maleszewska, A. Steranka, M. Smiech, A. Ellert-Miklaszewska

**T10-51A**

**Differential roles for the small heat shock protein Alpha B-Crystallin in de- & remyelination**

H. Kuipers, J. Yoon, J. Winderl, J. van Horsen, T. Palmer, L. Steinman

**T10-52A**

**Progesterone attenuates astro and microgliosis and decreases inflammatory reaction following spinal cord injury**

F. Labombarda, S. Gonzalez, I. Jure, A. De Nicola

**T10-53A**

**MC4R activation induces BDNF expression through ERK and PI3K in rat astrocytes**

M. Lasaga, L. Carniglia, D. Durand, C. Caruso

**T10-54A**

**Microglial CX3CR1-CX3CL1 signaling contributes to astroglial scarring following mesenchymal stem cell grafting in mouse brain**

D. Le Blon, C. Hoornaert, N. De Vocht, J. Daans, K. Reekmans, Z. Berneman, P. Ponsaerts

**T10-55A**

**Microglia activation in the leech *Hirudo medicinalis*: HmC1q promotes the microglial accumulation through the distinct recognition of gC1qR and cC1qR receptors**

C. Lefebvre, A. Bocquet-Garcon, J. Vizioli, C. Van Camp, P.-E. Sautière, F. Drago, M. Salzet, F. Croq

**T10-56A**

**Expression of UNC-93B1 in the CNS**

S. Lehnardt, D. Gaessler

**T10-57A**

**Periplaques form extensive lesions in multiple sclerosis spinal cords**

A. Lhuillier, M. Chanal, G. Androdias, R. Reynolds, C. Confavreux, S. Nataf

**T10-58A**

**Myosin-dependent functions in microglia**

S. Janßen, V. Gudi, C. Trebst, M. Stangel

**T11 NEUROVASCULAR INTERACTIONS****T11-01A**

**The Hedgehog pathway promotes optimal blood brain barrier functioning**

J.I. Alvarez, A. Dodelet-Devillers, H. Kebir, P. Fabre, I. Ifergan, S. Terouz, K. Wosik, M. Sabbagh, M. Bernard, E. de Vries, F. Charron, A. Prat

**T11-02A**

**Deciphering the role of astroglial Cx30 at the gliovascular interface**

A.-C. Boulay, C. Giaume, M. Cohen-Salmon

**T12 REGENERATION AND REPAIR****T12-01A**

**Understanding and manipulating the astrocyte response to spinal cord injury using diblock copolypeptide hydrogels for depot delivery of bioactive molecules**

M. Anderson, S. Zhang, Y. Ao, T.J. Deming, M.V. Sofroniew

**T12-02A**

**Comparative study of human mesenchymal stem cells isolated from the olfactory system and bone marrow: effects on myelination**

S. Barnett, S. Johnstone, S. Lindsay

**T12-03A**

**Grey matter astrocytes activated by remote axonal transection mediate structural plasticity**

D. Barson, G. Tyzack, S. Sitnikov, C. Zhao, R. Franklin, R.T. Karadottir, A. Lakatos

**T12-04A**

**ROCK inhibitors decrease actin stress fibres and GFAP while elevating stellation, L-glutamate uptake and AHNAK expression in astrocytes on 3D nanoscaffolds**

P. Beart, N. Zulaziz, C.L. Lau, D. Nisbet, M. Horne, R. O'Shea

**T12-05A**

**Propentofylline improves oligodendrocyte remyelination following gliotoxic injury in the rat brainstem**

E. Bondan, M.D.F. Martins, D.E.M. Baliellas, C.F.M. Menezes, S.C. Poppe

**T12-06A**

**Sip1 expression by Schwann cells plays a role in peripheral nerve regeneration**

B. Brinkmann, S. Quintes, M. Ebert, V. Tarabykin, D. Huylebroeck, U. Suter, K.-A. Nave, M. Sereda

**T12-07A**

**S1PR1-modulation in the convalescence period improves functional recovery and reduces reactive astrogliosis in experimental stroke**

R. Brunkhorst, N. Kanaan, A. Koch, H. Steinmetz, J. Pfeilschifter, W. Pfeilschifter

**T12-08A**

**Combination of growth factor treatment and scaffold deposition following experimental traumatic brain injury show a temporary effect on cellular regeneration**

F. Clausen, A. Erlandsson

**T12-09A**

**Does the developmental heterogeneity of oligodendrocyte origin influence remyelination of the adult central nervous system?**

A. Crawford, R. Tripathi, W.D. Richardson, R.J.M. Franklin

**T12-10A****Role of tumor necrosis factor-alpha inhibition following spinal cord injury**

D.G. Ellman, V. Bracchi-Ricard, H.G. Novrup, A. Jain, L. Lyck, L. Lykkemark, D.E. Szymkowski, D.E. Pearse, J.R. Bethea, K.L. Lambertsen

**T12-11A****Three Ca<sup>2+</sup> channel inhibitors in combination reduce chronic secondary degeneration following neurotrauma**

D. Savigni, R. O'Hare Doig, C. Szymanski, C. Bartlett, I. Lozic, N. Smith, M. Fitzgerald

**T12-12A****Neuregulin-1 type I enhances functional recovery after acute peripheral nerve injury and rescues axonal loss in a mouse model for Charcot Marie Tooth disease 1A**

R. Fledrich, R.M. Stassart, L.M. Haag, P. Veselcic, D. Czesnik, K.-A. Nave, M.W. Sereda

**T12-13A****Demyelinated axons regulate their own remyelination via glutamate signalling to oligodendrocyte precursor cells**

H. Gautier, K. Evans, I. Lundgaard, C. Lao-Peregrín, R.J.M. Franklin, R.T. Káradóttir

**T12-14A****Olfactory ensheathing cells promote neurite outgrowth from organotypic spinal cord co-cultures**

K. Gladwin, S. Law, D. Li, D. Choi

**T12-15A****Hydrogel as a tool for vascular endothelial growth factor gradual release in peripheral nerve regeneration**

S. Gnani, C. Tonda Turo, L. di Blasio, F. Ruini, L. Primo, S. Geuna, G. Gambarotta, I. Perroteau

**T12-16A****Tamoxifen promotes CNS remyelination by modulation of the PKC signalling pathway in oligodendrocyte precursor cells (OPCs)**

G. Gonzalez, A. Baer, J. Rundle, Y. Syed, M. Hofer, R. Franklin, C. Zhao, M. Kotter

**T12-17A****Human pluripotent stem cell-derived oligodendrocyte precursor cells for spinal cord injury repair**

A. Hyysalo, M. Mäkinen, L. Ylä-Outinen, T. Joki, S. Narkilahti

**T12-18A****HDACs in control of maintenance and regeneration in Schwann cells**

V. Brügger, C. Pattaroni, P. Matthias, U. Suter, C. Jacob

**T12-19A****Living art - method for labeling living human derived neural cells with fluorescent probes**

T. Joki, M. Mäkinen, L. Ylä-Outinen, H. Skottman, R. Äänismaa, S. Narkilahti

**T12-20A****Bone marrow-derived mesenchymal stem cell intraventricular injection in a chronically demyelinated mouse model**

J. Jones, P. Cruz Martínez, S. Martínez

**T12-21A****Perineurial glia: first responders after a peripheral nerve injury**

S. Kucenas, W. Lewis

**T12-22A****CD300f immunoreceptor contributes to peripheral nerve regeneration after crush injury**

P. Solari, N. Puig, M. Negro, L. Acarin, J. Sayós, H. Peluffo, N. Lago

**T12-23A****Canonical Wnt signaling and formation of the glial scar**

J. Levine, J.P. Rodriguez

**T13 TRANSMITTER RECEPTORS, ION CHANNELS AND GAP JUNCTIONS****T13-01A****In search of the satellite glia role: insights from their membrane properties**

S. Agathou, I. Lundgaard, K. Evans, K. Volbracht, R.T. Káradóttir

**T13-02A****Phosphorylation of aquaporin-4 at Ser<sup>111</sup> is not required for channel gating**

M. Assentoft, S. Kaptan, R. Fenton, S.Z. Hua, B. de Groot, N. MacAulay

**T13-03A****Inhibition of P2X4 function by P2Y6 UDP receptors in microglia**

L.-P. Bernier, A. Ase, E. Boue-Grabot, P. Seguela

**T13-04A****Astrocyte volume regulation in the cortex of alpha-syntrophin-negative GFAP/EGFP mice**

O. Butenko, J. Benesova, M. Mikesova, P. Honsa, D. Dzamba, J. Kriska, V. Rusnakova, M. Kubista, M. Anderova

**T13-05A****Astrocytes and S1P receptors**

K. Dev

**T13-06A****MLC1 dysfunction causes brain oedema with white matter vacuolation in murine brain**

M. Dubey, M. Bugiani, M. Ridder, J.C. Lodder, M. Verheijen, H. Mansvelder, I. Boor, M. van der Knaap

**T13-07A****Purinergic receptors in adipose-derived stem cells differentiated to Schwann cells**

A. Faroni, A. Grolla, G. Terenghi, V. Magnaghi, A. Verkhatsky

**T13-08A****Connexin mediated glial networks are heterogenous among brain regions**

S. Griemsmann, L. Claus, S. Höft, P. Bedner, J. Zhang, R. Jabs, M. Theis, D.W. Cope, V. Crunelli, G. Seifert, C. Steinhäuser

**T13-09A****K<sup>+</sup> effects on oligodendrocytes in ischaemia**

N. Hamilton, K. Kolodziejczyk, D. Attwell

**T13-10A****Temporally controlled ablation of astroglial P2Y1 receptors**

H.M. Jahn, A.S. Saab, A. Verkhatsky, F. Kirchhoff

**T13-11A****Scratch-wound induced alterations in glial glutamate transporter distribution and function**

W.K. Kafitz, A.E. Schreiner, J. Langer, M.C. Stock, C.R. Rose

**T13-12A****Oligodendrocyte-targeted gene therapy to treat leukodystrophy**

A. Kagiava, I. Sargiannidou, S. Bashardes, J. Richter, N. Schiza, C. Christodoulou, A. Gritti, K. Kleopa

**T13-13A****Astrocytic CX43 hemichannels and gap junctions play a crucial role in development of chronic neuropathic pain following spinal cord injury**

M. Chen, B. Kress, X. Han, K. Moll, W. Peng, R.-R. Ji, M. Nedergaard

**T14 TUMORS****T14-01A****Metabolic reprogramming following mouse cortical astrocytes transformation in vitro: a proteomic study**

A. Bentaib, P. De Tullio, M.P. Junier, P. Leprince

**T14-02A****Identification of epigenetic modifications associated with inhibition of the stem and tumorigenic properties of glioblastoma stem cell**

A. Bogeas, K. Kuranda, L.G. Dubois, E.A. El-Habr, S. Sayd, F.-X. Lejeune, A. Dias-Morais, T. Virolle, M. Goodhardt, M.-P. Junier, H. Chneiweiss

**T14-03A****Proteomic profiling of human induced pluripotent stem cell-derived microglia upon exposure to glioblastoma cells**

J. Choi, K. Roy, T. Kempf, M. Schnölzer, A. Hotz-Wagenblatt, H. Neumann, A. Régnier-Vigouroux

**T14-04A****Pro- versus anti-tumor activities of microglia/macrophages: experimental and mathematical modeling approaches**

L.D.R. Cisneros Castillo, A. Toma, T.M. Buzug, A. Régnier-Vigouroux

**T14-05A****Cytostatic and cytotoxic effects induced by M2 muscarinic receptor activation on human glioblastoma cells**

M. Di Bari, V. Tombalillo, F. Alessandrini, C. Conte, F. De Grassi, R. Ricordi, A.M. Tata



**T14-06A****Regulation of glioblastoma stem-like cells properties by GABA-related metabolites**

L.G. Dubois, E.A. El-Habr, J. Lipectka, M. Fareh, V. Moura-Neto, T. Virolle, H. Chneiweiss, M.-P. Junier

**T14-07A****Tumor suppression effects of miRNA-302-367 on glioblastoma stem cells are correlated with altered GABA metabolism**

E.A. El-Habr, L.G. Dubois, M. Fareh, A. Bogeas, F. Lejeune, J. Lipectka, T. Virolle, M.-P. Junier, H. Hervé Chneiweiss

**T14-08A****An allograft glioma model reveals the dependence of aquaporin-4 expression on the brain microenvironment**

P. Fallier-Becker, S. Noell, M. Tatagiba, R. Ritz, H. Woburg, K. Wolburg-Buchholz

**T15 LATE POSTER SESSION****T15-01A****Thrombin protects  $\beta$ -arrestin 1-lacking astrocytes from apoptosis through activating PI3K/Akt signaling pathway**

Z. Zhu, G. Reiser

**T15-02A****CDH5 is specifically activated in glioblastoma stem like cells and contributes to vasculogenic mimicry induced by hypoxia**

X. Zhang, X.-G. Mao, X.-Y. Xue, W. Zhang

**T15-03A****Neuronal but not glial expression of complex gangliosides is necessary for the maintenance of axon and axo-glial junction integrity**

R. McGonigal, D. Yao, J.A. Barrie, H.J. Willison

**T15-04A****Blood-brain barrier breakdown in the hippocampus leads to early neural network dysfunction in the peri-ischemic brain**

K. Lippmann, L. Kamintsky, S. Lublinski, J. Nichtweiß, O. Prager, U. Heinemann, A. Friedman

**T15-05A****Fingolimod modulates astroglial glutamate metabolism in autoimmune demyelination**

L. Brecht, K. Huhn, R. A. Linker, D.-H. Lee

**T15-06A****Netrin-1 contributes to vascular remodeling in SVZ and promotes progenitor emigration after demyelination**

M. Cayre, S. Courtès, F. Martineau, M. Giordano, K. Arnaud, A. Zamaron, P. Durbec

**T15-07A****The capsaicin receptor TRPV1 as a novel modulator of neural precursor cell proliferation**

K. Stock, S. A. Wolf, A. Garthe, H. Kettenmann

**T15-08A****PDGFR $\alpha$ -positive progenitor cells form myelinating oligodendrocytes and Schwann cells following spinal cord contusion injury**

P. Assinck, G.J. Duncan, N.J. Michaels, D.R. Brown, J.R. Plemel, M.J. Lee, J. Liu, W. Tetzlaff

**T15-09A****The phagocyte NADPH oxidase Nox2 promotes microglial chemotaxis and infiltration into the developing cerebral cortex**

A. Lelli, A. Gervais, C. Colin, C. Chéret, C. Ruiz de Almodovar, P. Carmeliet, K.-H. Krause, S. Boillée, M. Mallat

**T15-10A****Peroxisomal multifunctional protein-2 deficiency causes neuroinflammation and degeneration of Purkinje cells independent of very long chain fatty acid accumulation**

S. Verheijden, L. Beckers, S. De Munter, C.M. Kassmann, M. Baes

**T15-11A****Identification of a glial gene related to Parkinson's disease: split-ends regulates sensitivity to paraquat in *Drosophila***

V. Goubard, M. Querenet, B. Mollereau, N. Davoust

**T15-12A****Ascl1/Mash1 promotes brain oligodendrogenesis during myelination and remyelination**

H. Nakatani, E. Martin, H. Hassani, A. Clavairoly, C.L. Maire, B. Zalc, J.-L. Thomas, M. Weber, M. Nakafuku, F. Guillemot, B. Nait-Oumesmar, C. Parras

# Poster session II

Friday, July 5

13:15 – 15:15

Saturday, July 6

13:00 – 15:00

## T01 CELL PROLIFERATION, LINEAGES AND DIFFERENTIATION

### T01-01B

**Influence of ECM substrate and chemotropic molecule interactions on OPC migration and differentiation**

D. Harlow, W. Macklin

### T01-02B

**SOX17 affects oligodendrocyte lineage progression and myelination**

M. Fauveau, C. Kerninon, M. Frah, B. Nait Oumesmar

### T01-03B

**Spatiotemporal and genetic fate-mapping of oligodendrogenesis following cuprizone-induced demyelination**

T. Merson, Y. Xing, P. Röth, S. Ng, T. Kilpatrick

### T01-04B

**The stem cell properties of adult olfactory horizontal basal cells**

Y.-I. Ohnishi, K. Shinzawa, K. Iwatsuki, T. Yoshimine

### T01-05B

**An ex-vivo model of radial glial cell development in the spinal cord**

J. Pakan, K. McDermott

### T01-06B

**Mesenchymal stem cells retain their pro-oligodendrogenic activity during aging: a rationale for autologous transplantation in multiple sclerosis**

F.J. Rivera, R. Wodnar, M. Feichtner, E. Oberbauer, G. Brachtl, R. Greil, E. Rohde, R.J.M. Franklin, L. Aigner

### T01-07B

**Lithium promotes generation of oligodendrocytes *ex vivo* in the adult mouse optic nerve**

A.D. Rivera, A. Butt

### T01-08B

**Low density lipoprotein receptor-related protein 1 (LRP1) is expressed on radial glia cells and controls their differentiation towards oligodendroglia**

D. Safina, E. Hennen, U. Huassmann, P. Wörsdörfer, F. Edenhofer, A. Poetsch, A. Faissner

### T01-09B

**Probing for oligodendrocyte progenitor cell function by limiting their proliferation in the adult brain**

S. Schneider, C. Simon, M. Irmeler, J. Beckers, G. Eichele, M. Götz, L. Dimou

### T01-10B

**Differential effects of Wnt3a and lithium on astrocytes in the adult mouse optic nerve**

C. Stagni, A.D. Rivera, A. Butt

### T01-11B

**Neuroprotective properties of glia-committed NG2-positive cells: comparison with uncommitted mesenchymal stem cells derived from Wharton jelly**

J. Sypecka, A. Sarnowska

### T01-12B

**Notch signaling in in vitro derivation of Schwann cells from bone marrow stromal cells**

E.W.Y. Tai, G.K.H. Shea, A.Y.P. Tsui, K.H.Y. Leung, Y.S. Chan, D.K.Y. Shum

### T01-13B

**Usefulness of glucose transporter-5, MHC class II, CD68, and Iba-1 as human microglia markers**

K. Takahashi

### T01-14B

**BMP-Smad1/5/8 signaling is necessary for development of Müller glia**

Y. Ueki, K. Cox, T. Reh

### T01-15B

**Regional differences in differentiation properties highlight heterogeneity among adult oligodendrocyte progenitor cells**

F. Viganò, M. Götz, L. Dimou

**T01-16B**

**Foxj1 identifies cells other than ependymal epithelia that contribute to CNS remyelination**

B. Wang, D. Ma, E. Rawlins, R.J.M. Franklin, C. Zhao

**T02 CELL SIGNALING****T02-01B**

**Microglial P2Y receptor-mediated currents and ATP release in situ**

C. Madry, R. Jolivet, C. Eder, D. Attwell

**T02-02B**

**Epicatechin promotes the generation of oligodendrocytes ex vivo in the adult mouse optic nerve**

F. Pieropan, A.D. Rivera, A.V. Patel, R. Gibbs, P. Cox, A. Butt

**T02-03B**

**Alpha and gamma secretase dependent cleavage of the glial proteoglycan NG2/Kontiki is conserved between species and mediates signalling**

D. Sakry, A. Bustos, F. Biname, B. Altenhein, K. Endres, J. Trotter

**T02-04B**

**Phosphoinositide 3-kinase $\gamma$  mediates microglial phagocytosis via lipid kinase-independent control of cAMP**

C. Schmidt, N. Schneble, J. Müller, R. Bauer, A. Perino, R. Marone, S.D. Rybalkin, M.P. Wymann, E. Hirsch, R. Wetzker

**T02-05B**

**EphB1/ephrin-B1 reverse signalling induces astrocyte activation**

G. Tyzack, T. Cymes, N. Lau, A. Lakatos

**T02-06B**

**Brain-derived neurotrophic factor/TrkB signaling regulates daily astroglial plasticity in the suprachiasmatic nucleus: electron-microscopic evidence in mouse**

O. Bosler, C. Girardet, B. Lebrun, M.-J. Cabirol-Pol, C. Tardivel, A.-M. Francois-Bellan, D. Becquet

**T03 DEGENERATIVE DISEASE, TOXICITY AND NEUROPROTECTION****T03-01B**

**The role of Glia in the pathogenesis of the ataxic syndrome Dentatorubro-pallidoluysian atrophy (DRPLA)**

D. Mazaud, M. Fanto

**T03-02B**

**Aquaporin 4 expression in the rat hippocampus and cortex during trimethyltin-induced neurodegeneration**

F. Michetti, S. Ceccariglia, A. D'Altocolle, F. Pizzolante, M. Barba, A. DelFa', C. Gangitano

**T03-03B**

**Branched-chain amino acids influence the immune properties of microglial cells and their responsiveness to pro-inflammatory signals**

M.A. Ajmone-Cat, R. De Simone, F. Vissicchio, C. Mingarelli, C. De Nuccio, S. Visentin, L. Minghetti

**T03-04B**

**Pathways used for amyloid-beta uptake by adult human astrocytes and microglia**

S. Mulder, T. Aydin, M.A. Hagens, R. Veerhuis

**T03-05B**

**Gap junction activity is necessary for Cx43-mediated protection of astrocytes in response to oxidative stress**

C. Naus, H.T. Le, J. Bechberger, S. Lozinsky, J. Vega, W.C. Sin

**T03-06B**

**Glucose transporters in multiple sclerosis**

P. Nijland, I. Mihaelidou, S. van der Pol, J. Drexhage, W. Gerritsen, P. van der Valk, H. de Vries, J. van Horsen

**T03-07B**

**HDAC6 is present in rat brain oligodendrocytes and modulates tau phosphorylation**

M. Noack, J. Leyk, C. Richter-Landsberg

**T03-08B****Importance of oligodendrocytes in oxidative stress-resistance in white matter ischemic injury**

M. Noda, K. Fujita, M. Hamner, C. Higashi, M. Yamafuji, N. Akimoto, M. Kido, Y. Tanaka, Y. Nakabeppu, B. Ransom

**T03-09B****Early functional deficit and microglial disturbances in the hSOD1<sup>G93A</sup> mouse model of amyotrophic lateral sclerosis**

Y. Gerber, J.C. Sabourin, H. Noristani, M. Rabano, M.D.M. Vivanco, F. Perrin

**T03-10B****Inhibition of IL-12/IL-23 signaling reduces Alzheimer's disease-like pathology and cognitive decline**

J. Obst, S. Prokop, K. Miller, J. vom Berg, I. Lopategui-Cabezas, A. Wegner, R. Kälin, F. Mair, C. Schipke, O. Peters, Y. Winter, B. Becher, F. Heppner

**T03-11B****Oxidative stress causes endoplasmic reticulum stress in X-adrenoleukodystrophy**

F.J. Ortega, N. Launay, E.V. Ilieva, L. Grau, J.J. Martínez, S. Fourcade, P. Aubourg, I. Ferrer, E. Galea, A. Pujol

**T03-12B****Intraspinal delivery of PEGylated gold nanoparticles promotes repair after spinal cord injury**

F. Papastefanaki, I. Jakovcevski, F. Schulz, G. Loers, T. Vossmeier, N. Bastús-Gomez, H. Weller, M. Schachner, R. Matsas

**T03-13B****Pharmacological inhibition of monoacylglycerol lipase and its effect on physiological parameters in vivo**

N. Pasquarelli, J. Hanselmann, R. Fürtig, C. Porazik, T. Wipp, D. Wiesner, B. Linkus, P. Weydt, B. Ferger, A. Witting

**T03-14B****Unlike physical exercise, modified environment increases the lifespan of SOD1<sup>G93A</sup> mice however both conditions induce cellular changes**

Y. Gerber, J.C. Sabourin, J.P. Hugnot, F. Perrin

**T03-15B****Amyloid  $\beta$  impairs expression, traffic and secretion of carboxypeptidase e and secretogranin III in astrocytes**

V. Plá Requena, M. Sánchez-Valpuesta, E. Pozas, I. Ferrer, F. Aguado Tomás


**SFB TRR 43**

 The Brain as a Target of  
Inflammatory Processes

**SONDERFORSCHUNGSBEREICH/TRANSREGIO (SFB TRR) 43**

The Sonderforschungsbereich/Transregio (SFB TRR) 43 was launched in 2008 as a transregional research venture between Berlin and Göttingen, in which the University Hospital Charité and the University of Göttingen cooperate with the independent research institution Max Delbrück Center for Molecular Medicine (Berlin-Buch), Max Planck Institute for Experimental Medicine (Göttingen) and Max Planck Institute for Infection Biology (Berlin).

The scientific basis of the SFB TRR 43 is the recent insight that immunological processes are not only involved in classical inflammatory disorders of the central nervous system (CNS) such as multiple sclerosis, but also appear to play a major role in the pathogenesis of primarily non-inflammatory or rather "atypical"

neuroimmunological pathologies, such as stroke, brain tumours, and neurodegenerative disorders. In any of these conditions or disorders, immune cells interact with cells of the nervous system via complex signalling cascades. Besides a local crosstalk between cells of the nervous and the immune systems there is increasing evidence that CNS alterations in turn also impact systemic immune responses, which may facilitate either life-threatening (systemic) infections or protect CNS tissue by modulating local CNS actions. Although the initiating, pathogenetically relevant events may differ considerably between various CNS diseases, they seem to utilize common pathways in the (bidirectional) crosstalk between the immune and the nervous system. Deciphering these common pathways is an essential bond and common denominator of the CRC TRR 43 consortium in order to enable the design of regimens that modulate various CNS diseases irrespective of their specific pathogenesis or etiology.

**CONTACT:**

Prof. Dr. med. Frank Heppner  
Institut für Neuropathologie  
Charité – Universitätsmedizin Berlin  
Charitéplatz 1  
10117 Berlin  
frank.heppner@charite.de

**T03-16B**

**Diesel exhaust pollution affects learning abilities and leads to an altered stress response in the CNS of the honey bee (*Apis mellifera*)**

C. Reitmayer, T. Newman, R. Girling, E. Farthing

**T03-17B**

**Bothropic neurotoxicity in nerve terminals and Schwann cells**

T. Rocha, L. Rodrigues Simioni, L.A. Ponce Soto, S. Marangoni, M.A. Cruz Höfling

**T03-18B**

**Effects of *in vivo* selective expression of mutated huntingtin by mouse striatal astrocytes on functional properties of medium spiny neurons**

A.B. Rocher, G. Bonvento

**T03-19B**

**Enriched environment and physical activity reverse astroglial atrophy in the hippocampus of the triple-transgenic model of AD**

J. Rodriguez Arellano, S. Terzieva, M. Olabarria, A. Verkhratsky

**T03-20B**

**Astrocyte degeneration correlates with aberrant intracellular calcium signalling in amyotrophic lateral sclerosis**

F. Martorana, L. Brambilla, C. Valori, C. Bergamaschi, C. Roncoroni, E. Aronica, A. Volterra, P. Bezzi, D. Rossi

**T03-21B**

**Gray matter oligodendroglia glia play an important role in human and rodent ALS pathogenesis**

Y. Li, S. Kang, D. Bergles, J. Rothstein

**T03-22B**

**Plaque associated-GFAP+ astrocytes show increasing autophagic activity in PDAPP mice, model of Alzheimer's disease**

F. Saravia, P. Pavia, C. Pomilio, A. Vinuesa, R. Gorojod, A. Alaimo, M. Kotler, V. Galvan, J. Beauquis

**T03-23B**

**Spatial arrangement of NG2 cells and their activation in a mouse model of Alzheimer's disease**

C. Schefft, J. Huck, M. Füchtenteimer, J. Priller

**T03-24B**

**Levels of astrocyte-derived proteins increase in the cerebrospinal fluid of Alzheimer's disease patients and inversely correlate to cognitive performance**

C. Schipke, S. Handrick, A. Klostermann, B. Haas, F. Heppner, O. Peters

**T03-25B**

**Data-mining of genomic studies in psychiatric disorders for genes highly expressed in astrocytes**

R. Schmidt-Kastner, N. Pitts, H. Steinbusch, J. van Os, B. Rutten

**T03-26B**

**Inhibition of deubiquitination by PR-619 leads to the formation of protein aggregates, to mitochondrial fragmentation and alters the GFAP network in astrocytes**

V. Seiberlich, O. Goldbaum, V. Zhukareva, C. Richter-Landsberg

**T03-27B**

**Purinergic signalling-regulated glial scar formation**

Y. Shinozaki, S. Koizumi

**T03-28B**

**Conditional ablation of *Perk* in Schwann cells improves myelination in S63del/CMT1B mice**

M. Sidoli, N. Musner, D. Zambroni, S. Saccucci, D. Ungaro, U. Del Carro, D. Ron, D. Cavener, M.L. Feltri, M. D'Antonio, L. Wrabetz

**T03-29B**

**Metabolic alteration in amyotrophic lateral sclerosis**

A. Sternotte, E. Hermans

**T03-30B**

**CNS-targeted methylprednisolone reduces pathology in mouse model of ALS**

H.B. Stolp, M.C. Evans, P. Gaillard, M. de Boer, C. Appeldoorn, R. Dorland, N.R. Sibson, M.R. Turner, D.C. Anthony

**T03-31B**

**Expression of glial potassium channel Kir4.1 and water channel aquaporin-4 (AQP4) after status epilepticus in a mouse model of temporal lobe epilepsy**

K. Szokol, A. Sommer, K. Heuser, E.A. Nagelhus, E. Taubøll

**T03-32B****Curcumin increases proliferation and enhances migration of olfactory ensheathing cells**

J. Tello Velasquez, J. St John, R.J. Quinn, J. Ekberg

**T03-33B****Litter size, age-related memory impairments, and microglial morphological changes in the rat lateral septum analyzed by three dimensional reconstruction**

L. Viana, C. M. Lima, M. A. Oliveira, I. N. F. Almeida, D. G. Diniz, J. Bento-Torres, A. Pereira, M. Batista-de-Oliveira, A. A. C. Lopes, R. F. M. Silva, R. Abadie-Guedes, A. A. Santos, D. S. Lima, P. F. C. Vasconcelos, C. Cunningham, R. C. A. Guedes, C. C. W. P. Diniz

**T03-34B****The effects of N-acetyl-aspartyl-glutamate (NAAG) and N-acetyl-aspartate (NAA) on oligodendrocyte precursor cells**

K. Volbracht, K. Evans, J.H. Stockley, R.T. Káradóttir

**T03-35B****New mouse models for vanishing white matter disease**

M. Bugiani, L. Wisse, S. Dooves, N. Postma, V. Heine, T. Abbink, M. van der Knaap

**T03-36B****A BDNF mimetic promotes peripheral myelin development and ameliorates experimental autoimmune neuritis (EAN)**

S. Murray, R. Hughes, G. Tran, S. Hodgkinson, A. Wong, H. Peckham, A. Ferner, L. Giuffrida, T. Kilpatrick, J. Xiao

**T03-37B****Alterations of juxtaparanodal domains in two rodent models of CNS demyelination**

L. Zoupi, M. Savvaki, K. Markoullis, K. Kleopa, D. Karagogeos

**T03-38B****Mitochondrial permeability transition pores but not ryanodine-sensitive endoplasmic reticulum calcium channels are involved in photodynamic injury of sensory neurons and satellite glial cells in the crayfish stretch receptor**

A. Uzdensky, A. Khaitin, I. Ischenko

**T03-39B****The mitochondrial serine protease OMI/Htra2 binds to the NG2 protein expressed by oligodendrocyte progenitor cells: a role for NG2 in homeostasis and stress protection?**

F. Maus, D. Sakry, F. Binamé, E.-M. Krämer-Albers, K. Karram, R. Krüger, K. Rajalingam, J. Stegmüller, H. Werner, K.A. Nave, J. Trotter

**T04 EXTRACELLULAR MATRIX AND CELL ADHESION MOLECULES****T04-01B****Improving outgrowth and survival of grafted iPSC-derived dopaminergic neurons by L1 and PSA-NCAM**

S. Peng, M. Schachner, R. Rössler, E. Boddeke, S. Copray

**T04-02B****Migration of microglia in the embryonic neocortex: cellular and molecular interactions**

S. Smolders, A. Avila, N. Swinnen, T. Struys, I. Lambrichts, M. Ameloot, N. Hellings, J.-M. Rigo, B. Brône

**T04-03B****Role of extracellular matrix and growth factors in oligodendrocyte cytoskeletal reorganization**

A. Tripathi, Z. Parikh, P. Pillai

**T04-04B****Extracellular space diffusion parameters in the mouse thalamus in Bral2 knock-out mice**

L. Vargova, M. Cicanic, E. Sykova

**T05 GENE EXPRESSION AND TRANSCRIPTION FACTORS****T05-01B****Microglia immune priming in physiologically aged and senescence accelerated mice: gene co-expression network analysis**

I. Holtman, D. Raj, N. Brouwer, B. Eggen, E. Boddeke

**T05-02B****Role of the  $\beta 2$  adrenergic receptor in multiple sclerosis severity**

C. Jensen, J. Stankovich, H. Butzkeuven, J. De Keyser

**T05-03B****Role of ncRNAs in oligodendrocyte precursor differentiation**

S. Marques, G. Castelo-Branco

**T05-04B****The IRF8-IRF5 transcription factor axis governs P2X4R<sup>hi</sup> reactive microglia driving neuropathic pain**

T. Masuda, M. Tsuda, S. Iwamoto, A. Nishiyama, H. Tozaki-Saitoh, T. Tamura, K. Inoue

**T05-05B****Targeted CREB activation in astrocytes deeply modifies the gene-expression profile of cortex following a focal injury**

L. Pardo Fernández, A. Schlüter, A. Barco, M. Giralt, J.M. Hidalgo, R. Mateu, L. Giménez-Llort, R. Masgrau, A. Pujol, E. Galea

**T05-06B****Circadian variations of gene expression related to neuro-metabolic coupling in astrocytes of anterior and posterior hypothalamus of the mice**

J.-M. Petit, A. Mikhaleva, J. Gyger, P.J. Magistretti

**T05-07B****Selective microglial depletion of the transcription factor C/EBP $\beta$  in LysM-Cre/C/EBP $\beta^{\Delta/rt}$  mice**

M. Pulido-Salgado, T. Valente, M. Straccia, J.M. Tusell, C. Solà, J. Saura

**T05-08B****New role of p53 in retinal astroglia outgrowth and signaling**

A.I. Ramírez, R. Gallego-Pinazo, R. de Hoz, M.D. Pinazo-Durán, B. Rojas, J.J. Salazar, M. Serrano, J. Ramírez

**T05-09B****SUMO-1 regulates the inflammatory response of activated microglia via NF $\kappa$ B-mediated TNF- $\alpha$  release**

P. Rangarajan, B. Tan, E.-A. Ling, S.T. Dheen

**T05-10B****Identification and characterization of novel subtypes of astrocytes**

Z. Chen, M. Ghosh, R. Sattler, M. Robinson, J. Rothstein

**T05-11B****The transcription factor C/EBP $\delta$  participates in the pro-inflammatory and neurotoxic response of activated glia. In vitro and in vivo evidence**

T. Valente, M. Straccia, N. Gresa-Arribas, G. Dentesano, J.M. Tusell, J. Serratosa, C. Solà, J. Saura

**T06 GLIAL-NEURONAL INTERACTIONS****T06-01B****Activated satellite glial cells induce peripheral sensitization by increasing glutamate concentration in the trigeminal ganglion**

J.C. Laursen, X.-D. Dong, B.E. Cairns, U. Kumar, R. Somvanshi, L. Arendt-Nielsen, P. Gazerani

**T06-02B****Roles of neuregulin 1 type III in the ex vivo generation of fate committed Schwann cells from bone marrow stromal cells**

H.Y. Leung, A.Y. Tsui, G.K. Shea, E.W. Tai, Y. Chan, D.K. Shum

**T06-03B****TGF- $\beta$ 1-induced astrocytic release of interleukin-6: a possible role in epielsptogenesis**

N. Levy, D. Milikovskiy, G. Baranuskas, Y. David, M. Ketzeff, S. Abutbul, I. Weissberg, I. Fleidervish, A. Friedman, A. Monsonogo

**T06-04B****The role of glial cells in nutrient homeostasis of the *Drosophila* brain**

S. Limmer, C. Klämbt

**T06-05B****Perturbation of sleep-wake cycle affects astroglial networking**

X. Liu, J.-M. Petit, P.J. Magistretti, C. Giaume

**T06-06B****Alterations in microglial behavior during ocular dominance plasticity**

R. Lowery, C. Lamantia, A. Majewska

**T06-07B****Lactate modulates network activity in primary cortical neurons**

L. Bozzo, J.-Y. Chatton

**T06-08B****Estimation of glycolytic rates of single cells in vivo**

P. Mächler, M. Wyss, R. Guterrez, M. Zünd, S. Lengacher, P.J. Magistretti, F. Barros, B. Weber

**T06-09B****Astrocyte reactivity is associated with changes in the concentration of multiple striatal metabolites in situ**

M.-A. Carrillo-de Sauvage, Y. Bramouille, L. Ben Haim, F. Aubry, M. Guillermier, G. Auregan, J. Valette, C. Escartin

**T06-10B****Alterations of gray matter gap junctions in multiple sclerosis and in EAE**

K. Markoullis, I. Sargiannidou, N. Schiza, R. Reynolds, K. A. Kleopa

**T06-11B****Glutamine transport in perisynaptic astrocytes and presynaptic terminals supports glutamatergic transmission at the calyx of Held synapse**

M.-C. Marx, D. Billups, B. Billups

**T06-12B****Neuroprotective effects of serotonin 1A agonist target astrocytes**

I. Miyazaki, S. Murakami, M. Takeshima, M. Asanuma

**T06-13B****Effects of URM-099 on tat-treated BV-2 microglia cells**

T. Mockus, J. Puccini, D. Marker, J. Barbieri, S.-M. Lu, H. Gelbard

**T06-14B****The role of merlin isoform 2 in neurofibromatosis type 2-associated polyneuropathy**

A. Schulz, S. Baader, M. Niwa-Kawakita, R. Bauer, J. Jung, A. Zoch, S. Schacke, C. Hagel, V. Mautner, O. Hanemann, D. Parkinson, J. Weis, D. Gutmann, M. Giovannini, H. Morrison

**T06-15B****Surface dynamics of the astroglial glutamate transporter GLT-1**

C. Murphy-Royal, J. Dupuis, B. Pinson, J. Baufreton, L. Groc, S. Oliet

**T06-16B****Post-hypoxic potentiation of breathing is mediated by astrocytes**

Y. Okada, K. Takeda, Y. Oyamada, Y. Oku, F. Miwakeichi, H. Someya, M. Ishiguro, Y. Tamura, M. Pokorski

**T06-17B****Unitary synaptic connections between GABAergic interneurons and NG2 cells in the developing somatosensory cortex**

D. Orduz, P.P. Maldonado, M. Velez-Fort, Y. Yanagawa, M.C. Angulo

**T06-18B****Alterations of NG2 cell synaptic connectivity following demyelination of corpus callosum**

F.C. Ortiz, A. Sahel, C. Kerninon, P.P. Maldonado, M.C. Angulo, B. Nait Oumesmar

**T06-19B****Glial and neuronal mechanisms underlying the label-free intrinsic optical signal**

I. Pál, G. Nyitrai, J. Kardos, L. Héja

**T06-20B****Ibutilast and SKF modulate cisplatin-evoked PGE2 release from isolated trigeminal satellite glial cells**

J.N. Poulsen, F. Larsen, F.L. Kristiansen, J.C. Laursen, M. Duroux, P. Gazerani

**T06-21B****VMAT2-positive astrocytes affect brain monoamine levels**

L. Pucci, C. Cali, P. Bezzi

**T06-22B****Refining methods for studying microglial diversity in the healthy and ageing brain**

K. Renault, J. Vincenti, K. Summers, B. McColl



**T06-23B**

**Microglia protect neurons at the onset of motoneuron developmental cell death and of neuronal network formation in the spinal cord of mouse embryo in vivo**

C. Rigato, N. Swinnen, J.M. Rigo, H. Le Corronc, P. Legendre

**T06-24B**

**Rapid control of glutamate transport and energy metabolism by extracellular potassium in astrocytes**

T. Rimmele, J.-Y. Chatton

**T06-25B**

**A new algorithm for counting microglial cells in wholemount mice retinas**

J.J. Salazar, B.I. Gallego, A.I. Ramírez, B. Rojas, R. de Hoz, A. Triviño, J. Ramírez, P. De Gracia

**T06-26B**

**The role of myelin gap junctions in the regulation of axonal cytoskeleton**

N. Schiza, I. Sargiannidou, K. Kleopa

**T06-27B**

**The principle of Ca<sup>2+</sup> integration in single astrocytes**

Y.-W. Wu, X. Tang, M. Arizono, H. Bannai, P.-Y. Shih, M. Tanaka, S. Itohara, K. Mikoshiba, A. Semyanov

**T06-28B**

**Function of human-specific sialic acid binding receptor Siglec-11 in amyloid- $\beta$  mediated neurotoxicity**

A. Shahraz, J. Kopatz, H. Neumann

**T06-29B**

**Ultrastructural investigation of lateralized experience-dependent synaptic plasticity in rat hippocampal CA1 stratum radiatum**

Y. Shinohara, A. Hosoya, H. Hirase

**T06-30B**

**Super-resolution optical microscopic measurements of synaptobrevin 2 in vesicles of cultured astrocytes**

P. Singh, M. Potokar, M. Kreft, R.F. Stout, J. Jorgacevski, V. Parpura, R. Zorec

**T06-31B**

**Effects of P2Y<sub>12</sub> signaling on microglial morphology and motility in visual cortex**

G. Sipe, A. Majewska

**T06-32B**

**Nascent nodes of Ranvier are formed on hippocampal GABAergic neurons prior to myelination**

N. Sol-Foulon, S. Freeman, A. Desmazières, M. Gatta, J. Simonnet, P. Michel, S. Guerreiro, D. Fricker, Y. Yanagawa, C. Lubetzki

**T06-33B**

**K<sup>+</sup> and glutamate trigger the release of lactate from astrocytes within seconds, as detected by a lactate sniffer cell**

T. Sotelo Hitschfeld, I. Ruminot, A. San Martin, L.F. Barros

**T06-34B**

**Remodeling of glial coverage of rat NTS glutamatergic synapses after ozone inhalation**

C. Strube, K. Chounlamounry, V. Penalba, F. Gackiere, J.-P. Kessler

**T06-35B**

**Somatic integration of synaptic inputs in NG2 cells**

W. Sun, D. Dietrich

**T06-36B**

**Inhibitory avoidance learning is associated with altered expression of genes involved in neuron-glia metabolic coupling**

M. Tadi, G. Grenningloh, S. Lengacher, I. Allaman, P. Magistretti

**T06-37B**

**Astrocytic Ca<sup>2+</sup> signals affect on tripartite synapse structure and hippocampus-related learning and memory**

M. Tanaka, P.-Y. Shih, H. Gomi, T. Yoshida, J. Nakai, R. Ando, T. Furuichi, K. Mikoshiba, A. Semyanov, S. Itohara

**T06-38B**

**Optogenetic interrogation of the mechanism of astrocyte-neurone communication in the locus coeruleus**

S. Lane, F. Tang, S. Kasparov, A. Teschemacher

**T06-39B**

**Potential physiological role of astrocytic glycogen-derived lactate in energy balance**

J. Thaler, M. Dorfman, M. Matsen, M. Schwartz

**T06-40B****A new approach to understanding the 3D structure of the CNS node of Ranvier**

K. Tohyama, T. Hanasaka, K. Ogasawara, E. Matsuura, T. Nozaki, K. Ishida

**T06-41B****IOP induces qualitative but not quantitative changes in astrocytes in mice retina contralateral to experimental glaucoma**

A. Triviño, B.I. Gallego, B. Rojas, R. de Hoz, A.I. Ramírez, J.J. Salazar, F.J. Valiente-Soriano, M.P. Villegas-Pérez, J. Ramírez

**T06-42B****Role of CX3CR1 in supporting cell-to-cell contacts between microglia and degenerating TH+ neurons**

J. Uhlrich

**T06-43B****BDNF-mediated enhancement of LTP is modulated by astrocytes**

S. Vaz, A. Sebastião

**T06-44B****Chronic stress induces profound structural remodelling of astrocytes within the prefrontal cortex: A characterization of the relationship between astrocyte morphology and density**

R. Tynan, S. Beynon, M. Nilsson, F. Walker

**T06-45B****Regulation of nutrient transport across the BBB**

A. Weiler, S. Limmer, C. Klämbt

**T06-46B****Metabolic imaging in the awake mouse**

M. Wyss, M. Zünd, J. Mayrhofer, P. Mächler, F. Barros, B. Weber

**T06-47B****Lactate as a signaling molecule for the regulation of plasticity-related genes expression**

J. Yang, P. Jourdain, J.-M. Petit, G. Grenningloh, E. Ruchti, I. Allaman, P. Magistretti

**T06-48B****Amino acid exchanger in the brain of Drosophila: phylogenesis, expression and function**

A.B. Ziegler, M. Simonnet, Y. Grosjean

**T07 ISCHEMIA AND HYPOXIA****T07-01B****Microglia express the dopaminergic D2 receptor upon activation in experimental stroke**

J. Huck, P. Mergenthaler, N. Gladow, J. Priller

**T07-02B****Transplantation of cerebral microvascular endothelial cells promotes remyelination in ischemic white matter damage**

Y. Ishizaki, S. Puentes, M. Kurachi, K. Shibasaki, M. Naruse, Y. Yoshimoto, M. Mikuni, H. Imai

**T07-03B****Sirt1 regulates the regenerative response of white matter oligodendrocyte progenitor cells after neonatal hypoxia**

B. Jablonska, M. Gierdalski, M. Catron, V. Gallo

**T07-04B****Cannabinoid receptor antagonists/inverse agonists, hinokiresinols regulate astroglial heme-oxygenase-1 expression and microglial migration**

C. Ju, P. Prather, W.-K. Kim

**T07-05B****Long-term activation of the hippocampal neurogenic niche following stroke**

S. Keiner, M. Storch, O.W. Witte, C. Redecker

**T07-06B****Oxygenation regulates monocarboxylate transporter 4 (MCT4) expression via HIF-1a in primary cultures of mouse cortical astrocytes**

K. Rosafio, L. Pellerin

**T07-07B****Metabolic impairment of Müller glia differentially affects retinal ganglion cell survival after acute ischemia/reperfusion in the mouse eye in vivo**

T. Vohra, R. Schultz, O. Witte, C. Schmeer

**T07-08B****Phenotypic characterization of CD200R+ microglia/macrophages and CD200+ neuronal cells in Neonatal C57BL/6 mice brain following hypoxia/ischemia**

K. Shrivastava, M. Chertoff, L. Gimenez-Llort, B. Gonzalez

**T07-09B****Glial activation following oxygen-glucose deprivation**

G. Skibo, M. Orlovsky, G. Maleeva, M. Patseva, I. Lushnikova

**T07-10B****Differentiated character of astroglial proliferative response to transient ischemia in the cerebral cortex and striatum of the rat**

A. Steliga, M. Waskow, S. Wójcik, G. Lietzau, I. Klejbor, Z. Karwacki, P. Kowiański

**T07-11B****Glial expression of metabotropic glutamate receptors in the mouse optic nerve: a role in ischemia mediated disruption in postnatal CNS white matter**

I. Vanzulli, A. Butt

**T07-12B****Ischemic preconditioning in vivo and hypoxia-hypoglycemia in vitro induce interferon stimulated gene expression in microglia**

J. Weinstein, R. Lee, S. Noor, J. Colman, S. Murphy, T. Möller

**T07-13B****Involvement of TREK-1 channel activity in astrocyte function and neuroprotection under ischemia conditions**

M. Xie, X. Wu, Y. Liu, X. Chen, Q. Sun

**T08 MYELIN****T08-01B****FASN-mediated fatty acid homeostasis is critical for myelination**

L. Montani, M. Trötz Müller, B. von Niederhäusern, P. Dimas, H. Pohl, C.F. Semenkovich, H.C. Köfeler, S. Jessberger, U. Suter

**T08-02B****The nootropic agent nefiracetam is a potential remyelinating therapeutic in vivo**

R.P. Murphy, E.A. Keogh, S.D. O'Shea, G. Bowen, M. Pickering, K.J. Murphy

**T08-03B****Kif13B motor protein regulates myelination in the peripheral and central nervous system**

R. Nosedá, S. Scarlino, D. Triolo, D. Sherman, L. Feltri, L. Wrabetz, K.A. Nave, R.L. Haganir, S.C. Previtali, A. Bolino

**T08-04B****Exploring the mechanism of action of the novel remyelinating therapeutic Nefiracetam**

S.D. O'Shea, E.A. Keogh, R.P. Murphy, G. Bowen, M. Pickering, K.J. Murphy

**T08-05B****Up-regulation of the multiligand receptor megalin/LRP-2 in multiple sclerosis**

M. Ortega, D. Clemente, F. de Castro

**T08-06B****The adaxonal compartment of CNS myelin: septin filaments are required to prevent pathological outfoldings of myelin sheaths**

J. Patzig, W. Möbius, S. Tenzer, K. Nave, H. Werner

**T08-07B****Ganglioside GD1A: a novel molecular tool to promote remyelination in MS lesions?**

J. Qin, D. Hoekstra, W. Baron

**T08-08B****The transcription factor Sip1 is required for peripheral nerve myelination**

S. Quintes, B. Brinkmann, M. Ebert, T. Kungl, V. Tarabykin, D. Huylebroeck, D. Meijer, K.-A. Nave, M. Sereda

**T08-09B****Role of Jun activating binding protein 1 (Jab1) in central nervous system (CNS) myelination**

C. Rivellini, E. Porrello, G. Dina, K.-A. Nave, C. Lappe-Siefke, R. Pardi, A. Quattrini, S.C. Previtali

**T08-10B****In vivo pathogenesis of demyelination in an animal model of multiple sclerosis**

E. Romanelli, S. Potz, D. Merkler, M. Weber, D. Bishop, T. Misgeld, M. Kerschensteiner

**T08-11B****Efficient lentiviral gene delivery to Schwann cells**

I. Sargiannidou, A. Kagiava, S. Bashardes, J. Richter, N. Schiza, C. Christodoulou, A. Gritti, K. Kleopa

**T08-12B****Modulation of neuregulin-1 signaling in S63del-CMT1B neuropathy**

C. Scapin, C. Ferri, E. Pettinato, V. Volpi, M. Schwab, K.-A. Nave, C. Taveggia, M.L. Feltri, M. D'Antonio, L. Wrabetz

**T08-13B****Schwann cell neuregulin-1 constitutes an endogeneous factor of myelin repair**

R.M. Stassart, R. Fledrich, V. Velanac, D. Meijer, M. Schwab, M.W. Sereda, K.-A. Nave

**T08-14B****Schwann cell type-specific requirements of Dynamin-2 function revealed by gene ablation**

E. Tinelli, J. Pereira, U. Suter

**T08-15B****Oligodendrocyte production in the adult CNS: myelin remodelling or replacement?**

R. Tripathi, I. McKenzie, E. Kougoumtzidou, W. Richardson

**T08-16B****Immunoglobulin dependent modulation of Schwann cell differentiation: implication for peripheral nerve damage and disease**

N. Tzekova, A. Heinen, S. Bunk, C. Hermann, H.-P. Hartung, P. Küry

**T08-17B****The role of the ERAD pathway in the pathophysiology of PNS myelination**

V. Volpi, E. Pettinato, C. Ferri, C. Scapin, H.L. Ploegh, M.L. Feltri, L. Wrabetz, M. D'Antonio

**T08-18B****Ectopic myelination of cerebellar granule cell axons triggered by PtdIns(3,4,5)P3-dependent neuronal signals**

G.L. Wieser, A. Pieper, B. Weege, S.P. Wichert, W. Hinrichs, M.J. Rossner, K.-A. Nave, S. Goebbels

**T08-19B****Functions of exon-II containing isoforms of myelin basic protein in oligodendrocytes**

H. Yigit, L. Meyer, C. Gonsior, P. Hoch-Kraft, J. Trotter

**T08-20B****Myelin basic protein synthesis is regulated by small non-coding RNA 715**

N. Bauer, C. Müller, J. van Horssen, H. Luhmann, R. White

**T09 NEURAL STEM/PROGENITOR CELLS****T09-01B****Neurogenic and gliogenic astroglial progenitors in the developing cerebellum**

E. Parmigiani, K. Leto, C. Rolando, A. Buffo, F. Rossi

**T09-02B****Generation of oligodendrocyte precursors by direct cellular reprogramming**

M. Pawlowski, M. Trotter, M. Kotter

**T09-03B****Mechanisms of activation of the adult subventricular zone in response to inflammatory demyelination**

F. Pourabdolhossien, C. Deboux, V. Tepavcevic, A. Baron Van-Evercooren

**T09-04B****GFAP-positive cells are multipotent progenitors with limited self-renewal potential in the adult spinal cord**

R. Fiorelli, O. Raineteau

**T09-05B****Distinct roles of Nogo-A and Nogo Receptor 1 in the homeostatic regulation of adult neural stem cell function**

C. Rolando, R. Parolisi, E. Boda, F. Rossi, V. Taylor, A. Buffo

**T09-06B****The impact of erythropoietin and its isoforms on murine neurogenesis**

S. Rolfes, E.-M. Lyras, C. Böttcher, J. Priller

**T09-07B****Stimulation of Müller glia proliferation and progeny generation in the mouse retina**

P. Schaefer, K. Anastissiadis, M.O. Karl

**T09-08B****The human enteric nervous system: an appropriate autologous source for neural stem cells**

K.-H. Schäfer, C. Hagl, S. Heumüller, E. Wink, A. Moosmann, D. Grundmann

**T09-09B****High efficiency transfection and survival rates of oligodendrocyte precursor cells achieved by electroporation**

S. Schröder, B. Bertram, A. von Holst

**T09-10B**

**Two neurogenic factors with synergistic action, Cend1 and Neurogenin-2, drive astrocytic reprogramming towards multipotency and neurogenesis**

K. Aravantinou-Fatorou, R. Matsas, B. Berninger, D. Thomaïdou

**T09-11B**

**Towards remyelination therapy: derivation of oligodendrocyte precursors from adult bone marrow stromal cells**

Y.P. Tsui, R. Li, A. Lo, Y. Chan, D. Shum

**T09-12B**

**Subventricular glial nodules in the third and lateral ventricles of the human brain contain neural stem cells**

M. van Strien, S. van den Berge, J. Sluijs, E. Hol

**T09-13B**

**Neural stem cell properties of an astrocyte subpopulation sorted by sedimentation field-flow fractionation**

N. Vedrenne, V. Sarrazy, S. Battu, N. Bordeau, F. Billet, V. Coronas, A. Desmoulière

**T09-14B**

**Adult spinal cord and adult DRG sphere-forming cells exhibit distinct but promising features for CNS remyelination**

M. Vidal, M. Maniglier, V. Zujovic, C. Deboux, A. Baron-Van Evercooren

**T09-15B**

**Cx3cr1-expressing cells analysis reveals distinct features of microglia residing within the postnatal subventricular zone/rostral migratory stream**

A. Xavier, J. Menezes, M. Nedergaard

**T09-16B**

**Poster will not be presented**

**T10 NEUROIMMUNOLOGY AND NEUROINFLAMMATION****T10-01B**

**Nogo-66/NgR signal is involved in neuroinflammation through regulating microglia inflammatory mediators expression**

J. Yan, Z. Zhang, X. Zhou, H. Liao

**T10-02B**

**FGF9 inhibits remyelination via an off target effect on astrocytes**

M. Lindner, A. Arthur, C. Elliott, A. Williams, E. Meinel, H. Lassmann, C. Linington

**T10-03B**

**Astrocyte-targeted production of IL-10 modifies glial phenotype**

G. Llovera, B. Almolda, I. Barrera, C. de Labra, B. Ferrer, M.J. Hofer, I.L. Campbell, J. Hidalgo, B. González, B. Castellano

**T10-04B**

**Nutritional n-3 polyunsaturated fatty acid deficiency impairs microglial cell activity in the developing brain**

C. Madore, C. Portal, A. Aubert, A. Sere, A. Nadjar, C. Joffre, S. Layé

**T10-05B**

**The effect of milnacipran and venlafaxine in a rat neuropathic pain model: glia cell modulation**

W. Makuch, E. Rojewska, M. Zychowska, K. Popiolek-Barczyk, J. Mika, B. Przewlocka

**T10-06B**

**Telomere dysfunction leads to changes in microglial numbers and morphology in a mouse model of premature aging**

A. Manzoor Khan, A. Babcock, H. Saeed, M. Kassem, B. Finsen

**T10-07B**

**The Lactosylceramide synthase B4galt6 controls astrocytes activation during chronic CNS inflammation**

L. Mayo, M. Nadeau, M. Blain, I. Mascanfroni, A. Yeste, J.P. Antel, S.A. Trauger, H.L. Weiner, F.J. Quintana

**T10-08B****TLR2-induced MMP9 activation compromise blood brain barrier and enhances brain damage in collagenase-induced intracerebral hemorrhage**

H. Min, Y.-H. Jang, J. Hong, K.I. Kwak, S. Lee, S.J. Lee

**T10-09B****Retinoic acid, a novel regulator of blood-brain barrier function in neuroinflammation**

M. Mizee, S. van der Pol, J. Drexhage, B. van het Hof, R. Mebius, P. van der Valk, J. van Horsen, A. Reijerkerk, E. de Vries

**T10-10B****ABCD2 expression modifies the phenotype in ABCD1 deficient mouse peritoneal macrophages**

Z. Muneer, C. Wiesinger, G. Regelsberger, J. Berger, S. Forss-Petter

**T10-11B****Anti-inflammatory properties of omega 3 supplementation restore normal microglia-neuron interactions in the hippocampus in a model of prenatal inflammation**

A. Nadjar, C. Madore, A. Sere, A. Aubert, S. Layé

**T10-12B****Sildenafil (Viagra®) prevents glial activation in a mouse demyelination model possibly via NFκB**

A.K. Nunes, C. Raposo, R. Luna, S. Araújo, W. Oliveira, A.G. Oliveira, K. Barbosa, M.A. Hoffling, C. Peixoto

**T10-13B****The effect of lipopolysaccharide induced maternal inflammation on the cytoarchitectural development on the amygdala and hippocampus**

E. O'Loughlin, K. McDermott

**T10-14B****Neuroimmunological changes in the neurodegeneration caused by cystatin B deficiency (progressive myoclonus epilepsy)**

O. Okuneva, Z. Li, I. Körber, L. Tian, T. Joensuu, A.-E. Lehesjoki, O. Kopra

**T10-15B****Microglial cell activation by lipopolysaccharide does not induce neurotoxicity in organotypic hippocampal slice cultures**

I. Papageorgiou, J. Scheffel, U.-K. Hanisch, O. Kann

**THE CENTER FOR STROKE RESEARCH BERLIN**

The Center for Stroke Research Berlin (CSB) at the Charité - Universitätsmedizin Berlin has been funded since July 2008 by the Federal Ministry of Education and Research as an Integrated Research and Treatment Center (IFB).

A dozen CSB research groups perform disease-oriented basic research, clinical research, epidemiology and health services research related to stroke. The approach to stroke is interdisciplinary, with neurologists, neurosurgeons, immunologists, cardiologists, radiologists, and epidemiologists actively cooperating. In its second funding period, starting in June 2013, the CSB will focus on three areas: Protect Brain – Prevent Complication – Restore Function.

Internal structures have been established by the CSB to further research and improve research conditions: the trial team module, which supports clinical studies; the experimental lab module, which holds resources for basic research; the training module including the extra-occupational Master of Science in Cerebrovascular Medicine degree program; and the health care module, comprising IT and health care projects.

Also participating in the CSB are the Max Delbrück Center for Molecular Medicine Berlin-Buch (MDC) and the Medical Park AG. Within the Charité itself, several hospitals and institutes are engaged in the CSB.

The Berlin Stroke Alliance is a consortium of more than 50 institutions involved in the acute phase, rehabilitation and aftercare of stroke patients. It was initiated by the CSB to provide comprehensive treatment and care as a coordinated care chain. With respect to clinical research, this care chain offers a basis for early recruitment of study participants, continuous aftercare and long-term studies. Research in stroke prevention, acute treatment, rehabilitation and care are carried out in cooperation with the respective members of the Berlin Stroke Alliance.

For more information about the CSB, please visit [www.strokecenter.de](http://www.strokecenter.de)

**T10-16B****Continuous vs bolus exposure of microglial cells to hydrogen peroxide**

P. Pathipati, S. Mueller, X. Jiang, D. Ferriero

**T10-17B****Do stressed oligodendrocytes trigger microglia activation in pre-active MS lesions?**

L. Peferoen, D. Vogel, M. Breur, W. Gerritsen, C. Dijkstra, S. Amor

**T10-18B****CD300f immunoreceptor is a novel neuron-glia interaction molecule with a neuroprotective role after acute brain injuries**

E. Taranto, D. Alí-Ruiz, D. Blanco, D. Tejera, A. Ejarque-Ortíz, L. Reyes, E. Comas-Casellas, M. Negro, A. Martínez-Barriocanal, N. Lago, P. Oliver, J. Sayós, H. Peluffo

**T10-19B****Opposing roles of nitric oxide and interleukin-10 on CXCL12 gene expression in astrocytes**

F. Petkovic, J. Blazevski, M. Momcilovic, M. Mostarica Stojkovic, D. Miljkovic

**T10-20B****IGG-001, but not Aspirin promotes myelin gene expression in oligodendrocytes**

A. Preisner, J. Lillienbeck, A. Lürbke, E. Hoffmann, C. Kemming, T. Kuhlmann

**T10-21B****Chemokine signalling in hippocampal lesions of multiple sclerosis patients**

M. Prins, R. Dutta, B. Trapp, E. de Vries, L. Janssens, B. Drukarch, A.-M. van Dam

**T10-22B****Role of microglia activation in neurogenic hypertension**

M. Santisteban, J. Zubcevic, S. Kim, J.Y. Jun, P. Shi, E. Scott, C. Summers, M. Raizada

**T10-23B****Priming of microglia as response to neuronal dysfunction in a DNA repair deficient model of accelerated aging**

D. Raj, D. Jaarsma, M. Olah, F. Ferreira, I. Holtman, W. Schaafsma, N. Brouwer, M. Meijer, M. de Waard, I. van der Pluijm, R. Brandt, K. Kreft, J. Laman, B. Dykstra, G. de Haan, B. Eggen, K. Biber, J. Hoeijmakers, H. Boddeke

**T10-24B****Phoneutria nigriventer spider venom activates astrocytes and microglia through sGC-cGMP inhibition**

C. Raposo, J. Sant'Ana, W.F. Cunha, A.K. Santana Nunes, C. Alves Peixoto, M.A. da Cruz-Höfling

**T10-25B****In vivo imaging of astrocytes activation in rat hippocampus as a biomarker of epilepsy using <sup>1</sup>H-magnetic resonance spectroscopy**

T. Ravizza, A. Frasca, E. Micotti, M. Filibian, A. Vezzani

**T10-26B****IL-10 induces changes in microglial reactivity following perforant pathway transection in GFAP IL-10Tg mice**

M. Recasens, B. Almolda, C. de Labra, I. Barrera, M.J. Hofer, I.L. Campbell, B. Gonzalez, B. Castellano

**T10-27B****Interferon gamma protects mice from CNS autoimmunity also in the absence of IL-17A and IL-17F**

T. Regen, J. Huppert, N. Yogev, I. Prinz, A. Waisman

**T10-28B****Immune response in rat neuron-glia co-cultures infected with Neospora caninum: role of oxide nitric synthetase inducible**

C.S. Ribeiro, M.D.F. Costa, A. Santos, M. Arruda, E. Jesus, G. Ferraz, A. Pinheiro, L. Jesus, S. Costa

**T10-29B****Microglial activation in contralateral mice retina to experimental glaucoma**

B. Rojas, B.I. Gallego, J.J. Salazar, R. de Hoz, A.I. Ramírez, F.J. Valiente-Soriano, M. Avilés-Trigueros, J. Ramírez, A. Triviño

**T10-30B****The mechanism of analgesia after minocycline administration in a rat model of neuropathic pain**

E. Rojewska, W. Makuch, B. Przewłocka, J. Mika

**T10-31B****Epigenetic memory in microglia?**

W. Schaafsma

**T10-32B****Differential regulation of the Wnt signaling pathway in experimental autoimmune encephalomyelitis**

R. Schneider, B. Bosch, F. Schröter, J. Ingwersen, C. Berndt, H.-P. Hartung, T. Prozorovski, O. Aktas

**T10-33B****Development of an in vitro model to study the impact of iron in inflammatory demyelinating diseases**

C. Schuh, S. Hametner, I. Wimmer, M. Lindner, C. Elliott, M. Bradl, C. Linington, H. Lassmann

**T10-34B****Inflammatory mediators increase expression of tissue Transglutaminase, but not Factor XIIIa, in primary human monocytes**

C. Sestito, N.L. Chrobok, J.J. Breve, S. van der Pol, H.E. de Vries, P.J. van den Elsen, M.M. Wilhelmus, B. Drukarch, A.-M. van Dam

**T10-35B****TLR3 and-4 mediated fibronectin aggregation after demyelination impairs remyelination**

A.H. Sikkema, M.J. Vos, B. Mikus, P. de Boer, K. Dörenkämper, J.C. de Jonge, A. Nomden, D. Hoekstra, W. Baron

**T10-36B****Temporal and regional pattern of expression of pro-inflammatory and anti-inflammatory genes in mouse experimental autoimmune encephalomyelitis**

T. Valente, G. Dentesano, U. Perpiñà, J. Saura, C. Solà

**T10-37B****Expression of metabotropic glutamate receptor 4 (mGluR4) in glial cells and its involvement in oligodendrocyte survival**

S.F. Spampinato, S. Merlo, T. Sinagra, R. Calabrese, F. Nicoletti, M.A. Sortino

**T10-38B****TGFβ-mediated regulation of classical and alternative microglia activation states**

B. Spittau, X. Zhou, L. Wullkopf, J. Rilka, D. Pfeifer, K. Kriegelstein

**T10-39B****Presence of severe neuroinflammation does not intensify the extent of neurofibrillary degeneration**

W. Streit, Q.-S. Xue

**T10-40B****Regulation of progranulin expression and modulation of progranulin by matrix metalloproteinase-12 (MMP-12) and secretory leukocyte protease inhibitor (SLPI) in human microglia**

H.-S. Suh, N. Choi, S.C. Lee

**T10-41B****A high fat diet exacerbates neuroinflammation by activation of the brain renin angiotensin system in experimental autoimmune encephalomyelitis**

S. Timmermans, J. Bogie, T. Vanmierlo, P. Stinissen, N. Hellings, J. Hendriks

**T10-42B****The phenotypes of microglia and macrophages during experimental autoimmune encephalomyelitis**

I. Vainchtein, J. Vinet, N. Brouwer, B.J.L. Eggen, H.W.G. Boddeke

**T10-43B****Seropositive and seronegative neuromyelitis optica differs in the inflammatory profile: an in vitro study on spinal cord glial cultures**

T. Valente, L. Sabater, F. Mannara, F. Graus, J. Saura, A. Saiz

**T10-44B****Targeted cell ablation reveals dynamics of immune responses to programmed cell death in the brain**

T.J. van Ham, R. Kalicharan, J. Kuipers, B.N.G. Giepmans

**T10-45B****Effects of astrocyte-targeted IL-6 or IL-10 production on neuronal survival and microglial activation after facial nerve axotomy**

N. Villacampa, B. Almolda, M. Hopfer, J. Hidalgo, I. Campbell, B. González, B. Castellano

**T10-46B****Macrophages in inflammatory multiple sclerosis lesions have an intermediate activation status**

D. Vogel, E. Vereyken, J. Glim, P. Heijnen, M. Moeton, P. van der Valk, S. Amor, C. Teunissen, J. van Horssen, C. Dijkstra

**T10-47B****Scavenger receptor A (SRA) in the induction of inflammatory activation of microglia and astrocytes: its relevance for Alzheimer's disease**

R. von Bernhardi, F. Cornejo, G. Ramirez, J. Eugenin



**T10-48B****Impact of the Immuno-proteasome on the pathogenesis of Alzheimer's and Parkinson's disease**

L. Wagner, R. Verma, S. Prokop, E. Krüger, P.M. Kloetzel, F.L. Heppner

**T10-49B****Cell types derived from CD34+ stem cells show diverging phenotypes in X-linked adrenoleukodystrophy**

F.D. Weber, C. Wiesinger, S. Forss-Petter, G. Regelsberger, H. Stockinger, J. Berger

**T10-50B****Interleukin-33 in brain development and traumatic brain injury**

G. Wicher, U. Wallenquist, M. Enoksson, B. Fuchs, E. Husic, L. Hillered, G. Nilsson, K. Forsberg-Nilsson

**T10-51B****Molecular mechanisms driving tissue damage in multiple sclerosis**

I. Wimmer, M.T. Fischer, R. Höftberger, S. Gerlach, L. Haider, T. Zrzavy, S. Hametner, D. Mahad, C.J. Binder, J. Bauer, M. Bradl, H. Lassmann

**T10-52B****Antigen-presenting cells in the central nervous system in EAE**

A. Włodarczyk, M. Løbner, O. Cédile, T. Owens

**T10-53B****Glutamate receptors in EAE and microglia activation**

S. Wörtge, J. Huppert, S. Lacher, J. Bruttger, F. Kurschus, K. Karram, T. Regen, C. Kuhlmann, H. Luhmann, A. Waisman

**T10-54B****Inhibition of EGFR/MAPK signaling reduces microglial inflammatory response and the associated secondary damage in rats after spinal cord injury**

Z. Yu, W. Qu

**T10-55B****The leukocytes influx is modified by genetic background in Alzheimer's disease rat models**

N. Zilka, Z. Kazmerova, M. Zilkova, P. Neradil, M. Novak

**T10-56B****Doxepin and fluoxetine influence neuropathic pain in rats and modulate microglia and astroglia cell activation**

M. Zychowska, W. Makuch, E. Rojewska, K. Popiolek-Barczyk, J. Mika, B. Przewlocka

**T10-57B****Netrins enhance blood-brain barrier function and regulate immune responses at the blood-brain barrier**

C. Podjaski, J. Bin, N. Lebeurrier, S. Terouz, L. Bourbonniere, S. Larouche, M. Blain, C. Larochelle, L.H. Hachehouche, M. Sabbagh, A. Nakano, J.I. Alvarez, P. Gris, P. Darlington, J.P. Antel, T.E. Kennedy, A. Prat

**T10-58B****MMP-independent role of TIMP-1 in regulating CD4 T cell migration across the glia limitans during viral encephalomyelitis**

C. Savarin, C. Bergmann, D. Hinton, S. Stohlman

**T11 NEUROVASCULAR INTERACTIONS****T11-01B****Cerebral cortical blood flow response to brief basal forebrain stimulation**

N. Takata, T. Nagai, K. Ozawa, K. Mikoshiba, H. Hirase

**T11-02B****The 'double settlement' of the perivascular glia – changes during the radial glia/astrocytes replacement. An immunohistochemical study in rats**

M. Kalman, K. Pocsai, Z. Bagyura, I. Adorjan

**T11-03B****The oligodendrogenic activity of brain pericytes: a novel player during myelin repair?**

S. Lange, P. Rotheneichner, P. van Wijngaarden, G.A. Gonzalez, A. Guzman De La Fuente, C. Zhao, R.J.M. Franklin, L. Aigner, F.J. Rivera

## T12 REGENERATION AND REPAIR

### T12-01B

#### Embryonic stem cell-derived microglia and primary microglia display a similar transcriptome signature

B. Linnartz-Gerlach, C. Beutner, S. Schmidt, M. Beyer, M. Mallmann, A. Staratschek-Jox, J.L. Schultze, H. Neumann

### T12-02B

#### Spinal cord injury: development of a novel *in vitro* model

M. McGrath, S.D. Boomkamp, S.C. Barnett, M. Riehle

### T12-03B

#### Mobilization of progenitors in the subventricular zone to undergo oligodendrogenesis in the theiler's virus model of multiple sclerosis: implications for a remyelinating process in lesions sites

M. Mecha, A. Feliu, F.J. Carrillo-Salinas, C. Guaza

### T12-04B

#### Galectin-1/NRP1 interaction via carbohydrate binding produces regenerative response and functional recovery after spinal cord injury by blocking the Semaphorine 3A pathway

L.A. Pasquini, H.R. Quinta, G.A. Rabinovich, J.M. Pasquini

### T12-05B

#### High resolution microscopic analysis of the peripheral nerve regeneration using double/triple fluorescent transgenic mice

L. Politti Cartarozzi, A. Cupido, R.G. Zanon, A. Scheller, A. Leite Rodrigues de Oliveira, F. Kirchhoff

### T12-06B

#### Maldi imaging mass spectrometry: a novel technology for studying neurosciences

I. Fournier, J. Franck, F. Croq, D. Cizkova, C. Lefebvre, J. Vizioli, P.-E. Sautière, M. Salzet

### T12-07B

#### Aligned Schwann cells derived from human dental pulp stem cells direct neurite growth in a tissue engineered collagen construct

K. Sanen, W. Martens, M. Georgiou, J. Phillips, I. Lambrechts, M. Ameloot

### T12-08B

#### Regulation of astrocyte activation by the cleaved P75 neurotrophin receptor

C. Schachtrup, J. Kyu Ryu, P.M. Carlton, N. Le Moan, A. Perez, E. Vagena, M.H. Ellisman, T. Wyss-Coray, K. Akassoglou

### T12-09B

#### Reactive glia acquire stem cell properties in response to Sonic hedgehog in the injured brain

S. Sirko, G. Behrendt, P. Johansson, N. Plesnila, K. Grobe, L. Dimou, M. Götz

### T12-10B

#### Oncostatin M reduces lesion size and promotes functional recovery after spinal cord injury

H. Slaets, S. Nelissen, K. Janssens, P.-M. Vidal, S. Hendrix, N. Hellings

### T12-11B

#### EphrinB3 antibody accelerates CNS remyelination following toxin-induced demyelination

Y.A. Syed, M. Hofer, G. Gonzalez, K. Armin Nave, M. Kotter

### T12-12B

#### Profiling of aquaporin 4 knockout astrocytes regarding tight junction protein expression

G. Szabó

### T12-13B

#### Enhancement of stem cell integration into the retina by modulating glial reactivity in an *in-vitro* stem cell transplantation model

A. Tassoni, N. Bull, K. Martin

### T12-14B

#### Netrin-1 and central nervous system remyelination

V. Tepavcevic, M.-S. Aigrot, C. Kerninon, E. Meppiel, S. Mozafari, R. Arnauld-Laurent, C. Ross, P. Ravassard, T. Kennedy, B. Nait Oumesmar, C. Lubetzki

### T12-15B

#### Human platelet derived growth factor responsive neural precursors (PRPs) differentiate into mature oligodendrocytes and produce myelin when transplanted into the injured rat spinal cord

G.J. Duncan, A. Chojnacki, J.R. Plemel, P. Assinck, A. Samiei, J. Kim, Y. Jiang, J. Liu, S. Weiss, W. Tetzlaff

**T12-16B****Optimization of iPS-cell based remyelination cell therapy in a nonhuman primate model for multiple sclerosis (MS)**

A. Thiruvalluvan, M. Czepiel, J. Boertien, B. A. 't Hart, Y. Kap, E. Boddeke, S. Copray

**T12-17B****Vascular niche provides unique microenvironment for oligodendrocyte precursor cells differentiation during CNS remyelination**

J. Ulanska-Poutanen, J. Mieczkowski, B. Kaminska, C. Zhao, R.J.M. Franklin, M. Zawadzka

**T12-18B****New insights into the reaction of mouse oligodendrocyte progenitor cells after brain injury by live in vivo imaging**

A. von Streitberg, C. Straube, M. Götz, L. Dimou

**T12-19B****Low-dose-fractionated X-irradiation attenuates astrogliosis-mediated inhibition of axonal regeneration and facilitates recovery of motor function after spinal cord hemi-section in Beagle dogs**

W. Wang, Q. Zhang

**T12-20B****Investigation of de- and remyelination of toxin-induced lesions in the adult zebrafish optic nerve**

J. Muenzel, C. Becker, T. Becker, A. Williams

**T12-21B****Novel interactions between the c-Jun and Notch signalling pathways regulate the Schwann cell response to peripheral nerve injury**

D. Wilton, K. Malgapo, C. Benito, C. Gomis, J. Shen, D. Meijer, L. Feltri, L. Wrabetz, A. Behrens, R. Mirsky, K. Jessen

**T12-22B****Hematopoietic stem/progenitor cell-derived microglia-like cells with potential to support regeneration in the central nervous system**

B. Wylot, K. Konarzewska, M. Zawadzka

**T12-23B****Schwann cell c-Jun is essential for successful peripheral nerve regeneration**

R. Mirsky, P. Arthur-Farraj, M. Latouche, D. Wilton, S. Quintes, E. Chabrol, A. Woodhoo, B. Jenkins, M. Turmaine, A. Behrens, G. Raivich, K. Jessen

**T13 TRANSMITTER RECEPTORS, ION CHANNELS AND GAP JUNCTIONS****T13-01B****Functional role of potassium channels in oligodendroglial lineage cells**

S. Korr, P. Ehling, S. Albrecht, T. Kuhlmann

**T13-02B****Selective permeation pathway through connexin 43 hemichannels**

D. Bloch Hansen, J. Pauli Hofgaard, T. Hartig Braunstein, M. Schak Nielsen, N. MacAulay

**T13-03B****Ca<sup>2+</sup> permeable AMPA receptors are coupled to vesicular glutamate release from Bergmann glia processes**

M. Marcoli, C. Cervetto, M. Passalacqua, S. Alloisio, M. Nobile, D. Frattaroli, G. Maura

**T13-04B****The subpopulation of microglia expressing functional muscarinic acetylcholine receptors expands in stroke and Alzheimer's disease**

M. Pannell, F. Szulzewsky, V. Matyash, M. Endres, F. Heppner, G. Kronenberg, V. Prinz, S. Prokop, S. Waiczies, S.A. Wolf, H. Kettenmann

**T13-05B****Expression of Kir7.1 in glia; potential glioprotective qualities**

M. Papanikolaou, A. Lewis, A.M. Butt

**T13-06B****Molecular and functional characteristics of GABA<sub>A</sub> receptors in NG2 cells of the hippocampus**

S. Passlick, M. Grauer, C. Schäfer, R. Jabs, G. Seifert, C. Steinhäuser

**T13-07B****Differential regulation of acid-base transporters in glial cells following extracellular pH changes**

M. Schroedl, E. Roussa

**T13-08B****ATP released through connexin43 hemichannels mediates secondary cellular damage spread from the trauma zone to distal zones in astrocyte monolayers**

M. Rovegno, P.A. Soto, P.J. Saéz, C. Naus, J.C. Saéz, R. von Bernhardi

**T13-09B****Analysis of GABA<sub>B</sub> receptor deletion in mouse astrocytes**

L. Schlosser, A. Scheller, F. Kirchhoff

**T13-10B****Microglia in the embryonic cortex – mature team players or young bench sitters?**

N. Swinnen, S. Smolders, B. Brône, P. Legendre, J.-M. Rigo

**T13-11B****High bicarbonate sensitivity of mouse cortical astrocytes mediated by sodium-bicarbonate cotransporter NBCe1: a novel bicarbonate sensor?**

S.M. Theparambil, I. Ruminot, J.W. Deitmer

**T13-12B****The role of L-type calcium channels subtypes 1.2 and 1.3 in NG2 glia**

N. Zhao, W. Huang, A. Scheller, F. Kirchhoff

**T13-13B****Panx1 form Ca<sup>2+</sup> permeable membrane hemichannels essential for amyloid b peptide-induced mast cells degranulation**

P.A. Harcha, A.A. Vargas, J.C. Sáez

**T14 TUMORS****T14-01B****Migration of glioblastoma cells is modulated by KCa3.1 channel activity**

A. Grimaldi, G. D'Alessandro, C. Lauro, M. Catalano, C. Limatola

**T14-02B****Toll-like-receptor 2 mediates microglia/brain macrophage MT1-MMP expression and glioma expansion**

F. Hu, K. Vinnakota, M.-C. Ku, P. Georgieva, F. Szulzewsky, S. Lehnardt, U.-K. Hanisch, M. Synowitz, D. Markovic, R. Glass, S. Wolf, H. Kettenmann

**T14-03B****Dissecting the role of apelin signaling in gliomagenesis**

R.E. Kälin, A. Jarczewski, F. Apel, R. Monk, S. Kraft, J. Radke, F.L. Heppner

**T14-04B****Siglec-h on M1-polarized microglia triggers uptake of cells with an altered glycocalyx**

J. Kopatz, C. Beutner, J. Ackermann, H. Neumann, H. Neumann

**T14-05B****Glioblastoma a fatal tumour with stem cells**

V. Moura-Neto

**T14-06B****LIM domain kinases as therapeutic targets for neurofibromatosis type 2**

A. Petrilli, A. Copik, M. Posadas, L.-S. Chang, D.B. Welling, M. Giovannini, C. Fernandez-Valle

**T14-07B****Carcinoma cells misuse the host tissue danger response to invade the brain**

H.-N. Chuang, D.V. vanRossum, D. Sieger, L. Siam, F. Klemm, A. Bleckmann, M. Bayerlová, B. Wenske, K. Farhat, J. Scheffel, M. Schulz, F. Dehghani, C. Stadelmann, U.-K. Hanisch, C. Binder, T. Pukrop

**T14-08B****A vascularisation switch induced by Notch pathway activation in glioblastoma stem-like cells**

P.-O. Guichet, M. Teigell, L. Hopp, B. Rothhut, J.-P. Hugnot

**T15 LATE POSTER SESSION****T15-01B****Serotonin and axonal refinement during development: new players?**

M. Kolodziejczak, A. Rebsam, L. Maroteaux, A. Roumier

**T15-02B****Identification and quantification of proteins in tissue sections and laser capture microdissected astrocytes by matrix assisted laser desorption ionization mass spectrometry imaging (MALDI-MSI)**

R. Waller, P.R. Heath, M.N. Woodrooffe, S. Francese, S.B. Wharton, P.G. Ince, N.P. Rounding, B. Sharrack\*, J.E. Simpson\* \* Joint senior authors

**T15-03B****Antagonistic interaction between adenosine A<sub>2A</sub> receptors and Na<sup>+</sup>/K<sup>+</sup>-ATPase- $\alpha_2$ : implications for astrocyte glutamate uptake**

M. Matos, E. Augusto, M.A. Schwarzschild, P. Agostinho, R.A. Cunha, J.-F. Chen

**T15-04B****Study on the possible association between infarct development and microglial activation with behavioural deficits after permanent middle cerebral artery occlusion in mice**

Y. Couch, B. H. Clausen, N. Al Eisa, B. Finsen, D. C. Anthony, K. L. Lambertsen

**T15-05B****Altered calcium kinetics and mitochondrial oxidative stress in psychosine induced cell death: implications for globoid cell leucodystrophy**

V. Voccoli, I. Tonazzini, C. Cerri, M. Allegra, M. Caleo, M. Cecchini

**T15-06B****PI3K $\gamma$  regulates MMP expression in microglial cells by control of cAMP dependent signaling**

A. Frister, C. Schmidt, N. Schneble, R. Bauer, R. Wetzker

**T15-07B****Role of cannabinoid 1 receptors on hippocampal gabaergic neurons in brain aging**

Ö. Albayram, J. Alferink, A. Piyanova, K. Monory, B.Lutz, A.Zimmer, A.Bilkei-Gorzo

**T15-08B****In vivo characterization of the role of transcription factor Sox4 in Schwann cell myelination**

L. Bartesaghi, E. Arnaud, J.-J. Médard, R. Chrast

**T15-09B****CREB regulates calcium excitability in astrocytes**

E. Vicario, R. Villalonga, A. Voltes, L. Pardo, E. Galea, R. Masgrau



NeuroCure is a Cluster of Excellence in the neurosciences at the Charité – Universitätsmedizin Berlin established within the Excellence Initiative of the German federal and state governments. This interdisciplinary consortium consists of six partner institutions including the Charité, Humboldt-Universität zu Berlin, Freie Universität Berlin, Max Delbrück Center for Molecular Medicine (MDC), Leibniz Institute for Molecular Pharmacology (FMP) and Deutsches Rheuma-Forschungszentrum Berlin (DRFZ).

Structural goals of the Cluster include strengthening Berlin as a neuroscience research location; establishing neuroscience professorships and junior research groups with the Berlin universities and research institutions; extending the research network of the partner institutions; and expanding scientific and clinical infrastructures as well as technological platforms.

NeuroCure research addresses the problem that diseases of the nervous system can, in many cases, be treated but not cured. They have high rates of mortality, morbidity and disease-related costs, and will increase with the demographic shift towards an aging population. New insights into the function of the nervous system and better understanding of disease mechanisms are necessary to develop effective and potentially curative therapies and improved diagnostics.

The Cluster's overall aims include the transfer of knowledge from basic science to clinical application (translation); increasing understanding of disease mechanisms underlying different neurological diseases; and developing effective therapies and new diagnostic approaches for diseases such as stroke, multiple sclerosis, Alzheimer's disease and developmental disturbances of the central nervous system.

The NeuroCure Clinical Research Center (NCRC) – an outpatient unit situated on the Charité Campus Mitte – was established as an interface between basic science and clinical research to enable the rapid translation of scientific insights to clinical application, and allow greater patient access to new therapies and diagnostic options.

For more information, see [www.neurocure.de](http://www.neurocure.de)

# Map of Berlin subway and commuter railway system







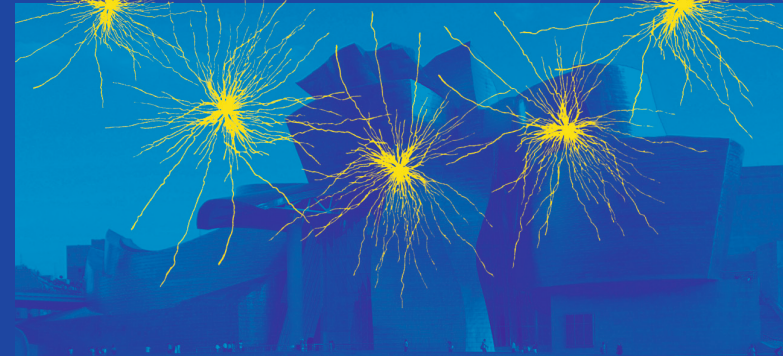




# Program at a glance

	Tuesday, July 2	Wednesday, July 3	Thursday, July 4	Friday, July 5	Saturday, July 6
08:00-09:00					
09:00-10:00	Introductory Course p.16	Workshops p.18	Plenary Lecture (P2) p.24 Coffee Break	Plenary Lecture (P4) p.30 Coffee Break	Plenary Lecture (P6) p.36 Coffee Break
10:15-11:15	Therapeutic strategies for leuko-dystrophies: outcomes & perspectives p.17	Opening Lecture (P1) p.20	Symposia II	Symposia IV	Symposia VI
11:15-12:15			Lunch Break	Lunch Break	Lunch Break
12:15-13:00					
13:15-14:15		Poster session I	Poster session I	Poster session II	Poster session II
14:15-15:15		Symposia I	Symposia III	Symposia V	Plenary Lecture (P7) p.38
15:15-16:15					
16:15-17:15		Poster session I + Coffee Break p.42	Coffee Break	Coffee Break	
17:15-17:30		Opening Reception	Plenary Lecture (P3) p.29	Plenary Lecture (P5) p.35	
17:30-18:30					
18:30-19:00					
19:00-20:00					
20:00					

[www.gliameeting.eu](http://www.gliameeting.eu)



## XII European Meeting on Glial Cells in Health and Disease Bilbao | July 8–11, 2015

Deadline for Symposium Proposals:  
February 17, 2014

MACS

Miltenyi Biotec

Fig: Astrocytes isolated in 1h, 7DIV, from P7 mouse brain. Staining: Anti-GLAST (ACSA-1) antibody (green) and Anti-GFAP (yellow).

## Isolate glial cells in just 1 hour

Discover all of Miltenyi Biotec's time-saving solutions for glial cells

- Enrich or deplete astrocytes, oligodendrocytes, and microglia in just 1 hour!
- Prevent cell modifications by avoiding the „shake-off“ method
- Save time with optimized tissue dissociation kits and detailed protocols



**Request your demo or quote** using the code or URL

► [macsneuroscience.com/glia](https://macsneuroscience.com/glia)

Miltenyi Biotec provides products and services worldwide. Visit [www.miltenyibiotec.com/local](https://www.miltenyibiotec.com/local) to find your nearest Miltenyi Biotec contact.

MACS is a registered trademark of Miltenyi Biotec GmbH. Copyright © 2013 Miltenyi Biotec GmbH. All rights reserved.