

## Scientific Programme

### Saturday, 01 April 2017

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Satellite  
08:30 - 18:00

Kaiserin Friedrich-Haus

#### **SA, 7. Gemeinsame Fortbildungsakademie des Kompetenznetzes Schlaganfall und des Centrums für Schlaganfallforschung Berlin - 7th Clinical Stroke Academy / German Competence Network Stroke**

Satellite Meeting

Fortbildungsakademie Schlaganfall  
Kompetenznetz Schlaganfall &  
Centrum für Schlaganfallforschung Berlin  
1. April 2017, Berlin

Tagungsort: Kaiserin Friedrich-Haus am Robert-Koch Platz in Berlin-Mitte.

<http://www.kompetenznetz-schlaganfall.de/symposium2017/>

Satellite  
09:00 - 10:30

Hörsaal A

#### **CA01, CARNet Session 1 - Basic science and modeling**

<b>Introduction to the 7th CARNet symposium</b> Jurgen A.H.R. Claassen (Netherlands)	<b>09:00 - 09:10</b>
<b>Key lecture: The capillary bed offers the largest hemodynamic resistance to the cortical blood supply</b> Andreas Linninger (United States)	<b>09:10 - 09:40</b>
<b>Phase shift between oxygenated and deoxygenated brain blood hemoglobin is reduced after 8% CO2 inhalation: a pilot study in healthy volunteers</b> Marcel Aries (Netherlands)	<b>09:40 - 09:52</b>
<b>Cerebral blood flow and oxygen delivery changes in response to oxygen inhalation: Impact from the genetic adaptation at high altitude</b> Jie Liu (China)	<b>09:52 - 10:04</b>
<b>Transcranial doppler ultrasonography in the assessment of neurovascular coupling response to cognitive examination in healthy controls: a subcomponent analysis</b> Lucy Beishon (United Kingdom)	<b>10:04 - 10:16</b>
<b>Wavelet based pressure reactivity index, a validation study</b> Xiuyun (Mary) Liu (United Kingdom)	<b>10:16 - 10:28</b>

## Scientific Programme

Brain Courses  
09:00 - 12:30

Hörsaal B

### BC01, Stroke pre-clinical models: where are we?

#### Chairs:

Marilyn J. Cipolla (United States)  
Sunghee Cho (United States)

<b>Introduction</b>	<b>09:00 - 09:10</b>
<b>Precision ischemic stroke animal models</b> John Zhang (United States)	<b>09:10 - 09:50</b>
<b>Meta-analysis of preclinical stroke animal model studies</b> David Howells (Australia)	<b>09:50 - 10:30</b>
<b>Coffee Break</b>	<b>10:30 - 11:00</b>
<b>Hemorrhagic transformation model: rPA and NADPH oxidase</b> Midori Yenari (United States)	<b>11:00 - 11:40</b>
<b>Large animal stroke models</b> Johannes Boltze (Germany)	<b>11:40 - 12:20</b>
<b>Discussion</b>	<b>12:20 - 12:30</b>

Brain Courses  
09:00 - 12:30

Hörsaal C

### BC02, "Grantcraft": the art of writing a successful grant proposal?

#### Chairs:

Samuel Knauss (Germany)  
Veronica Galvan (United States)

<b>Introduction</b>	<b>09:00 - 09:10</b>
<b>Streamlining your idea &amp; engage the reviewers</b> Arno Villringer (Germany)	<b>09:10 - 09:50</b>
<b>Starting early: Funding your training and your science from the get-go</b> Graeme Mason (United States)	<b>09:50 - 10:30</b>
<b>Coffee Break</b>	<b>10:30 - 11:00</b>
<b>The view of governmental funders</b> Jaroslaw Aronowski (United States)	<b>11:00 - 11:40</b>
<b>The view of private funders</b> Oliver Grewe (Germany)	<b>11:40 - 12:20</b>
<b>Discussion</b>	<b>12:20 - 12:30</b>

## Scientific Programme

BrainPET Courses  
09:00 - 12:30

Hörsaal D

### BP01, BrainPET: Fundamental principles

#### Chairs:

Mark Slifstein (United States)  
Simon Cervenka (Sweden)

<b>Introduction</b>	<b>09:00 - 09:10</b>
<b>PET physics: essentials of scanners, signal generation and image reconstruction</b> Paul Vaska (United States)	<b>09:10 - 09:50</b>
<b>Radioligand development: radiolabeling, tracer synthesis and tracer evaluation</b> Jan Passchier (United Kingdom)	<b>09:50 - 10:30</b>
<b>Coffee Break</b>	<b>10:30 - 11:00</b>
<b>Quantification: theory and application of pharmacokinetics</b> Roger Gunn (United Kingdom)	<b>11:00 - 11:40</b>
<b>Multimodal techniques: hybrid PET-MR update</b> Julie Price (United States)	<b>11:40 - 12:20</b>
<b>Discussion</b>	<b>12:20 - 12:30</b>

Satellite  
11:00 - 12:10

Hörsaal A

### CA02, CARNet Session 2 - Clinical application part 1: cerebral autoregulation in clinical conditions

<b>Key lecture: Cerebral hemodynamics in relationship with cerebral amyloid load</b> Rong Zhang (United States)	<b>11:00 - 11:20</b>
<b>Key lecture: Dynamic cerebral autoregulation in Alzheimer, MCI and controls</b> Jurgen A.H.R. Claassen (Netherlands)	<b>11:20 - 11:30</b>
<b>Is cerebral autoregulation really independent of age?</b> Marek Czosnyka (United Kingdom)	<b>11:30 - 11:43</b>
<b>Dynamic cerebral autoregulation: a marker of post-operative delirium?</b> Juliana Caldas (Brazil)	<b>11:43 - 11:56</b>
<b>Cholinergic enhancement with physostigmine does not affect cerebral autoregulation</b> Jorge Serrador (United States)	<b>11:56 - 12:09</b>

## Scientific Programme

Satellite  
12:10 - 12:30

Hörsaal A

### CA03, CARNet Session 3 - Plenary e-posters: 1 minute-1 slide-poster pitches

Satellite  
12:30 - 14:00

Hörsaal A

### CA04, CARNet - Lunch and poster-board session

Satellite  
14:00 - 15:30

Hörsaal A

### CA05, CARNet Session 4 - Clinical application part 2: clinical impact of cerebral autoregulation-small vessel disease

<b>Key lecture: Novel approaches to causes and consequences of cerebral small vessel disease</b> Geert Jan Biessels (Netherlands)	<b>14:00 - 14:30</b>
<b>The temporal profile of cerebral blood flow control in thrombolysis-eligible acute ischemic stroke patients: a prospective study</b> Ricardo Nogueira (Brazil)	<b>14:30 - 14:42</b>
<b>Dynamic cerebral autoregulation in sepsis assessed by transcranial doppler: acute dysregulation influence in severity (MARCUS pilot study)</b> Daniel De Azevedo (Brazil)	<b>14:42 - 14:54</b>
<b>Early transient hyperemic response test to predict outcome after aneurysmal subarachnoid hemorrhage</b> Carla di Leoni (Brazil)	<b>14:54 - 15:06</b>
<b>Determining cerebral hemisphere dominance following dominant and non-dominant passive arm manoeuvres</b> Osian Llwyd (United Kingdom)	<b>15:06 - 15:18</b>
<b>Are we all the same? A comparison of cerebral autoregulation parameters between Brazilian and British individuals</b> Angela Salinet (Brazil)	<b>15:18 - 15:30</b>

Brain Courses  
14:00 - 17:30

Hörsaal B

### BC03, Understanding immune responses in cerebrovascular disease

#### Chairs:

Maria-Grazia De Simoni (Italy)  
Stuart Allan (United Kingdom)

<b>Introduction</b>	<b>14:00 - 14:10</b>
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## Scientific Programme

<b>General overview and Inflammation as a therapeutic target and/or biological marker in stroke</b> Stuart Allan (United Kingdom)	<b>14:10 - 14:50</b>
<b>Peripheral versus central inflammatory responses after stroke</b> Arthur Liesz (Germany)	<b>14:50 - 15:30</b>
<b>Coffee Break</b>	<b>15:30 - 16:00</b>
<b>Immune cell type specificity - microglia and macrophages in the ischemic brain, are they different or the same?</b> Anna Planas (Spain)	<b>16:00 - 16:40</b>
<b>Chronic inflammatory responses after stroke</b> Marion Buckwalter (United States)	<b>16:40 - 17:20</b>
<b>Discussion</b>	<b>17:20 - 17:30</b>

Brain Courses  
14:00 - 17:30

Hörsaal C

### BC04, Cutting-edge technologies for multi-scale and multi-modal neuroimaging

#### Chairs:

Elisa D'Este (Germany)  
Xiao-Hong Zhu (United States)

<b>Introduction</b>	<b>14:00 - 14:10</b>
<b>How to study molecular details of brain cells through super-resolution</b> Elisa D'Este (Germany)	<b>14:10 - 14:50</b>
<b>Emerging MR methods for metabolic imaging</b> Xiao-Hong Zhu (United States)	<b>14:50 - 15:30</b>
<b>Coffee Break</b>	<b>15:30 - 16:00</b>
<b>Multi-photon microscopy to study neuronal activity and vascular dynamics in awake animals</b> Bojana Stefanovic (Canada)	<b>16:00 - 16:40</b>
<b>Quantitative neuroimaging with calibrated fMRI</b> Fahmeed Hyder (United States)	<b>16:40 - 17:20</b>
<b>Discussion</b>	<b>17:20 - 17:30</b>

BrainPET Courses  
14:00 - 17:30

Hörsaal D

### BP02, BrainPET: Clinical applications

#### Chairs:

Mark Slifstein (United States)  
Simon Cervenka (Sweden)

## Scientific Programme

<b>Introduction</b>	<b>14:00 - 14:10</b>
<b>Neuroreceptor imaging: neurotransmission and receptor availability</b> Jussi Hirvonen (Finland)	<b>14:10 - 14:50</b>
<b>Neuroinflammation: targets, models and methods</b> Adriaan Lammertsma (Netherlands)	<b>14:50 - 15:30</b>
<b>Coffee Break</b>	<b>15:30 - 16:00</b>
<b>Neurodegeneration: targets, models and methods</b> William Kreisl (United States)	<b>16:00 - 16:40</b>
<b>Drug development: microdosing, occupancy and treatment monitoring</b> Simon Cervenka (Sweden)	<b>16:40 - 17:20</b>
<b>Discussion</b>	<b>17:20 - 17:30</b>

Satellite  
16:00 - 17:30

Hörsaal A

### CA06, CARNet Session 5 - Basic science 2: cerebral blood flow regulation-neurovascular coupling

<b>Key lecture: Conceptual shifts in cerebral blood flow regulation</b> Martin Lauritzen (Denmark)	<b>16:00 - 16:30</b>
<b>Fixed frequency and random frequency squat-stand manoeuvres as a method of assessing dynamic cerebral autoregulation</b> Sam Barnes (United Kingdom)	<b>16:30 - 16:45</b>
<b>Within and between subject differences in autoregulation at rest</b> David Simpson (United Kingdom)	<b>16:45 - 17:00</b>
<b>At what data length do cerebral autoregulation measures stabilize?</b> Adam Mahdi (United Kingdom)	<b>17:00 - 17:15</b>
<b>CARNet's Bootstrap#3 project: what are the options?</b> Ronney Panerai (United Kingdom)	<b>17:15 - 17:30</b>

Satellite  
17:30 - 17:45

Hörsaal A

### CA07, CARNet Update and business meeting - Q&A

Social event  
17:30 - 19:00

Exhibition & Poster Area

### Welcome reception

## Scientific Programme

### Sunday, 02 April 2017

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Highlight session  
08:00 - 09:00

Max Kade Auditorium

#### LAA, Opening and Introduction and Lifetime Achievement Award

Highlight session  
09:00 - 10:00

Max Kade Auditorium

#### PRL, Presidential Lecture

##### Chairs:

Peter Herscovitch (United States)

**Tracking the molecular pathology of Alzheimer's Disease with PET**

**09:00 - 10:00**

William J. Jagust (United States)

Poster viewing  
10:00 - 11:00

Exhibition & Poster Area

#### PS01, Poster viewing session I

**In vivo expansion of regulatory T cells with IL-2/IL-2-antibody complex protects against transient ischemic stroke**

Yuguo Xia (United States)

**Fumaric acid esters improve blood-brain barrier integrity and neuronal survival during cerebral ischemia-reperfusion injury**

Reiner Kunze (Germany)

**Genetic variant in VCAM1 mediates acute infarct size in ischemic stroke patients**

Anne-Katrin Giese (United States)

**FOXF2, a novel risk locus for small vessel stroke with functional evidence for developmental effects**

Stephanie Debette (France)

**The stroke relevant gene HDAC9 has pro-inflammatory roles in multiple cell types**

Yaw Asare (Germany)

**VEGF signaling contributes to stroke-induced edema formation in diabetic mice**

Sunghee Cho (United States)

**Specific commensal bacterial signature is associated with long-term protection from ischemic stroke brain injury**

Corinne Benakis (United States)

**Endothelial NOX4 oxidase exacerbates motor dysfunction after ischemic stroke**

Michael De Silva (Australia)

## Scientific Programme

**Edaravone encapsulated agonistic micelles salvaging brain ischemic tissue by actively tuning blood brain barrier permeability**

Xihui Gao (China)

**Aerobic fitness is associated with lower cerebral blood flow (CBF) but greater cerebrovascular reactivity (CVR) in young adults: a perfusion fMRI study**

Catherine Foster (United Kingdom)

**Optogenetic inhibition of striatal GABAergic neurons in the subacute period of ischemia improves neurobehavioral recovery in mice**

LU Jiang (China)

**An analogue of heparan sulfate as a novel neuroprotective and neuroregenerative agent for ischemic stroke**

Yacine Khelif (France)

**Upregulation of mesencephalic astrocyte-derived neurotrophic factor by cerebral ischemia promotes tissue repair after experimental stroke**

Nicolas G. Bazan (United States)

**Hypothermia inhibits astrocyte-mediated neuronal protection**

Padmesh Rajput (United States)

**The effects of FABP7 on functional recovery after spinal cord injury in adult mice**

Nobuo Senbokuya (Japan)

**Hypothermia-like neuroprotection and brain metabolic alteration induced by phenothiazine in severe transient and permanent ischemic stroke**

Xiaokun Geng (United States)

**Neuroprotective effect of liraglutide in transient focal brain ischemia in rats with type 2 diabetes mellitus**

Irina Filchenko (Russian Federation)

**Boosting O-GlcNAcylation, a pro-survival pathway downstream of the unfolded protein response, improves ischemic stroke outcome in mice**

Wei Yang (United States)

**Hippocampal neuroprotection mediated by tyrosine kinase B receptor (TrkB) phosphorylation is estrogen receptor alpha (ER $\alpha$ ) dependent only in female neurons after in-vitro ischemia**

Pelin Cengiz (United States)

**MLC901 issued from traditional Chinese medicine favors angiogenesis and associated recovery after ischemic stroke**

Catherine Heurteaux (France)

**Neuroprotective effects of intranasal Guanosine: Wide therapeutic window and a possible mechanism**

Gabriel Cardozo Müller (Brazil)

**CETP genetic variants that increase HDL raise Intracerebral hemorrhage risk**

Daniel Woo (United States)

**Role of the endothelium NO-Synthase in early brain injury after experimental subarachnoid hemorrhage**

Irina Westermayer (Germany)

## Scientific Programme

**Inhibitory effects of Omega-3 on early brain injury after subarachnoid hemorrhage in rats: possible involvement of GPR120 / $\beta$ -arrestin2/ TGF- $\beta$  activated kinase-1 binding protein-1 signaling pathway**

Gang Chen (China)

**Cyclophilin A/CD147 interactions participate in early brain injury after subarachnoid hemorrhage in rats**

Gang Chen (China)

**Pramipexole-induced hypothermia reduces early brain injury via PI3K/AKT/GSK3 $\beta$  pathway in subarachnoid hemorrhage rats**

Gang Chen (China)

**Role of neurexin-1 $\beta$  and neuroligin-1 in cognitive dysfunction after subarachnoid hemorrhage in rats**

Gang Chen (China)

**Race/ethnic variation of Apolipoprotein E alleles for lobar intracerebral hemorrhage**

Daniel Woo (United States)

**Inhibition of mammalian target of rapamycin attenuates early brain injury through modulating microglial polarization after experimental subarachnoid hemorrhage in rats**

Gang Chen (China)

**Transient receptor potential channel 1/4 reduces subarachnoid hemorrhage-induced early brain injury in rats via calcineurin-mediated NMDAR and NFAT dephosphorylation**

Gang Chen (China)

**The sGC-activator Bay 60-2770 has no influence on microvasospasms after experimental subarachnoid hemorrhage**

Sabrina Katzdobler (Germany)

**Correlation of glymphatic function to cerebral blood flow following subarachnoid hemorrhage**

Tristan Stani (United States)

**Is perlecan domain V a potential therapeutic in preclinical vascular dementia?**

Amanda Trout (United States)

**Endothelial-immune interaction in vascular cognitive impairment**

Nabil Alkayed (United States)

**Lacunar infarction and microbleeds in a mouse model of vascular cognitive impairment produced by hypoperfusion**

Tracy D Farr (United Kingdom)

**Metabolic regional and network changes in Alzheimer's disease subtypes**

Karl Herholz (United Kingdom)

**The importance of cerebral metabolic rate of lactate**

Gerd Krüger (Germany)

**Transport of solutes along paravascular channels is facilitated by arterial pulsations: a modeling study**

Ed van Bavel (Netherlands)

## Scientific Programme

**Effects of omega-3 fatty acids on resting cerebral perfusion in patients with mild cognitive impairment**

Claudia Schwarz (Germany)

**Preserved cerebral autoregulation in clinical Alzheimer's disease during large changes in blood pressure induced by repeated orthostatic maneuvers**

Jurgen A.H.R. Claassen (Netherlands)

**Evaluation of cognitive impairment in senile dementia of the Alzheimer type**

Maruf Salohiddinov (Uzbekistan)

**Histone deacetylase inhibition promotes remyelination by the epigenetic control of M2 microglia polarization after a focal demyelinating lesion**

Guohua Wang (China)

**Therapy with endothelial progenitor cells secretome induces white matter repair in a mouse model of prolonged cerebral hypoperfusion**

Anna Rosell (Spain)

**Cerebral blood flow in patients with white matter hyperintensities and effect of co-variables**

Yulu Shi (United Kingdom)

**Does location of lesion of White Matter? Effects on cognition and functional connectivity in mild cognitive impairment (MCI)**

Gloria Benson (Germany)

**Computational modeling of intrathecal magnetic drug targeting for treatment of central nervous system diseases**

Andreas Linninger (United States)

**Blood-brain barrier permeability in Parkinson's disease with or without levodopa-induced dyskinesia: A rubidium-82 PET study during saline or levodopa infusion**

Koji Fujita (United States)

**Neurovascular protection by Adropin in experimental ischemic stroke**

Eduardo Candelario-Jalil (United States)

**Neuroprotective effects of nanowired cerebrolysin in regional cerebral blood flow disturbances, blood-brain barrier breakdown, edema formation and brain pathology following a focal blast brain injury**

Hari Shanker Sharma (Sweden)

**DCE-MRI blood-brain barrier assessment in acute ischemic stroke**

Kersten Villringer (Germany)

**Impact of head-down suspension on prefrontal cortex neurons and blood-brain barrier**

James Ashaolu (Nigeria)

**Perivascular HIF-1 $\alpha$  deletion at the BBB improves hypoxic vascular stability in vivo**

Omolara O Ogunshola (Switzerland)

**Injectable hydrogel for promoting angiogenesis, tissue repair and functional recovery in an animal stroke model**

Pavel Yanev (United States)

**Genome-wide sequencing reveals microRNAs differentially expressed in cerebral cavernous malformations**

Souvik Kar (Germany)

## Scientific Programme

**Proangiogenic functions of osteopontin icosamer peptide via involving with  $\alpha v\beta 3$  integrin**

Hahnbie Lee (Korea, Republic of)

**MiR-126 regulates the angiogenic function of endothelial cells after hypoxia via Hif-1 $\alpha$**

Meijie Qu (China)

**Subnormal neurogenesis and cortical growth in a piglet model of congenital heart disease**

Paul Morton (United States)

**MiR-451 accelerates neuronal differentiation in vitro and in vivo**

Silke Patz (Austria)

**Juvenile neurogenesis: a new target for endogenous regeneration, repair, and improved functional outcome following ischemic stroke**

Krista Rodgers (United States)

**Astrogenesis contributes to new astrocyte-blood vessel contacts in the barrel cortex of neonate and juvenile mice**

Adrian Rodriguez-Contreras (United States)

**Manipulating serotonin signaling in depression - The key to happiness?**

Markus Petermann (Germany)

**Neural activity and behavioural experience adjust steady-state intracellular astrocyte Ca<sup>2+</sup> which affects arteriole tone**

Eslam M Mehina (Canada)

**Astrocyte calcium mediates peri-infarct depolarizations in a rodent stroke model**

Cordula Rakers (Germany)

**Microglia are key contributors to induction and propagation of spreading depolarization in the intact mouse brain**

Dániel Péter Varga (Hungary)

**Relationship between efficient brain networks and glucose consumption in simultaneously recorded resting state fMRI - FDG PET**

Irene Neuner (Germany)

**Monte-Carlo PET simulation with high-resolution anatomic template from BigBrain**

Thomas Funck (Canada)

**[<sup>11</sup>C]DASB bolus plus constant infusion to rapidly quantify serotonin transporter binding**

Gregor Gryglewski (Austria)

**Attenuation correction with a multi-atlas method for brain PET-MR imaging: assessment with realistic simulated [<sup>11</sup>C]raclopride bolus-infusion PET data**

Inés Mérida (France)

**Improved Major Depressive Disorder (MDD) biomarker performance with a novel image reconstruction approach**

Nandita Joshi (United States)

**Planckian information calculated from fMRI signals indicates that psilocybin increases neurodynamic organizations in human brains**

Sungchul Ji (United States)

**Quantification of [<sup>18</sup>F]FET tracer kinetics in glioblastoma**

Thomas Koopman (Netherlands)

## Scientific Programme

**Statistical analysis of single subject PET neurotransmitter activation studies using approximate bayesian computation**

Steven Meikle (Australia)

**Method for automatic delineation of brain regions on pig PET images**

Claus Svarer (Denmark)

**Case study: Multimodal 18F-fluciclovine PET/MRI and ultrasound-guided neurosurgery of anaplastic oligodendroglioma**

Anna Maria Karlberg (Norway)

**Global vs. regional differences in resting glucose metabolism across brain states**

Garth J Thompson (United States)

**The use of a new diagnostic method in patients for differential diagnosis of Alzheimer´s disease**

Maruf Salohiddinov (Uzbekistan)

**Imaging neuronal pathways with 52Mn PET in rats**

Hanna Napieczynska (Germany)

**[18F]-Fluoromisonidazole PET/MRI imaging exhibits hypoxic-ischemic tissue around the hematoma in experimental intracerebral hemorrhage**

Noemí Gómez-Lado (Spain)

**Identifying biomarkers of  $\alpha$ -synuclein pathology using multiparametric imaging**

Kristina Herfert (Germany)

**Multi-modal imaging reveals a specific multi-nutrient diet as modulator of microglial activation in stroke**

Bastian Zinnhardt (Germany)

**Multi-tracer characterization of an animal model of epileptogenesis by serial molecular in vivo imaging**

Jens P. Bankstahl (Germany)

**Parametric imaging of [11C]flumazenil binding in the rat brain**

Isadora Lopes Alves (Netherlands)

**Interindividual and regional variations in coupling of cerebral blood flow and metabolism measured by PET and MRI**

Otto Henriksen (Denmark)

**The spatial distribution of signaling input to systems level networks in the human brain**

Valentin Riedl (Germany)

**Regional cerebral blood flow correlated with changes in blood pressure evoked by dynamic exercise: A study using oxygen-15-labeled water with PET**

Mikio Hiura (Japan)

**To deconvolve or not to deconvolve? Perfusion MRI in acute Stroke: validation of mismatch with 15O-water PET**

Olivier Zaro Weber (Germany)

**Simultaneous PET/MR imaging of task-specific changes in glucose metabolism, functional connectivity and white matter microstructure**

Andreas Hahn (Austria)

## Scientific Programme

**Global and regional amyloid- $\beta$  effects on default model network drive progression to AD dementia**

Tharick Ali Pascoal (Canada)

**Arterial spin labeling in the hybrid PET/MRI workup of dementia patients**

Henryk Barthel (Germany)

**Test-retest repeatability of quantitative [18F]florbetapir studies in humans**

Sandeep Golla (Netherlands)

**Test-retest variability of the  $\alpha 4\beta 2$  nicotinic acetylcholine receptor agonist radiotracer, [18F]nifene, in humans**

Patrick Lao (United States)

**Preclinical In vivo evaluation of [18F]FEPURO as a potential radioligand for imaging protein synthesis with PET**

Nisha K Ramakrishnan (United Kingdom)

**Characterization of a novel mGluR2/3 PET tracer [18F] ER-000604699 in marmoset**

Stephen Krause (United States)

**Cerebral  $\mu$ -opioid and type-2 dopamine receptors involved in emotional processing in the human brain: A combined fMRI and PET study**

Tomi Karjalainen (Finland)

**An attenuation correction approach based on segmentation of structural images for hybrid PET/MRI systems**

Lucas Rischka (Austria)

**Preoperative  $\mu$ -opioid receptor availability predicts weight development following bariatric surgery**

Henry Kristian Karlsson (Finland)

**A full pharmacokinetic head-to-head comparison of two tau PET radiotracers with arterial analysis: 18F-AV1451 and 18F-THK5351**

Marc D. Normandin (United States)

**Quantitative analysis of decomposed EEG represented as a new contour mathematical model**

Konstantin Ivanov (Russian Federation)

**Assessment of the reliability and validity of simplified ratio-based quantification approaches for [11C]PBR28**

Granville James Matheson (Sweden)

**Inter-observer variability of image derived input functions for kinetic analysis of [15O]H<sub>2</sub>O PET in the non-human primate**

Nikolaos E Makris (France)

**Network analysis of brain PET data: application to [11C]SB204571 studies targeting serotonergic receptor 5-HT<sub>4</sub> in healthy controls**

Mattia Veronese (United Kingdom)

**Blood flow velocities changes to follow patients with acute non traumatic brain injury in the ICU of the National Institute of Neurological Sciences in Lima-Peru**

Maria Mercedes Chumbe Mendoza (Peru)

## Scientific Programme

Symposium session  
11:00 - 12:30

Hörsaal A

### **SY01, Frontiers in CNS drug delivery**

**Chairs:**

Christoph Harms (Germany)  
Xiaoming Hu (United States)

<b>Introduction</b>	<b>11:00 - 11:05</b>
<b>Molecular Trojan horse technologies for CNS drugs</b> Ruben Boado (United States)	<b>11:05 - 11:25</b>
<b>ICAM-1-mediated transport into and across endothelial barriers</b> Silvia Muro (United States)	<b>11:25 - 11:45</b>
<b>Conquering the barriers - development of bi-specific antibodies to treat CNS diseases</b> Danica Stanimirovic (Canada)	<b>11:45 - 12:05</b>
<b>Neurovascular transporter mechanisms targeted for drug delivery</b> Thomas P. Davis (United States)	<b>12:05 - 12:25</b>
<b>Discussion</b>	<b>12:25 - 12:30</b>

Oral session  
11:00 - 12:30

Hörsaal C

### **BS01, Neuroinflammation in cerebral ischemia 1**

**Chairs:**

Adam Denes (Hungary)  
Nicolas Blondeau (France)

<b>Triggering receptor expressed on myeloid cells 2 (TREM2) controls subacute injury resolution and myeloid cell reactivity after experimental stroke</b> Alessio Alfieri (United Kingdom)	<b>11:00 - 11:15</b>
<b>Microglial control of post-ischemic neurogenesis</b> Ines Pia Koerner (United States)	<b>11:15 - 11:30</b>
<b>Double negative T lymphocytes from gld mice drive an M2-microglial polarization through FasL/TIAL1/IL-4 pathway in experimental stroke</b> Hailan Meng (China)	<b>11:30 - 11:45</b>
<b>Interleukin-1 contributes to neuronal injury via cell-specific IL-1 type 1 receptor-mediated actions after cerebral ischemia</b> Nikolett Lénárt (Hungary)	<b>11:45 - 12:00</b>
<b>CCL23: a new chemokine present in brain after cerebral ischemia might play a role as a blood biomarker for brain damage and stroke outcome</b> Alba Simats (Spain)	<b>12:00 - 12:15</b>
<b>Perivascular macrophages attract neutrophils to the brain after ischemia</b> Jordi Pedragosa (Spain)	<b>12:15 - 12:30</b>

## Scientific Programme

Oral session  
11:00 - 12:30

Hörsaal D

### BPS01, BrainPET: Novel radiotracers

#### Chairs:

Hideo Tsukada (Japan)  
Tharick Ali Pascoal (Canada)

<b>A small bispecific antibody-based construct based on bapineuzumab as a PET tracer for amyloid beta pathology in brain</b> Xiaotian Tsong Fang (Sweden)	<b>11:00 - 11:15</b>
<b>Novel PET radioligands show that COX-1 is constitutively expressed and that COX-2 is induced by inflammation in rhesus macaque</b> Stal Shrestha (United States)	<b>11:15 - 11:30</b>
<b>Tracer kinetic analysis of [11C]Cetozole as a PET tracer for aromatase in the human brain</b> My Jonasson (Sweden)	<b>11:30 - 11:45</b>
<b>First-in-human evaluation of a novel agonist radiotracer for PET imaging of the kappa opioid receptor</b> Yiyun Huang (United States)	<b>11:45 - 12:00</b>
<b>Serotonin release measured in the human brain: A PET study with [11C]Cimbi-36 and d-amphetamine challenge</b> David Erritzoe (United Kingdom)	<b>12:00 - 12:15</b>
<b>Quantitative assessment of synaptic density using the SV2A ligand 11C-UCBA in humans</b> Mark Lubberink (Sweden)	<b>12:15 - 12:30</b>

Internal meeting  
12:30 - 13:30

Hörsaal A

### ISCBFM General assembly

Symposium session  
13:30 - 15:00

Hörsaal A

### SY02, Cerebral small vessel disease: current concepts and novel targets for interventions

#### Chairs:

Martin Dichgans (Germany)

<b>Introduction</b>	<b>13:30 - 13:35</b>
<b>Potassium channelopathy-like defect underlies early-stage cerebrovascular dysfunction in small vessel disease</b> Mark Nelson (United States)	<b>13:35 - 13:55</b>
<b>Novel Targets of SVD identified by genetic and proteomic approaches</b> Martin Dichgans (Germany)	<b>13:55 - 14:15</b>

## Scientific Programme

<b>The glymphatic system</b> Maiken Nedergaard (Denmark)	<b>14:15 - 14:35</b>
<b>Imaging cerebral small vessel disease at ultrahigh resolution in humans using 7T MRI</b> Geert Jan Biessels (Netherlands)	<b>14:35 - 14:55</b>
<b>Discussion</b>	<b>14:55 - 15:00</b>

Oral session  
13:30 - 15:00

Hörsaal C

### BS02, Imaging methods

#### Chairs:

Marie-Angela Franceschini (United States)  
Xavier Golay (United Kingdom)

<b>Generalized vessel filter for detecting vessels in medical images</b> Andreas Linninger (United States)	<b>13:30 - 13:45</b>
<b>Influence of relative cerebral blood volume on oxygenation-sensitive T2' and R2' mapping in acute ischemic stroke</b> Alexander Seiler (Germany)	<b>13:45 - 14:00</b>
<b>Near-infrared spectroscopy measured vascular reactivity and blood flow autoregulation during intracranial pressure changes</b> Alexander Ruesch (United States)	<b>14:00 - 14:15</b>
<b>Non-invasive functional neuroimaging in mice using structured illumination diffuse optical tomography</b> Matthew Reisman (United States)	<b>14:15 - 14:30</b>
<b>Stimulus-evoked activations are a subset of resting-state networks: Comparison between fMRI and optical imaging in the rat olfactory bulb</b> Garth J Thompson (United States)	<b>14:30 - 14:45</b>
<b>Repeated longitudinal in vivo imaging of cortical microglia under chronic hypoxia in the mice using two-photon microscopy with a closed cranial window technique</b> Iwao Kanno (Japan)	<b>14:45 - 15:00</b>

Symposium session  
13:30 - 15:00

Hörsaal D

### SY03, PET imaging in addictive disorders: is there life beyond dopamine?

#### Chairs:

Diana Martinez (United States)

<b>Introduction</b>	<b>13:30 - 13:35</b>
<b>PET imaging of the kappa opioid receptor/dynorphin system in cocaine abuse</b> Diana Martinez (United States)	<b>13:35 - 13:55</b>

## Scientific Programme

<b>Imaging endocannabinoid metabolism in alcohol, alcohol-risk and cannabis use disorders</b> Isabelle Boileau (Canada)	<b>13:55 - 14:15</b>
<b>Imaging inflammation in addictive disorders</b> Jonas Hannestad (United States)	<b>14:15 - 14:35</b>
<b>Imaging nociceptive opioid peptide receptors in addictive disorders</b> Rajesh Narendran (United States)	<b>14:35 - 14:55</b>
<b>Discussion</b>	<b>14:55 - 15:00</b>

Poster viewing  
15:00 - 16:00

Exhibition & Poster Area

### PS02, Poster viewing session II

**Perfusion maps based on temporal blood-oxygen-level-dependent signal delays are driven by alterations in low frequency oscillations between 0.01 and 0.1 Hz**

Ahmed Khalil (Germany)

**A multidisciplinary systems biology approach to neuronal remodelling post Ischemic Stroke injury using endogenous adult neural stem cells**

Suhela Kapoor (India)

**Ischemic preconditioning renders long-term protection against stroke: roles of GSK3 $\beta$  inhibition and anti-oxidative enzyme upregulation**

Feng Zhang (United States)

**Superselective Administration of Verapamil during recanalization in acute ischemic stroke (SAVER-I): study results**

Justin Fraser (United States)

**Association of depression polygenic risk and ischemic stroke in the stroke genetics network (SiGN)**

Daniel Woo (United States)

**Genome-wide association studies from the Vitamin Intervention for Stroke Prevention (VISP) trial detect novel loci for recurrent stroke**

Keith Keene (United States)

**Differential DNA methylation loci implicated in measures of homocysteine from the Vitamin Intervention for Stroke Prevention (VISP) trial**

Nicole Davis (United States)

**GISCOME - genetic influences on ischaemic stroke functional outcome: a genome wide association study**

Jane Maguire (Australia)

**A network approach to identifying new candidates for stroke and stroke subtypes**

Stephen Williams (United States)

**Manipulation of cerebral blood flow through postural changes in pediatric stroke**

David R. Busch (United States)

## Scientific Programme

**Oxytocin is neuroprotective against physiological and behavioral consequences of social stress**

Olga L. Lopatina (Russian Federation)

**Oxidative stress-Responsive Apoptosis-Inducing Protein (ORAIP) plays a critical role in cerebral ischemia/reperfusion injury**

Masao Kishimoto (Japan)

**Enhanced neuroprotective effects against ischemic brain injury by intranasal delivery of granulocyte colony-stimulating factor in rats**

Baoliang Sun (China)

**DSePA antagonizes high glucose-induced neurotoxicity: evidences for ROS-mediated oxidative damage and MAPKs and AKT pathways**

Cundong Fan (China)

**Pharmacological inhibition of monoacylglycerol lipase reduces ischemic brain injury**

Sang-Ho Choi (United States)

**Cyanidin attenuates tumor chemotherapy-induced neurotoxicity via inhibition of ROS-mediated DNA damage and apoptosis in PC12 cells**

Xiaoting Fu (China)

**Molecular H2 alleviates perinatal asphyxia-induced elevations in neuronal COX-2 expression**

Viktória Varga (Hungary)

**The effects of preconditioning on the long-term cognitive dysfunction after sevoflurane exposure in neonatal rats**

Toru Goyagi (Japan)

**Minimally invasive surgery joint local cooling lavage protects rats brain from ICH-induced inflammation injury and apoptosis**

Xiaoyan Fu (China)

**ONO-5046 attenuation of delayed motor neuron death and effect on the induction of 78 kDa glucose-regulated protein after spinal cord ischemia in rabbits**

Tomoko Suzuki (Japan)

**Effects of NMDA receptor antagonist memantine on NO production, hydroxyl radical metabolism and ischemic change of hippocampal CA1 during cerebral ischemia and reperfusion in mice**

Ai Tanaka (Japan)

**Exercise intensity affects peripheral immunity in the absence of IL-10**

Katherine Poinsette (United States)

**New generation progestins are neuroprotective in experimental stroke**

Mohamad El Amki (Switzerland)

**Impaired hypoxic tolerance in APP23 mice: a dysregulation in neuroprotective globin levels**

Zoë Paul Van Acker (Belgium)

**Variation of blood injection velocity in a new experimental model of non-aneurysmal SAH: any influence on intracranial pressure and cerebral perfusion in the acute phase?**

Catharina Conzen (Germany)

## Scientific Programme

**Differential expression of microRNA in of rat cerebral arteries during organ culture and after experimental subarachnoid hemorrhage**

Simon Topp Christensen (Denmark)

**Anti-vasospastic effects of epidermal growth factor receptor inhibitor in experimental subarachnoid hemorrhage model**

Fumi Nakano (Japan)

**Intracranial pressure elevation is delayed following intracerebral hemorrhage in rats**

Kirby Elizabeth Warren (Australia)

**Reduced cerebral microperfusion early after experimental subarachnoid hemorrhage**

Kathrin Nehrkorn (Germany)

**Are there factors within cerebrospinal fluid that cause intracranial pressure to rise after subarachnoid hemorrhage?**

Rebecca Joan Hood (Australia)

**An MRI study on the neuroprotection of human albumin in subarachnoid hemorrhage**

Yuhao Sun (China)

**Stent salvage for coil protrusion of ruptured intracranial aneurysm**

Dong-Jun Lim (Korea, Republic of)

**Cytochrome P450 1B1 is a potential vital molecule inducing vascular smooth muscle cells of human brain arteriovenous malformation towards pathological phenotype**

Ma Yuanyuan (China)

**A systemic drive of IL-1 $\beta$  after intracerebral haemorrhage**

Jack Barrington (United Kingdom)

**Evaluating cerebral blood flow and metabolism in subarachnoid hemorrhage patients in the neurointensive care unit using MR-based imaging**

Halinder S. Mangat (United States)

**Relationship between gyrus rectus resection and cognitive impairment after surgery for ruptured anterior communicating artery aneurysms**

Chang Taek Moon (Korea, Republic of)

**Assessment of risk factors for the development of dementia of Alzheimer type**

Maruf Salohiddinov (Uzbekistan)

**Low self-awareness of cognitive deficits is associated with regional hypometabolism in the default mode network**

Joseph Therriault (Canada)

**In vivo brain imaging for studying possible linkage between pathological hallmark of tauopathy and neuronal loss**

Hiroyuki Takuwa (Japan)

**In vivo tau distribution in progressive nonfluent aphasia**

Kyoung-Min Lee (Korea, Republic of)

**Diabetes-related increase of reactive  $\alpha$ -dicarbonyls in the development of vascular dementia**

Sina Schultz (Germany)

## Scientific Programme

**Investigating genetic factors contributing to vascular cognitive impairment in a mouse model recapitulating acute and chronic cerebral hypoperfusion**

Celeste Sassi (Germany)

**Protective role of brain endothelial Nemo in microvascular pathologies and vascular dementia**

Yun Jiang (Germany)

**Vascular risk factors in manifestation of Alzheimer's disease related neuropathological changes: First autopsy and genetic evidence from a South Asian ageing population**

Printha Wijesinghe (Sri Lanka)

**Sesamol reverse memory deficit and restore phosphoGSK3 $\beta$  decreased in hippocampus in intracerebroventricular streptozotocin (ICV-STZ) induced Alzheimer's disease model**

Mahaveer Golechha (India)

**Rapamycin as a novel therapeutic for Alzheimer's disease: prevention assessed through neuroimaging**

David Ma (United States)

**Insulin resistance in the development of social and cognitive disorders in Alzheimer's disease**

Yulia Komleva (Russian Federation)

**Oligodendrocyte response to focal white matter ischemic injury is different in juvenile and adult mice**

Andra Dingman (United States)

**Cortical spreading depression-induced prolonged oligemia can cause ischemic lesions at hemodynamically vulnerable border zones**

Buket Dönmez-Demir (Turkey)

**Hereditary versus sporadic cerebral small vessel disease: what makes the differences?**

Marie-Françoise Ritz (Switzerland)

**Transient BDNF introduction therapy against delayed neuronal death in hippocampal CA1 neurons using biocompatible nanomicellar mRNA carrier**

Yuta Fukushima (Japan)

**Reversal of beta-amyloid-induced neurotoxicity in PC12 cells by curcumin, the important role of ROS-mediated signaling and ERK pathway**

Mingfeng Yang (China)

**The role of pericyte-mediated HIF-1 in blood-brain barrier modulation and stroke outcome following transient cerebral ischemia**

Chih-Chieh Tsao (Switzerland)

**Central nervous system (CNS) pharmacokinetic study (PK) of cefotaxime in healthy rats : comparison of cerebral spinal fluid (CSF) and extracellular fluid (ECF) concentrations**

Claire Dahyot-Fizelier (France)

**M1 and M3 muscarinic receptors interplay mediates murine brain microvascular endothelium response to acetylcholine**

Beatrice Mihaela Radu (Romania)

**Cannabidiol-loaded lipid nanocapsules for glioma therapy across the blood-brain barrier: in vitro assays on human brain endothelial and glioma cell lines**

Juan Aparicio-Blanco (Spain)

## Scientific Programme

**Dynamic regulation of the blood-brain barrier by neural activity**

Robert Pulido (United States)

**Interaction of thrombin and sphingosine-1-phosphate on blood-brain barrier function**

Leonie Stolz (Germany)

**Hyperglycemia increases resting intracellular calcium and ischemic factor-stimulated calcium responses in blood-brain barrier endothelial cells**

Nicholas Klug (United States)

**Elucidation of the roles of oligodendrocyte precursor cells after stroke**

Natsue Kishida (Japan)

**Effect of the inhibition of microglial activation on hypothalamic-pituitary-adrenal (HPA) axis during sepsis**

Luis Henrique Costa (Brazil)

**Hemoglobin induces phenotype switching and resistance to hemin toxicity through Connexin 43 mediated regulation of YAP nuclear translocation in rat cortical astrocytes**

Yong Yang (China)

**Lithium at low therapeutic concentrations decreases myosin light chain phosphorylation and thereby stabilizes human endothelial barrier**

Thomas Noll (Germany)

**Pathophysiology of high altitude traumatic brain edema. New roles of cererbrolysin and nanomedicine**

Dafin Fior Muresanu (Romania)

**Enhanced interstitial fluid drainage in the hippocampus of spontaneously hypertensive rats**

Erik N.T.P. Bakker (Netherlands)

**Delayed NK1 tachykinin receptor antagonist treatment reduces ICP following stroke in an Ovine model**

Renée Turner (Australia)

**Quantification of mu-opioid receptor binding with <sup>11</sup>C-Carfentanil PET: a comparison of ROI-methods using test-retest analysis**

Jarkko Johansson (Finland)

**Measurement of cerebral blood flow with <sup>15</sup>O PET/MRI**

Hidehiko Okazawa (Japan)

**Kinetic modelling of <sup>18</sup>F-Fluoroethyl-tyrosine PET using an image derived arterial input function from the heart in small children**

Lisbeth Marner (Denmark)

**Simultaneous resting state fMRI - FDG PET measurement in humans: Does the FDG-PET framing matter?**

Ravichandran Rajkumar (Germany)

**Semiquantification of [<sup>11</sup>C]-(*R*)-PK11195 PET imaging in juxtacortical and periventricular regions in multiple sclerosis**

Ana Maria Marques da Silva (Brazil)

## Scientific Programme

**Experience and evaluation of Dual-Table Autoradiography (DTARG)123I-IMP SPECT: safe, time shortening, and effective modality to predict cerebral infarction in chronic ischemic patients**

Jun Suenaga (Japan)

**Interrogating the GABAergic system with simultaneous [18F]Flumazenil-positron emission tomography and GABA-magnetic resonance spectroscopy in healthy volunteers**

Lawrence Fung (United States)

**Clustering serotonergic key players of the human cortex using positron emission tomography and FreeSurfer**

Gregory Miles James (Austria)

**Evaluation of methods for a simultaneous, dual-radiotracer acquisition in translational SPECT neuroimaging**

Stergios Tsartsalis (Switzerland)

**Human brain energy map computed on the basis of cellular staining from BigBrain**

Fahmeed Hyder (United States)

**PET quantification of binding of a novel tau radioligand, 18F-AM-PBB3, in consideration of time-dependent changes in its plasma free fraction**

Soichiro Kitamura (Japan)

**Inferring DVR values from short dynamic PET scans of 11C-DTBZ in rat, mouse and human striatum**

Arturo Avendaño-Estrada (Mexico)

**Evaluating the gray and white matter energy budgets of human brain function**

Fahmeed Hyder (United States)

**StO<sub>2</sub>-MRI sensitively images the ischemic brain: a comparison to MRI perfusion/diffusion mismatch and [18F]-FMISO-PET**

Omar Touzani (France)

**Effects of long-term caffeine consumption on the adenosine A<sub>1</sub> receptor in the rat brain: An in vivo PET study with [18F]CPFPX**

Tina Kroll (Germany)

**Differences in TSPO and cannabinoid receptor CB<sub>2</sub> binding at an early stage in poststroke neuroinflammation in living rats**

Yasuomi Ouchi (Japan)

**In vivo changes in neurotransmitter and metabolite levels following selective activation of the nigrostriatal dopaminergic pathway**

Simone Baerentzen (Denmark)

**The effect of hypothyroidism on the serotonin 1A receptor binding in the rat brain**

Jae Yong Choi (Korea, Republic of)

**In vitro and in vivo evaluations of an inhibitory effect of dopamine on [18F]FE-PE2I binding to dopamine transporters in rat brains**

Chie Seki (Japan)

**[18F]FDG PET imaging reveals that metyrapone attenuates hypermetabolism and brain damage induced by seizures triggered by intrahippocampal 4-aminopyridine in rats**

Miguel A Pozo (Spain)

## Scientific Programme

**Hybrid PET/MRI imaging in healthy unsedated newborn infants with quantitative rCBF measurements using <sup>15</sup>O-water PET**

Julie Bjerglund Andersen (Denmark)

**Early uptake Amyloid PET imaging correlates strongly with cerebral blood flow based on arterial spin labeling MRI: a simultaneous PET/MRI study**

Greg Zaharchuk (United States)

**INDOPET Project: Impact of Indomethacin on cerebral metabolism and blood flow in patients with severe traumatic brain injury and refractory intracranial hypertension (PET 150 study)**

Corina Puppo (Uruguay)

**Simultaneous measurement of cerebral blood flow with pseudo continuous arterial spin labeling, phase contrast mapping and <sup>15</sup>O-H<sub>2</sub>O PET in a hybrid PET/MR system. Preliminary results**

Oriol Puig (Denmark)

**Assessment of inter-individual and regional variability of the coupling of cerebral blood flow and oxygen metabolism**

Otto Henriksen (Denmark)

**Imaging neuroinflammation in patients with multiple sclerosis using [<sup>18</sup>F]FEMPA-PET: A pilot study**

Lucy Vivash (Australia)

**Effective connectivity in the default mode network is distinctively disrupted in Alzheimer's disease**

Valentin Riedl (Germany)

**Dopaminergic neuronal oxidative stress is increased with disease severity in patients with Parkinson's disease: A study with PET and SPECT**

Masamichi Ikawa (Japan)

**Sigma-1 receptor (S1R) radioligand uptake in chronic pain**

Trine Hjørnevik (Norway)

**Pharmacological PET/MRI evidences of agonist-induced  $\mu$ -Opioid receptor desensitization**

Hsiao-Ying Wey (United States)

**Binding of a metabotropic glutamate receptor subtype 5 radioligand, (E)-[<sup>11</sup>C]ABP688, in human brains assessed by test-retest PET scans**

Manabu Kubota (Japan)

**The neurobiology of treatment resistant and responsive schizophrenia: an [<sup>18</sup>F]DOPA PET study**

Euitae Kim (Korea, Republic of)

**Reduced TSPO levels in drug-naïve first episode psychosis patients as measured using PET and [<sup>11</sup>C]PBR28**

Simon Cervenka (Sweden)

**Preclinical PET studies on muscarinic acetylcholine receptor occupancy by a antimuscarinic agent, solifenacin using <sup>11</sup>C-(+3)N-methyl-3-piperidyl benzilate**

Yoo Mi Shin (Korea, Republic of)

**Quantitative PET analysis of subregional striatal dopaminergic neurodegeneration in the MPTP primate model of Parkinson's disease**

So Hyeon Park (Korea, Republic of)

## Scientific Programme

**Simultaneous PET/fMRI imaging of the serotonin receptor system: the 5-HT<sub>4</sub> receptor subtype**

Marc D. Normandin (United States)

**Serotonin 5HT<sub>1A</sub> receptor binding and self-transcendence in healthy control subjects - a replication study using Bayesian inference**

Gina Griffioen (Sweden)

**Divergent levodopa mediated modulation of motor- and cognitive-related network activity in Parkinson's disease: a FDG PET, ASL MRI and fMRI study at resting state**

Vijay Dhawan (United States)

**Brain networks of cerebral metabolism and perfusion associated with cerebellar variant of multiple system atrophy: a FDG PET and ASL MRI study**

Vijay Dhawan (United States)

Oral session  
16:00 - 17:30

Hörsaal A

### BS03, Neurovascular coupling

**Chairs:**

Adam Bauer (United States)  
David Boas (United States)

<b>Extensive 3D vascular mapping points to a lack of spatial compartmentalization around neuronal units of the lemniscal pathway</b>	<b>16:00 - 16:15</b>
Pablo Blinder (Israel)	
<b>Depths-dependent flow and pressure characteristics in cortical microvascular networks</b>	<b>16:15 - 16:30</b>
Franca Schmid (Switzerland)	
<b>Two-photon microscopy measurement of cortical functional activation in awake mice</b>	<b>16:30 - 16:45</b>
Sava Sakadzic (United States)	
<b>Assessing the neural and the hemodynamic resting-state functional connectivity in case of neurovascular uncoupling</b>	<b>16:45 - 17:00</b>
Bing Li (China)	
<b>Optogenetic activation of noradrenergic neurons in the locus coeruleus modulates cortical neurovascular coupling responses</b>	<b>17:00 - 17:15</b>
Clotilde Lecrux (Canada)	
<b>Optogenetic dissection of inhibitory neuron activity contributions to vascular regulation</b>	<b>17:15 - 17:30</b>
Alberto L. Vazquez (United States)	

## Scientific Programme

Oral session  
16:00 - 17:30

Hörsaal C

### BS04, Therapy & neuroprotection

#### Chairs:

Tracy D Farr (United Kingdom)  
Matthias Endres (Germany)

<b>A novel preventive therapy for paclitaxel-induced cognitive deficits - preclinical evidence</b> Wolfgang Boehmerle (Germany)	<b>16:00 - 16:15</b>
<b>Neuroprotective efficacy of poly-arginine-18 (R18) peptides using an in vivo model of perinatal hypoxic ischaemic encephalopathy (HIE)</b> Adam Edwards (Australia)	<b>16:15 - 16:30</b>
<b>Co-administration of nanowired mesenchymal stem cells and cerebrolysin potentiates neuroprotection in Parkinson´s disease following mild traumatic brain injury</b> Aruna Sharma (Sweden)	<b>16:30 - 16:45</b>
<b>ACE2 activity is required to sustain serotonin levels and mediates exercise-induced adult neurogenesis</b> Friederike Klempin (Germany)	<b>16:45 - 17:00</b>
<b>A novel strategy of neuroprotection tailored to improve ischemic stroke outcome in aged brains</b> Wulf Paschen (United States)	<b>17:00 - 17:15</b>
<b>Soluble epoxide hydrolase inhibition decreases reperfusion injury after focal cerebral ischemia in rat</b> Raymond Koehler (United States)	<b>17:15 - 17:30</b>

Symposium session  
16:00 - 17:30

Hörsaal D

### SY04, Integrated PET/MRI - new generation translational brain imaging

#### Chairs:

Henryk Barthel (Germany)

<b>Introduction</b>	<b>16:00 - 16:05</b>
<b>Basics and essential needs in integrated brain PET/MRI</b> Hidehiro Iida (Japan)	<b>16:05 - 16:25</b>
<b>Preclinical applications of brain PET/MRI</b> Winnie Deuther-Conrad (Germany)	<b>16:25 - 16:45</b>
<b>Clinical routine applications of integrated brain PET/MRI</b> Henryk Barthel (Germany)	<b>16:45 - 17:05</b>
<b>Functional brain mapping of neuroreceptors using PET and fMRI</b> Christin Sander (United States)	<b>17:05 - 17:25</b>
<b>Discussion</b>	<b>17:25 - 17:30</b>

## Scientific Programme

Symposium session  
17:30 - 19:00

Hörsaal A

### **SY05, Neuronal modulation and in vivo imaging - tools to dissect the living brain**

**Chairs:**

Mikael Palner (Denmark)

<b>Introduction</b>	<b>17:30 - 17:35</b>
<b>Tools to dissect the living brain</b> Mikael Palner (Denmark)	<b>17:35 - 17:55</b>
<b>Development of transgenic marmosets expressing genetically encoded calcium indicators</b> Afonso C. Silva (United States)	<b>17:55 - 18:15</b>
<b>PET imaging-guided chemogenetic modification of reward-related circuits in monkeys</b> Takafumi Minamimoto (Japan)	<b>18:15 - 18:35</b>
<b>DREAMM: Biobehavioral imaging for dynamic in vivo whole-brain mapping of cell type-specific functional networks</b> Mike Michaelides (United States)	<b>18:35 - 18:55</b>
<b>Discussion</b>	<b>18:55 - 19:00</b>

Oral session  
17:30 - 19:00

Hörsaal C

### **BS05, Blood brain barrier**

**Chairs:**

Ai-Ling Lin (United States)

Ludmila Belayev (United States)

<b>GLP-1 analog raises glucose transport capacity of blood-brain barrier in Alzheimer's disease</b> Albert Gjedde (Denmark)	<b>17:30 - 17:45</b>
<b>Nanoagonist-mediated endothelial tight junction opening: a strategy increasing brain drug delivery efficiently and safely</b> Xihui Gao (China)	<b>17:45 - 18:00</b>
<b>Paracellular mechanisms may contribute to early blood-brain barrier leakage after cerebral ischemia and reperfusion</b> Xiaoyan Jiang (China)	<b>18:00 - 18:15</b>
<b>Zinc contributes to acute cerebral ischemia-induced blood-brain barrier disruption</b> Zhifeng Qi (China)	<b>18:15 - 18:30</b>
<b>Identification of two phosphorylation sites essential for Annexin A1 in blood-brain barrier protection after experimental intracerebral hemorrhage in rats</b> Gang Chen (China)	<b>18:30 - 18:45</b>

## Scientific Programme

**New non-invasive and reproducible method of reversible opening of blood brain barrier for novel pharmacological strategy of treatment of central nervous system diseases** **18:45 - 19:00**  
Oxana Semyachkina-Glushkovskaya (Russian Federation)

Oral session  
17:30 - 19:00

Hörsaal D

### BPS02, BrainPET: Neurotransmitter systems

#### Chairs:

Doris Doudet (Canada)  
Gaia Rizzo (Italy)

**In vivo dopamine imaging using [11C]raclopride positron emission tomography in a transgenic mouse model** **17:30 - 17:45**  
Anna Lena Cremer (Germany)

**Open-Field-PET: Reproducibility of detecting transient changes in D2/D3 receptor occupancy during drug competition studies on freely moving animals** **17:45 - 18:00**  
Georgios Angelis (Australia)

**Simultaneous PET/MRI depicts changes in serotonin transporters, glucose metabolism and multimodal brain connectivity patterns after pharmacological stimulation** **18:00 - 18:15**  
Mario Amend (Germany)

**Low 5-HT1B receptor binding in the migraine brain: A PET study** **18:15 - 18:30**  
Marie Deen (Denmark)

**Individual waking EEG power is negatively related to adenosine receptor density measured with PET** **18:30 - 18:45**  
David Elmenhorst (Germany)

**Endogenous mu-opioid receptor system mediates anticipatory reward processing in humans: A combined PET-fMRI study** **18:45 - 19:00**  
Lauri Nummenmaa (Finland)

Social event  
20:30 - 22:00

Max Kade Auditorium

### Early Career Networking Evening - Ballhaus Berlin

Start: 20:30PM  
End: 02:00AM

Price per ticket: €15

Ballhaus Berlin  
Chausseestr. 102  
10115 Berlin

## Scientific Programme

### Monday, 03 April 2017

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Oral session  
08:00 - 09:30

Hörsaal A

#### BS06, Plasticity & recovery

**Chairs:**

Wei Cai (United States)  
Anna Planas (Spain)

<b>Tissue plasminogen activator promotes axonal sprouting and functional recovery after ischemic stroke</b> Yejie Shi (United States)	<b>08:00 - 08:15</b>
<b>Experimental neurorehabilitation to study neurovascular remodeling after cerebral ischemia</b> Marina Gabriel-Salazar (Spain)	<b>08:15 - 08:30</b>
<b>Elucidating the molecular mechanism behind the long-term cerebral ischemic tolerance mediated by resveratrol preconditioning</b> Nathalie Khoury (United States)	<b>08:30 - 08:45</b>
<b>Delayed inhibition of TRPM2 channels reverses impaired synaptic function after global cerebral ischemia</b> Paco Herson (United States)	<b>08:45 - 09:00</b>
<b>Contralesional homotopic activity negatively influences functional recovery after stroke</b> Adam Bauer (United States)	<b>09:00 - 09:15</b>
<b>Cofilin-actin rod formation in ischemic neurons and axons</b> Raymond Swanson (United States)	<b>09:15 - 09:30</b>

Oral session  
08:00 - 09:30

Hörsaal C

#### BS07, Neurological diseases

**Chairs:**

Veronica Galvan (United States)  
Geralda A.F. van Tilborg (Netherlands)

<b>Cerebrovascular consequences of raised intracranial pressure</b> Marek Czosnyka (United Kingdom)	<b>08:00 - 08:15</b>
<b>A novel mouse surgical model for moyamoya</b> Jill Roberts (United States)	<b>08:15 - 08:30</b>
<b>The effect of diet-induced vitamin D deficiency on acute post-stroke outcome</b> Megan Evans (Australia)	<b>08:30 - 08:45</b>

## Scientific Programme

<b>Global changes in white matter structure following focal photothrombotic stroke to the sensorimotor cortex</b> Geralda A.F. van Tilborg (Netherlands)	<b>08:45 - 09:00</b>
<b>Detection of radiologic and laboratory features of cerebral Amyloid angiopathy in patients with Alzheimer's disease</b> Panagiotis Fotiadis (United States)	<b>09:00 - 09:15</b>
<b>Graph theoretical heat kernel signatures of structural connectivity are altered in comatose cardiac arrest patients</b> Markus D Schirmer (United States)	<b>09:15 - 09:30</b>

Oral session  
08:00 - 09:30

Hörsaal D

### BPS03, BrainPET: Quantification

#### Chairs:

Qi Guo (United States)  
Julie Price (United States)

<b>[18F] ASEM PET imaging of the alpha 7 nicotinic cholinergic receptor: test retest and sex differences</b> Albert Gjedde (Denmark)	<b>08:00 - 08:15</b>
<b>An automated algorithm to quantify brain amyloid load</b> Alex Whittington (United Kingdom)	<b>08:15 - 08:30</b>
<b>Validation of an image-derived input function method for 15O-water PET/MR brain scans</b> Mark Lubberink (Sweden)	<b>08:30 - 08:45</b>
<b>Comparison of Oxygen-15-water and arterial spin labeling measures of cerebral blood flow in healthy subjects and patients with cerebrovascular disease using TOF-enabled simultaneous PET/MRI</b> Audrey P. Fan (United States)	<b>08:45 - 09:00</b>
<b>Modelling TSPO brain PET data including endothelial binding: considerations on tracer affinities</b> Gaia Rizzo (Italy)	<b>09:00 - 09:15</b>
<b>Endothelial modelling of [11C]PBR28 brain PET data: a validation using XBD173 blocking and tissue analysis</b> Mattia Veronese (United Kingdom)	<b>09:15 - 09:30</b>

Poster viewing  
09:30 - 11:00

Exhibition & Poster Area

### PS03, Poster viewing session III

<b>The relationship between cerebral vascular and mitochondria oxygenation during arterial desaturations is predictive of injury severity in neonates with hypoxic-ischaemic encephalopathy</b> Ilias Tachtsidis (United Kingdom)
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## Scientific Programme

**Cerebral hemodynamic response to change of body position in patients with obstructive sleep apnea by diffuse correlation spectroscopy**

Clara Gregori-Pla (Spain)

**Acute high-intensity interval training, but not moderate-intensity aerobic exercise, decreases mu-opioid receptor availability in humans**

Tiina Saanijoki (Finland)

**Noninvasive optical method can predict hydrocephalus treatment and brain outcomes-initial experiences with post-infectious hydrocephalus infants in Uganda**

Pei-Yi Lin (United States)

**Pediatric sleep apnea suppresses cerebral blood flow reactivity to hypercarbia**

David R. Busch (United States)

**Magnesium and verapamil after recanalization in ischemia of the cerebrum (MAVARIC) in the Kentucky regional population: a clinical and translational study. Study Design**

Justin Fraser (United States)

**Non-invasive cerebral autoregulation monitoring during cardiac surgery with cardiopulmonary bypass**

Vytautas Petkus (Lithuania)

**Evaluation of MRI tumor characteristics and quantitative FDG-PET assessments of cerebro-cerebellar diaschisis: Pathophysiologic implications for gliomas**

Eivind Antonsen Segtnan (Denmark)

**Using near-infrared spectroscopy to measure cerebral blood flow in neonatal brain injury**

Subhabrata Mitra (United Kingdom)

**Interrogating changes in cerebral glucose availability, delivery, uptake and phosphorylation after traumatic brain injury; an <sup>15</sup>Oxygen and <sup>18</sup>F-fluorodeoxyglucose positron emission tomography study**

Jeroen Hermanides (United Kingdom)

**Cerebral hemodynamic response to head-of-bed manipulation can differentiate between brain hemispheres with and without severe internal carotid artery steno-occlusive lesions**

Clara Gregori-Pla (Spain)

**Characterizing spontaneous cerebral vasculopathy in a murine model of sickle cell disease**

Hyacinth Idu Hyacinth (United States)

**Using multi-TI ASL to explore gray matter (GM) perfusion in multiple sclerosis (MS) patients**

Ilona Lipp (United Kingdom)

**New insights into neuro-imaging changes in idiopathic intracranial hypertension**

Svetlana Lublinsky (Israel)

**Functional connectivity assessment in a mouse model of glioma growth**

Inema Orukari (United States)

**Anatomical and functional characterization of schizophrenia-linked genes**

Garth J Thompson (United States)

**Cerebral venous sinuses thrombosis in Kyrgyzstan: a review of a series of clinical cases, clinical and imaging correlation**

Inna Lutsenko (Kyrgyzstan)

## Scientific Programme

**Histomorphological spectrum of lesions of the central nervous system including the brain, spinal cord and vertebrae**

Pratibha Bista Roka (Nepal)

**Mapping and manipulating the fate of obstructed microvessels**

Patrick Reeson (Canada)

**Effects of acute and chronic sleep deprivation on the resting-state activity of the human brain**

Judith Fronczek (Germany)

**Endogenous recovery of impaired synaptic plasticity after juvenile global and focal ischemia**

Robert Dietz (United States)

**Using functional MRI to track neuroplasticity after cognitive rehabilitation post traumatic brain injury**

Sakshi Chopra (India)

**Measuring cerebrovascular mechanisms of neuroplasticity using Arterial Spin Labelling (ASL) fMRI**

Catherine Foster (United Kingdom)

**Murine microvascular pericytes promote recovery from an inflammatory mediated model of multiple sclerosis**

Paula Dore-Duffy (United States)

**Hypoxic preconditioning enhances neural stem cell transplantation therapy after intracerebral hemorrhage in mice**

Norito Fukuda (Japan)

**Human amnion stem cell-derived exosomes improve stroke outcome**

Brad Broughton (Australia)

**Global glia replacement as a strategy for treatment of amyotrophic lateral sclerosis - a basic study on experimental mice model**

Luiza Stanaszek (Poland)

**Cerebral decellularized extracellular matrix as in vitro model for neural development**

Rolando Gittens (Panama)

**Resting-state fMRI and behavioural indices of a human neural stem cell therapy for ischaemic stroke in rats**

Tristan Hollyer (United Kingdom)

**Microglia preconditioned by oxygen-glucose deprivation promote functional recovery in ischemic rats**

Masato Kanazawa (Japan)

**Distribution of bone marrow stromal cells after intravenous or intraventricular transplantation in experimental stroke**

Athanasios Lourbopoulos (Germany)

**Intra-arterial IL-1 $\alpha$  is well tolerated and neuroprotective after experimental ischemic stroke**

Kathleen Salmeron (United States)

**A1 adenosine receptor attenuates intracerebral hemorrhage-induced secondary brain injury in rats by activating the P38-MAPKAP2-Hsp27 pathway**

Gang Chen (China)

## Scientific Programme

**Differing image patterns in perfusion maps of Arterial Spin Labeling (ASL) perfusion in cerebral arterial stenosis : awareness of pitfalls is a must**

Shyam Jaiswal (India)

**Dynamic changes in cortical cerebral blood flow following permanent MCAO: Influence of inhaled nitric oxide**

Ifechukwude Joachim Biose (United Kingdom)

**Evaluation of mechanical thrombectomy trends at University of Kentucky**

Skylar Trott (United States)

**White matter hyperintensity segmentation in large scale clinical acute ischemic stroke cohort using a fully automated pipeline**

Markus D Schirmer (United States)

**Time-Domain NIRS oxygenation parameters in healthy volunteers compared to ischemic stroke patients**

Giacomo Giacalone (Italy)

**Inhibition of  $\alpha 5\beta 1$  integrin with ATN-161 is neuroprotective and stabilizes the blood-brain barrier after experimental ischemic stroke**

Danielle Edwards (United States)

**Investigation of effective reserve as a protective mechanism for stroke outcome**

Markus D Schirmer (United States)

**Peroxisomal turnover in ischemic brain**

Nabil Alkayed (United States)

**Expression of leukemia inhibitory factor receptor in the brain and immune system after permanent stroke**

Stephanie Davis (United States)

**Membrane trafficking dysfunction leads to Cathepsin B release and ischemia-reperfusion brain injury**

Dong Yuan (United States)

**Post-stroke induction of alpha-synuclein mediates ischemic brain damage**

TaeHee Kim (United States)

**Impaired assembly of HTRA1 oligomers as a pathogenic mechanism in cerebral small vessel disease**

Nathalie Beaufort (Germany)

**Growth differentiation factor-11 causes neurotoxicity during oxygen and glucose deprivation in vitro**

Brad A Sutherland (United Kingdom)

**Exosomes shed from M2 microglia protect neuron from hypoxia**

Yaying Song (China)

**Blockade of acid sensitive ion channels attenuate recurrent hypoglycemia-induced potentiation of post-ischemic hypoperfusion and ischemic brain damage in treated diabetic rats**

Kunjan R Dave (United States)

**Nur77 ameliorate brain ischemic injury through polarize microglia from M1 to M2 phenotype**

Yan Chen (China)

## Scientific Programme

**Proteomic analysis of HDAC3 selective inhibitor in the regulation of inflammatory response of primary microglia**

Yun Xu (China)

**Hemorrhagic transformation in rodents: different models, similar mechanism?**

Klaus van Leyen (United States)

**Endothelial TRPV1 channels modulate cerebral blood flow during reperfusion phase following ischemic stroke**

Sung-Ha Hong (United States)

**Simulating arteriolar smooth muscle mediated cerebral blood flow regulation and oxygenation in response to optogenetic activation and ischaemia**

Paul Sweeney (United Kingdom)

**Omega-3 fatty acid supplement prevents progression of Intracranial Atherosclerosis (ICAS)**

Xiaokun Geng (United States)

**A novel mouse model of cerebellar stroke with motor and non-motor deficit**

Nidia Quillinan (United States)

**A "Crowdsourced" method to incorporate variability in experimental stroke to better mimic the biology and diversity of human stroke**

Thomas A. Kent (United States)

**Aged and sex influence the neutrophil response after ischemic stroke in mice and humans**

Meaghan Roy-O'Reilly (United States)

**Increased infarction and hemorrhagic transformation in aged spontaneous hypertensive rats: role of collateral CBF**

Siu Lung Chan (United States)

**Degeneration of muscles supplied by the external carotid artery in the intraluminal filament mouse model of middle cerebral artery occlusion**

Markus Vaas (Switzerland)

**Substrain and sex differences in infarct size after permanent focal ischemia in C57BL/6 mice**

Thaddeus S. Nowak, Jr. (United States)

**cGMP-dependent protein kinase I in smooth muscle cells improves cerebral reperfusion and stroke outcome**

Dmitriy Atochin (United States)

**Inadequate food and water intake determine mortality following severe stroke in mice**

Athanasios Lourbopoulos (Germany)

**The effect of 20-HETE inhibition by HET0016 on the cerebral microvascular circulation after asphyxial cardiac arrest in pediatric rats**

Lingjue Li (United States)

**Validation of noninvasive measurements of cerebral blood flow and oxygenation in a pediatric swine model of cardiac arrest and cardiopulmonary resuscitation**

Tiffany Ko (United States)

**Physical exercise promotes cognitive recovery after cardiac arrest in Sprague-Dawley rats**

Holly Stradecki-Cohan (United States)

## Scientific Programme

**Perfusion-related changes in the temporal dynamics of the blood-oxygen-level-dependent signal in a mouse model of focal cerebral ischemia**

Ahmed Khalil (Germany)

**Connection between paravascular spaces and the cerebrospinal fluid compartment in the rat brain**

Beatrice Bedussi (Netherlands)

**Clinical mapping of cerebrovascular reactivity using MRI: a framework for reaching consensus**

Molly G Bright (United Kingdom)

**Novel non-invasive method for monitoring intracranial pressure with diffusion correlation spectroscopy**

Kuan Cheng Wu (United States)

**New pattern of cerebral autoregulation in response to intrathoracic pressure changes**

Zhongxing Zhang (Switzerland)

**A diffuse optical method and a compact device for measuring cerebral blood flow in adult human brain**

Joseph Hollmann (Spain)

**Mapping extracellular pH of gliomas in presence of superparamagnetic nanoparticles**

Daniel Coman (United States)

**Atlas registration to assess edema-corrected MRI lesion volume in experimental stroke**

Philipp Boehm-Sturm (Germany)

**Cerebral assessment of pharmacological modulation of spinal GABAA receptor using Functional BOLD MRI in a rat model of postoperative pain**

Nathalie Just (Germany)

**Jugular vein collapse in upright and its relation to intracranial pressure regulation**

Petter Holmlund (Sweden)

**Noninvasive monitoring of critical closing pressure with near-infrared light**

Wesley B. Baker (United States)

**Experimental cerebral malaria: Mapping of Gd-DOTA leakage kinetics by MRI**

Teodora-Adriana Perles-Barbacaru (France)

**Intraoperative assessment of cerebral blood flow changes in normal and pathological brain tissue, using an infrared camera**

Ewa Koźniewska (Poland)

**G-protein coupled receptor 39 expression and function in the microcirculation**

Nabil Alkayed (United States)

**PGE2 EP-1 receptors play an obligatory role in the increase of cerebral blood flow produced by hypercapnia in the mouse brain microcirculation**

Laibaik Park (United States)

**Hemodynamic mapping of cell-specific and resting-state functional connectivity in the awake mouse brain**

Adam Bauer (United States)

## Scientific Programme

**Impaired hippocampal neurovascular coupling in a mouse model of Alzheimer's disease**

Lin Li (Canada)

**Cerebral blood flow and oxygen delivery changes in response to oxygen inhalation: Impact from the genetic adaptation at high altitude**

Jie Liu (China)

**Perivascular macrophages mediate vascular oxidative stress and neurovascular dysfunction induced by amyloid- $\beta$  through CD36 and Nox2**

Laibaik Park (United States)

**High-resolution functional parcellation of the rat thalamus**

Peter Herman (United States)

**Interferometric near-infrared spectroscopy (iNIRS) quantifies brain absorption, scattering, and blood flow index in vivo**

Dawid Borycki (United States)

**ASL combined with EEG for neurovascular coupling assessment in a clinical model of vascular dementia**

Clément Huneau (France)

**Metabolic demand of neural-hemodynamic associated and disassociated areas with calibrated fMRI**

Peter Herman (United States)

**Vascular tPA influences neurovascular coupling through an NMDA-receptor dependent mechanism**

Antoine Anfray (France)

**Brain endothelial G $\alpha$ q/11 signaling is involved in cerebral blood flow regulation**

Jan Wenzel (Germany)

**Montreal scale of cognitive functions in early diagnosis of constrictive cerebral arteries**

Maruf Salohiddinov (Uzbekistan)

**Noradrenergic deficits in Parkinson's disease: Relations to cognitive and cortical oscillatory activity declines**

Adjmal Nahimi (Denmark)

**Elicitation of cortical spreading depolarization (CSD) in adult rats by substance P - a mechanism to aggravate secondary cortical damage after brain injury or infection?**

Frank Richter (Germany)

**The neuroprotective compound P7C3-A20 improves behavioral and histopathological outcomes after transient focal cerebral ischemia in rats**

Symposium session  
11:00 - 12:30

Hörsaal A

### **SY06, Whole brain mapping of neural circuits by optogenetic fMRI**

**Chairs:**

Yen-Yu Ian Shih (United States)

**Introduction**

**11:00 - 11:05**

## Scientific Programme

<b>Optogenetic fMRI and the investigation of global brain circuit mechanisms</b>	<b>11:05 - 11:25</b>
Jin-Hyung Lee (United States)	
<b>Optogenetic dissection of fMRI signals</b>	<b>11:25 - 11:45</b>
Yen-Yu Ian Shih (United States)	
<b>MRI-guided robotic-driven optogenetic fMRI and simultaneous calcium recordings</b>	<b>11:45 - 12:05</b>
Xin Yu (Germany)	
<b>Considerations for Opto-fMRI studies: Cortical processing and selectivity</b>	<b>12:05 - 12:25</b>
Alberto L. Vazquez (United States)	
<b>Discussion</b>	<b>12:25 - 12:30</b>

Oral session  
11:00 - 12:30

Hörsaal C

## BS08, Mechanisms of cerebral ischemia

### Chairs:

Sunghee Cho (United States)  
Beatriz Rodriguez-Grande (France)

<b>Contralesional cortical atrophy and molecular cortical circuit reorganization after cerebral ischemia</b>	<b>11:00 - 11:15</b>
Farida Hellal (Germany)	
<b>Delayed treatment with omega-3 polyunsaturated fatty acids can still promote long-term neurovascular restoration, white matter integrity, and behavioral recovery after ischemic stroke</b>	<b>11:15 - 11:30</b>
Hongjian Pu (United States)	
<b>DNA hydroxymethylation following focal ischemia</b>	<b>11:30 - 11:45</b>
Raghu Vemuganti (United States)	
<b>The hypoxisome in neuronal resilience and cell death in stroke</b>	<b>11:45 - 12:00</b>
Thiruma Arumugam (Singapore)	
<b>Inhibition of Mas receptor worsens stroke outcome in a comorbid rat model</b>	<b>12:00 - 12:15</b>
Emma Reid (United Kingdom)	
<b>Neuronal Sirt1 mediates resveratrol preconditioning-induced ischemic tolerance by regulating glycolytic function</b>	<b>12:15 - 12:30</b>
Kevin Koronowski (United States)	

## Scientific Programme

Oral session  
11:00 - 12:30

Hörsaal D

### BPS04, BrainPET: Dementia

#### Chairs:

Andreas Hahn (Austria)  
Gitte Moos Knudsen (Denmark)

<b>Antibody-based PET radioligands for imaging of amyloid-beta protofibrils</b> Stina Syvänen (Sweden)	<b>11:00 - 11:15</b>
<b>Investigation of the selectivity of Tau PET radioligand THK5351 in vitro and in vivo</b> Qi Guo (United States)	<b>11:15 - 11:30</b>
<b>Optimization of specific binding quantification using dynamic and static PET acquisition and comparison of 18F-THK-5317 and 18F-THK-5351</b> Tobey Betthausen (United States)	<b>11:30 - 11:45</b>
<b>Selegiline reduces brain [18F]THK5351 uptake</b> Kok Pin Ng (Canada)	<b>11:45 - 12:00</b>
<b>PET tau and amyloid levels in default mode network synergistically determine clinical status in predementia stages of Alzheimer's disease</b> Tharick Ali Pascoal (Canada)	<b>12:00 - 12:15</b>
<b>Amyloid-<math>\beta</math> plaque accumulation and glucose hypometabolism in non-demented adults with Down syndrome demonstrate pattern of association observed in Alzheimer's disease</b> Patrick Lao (United States)	<b>12:15 - 12:30</b>

Symposium session  
13:30 - 15:00

Hörsaal A

### SY07, New horizons in neurovascular dysfunction in aging

#### Chairs:

Zoltan Ungvari (United States)

<b>Introduction</b>	<b>13:30 - 13:35</b>
<b>Neurovascular coupling and mismatch of energy supply and demand in the aged brain</b> Martin Lauritzen (Denmark)	<b>13:35 - 13:55</b>
<b>TOR-dependent neuronal and vascular aging as critical drivers of Alzheimer's disease</b> Veronica Galvan (United States)	<b>13:55 - 14:15</b>
<b>Injury-related spreading depolarization in aging: mechanisms and consequences</b> Eszter Farkas (Hungary)	<b>14:15 - 14:35</b>
<b>Neurovascular uncoupling and cognitive decline in aging: novel targets for prevention</b> Zoltan Ungvari (United States)	<b>14:35 - 14:55</b>

## Scientific Programme

**Discussion**

**14:55 - 15:00**

Oral session  
13:30 - 15:00

Hörsaal C

### **BS09, Hemorrhage**

**Chairs:**

Hiroiyuki Kinouchi (Japan)  
John Zhang (United States)

**Hemispheric and regional asymmetries of early cortical blood flow changes following subarachnoid haemorrhage in mice: Further support for acute vasoconstriction?** **13:30 - 13:45**

Sahin Hanalioglu (Turkey)

**Subarachnoid blood acutely induces spreading depolarizations and early cortical infarction in the human and swine brain** **13:45 - 14:00**

Jens Dreier (Germany)

**Astrocyte associated tissue factor (coagulation factor III) limits subarachnoid hemorrhage and regulates cerebrospinal fluid flow** **14:00 - 14:15**

Eugene Golanov (United States)

**Osteopontin attenuates changes in cerebrovascular structure-function relations induced by subarachnoid hemorrhage in rat brain** **14:15 - 14:30**

William Pearce (United States)

**Sanguinate™ (PEGylated-carboxyhemoglobin-bovine) improves cerebral blood flow and oxygen extraction to vulnerable brain regions in patients at risk for delayed cerebral ischemia after subarachnoid hemorrhage** **14:30 - 14:45**

Rajat Dhar (United States)

**S-ketamine reduces the incidence and modifies the characteristics of spreading depolarization in patients with aneurysmal subarachnoid hemorrhage and in gyrencephalic swine models** **14:45 - 15:00**

Edgar Santos (Germany)

Oral session  
13:30 - 15:00

Hörsaal D

### **BPS05, BrainPET: Neurology**

**Chairs:**

Samuel Turton (United Kingdom)  
Jussi Hirvonen (Finland)

**Chemogenetic modulation of the pedunculo-pontine nucleus coupled with 11C-PHNO uptake reveals striatal dopamine release accompanies profound motor recovery in a rodent model of Parkinson's disease** **13:30 - 13:45**

Puneet Sharma (United Kingdom)

## Scientific Programme

<b>Altered adenosine 2A and dopamine D2 receptor availability in the 6-hydroxydopamine-treated rats with and without levodopa-induced dyskinesia</b>	<b>13:45 - 14:00</b>
Xiaoyun Zhou (Netherlands)	
<b>Effects of MPTP on serotonergic neuronal systems and mitochondrial complex I activity in living brain: A PET study in conscious rhesus monkeys</b>	<b>14:00 - 14:15</b>
Hideo Tsukada (Japan)	
<b>PET imaging of [11C]PBR28 in patients with Parkinson´s disease does not indicate increased binding to TSPO</b>	<b>14:15 - 14:30</b>
Katarina Varnäs (Sweden)	
<b>Inter-ictal [15O]H2O/PET differentiates between drug-resistant and seizure-free mesial temporal lobe epilepsy patients</b>	<b>14:30 - 14:45</b>
Marie-Claude Asselin (United Kingdom)	
<b>In vivo tau and amyloid pathology in Corticobasal Degeneration (CBD)</b>	<b>14:45 - 15:00</b>
Heather Wilson (United Kingdom)	

Poster viewing  
15:00 - 16:00

Exhibition & Poster Area

### PS04, Poster viewing session IV

<b>Brain temperature depends on degree of cerebral white matter damage in patients with subacute carbon monoxide poisoning</b>
Shunrou Fujiwara (Japan)
<b>Immersive Medical Media - a platform for dynamic exploration of automatic, subject-specific atlases from standard medical images</b>
Andreas Linninger (United States)
<b>Nonspreading depression followed by spreading depolarization in patients with cardiac arrest and analysis of platinum-iridium electrode interferences with oxygen and pH</b>
Jens Dreier (Germany)
<b>Pharmacological and behavioral interventions for focus: The comparison of reversal learning under the influence of Lysergic Acid Diethylamide (LSD), Methylphenidate (MPH) and Mindfulness</b>
Ahnjili Zhuparris (Netherlands)
<b>Prediction of new cerebral ischemic events after endarterectomy for symptomatic unilateral internal carotid artery stenosis using crossed cerebellar hypoperfusion on preoperative brain perfusion</b>
Kohki Oikawa (Japan)
<b>Systemic inflammation impacts on central inflammatory changes and outcome after cerebral ischemia in stroke patients and experimental animals: a bench to bedside study</b>
Flóra Mária Vásárhelyi-Nagy (Hungary)
<b>Detection of misery perfusion in patients with chronic unilateral major cerebral artery stenocclusive disease using crossed cerebellar hypoperfusion on 123I-IMP single-photon emission computed tomography imaging</b>
Yoshiyasu Matsumoto (Japan)

## Scientific Programme

**Prediction of hyperperfusion after carotid artery stenting and carotid angioplasty using cerebral circulation time using syngo iFlow**

Keita Yamauchi (Japan)

**Increase of rCBF in low-perfusion area (L-pa) after extracranial-intracranial bypass is achieved regardless of targeting recipient artery (Ra) in non-moyamoya diseases (NMMD)**

Hiroyuki Katano (Japan)

**Intracranial venous pulsatility is reduced after transverse sinus stenosis**

Eric Schmidt (France)

**Diagnosis of ventriculostomy-related infection: is cerebrospinal fluid lactate measurement a useful tool?**

Pedro Grille (Uruguay)

**Incidence and types of arrhythmia in adult patients with uncorrected atrial septal defect**

Medisa Primasari (Indonesia)

**The low hSOD1 transgene copy number mice as an animal model dedicated to cell replacement strategies**

Malgorzata Majchrzak (Poland)

**Effects of Na,K-ATPase alpha isoform deficiency on spreading depolarization studied in mice**

Clemens Reiffurth (Germany)

**Anaplerotic triheptanoin preserves mitochondrial function and reduces oxidative stress in pilocarpine-induced status epilepticus**

Kah Ni Tan (Australia)

**Amyloid- $\beta$ - and tau-driven neurovascular dysfunction in a transgenic rat model of Alzheimer's disease**

Margaret Koletar (Canada)

**Effects of arginine vasopressin on hippocampal network activity in a rat model of birth asphyxia**

Emma Prokic (Finland)

**Kinsbourne syndrome - opsoclonus myoclonus ataxia (clinical case report)**

Mariia Azhermacheva (Russian Federation)

**MRI imaging for sensitive tumour cell-tracking during development of early brain metastasis in a preclinical model**

Aurélien Corroyer-Dulmont (United Kingdom)

**A case of complicated migraine auras in temporal association with electrocorticographically recorded spreading depolarizations**

Sebastian Major (Germany)

**A web based meta-analysis of microdosing of psychedelic drugs as a form of nootropics**

Ahnjili Zhuparris (Netherlands)

**Reorganization patterns of cortical arm muscle representations: post-stroke longitudinal TMS study**

Latifa Lazzouni (Canada)

**Longitudinal mapping of visual cortical network following partial optic nerve injury**

Marianne Groleau (Canada)

## Scientific Programme

**Brain mechanisms of gait steering in young, normal subjects: a PET 18F-FDG PET study**

Jean-Paul Soucy (Canada)

**Wharton´s Jelly-derived mesenchymal stem cells modulate autonomic activity and systemic inflammation in rats with sepsis**

José Córdor (Brazil)

**An innovative regenerative medicine protocol to treat neurologic pathologies with examples of some clinical cases in non-provoked pathologies in dogs and horses**

Marco Polettoni (Italy)

**MRI-navigated intra-arterial delivery of VLA-4 overexpressing mesenchymal stem cells in rat model of deep-brain lacunar infarct**

Anna Andrzejewska (Poland)

**Induction of early gliogenesis in transplantation of hiPSCs-derived telencephalon progenitors in rat focal brain ischemia**

Yulius Hermanto (Japan)

**Difference in sensitivity of immature and mature hESC derived neurons to OGD injury**

David Howells (Australia)

**Enhancing the anti-inflammatory properties of mesenchymal stem cells**

Catrina Cunningham (United Kingdom)

**Novel methods for intra-arterial injection of stem cells to the ischemic brain: A neurosurgical approach**

Fereshteh Azeditehrani (Iran, Islamic Republic of)

**Evaluating the neuroprotective effect of human dental pulp stem cells using a stroke-related neuronal survival assay**

Yörg Dillen (Belgium)

**Cerebral hemodynamic changes after angioplasty of intracranial stenosis**

Andreas Linninger (United States)

**Blood rheology in acute ischemic stroke and chronic microvascular ischemic disease**

Mariia Azhermacheva (Russian Federation)

**Scanning electron microscopy identifies both active and mechanical interaction between stent retrievers and thrombus, which depends on surface characteristics**

Heleen M.M. van Beusekom (Netherlands)

**Association of mitral annular calcification and/or aortic valve calcification and complex aortic atheroma in stroke patients**

Kentaro Ishizuka (Japan)

**Characterization of risk factors for stroke in a Hondura population of African descent aged between 35 - 85 years in the community of Ciriboya, Colon**

Fernando Enrique Lobo Cerna (Honduras)

**Observation of microvascular cerebral blood flow fluctuations due to undiagnosed breathing disorders in acute ischemic stroke**

Clara Gregori-Pla (Spain)

**miR-145 and proatherogenic low-density lipoprotein are associated with the pathogenesis of acute ischemic stroke**

Ming-Yi Shen (Taiwan, Republic of China)

## Scientific Programme

**The histone deacetylase inhibitor, sodium butyrate, exhibits neuroprotective effects for ischemic stroke in middle-aged female rats**

Min Jung Park (United States)

**High intracranial pressure triggers peri-infarct depolarizations and worsens outcome after focal cerebral ischemia**

Fumiaki Oka (Japan)

**Dynamic changes of phosphatidylcholine in rat hippocampal CA1 after transient global ischemia detected by imaging mass spectrometry**

Satoru Miyawaki (Japan)

**Verapamil improves survival and dendritic branching in primary cortical neurons exposed to oxygen-glucose deprivation**

Amanda Trout (United States)

**The roles of Hax-1 in ischemic neuronal injury**

Xin Sui (Japan)

**Splenectomy failed to provide long-term protection to the ischemic brain**

Yuanyuan Ran (China)

**Modeling the ischemic neuromuscular unit in a dish using a stem-cell based model**

Abraham Al-Ahmad (United States)

**The influences of PAR 1-agonists on brain cells of rat at ischemia in vitro and in vivo**

Evgeny Abramov (Russian Federation)

**Proteinases of hemostasis are regulators of neurodegeneration**

Liubov Gorbacheva (Russian Federation)

**Transthyretin provides trophic support via megalin by promoting neurite outgrowth and neuroprotection in cerebral ischemia**

Joao R. Gomes (Portugal)

**Novel functional variant of nNOS in brain microvascular endothelial cells contributes to superoxide generation and affords protection against anoxic injury**

Venkata Sure (United States)

**Using unbiased large scale 3d microscopy deep phenotyping to investigate neuroprotective small molecule inhibitors of pro-apoptotic Bax and Bak**

Philipp Mergenthaler (Germany)

**Association between acute post traumatic epilepsy and type of cerebral ischaemia in neuroimaging**

Dewa Pakshage Chula Kanishka Ananda Lal (Sri Lanka)

**HQ22 treatment promote the neurogenesis and function recovery post stroke**

Chen Xi (China)

**Chronic photoperiod disruption does not increase sensitivity to transient focal cerebral ischaemia in spontaneously hypertensive rats**

KU MASTURA Ku Mohd Noor (United Kingdom)

**Effects of yokukansan on NO, OH- metabolism during cerebral ischemia and reperfusion in mice**

Chika Kitabayashi (Japan)

## Scientific Programme

**A model of ischemic white matter injury in young and aged Fischer 344 rats**

Charles Cohan (United States)

**Effect of spreading depolarization on cerebral blood flow and development of infarction under experimental ischemia in anesthetized mice**

Miyuki Unekawa (Japan)

**Improved outcome utilizing a novel catalytic antioxidant carbon nanoparticle in hyperglycemic stroke in rats at clinically relevant recanalization times**

Thomas A. Kent (United States)

**Chronic cerebral hypoperfusion accelerates Alzheimer's disease pathology with cerebrovascular remodeling in a novel mouse model**

Toru Yamashita (Japan)

**Long-term retinal vascular effects of TrkB agonist (7,8-dihydroxyflavone) therapy after neonatal hypoxic ischemic encephalopathy**

Olachi Mezu-Ndubuisi (United States)

**Remote limb ischemic conditioning in murine focal cerebral ischemiaR**

Kazuo Kitagawa (Japan)

**Severity of brain injury after global ischemia: Prognostic parameters of cardiac arrest survivors evaluated by brain autopsies**

Christian Endisch (Germany)

**Characterization of cerebral hemodynamics following return of spontaneous circulation (ROSC) in a porcine model of pediatric asphyxial cardiac arrest and resuscitation**

Constantine Mavroudis (United States)

**Spatial and temporal heterogeneity of diffusion-weighted imaging findings in comatose cardiac arrest patients**

Ona Wu (United States)

**In vivo assessment of neural and metabolic activity in cortex after pediatric cardiac arrest**

Mioara D. Manole (United States)

**The resting-state sensorimotor network is affected by stereotaxic injection**

Tristan Hollyer (United Kingdom)

**Dynamical changes of cerebral vasculature in spontaneous hypertensive rats using synchrotron radiation angiography**

Liping Wang (China)

**Near-infrared, time-resolved optical tomography with a novel compact system**

Susanna Tagliabue (Spain)

**Development of new pulsatile diffuse correlation spectroscopy (DCS) indices for evaluating infant hydrocephalus**

Jason Sutin (United States)

**An improved pipeline for a computer-based stereological method of counting immunolabelled cells in the rat brain tissue**

Camilla Simmons (United Kingdom)

**Bridging the gap between cellular and BOLD fMRI imaging**

Ravi L. Rungta (France)

## Scientific Programme

**Effect of background suppression and motion correction on pseudo-continuous arterial spin labeling CBF measurement**

Masanobu Ibaraki (Japan)

**Correction for non-rigid movement artefacts in calcium imaging using local-global optical flow and PCA-based templates**

Alexey Brazhe (Russian Federation)

**Localised structural brain differences between the BALB/cJ and BALB/cByJ mouse sub-strains and the relationship to aggression**

Diana Cash (United Kingdom)

**Multimodal preclinical imaging concept with contrast agent MRI, diffusion-weighted MRI, fluorescence imaging and histology in a glioblastoma multiforme mouse model**

Heiko Paland (Germany)

**Progress on time-domain diffuse correlation spectroscopy**

Davide Tamborini (United States)

**The usefulness and problem of arterial spin labeling for moyamoya disease**

Yusuke Takahashi (Japan)

**Quantitative T2'-mapping suggests increased oxygen extraction fraction in patients with unilateral high-grade ICA and MCA stenosis: What's behind?**

Alexander Seiler (Germany)

**Correlation of early diffusion-weighted magnetic resonance imaging findings with clinical outcome in patients with ischemic stroke in Kyrgyzstan**

Inna Lutsenko (Kyrgyzstan)

**Image-guided advances for radiologically silent transient ischaemic attacks: Ultra-sensitive molecular MRI discloses endothelial dysfunctions and improved MRI reveals perturbation of the glymphatic system**

Carine Ali (France)

**Functional diffuse correlation spectroscopy to investigate the perception of missing stimuli in a regular tactile sequence by preterm neonates**

Victoria Dumont (France)

**Concurrent diffuse optical measurement of cerebral haemodynamics and EEG during transcranial direct current stimulation (tDCS) in humans**

Martina Giovannella (Spain)

**Spatiotemporal changes in cerebral blood flow induced by transcranial photostimulation to cortical neurons or astrocytes in the transgenic mice expressing channelrhodopsin-2**

Nao Hatakeyama (Japan)

**Arterial stiffness due to carotid calcification disrupts cerebral blood flow regulation before cognitive deficits manifest**

M. Florencia Iulita (Canada)

**Neurovascular coupling independent of astrocyte Ca<sup>2+</sup> transients**

Adam Institoris (Canada)

**Individual neural activity and capillary diameter responses measured in a three-dimensional spatial domain of awake mouse somatosensory cortex**

Hiroshi Takeda (Japan)

## Scientific Programme

**Neurovascular uncoupling predicts cognitive decline and gait abnormalities in a clinically relevant mouse model of whole brain irradiation**

Andriy Yabluchanskiy (United States)

**Correspondence between fMRI and electrophysiology during visual motion processing in human MT+**

Anna Gaglianesi (Netherlands)

**Impact of chronic cerebral hypoperfusion on neurovascular coupling and cognition: role of NADPH oxidase**

Mosi Li (United Kingdom)

**Hypercapnia and NMDA elicit layer-specific local field potential changes in the cerebral cortex associated with increases in blood flow in newborn pigs**

Gábor Remzso (Hungary)

**Alterations in neurovascular coupling in the diabetic brain: A pilot study**

Amy R Nippert (United States)

**The effects of capillary transit time heterogeneity (CTH) on the BOLD signal**

Hugo Angley (Denmark)

**RCBF - rCMRO2 interrelation of neonatal premature brain**

Mina Nourhashemi (France)

**Could ATP produced in neurotransmitter glutamate metabolism meet the energy demands of glutamatergic neurotransmission?**

Paul K Maciejewski (United States)

**The role of lactate shuttle for synaptic transmission and seizure propagation in neocortical slices from patients with temporal lobe epilepsy**

Eskedar Ayele Angamo (Germany)

**The price of auditory sharpness: model-based estimate of metabolic demands of the octopus-cells**

Oleg Zhukov (Russian Federation)

Symposium session  
16:00 - 17:30

Hörsaal A

**SY08, In Vivo Veritas: a tribute to Louis Sokoloff. Use of quantitative biochemical techniques to explore roles of lactate in vivo**

**Chairs:**

Fahmeed Hyder (United States)

<b>Introduction</b>	<b>16:00 - 16:05</b>
<b>Aerobic glycolysis in resting brain: Quantitative analysis of oxygen-glucose indices as functions of age in humans</b>	<b>16:05 - 16:25</b>
Albert Gjedde (Denmark)	
<b>Aerobic glycolysis in activated brain: Catecholamines, astrocytes, and lactate efflux</b>	<b>16:25 - 16:45</b>
Gerald Dienel (United States)	

## Scientific Programme

<b>Lactate shuttling: Modeling and measuring astrocyte neuron interactions</b> Douglas Rothman (United States)	<b>16:45 - 17:05</b>
<b>Bedside evaluation of cerebral energy status and lactate supplementation after brain injury</b> Carl-Henrik Nordström (Sweden)	<b>17:05 - 17:25</b>
<b>Discussion</b>	<b>17:25 - 17:30</b>

Oral session  
16:00 - 17:30

Hörsaal C

### BS10, Cerebral ischemia: clinical

#### Chairs:

Koji Abe (Japan)  
Jill Roberts (United States)

<b>Genetics of white matter hyperintensity burden in patients with ischemic stroke: the MRI-GENIE study</b> Anne-Katrin Giese (United States)	<b>16:00 - 16:15</b>
<b>Variable ischemic stress of white matter hyperintensities in stroke patients with large vessel occlusion</b> Edwin Nemoto (United States)	<b>16:15 - 16:30</b>
<b>Biological age is a better predictor of 3-months outcome than chronological age in ischemic stroke patients</b> Carolina Soriano-Tarraga (Spain)	<b>16:30 - 16:45</b>
<b>Loci associated with neurological instability after acute ischemic stroke: A multi-ethnic genome-wide association study</b> Jin-Moo Lee (United States)	<b>16:45 - 17:00</b>
<b>Baseline haemodynamic and optical properties of the newborn brain and the reproducibility of the measurements: a preliminary report from the BabyLux project</b> Martina Giovannella (Spain)	<b>17:00 - 17:15</b>
<b>Continuous monitoring of cerebral hemodynamics during disrupted cerebral auto-regulation in extracorporeal membrane oxygenation therapy</b> David R. Busch (United States)	<b>17:15 - 17:30</b>

Oral session  
16:00 - 17:30

Hörsaal D

### BPS06, BrainPET: Psychiatry

#### Chairs:

Sandeep Golla (Netherlands)  
Diana Martinez (United States)

## Scientific Programme

<b>Evaluation of the effect of glucocorticoids on TSPO expression in nonhuman primate brain using positron emission tomography</b> Alessandro Colasanti (United Kingdom)	<b>16:00 - 16:15</b>
<b>Spatially coupled abnormalities in striatal dopamine density and functional connectivity in depression using simultaneous PET/MRI</b> Trine Hjørnevik (Norway)	<b>16:15 - 16:30</b>
<b>Association between cortical thickness and MAO-A binding in subjects suffering from seasonal affective disorder</b> Rene Seiger (Austria)	<b>16:30 - 16:45</b>
<b>Inverse relationship between central serotonin and noradrenaline transporter availability in humans with high BMI range - a potential biological mechanism in obesity</b> Swen Hesse (Germany)	<b>16:45 - 17:00</b>
<b>Prenatal stressors alter neuroadaptation of the 5-HT1A serotonergic system following fixed-dose ethanol exposure in non-human primates</b> Patrick Lao (United States)	<b>17:00 - 17:15</b>
<b>Comparing m-opioid receptor availability and opioid/<math>\beta</math>-endorphin release between individuals with gambling disorder, alcohol dependence and healthy volunteers using [<math>^{11}</math>C]carfentanil PET and dexamphetamine challenge</b> Samuel Turton (United Kingdom)	<b>17:15 - 17:30</b>

Symposium session  
17:40 - 18:40

Hörsaal A

## JSY, JCBFM Symposium: highlights from the Journal of Cerebral Blood Flow and Metabolism

### Chairs:

Mhairi Macrae (United Kingdom)  
Martin Lauritzen (Denmark)

<b>Diet-induced metabolic syndrome influences brain functions: A molecular and genomic insight</b> Rahul Agrawal (United States)	<b>17:40 - 17:55</b>
<b>Aging alters the dampening of pulsatile blood flow in cerebral arteries</b> Laleh Zarrinkoob (Sweden)	<b>17:55 - 18:10</b>
<b>Accelerated pericyte degeneration and blood-brain barrier breakdown in apolipoprotein E4 carriers with Alzheimer's disease</b> Matthew R Halliday (United States)	<b>18:10 - 18:25</b>
<b>T cell-driven "thrombo-inflammation" in experimental stroke</b> Michael K Schuhmann (Germany)	<b>18:25 - 18:40</b>

## **Scientific Programme**

Social event  
20:00 - 22:00

Max Kade Auditorium

### **ISCBFM Banquet - Wasserwerk Berlin**

Start: 20:00PM  
End: 01:00AM

Price per ticket: €75

Wasserwerk Berlin  
Hohenzollerndamm 208  
10713 Berlin

## Scientific Programme

### Tuesday, 04 April 2017

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Highlight session  
08:00 - 09:00

Max Kade Auditorium

#### NLA, The Niels Lassen Award Session

**Chairs:**

Edith Hamel (Canada)  
Eng Lo (United States)

**STAT6-Arg1 signaling is essential for M2 microglia/macrophage polarization and neurological recovery after ischemic stroke** 08:00 - 08:15

Wei Cai (United States)

**Optical control of blood flow in naive animals** 08:15 - 08:30

Ravi L. Rungta (France)

**Acute gliovascular phenotype depends on primary injury severity in a new juvenile Closed Head Injury with Long-term Disorders (CHILD) model** 08:30 - 08:45

Beatriz Rodriguez-Grande (France)

**Selective non-nuclear estrogen receptor activation decreases stroke severity and promotes functional recovery after stroke in mice** 08:45 - 09:00

Uma Maheswari Selvaraj (United States)

Highlight session  
09:00 - 10:00

Max Kade Auditorium

#### PL, Plenary Lecture

**Chairs:**

Ulrich Dirnagl (Germany)  
Matthias Endres (Germany)

**Improving research quality: how stroke has led the world (and what we need to do to stay ahead)** 09:00 - 10:00

Malcolm Macleod (United Kingdom)

Poster viewing  
10:00 - 11:00

Exhibition & Poster Area

#### PS05, Poster viewing session V

**B lymphocytes infiltrate ischemic brain forming follicle-like structures and contributing to autoreactive responses after experimental stroke**

Katarzyna Winek (Germany)

**Supplementary motor area, but not primary motor cortex - graded real-time fMRI neurofeedback training and its translation to stroke patients**

David Mehler (United Kingdom)

## Scientific Programme

**Rivaroxaban limits early hematoma expansion after experimental intracerebral hemorrhage compared with warfarin**

Shigenobu Sawada (Japan)

**Longitudinal monitoring of mesoscopic cortical activity using a fluorescent bead mouse model of small vessel disease and GCaMP6 imaging**

Matilde Balbi (Canada)

**Usefulness of bright arterial appearance in ASL MR perfusion image**

Yuka Kanazawa (Japan)

**Improving stem cell delivery to the stroke brain using self-assembling silk hydrogels**

Osama Ibrahim (United Kingdom)

**Identifying targets of neuronal auto-reactive responses to improve stroke recovery**

Uma Maheswari Selvaraj (United States)

**A role for brain pericytes in revascularization after stroke revealed by a novel reporter mouse**

Louis-Philippe Bernier (Canada)

**Circulating miR-126-3p and miR-126-5p are increased after acute ischemic stroke and expressed in platelets and T cells**

Nicola Schieferdecker (Germany)

**The role of transforming growth factor- $\beta$  in post-stroke glymphatic impairment**

Matthew Howe (United States)

**In vivo silk hydrogel distribution, biocompatibility and biodegradation in the brain after experimental stroke**

Natalia Gorenkova (United Kingdom)

**Predictors of ischemic stroke on 18F-FDG PET-CT in patients with cancer**

Kangho Choi (Korea, Republic of)

**Perineuronal nets structures and modulators in the rat somatosensory cortex are molecular substrates for experience-dependent plasticity during stroke recovery**

Miriana Jlenia Quattromani (Sweden)

**Alarmin HMGB1 induces systemic and brain inflammatory exacerbation in post-stroke infection rat model**

Il-Doo Kim (Korea, Republic of)

**Integrative analysis of transcriptomics and proteomics data for the molecular characterization of human brain after ischemic stroke**

Teresa García-Berrocso (Spain)

**LncRNA FosDT mediates ischemic brain damage in both sexes**

Suresh Mehta (United States)

**The neuroprotective peptide poly-arginine-12 (R12) reduces cell surface levels of NMDA NR2B receptor subunit in cortical neurons**

Gabriella MacDougall (Australia)

**Hypoxic preconditioning augments the therapeutic efficacy of bone marrow stromal cells in a rat ischemic stroke model**

Guohua Wang (China)

## Scientific Programme

**Sesn3 and post-ischemia seizures in diabetes**

Zao Xu (United States)

**Danegaptide enhances astrocyte gap junctional coupling and reduces ischemic reperfusion brain injury in mice**

John Bechberger (Canada)

**Loss of EphB2 decreases edema and infarct size during ischemic stroke**

Anne-Sophie Ernst (Germany)

**Recovery of grey and white matter requires the DNA base excision repair enzyme APE1 following transient cerebral ischemia**

Sulaiman Hassan (United States)

**In vivo cerebral blood flow imaging in small animals with three-dimensional, high-density speckle contrast optical tomography**

Tanja Dragojević (Spain)

**Restitution of hippocampal long-term potentiation following global cerebral ischemia: ghrelin function as a mitochondrial anti-apoptotic**

Bahman Sadeghi (Iran, Islamic Republic of)

**Prolyl-4-hydroxylase 2 activity is crucial for cognitive function and stroke outcome**

Hugo H. Marti (Germany)

**Effects of Exendin-4 on nitric oxide production, hydroxyl radical metabolism and ischemic change of hippocampal CA1 neuron during cerebral ischemia and reperfusion in mice**

Hitoshi Kawasaki (Japan)

**Combining robotic training and inactivation of the healthy hemisphere restores pre-stroke motor patterns in mice**

Cristina Spalletti (Italy)

**Manganese-enhanced MRI for the study of post-stroke cognitive impairment in a rodent stroke model**

Mohamad El Amki (Switzerland)

**Electrophysiological evidence of a peri-ischemic transition zone in the rat phot thrombosis model**

Karl Schoknecht (Germany)

**Ovarian inflammasome activation: Possible cause of exacerbated ischemic brain damage in reproductive senescence female rats**

Ami Raval (United States)

**Reduction in microglial activation, selective neuronal loss and sensorimotor deficits by the KCa3.1-blocker TRAM-34 following temporary middle-cerebral artery occlusion (MCAo) in the spontaneously hypertensive rat**

Jean-Claude Baron (France)

**Stroke syndromics: Multivariate analyses for outcome measures after middle cerebral artery occlusion in mice**

Nikolaus Wenger (Germany)

**Mass cytometry profiling of inflammatory cells in ischemic stroke mice**

Yaning Li (United States)

## Scientific Programme

**Maternal obesity exacerbates brain injury responses following neonatal hypoxia-ischaemia in rat offspring**

Nicole Marie Jones (Australia)

**Microglia control central neurotrophic virus infection via P2Y12-mediated signaling**

Rebeka Fekete (Hungary)

**Mafb prevents excess inflammation after ischemic stroke by accelerating clearance of danger signals through MSR1**

Hiroaki Ooboshi (Japan)

**Cytoprotective role of microglia-derived nitric oxide induced by TLR4 stimulation in concert with astroglial pentose-phosphate pathway activation through the Keap1/Nrf2 system**

Shinichi Takahashi (Japan)

**Playing with omega-3 Alpha-linolenic acid in the diet to prevent the toxic CCL2 post-stroke inflammatory response**

Nicolas Blondeau (France)

**Vitamin D supplementation reduces brain injury and inflammation following ischemic stroke**

Megan Evans (Australia)

**HDAC3 selective inhibitor regulates inflammatory response in lipopolysaccharide (LPS) - stimulated microglia**

Qiuchen Zhao (China)

**White matter inflammation as a biomarker of cognitive impairment induced by mild diabetes in a mouse model of cerebrovascular disease**

María Lacalle-Aurioles (Canada)

**Neuronal interleukin-4 promotes M2-like microglia activation and neuroprotection following focal cerebral ischemia**

Sang-Ho Choi (United States)

**Time-course analysis of infiltrating dendritic cell subpopulations in a murine model of ischemic stroke**

Mattia Gallizioli (Spain)

**Microglial cells phagocyte neutrophils after brain ischemia**

Amaia Otxoa-de-Amezaga (Spain)

**Angiotensin receptor type 1 (ATR1) deficiency or inhibition by candesartan improves outcome after experimental traumatic brain injury and inhibits inflammation**

Midori Yenari (United States)

**An in vitro microfluidic model of microglia migration after stroke**

Samantha White (United Kingdom)

**Stroke and traumatic acute brain injury line indicator system for emergent recognition (STABILISER-!) phase I feasibility study: preliminary results of the tbi cohort**

Justin Fraser (United States)

**Repetitive anodal transcranial direct current stimulation (tDCS) improves neurologic outcome in mice after traumatic brain injury (TBI) by increasing cerebral blood flow and tissue oxygenation**

O.A. Bragina (United States)

## Scientific Programme

**Induced intracranial pressure (IPRx) and cerebrovascular reactivity (iCVRx) in the assessment of cerebral autoregulation after traumatic brain injury (TBI) with intracranial hypertension**

Denis Bragin (United States)

**Interleukin 4 promotes white matter integrity and functional recovery after traumatic brain injury via enhanced microglia/macrophage M2 polarization**

Michael Bennett (United States)

**Extended therapeutic window of a novel peptide inhibitor of TRPM2 channels on memory following traumatic brain injury**

James Orfila (United States)

**The salutary effects of omega-3 fatty acids on cognition and tissue repair after traumatic brain injury in rats**

Ludmila Belayev (United States)

**Sex impacts outcome after traumatic brain injury in mice**

Richard Traystman (United States)

**Resuscitation fluid with drag reducing polymer enhances cerebral microcirculation after traumatic brain injury complicated by hemorrhagic shock**

Denis Bragin (United States)

**Glutamate and D-serine dynamics during trauma-induced cortical spreading depolarizations**

Stephane Marinesco (France)

**Measuring exercise-induced cerebrovascular changes in Huntington's disease using arterial spin labelling (ASL) fMRI**

Jessica Steventon (United Kingdom)

**Investigating temporal characteristics of atrophy, amyloid deposition and quantitative magnetization transfer parameters in mild cognitive impairment and Alzheimers disease**

Benjamin A. Thomas (Singapore)

**Efficient clearance of Amyloid- $\beta$  protofibrils in APP-transgenic mice treated with a brain penetrating bifunctional antibody**

Dag Sehlin (Sweden)

**Gut microbiome associated with cognitive and brain structural outcomes in apolipoprotein E4 variant**

Ishita Parikh (United States)

**Glucose and glycogen metabolism in the brain of insulin resistant Goto-Kakizaki rats**

João M N Duarte (Switzerland)

**Evaluation of higher cortical functions of Alzheimer's disease**

Maruf Salohiddinov (Uzbekistan)

**PET CT applications in Parkinson and radiotracers**

Juan Manuel Isusi (Mexico)

**Influence of diabetes mellitus on CSF and brain characteristics**

Eric Schmidt (France)

**Arterial pressure, heart rate, and cerebral hemodynamics across the adult life span**

Changyang Xing (United States)

## Scientific Programme

**Rejuvenation of microglia in the aged central nervous system**

Edward Koellhoffer (United States)

**Heart-brain coupling: Resting heart rate variability is associated with network architecture in the resting brain**

Deniz Kumral (Germany)

**IGF-1 deficiency exacerbates hypertension-induced cerebral microhemorrhages in mice, mimicking the aging phenotype**

Stefano Tarantini (United States)

**Blood flow through the cerebral microcirculation exhibits wide variability of hemodynamic states**

Andreas Linninger (United States)

**Linking macro-scale voxel behaviour to the microvasculature using a multi-scale model**

Wahbi K. El-Bouri (United Kingdom)

**Decreasing cerebral tissue oxygen saturation during deep hypothermic circulatory arrest**

Jennifer M. Lynch (United States)

**Protective effect of Rutin in experimental paradigms of STZ induced diabetic neuropathy**

Ruchika Mittal (India)

**The effect of changes in brain lactate uptake and BDNF production on executive function after high-intensity interval exercise in humans**

Saki Takenaka (Japan)

**Relationship of brain lactate uptake, cerebral hemodynamics, and executive function after high intensity interval exercise in humans**

Hayato Tsukamoto (Japan)

**Lactate does not fully substitute glucose in powering gamma oscillations**

Jan-Oliver Hollnagel (Germany)

**Characterizing the impacts of early interventional ketogenic diet on brain vasculature, energy metabolism, and cognition**

David Ma (United States)

**Circulating microRNAs as biomarkers of delayed cerebral infarction after aneurysmal subarachnoid hemorrhage**

George Wong (Hong Kong)

**Study of early coagulation activation, inhibition, thrombin generation and fibrinolysis in isolated severe traumatic brain injury (ISTBI) induced coagulopathy and its influence on immediate outcome**

VENENCIA Albert (India)

**Assessment of cerebral autoregulation using near infrared spectroscopy during squat-stand maneuvers in healthy subjects with experiencing frequent symptoms of orthostatic hypotension**

Jae-Myoung Kim (Korea, Republic of)

**Activation of the lectin complement pathway is associated with vulnerability of atherosclerotic plaques**

Stefano Fumagalli (Italy)

## Scientific Programme

**Multi-modal MRI of vascularity, cellularity, and acidosis in brain tumors**

Daniel Coman (United States)

**Minimal microbiota differences between commercial breeders impacts post-stroke immunity**

Rebecca Sadler (Germany)

**Circulating CX3CR1<sup>low</sup> classical monocytes are an immunologic feature of cerebral ischaemia**

Siddharth Krishnan (United Kingdom)

**mTOR regulates brain vascular PICALM levels in a model of Alzheimer's disease**

Angela Olson (United States)

**Brain angiogenesis in chronic pain**

Veronica Del Grosso (France)

**Baicalin reduces hemorrhagic transformation in ischemic stroke rats with delayed t-PA treatment: involvement of ONOO<sup>-</sup>-MMP-9 pathway**

Hansen Chen (China)

**Blood brain barrier (BBB) protection by let-7 microRNAs during cerebral stroke**

Slava Rom (United States)

**Establishment of a human blood-brain barrier co-culture model based on human multipotent and pluripotent stem cells mimicking the neurovascular unit**

Antje Appelt-Menzel (Germany)

**Evidence for a complex connectivity gradient in the prefrontal cortex**

Stacey Bedwell (United Kingdom)

**Intracerebral hemorrhage and ischemic stroke have different transcriptome architecture in human blood**

Boryana Stamova (United States)

**Subarachnoid hemorrhage severely impairs brain parenchymal cerebrospinal fluid circulation in the non-human primate**

Romain Goulay (France)

**Magnesium pre-exposure induces mitoprotection in the immature brain**

Gabriella Koning (Sweden)

**Neuronal prothrombin mediated astrocyte activation in ischemia**

Padmesh Rajput (United States)

**The role of T-cells in endotoxin/hypoxic-ischemic neonatal brain injury**

Eridan Rocha Ferreira (Sweden)

**Optogenetic modulation of sleep slow wave after focal ischemic stroke**

Laura Facchin (Switzerland)

**Effect of mechanical reperfusion outcome on the expression of matrix metalloproteinase-9 (MMP-9) in rat brain following an acute occlusive stroke**

Jennifer Shearer (Ireland)

**Protection of glyoxalase anti-glycation system in porcine brain post-cardiac arrest by pyruvate**

Gary Scott (United States)

## Scientific Programme

**Benefit of optimal cerebral perfusion pressure targeted treatment for traumatic brain injury patients**

Aidasnas Preiksaitis (Lithuania)

**Transcriptomic profiling of long non-coding RNAs after traumatic brain injury**

Kahlilia Morris-Blanco (United States)

**Alterations of the hippocampal microvascular network in Alzheimer's Disease**

Marta Montero-Crespo (Spain)

**In vivo detection of hypothalamic glucose metabolism in HFD and regular fed mice**

Blanca Lizarbe (Switzerland)

**Time-dependent targeting and accumulation of liposomes into the lesioned brain intravenously administered post ischemic stroke**

Symposium session

11:00 - 12:30

Hörsaal A

### **SY09, Emerging methods for quantitative imaging of brain physiopathology**

**Chairs:**

Wei Chen (United States)

<b>Introduction</b>	<b>11:00 - 11:05</b>
<b>Novel in vivo MRS imaging approaches for studying neuroenergetics under normal and diseased state</b>	<b>11:05 - 11:25</b>
Wei Chen (United States)	
<b>Extracellular pH gradients between normal and diseased tissues measured with BIRDS</b>	<b>11:25 - 11:45</b>
Hubert Truebel (Germany)	
<b>Quantitative measures of cerebral oxygen metabolism using MRI: methods, validations and clinical applications</b>	<b>11:45 - 12:05</b>
Weili Lin (United States)	
<b>Imaging of graded ischemic tissue injury with pH and diffusion kurtosis MRI</b>	<b>12:05 - 12:25</b>
Phillip Zhe Sun (United States)	
<b>Discussion</b>	<b>12:25 - 12:30</b>

Oral session

11:00 - 12:30

Hörsaal C

### **BS11, Brain immune interaction**

**Chairs:**

Samuel Knauss (Germany)

Ulrich Dirnagl (Germany)

<b>Stroke induces exacerbated atheroprogession via alarmin-signaling</b>	<b>11:00 - 11:13</b>
Stefan Roth (Germany)	

## Scientific Programme

<b>DSC MR Perfusion detects white matter microvascular perfusion abnormalities in X-linked adrenoleukodystrophy</b>	<b>11:13 - 11:26</b>
Arne Lauer (United States)	
<b>Adrenergic-mediated loss of splenic innate-like B cells contributes to infection susceptibility after stroke</b>	<b>11:26 - 11:39</b>
Laura McCulloch (United Kingdom)	
<b>Pre-existing cancer exacerbates cerebral ischemic stroke via Neurophilin-1 mediated recruitment of regulatory T cells into cancer tissue</b>	<b>11:39 - 11:52</b>
Yuxi Zhou (China)	
<b>Recombinant Interleukin-33 blocks brain infiltration of pro-inflammatory immune cells and limits ischemic injury</b>	<b>11:52 - 12:05</b>
Hyun Ah Kim (Australia)	
<b>Immune response in ischemic stroke regulated by let7i microRNA</b>	<b>12:05 - 12:18</b>
Glen Jickling (United States)	
<b>Indispensable role of CCR5 signaling in tregs protection against early blood brain barrier disruption after stroke</b>	<b>12:18 - 12:28</b>
Xin Wang (China)	

Oral session  
11:00 - 12:30

Hörsaal D

## BS12, Trauma

### Chairs:

Martha O'Donnell (United States)  
Edwin Nemoto (United States)

<b>Nitric oxide (NO) and mitochondria in injured brain: Glutamate node as a possible target in NO-mediated mitochondrial dysfunction after traumatic brain injury (TBI)</b>	<b>11:00 - 11:15</b>
Muammer Üçal (Austria)	
<b>Early changes in cerebral blood flow and cerebrovascular reactivity in mild traumatic brain injury</b>	<b>11:15 - 11:30</b>
Sahin Hanalioglu (Turkey)	
<b>The lectin complement pathway in human contusions</b>	<b>11:30 - 11:45</b>
Maria-Grazia De Simoni (Italy)	
<b>Evaluating the amyloid precursor protein derivative, APP96-110, as a novel therapeutic agent following traumatic brain injury</b>	<b>11:45 - 12:00</b>
Stephanie Lauren Plummer (Australia)	
<b>A new class of non-metal catalytic carbon antioxidants restored cerebral perfusion in traumatic brain injury complicated by systemic hypotension</b>	<b>12:00 - 12:15</b>
Kimberly Mendoza (United States)	

## Scientific Programme

**Transplantation of RADA16-BDNF peptide scaffold with human umbilical cord mesenchymal stem cells forced with CXCR4 and activated astrocytes for repair of traumatic brain injury** 12:15 - 12:30  
Wei Shi (China)

Symposium session  
13:30 - 15:00

Hörsaal A

### **SY10, Microglia and brain ischemia**

#### **Chairs:**

Karen Gertz (Germany)

**Introduction** 13:30 - 13:35

**Microglia: A grumpy maid in the brain** 13:35 - 13:55  
Adam Denes (Hungary)

**Diversity of monocytic cells in the ischemic brain** 13:55 - 14:15  
Karen Gertz (Germany)

**Age and gender as important modifiers of microglia activation profiles after stroke** 14:15 - 14:35  
Jasna Kriz (Canada)

**Microglial TGF $\beta$ 1 as neurovascular protectant after neonatal stroke** 14:35 - 14:55  
Zena Vexler (United States)

**Discussion** 14:55 - 15:00

Oral session  
13:30 - 15:00

Hörsaal C

### **BS13, Degeneration and aging**

#### **Chairs:**

Xiaoming Hu (United States)  
Clotilde Lecrux (Canada)

**Postsynaptic density 93 alleviates memory deficits in Alzheimer's disease mouse model by modulation of somatostatin receptor** 13:30 - 13:45  
Linjie Yu (China)

**Stalled blood flow in brain capillaries is responsible for reduced cortical perfusion and impacts cognitive function in mouse models of Alzheimer's disease** 13:45 - 14:00  
Oliver Bracko (United States)

**Sex difference in the neuroprotective effect of microRNA mir363-3p on ischemic stroke** 14:00 - 14:10  
Amutha Selvamani (United States)

**Impact of ROCK2 in the cerebral circulation: Implications for large and small vessel disease** 14:10 - 14:25  
Michael De Silva (Australia)

## Scientific Programme

- Using microcoils to mimic cerebrovascular disease leads to early changes in the extracellular matrix and blood-brain barrier** 14:25 - 14:40  
Jill Roberts (United States)
- Brain tissue oxygenation changes with age in awake mice** 14:40 - 14:55  
Mohammad Moeini (Canada)

Oral session  
13:30 - 15:00

Hörsaal D

### BS14, Brain energy metabolism

#### Chairs:

Asta Haberg (Norway)  
Iwao Kanno (Japan)

- Non-invasive, multi-modal monitoring of bispectral index, cerebral oxygen metabolism and cerebral blood flow under general anesthesia** 13:30 - 13:40  
Michal Kacprzak (Spain)
- Neurometabolic changes during cortical spreading depolarization: high-resolution measurements with a lactate-glucose dual microbiosensor array** 13:40 - 13:55  
Cátia F. Lourenço (Portugal)
- Glial-neuronal interactions following Tiagabin administration in wild type and GAD65 knockout mice** 13:55 - 14:10  
Anne B. Walls (Denmark)
- Coupling of the glutamate-glutamine cycle rate with both glial and neuronal oxidative metabolism in the visual cortex of the Tupaia belangeri** 14:10 - 14:25  
Sarah Sonnay (Switzerland)
- Exposure to recurrent hypoglycemia alters brain metabolism in diabetic rats** 14:25 - 14:40  
Kunjan R Dave (United States)
- The brain tumor microenvironment: a little sweet, but a little cool** 14:40 - 14:55  
Daniel Coman (United States)

Poster viewing  
15:00 - 16:00

Exhibition & Poster Area

### PS06, Poster viewing session VI

- Impairment of neurovascular coupling after subarachnoid hemorrhage in vivo**  
Matilde Balbi (Canada)
- New insights into brain blood flow regulation during stroke: Role of electrical communication**  
Anil Zechariah (Canada)

## Scientific Programme

**Disruption of cortical arterial network is associated with the severity of transient neurological events after direct bypass surgery in adult moyamoya disease**

Yusuke Egashira (Japan)

**Investigating the impact of obesity on post-stroke complications**

Claire White (United Kingdom)

**Novel substrates of the small vessel disease related HTRA1 protease identified by proteomics**

Christof Haffner (Germany)

**MicroRNA-103-1 is involved in the pathogenesis of ischemic brain damage and may represent a stroke peripheral diagnostic marker**

Antonio Vinciguerra (Italy)

**Does long-lasting high sodium intake predispose cerebral blood vessels to stroke? Comparison with sodium-dependent hypertension**

Aneta Uszynska (Poland)

**Structure of the brain bioelectric activity in the stroke patients with various types of polymorphism of the genes ACE, eNOS, MTHFR**

Svitlana Kuznetsova (Ukraine)

**Enhanced therapeutic potential of nano-curcumin against subarachnoid hemorrhage-induced blood-brain barrier disruption through inhibition of inflammatory response and oxidative stress**

Zongyong Zhang (China)

**Clinical and etiological profiles of adult patients with post stroke seizures in Bishkek**

Asel Jusupova (Kyrgyzstan)

**Direct carotid exposure for neuroendovascular approaches**

Bum-Tae Kim (Korea, Republic of)

**Xenon as a therapy in experimental intracerebral hemorrhage**

Huaxin Sheng (United States)

**Prevalence of ischemic stroke in relation to season and its gender features in the northern part of Fergana valley of Uzbekistan**

Saidrakhim Lukmonov (Uzbekistan)

**Stroke patterns in rural South India - Five years experience in a rural stroke centre**

Somesh Vanchilingam (India)

**MiR-210 boosts the protective effects of NPC-EXs on neurons and astrocytes against hypoxia/reoxygenation-induced injury**

Jinju Wang (United States)

**MicroRNA miR-21 is neuroprotective against focal cerebral ischemia**

Mary Lopez (United States)

**Silencing of deSUMOylating isopeptidase 2 increases neuronal vulnerability after ischemic-like stress**

Mariana Cerdeira (Germany)

**Microglial-conditioned media treated with geniposide and ginsenoside Rg1 on ischemic neurons**

Jun Wang (China)

## Scientific Programme

**Investigating the effects of chronic stress on the neurovascular unit**

Stephanie Wegner (Germany)

**Differential protein expression profiling of focal cerebral after human cerebral endothelial cell transplantation**

Eun Hee Kim (Korea, Republic of)

**Elevating MicroRNA-122 in blood improves outcome via modulating Nos2 after middle cerebral artery occlusion in rats**

Da Liu (United States)

**The EphB/ephrinB receptor -ligand system promotes the inflammatory response upon ischaemia**

Laura-Inés Böhler (Germany)

**Characterization of glial cells during the chronic stage of ischemic stroke in rats**

In-Ae Choi (Korea, Republic of)

**Effect of RGS5 on vasculature remodeling after experimental stroke**

Michaela Roth (Sweden)

**Longitudinal metabolic evolution of rat cortex**

Hongxia Lei (Switzerland)

**B cell-mediated stroke recovery in female mice**

Vanessa O. Torres (United States)

**The double edged sword of immunostimulation after stroke**

Claudia Dames (Germany)

**Periodontitis modulates peripheral inflammatory cell function and contributes to worse outcome after ischaemic stroke**

Conor O'Boyle (United Kingdom)

**The dynamics of energy metabolism in brain after ischemia/reperfusion injury: an animal model study using high-Gz acceleration**

Osamu Tokumaru (Japan)

**Efficacy of Alteplase® in a mouse model of acute ischemic stroke: a retrospective pooled analysis**

Cyrille Orset (France)

**LabCIRS - a lightweight critical incident reporting system for academic research departments**

Ingo Przesdzing (Germany)

**Modulation of the peri-infarct neurovascular function by  $\beta$ -Hydroxybutyrate**

Paolo Bazzigaluppi (Canada)

**Hematoxylin-eosin stained pathology of hyperacute focal cerebral ischemia at 1 hour after middle cerebral artery occlusion in rats: correlation with diffusion MRI**

Chi-Hoon Choi (Korea, Republic of)

**Role of NADPH oxidase in mitochondrial dysfunction following transient global cerebral ischemia in rats**

Monika Kapoor (India)

## Scientific Programme

**Characterisation of Translocator Protein (TSPO) expression in the brain in rodent models of neuroinflammation**

Diana Cash (United Kingdom)

**Microglial calcium release-activated calcium (CRAC) channel inhibition improves outcome from experimental traumatic brain injury and microglia-induced neuronal death**

Midori Yenari (United States)

**Triggering receptor expressed on myeloid cells-2 (TREM2) biases towards M2 microglial responses and its deficiency worsens outcome after experimental traumatic brain injury**

Midori Yenari (United States)

**The potential neuroprotective role of a histone deacetylase inhibitor, sodium butyrate, after neonatal hypoxia-ischemia**

Malgorzata Ziemka-Nalecz (Poland)

**Role of DAMPs-mediated NETosis during the acute inflammation in the postischemic brain**

Seung-Woo Kim (Korea, Republic of)

**Immunomodulatory properties of human bone marrow mesenchymal stem cells and extracellular vesicles derived from these cells after their transplantation into focal brain ischemic rats**

Sylwia Koniusz (Poland)

**Changes in local and global measures of resting state functional connectivity in the rat LPS model of neuroinflammation**

Diana Cash (United Kingdom)

**The role of pentraxin 3 (PTX3) in inflammation and neuroprotection after ischaemic stroke**

Ivana Rajkovic (United Kingdom)

**A translational model of moderate perinatal asphyxia reveals lasting behavioral deficits in the absence of focal neuronal loss**

Barbara Orsolits (Hungary)

**Phosphoinositide 3-kinase  $\chi$  ties chemoattractant- and adrenergic control of microglial motility**

Reinhard Bauer (Germany)

**Characteristics of primary rat microglia isolated from mixed cultures using two different methods**

Changhong Xing (United States)

**Contribution of inflammasomes to ischaemic stroke**

Eloise Lemarchand (United Kingdom)

**Telomere maintenance, mitochondrial biogenesis and cell cycle control: an mRNA study of microglia activation states**

Ria Uhlemann (Germany)

**Reactive oxygen species (ROS)- responsive nanotechnology: Therapeutic action of nanoparticles in stroke**

Olivera Rajkovic (United Kingdom)

**Cerebral blood flow, optic nerve sheath diameter and neurological status evaluation in patients submitted to post-traumatic decompressive craniectomy and late cranioplasty**

Carla Bittencourt Rynkowski Di Leoni (Brazil)

## Scientific Programme

**Sex differences in brain blood flow in rugby players with concussions**

Jorge Serrador (United States)

**The expression of NP847 and Sox2 after TBI and its influence on NSCs**

Qianqian Liu (China)

**Effects of pyrroloquinoline quinone on WISP1 in traumatic brain injury**

Meijuan Yan (China)

**Vascular reactivity changes of the intracortical blood vessels after juvenile traumatic brain injury**

Aleksandra Ichkova (France)

**D-dimer as a potential marker for structural damage to the brain parenchyma in traumatic brain injury**

Hiroshi Yatsushige (Japan)

**Evaluation of regional white matter volume reduction after diffuse axonal injury using voxel-based morphometry**

Go Uruma (Japan)

**Evaluation of neutrophil elastase (NE) as an early prediction marker of trauma induced disseminated intra vascular coagulation (DIC)**

Arulselvi Subramanian (India)

**Rolipram, a PDE-IV inhibitor protects against experimental Parkinsonism in mice**

Nitin Kumar (India)

**Galectin-1-induced cognitive improvement, lower vascular and parenchymal amyloid deposition and immunomodulation in an animal model of Alzheimer's disease**

Carlos Pomilio (Argentina)

**Brain pericyte response in a mouse model of Huntington's disease**

Thomas Padel (Sweden)

**Evaluation of CRISPr/SaCas9 induced gene knockdown in primary neurons and N27 cells**

Sabina Marciano (Germany)

**Effects of L-DOPA and doxycycline administration on nociceptive responses in an animal model of Parkinson's disease**

Glauce Crivelaro Nascimento (Brazil)

**Middle cerebral artery pulsatility index as predictor for cognitive impairment in hypertensive patients**

Teuku Reyhan Gamal (Indonesia)

**Capillary flow control in an aged model of Alzheimer's disease**

Eugenio Gutierrez Jimenez (Denmark)

**Age drives the distortion of brain vascular, metabolic, and cognitive functions and the gut microbiome**

Jared Hoffman (United States)

**Effects of aging and 17 $\beta$ -estradiol on glucose transporter (GLUT3) and membrane functions in female rat brain: A therapeutic potential drug for Alzheimer's disease**

Pardeep Kumar (India)

## Scientific Programme

**Correlation of gait and balance disturbances with cognitive impairment in patients with stable and unstable angina in Kyrgyzstan**

Inna Lutsenko (Kyrgyzstan)

**Effect of *Syzygium cumini* (jambolan) extract on spatial learning and memory of aging rats**

VINOD Kumar (India)

**Influence of sex on brain volume**

Ali Bourisly (Kuwait)

**Does the metabolic response to stroke explain the 'obesity paradox'?**

Michael Haley (United Kingdom)

**Hemisphere-dependent metabolic and hemodynamic reorganization of the brain in elderly patients with ischemic stroke**

Victor Kuznetsov (Ukraine)

**Alzheimer's-induced alterations in cerebral energy metabolism measured with 2-photon fluorescence lifetime microscopy of intrinsic NADH**

Mohammad Abbas Yaseen (United States)

**Feasibility of opto-magnetic resonance spectroscopy at 9.4T**

Nathalie Just (Germany)

**Improved cerebral energetics and ketone body metabolism in db/db mice**

Helle Waagepetersen (Denmark)

**Activity-induced cellular lactate changes in the brain**

Matthias Wyss (Switzerland)

**Masticatory muscle metabolic dysfunction and neuronal excitability induced by unpredictable chronic stress in rats**

Glauce Crivelaro Nascimento (Brazil)

**Signaling in brain via cAMP is decreased in unmedicated depressed patients and normalizes with drug treatment**

Robert Innis (United States)

**The effects of progesterone administration in patients with diffuse axonal injury**

Zahra Soltni (Iran, Islamic Republic of)

**Temozolomide arrests glioma growth and normalizes intratumoral extracellular pH**

Daniel Coman (United States)

**The structural atrophy is associated with CSF neurofilament light chain in a transgenic rat model of Alzheimer's disease**

Min Su Kang (Canada)

**T-cell stimulation in human stroke**

Francesc Miro-Mur (Spain)

**Brain-targeting adaptive immune responses in extracorporeal membrane oxygenation-treated patients**

Sterling Ortega (United States)

**Impairment of vasopressin secretion in sepsis survivor rats**

N N Santos-Junior (Brazil)

## Scientific Programme

**Defining mitochondrial biomarkers and function using magnetic resonance spectroscopy at 14.1 Tesla in a mouse model of mood disorders**

Antoine Cherix (Switzerland)

**Activation-induced lactate changes in the human brain by J-edited 1H-MRS**

Fahmeed Hyder (United States)

**Neurovascular niche: effects of Angiotensin II**

Tinatin Chabrashvili (United States)

**Interleukin-6 levels in cerebrospinal fluid and plasma in patients with severe spontaneous subarachnoid hemorrhage**

Pavlos Vlachogiannis (Sweden)

**Metabolic changes in developing brain due to chronic liver disease: an in vivo longitudinal and multiparametric study using 31P-MRS (magnetic resonance spectroscopy), 31P-Magnetization transfer and 1H-MRS**

Veronika Rackayova (Switzerland)

**Evaluation of hemodynamic impairments in unilateral high-grade carotid artery stenosis patients and healthy age-matched participants**

Stephan Kaczmarz (Germany)

**TOR drives fibrillar amyloid- $\beta$  accumulation and cerebrovascular dysfunction in the Tg2576 model of Alzheimer's disease**

Candice Van Skike (United States)

**One-sided hypoperfusion is associated with contralateral attention deficits in asymptomatic high-grade carotid-stenosis patients**

Jens Göttler (Germany)

**Quantification of GABA, glutamate and glutamine in a single measurement at 3T using GABA-optimized MEGA-PRESS**

Faezeh Sanaei Nezhad (United Kingdom)

**Estimating subject numbers for study designs using functional GABA spectroscopy in human brain**

Faezeh Sanaei Nezhad (United Kingdom)

**Brain astroglial reaction in mild hepatic encephalopathy: experimental evidence in the cirrhotic rat**

Omar EL Hiba (Morocco)

**Metabolite concentration changes during increase of the BOLD signal in the human visual cortex: a functional magnetic resonance spectroscopy study at 7T**

Yohan Boillat (Switzerland)

**Effect of body position on cerebrovascular reactivity in healthy men and women**

Michelle Favre (United States)

**Postnatal development of neurovascular coupling**

Mariel Kozberg (United States)

**Selective knockout of microglial Na<sup>+</sup>/H<sup>+</sup> exchanger isoform 1 in mice does not reduce acute stroke brain injury but improves neuronal function recovery**

Shanshan Song (United States)

## Scientific Programme

Symposium session  
16:00 - 17:30

Hörsaal A

### **SY11, Intra-arterial route of stem cell delivery to the brain - preclinical and clinical data**

#### **Chairs:**

Mirosław Janowski (United States)

<b>Introduction</b>	<b>16:00 - 16:05</b>
<b>Real-time MRI of intra-arterially delivered stem cells</b> Mirosław Janowski (United States)	<b>16:05 - 16:25</b>
<b>Transendothelial migration of stem cells after intraarterial injection: molecular mechanism and timing after stroke</b> Raphael Guzman (Switzerland)	<b>16:25 - 16:45</b>
<b>Experimental intra-arterial stem cell stroke therapy in large animal models</b> Dileep Yavagal (United States)	<b>16:45 - 17:05</b>
<b>Intra-arterial delivery of stem cells in patients with stroke: Results of clinical trials</b> Sean Savitz (United States)	<b>17:05 - 17:25</b>
<b>Discussion</b>	<b>17:25 - 17:30</b>

Oral session  
16:00 - 17:30

Hörsaal C

### **BS15, Neuroinflammation in cerebral ischemia 2**

#### **Chairs:**

Jasna Kriz (Canada)  
Arthur Liesz (Germany)

<b>M1 microglia aggravate white matter injury in a rat model of chronic cerebral ischemia</b> Lin-Yuan Zhang (China)	<b>16:00 - 16:15</b>
<b>Astrocyte-specific gene transfer of insulin-like Growth Factor (IGF)-1 in middle aged female rats improves stroke outcomes</b> Farida Sohrabji (United States)	<b>16:15 - 16:30</b>
<b>Single penetrating artery occlusion leads to widespread white matter reorganization across the entire brain in a CX3 chemokine receptor 1 dependent manner</b> Alisa Lubart (Israel)	<b>16:30 - 16:45</b>
<b>Progression of inflammation and brain metabolism after cerebral ischemia - inflammatory cells consume glucose</b> Heiko Backes (Germany)	<b>16:45 - 17:00</b>
<b>Transgenic expression of human Interleukin-37 reduces post-stroke functional deficit and lung infection in mice</b> Shenpeng R Zhang (Australia)	<b>17:00 - 17:15</b>

## Scientific Programme

Oral session  
16:00 - 17:30

Hörsaal D

### BS16, Imaging applications

#### Chairs:

Bojana Stefanovic (Canada)  
Kazuto Masamoto (Japan)

<b>Quantitative measurement of blood velocity changes in single brain cortical microvessels during sensory stimulation using functional ultrasound imaging</b> Alan Urban (Belgium)	<b>16:00 - 16:15</b>
<b>Quantitative measurements of spinal cord blood flow of an animal model of relapsing-remitting MS</b> Mohamed Tachrount (United Kingdom)	<b>16:15 - 16:30</b>
<b>Laminar cortical blood flow in mice is quantified by dynamic contrast optical coherence tomography</b> Conrad Merkle (United States)	<b>16:30 - 16:45</b>
<b>Identifying sources of initial deficit and post-stroke recovery in mice using early MR-Imaging and correlation analysis</b> Felix Knab (Germany)	<b>16:45 - 17:00</b>
<b>Dual-calibrated fMRI measurement of resting capillary and venous blood volumes</b> Michael Germuska (United Kingdom)	<b>17:00 - 17:15</b>
<b>MRI detection of iron oxide-labeled B cells in perilesional tissue after stroke in mice</b> Annette van der Toorn (Netherlands)	<b>17:15 - 17:30</b>