



**Member of the Jena Alliance *Life in Focus* –
a Carl Zeiss Foundation Project**

Postgraduate Symposium

**Friday, June 21, 2019
Dornburg Castle**



Programme

09:00 – 10:30

Session 1

Chair: Julia von Maltzahn, Carsten Hoffmann

09:00

Henriette Henze, Julia von Maltzahn

The impact of denervation on satellite cell functionality

Leibniz Institute on Aging – Fritz Lipmann Institute (FLI), Jena, Germany

09:15

Sören Hüttner, Björn von Eyss and Julia von Maltzahn

Functional investigation of the role of Trps1 during myogenesis and in rhabdomyosarcoma

Leibniz Institute on Aging – Fritz Lipmann Institute (FLI), Jena, Germany

09:30

Taulant Kukaj¹, Ralf Schmauder¹, Tina Schwabe¹, Ulrike Zabel^{2,3}, Martin J. Lohse^{2,3,4}, Klaus Benndorf¹

Kinetics of class C GPCRs studied with confocal patch-clamp fluorometry

¹Institute of Physiology II, Jena University Hospital, Jena, Germany; ²Institute of Pharmacology and Toxicology, University of Würzburg, Würzburg, Germany; ³Rudolf Virchow Center, University of Würzburg, Würzburg, Germany; ⁴Max Delbrück Center for Molecular Medicine (MDC), Berlin, Germany

09:45

Lars Schmidl¹, G. Schmidl⁴, Luise Röpke¹, Jakob Kreye², Nina Wenke², Holger Haselmann¹, Uwe Hübner⁴, Andreas Stark³, Daniel Weigel^{1,3}, Harald Prüß², Volker Tympel⁶, Frank Schmidl⁵, Richard Kowarschik³, Christian Geis¹

MEA-4-SRM – High end technology for neurobiological applications

¹Hans-Berger Department of Neurology, Jena University Hospital, Jena, Germany; ²German Center for Neurodegenerative Diseases (DZNE), Berlin, Germany; ³Institute of Applied Optics, Friedrich-Schiller University Jena, Jena, Germany; ⁴Leibniz Institute of Photonic Technology (IPHT), Jena, Germany; ⁵Institute of Solid State Physics, Friedrich-Schiller University Jena, Jena, Germany; ⁶Helmholtz Institute Jena, Jena, Germany

10:00

Oluwatomi Ibidapo-obe¹, Stengel. S¹, Köse N.¹, Quickert S.¹, Stallmach A.^{1,2}, Bauer M.^{2,3}, Bruns T.^{1,2}

Functional assessment of peritoneal mucosal associated invariant T (MAIT) cells in advanced cirrhosis

¹Department of Internal Medicine IV (Gastroenterology, Hepatology, and Infectious Diseases), Jena University Hospital, Jena, Germany; ²Center for Sepsis Control and Care (CSCC), Jena University Hospital, Jena, Germany; ³Department of Anesthesiology and Intensive Care, Jena University Hospital, Jena, Germany

10:15

Mario Kapitan^{1,6,7}, M. Joanna Niemiec^{1,7}, Marc Swidergall², Steffen Höring³, Tor Monsen⁴, Kimberly A. Kline⁵, Bettina Löffler^{3,6,7}, Ilse D. Jacobsen^{1,6,7}

Interactions between Candida albicans and specific Enterococcus faecalis strains can lead to enhanced enterocyte damage in vitro and in vivo

¹Research Group Microbial Immunology, Hans Knöll Institute, Jena, Germany; ²Division of Infectious Diseases, Los Angeles Biomedical Research Institute at Harbor - UCLA Medical Center Torrance, California, USA; ³Department of Medical Microbiology, University Hospital Jena, Jena, Germany; ⁴Department of Clinical Microbiology, University Hospital Norrland, Umeå, Sweden; ⁵Singapore Centre for Environmental Life Sciences Engineering, Nanyang Technological University, Singapore; ⁶Friedrich-Schiller-University Jena, Jena, Germany; ⁷Center for Sepsis Control and Care, Jena University Hospital, Jena, Germany

10:30 – 11:00

Coffee Break

11:00 – 12:30

Session 2

Chair: Otto W. Witte, Francesco Neri

11:00

Diane Penndorf¹, Julia Lindner¹, Sathish Venkataramanappa¹, Ivonne Heinze², Joanna Kirkpatrick², Alessandro Ori², Otto W. Witte¹, Alexandra Kretz¹

Replicative reprogramming in the context of physiological central nervous system aging and age-related neurodegeneration

¹Hans Berger Department of Neurology, Jena University Hospital, Jena, Germany; ²Fritz Lipmann Institute (FLI), Leibniz Institute on Aging, Jena, Germany

- 11:15 **Domenico Di Fraia**, Ivonne Heinze, Joanna Kirkpatrick, Steve Hoffmann, Alessandro Ori
Tracking protein relocalizations during aging
Leibniz Institute on Aging - Fritz Lipmann Institute (FLI), Jena, Germany
- 11:30 **Simone Di Sanzo**¹, Joanna Kirkpatrick¹, Nicolas Huber¹, Tim Baldensperger², Luca Parca³, Marcus A. Glomb², Regine Heller⁴, Alessandro Ori¹
Investigating the relationship between protein glycation and stability in cells and tissues
¹*Leibniz Institute on Aging Research - Fritz Lipmann Institute (FLI), Jena, Germany;* ²*Martin-Luther-Universität Halle-Wittenberg, Halle, Germany;* ³*Department of Biology, Centro di Bioinformatica Molecolare, University of Rome "Tor Vergata", Rome, Italy;* ⁴ *Institute of Molecular Cell Biology, Center for Molecular Biomedicine, Jena, Germany*
- 11:45 **Karl Köhnlein**¹, Nadine Urban¹, David Guerrero Gomez², Pavel Urbanek¹, Holger Steinbrenner¹, Philipp Koch³, Christoph Kaether³, Antonio Miranda Vizuete², Lars-Oliver Klotz¹
Depletion of a SELENBP1 homologue increases stress resistance and lifespan in C. elegans - association with metabolic processes
¹*Institute of Nutritional Sciences, Nutrigenomics Section, Friedrich Schiller University Jena, Jena, Germany;* ²*Instituto de Biomedicina de Sevilla, Hospital Universitario Virgen del Rocío/CSIC/Universidad de Sevilla, Sevilla, Spain;* ³*Leibniz Institute on Aging - Fritz Lipmann Institute, Jena, Germany*
- 12:00 **Sarah Ann Hofbrucker MacKenzie**¹, E. Seemann¹, M. Westermann², B. Qualmann¹, M. M. Kessels¹
Membrane-associated signalling in synaptic plasticity
¹*Institute of Biochemistry I,* ²*Electron Microscopy Center, Jena University Hospital, Jena, Germany*
- 12:15 **Yuanyuan Ji**^{1,2}, Dennis Koch¹, Michael M. Kessels¹, Christiane Frahm², Britta Qualmann¹
The actin nucleator Cobl as target in excitotoxicity induced by ischemic stroke
¹*Institute of Biochemistry I;* ²*Department of Neurology, Jena University Hospital, Jena, Germany*
- 12:30 – 13:30 **Lunch Break**
- 13:30 – 14:45 **Session 3 – Poster session**

Part 1

Chair: Christoph Kaether, Yuanyuan Ji

- 1 **Krenoula Hani Fouad Salib**, Wenya Hou, Britta Qualmann, Michael Kessels
Novel mechanisms of controlling actin filament formation in neuronal arborisation
Institute of Biochemistry I, Jena University Hospital, Jena, Germany
- 2 **Guilaine Claire Nichugoua Tchiehe**, Iswarya Sivaprakasam, Michael Kessels, Britta Qualmann
Signaling pathways controlling actin dynamics in adaptive stress responses in the brain
Institute of Biochemistry I, Jena University Hospital, Friedrich Schiller University Jena, Jena, Germany
- 3 **Marvin Ritter**^{1,2}, **Sophie C. Schröder**^{1,2}, Alexander Jörk^{1,3}, Marcel Ritter⁴, Georg Pohnert⁴, Peter Ruth⁵, Otto W. Witte¹, Knuth Holthoff¹
Characterization of pathogenesis and prevention of cerebral vasospasm by arteriolar diameter analysis in acute mouse brain slices
¹*Hans Berger Department of Neurology, Jena University Hospital, Jena, Germany;* ²*Else Kröner Promotionskolleg „Jena School for Ageing Medicine“ and* ³*Research Program „Else Kröner-Forschungskolleg AntiAge“, University Hospital Jena, Jena, Germany;* ⁴*Institute of Inorganic and Analytical Chemistry, Friedrich Schiller University Jena, Jena, Germany;* ⁵*Institute of Pharmacy, University of Tübingen, Tübingen, Germany*
- 4 **Astha Jain**¹, Sarah Ann Mackenzie Hoffbrucker¹, Eric Seemann¹, Michael Kessels¹, Britta Qualmann¹, PD Dr. Martin Westermann²
Temporal and spatial analyses of signaling cues in the membranes of postsynaptic spines during synaptic plasticity
¹*Institute of Biochemistry I, Jena University Hospital, Jena, Germany;* ²*Electron Microscopy Center, Jena University Hospital, Jena, Germany*

- 5 **Mahmoud Dahab Mohamed**¹, Edith Göller¹, Kassandra Reiche¹, Madlen Günther¹, Leopold Wohlsperger¹, Iris Schaeffner³, Christian Schmeer¹, Christian A. Hübner², Otto W. Witte¹, Knut Holthoff¹, Dieter Chichung Lie³, Silke Keiner¹

Deletion of the chloride transporter NKCC1 increases neural stem cell pool in the hippocampus and impairs flexible learning in adult mice

¹Hans Berger Department of Neurology, Jena University Hospital, Jena, Germany; ²Institute of Human Genetics, Jena University Hospital, Jena, Germany; ³Institute of Biochemistry, Friedrich Alexander University, Erlangen, Erlangen, Germany

- 6 **Josefine Sell**¹, Mar Petit-Pedrol², Holger Haselmann¹, Mihai Ceanga¹, Jesús Planagumà², Francesco Mannara F², Marija Radosevik², Lidia Sabater², Marianna Spatola^{2,3}, Josep Dalmau^{2,4,5,6}, Christian Geis¹

Human antibodies against LGI1 alter Kv1.1 and AMPA receptors changing synaptic excitability, plasticity and memory

¹Hans Berger Department of Neurology, Jena University Hospital, Jena, Germany; ²Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Hospital Clínic, Universitat de Barcelona, Barcelona, Spain; ³University of Lausanne (UNIL), Lausanne, Switzerland; ⁴Department of Neurology, University of Pennsylvania, Philadelphia, USA; ⁵Centro de Investigación Biomédica en Red Enfermedades Raras (CIBERER), Valencia, Spain; ⁶Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Spain

Part 2

Chair: Regine Heller, Yvonne Löffler

- 7 **Amy Stockdale**, Lars Riecken, Helen Morrison

Hippocampal neural stem cells and the stem cell niche

Leibniz Institute on Aging – Fritz Lipmann Institute, Jena, Germany

- 8 **Marzieh Ehsani**, Sophie Bartsch, Aria Baniahmad

Regulation of angiogenesis by androgen receptor in human castration-resistant prostate cancer

Institute of Human Genetics, Jena University Hospital, Jena, Germany

- 9 **Nadja Ziller**, Gunter Wolf, Ivonne Loeffler

Sex differences in TGF- β 1-induced renal damage

Clinical Internal Medicine III, University Hospital Jena, Jena, Germany

- 10 **Clara Hübner**

Validation of tablet-based testing of patients with mild cognitive impairment – The Oxford-Cognitive Screen Plus (OCS-Plus)

Department of Neurology, Jena University Hospital, Jena, Germany

- 11 **Liane Giebler**^{2,5,*§}, Stefan Hagel^{1,5,§}, Stefanie Deinhardt-Emmer^{2,3,5,§}, Marie von Lilienfeld-Toal^{4,5}, Mathias Pletz^{1,5}, Bettina Löffler^{3,5}, Christina Ehrhardt^{2,5}

Investigation of influenza A virus replication capacity derived from patient samples

¹Institute for Infectious Diseases and Infection Control, Jena University Hospital, Jena, Germany; ²Section of Experimental Virology, Institute of Medical Microbiology, Jena University Hospital, Jena, Germany; ³Institute of Medical Microbiology, Jena University Hospital, Jena, Germany; ⁴Department of Haematology and Medical Oncology, Jena University Hospital, Jena, Germany; ⁵Center for Sepsis Control and Care, Jena University Hospital, Jena, Germany; * presenting author, § equal contribution

- 12 **Julia Lindner**, Otto W. Witte, Christian Schmeer

Role of microglial aging and senescence in the age-associated decline of cortical plasticity

Hans Berger Department of Neurology, Jena University Hospital, Jena, Germany

Part 3

Chair: Otmar Huber, Alexander Joerk

- 13 **Heena Doshi**¹, Alexander Kühnl², Christian Rien², Claudia Ender¹, Andreas Henke², Regine Heller¹
- Role of AMPK in Herpes simplex virus type 1 replication in endothelial cells**

Institute of Molecular Cell Biology, Center for Molecular Biomedicine (CMB), Jena University Hospital, Jena, Germany; ²Section of Experimental Virology, Institute of Medical Microbiology, Jena University Hospital, Jena, Germany;

- 14 Claudia Ender**, Odeta Meçe, Heena Doshi, Regine Heller
The AMPK pathway in endothelial cells is altered in conditions of senescence and oxidative or glycotoxic stress
Institute of Molecular Cell Biology, Center for Molecular Biomedicine (CMB), Jena University Hospital, Jena, Germany
- 15 Theresa Rändler¹**, Anja Leheis¹, Christian Marx², Simone Di Sanzo², Alessandro Ori², Regine Heller¹
Cellular metabolism in glyoxal-treated endothelial cells
Institute of Molecular Cell Biology, Center for Molecular Biomedicine (CMB), Jena University Hospital, Jena, Germany, ²Leibniz Institute on Aging – Fritz Lipmann Institute, Jena, Germany
- 16 Olena Husak**, Anna Krepelova, Francesco Neri
Epigenetic stress response during calorie restriction in ageing intestine
Leibniz Institute on Aging – Fritz Lipmann Institute, Jena, Germany
- 17 Prerana Chaudhari**, Maria Ermolaeva
Health-span extension by microbiota? Learning from *C. elegans*
Leibniz Institute on Aging – Fritz Lipmann Institute, Jena, Germany
- 18 Akash Srivastava¹**, Emanuel Barth^{2,3}, Manja Marz^{2,3}, Otto W. Witte¹
Whole-transcriptome changes in gene expression in multiple tissues across various organisms during aging
¹Hans Berger Department of Neurology, Jena University Hospital, Jena, Germany; ²Bioinformatics/High Throughput Analysis, Friedrich Schiller University Jena, Jena, Germany; ³Leibniz Institute on Aging – Fritz Lipmann Institute, Jena, Germany

Part 4

Chair: Julia von Maltzahn, Michael Kessels

- 19 Susann Hofmann^{1,2,3}**, Jefri Jeya Paul^{1,2,3}, Regine Heller^{2,3,4}, Nathalie Schröder⁵, Bodo Levkau⁵ and Markus H. Gräler^{1,2,3}
Influence of the sphingosine 1-phosphate (S1P) carrier molecules serum albumin (SA) and high-density lipoproteins (HDL) on the signal transduction of S1P and its receptors
¹Department of Anesthesiology and Intensive Care Medicine, Jena University Hospital, Jena, Germany; ²Center for Sepsis Control and Care (CSCC), Jena University Hospital, Jena, Germany; ³Center for Molecular Biomedicine (CMB), Jena, Germany; ⁴Institute of Molecular Cell Biology, Jena University Hospital, Jena, Germany; ⁵Institute for Pathophysiology, University Hospital Essen, Essen, University of Duisburg-Essen, Duisburg; Germany
- 20 Umidakhon Makhmudova¹**, Thomas Schneider², Otmar Huber¹
Nit1 is involved in DNA damage response
¹Institute of Biochemistry II, Jena University Hospital, Jena, Germany; ²Department of Nutritional Toxicology, Institute of Nutrition, Friedrich Schiller University Jena, Jena, Germany
- 21 Zhennan Ye**, Sonnhild Mittag, Karl Kröhnlein, Nadine Urban, Lars-Oliver Klotz, Otmar Huber
A putative role of Nit1 in oxidative stress
Institute of Biochemistry II, Jena University Hospital, Jena, Germany
- 22 Venera Bytyqi¹**, Rolf Kemler², Otmar Huber¹
The role of β -catenin K49 trimethylation/acetylation in aging
¹Institute of Biochemistry II, Jena University Hospital, Jena, Germany; ²Max Planck Institute of Immunobiology and Epigenetics, Freiburg, Germany
- 23 Asya Martirosyan**, Maria Ermolaeva
Reshaping to adapt: The role of mitochondrial dynamics in DNA damage-induced adaptive stress responses
Leibniz Institute on Aging – Fritz Lipmann Institute, Jena, Germany
- 24 Kavyashree T. U.**, Kristina Herold, Ralf Mrowka
Receptor expression in differentiated THP-1 cells to study gene regulation
Experimental Nephrology, KIMIII, Jena University Hospital, Jena, Germany

25 Friedrich Becker, Simon Schwörer, Hong Sik Yoo, Mahdi Rasa, Ute Köber, Joanna Kirkpatrick, Francesco Neri, Joseph Napoli, Stefan Tümpel, K. L. Rudolph

Retinoic acid signaling in aged MuSCs

Leibniz Institute on Aging – Fritz Lipmann Institute, Jena, Germany

14:45 – 16:00

Session 4

Chairs: Michael Kessels, Uta Dahmen

14:45

Milena Žarković^{1,2}, Adeela Hussain², Christian Hoischen¹, Christina Valkova², Christoph Kaether², Christian A. Hübner¹

ER-Tomato reporter mice

¹*Institute of Human Genetics, Jena University Hospital, Jena, Germany;* ²*Leibniz Institute on Aging - Fritz Lipmann Institute, Jena, Germany*

15:00

Andrea Bock¹, Sven Günther², Siri L. Rydning³, Chantal M. Tallaksen³, Timothy Louie⁴, Patricia Franzka¹, Lutz Liebmann¹, Christian Beetz², Christian A. Hübner¹

Evidence for a correlation between genotype, phenotype and pathological mechanism in REEP1-associated axonopathies

¹*Department of Human Genetics, Jena University Hospital, Jena, Germany;* ²*Department of Clinical Chemistry, Jena University Hospital, Jena, Germany;* ³*Department of Neurology, Oslo University Hospital, Oslo, Norway;* ⁴*Saint Mary's Health Network, Reno, U.S.A.*

15:15

Laura Behrendt¹, Ingo Kurth², Christoph Kaether¹

Axonopathy causing ATLASTIN 3 mutation affects multiple ER-related pathways

¹*Leibniz Institute on Aging – Fritz Lipmann Institute, Jena, Germany,* ²*Institute of Human Genetics, University Hospital RWTH Aachen, Aachen, Germany*

15:30

Samia Afzal, Silvio Schmidt, Otto W. Witte

Experience-dependent brain plasticity: How the learning brain grows

Hans Berger Department of Neurology, Jena University Hospital, Jena, Germany

15:45

Elizabeth Hertel¹, **Annie Srowig¹**, Otto W. Witte¹, André Scherag², Christian Geis¹, Christoph Preul, Kathrin Finke¹

Cognitive Training for mildly impaired patients (aMCI/post-sepsis patients)

¹*Hans Berger Department of Neurology, Jena University Hospital, Jena, Germany;* ²*Clinical Epidemiology, Center for Sepsis Control and Care, Jena University Hospital, Jena, Germany*

16:00 – 16:30

Coffee Break

16:30

Invited speaker

Prof. Dr. Christian Eggeling

Leibniz Institute of Photonic Technology (Leibniz IPHT), Jena, Germany

Advanced optical (super-resolution) microscopy - challenges and prospects for biomedical research

17:30

Get together with barbecue dinner

