

3D Imaging of leptin blood barrier transport. Paul Pfluger, Helmholtz Zentrum München

# Helmholtz Alliance *ICEMED* Imaging and Curing Environmental Metabolic Diseases

**ICEMED FINAL JOINT MEETING**  
*Scientific Highlights of 5 Years ICEMED*

**Leipzig**  
**November 7-8, 2017**

**HELMHOLTZ**  
ICEMED Alliance





**ICEMED FINAL JOINT MEETING**  
*Scientific Highlights of 5 Years ICEMED*

**AGENDA**

**TUESDAY, NOV 7, 2017**

**18:00 DINNER & DATA BLITZ SESSION**

Participants: Senior & Junior *ICEMED* scientists & Scientific Advisory Board (SAB) members, guests

**Venue:**

Restaurant MAX ENK, Neumarkt 9-19, 04109 Leipzig  
<http://www.max-enk.de>

**18:00 WELCOME NOTE AND APERITIF**

**Matthias Tschöp**

**18:15 DATA BLITZ SESSION 1**

**DATA BLITZ PRESENTATIONS BY JUNIOR ICEMED SCIENTISTS (2+2)**

**Chairs: Matthias Tschöp, Mathias Treier, Jon Shah**

**ALEXANDRA ALILUEV, Helmholtz Zentrum München (Group: Heiko Lickert)**

*Gut stem cell lineage recruitment in health and disease*

**STEPHANIE KULLMANN, University of Tübingen (Group: Häring, Hallschmid)**

*Detecting localized brain inflammation in humans using quantitative imaging*

**NICOLAS BEHL, DKFZ Heidelberg (Group: Mark Ladd)**

*X-Nuclei MRI at 7 Tesla*

**INGRID FISCHER, Helmholtz Zentrum München (Group: Matthias Tschöp)**

*A history of obesity leaves an inflammatory fingerprint in liver and adipose tissue*

**CORINNA BAUDER, Helmholtz Zentrum München (Group: Wolfgang Wurst)**

*Distinct metabolic outcomes accompany weight loss in adipose-specific vs peripheral inhibition of Nedd8 conjugation*

**DANIEL WENZ, MDC Berlin (Group: Thoralf Niendorf)**

*Seeing is believing: Millimeter spatial resolution in vivo sodium MRI of the human eye*

**SONJA SCHRIEVER, Helmholtz Zentrum München (Group: Pfluger/ Tschöp)**

*Novel Roles for Dual Specificity Phosphatase 8 in Aggression Behaviour*

**DANIELA KASPAR, Helmholtz Zentrum München (Group: Johannes Beckers)**

*Development of epigenomic signatures during intergenerational inheritance of diet-induced obesity and type 2 diabetes*

## **19:00 DINNER & DATA BLITZ SESSION 2**

**DATA BLITZ PRESENTATIONS BY SAB MEMBERS (5+2)**

**Chairs: Matthias Tschöp, Mathias Treier, Jon Shah**

**SABRINA DIANO, Yale University**

*Paradoxical control of POMC neurons by UCP2*

**LORIZELTSER, Columbia University**

*Identification of a novel therapeutic target for anorexia nervosa*

**DANA SMALL, Yale University**

*Targeting the gut to rescue the mind*

**STEPHANIE FULTON, University of Montreal**

*An endocannabinoid lipase offering a new target for weight loss without mood impairments?*

**WOLFGANG LANGHANS, ETH Zürich**

*GLP-1, an "old" peptide still good for surprises*

**PETER JEZZARD, University of Oxford**

*Localized measurements of oxygen extraction fraction in human brain*

**WEDNESDAY, NOV 8, 2017**

**Venue:**

**AUGUSTEUM**, Main Building

**Felix-Klein Lecture Hall (5th floor)**

University of Leipzig, Augustusplatz 10-11, 04109 Leipzig

**8:15 WELCOME AND OPENING REMARKS**

**Matthias Tschöp**

**8:30 SCIENTIFIC HIGHLIGHTS OF 5 YEARS ICEMED**

**presented by Senior ICEMED scientists (7+3)**

**10 min presentations (7 min talk + 3 min discussion)**

**SESSION 1**

**Chairs: Dana Small, Wolfgang Langhans**

**LUIS VARELA, Yale University**

*Hif-1alpha in endothelial cells control POMC neurons*

**GILES YEO, Univ. of Cambridge**

*Brain control of food intake: Can an old dog teach us new tricks?*

**MATTHIAS BLÜHER, University of Leipzig**

*Signatures of healthy adipose tissue*

**PAUL PFLUGER, Helmholtz Zentrum München**

*Dusp8 as rheostat for hypothalamic HPA axis feedback and insulin resistance*

**STEPHAN HERZIG, Helmholtz Zentrum München**

*Mechanisms in body wasting*

**JOHANNES BECKERS, Helmholtz Zentrum München**

*Epigenetic inheritance of acquired obesity and diabetes*

**9:30-9:50 COFFEE BREAK**



**9:50 SESSION 2**

**Chairs: Stephanie Fulton, Matthias Tschöp**

**ALI ERTÜRK, LMU Munich**

*Whole-body imaging for systems biology*

**HENDRIK LEHNERT, University of Lübeck**

*Oxytocin – effects beyond bonding*

**PETER KÜHNEN (Group: Heiko Krude), Charité Berlin**

*MC-4R agonist treatment is leading to weight loss in LEPR deficient patients*

**MANFRED HALLSCHMID/ HUBERT PREISSEL, University of Tübingen**

*Control of metabolic function by brain insulin (and upcoming neuropeptides)*

**GIL WESTMEYER, Helmholtz Zentrum München**

*Fishing for compounds - neurobehavioral imaging of freely behaving zebrafish for metabolism research*

**MATHIAS TREIER, MDC Berlin**

*BSX neurons promote food foraging*

**10:50-11:10 COFFEE BREAK**

**11:10 SESSION 3**

**Chairs: Lori Zeltser, Mathias Treier**

**SUSANNA HOFMANN, Helmholtz Zentrum München**

*Dietary preferences and body weight loss in response to running exercise are sex dependent*

**INGO BECHMANN, University of Leipzig**

*Microglial ageing*

**ANNETTE PETERS, Helmholtz Zentrum München**

*Detecting early signs of diabetes complications using Magnet Resonance Imaging in individuals with prediabetes and diabetes*

**ANDREAS THEOTOKIS, University of Dresden**

*Hes3: Connecting plastic cells across tissues*

**HEIKO LICKERT, Helmholtz Zentrum München**

*Metabolic impact on intestinal stem cell recruitment and turnover*

**MICHAEL BOCK (Group: Jürgen Hennig), University of Freiburg**

*MRI in adiposity: morphology, function and metabolism*

**12:10-13:00 LUNCH**

At the Foyer in front of the Felix-Klein lecture hall

**13.00 SESSION 4**

**Chairs: Peter Jezzard, Sabrina Diano**

**DAVID NORRIS, University of Duisburg Essen**

*GABA spectroscopy at 7T and its applications*

**MARC LADD, DKFZ Heidelberg**

*Metabolic insights by imaging salt, fat, and proteins*

**VANESSA SCHMIDT (Group: Thomas Willnow), MDC Berlin**

*SORLA facilitates insulin receptor signaling in adipocytes and exacerbates obesity*

**ANCA OROS-PEUQUENS (Group: Jon Shah), FZ Jülich**

*Multiparametric qMRI: characterisation of brain changes caused by diabetes*

**13:45-14:05 COFFEE BREAK**

**14:05 SESSION 5 + CLOSING OF THE MEETING**

**Chairs: Mathias Treier, Jon Shah**

**THORALF NIENDORE, MDC Berlin**

*Panning for salt: Development of sodium MR Imaging*

**HARALD MÖLLER, MPI Leipzig**

*Multiparametric Brain Imaging: Concepts and application*

**NORBERT HÜBNER, MDC Berlin**

*A novel player promoting fibrotic response*

**SUMMARY STATEMENT (10 min)**

**SAB Speaker**

**CLOSING REMARKS BY THE ICEMED COORDINATORS (5 min)**

**Matthias Tschöp, Jon Shah, Mathias Treier**

## Participants

### Scientific Advisory Board (SAB) members

Diano, Sabrina | Dep. of Obstetrics, Gynecology & Reproductive Sciences, Yale University  
Fulton, Stephanie | Montreal Diabetes Research Center, Dep. of Nutrition, University of Montreal  
Jezzard, Peter | Oxford Centre for Functional MRI of the Brain, University of Oxford  
Langhans, Wolfgang | Dep. of Health Sciences and Technology, University of Zurich  
Small, Dana | Department of Psychology, Yale University  
Zeltser, Lori | The Naomi Berrie Diabetes Center, Dep. of Pathology and Cell Biology, Columbia University

### ICEMED scientists

Aliluev, Alexandra | Institute of Diabetes and Regeneration Research, Helmholtz Zentrum München  
Bauder, Corinna | Institute of Developmental Genetics, Helmholtz Zentrum München  
Bechmann, Ingo | Institute of Anatomy, University of Leipzig  
Beckers, Johannes | Institute of Experimental Genetics, Helmholtz Zentrum München  
Biebermann, Heike | Inst. of Exp. Pediatric Endocrinology, Charité University Medicine Berlin  
Behl, Nicolas | Medical Physics in Radiology, DKFZ Heidelberg  
Blüher, Matthias | Clinic for Endocrinol. and Nephrol., Med. Research Center, Univ. Hospital Leipzig  
Bock, Michael | Department of Radiology, University of Freiburg  
Ertürk, Ali | Institute for Stroke and Dementia Research, LMU Munich  
Fischer, Ingrid | Institute for Diabetes and Obesity, Helmholtz Zentrum München  
Hallschmid, Manfred | Inst. for Med. Psychology and Behavioural Neurobiology, Univ. of Tübingen  
Herzig, Stephan | Institute for Diabetes and Cancer, Helmholtz Zentrum München  
Hofmann, Susanna | Institute of Diabetes and Regeneration Research, Helmholtz Zentrum München  
Hübner, Norbert | Genetics and Genomics of Cardiovascular Diseases, MDC Berlin  
Kannt, Aimo | Sanofi Frankfurt  
Kaspar, Daniela | Institute of Experimental Genetics, Helmholtz Zentrum München  
Kühnen, Peter | Inst. of Experimental Pediatric Endocrinology, Charité University Medicine Berlin  
Kullmann, Stephanie | Inst. for Med. Psychology and Behavioural Neurobiology, Univ. of Tübingen  
Ladd, Mark | Medical Physics in Radiology, DKFZ Heidelberg  
Lehnert, Hendrik | Institute of Neuroendocrinology, University of Lübeck  
Lickert, Heiko | Institute of Diabetes and Regeneration Research, Helmholtz Zentrum München  
Möller, Harald | Max Planck Institute for Human Cognitive and Brain Sciences Leipzig  
Niendorf, Thoralf | Berlin Ultrahigh Field Facility, MDC Berlin  
Norris, David | Erwin L Hahn Institute for MRI, University of Duisburg Essen  
Oros-Peusquens, Anca | Institute of Neurosciences and Medicine, FZ Jülich  
Peters, Annette | Institute of Epidemiology II, Helmholtz Zentrum München  
Pfluger, Paul | Institute for Diabetes and Obesity, Helmholtz Zentrum München  
Preissl, Hubert | Institute for Medical Psychology and Behavioural Neurobiology, Univ. of Tübingen  
Shah, Jon | Institute of Neurosciences and Medicine, FZ Jülich  
Schmidt, Vanessa | Molecular Cardiovascular Research, MDC Berlin  
Schriever, Sonja | Institute for Diabetes and Obesity, Helmholtz Zentrum München



Steculorum, Sophie | Max Planck Institute for Metabolism Research, Cologne  
Stumvoll, Michael | University Hospital Leipzig, Clinic for Endocrinology and Nephrology  
Theotokis, Andreas | Medical Clinic III, University of Dresden  
Tschöp, Matthias | Institute for Diabetes and Obesity, Helmholtz Zentrum München  
Treier, Mathias | Genetics of Metabolic and Reproductive Disorders, MDC Berlin  
Varela, Luis | Yale School of Medicine, Yale University  
Vogt Weisenhorn, Daniela | Institute of Developmental Genetics, Helmholtz Zentrum München  
Wenz, Daniel | Berlin Ultrahigh Field Facility, MDC Berlin  
Westmeyer, Gil | Inst. of Biological and Medical Imaging, Inst. of Developmental Genetics, Helmholtz Zentrum München; Technical University of Munich  
Yeo, Giles | Dep. of Clinical Biochemistry, University of Cambridge

## **Guests**

Duggen, Sonja | Public Affairs, Helmholtz Zentrum München  
Kampe, Juliane | Research Field Health, Helmholtz Association, Berlin  
Schulze, Andreas | Initiative and Networking Fund, Research cluster and strategic partnerships, Helmholtz Association, Berlin  
Schwarz-Romond, Thomas | Helmholtz Pioneer Campus, Helmholtz Zentrum München

## **Hotel**

Hotel Radisson Blue  
Augustusplatz 5-6  
04109 Leipzig,  
Email: [info@radisson-leipzig.com](mailto:info@radisson-leipzig.com) | Phone: +49 341 21460

## **Restaurant**

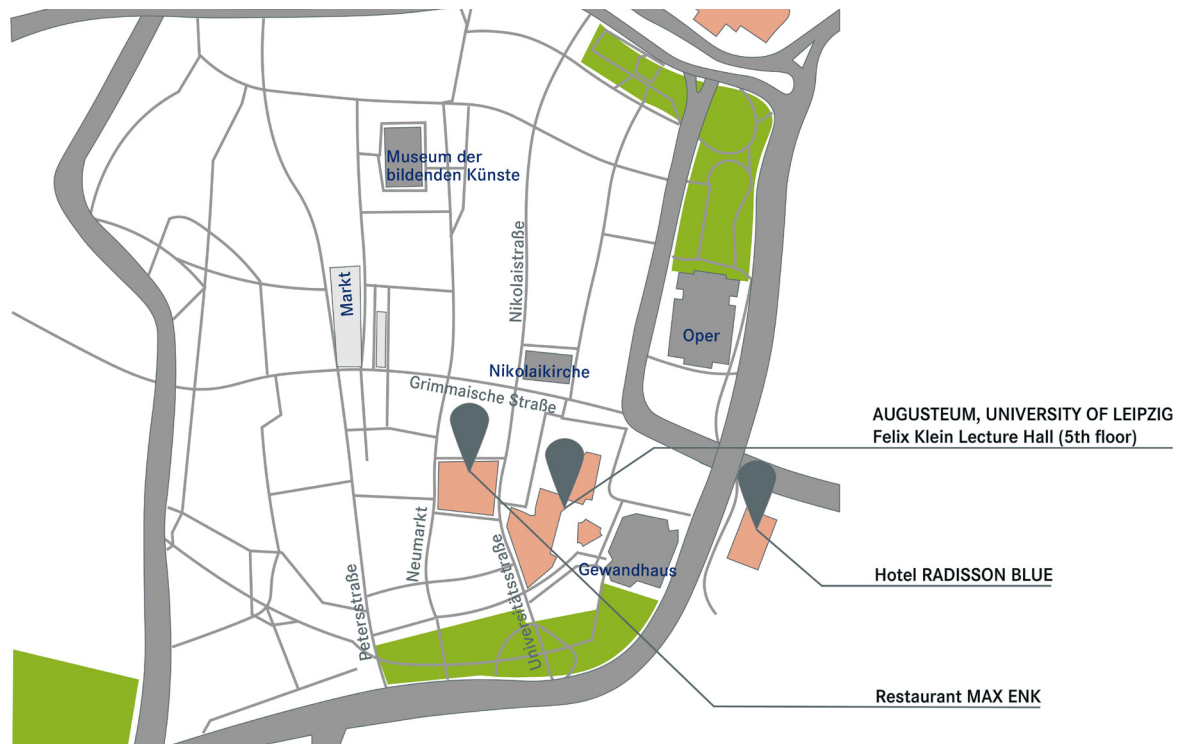
Restaurant MAX ENK  
Neumarkt 9-19  
04109 Leipzig  
<http://www.max-enk.de>

## **Conference Venue (Nov 8)**

Augusteum  
University of Leipzig  
Felix-Klein Lecture Hall (5th floor)  
Augustusplatz 10-11  
04109 Leipzig

## **WiFi (Augusteum)**

Name: eduinfo  
Event: ICEMED Final Joint Meeting  
Password: 4f508-2017



## Transfer Airport – Leipzig City

Please make your own arrangements for the transfer from Leipzig airport to the city center and for your return trip.

## S-Bahn

Lines S5 and S5X (14 min from Leipzig Airport to Leipzig Central Station)

## Taxi

TOP TAXI Leipzig +49 341 3338333

Taxi Leipzig +49 341 4233

## Coordinating Helmholtz Center

Helmholtz Zentrum München

German Center for Environmental Health

## Contact

Anja Marschner | Email: [anja.marschner@helmholtz-muenchen.de](mailto:anja.marschner@helmholtz-muenchen.de) | Phone: +49 177 6797641

Martina Antretter | Email: [martina.antretter@helmholtz-muenchen.de](mailto:martina.antretter@helmholtz-muenchen.de) | Phone: +49 151 62845632

Helmholtz Zentrum München | Institute for Diabetes and Obesity (IDO)



