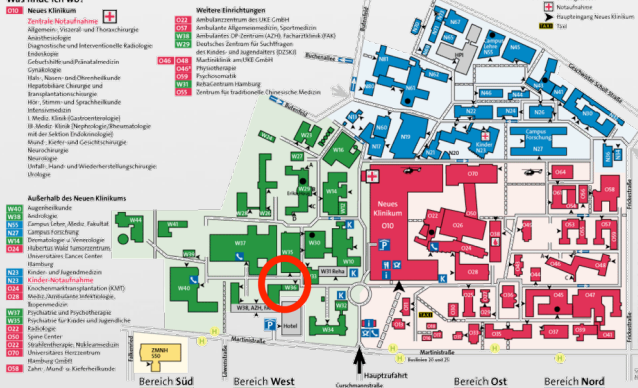




Was finde ich wo?



University Medical Center Hamburg-Eppendorf (UKE)
Dept. of Computational Neuroscience / Building W36
Martinistr. 52 / 20246 Hamburg

Attendance to the ImNeB 2018 symposium is free, but registration is mandatory as seating is limited.

Please register at <https://imneb2018.eventbrite.ca> or send email to r.werner@uke.de.

Symposium Organization

René Werner
Dept. of Computational Neuroscience, UKE

Ivo Matteo Baltruschat
Inst. of Biomedical Imaging, TUHH

Nils Daniel Forkert
Dept. of Radiology & Hotchkiss Brain Inst., University of Calgary

Leonhard Steinmeister
Dept. of Diagnostic and Interv. Radiology and Nuclear Medicine, UKE

Eckhard Schlemm
Dept. of Neurology, UKE



Symposium Objective

The human brain is a complex, hierarchically structured and interconnected system. Despite intense research activities and advancements, it is still considered one of the least understood organs in the human body.

Recent developments and progress in neuroimaging in general and magnetic resonance imaging (MRI) in particular offer new insight into structure and function of the brain, the mutual interplay of and connectivity between different brain regions, and even metabolic processes underlying brain activity – i.e. information that play a fundamental role in every field of application from laboratory neuroscience to clinical routine.

Successful translation of the image information into accepted knowledge and eventually improved clinical outcome requires close collaboration of researchers of different disciplines – e.g. physicists developing MR sequences, computer scientists and mathematicians extracting and representing the image information, and neuro-scientists and physicians for interpretation and clinical application of the extracted information.

Images and Networks of the Brain (ImNeB) addresses exactly this interdisciplinary character inherent to any neuroimaging- and neuroscience-based research close to the clinic and, consequently, focuses on

- novel approaches in neuroimaging,
- promising methods in neuro-image processing and analysis, and
- brain connectivity and network analysis.

Accounting for the increasing importance and success of Deep Learning (DL) in the addressed disciplines, the symposium also hosts the *1st FMTHH DL Hackathon* for UKE and TUHH members, organized by the UKE, the Hamburg University of Technology (TUHH) and the Forschungszentrum Medizintechnik Hamburg (FMTHH).

**Images and Networks
of the Brain 2018
New Methods and Perspectives**



April 24-25th, 2018

**Neuroimaging
Neuro-Image Computing
Brain Connectivity / Networks**

Univ. Medical Ctr. Hamburg-Eppendorf (UKE)
Dept. of Computational Neuroscience
Martinistr. 52, 20246 Hamburg

Program Images and Networks of the Brain 2018

April 24th

Neuroimaging

Chair: Nils D. Forkert (University of Calgary)

9:15 Opening

9:30 Probing tissue structure beyond image resolution: Diffusion-weighted MR imaging

Martin Koch
University of Lübeck

10:00 NODDI-DTI: extracting neurite orientation and dispersion parameters from a diffusion tensor in healthy, normal-appearing white matter

Siawoosh Mohammadi
UKE Hamburg

10:30 Coffee Break

11:00 Pushing Time-encoded Arterial Spin Labeling to the next Level

Matthias Günther
Fraunhofer MeVis Bremen & University of Bremen

11:30 Fast Field-Cycling (FFC) MRI: Biomarkers through T1-Dispersion

David Lurie
University of Aberdeen

12:00 Magnetic Particle Imaging for Neuro Applications

Peter Ludewig
UKE Hamburg

12:30 Lunch break

Neuro-Image Computing

Chair: René Werner (UKE Hamburg)

14:00 Advances in Brain Tumor and Stroke Segmentation

Björn Menze
TU München

14:30 Machine Learning in Diffusion Tractography

Jakob Wasserthal
DKFZ Heidelberg

15:00 Deformable image registration by convolutional neural networks

Marius Staring
Leiden University Medical Center

15:30 Coffee Break

16:00 Statistical Appearance Models based on Probabilistic Correspondences

Julia Krüger
University of Lübeck

16:30 Multiparametric Prediction of Tissue Outcome in Acute Ischemic Stroke Patients

Nils D. Forkert
University of Calgary

17:30 Pattern recognition for image-based brain age estimation

Christian Gaser
Universitätsklinikum Jena

18:30 Speakers' Dinner

April 25th

Brain Connectivity / Networks

Chair: Eckhard Schlemm (UKE Hamburg)

8:45 Good Morning Coffee

9:15 Opening

9:30 Identical, Similar or Different: Is a single Brain Model Sufficient?

Michel Thiebaut de Schotten
ICM Paris

10:00 Modern Lesion Deficit Analysis

Parashkev Nachev
UCL London

10:30 Intrinsic coupling modes: a multiscale framework for cognitive net-work dynamics

Andreas Engel
UKE Hamburg

11:00 Coffee Break

11:30 Imaging Genetics

Roberto Toro
Institut Pasteur, Paris

12:00 Genomics of brain network phenotypes in health and in disease

Petra Vértes
University of Cambridge

12:30 Synthetic 3D neuronal circuits

Robert Blick
University of Hamburg

13:00 Closing Remarks

Claus C. Hilgetag
UKE Hamburg

1st FMTTH Deep Learning Hackathon [For UKE and TUHH members only]

14:30 – 18:30

Hackathon organizers and moderators:

Ivo Matteo Baltruschat (TUHH)
Leonhard Steinmeister (UKE Hamburg)
René Werner (UKE Hamburg)