

rhine – main
neuroscience network



8th Biennial Meeting

„New Brain Interfaces“

June 12 - 14, 2024

Jugendherberge Oberwesel
Auf dem Schönberg
55430 Oberwesel

sponsored by



Wednesday, June 12

14:00 **Welcome**
Andreas Reif speaker rmn²
Jonathan Repple speaker program committee

14:15 – 15:15 Opening Plenary Lecture
“Computational methods in the treatment of depression”
Quentin Huys
*UCL Max Planck Centre for Computational Psychiatry and Ageing
Research, Queen Square Institute of Neurology*

Symposium I
“Network Modelling and Connectomics”
Chair: Jonathan Repple

15:15 – 16:00 Keynote lecture
“The Human Connectome: from evolutionary adaptations
to clinical applications”
Martin van den Heuvel
Vrije Universiteit and VU Medical Center, Amsterdam

16:00 **Coffee Break**

16:15 – 16:35
“Transcriptomic decoding of surface-based imaging
phenotypes using gene co-expression networks”
Christine Ecker
*Department of Child & Adolescent Psychiatry, Frankfurt and Institute of
Psychiatry, Psychology, and Neuroscience, King’s College, London*

16:35 – 16:55
“Learning in neural networks”
Jochen Triesch
FIAS

16:55 – 17:15
“Social status in male mouse societies buffers aversive
hippocampal recall by adapting large brain networks”
Wolfgang Kelsch
Department of Psychiatry, University Medical Center Mainz

17:15 **Coffee Break**

Symposium II
“Network Modulation”

Chair: Wolfgang Kelsch

17:30 – 18:15 Keynote lecture
“Probing adaptive plasticity in the language network –
insights from network stimulation”
Gesa Hartwigsen
MPI for Human Cognitive and Brain Sciences, Leipzig

18:15 – 18:35
“Modulation of dynamic networks - a roadmap to
personalized treatment?”
Andreas Reif
*Department of Psychiatry, Psychosomatic Medicine and Psychotherapy,
University Hospital, Goethe University, Frankfurt*

18:35 – 18:55
“Towards high-precision non-invasive deep brain
neuromodulation”
Til Ole Bergmann
*Neuroimaging Center, FTN Johannes Gutenberg University Medical Center
and Leibniz Institute for Resilience Research (LIR), Mainz*

18:55 – 19:15
“Connectome-guided neuromodulation in psychiatry”
Jonathan Repple
*Department of Psychiatry, Psychosomatic Medicine and Psychotherapy,
University Hospital, Goethe University, Frankfurt*

19:30 **Science Slam**

20:00 **Cookout**

Thursday, June 13

Symposium III “Dissecting Network Function”

Chair: Wolfgang Kelsch

09:15 – 09:35

“Altered corollary discharge signaling in a mouse model of schizophrenia predisposition”

Torfi Sigurdsson

Inst f. Neurophysiology, Goethe University, Frankfurt

09:35 – 09:55

“The selfish network: on early circuit function and dysfunction in neuropsychiatric disorders”

Albrecht Stroh

Institute of Pathophysiology, UMC und LIR, Mainz

09:55 – 10:15

“Neural circuits and algorithms for stable contrast processing tuned to natural scenes”

Marion Sillies

Institute for Developmental Biology and Neurobiology, JGU

10:15 Coffee break

10:45 – 11:30 Keynote lecture

„Tractable Probabilistic Circuits: From distributions, over time series predictions, to causality”

Kristian Kersting

Artificial Intelligence and Machine Learning Lab, TU Darmstadt

11:30 Postertalks

12:15 Lunch break

13:15 meet, hike, talk

15:45 Posters and coffee

19:00 Dinner

20:30 Party

Friday, June 14

Symposium IV “New in the region”

Chair: Jonathan Repple

09:00 – 09:15

“Catching cognition in the act: New ways to track naturalistic cognitive processing in monkeys and mice”

Martha Havenith/Marieke Schölvinck

ESI, Frankfurt

09:15 – 09:30

“Theoretical approaches to neuronal heterogeneity”

Janina Hesse

LIR, Mainz

09:30 – 09:45

“Investigating metabolic plasticity and mitochondrial function in neurons”

Carlos Bas Orth

Department of Neuroanatomy, Frankfurt

09:45 – 10:00

“Neural tissue development: from analysis to construction”

Ulrike Nuber

Department of Biology, TU Darmstadt

10:00 Coffee break

10:30 – 11:15 Keynote lecture

“Rational design of functional extracellular matrix materials”

Tanja Weil

MPI Polymer Research, Mainz

11:15 – 11:35

“Using biomaterials to model axonal growth and promote repair”

Claire Jacob

Faculty of Biology, Johannes Gutenberg University, Mainz

11:35 – 11:55

“Single and multi-electrode recordings in non-model organisms”

Julio Hechavarria

Inst f. Cell Biology and Neuroscience, Goethe University, Frankfurt

11:55 – 12:15

“Scholarly peer review in the Age of AI”

Iliia Kuznetsov

Computer Science Department, TU Darmstadt

12:15 – 13:15 Closing Plenary Lecture

“Cerebral Cortex Connectomics”

Moritz Helmstädter

Max Planck Institute for Brain Research, Frankfurt

13:15 Awarding of Poster Prizes

Concluding Remarks

13:30 Snacks to go and Departure