

Brain Dynamics Graduate School



Newsletter – September ‘24

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Events

- **Guest lecture at the PFI**

09.09. 10:30 Paul Flechsig Institute - Center of Neuropathology and Brain Research, Room 3093, Liebigstraße 19 (Haus C), 04103 Leipzig

Prof Dr Jeroen Bogie, Biomedical Research Institute, School of Life Sciences, Hasselt University, Diepenbeek, Belgium

“Lipids in control of microglia physiology in demyelinating CNS disorders”.

<https://www.uni-leipzig.de/en/event-detail/event/lipids-in-control-of-microglia-physiology-in-demyelinating-cns-disorders>.

- **Cradle of Cognition Lecture**

11.09. 16:00 online

Prof Dr Manuela Piazza, Center for Mind/Brain Sciences, University of Trento, Italy

“Numerical learning in the developing brain”.

<https://www.cbs.mpg.de/events/36760/338738>.

- **SFB1423 Scientific talk**

12.09. 14:00 Hybrid, online & Beckmann Lecture Hall, Institute of Biochemistry, Faculty of Life Sciences, Brüderstraße 34, 04103 Leipzig

Prof David C. Martinelli, Ph.D., Department of Neuroscience, University of Connecticut Health, Farmington, CT, USA

"The pleiotropic C1Q-like proteins regulate both synapses and oligodendrocyte maturation".

<https://www.uni-leipzig.de/en/event-detail/event/the-pleiotropic-c1q-like-proteins-regulate-both-synapses-and-oligodendrocyte-maturation>.

- **3rd Brain Dynamics Scientific Day**

24.09. 09:00 – 17:30 lecture hall and foyer of the Centre for Biotechnology and Biomedicine (BBZ), Deutscher Platz 5, 04103 Leipzig

09:00 **Prof Dr Dr Dr Zoltán Nusser**, Hungarian Research Network, Institute of Experimental Medicine HAS, Budapest, Hungary

“Diverse molecular mechanisms underlying heterogeneity in presynaptic release probability”.

16:30 **Dr Darinka Trübutschek**, Research Group Neural Circuits, Consciousness, and Cognition, Max Planck Institute for Empirical Aesthetics, Frankfurt am Main

“Of moments and memories: How subjective perception and experience shape one another in the human brain”.

<https://www.uni-leipzig.de/en/brain-dynamics/graduate-school-brain-dynamics/news-events/3rd-scientific-day>.

- **Language Circle**

25.09. 15:00 online

Prof Morten H. Christiansen, Ph.D., Department of Linguistics, Cognitive Science and Semiotics, Aarhus University, Denmark & Department of Psychology, Cornell University, Ithaca, NY, USA

“The importance of feedback in statistical learning: Insights from artificial language learning, language evolution, and AI”.

<https://www.cbs.mpg.de/events/38982/338738>.

News

- **Call for Inter-Lab Pilot Projects**

After a successful start in 2023, the Brain Dynamics Graduate School is announcing the second call for collaborative small-scale projects developed by doctoral candidates and postdocs. The Inter-lab Pilot Project program offers funding in the amount of up to 3.500€ to support multi-lab, multidisciplinary pilot projects in humans and/or animal models. The objective of the Pilot Project program is to enable Brain Dynamics members to collect and/or analyse preliminary data in

preparation for grant applications to local, national and international funding agencies.

<https://www.uni-leipzig.de/en/brain-dynamics/graduate-school-brain-dynamics/news-events/pilot-projects>

- **Advanced EEG Workshop**

Open to doctoral and postdoctoral researchers, the workshop will be held on October 23rd and 24th at Villa Tillmanns in Leipzig. The focus will be on working with the Multivariate Temporal Response Function (mTRF) toolbox:

<https://www.uni-leipzig.de/en/event-detail/event/advanced-eeg-workshop>

- **Cognitive impairment in chronic kidney disease**

Dr Dr Silke Zimmermann and Prof Dr Berend Isermann from the Institute of Laboratory Medicine, Clinical Chemistry and Molecular Diagnostics at the University Hospital Leipzig, talk about their latest publication in the journal “Kidney International”:

<https://www.uni-leipzig.de/en/newsdetail/artikel/cognitive-impairment-in-chronic-kidney-disease-2024-08-19>

Latest publications

- Brain Dynamics doctoral candidates **Sebastain Gutsfeld** and **Nadia Herold**, postdoc **David Leuthold** and research group **Tal**

Investigation of Peroxisome Proliferator-Activated Receptor Genes as Requirements for Visual Startle Response Hyperactivity in Larval Zebrafish Exposed to Structurally Similar Per- and Polyfluoroalkyl Substances (PFAS).

Gutsfeld S, Wehmas L, Omoyeni I, Schweiger N, Leuthold D, Michaelis P, Howey XM, Gaballah S, Herold N, Vogs C, Wood C, Bertotto L, Wu GM, Klüver N, Busch W, Scholz S, Schor J, Tal T.

Environ Health Perspect. 2024 Jul; 132(7):77007. doi: 10.1289/EHP13667.

- Brain Dynamics doctoral candidate **Tim Ritter**, postdoc **Julian Klingbeil** and research group **Saur**

Undoubtedly unaware of homonymous hemianopia: The contribution of overconfidence to anosognosia of hemianopia.

Klingbeil J, Mühlig M, Bahr E, Welle F, Ritter T, Stockert A, Wawrzyniak M, Saur D. Cortex. 2024 Aug; 177:224-234. doi: 10.1016/j.cortex.2024.03.016.

- Brain Dynamics postdoc **Marlen Kücklich** and research group **Widdig**

Combined perceptual and chemical analyses show no compelling evidence for ovulatory cycle shifts in women's axillary odour.

Zetzsche M, Weiß BM, Kücklich M, Stern J, Birkemeyer C, Widdig A, Penke L.
Proc Biol Sci. 2024 Aug; 291(2027): 20232712. doi: 10.1098/rspb.2023.2712.

➤ Brain Dynamics postdoc **Jana Nerlich** and research group **Hallermann**

Human antibodies neutralizing the alpha-latrotoxin of the European black widow.

Ruschig M, Nerlich J, Becker M, Meier D, Polten S, Cervantes-Luevano K, Kuhn P, Licea-Navarro AF, Hallermann S, Dübel S, Schubert M, Brown J, Hust M.
Front Immunol. 2024 Jun 12;15:1407398. doi: 10.3389/fimmu.2024.1407398.

➤ Research group **Fledrich**

Myelinated peripheral axons are more vulnerable to mechanical trauma in a model of enlarged axonal diameters.

Gargareta VI, Berghoff SA, Krauter D, Hümmert S, Marshall-Phelps KLH, Möbius W, Nave KA, Fledrich R, Werner HB, Eichel-Vogel MA.
Glia. 2024 Sep; 72(9): 1572-1589. doi: 10.1002/glia.24568.

➤ Research group **Hartwigsen**

Aberrant neural oscillations in poststroke aphasia.

Lu Y, Mao L, Wang P, Wang C, Hartwigsen G, Zhang Y.
Psychophysiology. 2024 Jul 19:e14655. doi: 10.1111/psyp.14655.

➤ Research group **Jais**

GABAergic disinhibition from the BNST to PNOC^{ARC} neurons promotes HFD-induced hyperphagia.

Sotelo-Hitschfeld T, Minère M, Klemm P, Borgmann D, Wnuk-Lipinski D, Jais A, Jia X, Corneliussen S, Kloppenburg P, Fenselau H, Brüning JC.
Cell Rep. 2024 Jun 25;43(6):114343. doi: 10.1016/j.celrep.2024.114343.

➤ Research group **Lippmann**

A Reduction in the Readily Releasable Vesicle Pool Impairs GABAergic Inhibition in the Hippocampus after Blood-Brain Barrier Dysfunction.

Lippmann K.
Int J Mol Sci. 2024 Jun 22; 25(13): 6862. doi: 10.3390/ijms25136862.

➤ Research groups **Bechmann / Sheikh**

Chronic kidney disease leads to microglial potassium efflux and inflammasome activation in the brain.

Zimmermann S, Mathew A, Bondareva O, Elwakiel A, Waldmann K, Jiang S, Rana R, Singh K, Kohli S, Shahzad K, Biemann R, Roskoden T, Storsberg SD, Mawrin C, Krügel U, Bechmann I,

Goldschmidt J, Sheikh BN, Isermann B.

Kidney Int. 2024 Jul 30; S0085-2538(24)00535-0. doi: 10.1016/j.kint.2024.06.028.

➤ Research group **Valk**

Longitudinal variation in resilient psychosocial functioning is associated with ongoing cortical myelination and functional reorganization during adolescence.

Hettwer MD, Dorfschmidt L, Puhlmann LMC, Jacob LM, Paquola C, Bethlehem RAI; NSPN Consortium; Bullmore ET, Eickhoff SB, Valk SL.

Nat Commun. 2024 Jul 29; 15(1): 6283. doi: 10.1038/s41467-024-50292-2.

➤ Research group **Widdig**

Influence of visual information on sniffing behavior in a routinely trichromatic primate.

Weiß BM, Widdig A.

Behav Ecol. 2024 Jul 4; 35(5): arae055. doi: 10.1093/beheco/arae055.