



# MOLECULAR AND NEURAL CORRELATES OF MEMORY AND COGNITION

9<sup>th</sup> - 10<sup>th</sup> of April 2019

Veranstaltungszentrum, Ruhr University Bochum

## Programme

April 9<sup>th</sup>

9:15

**Welcome** - opening of the conference

**Denise Manahan-Vaughan** Director IGSN / Speaker SFB 874

Session 1

9:25

**Molecular substrates of memory and cognition**

9:30

**Hannah Monyer**

Clinical Neurobiology, Medical Faculty of Heidelberg University and German Cancer Research Center (DKFZ), Heidelberg, Germany

**GABAergic neurones - the cellular substrate for local and long-range synchrony**

10:05

**Anna Fejtova**

Molecular Psychiatry, University Hospital, Friedrich-Alexander University Erlangen-Nürnberg, Nürnberg, Germany

**Presynaptic homeostatic plasticity contributes to the activity-driven remodelling of cortical networks**

10:40

Coffee break / Poster Session / Brainstorming Session (1)

12:00

**Susanne Schoch McGovern**

Institute of Neuropathology, University of Bonn Medical Center, Bonn, Germany

**Control of presynaptic function and plasticity by strategic phosphorylation**

12:35

Lunch break



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**April 9<sup>th</sup>** - Afternoon

**Session 2: 13:40 Neural mechanisms underlying memory and cognition**

**13:45 Mara Mather**  
Gerontology and Psychology, USC, Los Angeles, USA  
**How arousal increases neural gain and attentional selectivity in younger vs. older adults**

**14:20 Tatiana Korotkova**  
Neuronal Circuits and Behavior, Max Planck Institute for Metabolism Research, Cologne, Germany  
**To eat? To sleep? To run? Neural dynamics of innate behaviors**

**14:55 Coffee break / Brainstorming Session (2)**

**15:45 Carien Lansink**  
Swammerdam Institute for Life Sciences, Center for Neuroscience, University of Amsterdam, Amsterdam, the Netherlands  
**How visual is the visual cortex? The influence of auditory information on the detection and processing of visual stimuli**

**16:20 individual meetings** with RUB scientists



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**April 10<sup>th</sup>** - Morning

**Session 3      9:15      Subcortical contributions to memory and cognition**

**9:20      Dora Angelaki**  
Mechanical and Aerospace Engineering, NYU, New York, USA  
**A gravity-based three-dimensional compass in the mouse brain**

**9:55      Livia de Hoz García-Bellido**  
Neuroscience Research Center, Charité Medical University, Berlin, Germany  
**Subcortical coding of statistical learning**

**10:30      Coffee break / Poster Session / Brainstorming Session (3)**

**11:25      Laura Ewell**  
Institute of Experimental Epileptology and Cognition Research, University of Bonn Medical Center, Bonn, Germany  
**The impact of pathological high frequency oscillations on hippocampal network activity in rats with chronic epilepsy**

**12:00      Lunch break**



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**April 10<sup>th</sup>** - Afternoon

**Session 4**      **14:00**      **Cortical plasticity and information processing as an orchestrator of cognitive flexibility, memory and cognition**

**14:05**      **Susanne Diekelmann**  
Institute of Medical Psychology and Behavioral Neurobiology, Tübingen University, Tübingen  
Germany  
**Cueing reactivation during sleep to facilitate memory consolidation**

**14:40**      **Coffee break / Brainstorming Session (4)**

**15:20**      **Jenny Read**  
Institute of Neuroscience, Newcastle University, Newcastle, UK  
**The neural basis of depth perception: how binocular disparity is encoded in the primary visual cortex**

**16:00**      **FAREWELL – end of conference**

