

# DAAD - ALUMNI SPRING SCHOOL

IGSN – International Graduate School of Neuroscience

## Mechanisms of Cognition, Learning and Memory

5<sup>th</sup> until 8<sup>th</sup> of April 2011



Tuesday, 5<sup>th</sup> of April

9:30	<p>WELCOME</p> <p>by <b>Denise Manahan-Vaughan</b>, Director / Dean of Studies, IGSN and <b>Jörg E. Epplen</b>, Speaker of the IGSN</p>
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### MECHANISMS OF SYNAPTIC PLASTICITY AND INFORMATION STORAGE

10:00*	<p><b>LYNN NADEL</b>, Dept. of Psychology, University of Arizona, Tucson, USA <i>Hippocampus, Context and Memory</i></p>
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11:00*	<p><b>JULIETTA U. FREY</b>, Leibniz Institut für Neurobiologie, Magdeburg <i>Spaced-associativity – a concept of learning and memory formation</i></p>
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11:50 – 13:00 LUNCH break

13:00*	<p><b>DENISE MANAHAN-VAUGHAN</b>, Dept. of Neurophysiology, Ruhr- University Bochum <i>Exploring the relationship between hippocampal synaptic plasticity and learning</i></p>
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13:50*	<p><b>LAURA COLGIN</b>, Center for Learning and Memory, UT Austin, Texas, USA <i>Gamma oscillations in the hippocampal network</i></p>
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14:40 – 15:40 POSTER Presentation / COFFEE break

15:40*	<p><b>KATE JEFFERY</b>, Institute for Behavioural Neuroscience, UCL London, UK <i>Building a cognitive map</i></p>
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16:30*	<p><b>JEFFREY TAUBE</b>, Dept. of Psychological and Brain Sciences, Dartmouth Medical School, Hanover, NH, USA <i>Learning and memory in the head direction cell circuitry</i></p>
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\* talks incl. 10 min discussion

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Wednesday, 6th of April

### MECHANISMS AND HIGHER ORDER PROCESSING OF MEMORY I

10:00*	<b>JOHN F. DISTERHOFT</b> , Dept. of Physiology, Northwestern University Chicago, USA <i>Mechanisms of associative learning in young and aging brain</i>
10:50*	<b>MAGDALENA SAUVAGE</b> , Mercator Research Group, Ruhr-University Bochum <i>Functional segregation within the medial temporal lobe</i>

\* talks incl. 10 min discussion

11:40 – 13:00  
13:00 – 14:00

POSTER Presentation / COFFEE break  
LUNCH break

### COMMUNICATING SCIENCE

- in cooperation with the **RUB Research School** -



14:00	<b>CLAIRE AINSWORTH</b> , Science Communication Training, London, UK
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15:00 – 15:15

COFFEE break

15:15	<b>NOAH GRAY</b> , Senior Editor Biology, NATURE, New York, USA
16:15 (until 17:30)	Moderated Discussion <b>HOLGER WORMER</b> , Science Journalism, University of Dortmund

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Thursday, 7th of April

### MECHANISMS AND HIGHER ORDER PROCESSING OF MEMORY II

9:30*	<b>RAYMOND KESNER</b> , Dept. of Psychology, University of Utah, Salt Lake City, USA <i>A new process approach of memory based on a sub regional analysis of the hippocampus</i>
10:30*	<b>SEN CHENG</b> , Mercator Research Group, Ruhr-University Bochum <i>Origin and transformation of spatial representations</i>
11:20 – 11:45	COFFEE break
11:45*	<b>NEIL BURGESS</b> , Institute of Cognitive Neuroscience, University College London, UK <i>Neural mechanisms of spatial cognition</i>

12:35 – 13:30

LUNCH break

### SYNAPTIC PLASTICITY AND MEMORY DYSFUNCTION IN DISEASE STATES

13:30*	<b>ULF EYSEL</b> , Medical Faculty / Vice-Rector Ruhr University Bochum <i>Cortical plasticity in lesion models</i>
14:20 – 15:30	POSTER Presentation and COFFEE break
15:30*	<b>HUBERT DINSE</b> , Institut für Neuroinformatik, Ruhr University Bochum <i>Learning through mere exposure – effects and efficacy of repetitive stimulation</i>
16:20* (until 17:10)	<b>CARMEN SANDI</b> , Brain Mind Institute, École Polytechnique Federale de Lausanne, CH <i>Stress and cognitive function</i>

\* talks incl. 10 min discussion

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Friday, 8th of April

### ALUMNI SESSIONS

9:15	<b>DENISE MANAHAN-VAUGHAN:</b> Welcome to Alumni
9:20*	<b>MARIAN TSANOV</b> , Institute of Neuroscience, Trinity College Dublin <i>Information processing in hippocampo-diencephalic circuitry</i>
10:00*	<b>HARDY HAGENA</b> , Dept. of Neurophysiology, Ruhr-University Bochum <i>Room for more discoveries - spatial memory in area CA3</i>
<b>10:40 – 11:00</b> COFFEE break	
11:00*	<b>BEATRICE PÖSCHEL</b> , Centre for Molecular Neurobiology, University of Hamburg <i>Oscillatory activity and synchronization within the prefrontal-hippocampal circuit of the neonatal rat in vivo</i>
11:40*	<b>CHRISTIAN BELLEBAUM</b> , Dept. of Neuropsychology, Ruhr-University Bochum <i>Neural mechanisms of active vs. observational feedback-learning</i>
<b>12:20 – 13:20</b> LUNCH break	
13:20*	<b>IGOR RIECANSKY</b> , Brain Research Lab, University of Vienna <i>Dynamics of human brain activity related to visual short-term memory</i>
14:00*	<b>PATRICK RAGERT</b> , MPI for Human Cognitive and Brain Sciences, Leipzig <i>Functional and structural plasticity in the human sensorimotor system</i>
<b>14:40 – 15:00</b> COFFEE break	
15:00*	<b>NATHALIE ROCHEFORT</b> , Laboratory of Neuroscience, Techn. University of Munich <i>Exploring the mouse visual cortex in vivo with two-photon calcium imaging</i>
15:40*	<b>DEEPAK DASH</b> , Stockholm Brain Institute, Karolinska University Stockholm <i>Working memory training-effects on reasoning abilities and fronto-parietal networks</i>

\* talks incl. 10 min discussion

ca. 16:20

Farewell – end of the conference