

Introductory Remarks to Symposium 18

Computations - from sensations to decisions

Markus Rothermel and Wolfgang Kelsch, Aachen and Mannheim

Our symposium proposal entitled Computations - from Sensation to Decision will highlight some of the most recent advances in computational, sensory and cognitive approaches in neuroscience. Stimulus sampling requires appropriate functioning of sensory organs and stimulus detection. Stimulus perception and the organisms reaction is influenced by complex computations in bottom up and top down systems, reflecting the internal animal state. Our symposium tries to shed light on these complex processes by combining speakers investigating different modalities and different model systems. Prof. Benedict Grothe will talk about Absolute versus relative perception of auditory processing especially focusing on how spatial context determines sound localization. Prof Andreas Schäfer who uses the olfactory system as a model will tackle the question how behavior emerges from the properties of molecules and ensembles of cells. Prof. Andrew Straw works in Drosophila and uses both virtual reality in freely moving animals and precise circuit manipulations with neuro-genetics of various forms. His talk will focus on the emergence of behavior from the interplay of multiple physiological processes and an animal's own environmental surroundings. Finally, Dr. Kelsch and Dr. Rothermel will focus on the modulation of sensory information processing via top-down systems using the anterior olfactory nucleus as a model.

Symposium 18

Thursday, March 23, 2017
14:30 - 16:30, Lecture Hall 8

Chairs: Markus Rothermel and Wolfgang Kelsch,
Aachen and Mannheim

- 14:30 **Opening Remarks**
- 14:35 Benedikt Grothe, Martinsried
ABSOLUTE VERSUS RELATIVE PERCEPTION OF AUDITORY PROCESSING - HOW SPATIAL ACOUSTIC CONTEXT DETERMINES SOUND LOCALIZATION (S18-1)
- 15:00 Andreas Schäfer, London, UK
ADAPTIVE ACTIVE SAMPLING BEHAVIOUR UNDERLIES CONTEXTUAL MODULATION IN AN EARLY SENSORY SYSTEM (S18-2)
- 15:25 Markus Rothermel and Wolfgang Kelsch, Aachen and Mannheim
CORTICAL TOP-DOWN CONTROL OF EARLY OLFACTORY PROCESSING (S18-3)
- 15:50 Andrew D. Straw, Freiburg
MULTIPLE FLY VISUO-MOTOR BEHAVIORS PREDICTED BY A SINGLE BIOLOGICALLY PLAUSIBLE CIRCUIT (S18-4)
- 16:15 Suzanne van der Veldt, Berlin
TOP-DOWN INPUTS ONTO LATERAL HYPOTHALAMUS DETERMINE SIGNALING OF FEEDING-RELATED CELLS (S18-5)
- 16:25 **Concluding Remarks**