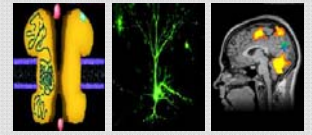


SFB 874 / IGSN

CONFERENCE



Cortical and subcortical representation of sensory and cognitive memory

April 28 - 29, 2015 Ruhr University Bochum

Tuesday

April 28, afternoon (13:15 – 16:15)

Session 2:

**Categorization learning at the interface between
perception and cognition**

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Level of processing effects and category-specific processing in implicit and explicit memory

In cognitive neuroscience of human memory, implicit memory processes like priming are commonly distinguished from explicit, i.e. episodic and semantic memory. At a behavioral level, this distinction becomes evident in the well-replicated observation that the level of processing (LoP) profoundly influences conscious, explicit remembering, but not priming. At a neural level, encoding processes that predict later priming occur earlier than those that predict explicit memory, and some evidence suggests that only successful encoding into explicit memory is hippocampus-dependent. This engagement of the hippocampus in explicit memory encoding is independent of LoP and can thus not explain the behavioral LoP effect. Using functional connectivity analysis of fMRI data, we could demonstrate that, during successful encoding, the hippocampus exhibits differential, lateralized patterns of connectivity with distributed cortical networks. Furthermore, recent data convergingly suggests that the hippocampus is not without a role in implicit memory, but instead, hippocampal involvement in priming processes depends on motivational context and stimulus categories.

