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# NeuRise

Talks by rising stars of neuroscience

## The functional architecture of the human entorhinal-hippocampal circuitry

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*Cognitive functions like episodic memory require the formation of cohesive representations. Critical for that process is the entorhinal-hippocampal circuitry's interaction with cortical information streams and the circuitry's inner communication. With ultra-high field functional imaging we investigated the functional architecture of the human entorhinal-hippocampal circuitry. We identified an organization that is consistent with convergence of information in anterior and lateral entorhinal subregions and the subiculum/CA1 border while keeping a second route specific for scene processing in a posterior-medial entorhinal subregion and the distal subiculum. Our findings agree with information flow along information processing routes which functionally split the entorhinal-hippocampal circuitry along its transversal axis. My talk will demonstrate how ultra-high field imaging in humans can bridge the gap between anatomical and electrophysiological findings in rodents and our understanding of human cognition. Moreover, I will point out the implications that basic research on functional architecture has for cognitive and clinical research perspectives.*

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