World Wide NeuRise

Talks by rising stars of neuroscience

Lateral entorhinal cortex directly influences medial entorhinal cortex through synaptic connections in layer 1

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Standard models of episodic memory suggest that lateral (LEC) and medial entorhinal cortex (MEC) send independent inputs to the hippocampus, each carrying different types of information. Here, we describe a pathway by which information is integrated between LEC and MEC prior to reaching hippocampus. We demonstrate that LEC sends strong projections to MEC arising from neurons that receive neocortical inputs. Activation of LEC inputs drives excitation of hippocampal-projecting neurons in MEC layer 2, typically followed by inhibition that is accounted for by parallel activation of local inhibitory neurons. We therefore propose that local circuits in MEC may support integration of 'what' and 'where' information.

Event link:
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