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SFB 1089

Bonn Lecture Series in Neuroscience

CA1 and CA3-dentate networks dynamics during learning of reward locations

Julie Koenig

Institut de Neurobiologie de la Mediterranée,
Université d'Aix Marseille, France

Tuesday, October 07th, 2014, 16:00h
Biomedical Center (BMZ)
Small Lecture Hall, ground floor

Julie Koenigs research is focused on spatial memory, the ability to encode, store and recall information relative to the spatial layout of an environment. The activity of many pyramidal cells in the hippocampus - a key region for spatial memory – is strongly correlated with the animals location in the environment. These so-called 'place cells' use different types of information coming from the internal and external world to generate place specific firing.

Julie Koenig is using cutting edge in-vivo recording techniques in awake behaving rodents to examine how different streams of information determine firing of hippocampal neurons. She will present unpublished data that shed light on how hippocampal networks might acquire a spatial engram of a reward location.

Selected Publications

Julie Koenig, Ashley N. Linder, Jill K. Leutgeb, Stefan Leutgeb. The Spatial Periodicity of Grid Cells Is Not Sustained During Reduced Theta Oscillations. Science 332, 592-5 (2011).

Mark P. Brandon, **Julie Koenig**, Jill K. Leutgeb, Stefan Leutgeb. New and Distinct Hippocampal Place Codes Are Generated in a New Environment during Septal Inactivation. Neuron 82, 789-796 (2014)

Mark P. Brandon, **Julie Koenig**, Stefan Leutgeb. Parallel and convergent processing in grid cell, head-direction cell, boundary cell, and place cell networks. Wiley Interdiscip Rev Cogn Sci 5, 207-219 (2014)

Host contact: Prof. Dr. Heinz Beck, Email: heinz.beck@ukb.uni-bonn.de