

Neuroscience Seminar Series

Friday, June 2nd, 2017 at 11:30

Salle des Conférences (R229)

Centre Universitaire des Saints-Pères

45 rue des Saints-Pères, 75006 Paris

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Entorhinal grid cells and spatial navigation

The discovery of the grid cells in the medial entorhinal cortex during the last decade represents a milestone in the comprehension of the neural systems involved in spatial navigation. Grid cells are spatially selective neurons whose firing fields form a regular hexagonal pattern across the 2D environment. This activity has been suggested to form an invariant selfmotion-based map that is relatively independent of the external landmarks. However, recent studies have strongly challenged this hypothesis by showing that in some conditions the grid map can be influenced by the external environment. In this conference I will present the results from these different studies as well as data from our lab showing that 1) the grid map strongly adapts to the topology of the explored environment, and 2) the hexagonal grid pattern is locally distorted around salient areas in the environment. Altogether these studies indicate that the entorhinal grid map is less invariant than previously thought, and strongly suggest that the external information (and not only the self-motion cues) is also primordial to establish the grid cell spatial activity.

Those interested in meeting with the speaker please contact
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