

Grands Séminaires du Collège de France

Centre Interdisciplinaire de Recherche en Biologie du Collège de France

Le lundi 18 juin 2016

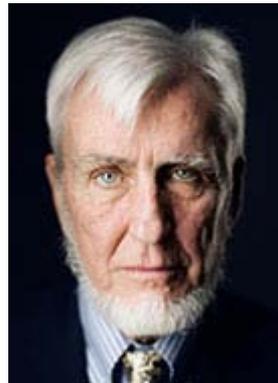
à 15h00

Salle 2

(accès public)

Pr O'Keefe

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"Prix Nobel de Médecine et de Physiologie"

Spatial cells and spatial behaviour on the Honeycomb maze

Abstract: The Hippocampal Formation contains different types of spatial cells (place, head-direction, boundary, and grid cells) which together make up a cognitive mapping system. The cognitive map enables an animal to locate itself and objects such as food and water in a familiar environment, and to navigate towards or away from particular locations, for example, those containing food or danger respectively. There are several behavioral testing platforms for assessing an animal's knowledge of spatial location and its performance on tests of spatial navigation. Foremost amongst the latter is the Morris Water Maze which, although extremely successful, has several drawbacks for the assessment of behavior and perhaps more importantly is not ideally suited for single unit recording. I will describe a new behavioral testing apparatus, the Honeycomb Maze, which overcomes many of these disadvantages. In addition to describing several spatial factors influencing successful performance on this maze, I will describe the performance of animals with hippocampal damage and discuss preliminary data on the use of the maze to study place and grid cell activity.