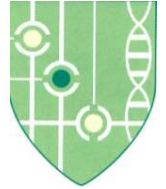


2023年度 医学部共通講義Ⅲ

機能生物学入門

機能生物学セミナー



演題： Place cells, spatial maps and hippocampal memory

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担当： 薬学系研究科 後藤 由季子 教授

日時： 令和5年7月10日（月）14:55～16:40

場所： 医学部教育研究棟 13階 第6セミナー室

要旨： The hippocampus plays a critical role in memory and its dysfunction can lead to disorders ranging from epilepsy to dementia. Work in both humans and animals has shown that it is crucial for the formation of new episodic and contextual memories, as well as their consolidation, but how dynamic changes in its well-characterized neuronal activity map on to these functions and the theories explaining them has remained difficult to address. Over the last 50 years we have gained a considerable understanding of the anatomy, synaptic function, *in vivo* physiology and behavioral relevance of the rodent hippocampus, particularly in respect to its role in spatial and contextual memory and the existence of place cells, spatially receptive responses of single neurons in the structure. More recently, genetic techniques allow specific access to discrete populations of neurons, both within the hippocampus and in areas projecting to it, permitting us to assess circuit function following the manipulation of neuronal transmission and plasticity on a variety of timescales. In this talk I will introduce these concepts and describe how we combine genetic tools with behavior and *in vivo* recording to gain a greater understanding of how information is processed in the hippocampus and what that can tell us about the mechanisms of spatial representations and of memory. I will highlight some of the lab's recent efforts, including experiments designed to understand the links between place cell activity and the encoding of memory, as well as work focused on the identification of a dynamic physiological signature of memory age.

参考文献

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今年度の機能生物学セミナーは、対面形式で実施します。登録している博士課程の学生は出席で評価しますので、対面講義に出席して下さい。オンライン配信はありません。

問合せ先：医学系研究科 統合生理学

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