

東京大学グローバル COE 特別セミナー

理学系研究科 生物化学専攻セミナー

演者 : **Pierre-Marie Lledo** 博士

Laboratory for Perception and Memory,
Pasteur Institute and CNRS, France

演題 : **Wiring newly formed neurons with adult olfactory bulb
circuits: How, why and what for ?**

日時 : 平成 22 年 2 月 23 日 (火) 17 : 00 ~ 18 : 00

場所 : 東京大学理学部 3 号館 4 階 416 号室

Neurogenesis occurs in the adult central nervous systems of a variety of vertebrate and non-vertebrate organisms. The roles that the new neurons play, and the factors that influence their birth and survival, are critical issues that are under intense investigation. Significant progress has been made in understanding the functions of new neurons in the olfactory system, a pathway where neurons are added throughout life in a wide range of species. With the adult mouse olfactory bulb as a model, this presentation will address a series of fundamental questions concerning the role(s) that neurogenesis plays in the normal functioning of adult neuronal circuits.

We will see that adult neurogenesis is not a mere recapitulation of embryogenesis but rather a unique process adapted to the adult forebrain. We will discuss how the olfactory bulb balances the need for synaptic plasticity with the need to maintain already-functional information processing networks. Our recent studies have demonstrated that adult neurogenesis is flexible, producing different numbers of neurons, and different neuronal types, aimed at surviving distinctly according to an animal's environmental experience. These findings support the assumption according to which new neurons in the adult brain are produced to perform a particular task not possible for mature neurons.

Together, the confluence of data from different approaches suggests a complex dialogue between newborn and mature neurons in the olfactory bulb circuit. This presentation will touch on these various topics that are of broad interest to neuroscientists not only studying developmental processes, and mechanisms of cognitive functions but also to those seeking for novel strategies aimed at using endogenous neuronal stem cells for brain repair.

世話人 : 坂野 仁 (内線 24396)