

# 3<sup>rd</sup> International Conference and Exhibition on **Neurology & Therapeutics**

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## The flexible olfactory brain

**Pierre-Marie Lledo**  
Pasteur Institute, France

The olfactory brain is flexible, from cognitive areas all the way down to the peripheral areas in which sensory information is encoded so as to facilitate the subsequent extraction of relevant information. It is becoming increasingly clear that olfactory adaptability operates at the level of neural circuits. In the adult olfactory bulb circuit, new neurons are constitutively recruited throughout life and form an integral part of the normal functional network. This presentation focuses on the functional issues linked to the neurogenic plasticity of olfaction. After outlining the processes of adult neurogenesis in the olfactory system and discussing their regulation by various factors, the talk will explore the possible functional role of newly-formed neurons in the host olfactory circuits. Clues regarding the contribution of adult-born neurons to the different circuits of the olfactory bulb and specifically how new neurons participate in existing computations and enable new computational functions will be extracted. Concentrating exclusively on mammalian systems, the talk will demonstrate throughout this presentation that adult neurogenesis is a plastic mechanism by which several olfactory bulb performances can be optimized.

### Biography

Pierre-Marie Lledo has completed his PhD at Bordeaux University (France) and postdoctoral studies from Cambridge University (UK) and University of California at San Francisco (USA). He is currently Head of the Laboratory "Perception and Memory" at the Pasteur Institute and Director of the laboratory "Genes and Cognition" at the French Center for Scientific Research (CNRS). He has published more than 125 papers in reputed journals and is an editorial board member for *Frontiers in Neuroscience*; *Frontiers in Neurogenesis*; *Neural Systems & Circuits*; *Editor for Encyclopedia of Neuroscience* (2009) and for *Textbook in Neurosciences* (2012).

[pierre-marie.lledo@pasteur.fr](mailto:pierre-marie.lledo@pasteur.fr)