

Neuroscience Seminar Series

Friday, January 19th, 2018 at 11:30

Amphithéâtre Lavoisier A

Centre Universitaire des Saints-Pères

45 rue des Saints-Pères, 75006 Paris

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Professor

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In vivo 3-photon Imaging of the Mouse Brain

Over the last two decades, multiphoton microscopy has created a renaissance in the brain imaging community. It has changed how we visualize neurons by providing high-resolution, non-invasive imaging capability deep within intact brain tissue. Multiphoton imaging will likely play an essential role in understanding how the brain works at the level of neural circuits, which will provide a bridge between microscopic interactions at the neuronal level and the complex computations performed at larger scales. In this talk, the fundamental challenges of deep tissue, high-resolution optical imaging are discussed. New technologies for in vivo structural and functional imaging of mouse brain using long wavelength excitation and three-photon microscopy will be presented. We will discuss the requirements for imaging the dynamic neuronal activity at the cellular level over a large area and depth in awake and behaving animals, and identify the applications where 3-photon microscopy outperforms conventional 2-photon microscopy. We will speculate on the possible future directions to further improve the imaging depth and speed in scattering biological tissues.

Those interested in meeting with the speaker please contact
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