

**Neuroscience
Workshop
Saclay
2014**

**4-5 December 2014
Gif-sur-Yvette
France**



**Emerging Imaging Technologies
in Neuroscience**

Plenary speakers:

**Herwig Baier
Emmanuel Beaurepaire
Randy Bruno
Valentina Emiliani
Florian Engert
Frederic Lesage
François Rousseau
Mickael Tanter
Alipasha Vaziri**

Thursday, 4th December

- 8.30 – 9:00 Registration
- 9:00 – 9:20 Welcome: **Brice Bathellier** (UNIC) and **Philippe Vernier** (NED)
Chair: Brice Bathellier
- 9:20 – 10:10 **Plenary speaker: Herwig Baier** (Max Planck Institut, Germany)
Neural circuits for zebrafish behavior
- 10:10 – 10:25 **Arnim Jenett** (Tefor Core Facility, Gif-sur-Yvette)
Tefor core facility: an electronic atlas of standardized Zebrafish neuroanatomy
- 10:25 – 10:40 **Eugenia Vilarchao** (UNIC, Gif-sur-Yvette)
Representation of global motion in the mouse barrel cortex, a voltage sensitive dye (VSD) imaging study
- 10:40 – 11:00 **Coffee break and Exhibits**
Chair: Nicolas Dray
- 11:00 – 11:50 **Plenary speaker: Emmanuel Beaurepaire** (École Polytechnique, Palaiseau)
Advances in multiphoton imaging of developing tissues
- 11:50 – 12:05 **Sebastian Romano** (ENP, Paris)
Spontaneous neuronal network dynamics reveals circuit's functional adaptations for behavior
- 12:05 – 12:55 **ENP Lecture: Florian Engert** (Harvard University, USA)
A sensory motor circuit for binocular motion integration in larval zebrafish
- 12:55 – 14:30 **Lunch Buffet (Cantine, salle Automme)**
- 14:30 – 16:30 **Poster Session and Exhibits**
Chair: Eugenia Vilarchao
- 16:30 – 17:20 **Plenary speaker: Valentina Emiliani** (Université Paris Descartes, Paris)
Optogenetics and Wave front shaping
- 17:20 – 17:35 **Benjamin Roland** (Collège de France, Paris)
Processing of odor-evoked neural activity in the olfactory cortex
- 17:35 – 18:25 **Plenary speaker: Randy Bruno** (Columbia University, USA)
Behavioral correlates of apical dendrite activity
- 18:25 – 18:40 **Sofya Kulikova** (Neurospin, Saclay)
Creating an atlas of children brain connectivity

Friday, 5th December

- 8:30 – 9:00 Registration
Chair: Gabrielle Fournet
- 9:00 – 9:50 **Plenary speaker: Mickael Tanter** (Institut Langevin, Paris)
Ultrafast Doppler and fUltrasound Imaging
- 9:50 – 10:05 **Olivier Thouvenin** (Institut Langevin, Paris)
Non invasive detection of action potentials in a bulk neural tissue from intrinsic mechanical properties of neurons
- 10:05 – 10:55 **Plenary speaker: Frederic Lesage** (Polytechnique Montréal, Canada)
Microscopic substrate of MRI imaging and associated consequences for aging studies
- 10:55 – 11:15 **Coffee break and Poster Prize**
Chair: Jessica Lebenberg
- 11:15 – 11:30 **Marianne Boucher** (Neurospin, Saclay)
Genetically functionalized magnetosomes as MRI contrast agent for molecular imaging: in vitro proof of binding and in vivo proof of contrast
- 11:30 – 12:20 **Plenary speaker: François Rousseau** (ICube, Strasbourg)
Fetal brain development study using MRI
- 12:20 – 13:00 **Shuttle bus to Neurospin**
- 13:00 – 14:30 **Lunch Buffet and visit of Neurospin**
Chair: Luisa Ciobanu
- 14:30 – 14:45 Presentation of Neurospin: **Jean-Robert Deverre**
- 14:45 – 15:00 **Zuzanna Piwkowska** (UNIC, Gif-sur-Yvette)
Patterned photostimulation of auditory cortical networks drives perceptual discrimination in mice
- 15:00 – 15:50 **Neurospin Lecture: Alipasha Vaziri** (University of Vienna, Austria)
Towards a dynamic map of neuronal circuits
- 15:50 – 15:55 Closing speech: **Luisa Ciobanu** (Neurospin)
- 15:55 – 16:35 **Shuttle bus back to Imagif**