

11th and 12th July 2019
Campus Timone
Marseille, France



INT Symposium on *Advanced Photonic Imaging in Neuroscience*

Day 1 - July 11, 2019

Foreword: **G MASSON**

Director of the 'Institut de Neurosciences de la Timone',
AMU

1st Keynote Lecture

8:30-10:00 **Chris XU** (Cornell University, School of Applied &
Engineering Physics, Ithaca, USA)
Pushing the limits of multiphoton imaging

Session 1 - Optical and microscopy techniques

10:00-10:45 **Emmanuel BEAUREPAIRE** (Ecole Polytechnique, Laboratory
for Optics & Biosciences, Palaiseau, France)
*Large volume multicolor multiphoton microscopy of brain
tissue*

10:45-11:15 Coffee Break

11:15-12:00 **Sylvain GIGAN** (Université Pierre et Marie Curie, ENS,
Kastler Brossel Laboratory, Paris, France)
*Imaging at depth with wavefront shaping: focusing and
beyond*

12:00-12:45 **Thomas CHAIGNE** (AMU, Institut Fresnel, Marseille, France)
Photoacoustic imaging in neurobiology

12:45-13:30 **Walther AKEMANN** (Institut de Biologie de l'ENS, Paris,
France)
Fast optical acquisition of neuronal activity in 3D **13:30-
14:30 Lunch and Poster Session - Exhibitors**

Session 2 - Imaging methods, models and fluorescent probes

14:30-15:15 **Christophe LETERRIER** (AMU, Institut de NeuroPhysio-
Pathologie, Marseille, France)
Actin-based structures in the axon: a nanoscale view

15:15-16:00 **Yevgenia KOZOROVITSKIY** (Northwestern University,
Department of Neurobiology, USA)
Scanned oblique plane illumination microscopy

16:00-16:30 Coffee Break

16:30-17:15 **Ruiyao CAI** (Ludwig Maximilian Universität, SDR, Munich,
Germany)
*Panoptic imaging of intact organs and adult rodent bodies
using vDISCO*

17:15-18:00 **Hideaki MIZUNO** (Katholieke Universiteit Leuven,
Biochemistry, Molecular and Structural Biology Section,
Leuven, Belgium)
*Fluorescent proteins for functional imaging and super-
resolution microscopy*

18:00-18:45 **Stéphane DIEUDONNE** (Institut de Biologie de l'ENS, Paris,
France)
Imaging with genetically encoded voltage sensitive probes

From 19:00 Evening Poster Session - Exhibitors

Day 2 - July 12, 2019

Session 3 - Functional imaging and neuron manipulation to probe neuronal networks

8:30-9:15 **Julien BOUVIER** (Institut des Neurosciences Paris-Saclay, Paris, France)

Anatomical and functional deciphering of locomotor neuronal circuits in the mouse brainstem and spinal cord

9:15-10:00 **Michel PICARDO** (Aix Marseille Université, Institut de Neurosciences de la Méditerranée, Marseille, France)

Emergence of cell assemblies in the developing hippocampus

10:00-10:30 Coffee Break

10:30-11:15 **Frédéric GAMBINO** (University of Bordeaux, Interdisciplinary Institute for Neuroscience, Bordeaux, France)

Decoding the activity of the amygdala-frontal circuit during decision-making

11:15-12:00 **Ian DUGUID** (University of Edinburgh, Centre for Discovery Brain Sciences, Edinburgh, Scotland)

Thalamocortical control of skilled movement`

12:00-12:45 **Eyal SEIDEMANN** (University of Texas, College of Natural Sciences, Austin, USA)

Toward an all-optical bi-directional interrogation of topographic population codes in primate visual cortex

12:45-13:45 Lunch and Poster Session - Exhibitors

2nd Keynote Lecture

13:45-15:15 **Chris SCHAFFER** (Cornell University, Department of Biomedical Engineering, Ithaca, USA)

In vivo imaging reveals that stalled capillary flow causes cortical perfusion deficits that contribute to impaired memory function in mouse models of Alzheimer's disease

Session 4 - Pathologies, translational and clinical approaches

15:15-16:00 **Stefan BITTNER** (University of Mainz, Experimental Neuroimmunology, Mainz, Germany)

Neuro-immune crosstalk in the inflamed CNS: Lessons learned from in vivo imaging

16:00-16:30 Coffee Break

16:30-17:15 **Franck DEBARBIEUX** (Aix Marseille Université, Institut de Neurosciences de la Timone, Marseille, France)

Intravital microscopic investigation of demyelination and neurodegeneration in the mouse spinal cord

17:15-18:00 **Martin OHEIM** (Université de Paris, Saints-Pères Paris Institute for the Neurosciences, Paris, France)

On-Axis 2-Photon Virtual Light-Sheet Generation for 3-D Imaging

18:00-18:45 **Xin YU** (Max Planck Institute for Biological Cybernetics, Tübingen, Germany)

Mapping the neuro-glio-vascular interactions with multi-modal fMRI