

Inserm Workshop 284

Dernières avancées dans l'imagerie embarquée de l'activité neuronale chez le petit animal

Latest advances in imaging neural activity in freely moving animals

7-9 octobre 2025 / October 7-9, 2025 ■ Montpellier, France

Mardi 7 octobre 2025 ■ Tuesday October, 7th 2025

15:15 - 15:45	Reception of participants
15:45 - 16:00	Welcome and presentation by the organizers
SESSION I	FIBER PHOTOMETRY & BIOSENSORS ENGINEERING
16:00 - 17:00	Genetically encoded voltage indicators for imaging rapid neuronal activity François St Pierre (Baylor College, Houston, USA)
17:00 - 17:30	Coffee break
17:30 - 18:30	PyPhotometry: open source Python based hardware and software for fiber photometry acquisition Thomas Akam (University of Oxford, United Kingdom)
18:30 - 19:30	State of the art imaging of neurotransmission in animal model Anna Beyeler (Neurocentre Magendie, Bordeaux, France)
19:30	Cocktail dinner

Mercredi 8 octobre 2025 ■ Wednesday October, 8th 2025

06:30 - 09:00	Breakfast
SESSION II	BRAIN IMAGING USING SINGLE PHOTON EXCITATION
09:00 - 10:00	The head-mounted miniature V4 miniscope Daniel Aharoni (UCLA, Los Angeles, USA)
10:00 - 10:30	Coffee break
10:30 - 11:30	Fast confocal fluorescence imaging in freely behaving mice Cathie Ventalon (ENS, Paris, France)
11:30 - 12:30	Dynamic representation of appetitive and aversive stimuli in the nucleus accumbens Ana João Rodrigues (Life and Health Sciences Research Institute, Braga, Portugal)
12:30 - 14:00	Lunch

SESSION III	BRAIN IMAGING USING MULTIPHOTON EXCITATION
14:00 - 15:00	Large-scale two-photon calcium imaging in freely moving mice Weijian Zong (Kavli Institut, Trondheim, Norway)
15:00 - 16:00	Three-photon head-mounted microscope for imaging deep cortical layers in freely moving rats Jason Kerr (Max Planck Institute for Neurobiology of Behavior, Bonn, Germany)
16:00 - 16:30	Coffee Break
16:30 - 17:30	Two-photon fiberscope for high resolution optogenetic photostimulation in freely moving mice Nicolò Accanto (Institute for Bioengineering of Catalonia, Barcelona, Spain)
17:30 - 18:30	Round Table
20:00	Dinner

Jeudi 9 octobre 2025 ■ **Thursday October, 9th 2025**

06:30 - 09:00	Breakfast
SESSION IV	PRE-PROCESSING AND ANALYSIS OF IMAGING DATA
09:00 - 10:00	Quantitative methods for data analysis and modelling Arthur Pellegrino (University College London, United Kingdom)
10:00 - 10:30	Coffee Break
10:30 - 11:30	Linking spatio-temporally structure dynamics to behavior Demian Battaglia (Université de Strasbourg, France)
11:30 - 12:30	A denoise-sparsen-detect approach for extracting neural signals from dense imaging data Kenneth Harris (University College London, United Kingdom)
12:30 - 12:45	Concluding remarks
12:45 - 14:00	Lunch
14:00	Departure