

ICBP 2025 – Preliminary Program

Thursday – 3rd of April 2025

08 :00 Registration / Poster Installation

08:30 Conference opening:
Csilla Gergely, Jürgen Popp, Hervé Rigneault

PHOTONICS FOR IMAGING 1

Raman, Fluorescence, Photoacoustic, Brillouin

Chair: **Csilla Gergely**

09:00 **Biomedical Photonics - from bench to bedside**
Jürgen Popp | Leibniz IPHT Jena, Germany

09:30 **Open-source multidimensional fluorescence, phase and super-resolved microscopy and high content analysis**
Paul French | Imperial College London, United Kingdom

10:00 **Coherent Raman imaging for biomedical applications**
Hervé Rigneault | Institut Fresnel, Marseille, France

10:30 – 11:00 **2 Selected oral communications**

Coffee break

Chair: **Jürgen Popp**

11:30 **Probing tissue biomechanics with novel Brillouin scattering spectroscopy**
Francesca Palombo | University of Exeter, United Kingdom

12:00 **Photoacoustic Imaging - technical validation and emerging applications**
James Joseph | University of Dundee, United Kingdom

12:30 – 13:00 **2 Selected oral communications**

13:00 – 14:30 **Lunch break**

PHOTONICS FOR IMAGING 2

Light-sheet, Phase, Multiphoton microscopy

Chair: **Paul French**

14:30 **Viewing life without labels: advanced imaging of the preimplantation embryo**

Kishan Dholakia | University of St Andrews, United Kingdom

15:00 **Quantitative phase microscopy by wavefront sensing**

Serge Monneret | Institute Fresnel, Marseille, France

15:30 – 16:00 **2 Selected oral communications**

16:00 – 17:00 **Poster session 1.** | Coffee, Wine & Cheese

Chair: **Kishan Dholakia**

17:00 **3D imaging at different scales using single-objective Selective Plane Illumination Microscopy (SPIM)**

Jean-Baptiste Sibarita | IINS, Université de Bordeaux, France

17:30 **Mitigating photodamage in multiphoton light-sheet microscopy**

Willy Supatto | Ecole Polytechnique, Université Paris Saclay, France

18:00 - 18 :30 **2 Selected oral communications**

18 :30 **Industrial section**

Friday – 4th April 2025

PHOTONICS FOR DIAGNOSTICS AND THERAPY 1

Chair: **Ronald Sroka**

08:30 **Cardiovascular monitoring devices enabled by silicon photonics**
Yanlu Li | Ghent University, IMEC Belgium

09:00 **Optical biosensing for diagnostics and theranostics based on oligonucleotide switches.**
Ambra Giannetti | IFAC CNR, Sesto Fiorentino, Italy

09:30 **Photosensitiser free direct laser treatment of cancer**
Edik Rafailov | Aston University, UK

10:00 – 10:45 **3 Selected oral communications**

Coffee break

Chair: **Isabelle Ledoux-Rak**

11:15 **Innovative spectroscopy devices for rapid Point-of-Care Diagnostics Or / Clinical investigations using hyperspectral imaging**
Ronald Sroka | University Hospital München, Germany

11:45 **Nanodiamond orientation sensing for applications in soft matters**
Quan Li | The Chinese University of Hong Kong

12:15 – 13:00 **3 Selected oral communications**

13:00 – 14 :30 **Lunch break**

TISSUE, NEURO- PHOTONICS

Chair: **Balázs Rózsa**

14:30 **Morpho functional imaging of the brain**
Francesco S. Pavone | LENS - Univ Florence, Sesto Fiorentino, Italy

15:00 **Intercellular interactions probed by vibrational spectroscopy imaging, from 2D to 3D in vitro cultures of brain cells**
Kamilla Malek | Jagellonian University, Kraków, Poland

15:30 **Non-invasive, multi-modal optical monitoring for (neuro-)critical care**
Turgut Durduran | ICFO Barcelona, Spain

16:00 – 16:30 **2 Selected oral communications**

16:30 – 17:30 **Poster session 2.** | Coffee, Wine & Cheese

Chair: **Turgut Durduran**

17:30 **Visual restoration by 3D imaging and 3D photostimulation in large volumes in vivo**
Balázs Rózsa | IEM, HAS, Budapest, Hungary

18:00 **Fast imaging of neuronal activity in freely-behaving mice using a confocal fiberscope**
Cathie Ventalon | IBENS, ENS CNRS, Paris, France

18:00- 18:30 **2 Selected oral communications**

20 :00 **Gala dinner**

Saturday – 5th of April 2025

PHOTONICS FOR IMAGING 3

Raman, IR, Super resolution, Polarization Microscopy

Chair: **Hervé Rigneault**

09:00 **Depth-coded stimulated Raman scattering tomography for label-free dynamic and functional imaging of live cells and tissue**
Zhiwei Huang | National University of Singapore

09:30 **Infrared microscopy of live-cells at the benchtop**
Charles Camp | NIST, Gaithersburg, USA

10:00 – 10:45 **3 Selected oral communications**

Coffee break

Chair: **Cathie Ventalon**

11:30 **Unveiling new dimensions in tissue biopsy with 3D polarization mapping of tissues optical anisotropy composition**
Igor Meglinski | Aston University, UK

12:00 **Polarized microscopy in 3D to image complex biomolecular organizations**
Sophie Brasselet | Institut Fresnel, Marseille, France

12:30 – 13:00 **2 Selected oral communications**

13:00 – 14:30 **Lunch break**

PHOTONICS FOR DIAGNOSTICS AND THERAPY 2

Chair: **Zsuzsanna Heiner**

14:30 **Label-free optofluidic sensor based on polymeric microresonators for DNA sensing**
Isabelle Ledoux-Rak | LPQM, CNRS ENS Paris-Saclay, Cachan, France

15:00 **Label-free IR nanoscopy and tomography of intracellular structure**
Joachim Heberle | Freie Universität Berlin, Germany

15:30 **Looking at GPCR structure, dynamics and interactions with single molecule fluorescence**
Emmanuel Margeat | CBS, Montpellier, France

16:00 **Watching molecular folding and interactions at model membrane interfaces by vibrational sum-frequency generation spectroscopy**
Zsuzsanna Heiner | Humboldt Universität Berlin, Germany

16:30 – 17:00 Coffee, Wine & Cheese

17:00 **Round table | General Assembly**

18:00 **Closing Ceremony – Poster prizes**

20:00 **Montpellier by night**
Guided tour in the historical center of Montpellier