

FNIPday - NEUROIMAGING & PHOTONICS



Wednesday, March 18, 2026 - Wednesday, March 18, 2026

Archivio Antico - Palazzo Bo

Scientific Program

The FNIP day is a symposium on optical technologies and neuroscience. The invited speakers and attendees will discuss the current open challenges and state-of-the-art solutions necessary to further advance the study of neuronal functions or of other phenomena at the micro-nano scale through nondestructive optical techniques and novel analysis methods.

T1

Optical Technologies at the nano-micro scale (T1)

(Photonics, Quantum optics, Optical manipulation, and Advanced microscopy)

Photonics investigates how to control and manipulate the properties of light down to the nanometer scale. During the FNIP day we will explore how photonics is advancing the design and the control of optical elements and systems.

T2

Neuroscience studies at single cell level (T2)

Optical microscopy reveals the structure and function of specific players within and between cells with an optical and live-compatible approach. During the FNIP day we will investigate how optical techniques, combined with other approaches, can help study brain function at single cell level and how these approaches are advancing neuroscience.

T3

Methods and Simulation (T3)

During the FNIP day we will explore state-of-the-art software tools and methods for: (i) neuroscience (e.g. neuronal activity and neuronal circuits analysis; (ii) classical, semiclassical and quantum optics simulations (e.g. beam propagation methods, beam shaping methods, structured light methods, nanoscatter response studies)