

Core facilities

METi (electron microscopy)

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The METi specializes in cryogenic methods for the preparation of biological samples, as well as in determining their three-dimensional structure by cryo-TEM and image analysis. Thanks to cutting-edge equipment (high-pressure cryo-fixation, ICE Leica; cryo-plunge freezing machine, EM GP2 Leica), METi is equipped for freezing molecules, cells and tissues in amorphous ice, as well as for their observation on a high-throughput-high-resolution cryo-TEM (Talos Arctica TFS + direct electron detector with K3 summit-BioQuantum energy loss filter, Gatan). The METi puts its scientific and methodological expertise at the service of various national and international projects, particularly in biotechnology, mechanobiology and fundamental biology.

CMEAB (electron microscopy)

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The CMEAB, center for electron microscopy applied to biology, has a 120kV transmission electron microscope (HT7700 Hitachi) and a field effect scanning electron microscope (S450 FEI) equipped with X-ray analysis (EDAX Elec plus) and a cryo transfer module (PP3000T Quorum board). The CMEAB also has all the necessary equipment to prepare samples. The CMEAB team has been working for many years on the observation of hydrated molecular networks. After fixing the sample by high pressure cryofixation, it is transferred to the cryopreparation chamber from where, after sublimation and metallization, it will be transferred to the SEM cryostage.

LITC CBI (light microscopy)

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With 16 shared acquisition stations, the LITC platform has a broad choice of wide-field image acquisition stations (including high-throughput imaging), confocal (LSM and spinning disk), optogenetic manipulation (FRAP, optical tweezers) and super-resolution (SMLM, RIM). It allows us to meet expectations and explore innovative solutions in biophotonics in thematic fields ranging from developmental biology, including molecular genetics, to microbiology.

RESTORE site dentaire (light microscopy)

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One of the challenges in biological microscopy is to be able to study organisms, organs and tissues as a whole and their environment. The RESTORE imaging platform has a set of cutting-edge equipment allowing 3-Dimensional and in-depth imaging of samples of all sizes (micro and macroscopic) via optical sectioning microscopy.

I2MC (light microscopy & cytometry)

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With its different platforms, TRI-I2MC offers a wide technological variety for exploring living organisms, from cells in culture to tissues. This includes analysis and cell sorting on state-of-the-art cytometers (including a spectral analyzer/sorter) on the cytometry platform. The Histology-Imaging platform (PHI) offers tissue preparation (inclusion, section and staining) and multi-scale imaging (from super-resolution to whole tissue section) and multimodal (wide-field, confocal, spectral).

IPBS (cytometry)

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The cytometry platform has 2 conventional cytometer analyzers and a spectral cytometer that can analyze up to 30 parameters. In addition we have 2 cell sorters, one in L1 and another in ASB3 which allows us to sort live cells infected with level 3 pathogens such as *m.tuberculosis*. Platform staff provide technical assistance, advice and training at all stages of the research project, and are open to academic and private research laboratories, without geographic, thematic or institutional restrictions.