ULB TECHNOLOGY PLATFORMS

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TECHNOLOGY PLATFORMS

available for

academic & industrial partners

- Collaborative research
- High added-value services
- Training

WHAT IS A TECHNOLOGY PLATFORM?

Teams from different labs, research institutes or faculties joining forces to offer integrated facilities combining state-of-the-art equipments, cross-disciplinary scientific and technological expertise

PANORAMA PLATFORM

PANORAMA is an interfaculty virtual 3D imaging platform founded by three ULB laboratories : CReA-Patrimoine, ALiCE and LISA. The 3D survey is essential for many academics, but also for industry and other public bodies. The digital capture has the advantage to be a qualitative tool to simulate a new implantation site but it also allows a rigorous quantitative survey for dimensioning and realization of specific plans. Its applications concerns a wide range of domains from archaeology to architecture and diverse real estate's projects management. The platform offers a wide range of services including data acquisition and processing, point clouds capture systems, photogrammetry methods, architectural and designed objects virtual representations. The platform which capitalize on 15 years experience also proposes customized informatics tools and consulting activities.

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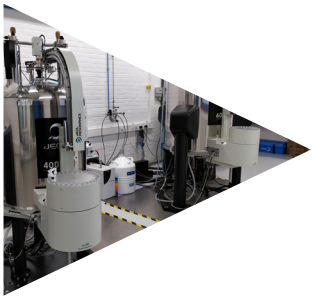
CIREM | CENTER OF INSTRUMENTATION IN MAGNETIC RESONANCE



The *Centre d'Instrumentation en REsonance Magnétique* (CIREM) provides NMR support to both academic and non-academic researchers. This includes routine 1D and 2D ^{1}H-^{13}C measurements for organic products analysis, purity assessment, quality control (QC) as well as custom advanced experiments. The CIREM currently holds four high-resolution NMR spectrometers dedicated to solution-state measurements. Two new systems (400 and 600 MHz) were installed in 2017. They are equipped with sample changers and allow a wide range of modern high-field experiments to be conducted at variable temperature. More information: cirem.ulb.be.

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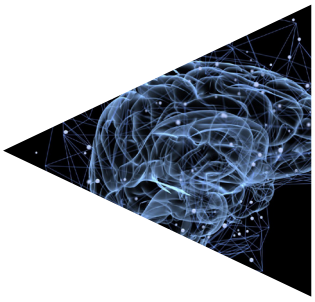
CENTER FOR RESEARCH IN COGNITION & NEUROSCIENCES

The Center for Research in Cognition & Neurosciences (CRCN) hosts a state-of-the-art technical platform which, in addition to individual or collective testing booths dedicated to behavioural experiments, includes an electroencephalography (EEG) and electromyography (EMG) lab, a Near Infrared Spectroscopy (NIRS) platform, a dedicated babylab, an eye-tracking platform, and a dedicated sleep lab. Thanks to the ULB Neuroscience Institute (UNI), the CRCN platform also enjoys privileged access to the imaging platform of the Laboratoire de Cartographie Fonctionnelle du Cerveau (LCFC) at the Erasme University Hospital (with MEG, MRI and PET scanners).



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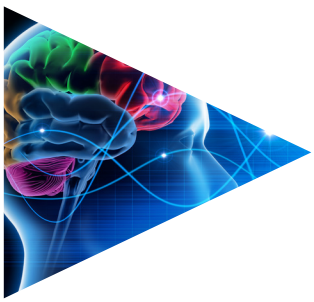
HUMAN FUNCTIONAL NEUROIMAGING PLATFORM



The Human Functionnal NeuroImaging Platform offers a state of the art expertise in human functional neuroimaging (experimental paradigms, data acquisition, signal processing, etc.) and an access to magnetoencephalography (MEG), high-density electroencephalography (hdEEG), a hybrid imaging system incorporating positron emission tomography and magnetic resonance imaging (PET-MR), EEG combined to fMRI coupled to neuronavigation as well as a digital PET system associated with a computerized tomographic scan (PET-CT).

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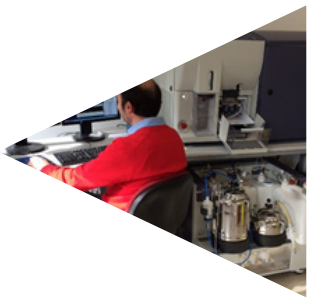
FLOW CYTOMETRY PLATFORM OF THE ERASME CAMPUS



Flow cytometry is a technique, which analyses the expression of cell surface markers and intracellular components at the single cell level based on their fluorescence profile. Flow cytometry allows the simultaneous analysis of cell size, granularity, viability, multiples surface markers and/or fluorescent reporters. Cell sorting is used to isolate single cells from complex tissues with the utmost purity. This technique has therefore been used for the molecular and functional characterization of many cells types. It is now the cornerstone for projects in development biology, stem cell biology, cancer as well as many projects in molecular and cell biology.

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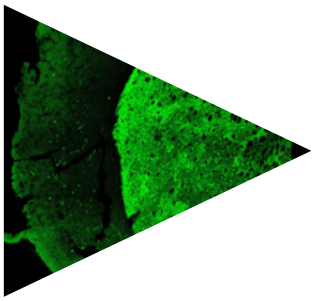
LIGHT MICROSCOPY FACILITY - LIMIF



LiMiF, the Light Microscopy Facility, Faculté de Médecine, provides its users with state-of-the-art microscopy in visible light and fluorescence, single-photon and multiphoton confocal microscopy and image analysis (deconvolution, 3D, etc.). It offers also through fee-for-service or collaborative contracts technical advice for protocol definition, equipment-based training and access to its equipment including wide field fluorescence microscopes (AxioImager & V16 macrozoom with Apotome®), confocal & multiphoton microscopes (LSM510, LSM780 & LSM780NDD) and workstations with image analysis software

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BRIGHTcore | BRUSSELS INTERUNIVERSITY GENOMICS HIGH THROUGHPUT CORE

BRIGHTcore was conceived as an interuniversity platform, servicing both ULB and VUB universities, including their respective university hospitals, Hôpital Erasme & Hôpital Huderf and UZ Brussel. This platform centralizes Next Generation Sequencing (NGS) and microarray equipment sets and IT infrastructures to perform primary analysis of large genomic datasets. All devices to perform high-throughput/output genetic assays, bioinformatics support and IT tools can also be tailored to ones need. BRIGHTcore quality standard is ISO 15189:2012 and assistance to start relevant experiments is available as well.

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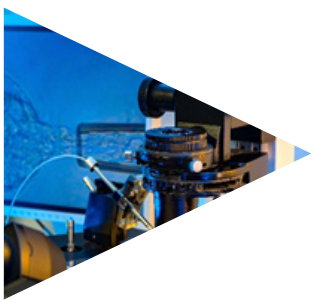
TRANSGENESIS PLATFORM



Transgenic mice and gene invalidation have become essential tools to study human diseases for which no natural pathology equivalent in animals exists. The transgenic mouse facility develops protocols and offers services linked to transgenic mice (microinjection of zygote), chimeric mice (aggregation of recombinant ES cells) and rederivation or transfer lines of conventional status to a specific status. The workflow includes Pathogen-Free rooms, cryopreservation of embryos and mouse sperm and the staff expertise is mobilized to assists its clients from public as well as private sectors to define and realize their studies.

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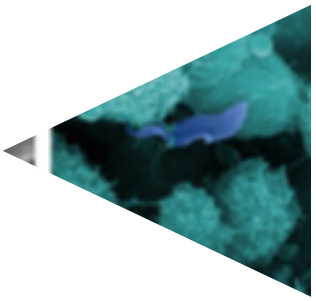
CENTER FOR MICROSCOPY AND MOLECULAR IMAGING

The CMMI is an integrated preclinical imaging facility which provides services and training for academic and industrial partners. Equipped with state-of-the-art equipment, the CMMI is structured around 4 axes: Microscopy (Fluorescence microscopy with WF, CLSM, SD and HCS; holography; electron microscopy with (cryo-)TEM and SEM), DIAPath (Digital and computational Pathology: cell/tissue processing, TMA production, staining, IHC, whole slide scanning, scoring by experts, quantification by image and biomedical data analysis), In vivo Imaging (MRI, optical and optoacoustic imaging, PET/CT, SPECT and ex vivo autoradiography), and MIP (Multimodal Image Processing). The services provided by the multidisciplinary team cover the entire workflow, from sample preparation to image acquisition and analysis. The CMMI was founded by ULB and UMONS in the Biopark Charleroi Brussels South with the support of the FEDER program.



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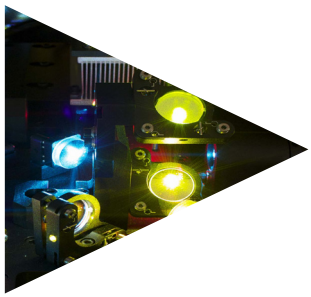
FLOW CYTOMETRY PLATFORM OF THE GOSSELIES CAMPUS



Flow cytometry is a very powerful analysis technique to define phenotypic and functional characteristics of cell populations at the single cell level. The Flow cytometry platform that is localised at the Gosselies campus aims to offer an access to the latest equipment, technologies and applications in that matter by proposing an access to numerous cytometers in terms of analysers and sorters. Its objective is to provide its expertise to improve trainings of the users, to increase the quality of the data generated by these technic and to promote its fast processes and technical competencies through the framework of scientific collaborations, clinical studies and services for companies with their quality standards.

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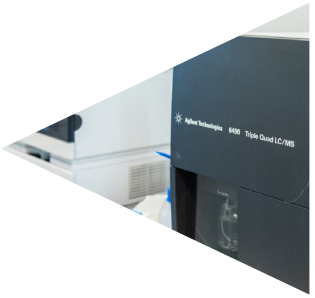
APFP | ANALYTICAL PLATFORM OF THE FACULTY OF PHARMACY

The Analytical Platform of the Faculty of Pharmacy (APFP) offers possibilities of analysis and formulation in the pharmaceutical, clinical and agricultural domain. It offers access to several apparatus and to the expertise of the different laboratories of the Faculty. Available applications are mass spectrometry analysis (biotherapeutics characterization, biomarker assay...), liquid chromatography coupled to DAD, fluorimetry, electrochemistry, NIR, FTIR and atomic absorption, pre-formulation and formulation apparatus, qRT-PCR, phosphoimager, hostage microscopy, potensiostat and more. More info at apfp.ulb.be.



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