

A N C A ANimalerie CARNOY

WHAT WE OFFER: services and expertise

- Support and advice on animal care and welfare for the different species housed (Animal Welfare Bodies)
- Breeding of mice, including wildtype and transgenic lines (single or multiple)
- Expertise in different strategies of mouse mutagenesis, including conditional mutagenesis, Cre/LoxP and CreERT²/LoxP approaches, and CRISPR/Cas9 knock-in or knock-out methods
- Breeding of fish models such as zebrafish (*Danio rerio*) and African turquoise killifish (*Nothobranchius furzeri*); and amphibian species such as the African clawed frog (*Xenopus laevis*)



Rodent Facility

- Conventional animal facility with a maximum housing capacity of 1000 rodents
 - 7 rooms dedicated to breeding and rearing
 - 1 room for experimental procedures
 - 1 room for quarantine
- 25 unique transgenic lines



Fish Facility

- Conventional animal facility with a maximum housing capacity of 1500 fish
 - 100 polycarbonate aquariums
 - 48 glass aquariums
 - Experimental room
 - Quarantine space
- Zebrafish (*Danio rerio*)
- African turquoise killifish (*Nothobranchius furzeri*)



Fields of application

- Developmental biology
- Neurobiology
- Inflammation
- Oncology
- Aging and longevity
- Metabolic syndrome
- Dietary interventions promoting healthy aging

CONTACT

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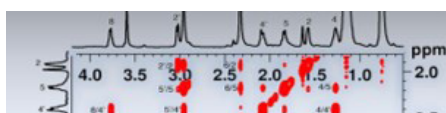




ASM : Structural Analysis of Molecules

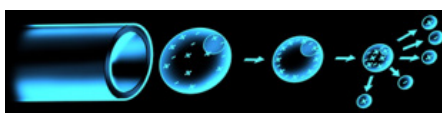
WHAT WE OFFER : services and expertise

- Characterization / Feasibility tests / Analysis and interpretation realized by highly qualified UCLouvain members



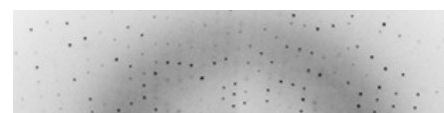
NMR

- Structural characterization of chemicals
- 1D and 2D multinuclear NMR
- Support for data acquisition, processing and interpretation



MS

- High-Resolution Mass Spectrometry
- HPLC-MS-MS
- Quantitative determination in HPLC-MS and HPLC-MS-MS



SC-XRD/PXRD

- 3D-structure determination
- Polymorphism
- Absolute configuration



HPLC

- HPLC/GC method development
- Advice, expertise, equipment training & methodology selection

CONTACT

Platform manager

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(1) NMR spectrometer – (2) HRMS spectrometry – (3) HPLC instrument – (4) XRD diffractometer



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UCLouvain



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LE FONDS SOCIAL EUROPÉEN ET LA WALLONIE
INVESTISSENT DANS VOTRE AVENIR



C I C N : Center of Investigation in Clinical Nutrition

WHAT WE OFFER : services and expertise

The Centre of Investigation in Clinical Nutrition (CICN) is an intersectoral platform that conducts human studies to evaluate:

- the effects of eating behaviour
- food supplements
- new food products and any kind of special diet on health
- biological parameters and/or subject perception and receptivity



Study design

- Definition of the best strategy
- Drafting documents for Ethics Committee
- Sample size determination
- eCRFs construction
- Etc.



Selection/inclusion

- Phone prescreening
- Medical consultation
- Randomization
- Etc.



Data and samples collection

- Sampling (blood, stool, urine, ...)
- Analyses (standard and specific)
- Data management
- Volunteer follow-up
- Etc.



Data & reporting

- Data quality
- Interpretation
- Statistical analyses
- Report and/or publication redaction



Fields of application

- Metabolism
- Gut health
- Exercise physiology
- Cognitive functions
- Psychological disorders
- Bioavailability
- Glycemic index
- Food contamination
- Consumer study / marketing

CONTACT

Platform manager

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Pictures credits: Placer

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C I S M : Center for High Performance Computing and Mass Storage

WHAT WE OFFER : infrastructures, services and expertise

- Access to on-site and off-site scientific computing clusters and data storage systems
- Training and guidance on all aspects related to scientific computing and data storage
- Consultancy and expertise in scientific computing



Computing Solutions

- High Performance CPUs
- Large amount of CPUs
- Large memories
- Ultra-fast networks
- GPUs



Mass Storage

- Multi-TB data storage
- Data sharing
- Archiving and long term storage
- Open Data solutions



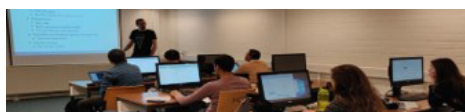
Support/Coaching

- Group-tailored training
- Specific documentation
- Individual guidance, face to face or online



Consulting Services

- Hardware acquisition
- Infrastructure management
- Scientific software installation



Training Courses

- Linux-Unix
- Languages
- Compilers
- Code optimization
- Parallel computing

CONTACT

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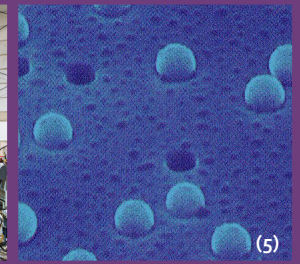
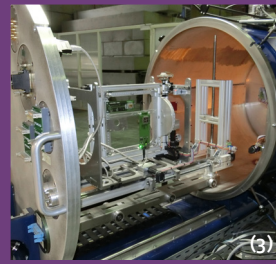
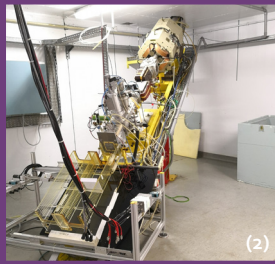
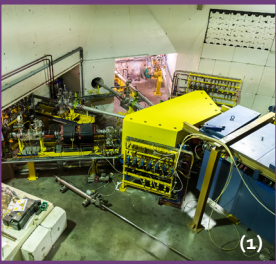


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UCLouvain



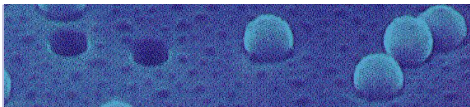


C R C :

Cyclotron Resource Centre

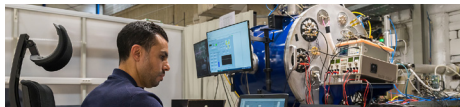
WHAT WE OFFER : services and expertise

- Ion beams from the cyclotron CYCLONE 110
 - Protons up to 65MeV
 - Heavy ions up to Xe
 - Neutrons beam
- Cobalt-60 gamma irradiation
- Accelerator technologies and ion beam interaction expertise



Track edge membranes

- Rolls irradiation
- Ar, Kr or Xe beam available



Heavy ions cocktail

- 9.5MeV/nucleon cocktail
- From Carbon to Xenon
- Up to $1.5E4$ ions/s.cm²
- 25mm diameter beam



Protons beams

- From 10 to 62MeV
- 80mm diameter beam
- Up to $2E8$ p+/s.cm²



Neutrons beam

- Broad energy spectrum
- Up to $3E9$ n/s.cm²
- Average energy 23MeV



Gamma irradiation

- Co-60 source
- Panoramic irradiator
- Up to 360rad/h [Si]

CONTACT

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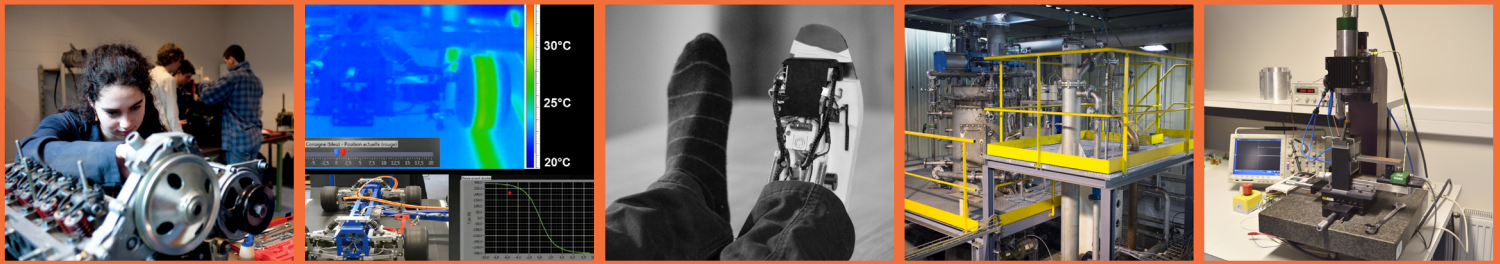
www.uclouvain.be/crc

(1) Casemate – (2) Neutrons facility – (3) & (4) Heavy ion facility – (5) Track edge membranes



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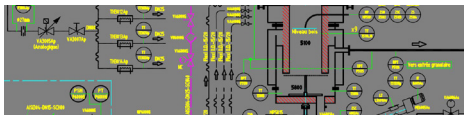
CREDEM



Design, prototyping and testing of electromechanical devices

WHAT WE OFFER : services and expertise

- Engineering consultancy and technical support at any step of the design, manufacturing, and performance assessment of a device / machine / setup
- Access to characterization infrastructure and equipment with appropriate technical support



Electromechanical Design

- Design & creativity methodologies
- P&ID (AutoCAD)
- CAD of parts and assemblies (Solidworks, Inventor)
- Drafting & tolerancing



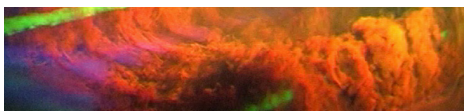
Mechanical Prototyping

- CNC machining & cutting
- Additive manufacturing
- Welding (TIG, MIG)
- Mounting, painting, sand blasting
- Metrology



Electrical & Control Prototyping

- NI LabView, Siemens SIMATIC, dSPACE, Texas Instruments DSPs
- Wide range of machine & process sensors
- PCB & electrical circuits



Advanced Testing Equipment

- Electrical & thermal motors test benches, power analyzer
- Combustion bench, drop tube furnace, gas analyzers
- Robotized towing tank, low speed wind tunnels
- PIV, high speed, thermal cameras
- Laser Doppler vibrometer
- Etc.



Fields of application

- Mechatronics & bio-robotics
- Thermal engines and combustion
- Electrical energy production and transformation
- Multibody systems & vehicle dynamics
- Fluid mechanics
- Process engineering
- Etc.

CONTACT

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Pictures credits: Yvan Flamant - Jacky Delorme



F E R M



Fermes universitaires
de Louvain

WHAT WE OFFER : services and expertise

- Expertise on various agricultural sectors
- Co-construction of experiments to validate innovative agricultural practices
- Specialized infrastructure, machines and skills to conduct field trials



Why work with us?

- 100 hectares of agricultural land, partly in conventional and organic agriculture
- A network of partners to share technical knowhow and advanced knowledge
- Specialized and flexible infrastructures (greenhouses, etc.), machines and possibility to modify them for specific projects
- Multidisciplinary team



What can we do?

- Co-construct and validate knowledge with and for field actors
- Identification of the research question, the experimental design and the results indicators
- Technical advice throughout the trial
- Reporting and diffusion of the results



What are our fields of expertise?

- Technical itineraries towards pesticides use reduction
- Soil conservation and organic culture practices
- Valorization of agricultural products on the farm
- Products nutritional and differentiated value (with other partners such as C1CN)
- Adaptation of cultures to climate change
- Agroecology and agricultural biodiversity

CONTACT

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Project manager

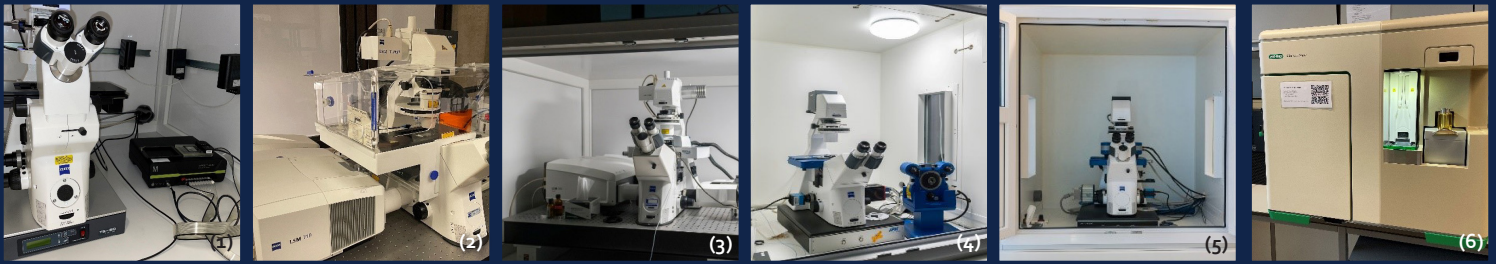
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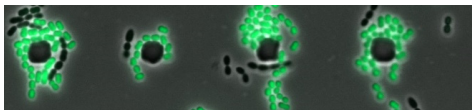
Picture credits : Roger Job



IMABIOL : Imaging Biology

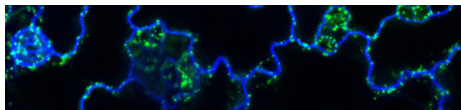
WHAT WE OFFER : services and expertise

- High resolution imaging equipment for biological samples
- Optical and scanning microscopy
- Cell sorter
- Available expertise from qualified staff both for optical microscopy and nanoscopy



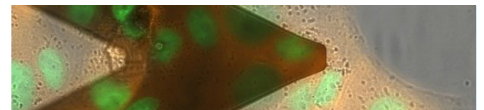
Epifluorescence/Microfluidic Microscopy

- Inverted Microscope Observer Z1 (Zeiss)
- Brightfield-Phase contrast-DIC-Fluorescence
- Motorized stage
- Zen Module Tiles/Positions
- CellASIC ONIX 2 Microfluidic System



Confocal Microscopy

- LSM710 – LSM980 (Zeiss)
- Observer Z1
- Airyscan/ Multiplex
- Definite focus 2
- Laser 405-445-488-514-561-663
- Thermostatic chamber



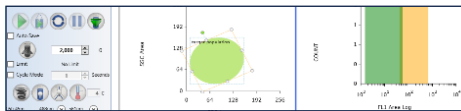
Atomic Force Microscopy (AFM)

- Bioscope Resolve, NanoWizard III, Nanowizard IV
- Coupled to inverted Microscope Observer Z1 (Zeiss)
- Bioscope Resolve coupled to LSM980
- Fluid-FM technology
- UltraSpeed NW head



Atomic Force Microscopy

- Bioscope Resolve, NanoWizard III and IV coupled to inverted microscope Observer Z1 (Zeiss)
- Bioscope Resolve coupled to LSM980
- Fluid-FM technology
- UltraSpeed NW head



Fluorescence-activated cell sorter (FACS)

- Cell Sorter S3e Biorad
- Flow cytometry method

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(1) Observer Z1 Epifluo/Microfluidic (Zeiss) – (2) LSM710-Airyscan (Zeiss) – (3) LSM980-Airyscan (Zeiss) – (4) AFM - NanoWizard (JPK) – (5) AFM - Bioscope Resolve (Bruker) (6) Cell Sorter S3e (Biorad)

IMABIOL

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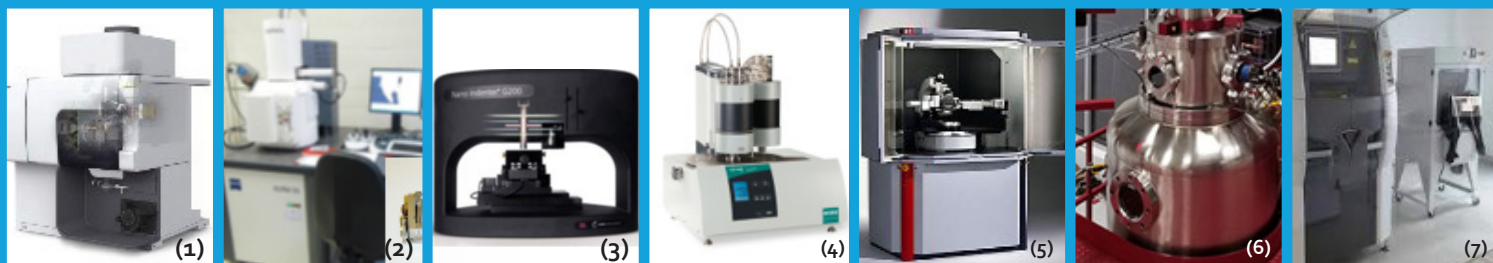
LIBST
 LOUVAIN INSTITUTE OF
 BIOMOLECULAR
 SCIENCE AND TECHNOLOGY

fnr
 FREEDOM TO RESEARCH

UCLouvain

FÉDÉRATION
 WALLONIE-BRUXELLES

Avec le
 soutien
 de la
 Wallonie

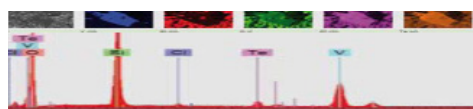


L A C a M i

Analysis, characterization, and processing technical platform

WHAT WE OFFER : services and expertise

- Characterization / tests / analyses carried out by qualified UCLouvain members
- Chemical analysis of solid, liquid, gas in material and chemical process
- Analysis of fracture mechanisms
- Processing of metallic materials, ranging from casting, atomization, 3D printing, heat treatments
- From nm to mm characterization thanks to microscopy and tomography



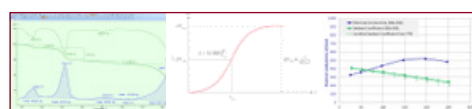
Chemical analysis

- Infrared carbon/sulfur analyzer sylab 1600 F
- Inductively Coupled Plasma ICP/OES Agilent 5100
- Zeiss Ultra 55 SEM with Bruker EDS chemical analyzer
- Gas/liquid chromatography



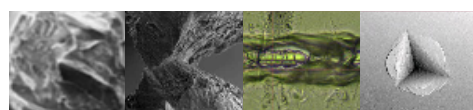
Metallography analysis

- Zeiss Ultra 55 SEM
- Zeiss Supra 55 SEM with EBSD
- Philips CM30 TEM
- Bruker XRD D8 Advance and Discover
- Light microscopy



Thermal properties measurements

- Netzsch STA449F3 DSC/ATG 1600°C
- Netzsch SBA458 Seebeck coefficient and electrical conductivity measurements
- Netzsch LFA467 thermal conductivity - thermal diffusivity measurements
- Dilatometry



Micromechanical analysis

- Zeiss Ultra/Supra 55 SEM
- EBSD camera and *in-operando* mechanical testing machines
- Micro indenter EMCO Durascan 70G5
- Nano indenter Agilent G200
- Bruker UTM3 tribometer



Metal processing

- 2kg/20 kg casting furnaces
- Hot/cold rolling
- Arcast 80g/200g arc melting furnaces
- Arcast Powder atomiser
- Metal 3D printing
- Electro Spark Deposition ESD
- Quenching and deformation dilatometer

CONTACT

Platform manager

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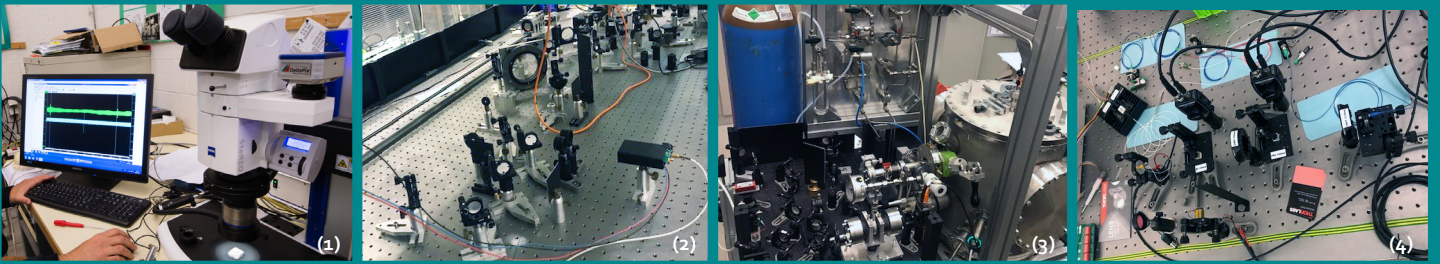
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Investment in progress

- X ray tomography
- Optical 3D microscope
- Specimen preparation

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(1) Inductively Coupled Plasma ICP/OES Agilent 5100 – (2) SEM Zeisse ultra 55 – (3) Nano indenter Nano scratch Agilent G200 – (4) Netzsch STA449F3 DSC/ATG (5) DRX Bruker D8 Advanced – (6) Arcast Atomiser – (7) 3D-System PROX200 3D printer

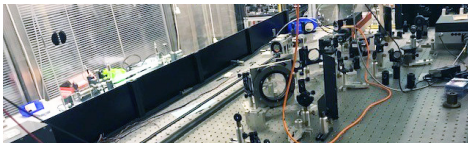


L A S & O :

Laser & Optics

WHAT WE OFFER : services and expertise

- Advice for the purchase of lasers and optics
- Advice for technical questions concerning optics and lasers
- Advice in instrumentation in general
- Help in building prototypes
- Calibration of optical devices



High-resolution infrared and visible spectrometer

- Measurement of spectral signatures
 - at high resolution (100 MHz)
 - at different temperatures (10K – 300K)



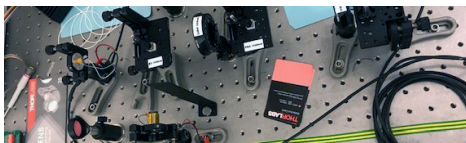
Different pulsed and continuous wave lasers

- CW-DFB lasers (1,5 μm)
- Ti:Sa-mode-locked lasers
- Pulsed dye laser



Optical components

- Camera
- Mirrors
- Lenses
- Microscope



Metrology : distance, time and frequency

- Phase locked laser (PDH)
- Michelson interferometer
- Wavefront characterization

CONTACT

Platform manager

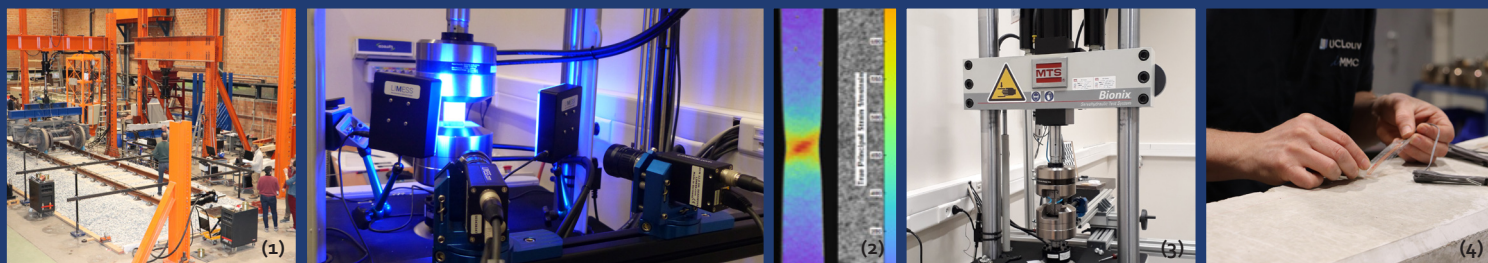
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(1) Optical components: camera, mirrors, lenses – (2) High-resolution and visible spectrometer – (3) Buffer gas cooling (molecular spectral signatures measurement at different temperatures) – (4) Metrological distance measurement



LEMSC

Mechanical Testing, Structures and Civil Engineering Lab

WHAT WE OFFER : services and expertise

- Characterization of materials or structures
- Access to characterization infrastructure / equipment
- Measurement campaign realized by UCLouvain staff/members
- Collaborative research



TEST FLOOR (200 m²) – Design of structural tests

- 10 jacks (from 1t to 100t)
- 25 movable sensors
- Independent electronics and pump
- Various frame configurations



Material testing

- Testing machines from 100 N to 5000 kN, axial and axial-torsion, static and fatigue loading
- Impactor (max 1600 J energy)
- Temperature chambers (-70°C +250°C and +1200°C)
- DIC equipment with 4 cameras
- High speed camera

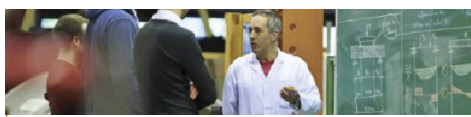


Accredited tests under ISO 17025 certification

- Tension on steel, fatigue, corrosion under tension, relaxation of prestressing and reinforcing steel
- Tension and compression tests on Fiber Reinforced Resin Composite
- Compression and shear tests on rubber bearings



Special tests on Railway Equipment



Collaborative research

- Characterization of materials or structures – on wood elements, metallic materials (Al, Ti, Steel), concrete, bricks, composite, resin, Fiber Resin Composites (FRC), connections, samples, beams, floors, columns, walls, etc.

CONTACT

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Test floor manager

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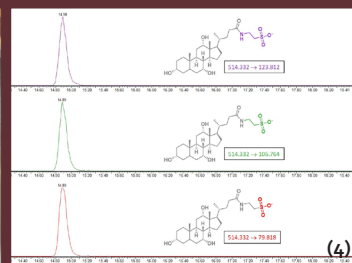
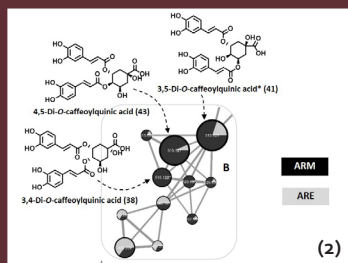
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(1) Test floor (200 m²) – (2) Optical measurements of displacements fields (Digital Image Correlation) – (3) MTS hydraulic machine BIONIX 25kN – (4) Strain gages technique

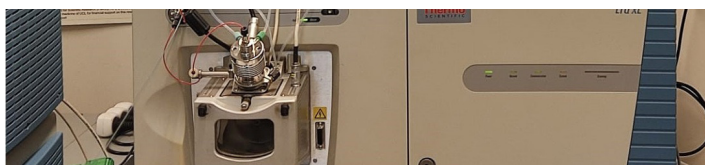


MASSMET

Mass spectrometry of metabolites and compounds of pharmaceutical and biological interest

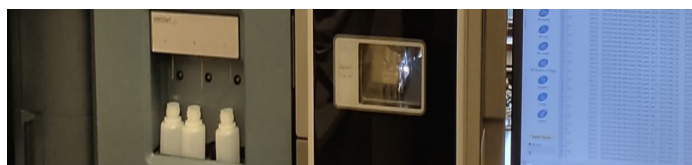
WHAT WE OFFER : services and expertise

- Identification and quantification of metabolites from complex matrices (biological fluids, tissues, cells, plants...)
- Full development of chromatographic methods coupled to mass spectrometry detection
- Quantitative analysis of endogenous and exogenous molecules in biological matrices
- Support for data interpretation and project/manuscript writing



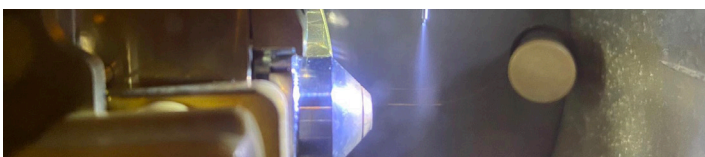
LTO-Orbitrap XL

- High resolution mass spectrometer coupled to LC
- ESI and APCI probes
- Identification using ion fragmentation LC-MS/MS (including high-resolution on daughter ions)
- Coupled to UV-DAD



Xevo TQ-S

- High sensitivity mass spectrometer coupled to UPLC
- ESI and APCI probes
- Quantification of low abundance molecules



Available expertise

- Set up of extraction protocols for molecules of interest
- Optimization of MS detection (e.g. HRMS, MS/MS, ...)
- Set up of chromatographic separations
- Validation of LC-MS methods
- Outstanding expertise in lipid mediators and plant secondary metabolites

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(1) LTO-Orbitrap XL (Thermo Fisher Scientific) – (2) Identification of secondary metabolites in plant extracts by HPLC-LTO-Orbitrap XL HRMS – (3) Xevo TQ-S ESI source
(4) Characteristic fragmentation of the bile acid TCA by UPLC-MS/MS



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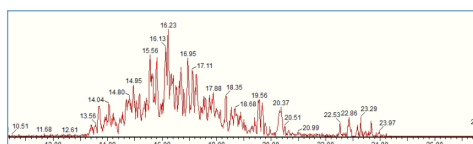




MASSPROT : Proteomic & Protein Analysis by Mass spectrometry

WHAT WE OFFER : services and expertise

- Proteomics consultancy, scientific and technical support at any step of the sample preparation
- Mass spectrometry experiments in such areas as identification and changes in protein expression, location of post-translational modifications, even in complex samples, intact protein analysis
- Bioinformatics consultancy and data analysis with appropriate informatic tools and software



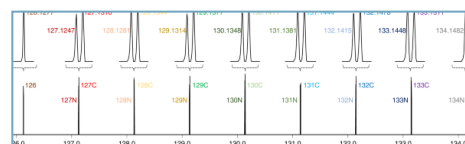
Chromatographic technology

- 1D nano-UPLC reverse phase chromatography
- 2D nano-UPLC SCX/reverse phase chromatography
- Ion exchange chromatography
- High pH/low pH peptide fractionation
- Off-line fractionation of complex samples (HILIC, reverse phase, SCX)



Mass spectrometry: application

- ESI 1D and 2D-LC-MS/MS (CID, HCD, ETD, EThCD)
- Differential
 - isobaric (TMT) LC-MS/MS
 - 2D-LC-MSMS label-free
- Metabolite determination
- Infusion Electrospray ionization
- Ion mobility HDMS^E mode
- Post-transl. modification search
- Intact protein analysis



Sample preparation

- Cell tissues crushing and protein extraction
- Soluble and membrane phases separation by ultracentrifugation
- Assay, solubilization and protein digestion (in gel, in solution)
- Zip-Tip desalting, SPE, concentration
- TiO₂ phosphopeptide purification
- Isobaric (TMT) and Isotopic labelling
- Detergent removal



Major equipment

- Orbitrap Fusion Lumos Tribrid Mass spectrometer (Thermo Scientific)
- Orbitrap Exploris Mass spectrometer (Thermo Scientific)
- Synapt G2si spectrometer (Waters)
- Acquity M-Class nano UPLC System (Waters)
- Ultimate 3000 RSLN nano HPLC System (Thermo Scientific)

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At DDUV
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1200 Woluwe-St-Lambert
Belgium





M I C A : Microscopic ChAracterization of functional and nanostructured materials

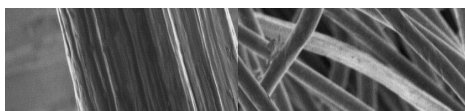
WHAT WE OFFER : services and expertise

- Characterization / test / analysis performed by highly qualified UCLouvain members
- Microscopy characterization tools in the context of materials science, chemistry, solid-state physics, and (bio)nanotechnology



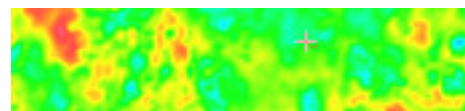
Scanning Probe Microscopy (SPM)

- Surface topography in air or liquid
- Mechanical property analysis
- Electric property analysis
- Magnetic property analysis



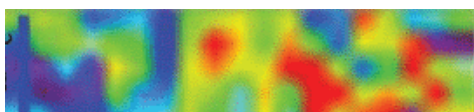
Scanning Electron Microscopy (SEM)

- Micro- and nano- morphology
- STEM analysis
- Chemical mapping



Infrared Spectrometer

- Infrared absorption spectrum
- Molecules structure
- Chemical mapping



Raman Spectrometer

- Vibrational modes of molecules
- Chemical mapping



Sample preparation tools

- Cryo-ultramicrotomy
- Sputters (carbon and metal)

CONTACT

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(1) AFM BRUKER Multimode – (2) AFM BRUKER Icon – (3) FEG-SEM JEOL 7600F – (4) IR THERMOFISHER Nicolet IN10 – (5) RAMAN THERMOFISHER DXR



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M O C A : Mineral and Organic Chemical Analysis

WHAT WE OFFER : services and expertise

- Characterisation / test / analyses performed by highly qualified UCLouvain members
- Analysis of organic and inorganic molecules from complex matrices
- Expertise in sample preparation and development of new protocols



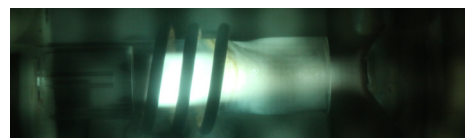
Analysis of complex matrices

- Soil
- Water
- Plants
- Food
- Waste
- Biotechnology



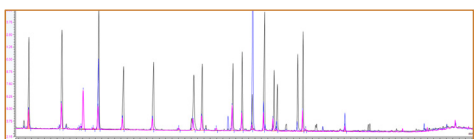
Pre-treatment

- Acid mineralization / alkaline fusion
- Soxhlet
- Enzymes
- Grinding / sieving
- Solid phase and liquid-liquid extraction



Cations analysis

- Inductively Coupled Plasma (ICP-AES) et (ICP-MS)
 - Atomic Emission Spectroscopy (AES)
 - Mass Spectrometry (MS)
 - Multi Collector-ICP-MS for isotopic ratios
- X-Ray Fluorescence (XRF)



Organic analysis by gas/liquid chromatography

- Liquid chromatography (HPLC) + coupled with MS (UPLC-MS)
- Ionic chromatography
- Gas Chromatography (GC) + coupled with MS (GC-MS)



C/N Analysis

- Total Organic Carbon (TOC) to liquid phase
- Elementar analysis (C, N, S)

CONTACT

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<https://uclouvain.be/en/research-institutes/eli/moca>

(1) Analysis of complex matrices – (2) Pre-treatment: alkaline fusion – (3) Cations analysis – (4) Organic analysis by gas/liquid chromatography – (5) MC ICP MS



P 2 C : Polymer Processing & Characterization

WHAT WE OFFER : services and expertise

- Characterization / test / analysis realized by highly qualified UCLouvain members
- Processing of polymers and composites, ranging from extrusion to 3D printing, RTM/SQRTM
- Characterization of polymers and composites, including thermal, rheological, mechanical and thermomechanical analyses
- Technical advice and consultancy
- Training for R&D engineers from the industrial sector



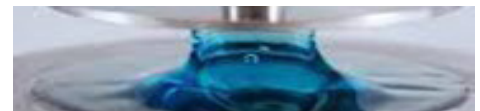
Polymer Processing

- Lab bench twin screw extruders with the option of water assisted extrusion (Minimized sample material usage (20g); Throughput range 20g/h to 2.5kg/h; Max. screw speed 1000 rpm; Barrel Length L/D: 40 L/D; Max. Temperature 450°C)
- With accessories such as pelletizer, injection molding system and filament and film spooler.
- 3D printer machines adapted for conventional thermoplastics as well as for high performance one (PES, PEI, PEEK) (max temperature: 430°C)



Thermal analysis

- Differential Scanning Calorimetry (DSC)
- High Pressure DSC (HPDSC) max. 100bar
- Thermogravimetric analysis (TGA)
- Flash DSC
- Dynamic Vapor Sorption (DVS)



Rheological analysis

Shear rheology

- Strain/stress controlled shear rheometers
- For • melts, solutions and suspensions
 - oscillatory shear measurements, creep-recovery tests and nonlinear shear tests
- Wide range of geometries: cone/plate, plate/plate with different diameters, cone-partitioned plate geometry, Couette device

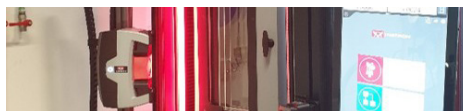
Extensional rheology

- Measurements on the filament stretching rheometer (Vader1000) or on the Extensional Viscosity Fixture (EVF)
- For polymer melts
- Temperature control



Thermomechanical analysis

- Dynamical Mechanical Analysis (DMA): various deformation modes (shear, tensile, bending, etc.) from -150°C to +350°C
- Thermomechanical analysis (TMA) from -150°C to +350°C



Material testing

- Tensile machine at 100N and 10kN
- Non-contacting video extensometer
- Temperature chamber (-100°C + 350°C and cooling module for LN2)

CONTACT

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(1) DSC machine – (2) Twin-screw extruder – (3) Plate-plate rheological analysis – (4) TMA device – (5) Tensile device

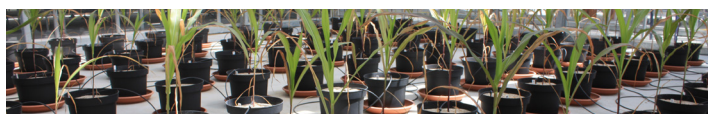
www.uclouvain.be/p2c



SEFY : Plant Cultivation Facilities

WHAT WE OFFER : services and expertise

- Expertise in
 - Plant growth and crop monitoring
 - Phytopathology
 - Mycology applied to the agri-food and agri-environment
 - Plant ecology, eco-physiology & sustainable agronomy
- Assistance and advice in setting up research trials for the university community and external companies
- Awareness of the general public in the world of research in agronomy



What can we do?

- Welcome and support students and researchers
- Advice and support in setting up experiences
- Control of crop conditions and plant health
- Connect with expert research teams in the field of plant physiology
- Organize guided tours for the general public



Why work with us?

- 2000 m² of controlled cultivation areas in greenhouses and 8 growth chambers
- Led lighting system adapted to the needs of the plants
- A network of researchers to share technical knowhow and advanced knowledge
- Access to specialized infrastructures and plant physiology tools
- Dynamic and multifunctional team



What are our fields of expertise?

- Improved growing conditions
- Phenotyping platform
- Plant diseases
- Entomological consultancy

CONTACT

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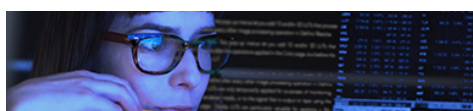


SMCS

Statistical Methodology
and Computing Service

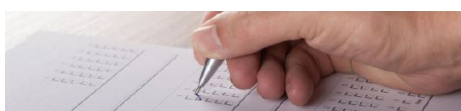
WHAT WE OFFER : services and expertise

- Consulting services and intervention at any step of a data analysis project
- Training courses on numerous statistical methods and tools
 - Offered by statistical experts from various backgrounds (mathematics, business engineering, bioscience and civil engineering, political and human sciences, IT, ...)
 - Face-to-face and remotely



Consulting services

- Statistical advices
- Carrying out data analyses
- Presentation of results



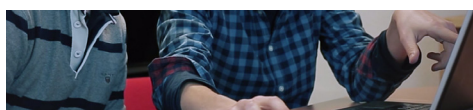
Planning surveys

- Personalized advice
- Taking charge of the project
- Questionnaire validation
- Sampling



Collaborating on research projects

- Help writing the project's methodological and statistical parts
- Planning and budgeting
- Subcontracting of statistical analyses



Coaching

- Use of a specific tool
- Use of a specific method
- Dashboarding



Training courses

- Statistical methods and software
- From basic to specific knowledge
- From half a day to several months
- Some leading to a university certificate
- In-house and tailor-made training

CONTACT

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<https://www.linkedin.com/company/smcs-uclouvain>

Innovation vouchers and training vouchers ("chèques-formation") granted respectively by the Brussels-Capital Region and Wallonia can be used most of the time. The SMCS is an accredited provider.

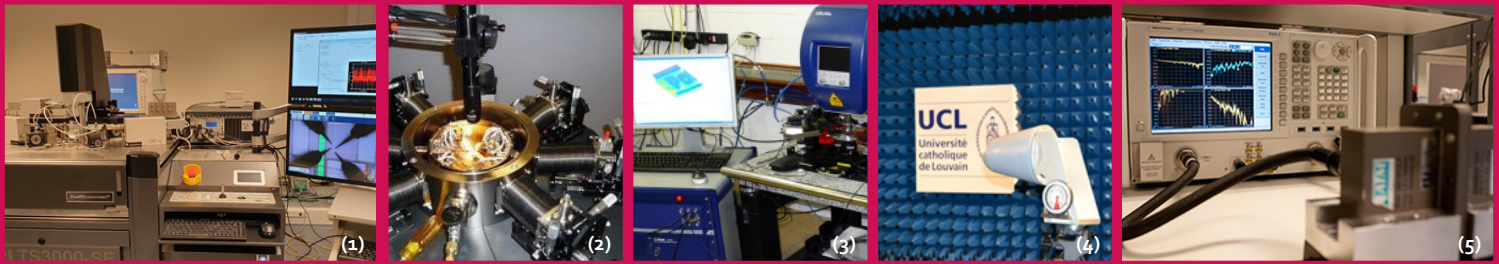


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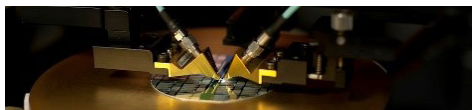
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WELCOME ● Wallonia Electronics ● and Communications Measurements

WHAT WE OFFER : services and expertise

- Service & expertise in electro-magnetic characterization of materials, devices, sensors, circuits, systems
- Access to characterization infrastructure / Equipment renting accomplished by training (if necessary)
- Measurement campaign realized by UCLouvain staff / PCB assembly and prototyping
- Technical advice and consultancy / Training for R&D engineers from industry
- Collaborative research



Materials, passive and active electron devices and sensors

- Multi-port and multi-parametric (electro-mechanical, optical stimuli, gases, etc.) characterization
- From DC to 125 GHz,
- Temperature range from 4 to 600 K
- Small-signal and nonlinear regimes



Analog/digital circuits and systems-in-package

- μ controllers, smart cards, RFIDs, FPGAs, etc.
- Using ultra low current probes, mixed-signal and real-time oscilloscopes, analog waveform and digital pattern generators, etc.



Radar and wireless telecommunications

- Broadband signal generation and signal analysis capabilities
- Using variety of Vector Network and Spectrum Analysers
- In a free-space, waveguide and coax, multi-path or anechoic environment



Remarkable equipment

- Probe stations: MPI : 300mm (20-300°C); Lakeshore: 51mm (4-500K)
- ALFNA noise analyzer (1/f, RTN)
- Large-band VNA: 900 Hz-125 GHz /2 ports; PNA-X: 26.5 GHz/4-ports
- Anechoic chamber: 0.4 - 40 GHz and 60-90 GHz
- PolyTec vibrometer



Collaborative research

- Support to the research projects submission and realization (FNRS, RW, EC, Ecsel, Innoviris, etc.)
- Support to spin-offs, SMEs, knowledge transfer
- Links with other academic labs via SiNANO Institute joint platforms: www.sinano.eu

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(1) IV, CV, RF and noise characterization up to 300°C – (2) IV & RF Cryogenic (4K) on Wafer Prober – (3) MEMS/NEMS/Sensors Tests – (4) Anechoic Chamber – (5) RF materials tests



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WINFAB : Wallonia Infrastructure Nano Fabrication

WHAT WE OFFER : services and expertise

- From one-step processes to complete device development
- Collaborative research
- Access to cleanroom infrastructure / Equipement renting
- Technical advice and consultancy



Micro- & Nano-patterning

- Photolithography
- E-beam lithography
- Laser micromachining
- Focused Ion beam



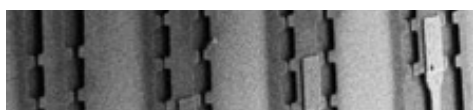
Characterization

- SEM
- Ellipsometry
- Profilometry



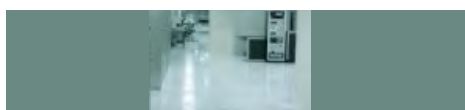
Thin Films processing

- Evaporation & Sputtering
- PECVD & LPCVD
- ALD
- 2D Materials CVD
- ICP-RIE Etching



Field of expertise

- Solar cells
- Sensors (strain, humidity, bio, etc.)
- Batteries
- Mechanical properties of thin films
- 2D materials (graphene, hBN, etc.)
- Substrates for RF applications
- Etc.



Back-end processes

- Wire bonding
- Wafer dicing
- Wafer grinding

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(1) 500 m² cleanroom – (2) FIB / SEM – (3) Laser Micro-machining – (4) Photolithography – (5) LPCVD Furnaces



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