EUTOPIA

RESEARCH INFRASTRUCTURE

A COMPREHENSIVE GUIDE

EUTOPIA

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EUTOPIA

RESEARCH INFRASTRUCTURE

A COMPREHENSIVE GUIDE

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EUTOPIA

www.eutopia-university.eu

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UNIVERSITY OF GOTHENBURG

UNIVERSITY OF LJUBLJANA

INTRODUCTION

Welcome to this comprehensive guide on EUTOPIA's shared Research Infrastructure. This brochure is more than just a collection of information: it is a tool to access, explore, and leverage our institution's full spectrum of research facilities. Within these pages, you will find detailed information on available resources. It is a guide to unlocking the potential of our research, ensuring that all researchers from our universities have the support they need to make their mark in the world of research. These resources empower our researchers, enabling them to explore new frontiers and contribute significantly to their respective fields.

Research infrastructure is the backbone of innovation and discovery. It is the foundation upon which EUTOPIA builds our scholarly undertakings, pushing the boundaries of knowledge. Our universities' investments in research infrastructure are investments in our collective future.

Collaboration, in its broadest sense, is the heart of EUTOPIA, and research infrastructure is a common ground where ideas converge. Our Alliance fosters interdisciplinary collaboration and cross-pollination of ideas by opening doors for all EUTOPIA partners to these resources. Together, we harness the collective power of our research community, making possible what might otherwise remain beyond our reach. Together, we push the boundaries of possibility and will accelerate the pace of discovery and the development of solutions for today's and tomorrow's challenges.

1 • **BABES-BOLYAI UNIVERSITY IN CLUJ-NAPOCA** - ROMANIA
2 • **VRIJE UNIVERSITEIT BRUSSELS** - BELGIUM
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EUTOPIA

BABES-BOLYAI UNIVERSITY

HIGH FIELD MAGNETIC RESONANCE SPECTROSCOPY AND IMAGING INFRASTRUCTURE

NMR & EPR PLATFORM

Nuclear Magnetic Resonance (NMR) is one of the most powerful tools for addressing numerous biological, chemical and physical open-questions across scientific disciplines. A central element of the platform is represented by a 3 Tesla Siemens Skyra MRI which allows all the imagistic applications available for a standard 3T scanner (angiography, cardiology, abdominal, perfusion and diffusion tensor imaging, nervous tract visualization, functional imaging, diffusion, spectroscopy and dynamic breast imaging). To increase the methods capabilities to get information at atomic and molecular level coming from living forms, materials or molecules the infrastructure comprises also other MRI, NMR and electron spin resonance/electron paramagnetic resonance (EPR/ESR) equipment.

KEYWORDS :

• Advanced Imaging – MRI in Clinical Cognitive Sciences
• Solution NMR • Solid state-NMR • EPR/ESR • Life science
• Small molecules • Proteins • Materials science

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BABES-BOLYAI UNIVERSITY

"STAR-GATE PSY" MATRIX PLATFORM ROBOTICS AND VIRTUAL REALITY

The platform is part of the «Star-Gate Psy» project for identification of innovative technologies for optimizing and developing the mind and human potential, supporting the program of Robotics and Psychotherapy through Virtual Reality from the Department of Clinical Psychology and Psychotherapy of Babes-Bolyai University.

The «PsyTech-MATRIX» platform currently has a Center for Psychotherapy through Robotics/Robotherapy and Virtual Reality, which also has several Laboratories (Stress Control, Pain Control, Virtual Classroom, Star Trek-Holodeck; Robot-based and Online/Computer-based Therapy) equipped with the most advanced technology and «know-how» currently available at the international level.

KEYWORDS :

• Psychotherapy • Robotherapy • Virtual Reality
• Stress Control • Pain Control

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BABES-BOLYAI UNIVERSITY

X-RAY DIFFRACTOMETRY PLATFORM

X-ray diffraction (XRD) is a nondestructive technique used to analyse the structure of crystalline materials from molecular level and for characterization of crystalline, partially crystalline or non-crystalline materials. The XRD equipment allow the structural characterization of organic and organometallic compounds and the determination of crystalline phase on minerals, rocks, and industrial materials (ceramics, concretes) with applications in Mineralogy, petrology, advanced materials and environmental science.

KEYWORDS :

• Single-crystal XRD • Powder WRD

KEY CONTACT :

FOR D8 VENTURE SINGLE CRYSTAL X-RAY DIFFRACTOMETER :

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FOR SHIMADZU XRD-6000 :

Ph.D. Marieta Muresan-Pop
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BABES-BOLYAI UNIVERSITY

THE ELECTRON MICROSCOPY PLATFORM

Is a research base with multiple users, designed for high scientific research and education/specialisation of young researchers in the morphological and surface area analysis using TSM and SEM instruments. Its activities cover a large number of scientific domains: physics, chemistry, geology, mineralogy, geography, animal and plant biology (with special emphasis on cellular and molecular biology, biochemistry and physiology) pharmacology, human and animal medicine, ecology and environment protection, as well as industry areas, such as: food technology, mining, oil industry, metallurgy and chemical industry.

The platform includes also an Electron Probe Micro Analyzer which can perform micron scale quantitative analysis and deliver high quality minor and trace element analyses due to the low down to 100 ppm detection limit. Also, it can perform chemical mapping at high spatial resolution.

KEYWORDS :

• TEM • SEM • HRTEM • Life sciences • Biology • Medicine
• Polymers • Minerals and advanced materials • Chemical dating geochronology • Element mapping in solid substances

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FOR CAMECA SX-FIVE ELECTRON MICROPROBE :

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FOR TEM JEOL 1010 AND SEM + EDX JEOL JSM 5510LV :

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BABES-BOLYAI UNIVERSITY

MASS SPECTROMETRY PLATFORM

The Mass spectrometry platform available in Babes-Bolyai University offer the possibility of analysis and characterization for organic, organometallic compounds, supramolecular associations, peptides, proteins, polymers, inclusive complex mixture from biological samples. The HRMS infrastructure affords the recording of high-resolution mass spectra and the determination of exact mass of the analysed compounds with accuracy below 3 ppm. The mass spectrometers have specific software and databases as well as the necessary auxiliar instrumentations for Sample Separation to provide the best resolution, sensitivity, and selectivity. The platform includes also ICPMS spectrometer that has been purpose designed to deliver rapid and precise isotope ratio and quantitative analysis of trace elements in solid and liquid matrices.

KEYWORDS :

• HRMS • MS • MALDI • HR-ICP-MS • GC-MS • LC-MS

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https://research.ubbcluj.ro/infrastructure/category/platforms/mass-spectrometry-platform/

BABES-BOLYAI UNIVERSITY

FLUORESCENCE MICROSCOPY PLATFORM

The Time-resolved confocal fluorescence microscope is adapted for different types of measurements/modes of data analysis: FLIM, FCS, FRET, measurement of fluorescence lifetimes in liquid or solid samples, unimolecular spectroscopy, nonlinear optics measurements, monitoring of fluorescence signal fluctuations. Possible applications: FLIM on biological structures (cells, tissue) or materials with luminescent properties; characterization of the interaction of some exo- or endogenous chromophores with (plasmonic) nanoparticles applied in therapy, diagnosis and imaging; Cell biology; Non-linear optics; Two-photon imaging. The confocal microscopy system (Re-scan Confocal Microscopy - RCM) is based on the "double scan" method (a scan of the laser beam simultaneously with a scan of the beam emitted by the sample). This innovative method leads to obtaining a much better lateral resolution than in standard confocal microscopy. This peculiarity of scanning and respectively high resolution gives to our microscopy system a high degree of uniqueness both nationally and internationally; 2 re-scanning RCM units: for the NIR domain, with lateral resolution of 240 nm (RCM-NIR) and 140 nm respectively for the visible domain (RCM-VIS); the RCM-NIR unit is equipped with two laser diodes with emission lines at 640 and 785 nm, respectively.

KEYWORDS :

• FLIM • FRET • FCS • Two-photon excitation • Nonlinear optics • Unimolecular detection sensitivity • High-resolution confocal fluorescence (bio)imaging • 3D fluorescence imaging • NIR confocal imaging • Immunofluorescence • Intracellular uptake studies

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BABES-BOLYAI UNIVERSITY

EXPERIMENTAL INFRASTRUCTURE FOR ENERGY CONVERSION SYSTEMS WITH CO2 CAPTURE

Various modules of the energy conversion system with CO2 capture capability research infrastructure allow the experimental evaluation of gas-liquid absorption, chemical and calcium looping technologies (reactive gas-solid systems) in various operational modes such as fixed bed, fluidized bed or circulating fluidized bed (CFB). The range of operational parameters (e.g., temperature up to 1200 degree Celsius, various composition of gas streams to be decarbonized, various liquid and gaseous fuels etc.), online monitoring and control of the experimental modules using computer as well the analytical equipments (online Siemens gas-analyzer and gas chromatograph) make this advanced research infrastructure very valuable to assess various gas-solid and gas-liquid CO2 capture technologies. In addition, the modelling and simulation capabilities of the research team (using a wide range of softwares such as ChemCAD, Aspen, Matlab/Simulink, Comsol, Thermoflex, GaBi etc.) are used in conjunction with this relevant experimental infrastructure to perform techno-economic and environmental evaluations of energy conversion systems with CO2 capture feature..

KEYWORDS :

• CO2 capture technologies • Chemical and calcium looping • Gas-liquid absorption • Gas-solid systems • Energy conversion systems • Techno-economic and environmental evaluations • Life Cycle Assessment (LCA)

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BABES-BOLYAI UNIVERSITY

CENTER FOR HIGH PERFORMANCE COMPUTING

The Center for High Performance Computing serves as an infrastructure for computational research at the Babe -Bolyai University of Cluj-Napoca. Our HPC infrastructure supports research groups in a variety of scientific domains such as mathematics, computer science, physics, chemistry, biology, geography, meteorology, communication science and business/economics.

KEYWORDS :

• High Performance Computing: IBM NextScale
• Cloud computing: IBM Flex System

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BABES-BOLYAI UNIVERSITY

THE HERBARIUM OF BABES-BOLYAI UNIVERSITY

The herbarium is a vast catalogue of plants where each of the specimens included provide unique information – where it was found, the morphological variability of the plant, preferred habitat, phenology (when it blooms or produces seeds), etc. Last but not least, due to the new techniques of DNA molecule analysis, herbaria are genuine gene banks that document the biodiversity of the plant world at the molecular level. The DNA, which remains intact for many years, is now extracted from herbarium specimens, thus providing information on plant relations and evolutionary processes.

KEYWORDS :

• DNA molecule analysis • Genuine gene banks
• Biodiversity • Plant specimens

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BABES-BOLYAI UNIVERSITY

THE ROMANIAN 3D ATMOSPHERIC RESEARCH OBSERVATORY – CLUJ STATION

The Romanian 3D Atmospheric Research Observatory – Cluj station objective is to research the composition of the atmosphere (gases, aerosols and clouds). Atmospheric processes such as gas and aerosol dynamics, radiative effects, effects on climate, cloud formation are also studied. The laboratory has been in operation since 2009 and is currently integrated into several international aerosol atmospheric research networks: EARLINET – European Aerosol Research Lidar Network; NASA – AERONET – Aerosol Robotic Network.

KEYWORDS :

• Atmosphere composition • Atmospheric processes
• Aerosol dynamics • Radiative effects • Cloud dormation

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VRIJE UNIVERSITEIT BRUSSEL

THE BRUBOTICS REHABILITATION RESEARCH CENTER

The Brubotics Rehabilitation Research Center (BRRC) is the new lab of the BruBotics Rehabilitation Research group of the Vrije Universiteit Brussel. This lab is a state-of-the-art, interdisciplinary innovation hub that offers human movement analysis and technology-supported rehabilitation research.

KEYWORDS :

• Rehabilitation • Robotics • Movement

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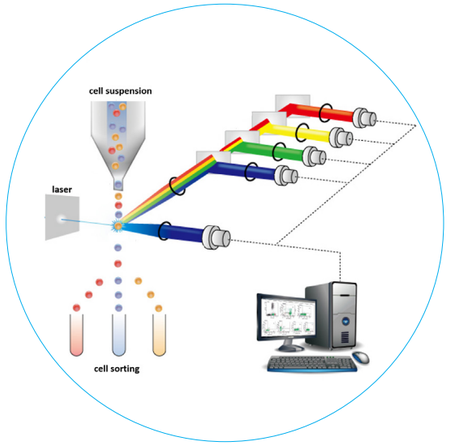
VRIJE UNIVERSITEIT BRUSSEL



FLOWCORE

Flow Cytometry Core Facility (FlowCore) has a verity of Flow Cytometry instruments of which users can be trained to use these instruments correctly to analyse and/or sort biological materials.

KEYWORDS :

• Cell sorting • Facs • Cytometry

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VRIJE UNIVERSITEIT BRUSSEL

MICROLAB

MICROLAB is a 300 m² class 100 cleanroom dedicated to advanced microfabrication of glass and silicon for microfluidics. It is an open access facility supporting both the research community and industry in the development of microfluidic devices for medical, pharmaceutical and biotechnological applications.

KEYWORDS :

• Nanotechnology • Microfluidics • Cleanroom
• Biotechnology

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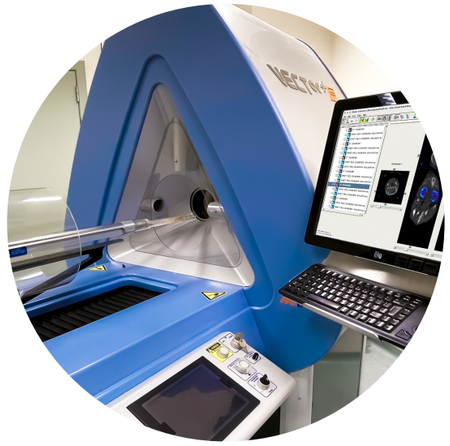
VRIJE UNIVERSITEIT BRUSSEL



IN VIVO CELLULAR AND MOLECULAR IMAGING

The In Vivo Cellular and Molecular Imaging (ICMI) Core Facility is specialized in nuclear and optical imaging of small animals. The lab is equipped with a myriad of multi-modality cameras and ex vivo analysis techniques to study tracer biodistribution, pharmacokinetics, dosimetry, and therapeutic efficacy of radiopharmaceuticals. The lab is situated in a biosafety level 2 environment with direct access to the Animalarium.

KEYWORDS :

• Nuclear imaging • Optical imaging
• Molecular imaging • PET • SPECT

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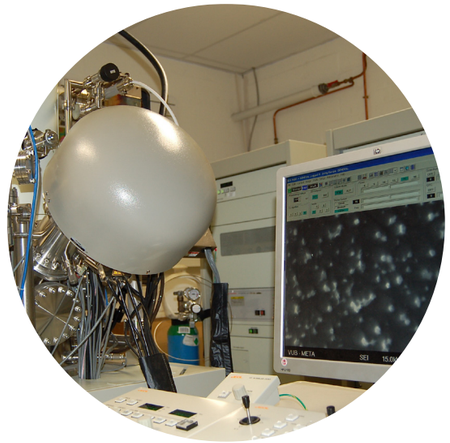
VRIJE UNIVERSITEIT BRUSSEL



MATERIALS CHARACTERISATION

The Materials Characterisation facility provides a collection of analytical tools, that makes the characterization possible of all types of materials. These techniques provide insights from the macro- to the nanoscale, focusing on bulk and individual phases as well as surface properties and compositional mapping at high-resolution.

KEYWORDS :

• Surface and interface chemistry • Materials synthesis
• Metals and alloy materials • Surface engineering
• Structural analysis

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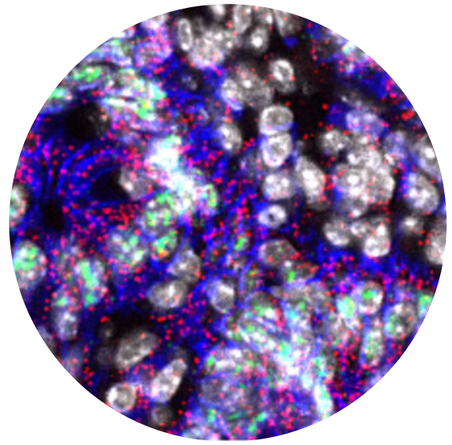

VISUAL AND SPATIAL TISSUE ANALYSIS

The VSTA core facility offers in situ detection of DNA aberrations, multiplex RNA expression, point mutations (DNA/RNA/Basescope) and multiplex protein expression (immunostaining, Ultivue) with whole-slide imaging (brightfield/fluorescence) and advanced digital image analysis.

KEYWORDS :

• Histopathology • Histology • Microscopy
• Spatial profiling

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CA' FOSCARI UNIVERSITY OF VENICE

CETRA
CENTRE FOR TRACE ANALYSIS

Center of international research, advanced training and services operating in trace/ultra-trace analysis and chemical imaging in the fields of life science, environment, advanced materials and cultural heritage. The facility makes available technical expertise and equipment for chemical identification and quantitative determination at extremely low levels and/or in complex matrices, and spatial distribution or structural analyses at the micro-to-nano scale. Among the instrumental resources available: clean laboratories; several types of spectrometers and chromatographs; mercury analyzers; fourier-transform infrared spectroscopy microscope; transmission electron microscope with scanning mode; scanning electron and atomic force microscope.

KEYWORDS :

• Trace analysis • Ultra-trace analysis • Spatial distribution
• Structural analyses • Polar sciences

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CA' FOSCARI UNIVERSITY OF VENICE

COL MARGHERITA
ATMOSPHERIC OBSERVATORY

The high-altitude Observatory of Col Margherita is currently the only station in the Eastern Alps providing measurements of atmospheric pollutants and the main meteorological parameters. The station is located at 2543 m a.s.l. (46.36 ° N - 11.79 ° E) in the Dolomites (UNESCO World Heritage Site since 2009). The Col Margherita Observatory is part of the Global Atmosphere Watch Programme of the World Meteorological Organization.

KEYWORDS :

• Air quality monitoring • Meteorological monitoring
• Atmospheric pollutants • Atmospheric aerosols

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EUTOPIA RESEARCH INFRASTRUCTURE

CA' FOSCARI UNIVERSITY OF VENICE

LIVINGTECH LAB

The Lab is equipped with cutting-edge high-throughput screening equipment to allow the investigation of complex biological systems as :

• Molecular biology: PCR, multi-label imaging system, 1D / 2D-electrophoresis system;

• Protein biochemistry: Low to middle scale expression and purification of recombinant proteins. Protein-protein and protein-DNA interaction. Enzyme characterization by polarised fluorescence, fast kinetic spectroscopy;

• High-throughput screening: 4-channels liquid handling robot with devices for microplate-based biological and biochemical assays;

• Biological sample storage system: with linear bar coding and sample tracking system;

• Analytical chemistry: High-throughput HPLC and FPLC with UV-Vis spectrometer and fluorimeter.

KEYWORDS :

• Complex biological systems • Molecular biology
• Protein biochemistry • Analytical chemistry

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CA' FOSCARI UNIVERSITY OF VENICE

CMCC@CA'FOSCARI

CMCC@Ca'Foscari is today one of the most important climate research centers developed by Italian universities. It can count on a team of about 50 researchers and professors, and on the technological and modeling infrastructure, including a supercomputer among the most powerful in Europe dedicated to the modeling and forecasting of future climate and to the assessment of the economic repercussions of climate change.

KEYWORDS :

• Climate research • Climate change
• Modeling • Forecasting

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CA' FOSCARI UNIVERSITY OF VENICE

INTERDEPARTMENTAL CENTER OF SERVICES FOR EXPERIMENTAL DISCIPLINES - CIS

The CIS is a center of technical support services for teaching and experimental research that comprises ten Laboratories: Bio Ecology, Biotechnology – BIOTECH, Physics, Geo Mineralogy, Conservation of Cultural Heritage, Analytical / Instrumental Chemistry, Physical Chemistry, General and Inorganic Chemistry, Industrial Chemistry, Organic Chemistry, and technical support services for teaching and research activities.

KEYWORDS :

- Bio Ecology • Biotechnology • Biotech • Physics
- Geo Mineralogy • Conservation of Cultural Heritage
- Analytical Chemistry • Instrumental Chemistry
- Physical Chemistry • Chemistry • Inorganic Chemistry
- Industrial Chemistry • Organic Chemistry

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CA' FOSCARI UNIVERSITY OF VENICE

VENICE CENTRE IN ECONOMIC AND RISK ANALYTICS FOR PUBLIC POLICIES (VERA)

The investments in information infrastructures to facilitate original research and to support scientists in using big data allow to access the financial and macroeconomics data (Datastream, European Datawarehouse) and high frequency data bases; access the Planet Labs, for satellite data, social network data, mobile phone data; install new software for experiment design and implementation (lab and web based experiments); strengthen the storage and the data protection tools in order to guarantee a proper experiment implementation. The infrastructures consist of: the Bloomberg Finance Lab, the Cluster for Computing, a brand-new High Performance Computing and the new Laboratory of Experimental Economics.

KEYWORDS :

- Big data • Financial data • Macroeconomics data
- Data bases • High Performance Computing

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CA' FOSCARI UNIVERSITY OF VENICE

UNIVERSITY LIBRARY SYSTEM (SBA)

The first Ca' Foscari University library originated in 1868. Nowadays, the structure of the SBA consists of 5 Libraries: the Science and Technology Library (BAS), the Economics and Management one (BEC), the Arts and Humanities Library (BAUM), the Languages and Cultures one (BALI) and the Digital Library (BDA), besides the Document Archive and the Historical Fund. It is run by 56 staff units plus 16 volunteers. The Libraries are open 465.5 hours per week, with 1195 seats available in a surface of 33.910 m. The Bibliographic resources consist of: 4.108.383 ebooks, 86.682 e-journals, 105 databases, 961.206 books, and 1.121 journals. The SBA provides loans and renewals, interlibrary services, bibliographic references, and training.

KEYWORDS :

- Library • Books • Journal
- Databases • Digital library

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CA' FOSCARI UNIVERSITY OF VENICE

EDIZIONI CA' FOSCARI VENICE UNIVERSITY PRESS (ECF)

ECF is the open access digital University Press of Ca' Foscari University. ECF publishes journals and books in digital format in all areas of academic research with the aim to disseminate the results of research carried out both in Ca' Foscari and in the national and international scientific community. All publications are made available online in full text and free of charge. The texts only reach publication after a rigorous process of content selection and evaluation by the ECF Editorial board and the Advisory board of each journal or series. They are then subjected to careful editorial care and are indexing in major international online databases.

KEYWORDS :

- University press • Open access
- Publisher • Dissemination

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CY PARIS CERGY UNIVERSITY

PEPTIDES SYNTHESIS AND CHARACTERISATION RESEARCH TECHNOLOGY PLATFORM

The CY PeptLab platform offers innovative solutions for the design, synthesis, and purification of peptides and proteins and their analogs in health, well-being, food, and heritage. Our facility contains state-of-the-art equipment that covers a variety of peptides research needs : Liberty Pro™ & Liberty Blue™ (large and small-scale Microwave peptide synthesizers).

KEYWORDS :

• Peptide • Protein • Synthesis • Microwave
• Chromatography • HPLC • UPLC • FLASH • Purification
• Mass spectrometry • LC-MS • Mass spectrometry • ELISA
• Identification • Quantification • Validation

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CY PARIS CERGY UNIVERSITY

COSMETOMICS@CY

COSMETOMICS@CY proposes and develops efficacy tests and measures about cosmetic products. In particular, COSMETOMICS@CY provides a TMS-500 TopMap which is a high precision non-contact topography measurement system, using a white light interferometer for fast and precise surface characterization of various samples (skin explant in our cases). Flatness and parallelism parameters, even for macroscopic samples, can be checked quickly with excellent repeatability.

KEYWORDS :

• Cosmetic test • Efficiency

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EUTOPIA RESEARCH INFRASTRUCTURE

CY PARIS CERGY UNIVERSITY

MICROSCOPY & ANALYSIS

This platform is an imaging technical platform that develops and proposes multimodal characterization approaches in the life sciences and materials. The platform has a complementary offer to analyze a wide range of observation scales (from nm to cm). It consists mainly of three microscopes: an atomic force microscope (AFM), a confocal laser scanning microscope (CLSM) and a scanning electron microscope (SEM) integrated with Energy Dispersive X-ray spectroscopy (EDX). The originality of this platform is to develops the different correlative approaches: SEM/CLSM (CLEM), AFM/RAMAN, etc... For this purpose, the platform is equipped with an SEM coupling with a Raman spectrometer, which makes it possible to identify not only the chemical elements but also the molecules of a sample. Additionally, the spatial distribution of constituents in a sample can be imaged. This provides unprecedented time savings and efficiency.

KEYWORDS :

• SEM • EDX • RAMAN • SEM-RAMAN-EDX
• Correlation • Materials • Life sciences

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CY PARIS CERGY UNIVERSITY

THE U-MAKER PROJECT

(Teaching / geology / 3D printing)

U-Maker is a project but also an open-lab associated with the field of geology. U-Maker is developing projects in the field of Earth science education and scientific mediation of industrial (or other) projects. U-Maker designs 3D printed models to help the understanding of geological structures and raising decision-makers' awareness of geological issues.

KEYWORDS :

• 3D Printing • Geology

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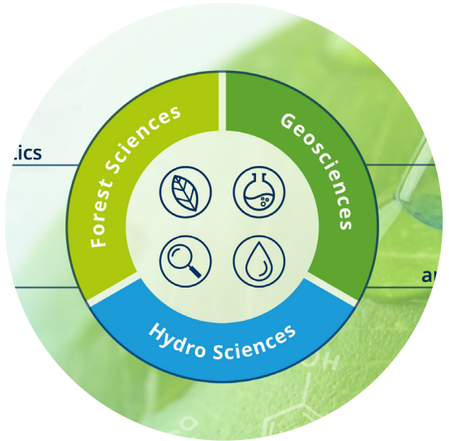
https://cyumaker.cyu.fr/

TECHNISCHE UNIVERSITÄT DRESDEN



CORE FACILITY ENVIRONMENTAL ANALYTICS (CFEA)

The Core Facility Environmental Analytics (CFEA) is the technology platform of the Faculty of Environmental Sciences at TU Dresden, bringing together the analytical and scientific expertise of environmental research across the fields of forest sciences, geosciences, and hydro sciences. With the goal of providing convenient access to modern and innovative analytical technologies, it serves both internal and external users of the university. CFEA offers access to over 100 scientific instruments and services with a broad variety of analytical capabilities, such as environmental scanning electron microscopy (ESEM), various LC/MS and GC/MS techniques, stable isotope analysis and further methods to characterize the biotic and abiotic environment.

KEYWORDS :

• Mass spectrometry • Chemical analysis
• Physical analysis • Dendrochronology • Stable isotopes
• Wood anatomy • ESEM

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CENTER FOR MOLECULAR AND CELLULAR BIOENGINEERING TECHNOLOGY PLATFORM (CMCB TP)

The CMCB Technology Platform consists of several Core Facilities, which offer state-of-the-art technologies and professional expertise based on the life science research areas of the three institutes (B CUBE, BIOTEC and CRTD) within the central academic unit CMCB. The aims of the CMCB TP are to foster synergy effects, the promotion of knowledge and technology transfer, and the economic use of existing resources.

- Electron Microscopy
- Histology
- Light Microscopy
- Molecular Imaging and Manipulation
- Dresden Genome Center
- Flow Cytometry
- Mass Spectrometry and Proteomics
- GMP Facility (Good Manufacturing Practice)
- Stem Cell Engineering
- In Vivo Testing
- Mass Cytometry Facility
- Electrophysiology Facility

KEYWORDS :

• Light Microscopy • Electron microscopy • Histology
• Next generation sequencing • Flow cytometry
• Mass cytometry • Mass spectrometry • Proteomics
• Microstructures • Microfluidics • Stem Cell Engineering
• In Vivo Testing • Electrophysiology

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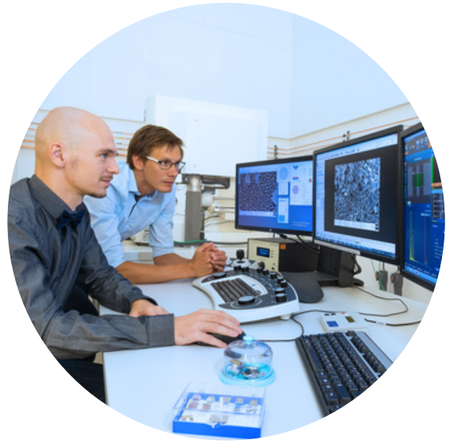

DRESDEN CENTER FOR NANOANALYSIS (DCN)

The DCN provides nanoanalytical service measurements and provides for user training for the TU-Dresden, Dresden-Concept partners and as work-for-hire. By utilizing high-end scientific tools and know-how in particular in the fields of microscopy with electrons, ions and X-rays, including advanced in-situ techniques, the DCN can enables low-threshold access to state-of-the-art tools and methods.

- Electron Microscopy
- Light Microscopy
- Focused ion beam
- X-ray computed Tomography

KEYWORDS :

• Nanoanalysis • Electron microscopy • X-Ray microscopy

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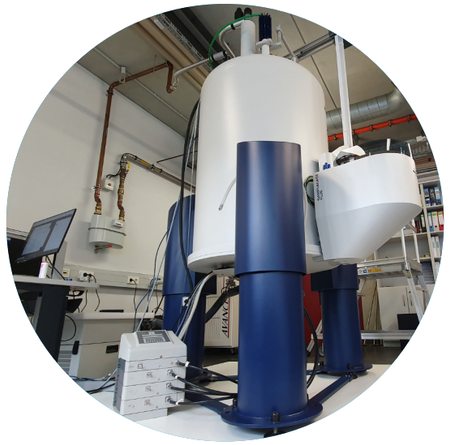

TECHNOLOGY PLATFORM CHEMICAL ANALYTICS (T-CHE)

The technology platform T-CHE (Chemical Analytics) bundles important cross-sectional technologies and research infrastructures of the Faculty of Chemistry and Food Chemistry. The goals of T-CHE are unbureaucratic access to and efficient use of large-scale research equipment available at the faculty.

KEYWORDS :

• Crystallography • NMR spectroscopy • Magnetometry
• Mass spectrometry • Microscopy • Raman spectroscopy

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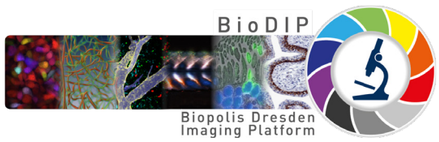

BIOPOLIS DRESDEN IMAGING PLATFORM

The Biopolis Dresden Imaging Platform (BIODIP) constitutes a multi-institutional network of core imaging facilities and provides open access to state-of-the-art microscopy systems as well as image analysis.

KEYWORDS :

• Networking • Imaging

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DRESDEN-CONCEPT GENOME CENTER

The DRESDEN-concept Genome Center (DcGC) constitutes a shared technology resource that offers the infrastructure and expertise for a broad range of state-of-the-art genomic technologies.

KEYWORDS :

• NGS • Next generation sequencing
• Single cell sequencing • Spatial sequencing • Genomics

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TECHNISCHE UNIVERSITÄT DRESDEN

WERNER-HARTMANN-CENTER FOR TECHNOLOGIES OF ELECTRONICS (WHZ)

«Werner-Hartmann-Zentrum» (WHZ) for technologies of electronics is a competence center of the Faculty of Electrical and Computer Engineering of Technische Universität Dresden. WHZ is a platform where technologically oriented professorships bring in their equipment. WHZ enhances the availability of single processes and complete technological paths for internal as well as external use in projects and for scientific services. WHZ owns special technological and diagnostics equipment and processes for manufacturing and analyzing electronic components and modules.

KEYWORDS :

• Electronic Packaging • Diagnostic • Failure Analysis
• Assembly Technologies • Components • Modules
• Substrates • Sensors • Microsystems • Manufacturing

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TECHNISCHE UNIVERSITÄT DRESDEN

FELSENKELLER UNDERGROUND LABORATORY

The Felsenkeller underground laboratory is located in two 60 m long tunnels, shielded from cosmic rays by 45 m of rock. The remaining ultra-low background is fully characterized: 40x less muons, 180x less neutrons, 700x less gamma rays than at the surface of the Earth. The lab hosts two main devices: First, a 5 MV ion accelerator for low-background, high ion current nuclear reaction measurements for astrophysics. Second, Germany's lowest background high-purity germanium gamma-ray detector for microbecquerel radionuclide analyses. EU-supported complimentary access (https://www.chetec-infra.eu) to the lab is available through ChETEC-INFRA.EU (2021-2025), with proposals selected by an independent scientific advisory board based on scientific excellence only.

The Felsenkeller underground lab is jointly operated by TU Dresden (Institute of Nuclear and Particle Physics) and by Helmholtz-Zentrum Dresden-Rossendorf (HZDR, Institute of Radiation Physics)

KEYWORDS :

• Nuclear astrophysics • Low-background radioactivity measurements • Dark matter • Cosmic-ray free environment
• Ion accelerator

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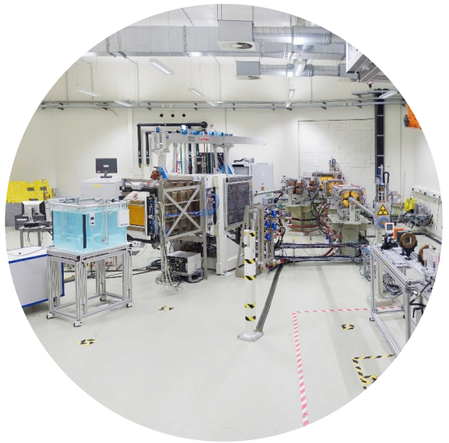

EXPERIMENTAL AREA FOR PROTON BEAM RESEARCH AT ONCORAY

The core of the OncoRay research building is an innovative proton facility. While patients are being treated, OncoRay scientists can concurrently conduct research on cancer therapy. To this end, the proton beam is directed via a separate beamline to an experimental area. Whenever the proton beam is not needed for treating patients it can be used to investigate the impact of protons in vitro or in vivo or to address physical and technical issues. Experiments can be performed at two beamlines (see picture): the beamline on the left allows for scanning of pencil beams at clinical parameters while the beamline on the right delivers stationary beams at extended beam parameters. The experimental area can also be used by external researchers.

OncoRay® - National Center for Radiation Research in Oncology, Dresden, Germany

KEYWORDS :

• Proton • Physics • Biology • Experimental • Translation
• Beam • Irradiation • Detector • Radiation effect

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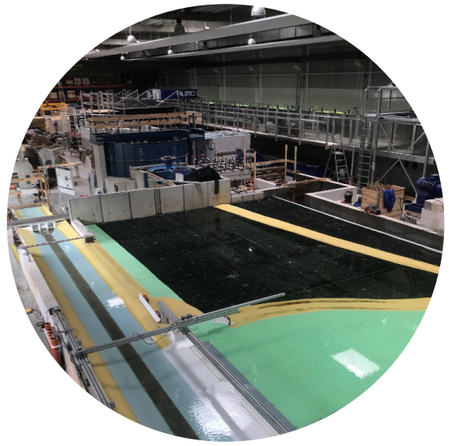

HYDRAULIC ENGINEERING LABORATORY HUBERT ENGELS LABORATORY

The origins of today's Hubert Engels Laboratory date back to the hydraulic engineering laboratory founded in Dresden by H. Engels in 1898, the first permanent river engineering laboratory in the world. Today, the laboratory comprises the hydraulic engineering hall, modern training laboratory rooms located in the historical Beyer Building since 1913, a field testing facility on the Wilde Weisseritz river between two dams, and a wind/wave measuring station directly on the artificial Lake Senftenberg. It enables scale model tests for research and teaching at a wide range of hydrotechnical scales. Moreover, the lab facilitates teaching by providing the opportunity for demonstrations and presentations.

TU Dresden, Institute for Hydraulic Engineering and Technical Hydromechanics

KEYWORDS :

• Hydraulic engineering • Technical hydromechanics
• Applied hydromechanics • Hydraulic structures
• River engineering • Morphodynamics • Ethohydraulics
• Scale model tests

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TECHNISCHE UNIVERSITÄT DRESDEN

INSTITUTE OF LIGHTWEIGHT ENGINEERING AND POLYMER TECHNOLOGY (ILK)

The Institute of Lightweight Engineering and Polymer Technology (ILK) has been active in function-integrative system lightweight engineering in multi-material design for more than 20 years. It is embedded in the business and science hub Dresden which provides optimum conditions for innovative and pioneering research and development. At ILK an extensive approach is pursued with respect to both materials and products throughout the total engineering chain - material, design, simulation, manufacturing, component, quality assurance. In 1997, the specialization course Lightweight Engineering was established as part of Mechanical Engineering at the Institute of Lightweight Engineering and Polymer Technology.

KEYWORDS :

• Engineering • Lightweight • Polymer technology
• Technology • Innovation • Sustainability • Efficiency
• Science • Education • Internationalization
• Neutral Lightweight Engineering • Function Integration
• Space and aviation • Simulation & Models • Manufacturing

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TECHNISCHE UNIVERSITÄT DRESDEN

VEHICLE TEXT CENTRE FAHRZEUGTECHNISCHES VERSUCHSZENTRUM (FVZ)

The Vehicle Test Centre is a globally unique set of instruments for basic university research and application-oriented research in vehicle technology. In addition to 4 laboratories, the hall complex in Dresden also houses 14 modern test benches for components and complete vehicles. 4K elastomer bearing test rig, High dynamic powertrain test rig with battery simulator, high dynamic tire test rig, wheel-axle test rig, universal tension-compression test rig, multifunctional test rig for steering, dyn. kinematics & compliance test rig, vehicle inertia measurement, hydropulse test rig for shock absorbers, wheel alignment, 4-wheel Dynamometer, full vehicle simulation, VeHiL - complete vehicle HIL.

KEYWORDS :

• Vehicle physics • HiL development methods
• Vehicle test benches • Automated driving
• Connected driving • Vehicle safety • Vibrations
• Objectification • Tires • Elastomeric bushing • Durability
• Energy storage • Motorcycle • Networked test benches • NVH

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TECHNISCHE UNIVERSITÄT DRESDEN

HIGHLY IMMERSIVE DRIVING SIMULATOR

The highly immersive driving simulator has a novel concept due to its tire-bound omnidirectional motion platform, which addresses the challenge of reconstructing all occurring stimuli of a real driving situation into the virtual world. Developed jointly with AMST-Systemtechnik GmbH as part of an innovation partnership, the driving simulator offers a wide range of possible applications in the areas of automated driving testing, in-depth research into human driving behaviour, and classic vehicle development. Even critical scenarios can be represented in a safe test environment in a controllable and reproducible way, helping to reduce the effort of real driving tests in order to push virtual prototyping.

KEYWORDS :

- Vehicle safety • Virtual testing • Driving simulation
- Driver-in-the-Loop • Human factors
- Human-Machine-Interface • Traffic psychology
- Automated driving • Connected driving
- Vehicle dynamics • Vehicle comfort • NVH

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UNIVERSITY OF GOTHENBURG

SAHLGRENSKA ACADEMY

CORE FACILITIES

Core Facilities is an open-access Life Science research infrastructure with some of the most advanced facilities, instrumentation, techniques, and competence available to ensure consistent high quality research support to all researchers.

• Biobank Core Facility
National sample service coordination and regulatory support

• Bioinformatics and Data Centre
Sequence, Analyse, Visualize, and Integrate 'Big data'

• Centre for Cellular Imaging - State-of-the art Multimodal Imaging

• Experimental Biomedicine - Multi-functional
research infrastructure for animal-based research and education

• Mammalian Protein Expression
Complex recombinant proteins and monoclonal antibodies

• OligoNova Hub - Design & Synthesis of Therapeutic Oligonucleotides

• Proteomics Core Facility - Mass Spectrometry-based Protein Analysis

KEYWORDS :

- Core Facilities • State-of-the-art • Research support
- Biobank • Sample quality • Bioinformatics • NGS
- Imaging • Electron microscopy • Animal care
- Laboratory Animal Science • Proteomics
- Oligonucleotides • Protein Expression • Life Science

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UNIVERSITY OF GOTHENBURG

EUTOPIA

THE EVALUATION THROUGH FOLLOW-UP

The Evaluation Through Follow-up (UGU) is a large cohort-sequential database which is used for evaluation and research about schools and education in Sweden. UGU is (one of) the largest research databases in Sweden in the field of education. UGU is part of the national evaluation of the school system, and used in social science and social research. The database contains nationally representative samples of students from ten cohorts, born between 1948 and 2004. The longitudinal design of the UGU allows the individuals from these cohorts are followed through the education system. The design makes it possible to both follow students through the education system and to compare cohorts from different times. The database is a collection of information from surveys and tests. In addition, school administrative and register data such as school, class, study choices and grades are incorporated in the database.

KEYWORDS :

- Longitudinal database • Effects of education
- Cognitive ability • School achievement • Mental health
- Non-cognitive ability • Gender differences
- School systems • Motivation • Self-beliefs of skills

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UNIVERSITY OF GOTHENBURG

GOTHENBURG RESEARCH INFRASTRUCTURE IN DIGITAL HUMANITIES

Gothenburg Research Infrastructure in Digital Humanities (GRIDH) is a research node and infrastructure at the Faculty of Humanities that offers methodological support and combines humanities research skills with expertise in digital technology and method development. We have excellence in interdisciplinary project design, information modeling, data management, text and image analysis, spatiotemporal data visualization, numerical methods, AI/machine learning, VR/AR simulation, 3D visualizations and modeling of historical environments, and critical digital humanities.

KEYWORDS :

- Digital humanities • Digital cultural heritage • Simulation
- Dynamic mapping • Interdisciplinary practice • Visualization

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UNIVERSITY OF GOTHENBURG

HERBARIUM GB

Herbarium GB is a common research infrastructure at the University of Gothenburg, located at the Department of Biological and Environmental Sciences. It has a large collection of dried plants, fungi, algae etc. for comparative and evolutionary studies. The collections amount to approximately 1.1 million specimens. Nearly 750 000 of these are vascular plants, whereas the remaining 350 000 specimens belong to bryophytes, algae, fungi, lichens, and slime molds. The collections reflect to a large extent the research that is currently carried out, or has been carried out, at the Department of Biological and Environmental Sciences.

KEYWORDS :

• South America • Flora of Ecuador
• Corticiaceae of North Europe • Norden • Sweden
• Heliconiaceae • Calceolariaceae • Caryophyllaceae
• Cyclanthaceae • Marantaceae • Rubiaceae

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UNIVERSITY OF GOTHENBURG

KVINNSAM NATIONAL RESOURCE LIBRARY FOR GENDER STUDIES

KvinnSam - National Resource Library for Gender Studies was originally founded in 1958 mainly as a women's archive and has grown into a research infrastructure specializing in women's history and gender studies. KvinnSam is staffed by university librarians, archivist, and research coordinator, all with discipline-specific competence.

KvinnSam maintains the bibliographic database KVINNSAM, the most comprehensive database on women's history and gender studies in Scandinavia, consisting of more than 160 000 references.

KvinnSams archival collections focus on people and organizations who have made an impact on the Swedish women's history and gender research field – from the Swedish suffrage movement at the beginning of the 20th century until today.

KEYWORDS :

• Women's history • Gender studies • Feminist studies
• Equality • Library • Archive • Database • Reference service

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UNIVERSITY OF GOTHENBURG

THE MARINE INFRASTRUCTURE AT UNIVERSITY OF GOTHENBURG

The Marine Infrastructure includes a large (49 m) research vessel (R/V Skagerak), two marine research stations (Tjärnö Marine Laboratory and Kristineberg Research Station), two smaller vessels, several small boats, one large AUV and three small ROVs. R/V Skagerak operates coastal and offshore, has a crew of 14, and is well-equipped with advanced instrumentation for research and education. Both research stations are situated in pristine coastal environments (0-250 m) have flow-through saltwater systems and temperature-controlled laboratories, large and well-equipped student and research laboratories, mesocosm facilities and flow tanks. Hostels and restaurants facilitate up to 70 (Tjärnö), and 40 (Kristineberg) students or guest researchers.

KEYWORDS :

• Research infrastructure • Research vessels • Hydroacoustic instrumentation • Autonomous and remotely operated underwater vessels • Modern sampling and experimental facilities • Field stations • Analytical instrumentation • Temperature-controlled laboratories • On-line filtered surface and deep seawater • Lodging facilities

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UNIVERSITY OF GOTHENBURG

THE QUALITY OF GOVERNMENT (QOG) INSTITUTE

The Quality of Government (QoG) Institute, founded in 2004 by Professors Bo Rothstein and Sören Holmberg, conducts research on the causes and consequences of QoG – that is, impartial, uncorrupted and competent government institutions. The QoG Institute compiles comparative data on QoG from a number of freely available sources, and also generates original data. The Institute's six datasets – the QoG Standard, the QoG Basic, the QoG OECD, the QoG Expert Survey, the EU Regional Data and the QoG EQI Regional Data –are all freely available at our webpage, along with codebooks and tools for visualizing data in communication and teaching. The institute's award-winning data infrastructure has reached a global audience and a stellar reputation.

KEYWORDS :

• Quality of government • Impartiality • Corruption
• Meritocratic bureaucracy • Gender equality • Satisfaction with democracy • Universal education • Whistleblowers
• Taxation • public goods • Collective action problem

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UNIVERSITY OF GOTHENBURG

SKOGARYD RESEARCH CATCHMENT (SRC)

The Skogaryd Research Catchment (SRC) aims at the quantification of greenhouse gas (GHG) balances at the landscape scale, including land-atmosphere, land-water, and water-atmosphere exchange, promoting integrative and cross-habitat-boundary research. The SRC is located 100 km north of Gothenburg and is a mix of different ecosystems: mires, mature and young forests, lakes, streams. Skogaryd is part of SITES (Swedish Infrastructure for Ecosystem Science) and ICOS-Sweden (Integrated Carbon Observation System) and is open to all researchers, regardless of affiliation. The base measurement program at SRC includes GHG flux measurements from terrestrial and limnic ecosystem, using a range of different methodologies, as well as stream flow and chemical analyses. The SRC promotes biogeochemical ecological, ecophysiological and within-canopy chemical research. Data collected at Skogaryd is freely available and can be used by anyone as long as the data is cited as specified in the SITES data policy.

KEYWORDS :

• Greenhouse gas • Water chemistry • Biogeochemistry
• Ecophysiology • Forest management
• Ecosystem restoration • Peatland • Wetlands
• Ecosystem science • Carbon balance • Global change

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UNIVERSITY OF GOTHENBURG

SPRÅKBANKEN TEXT

Språkbanken Text is a research unit and forms part of Nationella språkbanken, a national e-infrastructure supporting current and future research conducted on language data. We provide freely available modern and historical language research data, primarily for Swedish, in a format suitable for research in, e.g., language technology, artificial intelligence, linguistics, digital humanities and social sciences. We develop language technology-based analysis tools which enrich our data collection and enable sophisticated text search applications, to support new kinds of research. Among our popular research tools we find Korp, providing advanced search functions over the totality of our data collection, and Karp, for browsing and search in our lexicons and other formally structured linguistic databases, Sparv for rich language technology analyses of texts, and many other tools. We collaborate with Swedish and international research groups, memory and cultural-heritage institutions, schools and enterprises. Established as early as 1975, we are one of the world's oldest language-technology R&D units.

KEYWORDS :

• Language technology • LT • Artificial intelligence • AI
• Linguistics • Language • Language data • Research data
• Research tools • Text analysis • Digital humanities and social sciences • Swedish • R&D unit • Nationella Språkbanken • Swe-Clarin

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UNIVERSITY OF GOTHENBURG

SWEDISH NATIONAL DATA SERVICE (SND)

Swedish National Data Service (SND) is a national research data infrastructure designed to assist researchers in preserving, maintaining, and disseminating research data in a secure and sustainable manner. The goal is to make access to research data "as open as possible, as closed as necessary". The SND search function makes it easy to find, use, and cite research data from a variety of scientific fields. SND is present throughout the Swedish research ecology and is run by a consortium of nine universities. Together with an extensive network of around 40 higher education institutions and other research organisations, SND strives to create a distributed large-scale system of certified research data repositories.

KEYWORDS :

• Data discovery • Data sharing • E-infrastructure
• FAIR data • Open access • Open data • Open science
• RDM • Research data • Research data catalogue
• Research data infrastructure • Research data management
• Research data repository • Research infrastructure

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UNIVERSITY OF GOTHENBURG

THE SWEDISH NMR CENTRE (SNC)

The Swedish NMR Centre (SNC) is a National and International infrastructure offering access to one of the best NMR labs in Europe. At present, we offer access to eight different spectrometers, ranging from a 400 MHz DNP system unique to Northern Europe to a 900 MHz spectrometer catering for the most demanding applications in solution-state NMR. The palette of spectrometers covers a wide range of research areas, ranging from structural biology of macromolecules to large-scale metabolomics projects, target-drug interaction studies and material science on solid samples.

KEYWORDS :

• Solution NMR • DNP-NMR • Structural biology
• Metabolomics • Non-uniform sampling • Drug-development • In-cell NMR • Microimaging • Molecular interaction
• Relaxation • Life science • Materials science

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SWEDISH ROCK ART RESEARCH ARCHIVES (SHFA)

The Swedish Rock Art Research Archive (SHFA) digitizes, archives and publishes prehistoric rock art images for researchers, students, and the general public. SHFA's database includes more than 27,000 documentations of rock carvings and paintings, primarily from Sweden including the UNESCO world heritage area "Rock art in Tanum", but also from Denmark, Norway, Italy and Spain. The database includes both analogue documentation, interactive 3D models, and new visualisations. The experts at SHFA develop new digital documentation of rock art such as 3D, AI & VR. SHFA's online database has reached a new milestone with more than 2 million visitors. SHFA's material is available at the international infrastructure ARIADNE+ driven by EU in collaboration with CDH and SND. Researchers connected to the SHFA currently drive four international research projects funded by VR and RJ.

KEYWORDS :

• Rock art • Petroglyphs • Pictograms • Research infrastructure • Bronze Age • Neolithic • 3D • Visualization • Artificial intelligence • Data driven science • Databases • World heritage • UNESCO

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UNIVERSITY OF GOTHENBURG

VARIETIES OF DEMOCRACY (V-DEM)

Varieties of Democracy (V-Dem) is a unique approach to conceptualizing and measuring democracy. We provide a multidimensional and disaggregated dataset that reflects the complexity of the concept of democracy as a system of rule that goes beyond the simple presence of elections. The V-Dem project distinguishes between five high-level principles of democracy: electoral, liberal, participatory, deliberative, and egalitarian. V-Dem collects data on 600 indicators and supplies over 50 indices related to the five main types of democracy from 1789-today. The data is collected annually and by the assistance of more than 3,700 Country Experts, the resulting database is the largest of its kind with some 30 million observations.

KEYWORDS :

• Democracy • Data collection • Expert coding • Research infrastructure • Democratization • Autocratization

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UNIVERSITY OF LJUBLJANA

INFRASTRUCTURAL CENTER FOR THE STUDY OF GROWTH AND DEVELOPMENT OF AGRICULTURAL PLANTS

The key part of the IC is the central research greenhouse, which covers a total area of 332 m2. It is equipped with an automatic window opening system, retractable shade curtains - computer controlled via light sensors, lights (assimilation, photoperiodic), rolling benches, bench irrigation (flood or with trolleys), dispenser, fogging system and computer control of each segment. In addition to the central greenhouse, the IC also encompasses 10 acres of protected areas (plastic greenhouses) and 16 ha experimental fields where are production areas, grassland, and permanent crops (orchards). Within the IC, a lysimeter station is installed, equipped with a meteorological station.

KEYWORDS :

• Greenhouse • Experimental field • Lysimeter station • Agricultural plants • Horticultural plants • Vegetables • Fruits • Cultivation practices

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UNIVERSITY OF LJUBLJANA

IC BOTANIC GARDENS CENTER OF AUTOCHTONOUS AND ALOHTONOUS FLORA WITH SEED GENE BANK

UNIVERSITY BOTANIC GARDENS LJUBLJANA

IC Botanic Gardens is the oldest scientific research and educational institution in Slovenia, founded in 1810, covering 5 ha of surfaces, 2 ha of which is home to a living plant collection with 5729 species and subspecies, as an example of ex -situ conservation. It has 1500 m2 of greenhouses with tropical, Mediterranean plant species, cacti and succulents. It has 850 m2 cultivation area with covered beds and a watering system for growing protected and endangered plant species for their reintroduction and for native species research. The research collection contains 20000 units. There are 2 ha meadow area for the needs of in-situ protection, while 1 ha is for bog species in-situ protection. There is also an educational beehouse for bee research. IC has a permanent and dry seed bank with over 3500 species with 18000 units. Seeds of over 25 % of our flora with a known origin are stored in the permanent seed bank. In the archive collection there are Index seminum from 1889.

KEYWORDS :

• Botanic gardens • Seed banks • Collections • Ex-situ conservation • In-situ conservation • Native flora • Endemic species • Endangered flora

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UNIVERSITY OF LJUBLJANA

INFRASTRUCTURAL CENTER RESEARCH FOREST

The infrastructural centre Research Forest includes three forest areas of 737 ha in total and infrastructure equipment for monitoring various ecological and physiological processes in forest ecosystem. The basic objectives of the Research Forest are: i) to support research in forest ecology, physiology and management, ii) to support the educational process in forestry and related studies, and iii) to promote science, forests and forestry. The research infrastructure includes meteorological stations for monitoring climatic parameters, sensors for recording forest soil properties, detectors of tree growth, facilities for monitoring forest regeneration (fenced areas), and other.

KEYWORDS :

• Forest ecosystem • Forest ecology • Regeneration
• Tree growth • Stand growth • Climate • Soil

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UNIVERSITY OF LJUBLJANA

ADP SOCIAL SCIENCE DATA ARCHIVES

Slovenian Social Science Data Archives (ADP) is a national research infrastructure for social sciences, whose main mission is to manage data and data services in the field of social sciences in order to support research, education, and general well-being. Digital curation of high-quality research data that is openly accessible to researchers and other interested public is at the essence of the ADP activities. Within its mission, the ADP establishes itself as a national infrastructure that collects important data sources from a wide range of social sciences, interesting for analyzing the Slovenian society, deposits, preserves and promotes their further use in scientific, educational and other purposes. ADP is involved in the activities of the Pan-European research infrastructure – CESSDA ERIC (Consortium of European Social Science Data Archives).

KEYWORDS :

• Social sciences • Humanities • Behavioural sciences
• Research data • Research methods • Research instruments
• Qualitatitve data • Quantitative data • Data sharing
• Data access • Training • Digital preservation
• Research data management • CESSDA

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UNIVERSITY OF LJUBLJANA

PUBLIC OPINION AND MASS COMMUNICATION RESEARCH CENTRE (POMCRC)

POMCRC is the leading Slovenian social survey research institution in the fields of sociology from cross-national and cross-temporal perspective. Centre has been conducting annual general social surveys, which are the key source of empirical data for the national social science community. Apart from designing and fielding national survey projects, the Centre is a regular partner in a number of widely acclaimed comparative surveys, such as ESS, WVS, EVS, ISSP and CSES. Its principal mission remains monitoring relevant structural characteristics and processes in Slovenian society within the broader European context. Centre also represented the University of Ljubljana in the role of a partner institution in the European Social Survey (ESS-ERIC) managing consortium.

KEYWORDS :

• Comparative social research • Cross-national surveys
• Public opinion • Social research methods • Data analysis

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UNIVERSITY OF LJUBLJANA

INFRASTRUCTURAL CENTRE “CELLULAR ELECTRICAL ENGINEERING”

The main purpose of this IC is the study of interactions between electromagnetic fields and living organisms. Main parts of IC are the Unit for electric pulse generator development and the Unit for lipid bilayers, biological and microbiological research. Main areas of research supported by infrastructural center are:

• Cell and tissue electroporation and its use in electrochemotherapy of tumors and gene electrotransfection,

• Development of electrical equipment and electrodes for research and clinical work,

• Design of electrodes and chambers that enable application of electric pulses and monitoring of their effects on level of lipid bilayers, lipid vesicles, cells and microorganisms.

KEYWORDS :

• Electroporation • Electrotransfection
• Electric pulse generator • Electrochemotherapy
• Electrodes • Gene therapy • DNA vaccines

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UNIVERSITY OF LJUBLJANA

EATRIS SLOVENIA

EATRIS Slovenia is a national node of EATRIS ERIC, a non-profit organization that brings together European centres of excellence for translational research in medicine and diagnostics. The coordinator of the Slovenian node is University of Ljubljana, Faculty of Pharmacy. The capacities of IC include advanced equipment that enables synthesis and evaluation of new drugs, development of new formulations, and discovery of new biomarkers. IC provides access to various LC-MS and HPLC systems, flow cytometers, next-generation sequencer, confocal Raman microscope, several different readers, fully equipped chemistry and cell laboratories, and other instruments that facilitate scientists' participation in national and international research projects.

KEYWORDS :

• EATRIS • University • Ljubljana • Pharmacy • Advance
• Biomarkers • Molecules • Translational • Research
• Therapies • Infrastructure • Diagnostics • Drugs
• Personalized • Medicine

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UNIVERSITY OF LJUBLJANA

THE HERITAGE SCIENCE RESEARCH INFRASTRUCTURE CENTER E-RIHS.SI

The Heritage Science research infrastructure center E-RIHS.SI provides researchers and experts from various domains (natural and other sciences, engineering and technology, arts and humanities) an interdisciplinary approach to solving problems in the field of heritage science. The unit has been established in accordance with the Agreement on the Establishment of the Consortium E-RIHS.SI between the University of Ljubljana and the Institute for the Protection of Cultural Heritage of Slovenia, Jožef Stefan Institute, National Institute of Chemistry, National and University Library, University of Maribor and the Slovenian national Building and Civil Engineering Institute, and thus represents a large, distributed infrastructure. E-RIHS.SI is part of the European Research Infrastructure for Heritage Science (E-RIHS).

KEYWORDS :

• Cultural heritage • Heritage science • Environmental monitoring • Material characterisation and degradation
• Separation techniques • Spectroscopy • Microscopy
• Imaging • Online scientific data and tools • Databases

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INFRASTRUCTURAL CENTRE FOR ADVANCES IN MECHANICAL ENGINEERING

The Infrastructure Centre for Advances in Mechanical Engineering with its various research equipment enables better quality of work, infrastructural support, cutting-edge knowledge and mutual cooperation between research groups within research institutions, Slovenian industry and broadly internationally in these areas: Sustainable energy, Green and safe mobility, Health, and Factories of the future.

KEYWORDS :

• Tribological research • Advanced material modelling
• Component-based development research
• Rapid thermal runaway detection
• metallographic sample analysis
• Research on dynamic properties of pressure gauges
• Additive technologies and industry 4.0

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UNIVERSITY OF LJUBLJANA

CENTRE FOR FUNCTIONAL GENOMICS AND BIO-CHIPS (CFGBC)

The Centre for Functional Genomics and Bio-Chips (CFGBC) is a national platform that integrates the infrastructure for high-performance transcriptome and genome investigations. The Centre provides equipment, consultations and implementation of:

• Transcriptome, genome and proteome analyses using microarrays, from vendors Affymetrix/Clariom, Agilent and any other glass slide arrays;
• Targeted next-generation sequencing (NGS) on Illumina;
• Statistical and bioinformatical analyses, including experimental design;
• RNA/DNA isolation and analysis from any tissue or sample type;
• Sample preparation for genome/transcriptome analyses;
• Studies in circadian rhythm in humans and cell lines;
• Sterol metabolites on LC-MS/MS on any type of sample.

KEYWORDS :

• Transcriptome • Genome • RNA • DNA • Microarrays
• NGS • Circadian rhythm • Targeted metabolomics

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CENTRE ELIXIR-SI

ELIXIR Slovenia is a national hub of the European research infrastructure for life science information ELIXIR, coordinated by University of Ljubljana. Infrastructure of Centre ELIXIR-SI consists of (1) data science / dry lab serving as a national life sciences data node for long-term data management, archiving, analysis, integration, interoperability, stewardship and includes high-performance computing (HPC) cluster with CPU and GPU nodes, (2) wet lab with single cell analysis and central NGS laboratories, and (3) training centre with the e-learning platform (https://elixir.mf.uni-lj.si) providing training in various life sciences topics. Overall, ELIXIR-SI plays a crucial role in advancing research in life sciences and provides state-of-the-art infrastructure and training to researchers in the field.

KEYWORDS :

- ELIXIR Slovenia • Life science information
- Data management • Data analysis • Bioinformatics
- High-performance computing (HPC) cluster
- E-learning platform • Wet lab infrastructure
- Single-cell analysis • NGS laboratory

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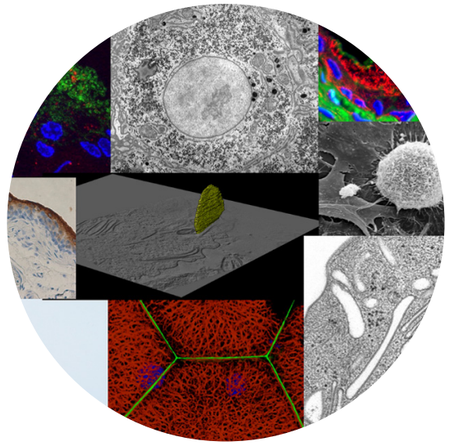

SIMBION SLOVENIAN MULTIMODAL BIOIMAGING NODE

The SiMBioN is the Slovenian node of the European research infrastructure centers Euro-BioImaging and it is composed of infrastructure centres and research teams dealing with imaging analysis of biological samples. The consortium's main mission is to provide access to state-of-the-art biological, biochemical and medical imaging technology to users in Slovenia and elsewhere coming from both research institutes and industry, and to human and veterinary medicine departments.

KEYWORDS :

- High resolution confocal microscopy
- Transmission electron microscopy
- Scanning electron microscopy • FIB SEM • PIXE
- Laser ablation LA-ICP-MS • NMR

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EUTOPIA RESEARCH INFRASTRUCTURE

UNIVERSITY OF LJUBLJANA

EXSPERIMENTAL CENTER FOR DOMESTIC AND LABORATORY ANIMALS

The Center carrys out physiological, pharmacological, toxicological, toxinological and other research on animals or organs in order to define the effects and mechanisms of action of biologically active substances. The Center is crucial for practical training for EU functions A-D and is therefore extremely important for the smooth conduct of research with laboratory animals throughout the Republic of Slovenia. This is also a Demonstration centre for the coexistence of domestic and wild animals. The Center also carries out activities in the field of recultivation of abandoned karst areas using sustainable technologies. It is also known for its organic production of sheep's milk and cheese. Part of the center is located at the south-west of Slovenia, in the Karst area, near the village of Divaca on the Vremscica plateau. The centre acts as a research and learning centre and a visitor centre and also represents a learning fascility for students of veterinary medicine and biotechnology.

KEYWORDS :

- Karst area • Recultivation • Meadows and pastures
- Autochthonous and traditional animal breeds
- Learning center • Demonstration center
- Preservation of nature • Experimental animals
- Research projects

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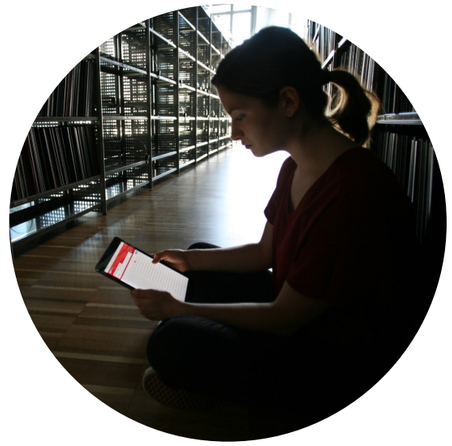

CENTRE FOR LANGUAGE RESOURCES AND TECHNOLOGIES

CJVT UL focuses on scientific research and the development and maintenance of key digital language resources and language technology applications for contemporary Slovene. The developed resources and applications have practical value and are accessible to all the Slovene language users around the world. CJVT's infrastructure offers researchers various services: language resources and tools for Slovene, online platforms (crowdsourcing, gamification), and website hosting for research projects and programmes in linguistics.

KEYWORDS :

- Language technologies • Terminology • Multilingualism
- Dictionaries and lexicons • Text corpora
- Natural language processing • Lexicography

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NOVA UNIVERSITY LISBON

PORTUGUESE CLINICAL RESEARCH INFRASTRUTURE NETWORK (PTCRIN)

PtCRIN is an infrastructure of the Portuguese Roadmap of Research Infrastructures, organized as a decentralized consortium of several institutions including 5 clinical trial units, that support the implementation and conduction of multinational clinical trials providing general services to academic sponsors and SMEs at a not-for-profit rate, particularly experimental/intervention clinical studies with drugs, medical devices, surgery, behaviour, nutrition, etc, in the denominated Investigator Initiated Clinical Trials (IICTs). PtCRIN is the Portuguese hub of the ECRIN, an European Research International Consortium (ERIC) integrated in the European Strategic Forum for Research Infrastructures (ESFRI).

KEYWORDS :

- Investigator-initiated clinical trials
- Multinational • Clinical trial units • Regulatory approvals
- Monitoring• Management • Good clinical practices
- High-level evidence • Clinical research
- Professional infrastructures • Network

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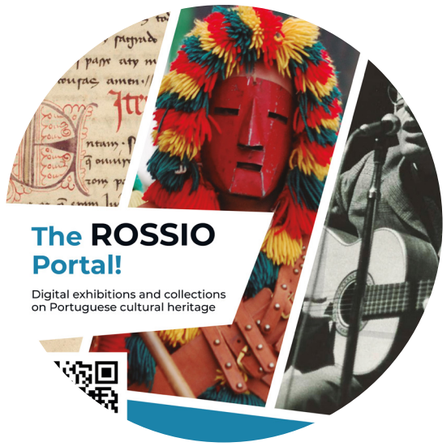
NOVA UNIVERSITY LISBON



ROSSIO, SOCIAL SCIENCES, ARTS AND HUMANITIES

The ROSSIO Infrastructure is constituted by a consortium, coordinated by the School of Social Sciences and Humanities (NOVA FCSH) and integrates several cultural and educational institutions. Its core mission is to aggregate, organize, link, contextualize, enrich, and disseminate a unique universe of digital content about social sciences and humanities and aims to be a reference for SSAH and will contribute to the excellence, innovation and internationalization of Portuguese science and Portuguese-speaking cultural heritage. Through a dynamic research infrastructure ROSSIO provides a broad, diverse, and valuable range of quality content with great potential for the cultural and creative industries. ROSSIO also provides value added services like a Search Portal; a Virtual Research Environment; Digital Collections and Exhibitions, Training sessions and MOOCs.

KEYWORDS :

- Social sciences • Arts • Humanities • Open access
- FAIR data • Metadata • Digital objects • Platform
- Development and curation • Repositories • Archives
- Libraries • Museums

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NOVA UNIVERSITY LISBON

IN VIVO ARTHROPOD SECURITY FACILITY (VIASEF)

VIASEF is a high security RI that offers to the scientific community and industry the possibility to develop in vivo studies with autochthonous, invasive, exotic or transgenic arthropod vectors, to develop research in arthropod-transmitted diseases and the possibility of expanding current research lines with the use of human pathogens and their arthropod vectors, in a cost-effective manner. It also provides safe laboratorial conditions to develop projects with human pathogens including those classified as biohazard level 3. It conducts studies primarily in the context of malaria, arboviruses and leishmaniasis operating in an IberianSouth Mediterranean geographic context and in close collaboration with the Community of Portuguese Speaking Countries.

KEYWORDS :

- High security infrastructure • In vivo studies
- Human pathogens • In arthropod-transmitted diseases

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NOVA UNIVERSITY LISBON

PORTUGUESE NUCLEAR MAGNETIC RESONANCE NETWORK (PTNMR)

Nuclear Magnetic Resonance (NMR) spectroscopy covers many methods and techniques, key for the study and characterization of new materials, fine chemicals and biological samples at the molecular level, with applications in health, nutrition, energy and environment. PTNMR is distributed over 4 regions, joining 9 academic institutions, and providing a coordinated access to a state-of-the-art and competitive platform of equipment, services and skills in NMR for the use of the scientific community, from the national and international private sector and academia. PTNMR's goals are to promote innovation by providing scientific support, to foster collaborative work between industry and academia, and to organize and support advanced training activities.

KEYWORDS :

- Nuclear Magnetic Resonance • New materials
- Fine chemicals • Platform of equipment

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NOVA UNIVERSITY LISBON

SOCIAL SCIENCES DATALAB (DATALAB)

DataLab is a RI that provides all the essential conditions for advanced research in Social Sciences. It does so by providing free access to the most complete bibliographic and statistical datasets in the fields of Economics, Finance and Management. DataLab also supports public and private institutions by providing an infrastructure where they can make their data available to the scientific community. It also provides research assistance to studies using the databases at the DataLab. Finally, it provides users with training and support, as well as communication services. DataLab has also set up its Safe Center, a physical infrastructure that hosts unique administrative microdata, and supports the SHARE project on multidiciplinary microdata.

KEYWORDS :

• Social sciences • Microdata
• Free access • Data availability

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POMPEU FABRA UNIVERSITY-BARCELONA

FLOW CYTOMETRY UNIT
UPF – CRG

Flow cytometry studies optical parameters emitted by particles (cells, cell fractions). Flow cytometers can study a series of parameters of individual particles simultaneously, quickly and on a large number of individualized particles in suspension. Information is also collected regarding the size and structural complexity of each particle. The most important applications of flow cytometry include those relating to the study of cell surface receptors, nuclear and cytoplasmic antigens, DNA content, enzyme activity, cell integrity and membrane permeability and calcium flows. The Unit currently hosts five analysers and two sorters, and there is the largest Becton Dickinson site in Spain.

KEYWORDS :

• Low • Cytometry • Analysers • Sorters • Cells • Lasers
• Samples • Data analysis • DNA • Enzymes • Antigens

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POMPEU FABRA UNIVERSITY-BARCELONA

GENOMICS CORE FACILITY
UPF

The Genomics Core Facility at the UPF provides a wide variety of methods for DNA and RNA analyses. Available equipment include liquid handling robots to automate pipetting tasks, capillary sequencers for Sanger sequencing and fragment analysis, DNA quantification and quality control with Qubit, Picogreen and Bioanalyzer, real-time PCR and OpenArray system for absolute and relative quantification of nucleic acids (genotyping and gene expression), and two next-generation sequencing platforms from Illumina: MiSeq, ideal for targeted and small genome sequencing and NextSeq, a highly flexible platform performing a broad range of applications, from targeted resequencing to RNA profiling and whole-exome or genome sequencing.

KEYWORDS :

• Genomics • DNA • RNA • Bioanalyzer • OpenArray
• Genotyping • Gene expression • MiSeq • NextSeq
• Cell sequencing

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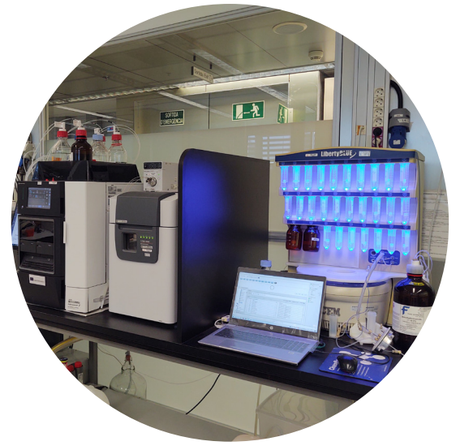
POMPEU FABRA UNIVERSITY-BARCELONA



PEPTIDE SYNTHESIS CORE FACILITY

Synthetic peptides are useful tools in many areas of biomedical research, including well known applications such as immunogens (anti-peptide antibodies, vaccines), affinity capture and purification ligands, intracellular delivery shuttles, anti-infective therapies, etc. Our facility provides synthetic peptides for these and other purposes to a variety of PRBB and extramural users in public and private research institutions, hospitals and health centres, pharma and biotech companies. State-of-the-art equipment allows fast, reliable synthesis of peptides in a broad range of sizes, amounts, purities and presentations (free, coupled to carrier proteins or affinity supports, biotinylated, lipidated, fluorolabelled, etc.)

KEYWORDS :

• Synthetic peptides • Immunogens
• Vaccines • Peptides • Proteins

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POMPEU FABRA UNIVERSITY-BARCELONA

PROTEOMICS UNIT

The Proteomics Unit is a joint effort of Universitat Pompeu Fabra and the Center of Genomic Regulation to create an innovative core facility that provides high quality proteomics services to its final users, by providing proper expertise and advice, and by developing new methods and techniques. The Proteomics Unit provides full service in a variety of proteomics applications including protein quantification, identification of post-translational modifications, and data analysis, among others. In addition to the services provided to the research community, the Proteomics Unit also promotes internal technology-driven research as an essential task to keep the unit at the forefront of the proteomics field.

KEYWORDS :

• Proteomics • Quantification • Data analysis • Technology

KEY CONTACT :

HEAD OF THE UNIT :

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POMPEU FABRA UNIVERSITY-BARCELONA

SCIENTIFIC IT CORE FACILITY

The mission of the SIT is to support researchers in order to provide a service that promotes, drives and improves their research projects; provide the best IT infrastructures and technical knowledge maximizing the use to minimize the cost and collaborate in research projects. They guarantee a quality service for research, swift in solving problems, speed up the results of research projects, proximity to the user and their research and be transparent and fair. The aim is to be a reference of quality in the scientific-technical service and advanced technology in the university and to be a HUB of knowledge and IT resources.

KEYWORDS :

• Hub • IT resources • Technical knowledge
• Scientific-technical service

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UNIVERSITY OF WARWICK

UK HIGH-FIELD SOLIDSTATE NMR FACILITY

The NMR National Research Facility (funded by EPSRC and BBRSC) hosted at Warwick offers time on two solid-state NMR spectrometers, 1 GHz and 850 MHz instruments. Research has been performed on applications across the physical and life sciences, such as battery and energy technologies, catalysts, pharmaceuticals, plant physiology, and protein structural biology. We offer a large array of probes for static NMR, Double Rotation (DOR), and magic angle spinning with the capability of up to 160 kHz spinning frequency. We have the ability to detect nuclei over a wide range of frequencies, and combinations. Outside the National Research Facility, the other solid-state NMR instruments located at Warwick range from 100 to 700 MHz, with a wide array of probes for magic angle spinning (up to 111 kHz spinning frequency) as well as static NMR and DOR.

KEYWORDS :

• Solid-state NMR • Magic Angle Spinning (MAS)
• Battery technology • Pharmaceuticals
• Plant cell wall physiology • Protein structural biology

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UNIVERSITY OF WARWICK

MICRO-FOCUS X-RAY COMPUTED TOMOGRAPHY

The Micro-focus XCT facility provides high-resolution X-ray CT scanning capabilities to enable the 3D imaging of a wide range of materials and geometries. Located in the Centre for Imaging, Metrology and Additive Technologies (CiMAT) at WMG, and part of the EPSRC National Research Facility for X-ray Computed Tomography, our facility has five CT scanners, ranging from a high power/ high penetration system capable of scanning large metallic objects (e.g. automotive engines and electric drive units), through to a lab grade ultra-high resolution system, capable of achieving resolutions of a few hundred nanometres, and including a high speed CT system capable of 4D imaging of samples in dynamic states (e.g. under load in compression rigs), and a metrologygrade system for geometric measurement.

KEYWORDS :

• X-ray Computed Tomography • NDT
• Micro-focus XCT• High-power XCT • In-situ scanning
• Material characterisation • Digital imaging • Metrology

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UNIVERSITY OF WARWICK

BIOINFORMATICS RESEARCH TECHNOLOGY PLATFORM

The Warwick Bioinformatics RTP provides access to the computational skills and expertise required for accurate interpretation of data from high-throughput biomedical experiments. Our team provides assistance across a broad range of data types and platforms and at all stages of the experimental procedure; from consultation on experimental design, through the implementation of cutting edge data analysis pipelines and interpretation, to delivering results as figures and as interactive web tools. Please contact us to discuss how we can help with your research.

KEYWORDS :

- Bioinformatics • Computational biology • Data analysis
- Nucleotide sequencing • Big data • High capacity computing
- Programming genomics • Metagenomics • Transcriptomics
- Proteomics • Single cell sequencing technologies
- Sequence assembly • Regulatory sequence analysis

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UNIVERSITY OF WARWICK

PROTEOMICS RESEARCH TECHNOLOGY PLATFORM

The Proteomics RTP provides service to researchers seeking to identify and quantify proteins and their modifications. The analysis of protein mixtures from gel slices, co-immunoprecipitations or enrichments is routine and we can identify several thousand proteins in complex samples such as, cell lysates and tissue extracts. You will find support from an enthusiastic team to help with scientific discussion, experimental design, sample preparation, analysis of data and provision of training. Orbitrap Fusion with UltiMate 3000 RSLCnano System • Identify and Quantify unknowns from complex mixtures using LC-MS Quantiva triple quadrupole with UltiMate 3000 RSLCnano System • Validate targets generated from analysis of complex mixtures using LC-MS.

KEYWORDS :

- Proteomics • Mass spectrometry • Identification
- Quantification • Post-translational modification
- LC-MS• LC-MS/MS • Peptide • Protein
- Phosphorylation • Validation

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UNIVERSITY OF WARWICK

ADVANCED BIOIMAGING RTP

With two transmission electron microscopes and a range of preparatory equipment, the Advanced Bioimaging RTP at the University of Warwick can analyse many different types of samples for various properties. We specialise in the analysis of biological samples from proteins, viruses and bacteriophage to the ultrastructure of cells, with techniques such as resin embedding and cryo-TEM. These methods also translate well to soft materials such as nanoparticles, vesicles, liposomes, where membrane thickness, particle size and general morphological characterisation are common requests. We are always happy to discuss projects so please contact us if you have any questions.

KEYWORDS :

- Cryo-TEM • Transmission electron microscopy
- Biological samples • Cellular ultrastructure
- Nanoparticles • Size measurements
- Negative stain • Ultrathin sectioning

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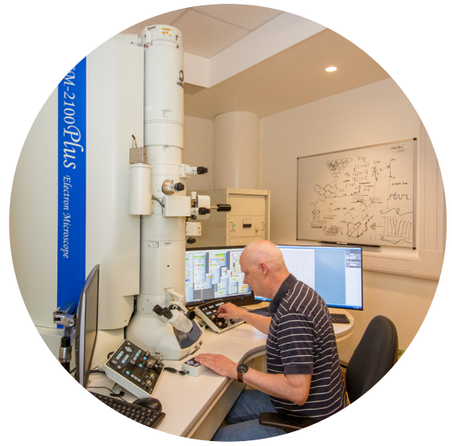

ELECTRON MICROSCOPY RESEARCH TECHNOLOGY PLATFORM

The Electron Microscopy suite at the University of Warwick is a Research Technology Platform primarily for materials research, with particular emphasis on organic and inorganic semiconductors, functional ceramics, oxides, molecular electronic systems, two dimensional materials and nanotubes. The RTP contains a wide range of microscopes including: 2 high resolution scanning electron microscopes; Focused Ion Beam scanning electron microscope; 3 transmission electron microscopes from simple imaging and analysis to acquiring atomic resolution images and EDX /EELS analysis and 2 state-of-the-art scanning probe microscopes. Work can be performed by the RTP staff or we can provide training for self-use of equipment to provide maximum flexibility.

KEYWORDS :

- Electron microscopy • Transmission electron microscopy
- TEM • Scanning transmission electron microscopy
- STEM • Scanning electron microscopy • SEM
- Focused Ion Beam SEM

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X-RAY DIFFRACTION RTP

The X-ray diffraction RTP offers state-of-the-art X-ray scattering services, primarily for material research. It is headed by the academic director, Professor Richard Walton and the facility manager, Dr David Walker. Our team are highly knowledgeable and have multi-disciplined expertise. The RTP has powder XRD, high-resolution XRD, single-crystal XRD for small molecule structural solution and a WDXRF system for elemental analysis from B-U. A dedicated SAXS instrument is available for polymer / nanomaterial research including liquid dispersed nanoparticles, gels, powders and thin films (GISAXS). A wide range of services are available, including phase ID, structural determination, lattice parameter determination, in-situ diffraction and more.

KEYWORDS :

- X-ray Diffraction • XRD • SAXS • XRF • High-resolution
- Scattering • Powder XRD • Structural solution
- Nanomaterials • Reflectivity • Stress • Texture
- GISAXS • Non-ambient

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PHOTOEMISSION RTP

The Photoemission Research Technology Platform Facility provides advanced surface analysis via x-ray photoelectron spectroscopy (XPS), ultraviolet photoelectron spectroscopy (UPS), angle-resolved photoemission (ARPES) and low energy electron diffraction (LEED). These techniques provide high precision composition, chemical state and electronic analysis of the surfaces of solid materials. The Facility has two modern spectrometers available and can be a useful tool in research across the full spectrum of the sciences, including nanoparticles, biocatalysis, semiconductors, polymers, plastics, photovoltaics, coatings, batteries, metallics, pharmaceuticals and more. Regular users can request hands on training both for using the equipment and interpreting their data.

KEYWORDS :

- X-Ray Photoelectron Spectroscopy • Xps
- Ultraviolet Photoelectron Spectroscopy
- Ups • Surface Analysis • Surface Science
- Surface Chemistry• Composition Analysis
- Materials • Angle-Resolved Photoemission
- Arpes • Low Energy Electron Diffraction • Leed

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EUTOPIA RESEARCH INFRASTRUCTURE

UNIVERSITY OF WARWICK

POLYMER CHARACTERISATION RESEARCH TECHNOLOGY PLATFORM

We are a polymer and materials characterisation facility based at the university of Warwick that exist to support research internally and externally. Our facility contains ~30 instruments that cover a variety of polymer analysis needs. Our main specialities are GPC/ SEC, thermal analysis (DSC, TGA, DMA) and particle sizing, however, many more instruments are available, including HPLC, GC and FTIR. We offer many forms of service from single sample to bespoke design of analytical experiments. This includes discussions to help devise the best course of action with respect to analytical challenges. We also offer some bespoke synthesis requests.

KEYWORDS :

- GPC • SEC • Gel permeation chromatography
- Size exclusion chromatography • Polymer Analysis
- Polymer Characterisation • TGA • DSC • DMA
- Thermal Analysis • Materials Testing

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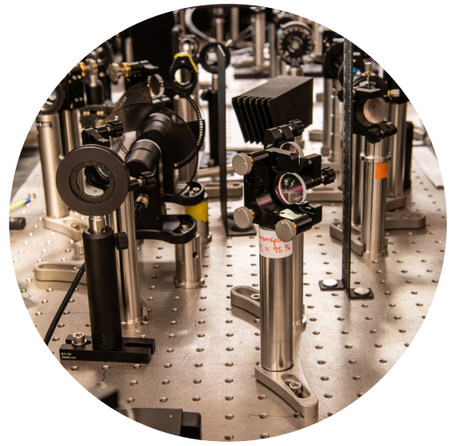

WARWICK CENTRE FOR ULTRAFAST SPECTROSCOPY

The Warwick Centre for Ultrafast Spectroscopy (WCUS) provides a suite of spectroscopic techniques that examine how materials respond after absorbing light on femtosecond (10^-15 s) timescales. Our state-of-the-art laser experiments can probe electronic and structural dynamics using ultraviolet (>235 nm) through to infrared (<20 microns) light as well as in the terahertz regime. The techniques have been used to study light activated prodrugs and sunscreens, as well as electron mobility, phase dynamics and beyond in novel materials (eg semiconductors, organic electronics). “Steady-state” UV/visible/IR/THz absorption as well as photoluminescence techniques, allow us to fingerprint molecules before delving deeper with ultrafast study.

KEYWORDS :

- Ultrafast spectroscopy • Terahertz spectroscopy
- Semiconductors • Quantum materials • Photostability
- Prodrugs and nanomedicine • Infrared spectrsocopy
- Ultraviolet spectroscopy • Transient absorption spectroscopy
- Fluorescence spectroscopy

KEY CONTACT :

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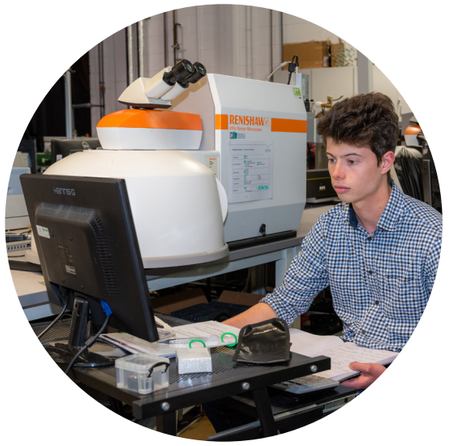

SPECTROSCOPY RTP

The Spectroscopy RTP offers state of the art capabilities in Raman, photoluminescence (PL), optical absorption (UV-Vis and FT-IR) and Electron Paramagnetic Resonance. Diffraction limited imaging is available for Raman, PL and FT-IR. Individually or in combination these spectroscopic techniques is able to offer a non-destructive route for the identification and characterisation of a wide range of materials. The facility can offer variable temperature experiments from 4 K to 1500 K across most techniques and provide bespoke experiments to meet specific needs. Data can be either collected on your behalf and analysed using specialist analysis packages by the facility staff; or for regular users hands on training can be provided.

KEYWORDS :

- Optical Spectroscopy • Raman • FT-IR • UV-Vis
- Electron paramagnetic resonance EPR
- Photoluminescence • Materials • Imaging

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SCIENTIFIC COMPUTING RESEARCH TECHNOLOGY PLATFORM

The SC RTP provides a Linux-based shared infrastructure for research computing. We manage a Linux research computing environment deployed to hundreds of PCs and workstations and also accessible via remote desktop. The RTP hosts Warwick's High Performance Computing (HPC) clusters for batch processing of computationally intensive workflows, such as large-scale simulations, high throughput parameter searches and analysis of large datasets. This is housed in a recently refurbished machine room. Our Research Software Engineering (RSE) team provide training and consultancy as well as more direct support via secondment to research projects. Please see our website for hardware specifications.

KEYWORDS :

- Scientific Computing • Research Computing
- Research Software Engineering
- High Performance Computing • Linux

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UNIVERSITY OF WARWICK

UNIVERSITY OF WARWICK ART COLLECTION

The University of Warwick owns over 1000 artworks by some of the most exciting artists of the last 60 years, including Patrick Heron, Terry Frost, Bridget Riley, Richard Deacon, Catherine Yass, Glenn Ligon, and many others. We hope they will inspire you to visit campus to see the works in our buildings and to explore our Sculpture Park in the beautiful grounds of the campus. Entry is free and you are very welcome. Visit Warwick Arts Centre for more information, maps and trails.

KEYWORDS :

- Art Collection

KEY CONTACT :

FOR ENQUIRIES ABOUT THE ARTWORKS YOU CAN CONTACT THE CURATORIAL TEA

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University of Warwick Art Collection

EUTOPIA IMPACT AND DISSEMINATION UNIT
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IMPRESSION: Nord'imprim - Steenvoorde
GRAPHISME: Bonsoir Bonsoir Studio

www.eutopia-university.eu

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