

Technology

Platforms

University of Zurich

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Strategic Research Platforms



University of
Zurich ^{UZH}

Content

ADDMAN FACTORY	1
AgroVet-Strickhof	2
Airborne Research Facility for the Earth System	3
Center for Digital Editions and Editions Analysis	4
Center for Microscopy and Image Analysis	5
Center for Surgical Research – Preclinical Lab Facility	6
Clinical Laboratory, Vetsuisse Faculty	7
Cytometry Facility	8
Electrophysiology Facility	9
Functional Genomics Center Zurich	10
HT-Protein Crystallization Center & Screen Pipetting Service	11
Induced Pluripotent Stem Cell Core Facility	12
Laboratory for Social and Neural Systems Research	13
Linguistic Research Infrastructure	14
Magnetic Resonance Imaging Research Center KPPP/KJPP	15
Nanobody Service Facility	16
Nuclear Magnetic Resonance	17
PET/MR Center Clinic for Nuclear Medicine USZ	18
Physics Workshop/ Central Material Warehouse	19
Science IT	20
Swiss Art Research Infrastructure	21
Swiss Center for Clinical Movement Analysis	22
Swiss Center for Musculoskeletal Biobanking	23
Swiss Center for Musculoskeletal Imaging	24
Technical Glassblowing	25
Viral Vector Facility	26
World Glacier Monitoring Service	27
Zurich Integrative Rodent Physiology	28

AMF

ADDMAN FACTORY

Services

- Manufacturing of parts and devices for experimental set-up, tools or prototypes
- Engineering, design, and prototyping
- Production with AM technologies (3D printing)

Location

ADDMAN FACTORY
Irchel Campus
Y25 H13
Winterthurerstr. 190
8057 Zürich

First Contact

amf@bioc.uzh.ch
+41 44 635 51 56

Details

www.amf.uzh.ch

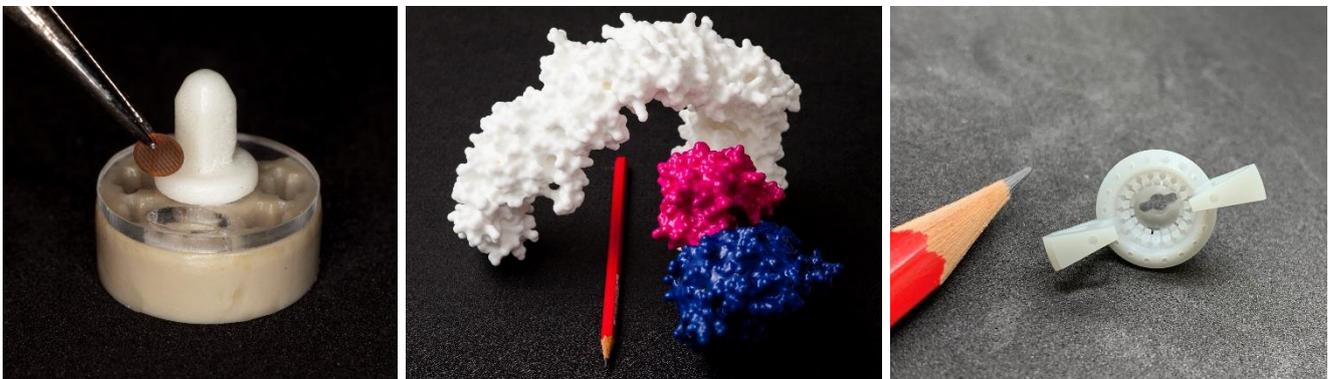


About

The AddMan Factory evolved from the Department of Biochemistry's technical workshop. Our main expertise is to support researchers by developing technical solutions and tools to aid with their scientific enquiry, focusing on bio- and medical technology. We provide additive manufacturing with different materials and printing technologies (SLS, FDM, DLP, Polyjet)

After an initial consultation with the customer, we proceed with a thorough analysis of the scenario/situation. We then develop concepts that are suitable for the scenario/situation. We help to choose the right material and manufacturing process. Construction with CAD and testing of prototypes are also part of our services. For the production of the parts, we are equipped with the most advanced 3D printers. We carry out many post-processing steps in house to meet the best possible quality standard.

Customer satisfaction is important to us. Contact us for any challenge that could be solved.



AVS

AgroVet-Strickhof

Services

- Platform for research and education in veterinary and agricultural sciences
- Facilities for dairy cows, beef cattle, sheep, pigs, horses, and poultry
- Metabolic center with respiration chambers that are available for all farm animals to measure CO₂ and CH₄ emissions as well as O₂ consumption
- Rumen simulation techniques
- Modern laboratory infrastructure for the analysis of different animal materials (feed and food, tissue and blood samples, rumen liquid, excreta)
- Forum with demonstration hall and training rooms

Location

AgroVet-Strickhof
EHB E 24
Eschikon 27
CH-8315 Lindau

First Contact

info@agroviet-strickhof.ch
+41 52 354 91 61

Details

www.agroviet-strickhof.ch



About

At AgroVet-Strickhof, higher education and research in agricultural and veterinary sciences are connected with the practical needs of the agricultural industry through the cooperation between Strickhof, ETH Zurich, and the University of Zurich. The AgroVet-Strickhof is a national and international competence center for education and research. We assist users in planning and developing research and educational projects in agricultural and veterinary medicine disciplines. National and international projects can be performed at our four sites in Lindau (ZH), Wülflingen (ZH), Frübüel (ZG), and Bergün (GR)

The AgroVet-Strickhof competence center is open to all users of the University of Zurich, ETH Zurich, Strickhof, and all other academic institutions. The Head of Research can also help with the search for project partners within the three institutions.



ARES

Airborne Research Facility for the Earth System

Services

- Airborne earth observation
- Airborne campaign planning
- Spectral ground control point collection
- Vicarious calibration and validation
- Data quality analysis
- Processing and storage

Location

ARES
Irchel Campus
Winterthurerstr. 190
8057 Zürich

First Contact

Info@ares-observatory.ch
+41 44 635 65 16

Details

www.ares-observatory.ch



About

- Research infrastructure to characterize the Earth system with a sensor package on a single aircraft for simultaneous data collection.
- Data acquisition:
Integration of three sensors for data acquisition:
 - 1) Imaging spectrometer developed in collaboration with NASA/JPL records the reflected solar irradiance
 - 2) Full waveform LiDAR for structural and topographic analysis
 - 3) High-resolution photogrammetric camera for recording textural data
- Data processing:
Specialized processing chain for each payload to transform data into physical units at well-defined geographical positions.
- Data storage:
Airborne data are stored in a dedicated infrastructure. In-situ data are stored in the spectral database SPECCHIO, supporting rich metadata storage for long-term use and sharing.
- ARES sensor data usage:
ARES data supports and enables parametrization and analysis of Earth System models and can be used to simulate, validate, and calibrate satellite-based missions.



ZDE

Center for Digital Editions and Editions Analysis

Services

- Advice on and support with project applications, including data management plans
- Advice on the selection and use of suitable digital tools
- Coordination of requirements for long-term archiving at DaSCH
- Ensuring visibility for digital edition projects
- Organization of networking services
- Provision of up-to-date information

Location

Irchel Campus
Y63 E51
Strickhofstrasse 39
CH-8057 Zurich

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Details

www.zde.uzh.ch



About

Mandate

Digitally prepared source material provides a key foundation for answering research questions in various disciplines, such as cultural studies and linguistics, history, and law. Suitable tools are required to produce digital copies, analyze and visualize text phenomena, and standardize data. ZDE helps research projects to establish cooperation arrangements and interfaces with digital infrastructures, makes digital editions visible for researchers and teaching staff at UZH, and shows the extensive analytical potential of digital editions. ZDE assists research projects with questions related to long-term archiving, in particular the coordination of requirements for archiving in the Swiss National Data and Service Center for the Humanities (DaSCH).

Advice and coordination

ZDE advises researchers on platforms and services for digital editions and edition analysis, establishes contacts, and promotes collaboration. It also advises researchers on questions related to long-term archiving and informs those working on digital edition projects about the latest requirements for applications.

Visibility of edition projects and networking

ZDE ensures visibility for digital edition projects at UZH and opens up opportunities for networking between digital research projects. It is the central forum at UZH for the latest questions and challenges in the field of digital editions.

Long-term archiving and accessibility

As the interface between research projects and DaSCH, ZDE advocates solutions for the long-term archiving of digital edition projects that are feasible and make sense. Together with partners in the field of digital humanities, ZDE promotes academic engagement with digital editions in research and teaching.

ZMB

Center for Microscopy and Image Analysis

Services

- Fluorescence and brightfield slide scanning
- Fluorescence and brightfield microscopy
- High content screening
- Single-point and spinning-disk confocal laser scanning microscopy
- Fluorescence lifetime imaging
- Light-sheet microscopy for small model organisms and large, cleared samples
- Multiphoton microscopy
- Transmission electron microscopy including element analysis
- Scanning electron microscopy including element analysis
- Focused ion beam scanning electron microscopy at cryo and ambient temperatures
- Array tomography
- Cryo-transmission electron microscopy for single particle analysis and tomography
- Sample preparation for electron microscopy
- Data and image processing
- Teaching microscopy and image processing

Location

- Irchel Campus
- VetSuisse Campus
- City Campus
- University Hospital Zurich
- Schlieren Campus
- Balgrist University Hospital

First Contact

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Details

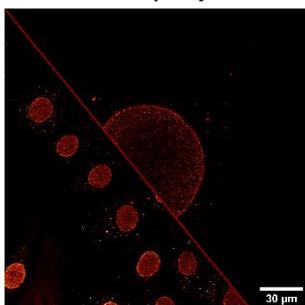
www.zmb.uzh.ch



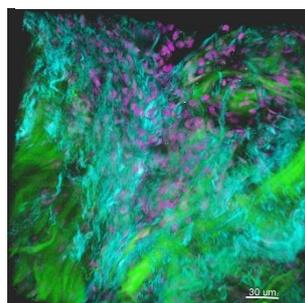
About

The Center for Microscopy and Image Analysis is an open imaging core facility of the University of Zurich committed to cutting-edge microscopy supporting life science research. The center operates microscopy-related resources. More than 40 advanced light and electron microscopy systems cover multiple scales from structural imaging at the molecular level and 3D electron microscopy to 3D light microscopy and live imaging. Data storage and processing is integrated into the imaging workflows.

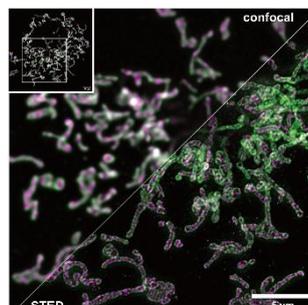
In collaboration with UZH research groups, we support microscopy and imaging-related projects with sample preparation and electron and light microscopy. Teaching of basic and advanced microscopy is carried out on practical courses as well as lectures. In order to use any of our microscopy systems, users are trained individually with a special focus on research projects.



3D rendering of mouse bladder tissue. Multiphoton microscopy allows visualization of collagen.

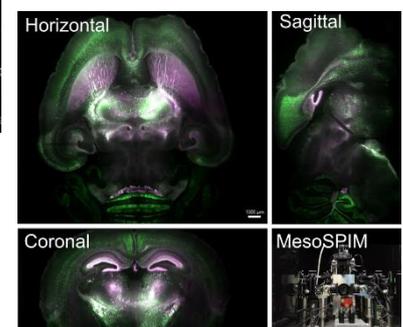


Expansion microscopy (ExM) isotropically expand the sample by 4.5 times or more in volume. ExM enables super-resolution imaging of fixed samples at the nanoscale on conventional microscopes.



Deconvolved confocal vs STED image of a Cos-7 cell labelled for the outer-mitochondrial membrane (green) and ATPsynthase (magenta).

Isotropic imaging of a cleared mouse brain expressing RFP or EGFP under the Cbh promoter. Scale: 1000 um. Sample courtesy Dr. Desirée Bock, Institute of Pharmacology, UZH.



ZFC

Center for Surgical Research – Preclinical Lab Facility

Services

- Experimental OR facilities (large animals) including life support, ECMO, telemetry, etc.
- Hybrid OR: Philips Allura Xper FD20 Fluoroscopy, add. ICE, TEE, TTE, FFR/OCT, PV-Loop, ablation, etc.
- CT/MRI access
- Microsurgical facilities (rodents): five surgical tables, microscopes, cameras, etc.
- SAMISC small animal imaging service: Bruker Pharmascan 4.7 T and 7 T
- Immunohistochemistry and histology service
- Transfer labs
- Equipment pool (qPCR, ELISA, FACS, Luminex, Nanostring nCounter Profiler, etc.)

Location

Center for Surgical Research
University of Zurich
Sternwartstr. 14
CH-8091 Zurich

First Contact

surgical.research@usz.ch
+41 44 255 87 46

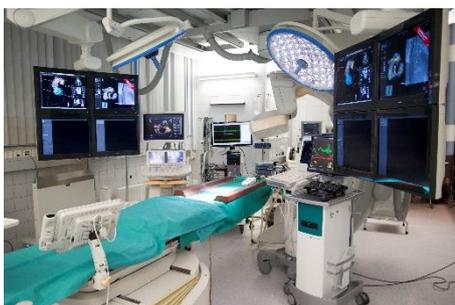
Details

www.chir.uzh.ch/en.html



About

The Center for Surgical Research facilitates and supports experimental preclinical research. It runs the experimental research operating theaters, checks experiment licenses, and supports researchers with in-vivo experiments in close affiliation with BZL and LASC. The center provides access to MRI and CT as well as to two small-animal MRI systems with specialist physicist support. The dedicated immunohistochemistry service enables researchers to conduct independent, timely, complex analyses. The center also provides managed transfer lab space, as well as an equipment pool, allowing for state-of-the-art preparation and analysis.



VML

Clinical Laboratory, Vetsuisse Faculty

Services

- Clinical pathology analyses for all laboratory animal species
- Hematology
- Coagulation
- Clinical chemistry
- Urinalysis
- Hormone analyses and various immunoassays

Location

Clinical Laboratory
Vetsuisse Faculty
Winterthurerstr. 260
CH-8057 Zurich

First Contact

info@vetlabor.ch
+41 44 635 83 40

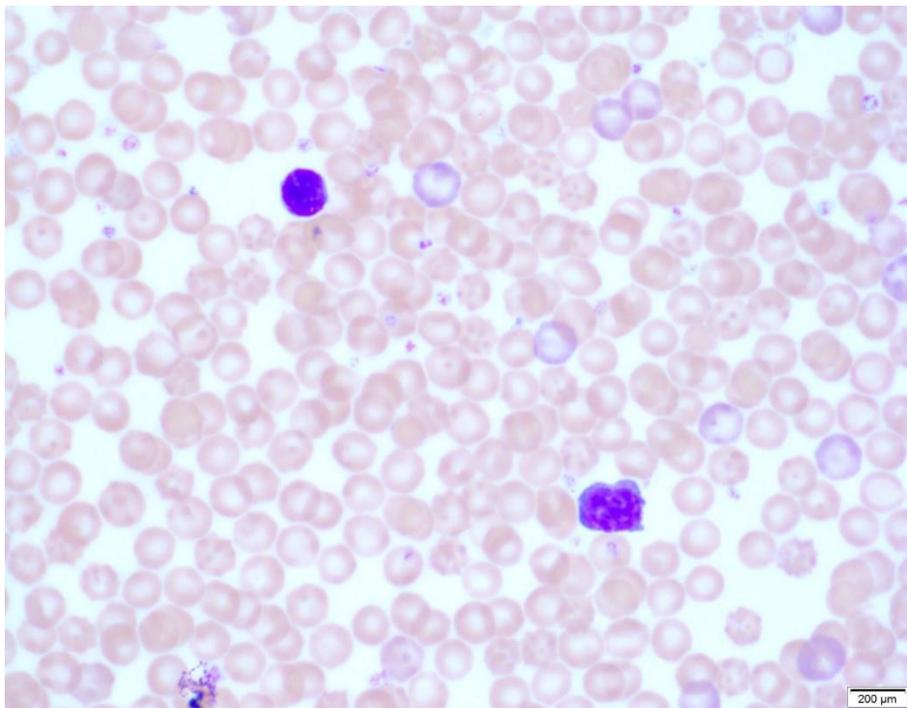
Details

www.vetlabor.ch



About

The facility is the central clinical pathology laboratory of the University Animal Hospital (Tierspital Zürich). Besides analyses for companion animals, we have extensive experience with different species of laboratory animals. We support researchers within and outside UZH with hematology, clinical chemistry, and coagulation analyses and are also able to offer special analyses, such as acute phase proteins. Our veterinary clinical pathologists, board-certified with many years of experience in preclinical safety, offer support with data analysis and interpretation. Service is charged according to our price list (available on request).



Wright-Giemsa stained blood film from a mouse

CF

Cytometry Facility

Services

- High-speed cell sorting
- High-parameter flow cytometry analysis
- Imaging flow cytometry
- Small particle flow cytometry
- Single cell analysis
- Mass cytometry
- Support with data analysis

Location

Cytometry Facility
Irchel Campus
Y44 G03
Winterthurerstr. 190
CH-8057 Zurich

First Contact

Dr. Claudia Dumrese
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+41 44 365 53 36

Details

www.cytometry.uzh.ch



About

The Cytometry Facility at the University of Zurich provides access to state-of-the-art flow cytometry equipment. Staff scientists offer a wide range of flow cytometry techniques on high-end instrumentation. With our expertise, we advise researchers on experiment planning, data acquisition, and data analysis involving high-parameter, high-speed cell sorting, imaging, mass, and small particle cytometry.

The Cytometry Facility is open to all researchers at the University of Zurich, the University Hospitals, members of ETH Zurich, and other academic institutions as well as to startups from UZH and life science companies.

Users of the Cytometry Facility are trained on our instruments and the latest opportunities offered by cytometry technology and analysis.

In addition, we teach the fundamentals of flow cytometry on regular beginner and advanced flow cytometry courses and offer seminars on relevant topics and new technological developments on a regular basis.

We offer our services at four locations: Irchel Campus (main site), Schlieren Campus, UniversityHospital Zurich. Campus Lengg

e-phac

Electrophysiology Facility

Services

- Data acquisition and analysis using
 - Manual patch clamp (possible also in combination with imaging)
 - High-throughput automated patch clamp
 - Two-electrode voltage clamp
- Training in in-vitro electrophysiological techniques

Location

e-phac
Irchel Campus
Y13 K52
Winterthurerstr. 190
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First Contact

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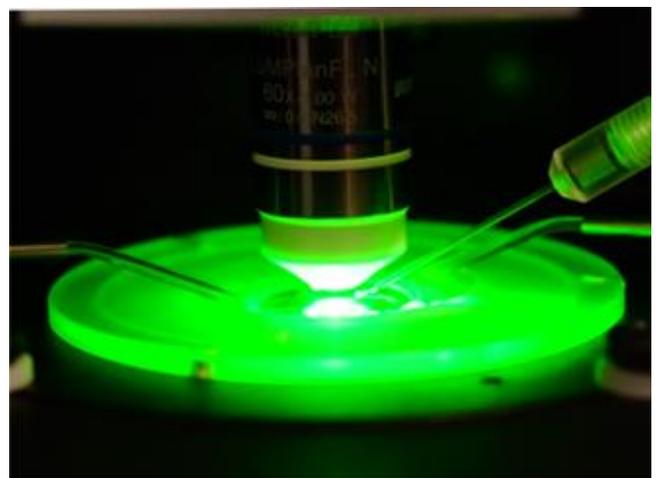
Details

www.e-phac.uzh.ch



About

The Electrophysiology Facility (e-phac) offers expertise, instrumentation, and support in the area of in-vitro electrophysiology to researchers from UZH and associated institutions. We combine in-vitro electrophysiology with the advantages of image-based techniques to study bioelectrical signaling in cells and tissues. e-phac accepts projects from all researchers at UZH and associated institutions. Our services include experimental design, data acquisition, and analysis. Trained independent users can also book the facility's infrastructure for their own use. The e-phac premises (Y13K52 and 52A) have BSL2 accreditation.



FGCZ

Functional Genomics Center Zurich

Services

- Genome, epigenome, and transcriptome analysis
- Single-cell RNA sequencing and spatial transcriptomics
- Proteome identification, quantification, and interaction analysis
- Characterization of post-translational modifications
- Glycoprotein and amino acid analysis
- Targeted and untargeted metabolite analysis and quantification
- Lipidome analysis
- Molecular interaction analysis and kinetic measurements
- Bioinformatics support and services in all areas
- Training for access to high-end instrumentation
- Multi-day practical courses in all omics disciplines
- Hands-on bioinformatics courses
- Rent-an-expert options

Location

FGCZ
Irchel Campus
Y31 H52
Winterthurerstrasse 190
CH-8008 Zurich

First Contact

- info@fgcz.ethz.ch
- genomics@fgcz.ethz.ch
- proteomics@fgcz.uzh.ch
- metabolomics@fgcz.uzh.ch
- biophysics@fgcz.ethz.ch

Details

www.fgcz.ch



About

Mission

The Functional Genomics Center Zurich (FGCZ) is a joint state-of-the-art research and training facility of the ETH and the University of Zurich. With the latest technologies and expert support for omics research, the FGCZ carries out research projects and provides services to the Zurich life science research community.

Support

FGCZ experts provide consulting and advice from the initial steps of research projects or service orders, including on the most suitable protocols, technologies, and cost-effective experimental design. Technologies include the full line-up of the latest high-throughput next-generation and single-molecule sequencing, high-performance chromatography systems, high-end mass spectrometers, and many more.

The FGCZ's analytical services consist of fully comprehensive workflows carried out by FGCZ personnel. User access to technologies enables research group staff to become directly involved in protocol development, method optimization, and data generation.

Bioinformatics services and support ensure efficient and professional analysis and interpretation of the generated data. In addition, all FGCZ-generated data are managed in a secure and accessible environment.

Teaching

The use of technologies and the analysis of resulting data is trained in multi-day courses in all omics areas and bioinformatics.

PCC@UZH

HT-Protein Crystallization Center & Screen Pipetting Service

Services

- Setting up nanoliter-scale vapor diffusion crystallization experiments for proteins, peptides, organic salts, and active pharmaceuticals
- Routinely pipetting drop volumes between 50 nl and 0.5 ml in multi-well crystallization plates
- Set-up temperature 20°C or 4°C
- Imaging of incubated experiments in Formulatrix® RockImagers® at 20°C or 4°C
- Visible Light Imaging with zoom 12:1 and cross polarizer
- UV Fluorescence imaging for protein verification
- Remote monitoring and analysis of experiments
- Excel EZ-Screen Builder developed in-house enables quick and versatile setup even of sophisticated screens
- Screen Builder ideal for salt, precipitant, and pH gradients along single rows or across the entire 2D area
- Use of up to 30 different stock solutions

Location

PCC
Irchel Campus
Y44 J30/34
Winterthurerstr. 190
CH-8057 Zurich

First Contact

Beat Blattmann
xtal@bioc.uzh.ch
+41 44 635 65 57

Details

www.bioc.uzh.ch/en/research/core-facilities/protein-crystallization-center



About

The Protein Crystallization Center – PCC@UZH – supports structural biology research by performing and monitoring high-throughput protein crystallization experiments in the nanoliter range. PCC@UZH offers a wide range of crystallization techniques for soluble and membrane proteins. The crystallization service is open to both academic researchers and the private sector.

More than 40 initial crystallization screens are available for vapor diffusion experiments, which are set up by an experienced operator at PCC. Experiments are conducted at 20°C or 4°C with drop volumes and ratios set by the researchers.

Crystallization experiments are incubated at either 20°C or 4°C and imaged for up to 100 days using the RockImager®. For experiment imaging, the schedule is set for visible light and cross-polarization. If needed, the researchers can initiate a UV fluorescence image for protein verification.

Researchers have access to all functions of the RockMaker® application via the Citrix Workspace and thus enjoy full control over the crystallization experiments.

The EZ-Screen Builder provides the researcher with an intuitive screen design tool for crystal refinement by allowing screens with concentration or pH gradients in any direction and over any range in a 96-well plate using up to 30 different stock solutions.

Price information and a confidentiality agreement can be found on the PCC website.

IPSCore

Induced Pluripotent Stem Cell Core Facility

Services

- Isolation and banking of primary cells; mycoplasma testing
- Reprogramming cells to stem cells (non-integrating system (Sendai virus), lentivirus available upon request)
- Cell expansion and biobanking of reprogrammed cells
- Quality control of human iPSC (hiPSC; characterization at protein and RNA level, in vitro differentiation, karyotyping, teratoma)
- Differentiation into iPSC-derived cells, such as cardiomyocytes, macrophages, and neurons

Location

iPSCore
IREM
University of Zurich
Wagistrasse 12
CH-8952 Schlieren

irst Contact

Dr. Melanie Generali
Ipscore@irem.uzh.ch
+41 44 634 88 78
+41 44 634 88 67

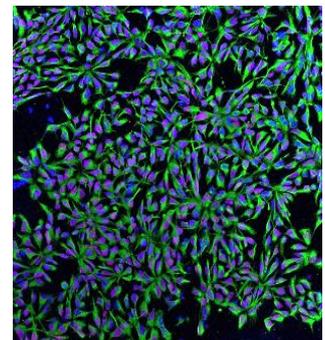
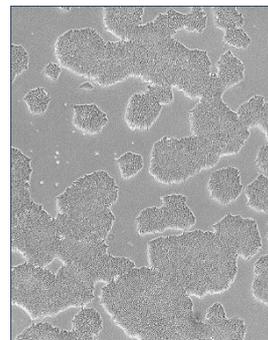
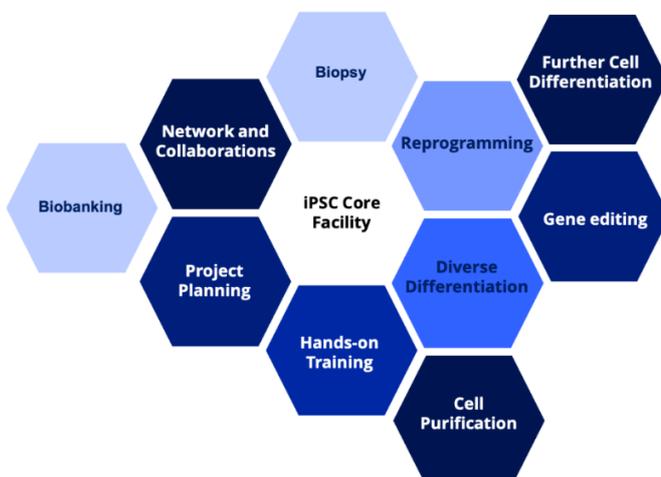
Details

www.irem.uzh.ch/en/clinic/iPSCore



About

The discovery of iPSC technology (induced Pluripotent Stem Cells) has opened up unprecedented opportunities in regenerative medicine, disease modelling, and drug discovery. The mission of iPSCore is to support basic and translational research by facilitating all aspects of iPSC technology including the derivation, differentiation, and distribution of human iPSC lines. The iPSC Core Facility provides service packages designed to cater to all steps of human iPSC cell line derivation, including establishment of primary cell cultures from biopsies, reprogramming of primary somatic cells, and analyses of the resulting cell lines to ensure high quality. The selection of derivation services is designed to provide optimal solutions for specific types of cells and at a range of costs. Notably, we provide a forum to disseminate state-of-the-art iPSC research, build relationships with one another, and renew and establish collaborations and strategies. This facility connects researchers from UZH, Zurich, and beyond. The iPSCore facility is located at the Institute for Regenerative Medicine (IREM) in Schlieren.



SNS LAB

Laboratory for Social and Neural Systems Research

Services

- fMRI/MRI
- Brain stimulation
- EGG
- Behavioral studies

Location

SNS LAB
UniversityHospital Zurich
P.O. Box 146
Ramistrasse 100
CH-8091 Zurich

First Contact

Karl Treiber
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Dr. Marius Moisa
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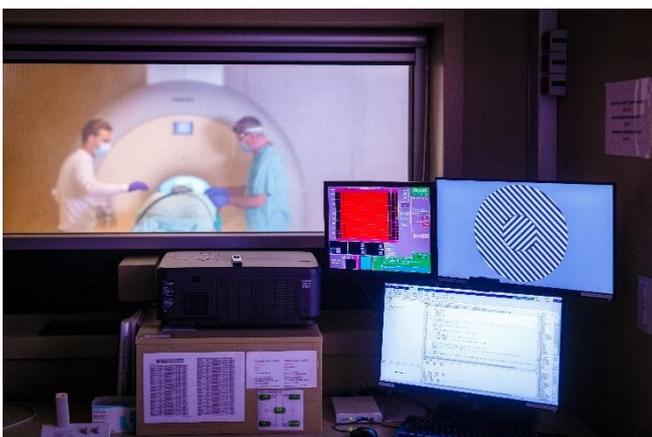
Details

www.sns.uzh.ch



About

The SNS Lab is located in a custom-built section of the MR Center at UniversityHospital Zurich. It is equipped with research-dedicated equipment for experiments using fMRI, brain stimulation, behavioral measurements, EEG, and pharmacological manipulations. The SNS Lab operates in close collaboration with the Translational Neuromodeling Unit and the Institute for Biomedical Engineering. UZH members can use the MRI scanner on Fridays (8 a.m. to 5 p.m.), provided that they have given a successful project approval presentation to the SNS Lab group leaders. For information on lab equipment, see www.sns.uzh.ch.



LiRI

Linguistic Research Infrastructure

Services

Lab space and data acquisition for experimental research:

- five recording booths, two EEG booths, three testing cubicles
- EEG, fNIRS, eye-tracking, ABR, TMS, EMA, glottography, and more
- Some data acquisition units are suitable for working in the field and available on loan.

Statistical support:

- technical and methodological advice with all kinds of statistical tasks
- experimental design, sample size, evaluation of statistical methods, organization of data, implementation of analyses, presentation and interpretation of results

Language Technology (LT), data management and long-term archival:

- Application development: interactive web applications, which can be used to collect, edit, visualize or explore linguistic data, from variationist, stylistic, literary or content-driven perspectives
- Natural language processing (NLP):
 - Automatic data processing with NLP tools, individual machine learning/deep learning solutions, purpose-built conversion/extraction pipelines
 - Best practices, coaching, workshops, and programming in the following areas: text analytics, text mining, information extraction, sentiment detection, digital humanities, text classification, machine translation
 - Collaboration with various UZH research networks like the Digital Society Initiative (DSI) and the Center for Language & Medicine (L&M)
- IT services:
 - Management of customized virtual machine (VM) servers
 - Server infrastructure for analyzing and temporarily storing self-collected data
 - Support for long-term archiving (SWISSUBase) and visibility (CLARIN-CH) of research data

Location

LiRI
University of Zurich
Oerlikon Campus
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CH-8050 Zurich

First Contact

Dr. Agnes Kolmer
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+41 44 634 57 47

Details

www.liri.uzh.ch



About

The Linguistic Research Infrastructure (LiRI) provides facilities and support for research projects in the field of linguistics, language sciences, and language-related disciplines at the University of Zurich and beyond.

We are looking forward to meet you in an initial, free-of-charge consultation, to discuss your infrastructure needs and the range of support you would like to get from LiRI.

MRZ PUK

Magnetic Resonance Imaging Research Center KPPP/KJPP

Services

- Anatomic imaging
- Structural imaging (diffusion-weighted imaging)
- Functional imaging (fMRI, ASL, real-time fMRI, simultaneous EEG and fMRI measurements)
- Spectroscopic imaging
- Advice on the design of MR studies
- Advice on ensuring data quality
- Advice on and assistance with protocol implementation and optimization
- Advice on and assistance with data analysis
- Advice on conducting analyses in the ScienceCloud
- Provision of supplementary technical devices for carrying out studies, such as:
 - response devices
 - physiological measurement tools
 - video glasses
 - headphone systems
 - eye trackers

Location

MRZ PUK
University Hospital of
Psychiatry Zurich
Building TM
Lenggstrasse 31
CH-8032 Zurich

First Contact

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Details

www.mrz-puk-kjpd.uzh.ch



About

The MR Center (MRZ) provides all researchers at PUK and UZH with infrastructure that enables them to perform MR research, primarily in the field of neurology, with state-of-the-art methods and equipment. We specialize in particular in questions and investigations involving anatomical, structural, functional, and spectroscopic imaging. The MRZ is organized as a user lab.

Depending on their needs, we support research groups throughout the process of a planned MR study and are also able, thanks to the integration of the University of Zurich's ScienceCloud services, to offer efficient, high-performance services related to the analysis of large quantities of functional, spectroscopic, and structural data.

Facilities and special equipment

- 3-tesla MRI scanner (Philips Achieva, upgraded to dStream platform)
- 32-channel and 16-channel head coil
- Integrated spine coil
- Video glasses including eye tracker (latest generation from Resonance Technology Inc.)
- Audio presentation system (MR Confon)
- Various response devices (button boxes, trackball) (Current Designs Inc.)
- Motion-tracking camera (TraclInnovations)
- MRI-compatible EEG recording devices for simultaneous MRI and EEG measurements
- Devices for recording physiological parameters during measurement (heart rate, breathing, skin conductance)
- Mock scanner (exact replica of the real scanner) and premises for testing study participants outside the scanner



NSF

Nanobody Service Facility

Services

- Alpaca hyperimmune serum
- Peripheral blood lymphocytes
- Phagemid and phage-displayed nanobody libraries
- ELISA-screened positive bacterial clones
- Amino acid sequences of the target-specific nanobodies and the plasmids encoding them

Location

AgroVet – Strickhof
Eschikon 27
EHB/EHD F22
CH-8315 Lindau

First Contact

Dr. Saša Štefanić
sasa.stefanic@uzh.ch
+41 52 354 91 28

Details

www.nsf.uzh.ch



About

The Nanobody Service Facility of the University of Zurich produces and selects highly specific single-domain camelid antibody fragments, commonly known as nanobodies, to the life science community.

Nanobodies are recombinantly produced antigen-binding domains derived from heavy-chain-only antibodies that naturally occur in all camelid species and some cartilaginous fish. The main advantage over conventional antibodies is their much smaller size and superior stability, while maintaining high binding affinities because of their in vivo affinity maturation. Besides this, nanobodies often recognize and inhibit epitopes which are not accessible to conventional antibodies due to the better access thanks to the smaller size.

Nanobodies' simple structure enables researchers to easily produce and genetically manipulate them in vitro using standard recombinant technologies. Nanobody applications range from immunohistochemistry, live imaging, assisting protein structure determination, pull-down assays, analysis of protein-protein interactions, modulation of protein functions in the cell, and mediators of specific protein knock-out. Nanobodies are ideally suited for the development of diagnostic tests including non-invasive cancer imaging, and the first nanobodies have been commercialized for treatment of a human disease.



NMR

Nuclear Magnetic Resonance

Services

- Small-molecule structure elucidation and purity control
- Reaction control and kinetics
- Variable temperature (VT) experiments
- Diffusion-ordered spectroscopy
- Biomolecular NMR (structure and dynamics)
- Protein-ligand interactions (screening)
- Solid-state NMR (CP-MAS)

Location

University of Zurich
Irchel Campus
Y39 G
Winterthurerstr. 190
CH-8057 Zurich

First Contact

Prof. Dr. Oliver Zerbe
oliver.zerbe@chem.uzh.ch

Simon Jurt
simon.jurt@chem.uzh.ch

Details

www.chem.uzh.ch/en/research/services/nmr



About Facility

The NMR service at the Department of Chemistry provides analytical services for structure-related questions of biomolecules. The facility has a diverse lineup of NMR spectrometers and technical expertise for a plethora of multidimensional NMR experiments used in modern analytical chemistry and biochemistry. It helps researchers to evaluate whether a reaction has worked as planned or to investigate binding interfaces in a protein-ligand complex in order to advance drug development. The facility has experience with many non-standard nuclei. In the future, it will operate one site of the Swiss Ultrahigh-Field Solution NMR Facility, a joint National Research Infrastructure with the ETH Zurich and the University Basel.

Education

Students at UZH are trained in operating NMR spectrometers during their BSc and MSc courses, allowing them to set up and run their own NMR experiments. Support is provided for more sophisticated experiments. Lectures cover the theory of NMR.

Research

The facility has publicly accessible spectrometers and houses a high-field NMR lab (500-700 MHz and a future 1.2 GHz spectrometer equipped with cryoprobes) aimed at experienced users. These instruments are mainly used for research projects involving structural and dynamical studies of proteins or RNA.



PET/MR

PET/MR Center Clinic for Nuclear Medicine USZ

Services

- Multimodal brain imaging
- Multimodal heart imaging
- Multimodal oncological imaging
- Simultaneous PET and MRI measurements
- Resting state fMRI
- Spectroscopy
- MR research sequences
- Quantification of positron emission tomography

Location

Clinic for Nuclear Medicine
PET/CT/MR Center
Wagistr. 14
CH-8952 Schlieren

First Contact

Dr. Valerie Treyer
valerie.treyer@uzh.ch
+41 44 255 40 15

Details

www.usz.ch/en/clinic/nuclear-medicine/research/



About

The Nuclear Medicine Department at UniversityHospital Zurich (USZ) is an internationally renowned center for molecular and hybrid imaging. We have a well-developed infrastructure at our two locations, Campus Rämistrasse and Wagi-Areal Schlieren.

Traditionally, our focus is on so-called hybrid imaging. This procedure combines two or more technologies to visualize the body or individual organs. This allows us, for example, to display both the anatomy and the function of an organ or tumor at the same time. In this way, we can comprehensively and profoundly examine the structure and function of human bodies and clinical cases.

For the multifaceted molecular imaging that we use in diagnosis and in research, we produce the radiopharmaceutical substances in our own radiopharmacy or in collaboration with ETH and the Paul Scherrer Institute.

Since 2013, a PET/MRI scanner has also been available for research purposes on the Schlieren campus. The device enables time-of-flight positron emission tomography (PET) imaging to be performed with simultaneous magnetic resonance imaging (MRI).

All MRI imaging options are available with the exception of visual stimulation during fMRI recordings. This setup is only installed on the Premier MRI device at Wagi-Areal.



PWerk

Physics Workshop/ Central Material Warehouse

Services

- Advice
- Construction and design
- Management of the Central Material Warehouse
- Production:
 - 5-axis CNC milling machine
 - Lathe workings
 - Laser processing (cutting and engraving)
 - Assembly work
 - Welding and soldering

Location

Physik-Werkstatt
Irchel Campus
Y36 G84/32
Winterthurerstr. 190
CH-8057 Zurich

First Contact

Reto Maier
werkstatt@physik.uzh.ch
+41 44 635 57 35

Details

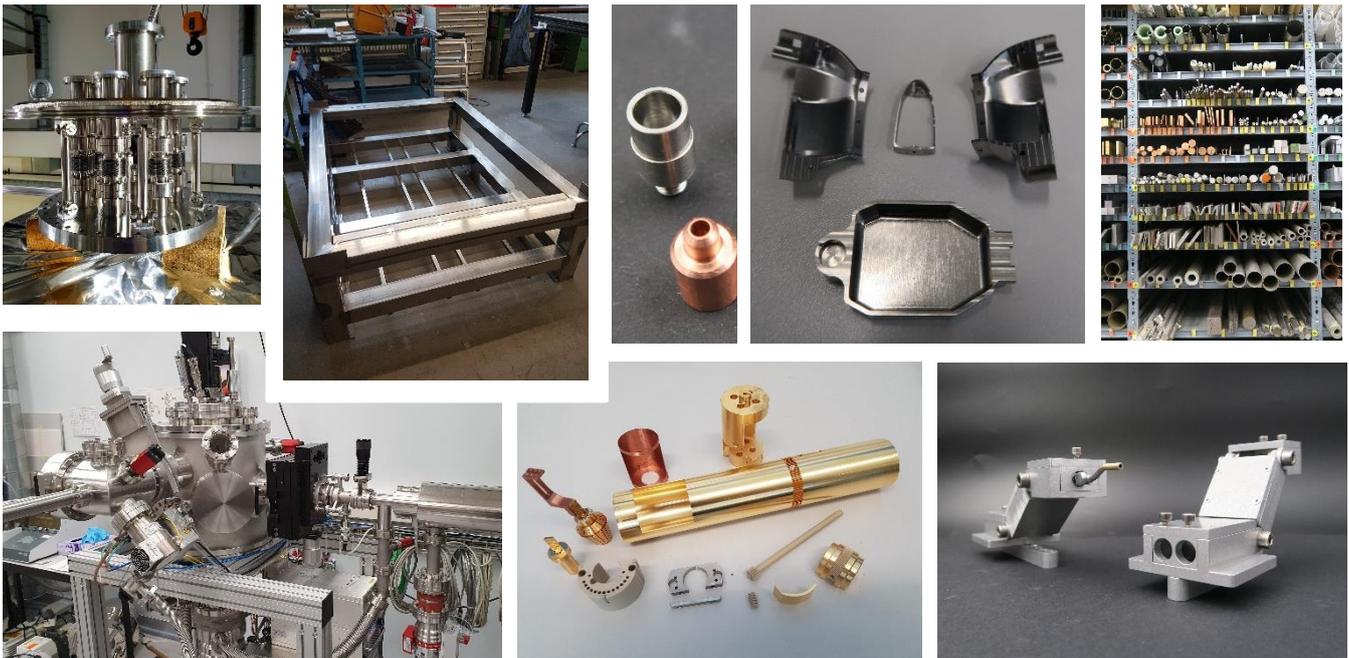
werkstatt.physik.uzh.ch/werkstatt



About

The Physics Workshop offers tailor-made services in mechanical production. The range of services includes construction and design, production in the area of prototype construction and small series as well as assembly and welding work, including in the vacuum area. We can also draw on a very large wealth of experience in materials that we have been allowed to process in the past, ranging from plastics to rust-resistant steels to machinable ceramics.

Since we have a large storage, most source materials are available at short notice.



S³IT

Science IT

Services

- Consulting
 - Starting point for S³IT cooperation
 - E-mail our Help Desk to arrange a consultation: help@s3it.uzh.ch
 - Inquiries can relate to any use of IT for research purpose
- Collaboration
 - Embedded S³IT experts can work with you directly on your project
 - Project work can total a certain number of days or a full-time percentage equivalence
- Computing / infrastructure
 - Harness UZH-based virtual machines via the ScienceCloud
 - Take advantage of a managed cluster for larger-scale computing (the ScienceCluster)
 - Make use of SchienceApps, a web-based interface to ScienceCluster using Jupyter or RStudio.
 - You can gain access to the Alps/Eiger supercomputer at CSCS

Location

Science IT – S³IT
Irchel Campus
Winterthurerstr. 190
CH-8057 Zurich

First Contact

help@s3it.uzh.ch
+41 44 635 42 52

Details

www.s3it.uzh.ch



About

Mission statement

We are UZH's center of expertise for scientific computing and specialized IT services for research. If you're a member of the UZH research community with a goal that requires IT proficiency, you can regard S³IT as your initial point of contact, collaboration partner, and infrastructure service provider.

Consulting

Our science IT consulting forms the basis for cooperation, principally via our Help Desk (help@s3it.uzh.ch). You can inquire about any issue that relates to your science IT workflows, including but not limited to adapting your research to UZH infrastructure, optimizing your code, and strategizing for large-scale calculations.

Collaboration

If you need long-term support with a UZH-based project that requires science IT knowledge, you can hire an S³IT expert to work directly with you. The service can be adapted to individual project needs and can range from a package of five days up to multiple years of a full-time percentage equivalence.

Computing/infrastructure

Do you need to scale your research workflow beyond your personal laptop or desktop computer? If so, S³IT can help you adapt your workflow to run on UZH-based high-performance computing infrastructure (ScienceCloud and/or ScienceCluster). If your workflow requires extremely high computational power, we can help you access the Eiger/Alps supercomputer via the Swiss National Computing Center (CSCS).

SARI

Swiss Art Research Infrastructure

Services

- Digital Humanities project development and management
- Customized ontologies
- Machine learning and artificial intelligence with visual data
- Hosting and operating standardized research environments
- Operation and customization of asset management systems
- Editorial suites for vocabularies and thesauri
- Quantitative and qualitative data visualization toolboxes
- Image annotation tools
- Data curation, manual and automated data cleaning and validation
- Database and asset collection migration using ETL processes (relational data to semantic data)
- Enrichment and alignment of client data with existing repositories
- Machine learning and artificial intelligence services for data preparation and transformation
- Data publication according to FAIR data principles

Location

SARI
University of Zurich
Culmannstr. 1
CH-8006 Zurich

First Contact

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044 634 02 80
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Details

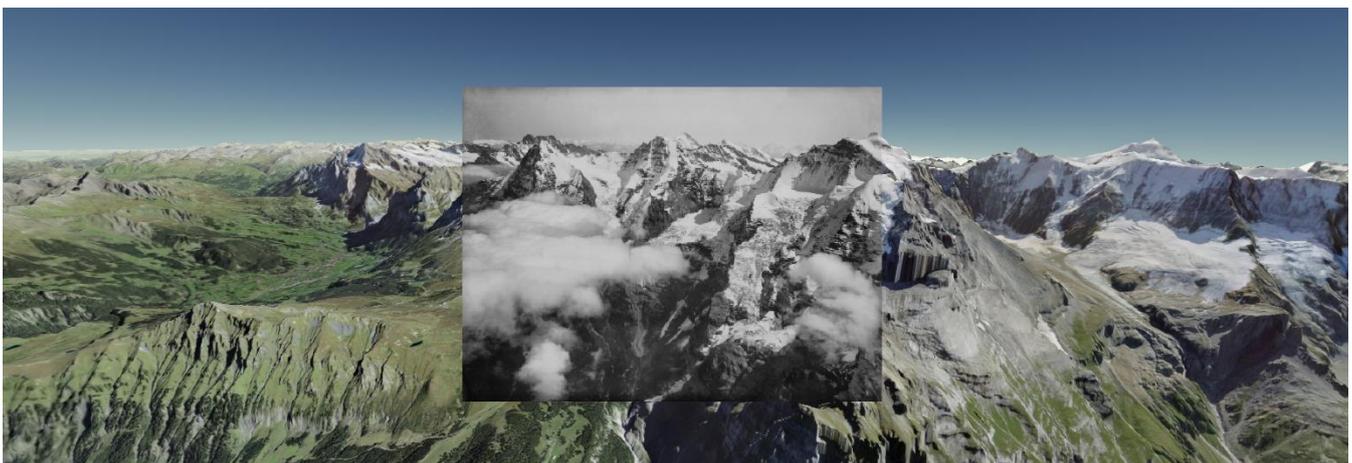
www.sari.uzh.ch



About

»Thinking data in the humanities« means creating mutual, unified, and yet tailor-made access to high-quality research resources in support for the urgent demands of the scholarly community. Our processes react to the fast growing digitization of cultural heritage collections, creating a need for methods and tools to access, structure, analyze, and research large corpora of digital images and metadata.

Contact us to learn more about how we can support your project with our expertise in semantic technology, project development, and data processing services. We look forward to building platforms together to help you lead your field in a globalized and internationally competitive environment, where access to digital resources is crucial for excellence and success.



SCMA

Swiss Center for Clinical Movement Analysis

Services

Basic technologies for movement analysis

- 3D motion capture system (Vicon)
- Mobile and permanently installed force plates (Kistler AG; AMTI)
- Split-belt treadmill with integrated force plates and perturbation function (M-Gait, Motek Medical)
- Mobile spiroergometric device to assess energy costs for various movements (K5, Cosmed)
- Mobile electromyographic systems for recording muscle activity (Myon AG, Noraxon Inc.)

Enabling technologies

- Multi-directional, adaptive body weight support system (FLOAT, Reha-Stim Medtec AG)
- Robot-assisted walking in subjects with severe gait impairments (Lokomat, Hocoma AG)

Advanced technologies for movement analysis

- Treadmill-based real-time feedback system including virtual reality (GRAIL, Motek Medical)
- Floor projection system for advanced and interactive gait assessment and training
- Instrumented walking aids to measure compensatory forces (crutches, walking frame, Eulenburg)
- Instrumented staircase and inclined/declined walkway for the assessment of day-to-day movement tasks

Location

Balgrist Campus AG
SCMA
Lengghalde 5
CH-8008 Zurich

First Contact

PD Dr. sc. ETH Linard Filli
Linard.Filli@balgristcampus.ch
+41 44 510 72 12

Details

www.balgristcampus.ch/scma



About

The Swiss Center for Clinical Movement Analysis (SCMA) is a modern research facility located at the Balgrist Campus. The SCMA is an open-access platform specialized in quantitative clinical movement analysis. Our platform combines cutting-edge technology with scientific expertise for optimized and customized movement analysis. State-of-the-art assessment techniques range from 3D motion capture systems (kinematics) to muscle activity recording (electromyography) to detailed assessments of ground reaction forces and metabolic costs of movements (spiroergometry).

High-end body weight support systems also enable optimal assessment and training of movements in subjects with musculoskeletal disorders. We provide advanced technologies to mimic movements of daily life in realistic, real-world scenarios (i.e. GRAIL system, instrumented staircase and inclined surface, etc.), thus aiding the translation of your research findings into everyday life contexts.

Our platform supports your research in every aspect:

- Cutting-edge technology for quantitative, highly precise clinical movement analysis
- Enabling technologies for movement analysis in severely handicapped subjects
- Advanced instruments able to assess movements under real-world conditions
- Cost-effective infrastructure accessible to everyone
- Technical and scientific expertise for optimal support of your research

SCMB

Swiss Center for Musculoskeletal Biobanking

Services

Manual, semi-automatic or full-automatic cryostorage of up to half a million samples:

- Automated, temperature-curve-guided sample freezing
- Cryopreservation at -20°C, -80°C, or -170°C in gas phase liquid nitrogen. All freezers are fully integrated into a 24/7 emergency backup system to maintain the set temperature
- 2D-barcoded sample tubes (0.5–10 ml sample volume)

Highly standardized sample preparation pipelines:

- High-end confocal or widefield fluorescence microscopy
- Cell sorting using the FACS Aria™ Fusion system
- Sample cryosectioning
- Biochemical lab benches at biosafety level 1
- Cell culture at biosafety level 2

Location

Balgrist Campus AG
SCMB
Lengghalde 5
CH-8008 Zurich

First Contact

Dr. Sander Botter
sander.botter@balgristcampus.ch
+41 44 510 75 19

Details

www.balgristcampus.ch/scmb



About

The Swiss Center for Musculoskeletal Biobanking is located at the Balgrist Campus in Zurich, Switzerland. It is an open biobank platform that enables local and international researchers, developers, and industry to collect, store, and analyze tissues and liquid biosamples related to musculoskeletal disorders. We provide advice on setting up biobank projects and offer scientific expertise in the field of bone biology and joint diseases. All our processes are strictly in accordance with the applicable Swiss law (Human Research Act).

Our key strengths to support your research:

- Cost-effective, secure long-term storage of clinical specimens
- Precise sample processing and handling via standard operating procedures
- Extensive sample tracking and temperature documentation
- Fast and secure shipment services
- All our equipment can be electronically booked and used at your convenience

The SCMB is your partner on your scientific journey, from sample collection to publication.



SCMI

Swiss Center for Musculoskeletal Imaging

Services

Open access to full- or self-service radiological imaging for research and other non-clinical purposes.

CT: Photon-counting, dual source, tin filter, highest resolution, lowest dose

7T MRI: High-resolution, head (including fMRI, SWI, ...), knee, c-spine, etc.

3T MRI: Whole-body, best B0 homogeneity, strong gradients

Ultrasound: High-end, quantitative elastography, self-service, mobile

Micro-CT: High-resolution (8 μm isotropic) imaging of small probes

Support for MRI protocol optimization and implementation, e.g. for compliance with trial-specific guidelines

Location

Balgrist Campus AG
SCMI
Lengghalde 5
CH-8008 Zurich

First Contact

Prof. Dr. Daniel Nanz
Daniel.Nanz@balgristcampus.ch
+41 44 510 70 10

Details

www.balgristcampus.ch/scmi



About

The SCMI is an open-access radiological imaging platform in Zurich. Its purpose is to support local, Swiss, and international academic research and enable clinical trials with diagnostic imaging endpoints – with the ultimate goal of improving the quality of life of patients with impaired musculoskeletal systems.

The SCMI offers access to two MRI scanners with magnetic field strengths of 3T and 7T, respectively. Both come with a basic fMRI setup that can be complemented by project-specific devices. You can also leverage the unprecedented performance of the world's first commercial high-end photon-counting CT scanner. While the SCMI specializes in the human musculoskeletal system, the staff also have extensive experience of brain and body imaging.

Enjoy full service from our team of professional radiographers or become a qualified user for self-operation of the MRI, ultrasound, or micro-CT scanners. Benefit from in-depth support from on-site scientists of the MRI and CT device manufacturer.

Any research project, from a small methodological imaging study to a medium-scale multi-center clinical trial (academic or industrial), is welcome. Use for other non-clinical purposes is possible, e.g. for teaching or operational implant testing in very strong magnetic fields.

Please get in touch – we look forward to helping you.

TGB

Technical Glassblowing

Services

- Construction and drawing of glass apparatus – for example, distillation, sublimation, and high-vacuum systems.
- Manufacture of glass equipment from Duran and quartz glass.
- Manufacture of glass-metal connections.
- We vacuum-seal your samples.
- We buy glass parts for you at special conditions directly from DWK/Duran.
- We repair glass equipment.
- We offer glassblowing courses.
- We keep a comprehensive stock of glass parts and apparatus.

Location

Glassbläserei
Irchel Campus
Y11 E42
Winterthurerstr. 190
CH-8057 Zürich

First Contact

Daniel Schnarwiler
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Details

www.mul.uzh.ch

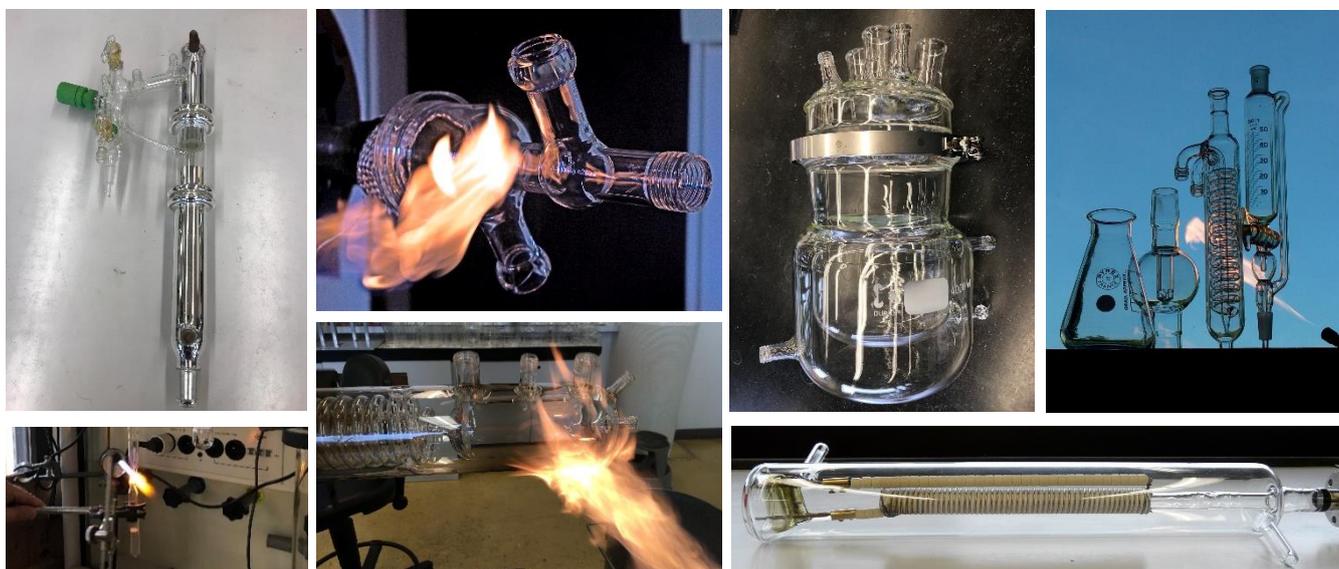


About

Glass is an inert material that can easily be formed by heat. It is ideal for many experimental set-up in Chemistry, Physics, Biology and other disciplines. We are experts in translating your needs into a glass apparatus. After we designed together the new apparatus, we process the glass on the lathe or by hand on the burner in the desired shape. We use diamond tools for cutting, grinding, polishing, drilling, and milling work on glass, quartz glass, and ceramics. One of our specialties are to connect vacuum-tight metals with glass or to seal valuable samples into small glass containments.

In many cases, we can repair broken glass ware or devices. You do not have to buy an expensive replacement. We can also manufacture expensive glass parts like cuvettes for analytical equipment.

If you want to learn more about the countless applications of glass, attend one of our hands-on glassblowing courses. You will prepare some small glass art objects.



VVF

Viral Vector Facility

Services

- Production of custom-made AAV (adeno-associated virus), lentiviral and γ -retroviral vectors
- Provision of pre-made AAV vectors (repository)
- Cloning of custom-made AAV and lentiviral plasmids
- Amplification of any kind of plasmids
- Large-scale amplification of plasmids (up to 100 mg)

Location

Viral Vector Facility
Irchel Campus
Y17 H42/44
Winterthurerstr. 190
8057 Zürich

First Contact

info@vvh.uzh.ch
+41 44 635 59 75

Details

www.vvh.uzh.ch/en.html



About

Mission

The Viral Vector Facility produces AAV, lentiviral, and γ -retroviral vectors for research purposes and offers molecular biology services. In the near future, other kinds of viral vectors, e. g. rabies, might also be available.

AAV vector repository/pre-made AAV vectors

Pre-made AAV vectors in different serotypes are readily available through our AAV vector repository. They can be ordered easily and conveniently via our online system.

If a serotype is required that is not yet available, we will include it in the repository within a few weeks.

Any commonly available AAV vector can be added to the repository, offering the possibility of ordering only a small aliquot.

Pre-made viral vectors usually have a titer of 5×10^{12} vg/ml and are offered as 50 μ l aliquots.

Custom-made viral vector production

Custom-made viral vector productions offer more flexibility compared to pre-made viral vectors from the repository. Here, higher titers and/or larger volumes can be ordered.

Any vector that is available in the repository can also be ordered as a custom-made viral vector.

Vectors whose usage is covered by an MTA can only be produced on a custom basis.

Molecular biology services

The VVF designs, clones, and amplifies AAV and lentiviral plasmids, independently of any viral vector production.

The VVF also amplifies already existing viral vectors and other plasmids provided as DNA preparations from a stab culture.

Plasmid amplification can be carried out as small-scale (1-5 mg) or large-scale production (up to 100 mg).

WGMS

World Glacier Monitoring Service

Services

- More than 125 years of glacier monitoring for scientific and educational purposes
- Data collection from more than 200,000 glaciers in over 40 countries
- Standardized observations on changes in mass, volume, area, and length of glaciers (glacier fluctuations)
- Statistical information on the distribution of perennial surface ice (glacier inventories)
- Open access to glacier data including map-based web browsers and web services
- Download of entire database or tailored information according to your needs
- Support with analyzing these data, e.g. for assessments, scientific publications, or media relations
- Hosting of guest scientists and trainees and education of students
- Maintaining a network of local investigators and national correspondents in all countries involved in glacier monitoring
- Running the Global Terrestrial Network for Glaciers (GTN-G) in support of the United Nations Framework Convention on Climate Change (UNFCCC)

Location

WGMS
Irchel Campus
Y25 H82/84
Winterthurerstr. 190
CH-8057 Zurich

First Contact

wgms@geo.uzh.ch
+41 44 635 51 39

Details

www.wgms.ch



About

The World Glacier Monitoring Service (WGMS) is an international data repository and data analyzing service under the auspices of the International Science Council, the United Nations, and the World Meteorological Organization.

For more than a century, the WGMS and its predecessor organizations have been collecting and disseminating standardized data on changes in mass, volume, area, and length of glaciers over time (glacier fluctuations), as well as statistical information on the distribution of perennial surface ice in space (glacier inventories). To this end, the WGMS annually collects glacier data through its scientific collaboration network that is active in more than 40 countries. Such glacier fluctuation and inventory data are high-priority key variables in climate system monitoring; they form a basis for hydrological modelling with respect to possible effects of atmospheric warming, and provide fundamental information on glaciology, glacial geomorphology, and quaternary geology.

The WGMS is hosted at the Department of Geography and operates under an agreement between the University of Zurich and the Federal Office of Meteorology and Climatology MeteoSwiss in support of the Global Climate Observing System (GCOS). The WGMS is an independent research unit and contributes to research and teaching at the department in close collaboration with the Glaciology and Geomorphodynamics Group (3G). WGMS staff train students in the monitoring of glaciers and supervise Bachelor's, Master's, and PhD theses on glacier-related topics.

ZIRP

Zurich Integrative Rodent Physiology

Services

- Advice on study planning and organization
- Courses, workshops, and lectures on laboratory
- animal science and medicine, procedures and 3Rs
- Individual training in experimental procedures
- Hands-on support during the conduct of studies
- Expertise in rodent anesthesia, analgesia, and care
- Whole-body plethysmography
- Laboratory analysis platform
- Metabolic cages
- Telemetry platform
- In-vivo imaging platform:
 - body composition analysis
 - micro-CT
 - MRI
 - optical imaging
 - (bioluminescence and fluorescence)
 - Ultrasound
- Surgical services

Location

ZIRP
Institut of Physiology
Irchel Campus
Winterthurerstr. 190
CH-8057 Zurich

First Contact

Petra Seebeck
petra.seebeck@uzh.ch
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Details

www.zirp.uzh.ch



About

Zurich Integrative Rodent Physiology (ZIRP) is an interdisciplinary core facility at the University of Zurich. Its mission is to support and strengthen research activities in the field of integrative physiology by providing infrastructure and expertise for the advanced analysis of rodent physiology. ZIRP is open to members of the University and the University Hospitals as well as ETH members – other research groups and companies interested in analyses of rodent physiology are also welcome.

Besides an imaging, laboratory, telemetry, and surgical platform, ZIRP offers various resources, ranging from special equipment to veterinary and technical support as well as several services tailored to the needs of individual projects.

In addition, ZIRP aims to strengthen interdisciplinary cooperation and optimize the use of available infrastructure by providing a platform where researchers can link with each other to share resources and establish cooperation arrangements.

