Medical University of Graz

YOUR PARTNER IN MEDICAL RESEARCH
Medical University of Graz

Founded in 2004, the Medical University of Graz is a young university rooted in historic ground, as it succeeds the Medical Faculty of Karl-Franzens University Graz, which was established in 1863.

The Medical University of Graz comprises 16 Research Institutes and 23 Clinical Departments as well as a state-of-the-art Center for Medical Research. The number of employees is about 1700. Approximately 4500 students are enrolled in programs of study (Human Medicine, Dentistry, Nursing Science, Doctoral Studies in Medical Sciences, PhD Programs) and post-graduate programs (e.g. Public Health).

Research activities cover a broad spectrum of clinical and pre-clinical fields, with a special focus on the research areas of Neurosciences, Oncology, Cardiovascular Research, and Molecular Bases of Lipid-Associated Diseases. The research profile is also characterized by the topics of biobanking and biomarker research and by the cross-sectional theme of sustainable health research.

The university applies a proactive approach to research management by involving researchers in international initiatives. The university participates in numerous projects within the EU Framework Programs and also acts as coordinator in several EU-funded projects.

The Medical University of Graz attaches great importance to quality management and quality assurance and holds relevant quality certifications for all of its spheres of work.
Institutes, Departments & Centers

Pre-Clinical Sector
- Institute of Physiology
- Institute of Biophysics
- Institute of Physiological Chemistry
- Institute of Molecular Biology and Biochemistry
- Institute of Pathophysiology and Immunology
- Institute of Cell Biology, Histology and Embryology
- Institute of Experimental and Clinical Pharmacology
- Institute of Anatomy
- Institute of Forensic Medicine
- Institute of Human Genetics
- Institute of Hygiene, Microbiology and Environmental Medicine
- Institute of Pathology
- Institute of Social Medicine and Epidemiology
- Institute for Medical Informatics, Statistics and Documentation
- Institute of Nursing Science

Clinical Sector
- Department of Anesthesiology and Intensive Care Medicine
  - Division of General Anesthesiology and Intensive Care Medicine
  - Division of Anesthesiology for Cardiovascular Surgery and Intensive Care Medicine
  - Division of Anesthesiology for Neurosurgical and Craniofacial Surgery and Intensive Care Medicine
- Department of Ophthalmology
- Department of Blood Group Serology and Transfusion Medicine
- Department of Surgery
  - Division of General Surgery
  - Division of Vascular Surgery
  - Division of Cardiac Surgery
  - Division of Plastic, Esthetic and Reconstructive Surgery
  - Division of Thoracic and Hyperbaric Surgery
  - Division of Transplantation Surgery
- Department of Dermatology and Venereology
  - Division of General Dermatology
  - Division of Environmental Dermatology and Venereology
- Department of Obstetrics and Gynecology
  - Division of General Gynecology
  - Division of Obstetrics and Maternal Fetal Medicine
- Department of Otorhinolaryngology
  - Division of General Otorhinolaryngology, Head and Neck Surgery
  - Division of Neuro-Otology
  - Division of Phoniatrics, Speech and Swallowing
- Department of Internal Medicine
  - Division of Angiology
  - Division of Endocrinology and Metabolism
  - Division of Gastroenterology and Hepatology
  - Division of Hematology
  - Division of Cardiology
  - Division of Nephrology and Hemodialysis
  - Division of Oncology
  - Division of Pulmonology
  - Division of Rheumatology and Immunology
- Department of Pediatrics and Adolescent Medicine
  - Division of General Pediatrics
  - Division of Pediatric Hemato-Oncology
  - Division of Pediatric Cardiology
- Department of Pediatric and Adolescent Surgery
  - Division of General Pediatric Surgery
  - Division of Pediatric Orthopedics
- Department of Medical Psychology and Psychotherapy
- Department of Neurosurgery
- Department of Neurology
  - Division of Special Neurology
- Department of Orthopedic Surgery
- Department of Psychiatry
- Department of Radiology
  - Division of General Radiological Diagnostics
  - Division of Vascular and Interventional Radiology
  - Division of Pediatric Radiology
  - Division of Nuclear Medicine Radiology
  - Division of Neuroradiology
- Department of Therapeutic Radiology and Oncology
- Department of Trauma Surgery
- Department of Urology
- Department of Dentistry and Maxillofacial Surgery
  - Division of Orthodontics and Maxillofacial Orthopedics
  - Division of Prosthodontics, Restorative Dentistry, Periodontology and Implantology
  - Division of Preventive and Operative Dentistry, Endodontology, Pedodontics and Minimally Invasive Dentistry
  - Division of Oral and Cranio-Maxillofacial Surgery
- Clinical Institute of Medical and Chemical Laboratory Diagnostics
- Clinical Psychosomatics
Biobank

The core asset of Biobank Graz is a large collection of clinical samples – actually one of the largest in Europe – comprising millions of well-organized tissue, blood and DNA samples. Moreover, Biobank Graz provides powerful logistics and infrastructure enabling the prospective collection of samples and data to be designed for the needs specified by customers. Its mission is to support research on the cause of disease and the development of improvements in disease diagnosis and treatment. The goal is to contribute to the improvement and sustainability of healthcare for the general population. Samples from selected patients and donors at the university hospital who have signed an informed consent declaration are deposited in the Biobank Graz. This means that excess tissue and blood samples are collected and placed in storage. The samples are harvested in the course of routine interventions done by different departments and divisions of the hospital and approved for use in research projects only after the completion of all necessary laboratory and histopathological analyses. The Biobank Graz currently contains more than 4.5 million samples, thus representing a non-selected patient group characteristic of central Europe. The Biobank Graz operates a quality management system according to ISO 9001:2008. Graz is home to the headquarters of the European Research Infrastructure Consortium (ERIC) “Biobanking and Biomolecular Research Resources Infrastructure” (BBMRI), which functions at the interface between biological specimens and data from European patients and top-level biomedical research.

www.medunigraz.at/biobank
http://bbmri.eu/

The Biobank Graz includes:
A cross-sectional biobank – containing essentially unselected pathological samples and clinical data from the Styrian population, representing all detected diseases at their natural frequency of occurrence. A disease-focused clinical biobank – providing different types of human biological samples of the highest quality and with detailed clinical follow-up data during the whole course of disease, including long term observation for specifically selected diseases and targeted disease groups. Disease-focused collections are based on the major research interests of cooperating institutions.

Services provided by the Biobank Graz:
- Project development and project coordination
- Provision of samples and data
- Preparation of derivatives (e.g. nucleic acid extraction, etc.)
- Data pre-processing and clearing
- Quality assurance measures
- Prospective sample collection; planning and realization of prospective study cohorts
- Contact to and networking with other biobanks
- Integration of pre-existing collections into the Biobank Graz
- Information for the respective personnel groups/advanced and continued education
- Consulting and training (legal, ethical, technical and organisational aspects of biobanking)
- Support at the installation of new biobanks
25 Biobanks with the highest number of samples.
Data source: www.bbmri.eu, April 2009
Center for Medical Research

The Center for Medical Research (ZMF) at the Medical University of Graz was established in 2004 in order to provide first-class biomedical research infrastructure for clinicians and basic research scientists. Housed within a purpose-built, state-of-the-art building at the heart of the university hospital campus, the Center comprises more than 4000m² of well-equipped laboratory and office space catering to cutting edge basic and applied biomedical and clinical research. Considerable effort has been invested into the development of a modular organisational structure to maximize the efficiency and effectiveness of research conducted at the ZMF. Well-equipped conventional laboratories and four Core Facilities (Molecular Biology, Mass Spectrometry, Microscopy and Biophysics and Flow Cytometry) with the most up-to-date equipment and well-trained technical staff are available to all researchers. Restricted Access Laboratories cater to experimentation requiring special safety measures. A distinct feature of the ZMF is a shared Clinical Research Center enabling high quality clinical studies. In addition, the Center boasts the assistance of a Biostatistics Division expert in experimental design and data analysis, whilst an Audiovisual unit offers state of the art media solutions for optimal data communication. The first-call permanent staff (experienced scientists, skilled technicians, and administrative personnel) provides assistance to investigators at all stages of the research process, including experimental design, method development, high-throughput sample work-up and data interpretation and presentation.

http://www.medunigraz.at/zmf/
Centre for Knowledge and Technology Transfer in Medicine (ZWT)

The Centre for Knowledge and Technology Transfer in Medicine (ZWT) is the first Austrian technology and research centre to achieve full physical and organisational integration into a university campus. The ZWT thus offers the perfect venue for cooperation between science and industry.

The ZWT is meant to enable cooperation projects between science and industry (mainly in the field of life sciences) on an area of around 9,100 m² above ground and 1,700 m² underground.

The business areas offer optimum conditions for promising work: laboratories with adaptive basic equipment, modern offices and sufficient space for communications infrastructure (conference zones, a café, etc.).

Around half of the ZWT’s available state-of-the-art spaces can be rented by interested firms from the life sciences sector.

The ZWT will also house a Life Science Incubator for spin-offs and start-up companies in the area of life sciences (e.g. pharma, biotechnology, medical technology). By offering lab and office space, access to research infrastructure, research and clinical expertise and a wide portfolio of services, the Incubator supports young entrepreneurs in developing their innovative companies.

The ZWT offers a wide range of benefits. Scientific, economic and architectural aspects contribute to the fact that the ZWT - in its own way - represents a unique range of enterprises in the life sciences.

http://www.zwt-graz.at/

10,800 m² for science and industry

Advantages of the ZWT
- High-quality, state-of-the-art laboratory, office and communications space
- Flexible room layout in laboratories and offices
- Immediate access to core facilities on the MED CAMPUS/Center for Medical Research (ZMF)
- Existing workplace approval for S1 and S2 laboratory use
- Special infrastructure for microenterprises
- Special infrastructure for spin-offs (Life Sciences Incubator)
- Meeting rooms, kitchenettes, bistro
- Professional facility management

Technology
- 8 x air-renewal with optimised, free cooling potential
- User-specific utilities (nitrogen, compressed air, etc.)
- Optimum ceiling height for laboratories
- Ventilated storage area for hazardous substances
- Fibre-optic internet connection

Building technology
- Design meets low energy standards
- Electronically controlled sun protection
- Daylight-dependent lighting control
- Emergency-powered ventilation
University Hospital

The clinical departments and divisions of the Medical University of Graz are embedded in the hospital complex of the Landeskrankenhaus-Univ.Klinikum Graz” (University Hospital Graz), the only tertiary care hospital in the south of Austria.

The LKH University Hospital Graz not only provides basic health services in the metropolitan area of Graz, but also serves as a central hospital for the state of Styria and University Hospital for the south of Austria. It encompasses all medical disciplines.

Since 2011, the University Hospital has been jointly directed by the regional holding of public hospitals on the one hand and the Medical University on the other. This joint governance is based on a cooperation contract between both organizations and ensures that patient care, teaching and research are organized in a coordinated and efficient way.

University Hospital: www.lkh-graz.at
Comprehensive Cancer Center Graz: www.ccc-graz.at

Fact Box

- 390,000 out-patients per year
- 80,000 in-patients per year
- 1.2 million treatments per year
- 810,000 treatments for out-patients
- 400,000 treatments for in-patients
- 1,500 beds
  - 1,400 general care
  - 17 day clinic
  - 130 intensive care
Cooperation

As an institution, the Medical University of Graz is involved in a wide spectrum of more than 200 contractually concluded collaborations with national institutions, EU partners and international partners worldwide. Collaborating partners include universities and large companies as well as SMEs. In part, the EU-Framework Programs form the basis for these collaborations, i.e. the university is also well-versed in working within and coordinating collaborations in this context. The University’s International Office and Research Management Unit provide support services for international cooperations.

The University encourages researcher mobility and takes numerous measures to support national cooperations, collaboration with EU partners as well as internationalization. Among others, it offers financial support for research stays through the Visiting Scientists Program sponsored by Bank Austria Unicredit Group.

Fact Box

BioTechMed
Interuniversity cooperation between the Medical University of Graz, the Graz University of Technology and the University of Graz
www.biotechmed-graz.at

EURAXESS
network of more than two hundred centres and service points for researcher mobility located in 35 European countries
http://ec.europa.eu/euraxess/

EURASIA-PACIFIC-UNINET
network aims at establishing partnerships between Austrian universities and institutions in East, Central, and South Asia and the Pacific region
http://www.eurasiapacific.net/

Bank Austria Visiting Scientists Program
http://www.medunigraz.at/ba

Member of
- Cluster human.technology.styria
  http://www.humantechology.at/
- Science Park Graz (academic incubator)
  http://www.sciencepark.at
- 30 ongoing EU-funded projects
Cooperation in publications (2012)
Research Management & Information

Several units in the Medical University of Graz offer a wide spectrum of research-related services to ensure that researchers can dedicate as much time as possible to their research interests and activities:

- Research Management Unit
  - Research Services and Technology Transfer
  - Research Documentation and Evaluation
- Coordination Center for Clinical Trials
- Center for Medical Research (Core Facilities)
- Institute of Medical Informatics, Statistics and Documentation
- Legal, Personnel and Finance Departments
- Personnel Development Unit
- Ethics Committee

The University runs a comprehensive Research Information System including information on researchers, projects, publications, and cooperation activities:

http://research.medunigraz.at

Services Provided

- Information about open calls for applications
- Organization of info events and workshops
- Proposal Checks
- Budget planning
- Financial Project Reporting (Cost Statements)
- Organization of Audits
- Checking and Drafting of Contracts, Legal Advice
- Technology Transfer (marketing, patenting, licensing)
- Coordination Center for Clinical Trials
- Proofreading and Translation Service
- Project Management Services
- Statistics Support
- Financial Support for Open Access Publications
- Research-related programs in continuing education (Scientific Writing, Good Scientific Practice etc.)
- Good Scientific Practice Committee
- Ethics Committee
Contact

Medical University of Graz Research Management Unit
Phone: +43 316 385 72033
research@medunigraz.at

Research Information System:
http://research.medunigraz.at