



Medical University of Vienna

Annual Report 2011

Medical University of Vienna

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Bionic reconstruction: world premiere

The University Department of Surgery affirms its leading international position in bionic reconstruction: two patients have been given fully-functional bionic hand prostheses.

Legal information

Media owner and publisher:	Rector Prof. Dr. Wolfgang Schütz, Medical University of Vienna, Spitalgasse 23, 1090 Vienna, www.meduniwien.ac.at
Responsible for content:	Department of Corporate Communications: Mag. Johannes Angerer (Head), Klaus Dietl, Mag. Thorsten Medwedeff
Concept and layout:	veni vidi confici® Bettina Graser
Editors:	zauberformel Mag. Karlheinz Höfflner, Mag. Johannes Angerer, Klaus Dietl, Mag. Thorsten Medwedeff
Photos:	MedUni Vienna, Fotolia, Shutterstock, Felicitas Matern and Christian Houdek
Published in:	Vienna, 2012

ISBN 978-3-902610-08-9
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People first

The 2011 Medical University of Vienna Annual Report offers a review of an eventful year for the University, that has been characterised by outstanding success in research and groundbreaking developments in the policy domain.

The research achievement that probably remains foremost in people's minds is the bionic hand prosthesis given to a young man by the University Department of Surgery. The case of Patrick Mayrhofer, who lost the function of his hands after an accident at work, was picked up by media across the world. The extensive Highlights section of this Annual Report presents achievements from various parts of MedUni Vienna, of which the University and its employees can be extremely proud.

The international renown that scientists at the MedUni Vienna have earned is the best advertisement that Vienna could have as a centre for research. The Austrian capital has now been announced as the world's most popular city meeting destination for the sixth time in a row by the International Congress and Convention Association, ahead of Barcelona and Paris. Vienna has succeeded where perhaps no other city could in turning its traditional heritage into a modern, highly attractive venue for meetings and conferences. A decisive contribution to this is made by the fact that many of the world's most important medical congresses are held here.

Current figures confirm that, despite an operating framework that falls short of being ideal, MedUni Vienna carries out outstanding research work. Scientists from MedUni Vienna are, according to Joanneum Research, the most-cited scientists in Austria. Additionally, the volume of external funding at MedUni Vienna doubled between 2004 and 2011, whereas the global budget provided by the Ministry of Science rose by only 20 per cent in the same period.

Foreword

In 2012, all universities will be in negotiations with the Ministry of Science on the budgets for 2013 to 2015. World class research can only be sustained in the long term if universities receive the financial support they need from governments, and if medical universities are able to maintain an equilibrium between cutting edge research, teaching and patient care. This essential equilibrium was under threat in the autumn of 2011. The dialogue recently initiated between the Ministry of Science, the City of Vienna, MedUni Vienna and the Vienna General Hospital (AKH) must seek to safeguard this balance for the long term and ensure that efforts to maintain routine operations in clinical departments do not sacrifice advances in research and teaching. This is in fact the only way to ensure the provision of outstanding medical care for the future. As Rector of Austria's largest medical university, I am fully committed to this cause.

A handwritten signature in black ink, appearing to read 'Wolfgang Schütz', with a stylized flourish at the end.

Wolfgang Schütz
Rector, Medical University of Vienna



In pursuit of constructive dialogue

As Chairman of the Senate of the Medical University of Vienna, it is my privilege to provide a retrospective of the most important events and decisions taken in 2011. It is only by looking at everything together that we can visualise and appreciate the content and scale of our achievement. Despite the different perspectives and varied interests of the groups represented in the Senate, points of view have always been presented – and debates always conducted - in the spirit of constructive dialogue. In the vast majority of cases, this approach has facilitated decisions being taken either unanimously or on the basis of a clear majority.

In 2011, the Senate convened a total of ten times. One highlight was the joint hearing with the University Council for the Office of Vice Rector at MedUni Vienna, with the issuing of a corresponding statement. This dialogue produced the decision to hold joint Senate meetings with the University Council at periodic intervals.

2011 also saw many joint discussions on the subject of the budget situation, staffing and on-call service savings.

The changes to the curriculum of the Medicine Degree Programme – in particular with regard to the

planned introduction of the practical clinical year in 2012 – and the curriculum of the Dentistry Degree Programme were approved by the Senate.

The establishment of the Clinical Trials Assistant postgraduate training programme was also approved, along with establishment of the course in Patient Safety and Health Care Quality.

The regulations for the Aptitude Test for Medical Studies (EMS test) were also revised, so that test entrants who have registered for dentistry courses are now additionally required to carry out a practical test. It was also decided that, in view of the gender gap that continues to exist, the test would be evaluated on a gender-specific basis in 2012.

The Senate set up a large number of committees and working groups who have worked hard and delivered outstanding results. I would like to offer my personal thanks to you all, the Members of the Senate and all of the MedUni's representatives.

A handwritten signature in black ink, appearing to read 'A. Pollak', written in a cursive style.

Arnold Pollak
Chairman of the Senate



From left: Univ. Prof. Dr. Robert Schwarcz, Rudolf Klausnitzer, Dr. Elisabeth Hagen, Dr. Johannes Strohmayer, Dr. Erhard Busek.

The University Council of the Medical University of Vienna

Members

Chairman:

Dr. Erhard Busek
(Vice Chancellor and Former Science Minister,
Chairman of the Institute for the Danube Region
and Central Europe)

Deputy Chairman:

Dr. Johannes Strohmayer
(Investment Banker)

Dr. Elisabeth Hagen

(Managing Director of the Vienna Institute for
International Economic Studies)

Rudolf Klausnitzer

(Media Manager)

Univ. Prof. Dr. Robert Schwarcz

(Neuroscientist at the University of Maryland,
Baltimore, USA)

Rectorate Team



Univ. Prof. Dr. Wolfgang Schütz

Wolfgang Schütz has been Rector of the Medical University of Vienna since 2004, the year in which the MedUni Vienna became autonomous. The pharmacologist was previously Dean of the Medical Faculty of the University of Vienna (from 1996), and between 1995 and 1999 served as Director of the Institute of Pharmacology at the University of Vienna. His role and remit as Rector covers human resources, qualification agreements, process and quality management, internal audit, public relations and the coordination of legal affairs.



Assoc. Univ. Prof. Dr. Karin Gutiérrez-Lobos **Vice Rector for Teaching, Gender & Diversity**

Karin Gutiérrez-Lobos has been Vice Rector for Teaching, Gender & Diversity and Deputy to Rector Wolfgang Schütz since 1 October 2011. She was also Vice Rector previous to this appointment, with responsibility for human resources development and women's advancement. She is a University Professor of Psychiatry, specialising in social psychiatry, forensic psychiatry and gender-specific aspects of psychiatric illnesses.



Dr. Christiane Druml **Vice Rector for Clinical Affairs**

Christiane Druml has been part of the MedUni Vienna Rectorate since 1 October 2011. She is responsible for all clinical matters and good scientific practice, as well as for sponsorship and fundraising and the medical collections in the Josephinum. Dr. Druml is also Chair of the Austrian Bioethics Committee within the Federal Chancellery, and a Member of UNESCO's International Bioethics Committee.



Univ. Prof. Dr. Markus Müller **Vice Rector for Research**

Markus Müller has held the position of Vice Rector for Research since 1 October 2011, having also been Head of the University Department of Clinical Pharmacology at MedUni Vienna since 2002. His portfolio includes promoting research at the University, research strategic planning, patent management and the granting of licences, as well as international relations and cooperation agreements in the fields of research and clinical practice. Prof. Müller is a Doctor of Internal Medicine. He gained his licence to practise Clinical Pharmacology in 1998 and to practise Internal Medicine in 2001.

Dr. Franz Wurm
Vice Rector for Finance

Franz Wurm was Vice Rector for Finance and Resources Management at the Johannes Kepler University, Linz from 2003. Prior to this, he held senior positions in the Austrian and international chemical industry, at Chemie Linz and Borealis. Working at executive board level, at Borealis he was also responsible for finance, accounting and controlling. Since 1 October 2011, Dr. Wurm has been Vice Rector for Finance at MedUni Vienna and, as well as being responsible for all financial matters, he is also in charge of Facility Management and IT Services.



Assoc. Univ. Prof. Dr. Rudolf Mallinger
Vice Rector for Study and Teaching

From 2003 until the end of September 2011, Rudolf Mallinger was Vice Rector for Teaching and Learning at MedUni Vienna, and prior to this he was Chair of the Studies Committee for the medicine and dentistry degree programmes. Mallinger was instrumental in implementing the new medical curriculum, and in the separation of the Faculty of Medicine from the University of Vienna to become a university in its own right.



Peter Soswinski
Vice Rector for Finance

Following a period in office as Vice Rector for Clinical Affairs, Peter Soswinski took over the role of Vice Rector for Finance from 2007 until September 2011. He was also in charge of the departments of Facility Management, IT Infrastructure and Process Management. During this time, Soswinski was also the owner's representative of Bernhard Gottlieb Zahnklinik GesmbH.



Univ. Prof. Dr. Oswald Wagner
Vice Rector for Clinical Affairs

In May 2010, Prof. Oswald Wagner took over from Univ. Prof. Christoph Zielinski as Vice Rector for Clinical Affairs, commissioned with setting up the Comprehensive Cancer Center (CCC). He held this post until September 2011. Wagner is Head of the Clinical Institute of Laboratory Medicine at MedUni Vienna.





MedUni Vienna University – People – Medicine

As a research organisation, educational establishment and clinical care provider, the MedUni Vienna plays a number of different roles. These roles, however, are focused on people – be they teachers, researchers, students or patients.

MedUni Vienna's research clusters, clinical focus programmes and cooperation agreements offer scientists from Austria and beyond an excellent environment to carry out their work. Students at the University benefit from an innovative curriculum which focuses on small group learning and clinical practice.

The University also offers trainee and qualified doctors an attractive portfolio of continuing education opportunities. Many of the doctors that train here remain at MedUni Vienna after their studies have finished and treat hundreds of thousands of patients every year.



Core activities in research, teaching and patient care are organised into

***31** university departments/clinical institutes and
12 medical science centres.*

***5** areas of research focus:*

- Allergies/Immunology/Infectious Diseases

- Cancer Research/Oncology

- Neurosciences

- Cardiovascular Medicine

- Imaging

***10,034** impact points (2010)*

University

International Centre of Medicine

Vienna is a magnet for teachers, researchers and students from within Austria and abroad. The city has also been crowned, for the sixth time in a row, as the world's most popular meeting destination by the International Congress and Convention Association. A major contribution to this is made by the fact that many medical conferences are held in Vienna. In addition, scientists from MedUni Vienna have blazed quite a trail internationally with the achievements of recent years, thereby providing an excellent advertisement for Vienna as a research location.

This is also highlighted by the international renown that MedUni Vienna academics have earned in various fields, both in research and in teaching. MedUni Vienna is today one of the largest medical research institutions in central Europe, the largest German-speaking medical training facility and, with its university hospital – the Vienna General Hospital (AKH) – it is Austria's most important health care provider. From an international perspective, the University will in future play an even more important role as a Centre of Excellence. Targeted support for talented researchers, performance-orientated career models for doctors and involvement in international networks, as well as non-university cooperation agreements, will all be part of this.

Current cooperations include Max F. Perutz Laboratories as a subsidiary of the University of Vienna and the Medical University of Vienna, Christian Doppler Laboratories and the Research Center for Molecular Medicine (CeMM). In the universities sector, existing

cooperation agreements with the University of Vienna, the Vienna University of Veterinary Medicine, and the other two medical universities in Austria are to be stepped up. Close cooperation agreements with other universities in Austria and abroad and non-university institutions are also planned.

As government funding for universities is becoming more constricted, external funding is becoming increasingly important. Since 2004, external funding raised by MedUni Vienna has almost doubled. Currently, around a fifth of financial resources for research and teaching comes from this domain. In order to increase third-party funding revenue even further, the University is actively engaged in the patenting and commercial use of research outcomes as part of an Academic-Private Partnership.

In the education sector, MedUni Vienna has made a name for itself in recent years with its innovative curriculum, which focuses on teaching in small groups and clinical practice. As well as degree programmes in medicine and dentistry, trainee and qualified doctors at find an attractive portfolio of postgraduate and continuing education opportunities at MedUni Vienna, which are constantly being expanded. The choice ranges from PhD programmes to a master's degree in medical informatics, to postgraduate training programmes for professionals in the medical and health care sector. There are now more than 1,000 new researchers studying in PhD and other doctorate programmes.



5,372 employees, of which
2,592 are scientists working in various disciplines.

7,278 students from Austria and abroad are currently completing their education at MedUni Vienna.

2011 figures

People

Scientific diversity serving society

Medicine is the science of humans, for humans, and as a result, its benefits for society are made tangible on a daily basis. Academic life at MedUni Vienna reflects the diversity of human life: around 3,400 researchers and doctors work together here at present. Many of these have an international background and carry out research in the most varied of fields. The sum of their team and individual accomplishments makes up the combined achievement of MedUni Vienna.

These scientific achievements directly affect patients, since the University closely integrates basic research with clinical practice at the Vienna General Hospital (AKH). In practice, this means that patients benefit directly from the latest research outcomes of clinical studies. In light of the major benefits it offers to medicine, this research and treatment approach – which is known as translational research – is therefore a key aspect of the MedUni's mission.

Students also contribute to make MedUni Vienna the diverse place that it is. 7,300 people, from Austria and abroad, are currently completing their medical education in Vienna.

To further strengthen MedUni Vienna's international nature, successful student exchange programmes – such as study abroad scholarships, guest researchers and partnerships with universities in different countries – are to be expanded. The University is also keen, for strategic reasons, to collaborate closely with at least one renowned American university and one renowned Asian university.

As part of fulfilling its social objectives, MedUni Vienna pursues gender mainstreaming programmes, with two specific measures already in place, namely a mentoring programme and 'The family-friendly university: coaching for women applying for professorships'. Research in gender medicine, begun in 2010, is going to be integrated into the curriculum.

Another example of socially relevant research is a project to examine the ethical correctness of clinical studies from 1945 to 1978.

The Josephinum provides a comprehensive overview of the University's 650-year history, with its fascinating wax models and one of the world's most important libraries of historic medical literature.

The university departments within the Vienna General Hospital make up Austria's largest centre for medical care

48,100 operations

104,000 inpatients

568,000 outpatients

1,227 clinical research projects submitted to the Ethics Committee

2011 figures



Medicine

The New Vienna Medical School

MedUni Vienna's core mission comprises the triple track of research, teaching and patient care. Working together seamlessly, these activities deliver world class medical and academic performance, serving to maintain health, prevent illness, and to cure or relieve the symptoms of diseases. The University focuses on activities in five research clusters, and also has five clinical focus programmes.

MedUni Vienna has established research clusters to pursue clinical research and advance its integration with basic medical research. The five clusters are dedicated to the fields of (i) Allergies/Immunology/ Infectious diseases; (ii) Cancer Research/Oncology; (iii) Neuroscience; (iv) Cardiovascular Medicine, and (v) Imaging. The University's clinical focus programmes are centred on (i) Organ Failure/Organ Replacement/ Transplants; (ii) Basic Sciences/Diagnostics/ Imaging; (iii) Intensive Care Medicine; (iv) Metabolic and Nutritional Medicine, and (v) Musculoskeletal Conditions.

Interdisciplinary, personalised approaches to treatment are key feature of clinical practice. By bringing together expertise from various medical disciplines, we can offer much more effective patient diagnosis, particularly for cancer patients. It is for this reason that the Vienna Comprehensive Cancer Center (CCC) was established in 2010.

The CCC integrates patient care, teaching and research 'under one roof', in close collaboration with self-help programmes and neighbouring institutions, such as the Ludwig Boltzmann Institute, IMBA, Max F. Perutz Laboratories (a joint venture with the University of Vienna), IMP and CeMM.

This approach allows efforts in the fight against cancer to be coordinated and focused in an innovative, unique way. In light of its success, the CCC is serving as a model for creating further other interdisciplinary structures in the form of centres. This forms part of achieving MedUni Vienna's goal to lay the foundations for a New Vienna Medical School, representing an approach to medicine that is holistic and personalised in equal measure.

Within the University's broad portfolio of outstanding medical achievement, transplantation medicine stands out. Vienna is one of the world's leading centres for heart and lung transplants, both in terms of the number of transplants carried out and success rates. Vienna also has an international reputation for its establishment and development of cochlear implants at the University Department of Ear, Nose and Throat Diseases, and for the bionic reconstruction of limbs at the Clinical Section for Plastic and Reconstructive Surgery.





Highlights

Cutting edge research, academic study and everyday clinical practice are inseparably interlinked at Austria's leading medical university. Such close collaboration guarantees outstanding performance. The University's activities cover the full range of medical disciplines and medical education.

The following section provides an overview of the diversity of scientific work and academic life at MedUni Vienna, along with the political and economic conditions under which the University operates. Chronologically ordered highlights – from the start of 2011 onwards – offer an extensive insight into the variety of activity at the University.

Doering is new Professor of Psychoanalysis and Psychotherapy

At the beginning of January 2011, Stephan Doering was appointed Professor of Psychoanalysis and Psychotherapy at MedUni Vienna. He also took over as head of the University Department of Psychoanalysis and Psychotherapy.

In appointing Doering, the University chose an expert in his field, with international experience, for whom collaboration between disciplines is especially important. The department head and his team are keen to further develop psychoanalysis as a method of treatment and support its use with empirical evidence.

Doering and his researchers are currently working on the develop-



Stephan Doering

ment of a specific psychoanalytical treatment approach for narcissistic personality disorders, for example, which involves close cooperation with the Personality Disorders Institute at Cornell University, New York.

Doering is a specialist in psychiatry and neurology, psychosomatic medicine and psychotherapy, as well as a psychoanalyst. Previously, he was Professor of Psychosomatics in Dentistry at the University of Münster. Doering commented on his appointment: "It is a great honour for me to represent psychoanalysis at MedUni Vienna. I am committed to ensuring that Vienna remains an intellectual centre for psychoanalysis in the future."

Teaching is another area that is particularly important to the newly appointed Professor: he is keen to impart to students how fascinating psychotherapeutic practice can be, to encourage enthusiasm for psychoanalysis and to recruit committed new talent for his specialism.

APPOINTMENTS, 10-01-2011

New teaching chair for clinical translational gynaecological oncology

1 January also marked the creation of the new professorship in translational gynaecological oncology. The post is held by Christian Singer. This new teaching chair underlines the importance of translational medicine and of the Cancer Research cluster at MedUni Vienna.

Singer's scientific work will focus on breast and ovarian cancer. One of the central aims of the professorship is to make findings from basic research in breast cancer applicable in clinical practice for diagnosis, prognosis and treatment.

○ KNOW-HOW TRANSFER FOR THE PRIVATE MEDICAL UNIVERSITY IN KREMS

Both on the international stage and in Austria, MedUni Vienna is committed to playing a major role in new initiatives in the medical education and research and in clinical practice. On 14 January, a letter of intent was signed with the State of Lower Austria and the Technical University of Vienna, regarding the establishment of a private university for public health in Krems. MedUni Vienna's main contribution to the undertaking will be its considerable expertise in course design.

● 14-01-2011

○ MECHANISM OF SEVERE LUNG INFLAMMATION IDENTIFIED

One current area of research being pursued at the University Department of Internal Medicine I is deciphering the underlying cause of severe lung inflammations triggered by multi-resistant bacteria. The research is giving rise to new treatment approaches aimed at preventing the usually fatal outcome of such inflammations. The significance of the team's results has been underscored by their publication in the *Journal of Immunology*.

● 01-02-2011



New dental hospital opens its doors

At the start of 2011, the first stage of construction on the Bernhard Gottlieb University Clinic for Dental Care got underway. The facility now offers more than 15,000 m² of new or renovated space.

Brisk construction work at MedUni Vienna's Dental Hospital: the first stage of construction, which began in 2008, was completed and put into service at the beginning of 2011. This part of the building comprises an entirely new section as well as parts of the existing old building. The new three-storey structure (with total floor space of 9,800 m²) contains the new auditorium, six seminar rooms,

the central waiting room and new treatment areas. 5,600 m² of the original building has already been restored. This is where the completely new pre-clinical area is based, in which dental students hone their skills on phantom heads. The area also houses the dental technology laboratory, the new radiology department, the library, administration and duty rooms and office space.

Coinciding with the procurement of the new building, the treatment unit system was introduced. Students will benefit from being permanently assigned to a treatment unit in which they will carry out all their work, under the supervision of the various consultants.

In March 2011, the second stage of construction began, in which a further 6,200 m² of the old building and 2,000 m² of the van Swieten wing are to be restored. Once construction is finished in 2013, researchers will be able to move into their new premises.

Researchers have been highly productive in the existing premises too, however. The Clinic's 21 publications in 2011 achieved an impact factor of 60.14 over the year – a new record for the Clinic. Research focused on experimental investigations and theoretical research in the fields of osteology, materials science, periodontology and technological innovation.

GUTIÉRREZ-LOBOS ON STRATEGIC ADVISORY BOARD FOR AUSTRIAN MINISTRY OF SCIENCE

Science Minister Beatrix Karl has appointed MedUni Vienna Vice Rector Karin Gutiérrez-Lobos to the Strategic Advisory Board for Gender and Diversity. The committee is made up of national and international experts. Its remit covers education and training, occupational fields, career choices, scientific careers and balancing work and family life.

Joint research clusters: an innovative cooperation model

At MedUni Vienna and the University of Vienna, six joint research clusters have begun interdisciplinary and cross-university translational research projects.



"These research clusters are set to open up new pathways to innovation and build bridges between basic research and patient-oriented research," according to Rector Wolfgang Schütz and Heinz W. Engl, Vice Rector of the University of Vienna, who explained the focus of the joint initiative.

The initiative will support research projects between the faculties, centres and departments of the two universities, with a three-year start-up

grant of 1.3 million euros. The funding for the cooperations is based on international evaluation and is restricted to a period of three years. The aim is for the projects to be self-financed by attracting third party funding after the initial funding period expires. After a two-stage selection process involving assessment by international experts – at least one clinical expert and one basic research expert – the projects to be financed were chosen from a total of 16 applications.

Combined strengths in research

MedUni Vienna is involved in a number of cooperations with other institutions, which serve to strengthen the University's competitive position internationally. One of the most important examples in this context is Max F. Perutz Laboratories (MFPL) at Vienna Biocenter, specialising in molecular biology and operated jointly with the University of Vienna. The CeMM (Center for Molecular Medicine at the Austrian Academy of Sciences) is located directly on the Medical University campus, so that it can carry out research in close collaboration with University departments and make joint use of specialist infrastructure such as the Core Facility for Genomics. Joint research is being carried out in the field of medical engineering with the Technical University of Vienna. The Messerli Institute for Human-Animal Interactions is also a prime example. The interdisciplinary research institute, a collaboration between MedUni Vienna, Vetmeduni Vienna and the University of Vienna, was brought to Vienna in an international tender.

ALUMNI CLUB GAINING MEMBERSHIP AND POPULARITY

MedUni Vienna's Alumni Club now has some 800 members. It organises a large number of events, for example the Living Emergencies information and networking evening, held on 30 March 2011. The evening featured a screening of an award-winning documentary film about the work of Medecins Sans Frontieres (Doctors Without Borders), followed by a lively discussion.

New prospects for the treatment of leukaemia: role of key protein discovered

The protein STAT5 is directly linked to the formation of blood cancer cells and their development of resistance to drugs. This discovery represents an important step in the search for new treatment approaches.

Every year, 25,000 people worldwide die from chronic myeloid leukaemia (CML), which is most often caused by a genetic defect. It is the second most common form of chronic leukaemia. The disease itself is still incurable, but there has been a treatment available for ten years which patients are able to tolerate well. Taking the drug Imatinib daily can halt the advancement of the illness.

Since tumour cells develop resistance to the drug over time, the dose has to be increased at regular intervals. However, this is only tolerable up to a certain level, before side effects start to develop that can themselves cause serious harm. A cause of the development of resistance has now been identified, in a recent study by Veronika Sexl and her team at the Centre for Physiology and Pharmacology.

They have detected a clear, direct relationship between the occurrence



of a protein called STAT5 and the tumour cells: as the quantity of STAT5 increases, so does the leukaemia cells' resistance to Imatinib. If there are no such proteins present, on the other hand, the tumour cells are unable to survive.

This makes the protein an important marker for diagnosing progres-

sion of the disease. The prospect for the future is the development of a drug that reduces or suppresses STAT5 production, thereby preventing the tumour cells from developing resistance to the drug. This would allow the drug's effectiveness to be maintained without needing to increase the dose.

"BODYGUARD" FOR CANCER CELLS DISCOVERED

A team of researchers led by Veronika Sexl at the Centre for Physiology and Pharmacology has deciphered a mechanism that serves exclusively to protect cancer cells and promote their growth. This makes it possible to specifically attack tumour cells, without damaging healthy cells.

31-03-2011

ALLERGY MULTIPLIER PROTEIN GROUP IDENTIFIED

A current study focusing on food allergies is looking at how, if someone is allergic to a certain food, other allergies often develop over time, some of which can have serious consequences - including fatal circulatory collapse. Barbara Bohle at the Institute of Pathophysiology and Allergy leads a team that has successfully identified the mechanism, which will be of key importance for effective treatment of such allergies.

12-04-2011

Peptide inhibits tumour growth and metastasis

An interdisciplinary project has demonstrated that a specific peptide is able to prevent the penetration of cancer cells into tissue and thereby the growth of melanomas.



Certain cells need to be able to move around within the body. This is particularly true of immune cells, for example, whose role it is to sniff out "invaders" and render them harmless. Tumour cells often utilise this property, "hijack" such cells and use the same mechanisms to infiltrate tissue themselves, facilitating metastasis, where disease spreads to another part of the body.

One particular receptor plays a key role in this. Researchers at the Institute of Hygiene and Applied Immunology have now demonstrated that a peptide produced by this receptor can inhibit the migration of vasculogenic endothelial cells and therefore the penetration of cancer cells into tissue. They were also able to suppress the growth of human melanomas in animal experiments. These

findings are yielding new therapeutic approaches aimed at inhibiting tumour growth and metastasis.

Hannes Stockinger, Head of the Institute of Hygiene and Applied Immunology, commented: "We are one step closer to understanding the

mechanisms of cell migration well enough to develop cell-type-specific strategies. Using these strategies, the migration of tumour cells can be suppressed without affecting the migration of tumour-fighting immune cells."

Comprehensive Cancer Center (CCC)

Cancer research is one of MedUni Vienna's key areas of research, and bringing together skills from various medical disciplines can play a decisive role in developing diagnostics, treatment and oncology. Consequently, in 2010, MedUni

Vienna founded the Comprehensive Cancer Center (CCC – a cancer treatment centre set up on the basis of international best practice.

The CCC brings together all of the disciplines involved in fighting cancer – from patient care and teaching to research and self-help groups – and promotes close collaboration between them.

○ LIVER CANCER: MR. HYDE UNMASKED AS DR. JEKYLL

Until now, the protein STAT3 has been recognised as promoting the growth of tumours. A team of researchers led by Wolfgang Mikulits from the Institute of Cancer Research has now discovered, however, that STAT 3 also plays a suppressant role in liver cell carcinoma. The surprising duality of STAT3 as both an cancer gene and tumour suppressor is influenced by the presence of the protein P14ARF. The mechanism is of major significance for cancer research and the development of new therapeutic approaches.

A revolutionary approach to learning anatomy: interactive dissection on the whiteboard

Thanks to state-of-the-art IT systems, knowledge gained by students in dissection can be translated directly into clinical skills in "virtual classrooms". The concept is a global innovation and started with a student initiative.

Thanks to interactive whiteboards and iMacs, morphology and topographical anatomy can now be linked with clinical diagnostic imaging, surgical techniques and clinical skills, all in the dissecting room. Teaching content from various specialisms, such as anatomy, radiology, surgery and emergency medicine can therefore be integrated without any loss of time.

In practical terms, implementation works like this: students from the same year group are divided into small groups, and take turns working in the dissecting room and the computer lab, where preparation and case-based clinical diagnostic imaging are carried out for the same organ system. Ceiling-mounted iMacs and a large-format, interactive whiteboard in the dissecting room are used to present multimedia preparations and imaging processes. 3D visualisations, cut-away pictures, CT and MRI

scans, videos of preparations and surgery, and embryology animations can all be displayed.

For around two weeks after this, case studies are available on Med-Uni Vienna's e-learning platform for students to use for self-study. The

advantages of this new system for students are greater flexibility and significantly more efficient use of time, as they can allocate time for study based on their own schedules.

Vice Rector Rudolf Mallinger commented: "The students expressed a wish to improve the media technology we use. We worked with the curriculum coordinator, Johannes Streicher, to develop and implement the new concept." The iMorphology concept is being implemented in parallel with the study modules focusing on organ systems in semesters four to six.



FLASHMOB AND GALA NIGHT TO RAISE AWARENESS OF CARDIAC ARREST

Two major events held on the 28 April 2011 highlighted the importance of immediate first aid when someone's heart stops. In the morning, hundreds of children demonstrated how to save someone's life as part of a "flashmob" on Stephansplatz in the city centre. And in the evening, a large number of people who have had their lives saved celebrated their "second birthday" in Vienna's Town Hall. Fritz Sterz, Deputy Head of the University Department of Emergency Medicine and founder of the organisation "Leben retten": "The aim is to get all compulsory education establishments in Austria to include life-saving first aid in their curriculum."

Tumour marker shared by humans and dogs paves the way for new cancer therapies

A collaborative study with Vetmeduni Vienna has investigated the similarity of breast cancer in humans and dogs, focusing on the tumour marker CEA (carcinoembryonic antigen).



Despite ever-improving diagnostic and treatment options, cancer remains one of the most common causes of death in humans. What is less commonly known is that this is also the case for household pets. In Austria, around 4,000 dogs die from cancer each year. This means that, over a period of ten years, around one dog in

two will die from a cancer that is similar in biological terms to a human tumour.

The CEA antigen is an important tumour marker, since it occurs in very high concentrations when cancer is present. A joint study, conducted by

the Institute of Pathophysiology & Allergy Research and Vetmeduni Vienna and led by Erika Jensen-Jarolim, has now shown that CEA has a very different structure in humans and dogs. Surprisingly, however, the CEA receptor is approximately the same.

One possible explanation for this is the fact that the CEA Receptor is a very old molecule in evolutionary terms. The next step is to investigate new therapeutic approaches that can be derived from the results of the research.

APPOINTMENTS, 01-08-2011

Jensen-Jarolim awarded Messerli Professorship in Comparative Medicine

The Messerli Research Institute is a cooperation between the University of Vienna and Vetmeduni Vienna, with the objective of carrying out research on the relationship between humans and animals. The Institute was the subject of an in-

ternational tender by the Messerli Foundation, with the Viennese consortium winning the bid.

Erika Jensen-Jarolim, a globally renowned expert on allergies and immunology, was given the first of four professorships available. In her new role, she will focus on research into therapeutic approaches which will benefit both humans and animals.

○ IN FOCUS: VIRTUALISATION, MINIMISATION AND BIOMIMETICS

Reinhard Windhager gave his inaugural lecture on Translational Orthopaedics In Auditorium 2, in which he set out the focus areas for his role: virtualisation, minimisation and biomimetics. Windhager has been Professor of Orthopaedics and Orthopaedic Surgery and Head of the University Department of Orthopaedics since 2010.

● 06-05-2011

Traditional wisdom rediscovered: Chinese plant remedy combats breast cancer

The Clinical Institute of Pathology has deciphered the mechanism behind the development of lymph node metastases in breast cancer and demonstrated the positive effect of a Chinese plant remedy.

"We've discovered how tumour cells 'drill' a hole in the wall of the lymphatic vessels in order to gain access to the lymph nodes in the axilla and then form metastases there," explained Donscho Kerjaschki.

The group led by Kerjaschki spent several years unravelling this function and researching suitable defence mechanisms. Based on the microscopic examination of human tumour material from the Institute's biobank, the findings have also been confirmed using tissue cultures and in tumour models in mice.

Tumour cells require a certain enzyme in order to make their way into the lymph nodes. By genetically disabling this enzyme, the researchers managed to block penetration of the lymph vessels and therefore prevent metastasis in the lymph nodes.

A substance obtained from the root of a plant (*scutellaria baicalensis*)

Donscho Kerjaschki wins City of Vienna award

The City of Vienna Prize for Medical Sciences was awarded in 2011 to Donscho Kerjaschki, who has been the recipient won numerous other international awards. The Vienna-born scientist has been Head of the Clinical Institute of Pathology since 1994. His work focuses on pathological changes in the glomerulus, part of the kidney, which are responsible for the development of kidney diseases. The award-winning scientist also researches the biology and pathology of the lymph vessels.



Andreas Mailath-Pokorny, Vienna's Executive City Councillor for Culture and Science, referred to Kerjaschki's award as well-deserved recognition for his work so far.

may offer a possible form of treatment. It effectively inhibits the development of the tumour cells' messenger substances and thereby blocks its

penetration of the lymph vessels. The plant has been used in traditional Asian medicine for centuries.

POTENTIAL NEW TREATMENTS FOR OESOPHAGEAL CANCER

Cancer of the oesophagus is extremely aggressive, and therapeutic options are limited. Researchers at the Comprehensive Cancer Center, the Clinical Institute of Pathology and the University Department of Surgery have now learned crucial information about the HER2 gene and its important role in the development of tumours in the oesophagus. The results of this interdisciplinary collaboration, which have attracted significant international attention, promise to deliver improved treatments and greater chances of survival for sufferers.

State-of-the-art technology for children's hearts

Every year, hundreds of children with heart defects benefit from the new heart cath lab at the Department of Pediatrics. The high tech system has been specially designed with children in mind and delivers first class image quality with minimal exposure to radiation.



Heart defects are the most common disorder in newborns. Between eight and ten children in every thousand are born with this serious condition. Many heart defects can be cured surgically, and now using minimally invasive procedures – such as coronary catheterisation.

Since the end of April 2011, the University Department of Paediatrics

and Adolescent Medicine has had a new children's cardiac catheterisation laboratory – or heart cath lab – which includes an ultra-modern coronary angiography suite. This uses particularly low levels of radiation and yet can still deliver outstanding image quality. As a result, the new system is ideal for examining and treating cardiovascular diseases in very young patients.

The fact that such procedures can be carried out at the Pediatric Heart Center Vienna is due not only to the technology, but mainly thanks to the doctors who work here, said Wolfgang Schütz, Rector of MedUni Vienna: "Three years ago, we were able to attract Ina Michel-Behnke, an leading international doctor, to head up the Pediatric Heart Center in Vienna. She brought her expertise in interventional coronary catheterisation with her from Germany and introduced numerous innovations."

The Vienna Pediatric Heart Center is part of the University Department of Paediatrics and Adolescent Medicine and works closely with the clinical section for heart surgery. A key part of the Pediatric Heart Center Vienna is the section for pediatric cardiology, led by Dr. Michel-Behnke. This is where the children's heart cath lab is based, in which around 250 children each year are examined and treated using cardiac catheterisation procedures.

○ SEEING THE INVISIBLE: OPTICAL COHERENCE TOMOGRAPHY

Wolfgang Drexler, Professor of Medical Physics and Head of the Centre for Medical Physics and Biomedical Technology, used his inaugural lecture to discuss Optical Coherence Tomography (OCT) – an imaging method that can be regarded as an "optical biopsy", with no need to take a sample from the patient. Drexler believes that the most important future applications for this technology will be in oncology, cardiology and molecular imaging. The Center for Medical Physics and Biomedical Engineering is a world leader in this field of research.

New findings shed light on how diabetes develops

A year ago, scientists in Vienna demonstrated how the hedgehog signalling pathway is the "molecular circuit" for building body fat. A mechanism that plays an important role in type 2 diabetes has now been unravelled.

Being overweight does not, on its own, always lead to diabetes. The condition usually develops when fat cells are no longer able to multiply adequately. This causes the cells that are present to grow bigger and bigger, die off and attract phagocytes which remove the dead and diseased fat cells, but which also cause chronic inflammation. The result is in-

flammation of muscles and the liver, ultimately leading to diabetes.

Researchers at the University's clinical chemistry diagnostics lab have now discovered that certain immune system cells in fatty tissue have a positive influence in preventing the development and progression of diabetes. They produce large quantities of interferon gamma (IFNg). This encourages the reproduction of fat cells and therefore indirectly prevents the existing fat cells from growing larger.

The "hedgehog signalling pathway" identified back in 2010 by scientists in Vienna, provides a way to target this mechanism. Overactivation of the pathway leads to an almost total loss of white fatty tissue. IFNg, however, acts as a "signal jammer", blocking the transmission of the hedgehog signal. The fat cells are then able to multiply, producing new small, healthy cells among which the excess body fat is distributed. This mitigates dangerous fatty inflammation and can therefore help prevent the development of diabetes.

Research focus on metabolism, endocrinology and nutrition

The rapid global rise in metabolic diseases, and illnesses resulting from them, is among the biggest challenges facing the health economy and medical research today. Central fields of research at MedUni Vienna include metabolic syndrome and type 2 diabetes, appetite regulation, fatty liver and the treatment of obesity.

Alongside EU projects and Austrian Science Fund special research programmes, the Gender Medicine Unit and two Christian Doppler Laboratories are also integrated into this research focus. The PhD programmes "Endocrinology and Metabolism" and "Clinical Endocrinology, Metabolism and Nutrition" are designed to produce specialist new researchers.



LITHIUM IN DRINKING WATER REDUCES SUICIDE RATE

A study by the University Department of Psychoanalysis and Psychotherapy and the Institute of Medical Psychology has shown that lithium occurring naturally in drinking water markedly reduces suicide rates. This is the first time that scientific proof of this positive effect has been established. The lithium study by MedUni Vienna was published in a renowned international journal, The British Journal of Psychiatry.

01-06-2011

BILE ACIDS AND THEIR THERAPEUTIC USES

As well as having a major influence on gallstones and diseases of the bile ducts, bile acids also play a role in common conditions such as fatty liver, diabetes, metabolic disturbances and arteriosclerosis. By chemically modifying and developing bile acid molecules, the acids could be used more effectively in treatment. This was explained by Michael Trauner, Professor of Internal Medicine, in his inaugural lecture. Prof. Trauner used the example of nor-ursodeoxycholic acid, a substance created in his research group, to illustrate how a bile acid can be successfully developed into a medication.

09-06-2011

Jubilee year: 100th anniversary of the Pediatrics Department, 45 years of newborn screening

As part of newborn screening programmes, samples taken from more than 78,000 newborns across the whole of Austria are tested in Vienna every year. The Department of Pediatrics carries out the testing, and has enjoyed a very special anniversary in 2011.



Vienna's Hofburg set the scene for the symposium to celebrate 100 Years of the Department of Pediatrics. The event highlighted the University Department of Pediatrics and Adolescent Medicine's particular strengths in the disciplines of neonatology, paediatric intensive care, neurooncology and nephrology.

The newborn screening programme also celebrated a landmark anniversary: since 1966, MedUni Vienna has routinely carried out screenings for all children born in Austria, on

behalf of the Austrian Ministry of Health.

To date, these tests have saved thousands of children with congenital metabolic disorders and hormonal conditions from a life of disability or serious illness. One in 800 newborn babies is born with such a condition, the dangerous consequences of which can include serious illness, permanent damage or death.

The Austrian newborn screening programme was originally launched on the back of a pioneering research project at MedUni Vienna. Due to its tremendous success, the programme was quickly established across the whole of Austria, by the Ministry of Health. Rapid diagnosis shortly after birth protects newborns from serious illness and permanent damage, as children affected can be given effective treatment at the earliest possible opportunity.

Chances of survival for premature babies significantly increased

Worldwide, every tenth child is born prematurely, and in Austria around 8,000 babies are born before their due date. Using an innovative treatment method for the care of very premature babies, i.e. those born between the 23rd and 27th week of pregnancy, the University Department of Paediatrics and Adolescent Medicine has successfully increased the survival rate for these newborns to 80 per cent.

On International Premature Baby Day, Arnold Pollak and Angelika Berger presented this successful achievement, which is of considerable significance internationally.



○ NEW DIALYSIS WARD OPENED

Following intensive planning, dialysis patients at the clinical section for nephrology and dialysis within the University Department of Internal Medicine III will benefit from a new dialysis ward with 24 treatment stations. This is also where the laboratory for dialysis-associated research is based. Research themes include isolation and characterisation of toxins occurring as a result of kidney failure, and investigations into impaired cellular defence in patients undergoing dialysis.

● 21-06-2011

○ INFORMATION DAY AND VACCINATION CAMPAIGN FOR PROTECTION AGAINST THE HPV VIRUS

A simple vaccination can protect people from the Human Papillomavirus (HPV). To raise awareness of this valuable protection and the dangers of HPV, MedUni Vienna held an information day and launched a vaccination campaign for colleagues and employees.

● 27-06-2011

Leading the way in Austria: new certification for HR management and curriculum

MedUni Vienna has become Austria's first university to subject its HR department to a stringent external audit – and passed with flying colours. At the same time, the medical curriculum was re-certified.

Staff development and HR management at MedUni Vienna were certified by the Austrian Quality Assurance Agency (AQA) following a professional evaluation by international experts. This makes the Medical University of Vienna the first Austrian university to have subjected its HR development and HR management practices to such an audit.

Benchmarks used for the audit included European quality assurance standards for universities and national

legal requirements for the development of quality management systems, as well as the international experience of the University management team and auditing practice. Appointments procedures and internal staff appraisals, which represent key processes in HR development, were scrutinised thoroughly and set down in quality documentation.

A successful evaluation provides an important impetus for orientating the HR department to continue to



serve the needs of staff and students.

In 2009, as part of a pilot project, the medical curriculum was certified in accordance with the standards of the World Federation for Medical Education (wfme) – making it the first internationally accredited medicine curriculum in Austria. Processes were carefully examined in the external audit. The result was the re-certification of the medicine degree programme, to 2016. This assures the high standard of the curriculum for the future and safeguards successful further development.

CERTIFICATION, 24-11-2011

Top marks for the Department of Studies and Examinations

MedUni Vienna's Department of Studies and Examinations is the first in Austria to be awarded certification to ISO standard 9001:2008.

Not only that, the quality certificate was conferred without reservation: "Awarded without critical or minor deviations", the assessment stated. The audit was carried out by SGS Group, one of the world's leading companies for the certification of management systems. The certification is valid for three years.

UNIVERSITY COUNCIL UNANIMOUSLY APPOINTS NEW VICE RECTORS

The University Council of the Medical University of Vienna unanimously appointed the Vice Rectors for terms lasting until 2015. Markus Müller will be responsible for research and international relations, Karin Gutiérrez-Lobos for teaching, staff development, gender & diversity, Franz Wurm for finance and Christiane Druml for clinical affairs. Markus Müller, Franz Wurm and Christiane Druml are new appointments to the position of Vice Rector, while Karin Gutiérrez-Lobos was re-appointed.

28-06-2011

RHEUMATISM RESEARCH: EUROPE LEADS THE WAY – WITH VIENNA AT THE FOREFRONT

In the field of rheumatology, Europe, and especially Vienna, have every reason to be proud: although the USA often leads the way in medical research, Europe leaves America far behind, both in terms of research citations and the most-cited scientists. According to Laborjournal online, Vienna is at the centre of this proliferation of important research.

12-07-2011

New professorship in medical biotechnology goes to allergy research pioneer

In May, basic research expert Heimo Breiteneder took up the newly created post of Professor of Medical Biotechnology at MedUni Vienna.



Heimo Breiteneder

When Heimo Breiteneder began his research work on allergens in 1985, very little was known about the subject at all. A few years later, he succeeded in identifying a protein in

birch pollen as the trigger for birch pollen allergy at molecular level. Publications of his work are among the most cited in allergy research.

Breiteneder and his team have also created an allergy database which collates all known allergens and their classifications. This means that crossallergy risks can be estimated and compared. Crossallergies are, for example, food allergies that have been triggered by an existing pollen allergy.

While the triggers are largely known nowadays, no one is entire-



ly certain why allergies develop in the first place. Researchers are now attempting to answer this question. Breiteneder regards his professorship as an excellent opportunity to take his teaching and research activities further, to understand how allergies develop and, in collaboration with other universities, to develop successful cancer vaccines.

Allergies/immunology/ infectious diseases research cluster

Many common conditions, such as chronic polyarthritis, arteriosclerosis, diabetes, allergies and inflammatory bowel disease are the result of inappropriate responses by the immune system. Infectious diseases, on the other hand, present a serious danger in develo-

ping countries, and growing threat in the industrialised world. And the tremendous complexity of immunological diseases means that interdisciplinary expertise is needed to tackle them.

More than 75 groups of researchers from a variety of institutes and clinical departments are involved in this University research cluster, all working to develop new diagnosis and treatment techniques.

○ RECENT STUDY REVEALS NEW TREATMENT FOR THYROID CANCER

Thyroid cancer is the most common of the endocrine cancers (cancers of the hormone-producing glands). Until now, the only way to treat a particular kind of thyroid cancer, medullary thyroid carcinoma (MTC), has been surgery, which is not always possible. Pathologists at the Medical University of Vienna have now discovered how this type of cancer spreads, which has opened up the possibility of treating MTC with medication for the first time.

● 12-07-2011

○ TOMORROW'S NEW DOCTORS RUN AT THE CHILDREN'S UNI – "KINDERUNI WIEN"

The words "Teaching event fully booked" could be seen everywhere for the entire week of the Children's University programme at the MedUni Vienna. Between 18 and 22 July 2011, 2,275 potential doctors attended some 100 exciting presentations, workshops and seminars for children aged between seven and twelve – the largest number of participants in the nine years the Children's Uni programme has been held.

● 25-07-2011

The first two people in the world with bionic hands instead of non functioning hands

The University Department of Surgery confirmed its status as an international pioneer in bionic reconstruction when it gave two men new, bionic hands.



An accident at work caused Patrick to lose the function of his hands. Whilst it was possible to restore most of the function in his right hand, the left hand remained useless. Neither conventional reconstruction nor a transplant were feasible. Finally, Patrick decided to undergo an amputation and receive a replacement bionic hand.

A few months after his operation, Patrick gave an impressive demonstration of just how much quality of life he has gained as a result of biology and technology being combined surgically. "The new hand has enabled him to recover the majority of his hand's previous functions," said Oskar Aszmann from the University Department of Plastic and Reconstructive Surgery.

The second patient, Milorad, was given a bionic hand after a car accident. First, a muscle was first taken from his leg and grafted into his arm. This muscle transmits signals that serve as electrical impulses for control of the mechatronic hand. Milorad now has a functioning hand just like Patrick's, that he can control voluntarily.



Bionic reconstruction: the development of intelligent, high tech prostheses

Arms and hands are the most commonly injured parts of the body. Losing a hand or its function can be extremely debilitating. In cases where surgical intervention cannot help any further, bionic limbs, developed jointly with MedUni Vienna, are increasingly being used instead. In a bionic reconstruction, the reconnection of nerves is essential. This is what makes intuitive control of the new body part possible. Control does need to be "trained", however, before gripping movements begin to take place automatically again, showing that the brain has adapted to this high tech add-on.

SMOKERS' BLOOD VESSELS DIGESTING THEMSELVES

A team of researchers led by David Bernhard from the University Department of Surgery has discovered that the constituents of cigarette smoke cause cells in the endothelium, which lines the interior surface of blood vessels, to continuously digest themselves. The resulting permanent damage to the inner surface of the blood vessels can lead to calcification of the arteries – as confirmed by a study published in the highly respected medical journal *Cardiovascular Research*.

25th anniversary of a pioneering achievement: the first artificial heart implant in Vienna

Originally used as a temporary measure until a heart transplant could be performed, the Vienna artificial heart is increasingly becoming a permanent treatment option. More than 300 implants have been carried out to date.

Heart failure is one of the most common medical conditions in Europe. When medication is no longer sufficient to keep the condition under control, either a heart transplant or an artificial heart implant becomes necessary. No bigger than a thumb, the artificial heart works as a 'turbocharger', taking over the majority of the heart's pumping action. Thanks to such devices, patients who had been seriously ill can lead normal everyday lives again, enjoying moderate sport and often returning to work. Only a battery pack worn on the hip gives away the fact that they have an artificial heart.

The first implantation of the "New Vienna Heart" in 1986 was a pioneering achievement, and the first time in Europe that such a device was successfully used to bridge the time to transplantation. Today, the device is increasingly used as a permanent replacement for a failing heart. State-of-the-art control systems,

user friendly features and the option of implantation via keyhole surgery have meant that the chances of survival and the quality of life for patients with artificial hearts have increased even further.



Interdisciplinary collaboration: the key to success

Vienna's heart implant success story was made possible thanks to a cooperation agreement between the Ludwig Boltzmann Cluster (LB Cluster) and MedUni Vienna. This has meant that resources can be shared efficiently, and has facilitated the collaborative design of world-leading innovations. Interdisciplinary collaboration between experts from various specialist fields is particularly important.

The LB Cluster for cardiovascular research comprises physicists, experimental researchers, surgeons and cardiologists.

Ludwig Boltzmann Institutes and Clusters at MedUni Vienna

- LB Cluster for Cardiovascular Research
- LB Cluster for Translational Oncology
- LB Cluster for Oncology
- LB Institute of Cancer Research
- LB Institute of Electrical Stimulation and Physical Rehabilitation

○ FEMTECH EXPERT OF THE MONTH FOR JULY

Brain researcher Veronika Schöpf was chosen as "FEMtech Expert of the Month" in July. She has worked at the section for neuroradiology and musculoskeletal radiology within the University Department of Radiology since May 2010. BMVIT's nomination of a top expert from the FEMtech database each month promotes the achievements of women who have successfully established themselves in technology and research.

● 04-08-2011

○ RESEARCH PROJECT ON IMPROVED MEDICAL SUPPORT FOR MIGRANTS

MedUni Vienna has been involved in the EU project RESTORE since April 2011. The project focuses on primary care support provided to migrants. The aim is to deliver a proposal by 2015 that will improve the situation for patients, general practitioners and health care providers, so that they can interact more effectively.

● 04-08-2011

PRIZE for outstanding innovations

Two of MedUni Vienna's projects have been selected for the PRIZE prototype support programme. The Ministry of Science and Economics is providing EUR 200,000 for further development of the innovations to make them ready for release onto the market.

Prizewinners Winfried Mayr and Ewald Unger from the Centre for Medical Physics and Biomedical Technology are working on a cuff electrode for temporary nerve stimulation that can be removed without harming the patient. Following therapeutic application of the device for a limited time period, it will be possible to remove the electrode from the body without further surgery or injury to the nerve.

Jens Schwindt from the University Department of Pediatrics and Adolescent Medicine received his PRIZE for development of a prototype in the field of medical simulation. The next stage of research is to assess the technical feasibility of the innovation, followed by patenting.

For Vice Rector Markus Müller, the PRIZE sponsorships from the BMWA and BMWF represent major milestones in capitalising on intellectual property, and provide confirmation that the decision to provide researchers with professional support in their innovative efforts has been beneficial.



Leading the way in technology transfer

With ten Christian Doppler Laboratories, MedUni Vienna ranks first out of all Austrian universities in cooperations with industry. According to Joanneum Research, it also ranks third (after Technical Universities of Vienna and Graz) when it comes to generation of intellectual property, accounting for 15 per cent of inventions. The re-

ason behind this growing number of inventions is the high quality of experimental research activity at the University, which increases the likelihood of achievements that result in realisable, marketable innovations. In keeping with this, the SzeleSTIM project took 2nd place at Venture Lounge Life Science & Medical Technology in 2011, and Xiber, a MedUni Vienna spin-off company, came top in the AWS-seed and Best of Biotech programmes.

PROFESSOR FRITZ H. BACH (1934–2011)

Fritz H. Bach, who in 2005 received the first ever honorary doctorate conferred by MedUni Vienna, was a leading light in the field of immunology and transplantation. Prof. Bach was honoured as a great clinician in an obituary by the New York Times, which stated that "he helped develop new techniques to improve people's chances of surviving bone marrow and organ transplants."

14-08-2011

HONORARY DOCTORATE FOR PETER FERENCI

Peter Ferenci, of the clinical section for gastroenterology and hepatology in the University Department of Internal Medicine III, has been presented with an honorary doctorate by Semmelweis University in Budapest. The Hungarian-born doctor was a key contact for Hungarian scientists in the west before the fall of the iron curtain.

24-08-2011

Family friendly university – signed and sealed

Minister of Science Karlheinz Töchterle presented Vice Rector Karin Gutiérrez-Lobos with the state seal of quality for family-friendly university policies.

MedUni Vienna is committed to supporting people in combining their family and professional lives.



The University's Vice Rector for women's advancement and HR development Karin Gutiérrez-Lobos explained why, at a ceremony to mark the conferral of 'family-friendly university' certification: "We took part in this pilot project for the 'family-friendly university' audit in order to firmly embed support for combining work and family life at our University, for the long term."

Key issues addressed in this regard include the organisation of studies, science and teaching, working hours and work organisation, qualification,

management and childcare. A project group made up of students, general staff and academic staff worked together to develop measures that will be implemented before the next audit in 2014.

The aim is to create structures for employees and students that will foster greater access to careers and study for women. One of the projects that MedUni Vienna is already working on intensively is the establishment of a kindergarten. In future, this will be available both to employees and students.

Paternity leave and rainbow group

Since the proportion of men taking paternity leave remains low, an initiative has been launched that is aimed at providing information and support. At a monthly fathers' group, men exchange experiences and discuss topics such as returning to work, part-time parental leave and combining home and

work life. And as part of the Gender Mainstreaming programme, a "rainbow group" has been set up for homosexual, bisexual, transsexual and intersex students and employees. The initiative will focus on networking and raising awareness of sexual orientation and sexual identity among the staff and students of Medical University of Vienna.

ATHLETICS WORLD CHAMPIONSHIPS: MEDICAL STUDENT ACHIEVES OLYMPIC TIME

23-year-old Beate Schrott has two careers – and is succeeding on both counts: she is a student at MedUni Vienna and also Austria's fastest hurdle sprinter. At the Athletics World Championships in Daegu, South Korea, she achieved qualification for the 100 metre hurdles at the London 2012 Olympic Games.

03-09-2011

LEADING COMPLEXITY RESEARCHERS MEET IN VIENNA

The world's most respected complexity researchers gathered for a conference organised by MedUni Vienna, held at the Altes AKH Campus of the University of Vienna. The meeting underlined the status that the MedUni Vienna enjoys worldwide in the field of complex systems. Stefan Thurner has been Professor of the Science of Complex Systems at MedUni Vienna since 2009 – the first such professorship in Austria. This fledgling area of research examines the mathematics underlying interactions between individual parts of living systems

06-09-2011

MedUni Vienna enjoys multiple successes in FWF pilot programme to promote clinical research

The Austrian Science Fund (Fonds zur Förderung der wissenschaftlichen Forschung, FWF) has kicked off its first programme to promote clinical research. Seven of the 15 research projects to be awarded funding are based at MedUni Vienna.



© Marc Seumenicht, FWF

With the creation of a EUR 3 million programme aimed specifically at promoting clinical research (KLIF), the FWF, which allocates virtually all of the public funds provided for promotion of research in Austria and normally focuses on basic research, is venturing into new territory. One key factor in this was a study by the European Science Foundation (ESF). This highlighted a need in the clinical sector to promote research that is independent of industrial interests.

Markus Müller, Vice Rector for Research and International Relations at MedUni Vienna commented: "Support for clinical research through public programmes is particularly important in terms of encouraging research topics that are designed independently of commercial interests. In view of the tremendous interest, it is also hoped that this programme, which is extremely important for medical universities, will be continued."

Clinical research: Austria significantly above the EU average

In an international comparison, the stature of clinical research in Austria has grown markedly in recent years: the impact of scientific work from Austria has consistently increased worldwide since the 1980s. It has now reached a level that makes Austria a global leader in clinical research, putting it way out in front of the EU average.

This is the finding of an analysis by science website Science-Watch. Around a third of all clinical research projects in Austria are carried out at Medical University of Vienna.

Out of the 327 proposals submitted, an international panel of experts selected 183 projects to submit full applications for evaluation. A total of 15 projects are now being funded, seven of which are conducted by scientists at MedUni Vienna.

DRAMATIC REDUCTION IN AUTOPSIES SKEWS SUICIDE STATISTICS

In Austria, the autopsy rate has fallen over the last 20 years from 35 per cent to 17 per cent. This drop in the number of autopsies, however, also reduces the quality of official suicide statistics. A study by the University Department of Psychoanalysis and Psychotherapy, published in the highly respected US journal *Archives of General Psychiatry*, revealed this alarming finding based on data from 35 countries.

Young researcher wins prestigious START award and ERC grant

Alwin Köhler has won one of the coveted START awards, consisting of a research budget of around EUR 1.2 million, plus a further EUR 1.5 million from the European Research Council.



Alwin Köhler

Together with seven other scientists, Alwin Köhler from the Department of Medical Biochemistry at Max F. Perutz Laboratories (MPFL), a joint venture set up by MedUni Vienna and the University of Vienna, has been accepted onto the START programme run by the Austrian Science Fund (FWF) – Austria's most valuable award for young researchers. Köhler will also receive one of the highly coveted starting grants from the EU's European Research Council (ERC),

worth a total of EUR 1.5 million in research funding.

This money will facilitate Köhler's research into "the role of nuclear pores in the regulation of gene expression." Nuclear pores are comparatively giant macromolecular structures in the nuclear envelope that enable the transport of molecules between the

cell nucleus and cytoplasm surrounding it. It has been discovered, however, that nuclear pores do not just act as transport channels, but also influence numerous other processes within the cell nucleus. Köhler is investigating these processes in order to find out how nuclear pores regulate the overall architecture and function of the genome.

Third-party funding grows again in 2011

Third-party funding (e.g. in the form of research grants) attracted by the MedUni Vienna has almost doubled since 2004, to EUR 81.7 million annually. This accounts for more than a fifth of the financial resources used for research and teaching. 65 projects running at MedUni Vienna in 2011 are part of the EU Commission's Seventh Framework Programme, with 19 EU projects being newly approved in the course of the year.

At the national level, the FWF approved 39 projects in 2011, as well as one Special Research Programme and one START application, all based at MedUni Vienna. Six of the eight projects being funded by the WWTF programme "Linking Research and Patient Needs" are being carried out by MedUni Vienna scientists.

University researchers have also secured finance for a total of 23 projects from the Mayor of Vienna's Medical Scientific Fund, and 23 projects from the Austrian National Bank Anniversary Fund.

MEDUNI VIENNA LEAPS UP QS UNIVERSITY RANKINGS

MedUni Vienna has improved its position in the QS World University Rankings, jumping from 197th in 2010 to 115th in 2011 in the Life Science & Medicine category. The medical universities ranking now puts MedUni Vienna in 101st place globally.

08-09-2011

PECK-RADOSVLJEVIC NEW VICE SECRETARY OF EASL

The Deputy Head of the clinical section for gastroenterology and hepatology, Markus Peck-Radosavljevic, has been appointed as the new Vice Secretary to the European Association for the Study of the Liver (EASL). From 2013, he will be Secretary General – the first Austrian in the history of the EASL to hold the post. EASL organises the International Liver Congress (ILC), a European conference for hepatologists attended by over 10,000 delegates each year, which was last held in April 2012 in Barcelona.

12-09-2011

4,614 take aptitude test for medical studies

The new registration system for the medical studies aptitude test (EMS) has proven to be a success: 82 per cent of the 5,600 prospective students who registered sat the test.



The higher number of prospective students taking the aptitude test has shown that the decision to switch to the new registration system was a good one. A small administrative fee of EUR 90 was introduced, and the requirement for registration in person was dispensed with.

In many cases, the introduction of the contribution to administrative costs did not represent an increase in the overall expenditure required to take the test, since numerous candidates were spared the long (and therefore more expensive) journey required to register in person.

According to Vice Rector Rudolf Mallinger, the new registration system not only creates savings for the MedUni Vienna – placing less of a burden on Austrian taxpayers – but

How the EMS test works

Due to the legal quota regulations and the fact that resources are limited, a selection process is required for entry to undergraduate programmes at MedUni Vienna. The EMS is a psychometric cognitive

test that examines core abilities. The ten multiple choice sub-tests contain a total of 198 questions. Among other areas, they assess candidates' grasp of scientific problems, the ability to concentrate and interpretation of diagrams and tables.

the seriousness of applications to study medicine has also increased as a result.

For the 4,614 prospective students who took the aptitude test at Messe Wien, there were a total of 740 undergraduate places available in the

2011/12 winter semester – 660 in medicine and 80 in dentistry. In accordance with the legal quota formula, 75 per cent of these places will go to Austrian applicants, 20 per cent to individuals from other EU countries and 5 per cent to candidates from non-EU countries.

MEDUNI VIENNA DEVELOPS NEW TREATMENT CONCEPT FOR MALARIA IN BANGLADESH

Over 2,000 people die every day from malaria, a disease that is primarily associated with poverty. A team from MedUni Vienna, led by Harald Noedl from the MARIB Research Centre at the Institute of Specific Prophylaxis and Tropical Medicine, is working in a malaria-affected region of Bangladesh to develop a new treatment concept that could significantly reduce mortality and save tens of thousands of lives.

Parkinson's disease: key gene identified

By analysing 30 million DNA components, a team of researchers at the University Department of Neurology has been able to identify dominant gene VPS35 as the cause of late-onset Parkinson's disease (when the disorder occurs after the age of 60).

The research began with an Austrian family that had a total of seven of its members affected by the condition. Using a sequencing technology

that has only recently become available, all of the protein-coding sections of DNA were fully sequenced for two members of the family. In just a few days, more than 30 million individual DNA components were analysed.

More than 20,000 genetic variants were found in each of the patients. After multiple filtering processes and elimination methods, only one mutation on the VPS35 gene remained which could be responsible for the family's condition. This discovery means that molecular metabolic pathways affected by Parkinson's disease can be analysed in more detail, and the finding is of tremendous importance for research into the condition, says head of research Alexander Zimprich.



In Austria, around 20,000 people are affected by Parkinson's disease. After Alzheimer's, Parkinson's is the world's second most common neurodegenerative disease.



Neuroscience Research Cluster

Research in the neurosciences and the psychiatric-psychosocial sciences occupies a prime position at MedUni Vienna. Work produced at the University on Alzheimer's, depression, multiple sclerosis and in pain research enjoys particular in-

ternational renown, and the scientists involved are among the most cited authors in journals in their respective fields worldwide. While the Centre for Brain Research has achieved international acclaim on the basis of its basic medical research, it has recently established a focus on clinical activities in the field of functional and molecular imaging.

SAM LIFETIME ACHIEVEMENT AWARD FOR MICHAEL FRASS

Michael Frass of the University's Department of Internal Medicine I is number one: the Head of the homeopathy for malignant diseases specialist outpatient facility was presented with the Society for Airway Management's (SAM) first ever Lifetime Achievement Award. The honour recognises Frass's numerous achievements, including the invention of the Combitude, a device used to safeguard airways in emergencies, and his many research publications and papers.

Advances in development of artificial skin

A team of researchers in the Clinical Department of Plastic and Reconstructive Surgery has successfully seeded artificial supporting tissue with two different types of skin cells. This development in artificial skin could benefit burns victims in the future.



Sufferers of serious burns that extend through to the layer of connective tissue that covers the muscles can sustain an irreversible loss of the tissue below the skin. Such individuals in particular may benefit from the development of artificial – ideally multi-layer – skin materials.

The scientists used MatriDerm, consisting of bovine collagen and elastin, as a template in their experiments. This scaffold material is al-

ready used in cases of full thickness burns, to build up the dermis in order to ensure a better quality of scarring in regenerated skin. Areas of application include plastic and burns surgery in combination with split thickness grafts using the patient's own skin.

The researchers attempted to cultivate epidermis cells (keratinocytes) and fat precursor cells (preadipocytes) on the scaffold material at the same time. After 21 days, they

reviewed how the scaffold had been populated in the laboratory. The fatty tissue precursor cells had migrated deeper into the MatriDerm template, whereas the epidermis cells had remained on the surface and formed a covering layer. This yields an interesting approach in relation to multi-layer replacement of skin which could potentially be used in reconstructive surgery.

REINHARD WINDHAGER NEW PRESIDENT OF ISOLS

The Head of the University Department of Orthopaedics, Reinhard Windhager, was appointed President of the Society at the Member Meeting of ISOLS (International Society of Limb Salvage) in Beijing, for the period 2014 – 2015. The objective of this society is to promote research into the preservation of limbs following tumours and other mutilating conditions.

New kidney transplant drug receives EU approval

The drug Belatacept, which the MedUni Vienna played a considerable role in developing, is a new alternative immunosuppressant therapy following kidney transplants – and has none of the severe side effects common with other medicines.

According to estimates, administering new drug Belatacept will mean that a transplanted kidney can function for 13 years instead of just nine, as has been the case up to now. Ferdinand Mühlbacher, Head of the University Department of Surgery, who was very much involved in development of the medication together with immunologist Thomas Werkle, even anticipates functional life of 15 to 17 years.

Long-term studies involving patients who have been treated for ten years with the drug after transplantation are encouraging – their kidney function is excellent. Mühlbacher therefore speaks of a revolution in renal transplantation and related therapy.

Compared to conventional immunosuppressant drugs, Belatacept is a co-stimulation blocker that offers the considerable advantage of having no side effects. The drugs used for the

last 30 years or so are calcium neuroinhibitors which can cause hypertension, diabetes or other metabolic disturbances. The new medication represents a new, equally effective way to prevent the body rejecting the transplant, without side effects and with better organ function.



Transplant centre with a worldwide reputation

MedUni Vienna carries out the highest number of transplants per capita in the world, and is among the top transplant centres globally for bone marrow and stem cell transplants, as well as lung transplants. High patient numbers and numerous projects in transplant immunology have resulted in success rates that are exceptional in international comparison.

The University's research work on artificial hearts is also held in high regard.

Transplants carried out in 2011 in the University Departments of Vienna General Hospital:

- Kidney: 176
- Liver: 61
- Heart: 25
- Lung: 110
- Heart and lung: 1
- Bone marrow: 318
- Cochlea: 69
- Pancreas: 4

○ BOWEL CANCER SCREENING ADVISABLE IN MEN FROM THE AGE OF 45

Around 5,000 people each year develop bowel cancer in Austria, with the mortality rate sitting at just under 50 per cent. A screening colonoscopy (examination of the bowel) is recommended for anyone aged 50 or above, regardless of gender. And a recent study by the Austrian Society of Gastroenterology and Hepatology, led by Monika Ferlitsch from the University Department of Internal Medicine III has determined that this screening procedure is advisable from the age of 45 in men.

Three new Christian Doppler Laboratories at MedUni Vienna

Three new Christian Doppler Laboratories opened at MedUni Vienna in the 2011 winter semester, focusing on research into restoring functions in extremities, cardio-metabolic immunotherapy and radiation oncology.

In the new Christian Doppler Laboratory (CDL) for Cardio-metabolic Immunotherapy, headed up by Thomas Stulnig, work is being carried out on the basis for a vaccination to prevent type 2 diabetes and cardiovascular diseases. Vaccine specialist AFFiRiS is acting as the industry partner for the research. AFFiRiS' technology has already been used to develop a vaccine against Alzheimer's disease.

The CDL for Restoration of Extremity Functions was set up on the basis of the successful innovations in bionic reconstruction. The head of the laboratory is Oskar Aszmann. Otto Bock Healthcare Products GmbH, based in Vienna, is acting as industry partner. Just how successful such interdisciplinary projects between a university and business can be in reality became apparent in April 2011, when the case of a young man named Patrick and his bionic hand prosthesis created an international sensation.

In the CDL for Medical Radiation Research for Radiation Oncology, Dietmar Georg and his team focus on the personalisation and optimisation of radiotherapy. The aim is to improve tumour control and reduce side effects.

CDLs are set up at universities or non-university research organisations for periods of seven years. Under the guidance of highly trained scientists, the research groups in the laboratories work in close collaboration with industry partners to find innovative answers to research questions that have commercial relevance.



Christian Doppler Laboratories (CDLs) at MedUni Vienna

- CDL for Allergy Research
Head: Rudolf Valenta
- CDL for the Development of Allergen Chips
Head: Susanne Vrtala
- CDL for Immunomodulation
Head: Barbara Bohle
- CDL for Infection Biology – FunPath
Head: Karl Kuchler
- CDL for Molecular Cancer Chemoprevention
Head: Christoph Gasche
- CDL for Cardiac and Thoracic Diagnosis and Regeneration
Head: Hendrik Jan Leonard Ankersmit
- CDL for Laser Applications in Medical Technology
Head: Wolfgang Drexler
- CDL for Cardio-metabolic Immunotherapy
Head: Thomas Stulnig
- CDL for Restoration of Extremity Functions
Head: Oskar Aszmann
- CDL for Medical Radiation Research for Radiation Oncology
Head: Dietmar Georg

50 YEARS OF MODERN ANAESTHESIA

The day anaesthesia was born is generally regarded as 16 October 1846, when William Thomas Green Morton performed the first demonstration of the use of ether as an anaesthetic. Just one year later, this anaesthetic was used for the first time in Vienna. In 1961, the Institute of Anaesthesiology was founded at the University of Vienna – marking the official beginning of modern anaesthesia in Austria.

30-09-2011

WOMEN IN SCIENCE: CONSIDERABLE EQUALITY GAPS STILL REMAIN

A study commissioned by the EU confirms that women need to be two and a half times more productive than men in Austria in order to achieve a professorship. The symposium entitled "Does scientific achievement have a gender?" at MedUni Vienna focused on making the problem visible, raising awareness of the issue and developing new strategies to tackle it.

03-10-2011

Less pain, earlier mobility and improved healing process following a fracture

An interdisciplinary working group lead by Gerald Holzer from the University Department of Orthopaedics has discovered that parathyroid hormone therapy can shorten the time it takes for fractures to heal, opening up new treatment methods.



The main causes of fractures in older people are falls and osteoporosis. After breaking a bone, most people have a long convalescence period ahead of them. Until now, there has been no way of influencing or accelerating the length of time the healing process takes.

This study examined a group of 65 older women with osteoporosis. They had suffered pelvic fractures which did not require surgical intervention. The result: treatment with parathyroid hormone 1-84 shortened healing time by an average of five weeks. This meant that in the group of patients

Research focus on musculoskeletal disorders

As society grows older, the prevalence of musculoskeletal disorders is bound to increase. They have therefore now become the leading cause of poor health, absence from work due to sickness and early invalidity, making them the highest cost generator in the health and social system. Researchers at MedUni Vienna are working to combat these conditions as a designated research theme. In terms of content, the focus is on examining issues related to how the conditions develop, as well as research into cartilage and bones.

treated, the pelvic fractures took just seven to eight weeks to heal, instead of the usual 13 weeks. The amount of pain was reduced, and the patients were able to become mobile again sooner.

○ THREE NEW RESEARCHERS RECEIVE ACCOLADES FROM ÖGAI

Three very special awards were conferred on researchers from MedUni Vienna at the Annual Conference of the Austrian Society for Allergology and Immunology (ÖGAI) in Graz. Katarzyna Niespodziana from the Department of Pathophysiology was awarded the Clemens von Pirquet Prize for 2011, Thomas Weichhart (Internal Medicine III, nephrology) was awarded the Karl Landsteiner Prize and Judith Leitner from the Institute of Immunology was awarded the ÖGAI Dissertation Prize.

● 05-10-2011

○ VICE RECTOR CHRISTIANE DRUML RE-ELECTED AS CHAIR OF THE BIO-ETHICS COMMITTEE

On 5 October, the Austrian Bio-Ethics Committee was reappointed at the Federal Chancellery. MedUni Vienna's Vice Rector for Clinical Affairs, Christiane Druml, has been re-elected as Chair of the Committee. This will be her third term of office.

● 05-10-2011

Aid for Africa: research centre opens at Jimma University in Ethiopia

Armed with expertise and equipment from Vienna, a vaccine against trachoma – a condition that causes blindness in thousands of people in Africa every year – is being developed at the Eye Clinic in Jimma.



Talin Barisani

MedUni Vienna's cooperation with the University of Jimma, Ethiopia's second-largest university, is an offshoot of the Laura Bassi OCUVAC programme. Talin Barisani of the University's Institute of Specific Prophylaxis and Tropical Medicine is in charge of the project, which aims to improve diagnosis and treatment methods for trachoma.

Jimma is located in a region with a high prevalence of trachoma, an infectious, inflammatory condition

of the eye that can lead to blindness. Around ten million people suffer from the disease in Ethiopia, a country with 88 million inhabitants. The underlying causes are poor hygiene, drought and poverty. In many villages there are no wells at all, which means that women have to walk for miles to find the nearest source of water.

In the research centre at the University of Jimma, work is currently being carried out on a vaccine against trachoma. The objective is to provide a drug by the end of 2017 that can be administered without needles, can be manufactured inexpensively and which can be transported and stored without refrigeration.

The idea is to use bacterial ghosts – empty, non-living bacterial envelopes whose membrane structures are intact. Antigens to various germs can be anchored in these envelopes. The modified bacterial ghosts are therefore ideal vaccine candidates, since they are recognised and ab-

sorbed by the body and its immune cells.



World first: hearing implants use ultra-thin electrode

At the University Ear, Nose and Throat Department, a "floating electrode" just 0.2 mm thick has been used in a cochlear implant for the first time. A gentler surgical method has resulted from the development.



Cochlear implants are electronic hearing devices that can restore a patient's ability to hear in cases of deafness or severe hearing impairment. In a surgical procedure conducted using a microscope, an implant containing a stimulation electrode is introduced into the cochlea. The electrical impulses that are sent to the brain via the auditory nerve create the impression of hearing.

Until now, a hole had to be drilled in the cochlea for the implant to be fitted, but innovative electrodes de-

veloped in part by researchers at the MedUni Vienna mean that this is no longer necessary.

Instead of the 0.5 mm thickness previously required, the "floating electrode", as it is known, is just 0.2 mm thick. "In the new surgical method, only the membrane of the inner ear is pierced. This protects the rest of the auditory apparatus and is significantly less destructive," explained Wolf-Dieter Baumgartner from the University Department of Ear, Nose and Throat Diseases.

Global network of leading cochlear implant centres

The latest research achievement in this field highlights the leading position that MedUni Vienna has earned in relation to ENT implants. The first cochlear implantation to be carried out in Vienna took place back in 1977. It was also the world's first multi-channel cochlear implant.

After this, the technology's great success story began. Wolfgang Gstöttner, Head of the University Ear, Nose and Throat (ENT) Department, is a leading international expert in the field of cochlear implants. Together with Wolf-Dieter Baumgartner, he is a founding member of HEARRING, the international network for leading cochlear implant centres. The 1,000th cochlear implant was recently carried out successfully at the ENT Department.

○ WORLD OSTEOPOROSIS DAY: SCREENING CAN SAVE LIVES

"Far too many people are unaware that they have osteoporosis," said Peter Pietschmann, an expert in osteoporosis at the Institute of Pathophysiology and Allergy Research, on the occasion of World Osteoporosis Day, 20 October. This is due to a lack of awareness of how to prevent the condition, despite the fact that the related higher risk of fracture increases the likelihood of mortality in women within the first year following a hip fracture by two to five times.

Mechanism behind age-related macular degeneration decoded



Age-related macular degeneration (AMD) is the main cause of blindness in the western world. The processes that trigger the condition have largely been a mystery until now. A recent Nature study has opened up new opportunities for treating it.

In the Nature study, the scientists were able to demonstrate that malondialdehyde (MDA), a commonly occurring waste product formed by the body's own molecules, plays an important role in the development of the disease. Oxidative stress in the retina causes the build-up of potentially harmful MDA.

Primary author and PhD student David Weisman has successfully identified the defence mechanism that renders MDA harmless in healthy individuals or triggers its ejection from tissue. One of the most common proteins found in blood plasma, called factor H, neutralises MDA and therefore prevents inflammation.

A group of researchers led by Christoph J. Binder and based at MedUni Vienna and the Austrian Academy of Sciences' CeMM Research Centre for Molecular Medicine has decoded a previously unknown mechanism involved in the development of AMD. This opens up tremendous opportunities to develop new treatments for one of the most severe medical conditions affecting the eyes. The results of this groundbreaking study have been published in the highly respected journal Nature.

Publications impact doubled

Between 2005 and 2010, MedUni Vienna's research output has more than doubled, based on impact factors of publications. In precise terms, the impact factor in peer-reviewed journals rose from 4,485 in 2005 to 10,034 in 2010. A key proportion of this significant growth comes from the increa-

sed integration of medical science and clinical institutions at MedUni Vienna – which is Austria's largest biomedical research institution by far. In 2011, around two-thirds of publications came from the clinical division. Articles were published in 813 different journals, including highly regarded titles such as the New England Journal of Medicine, Nature, The Lancet, Cell and Science.

PARTNERSHIP WITH THE UNIVERSITY OF TEL AVIV COMPREHENSIVE CANCER CENTER (CCC)

The CCC at the University of Tel Aviv and MedUni Vienna signed a cooperation agreement on 23 October in Tel Aviv. The aim is to intensify collaboration between the two universities in the domain of cancer research and to carry out joint research projects.

23-10-2011

Innovative therapy reduces damage caused by heart attacks

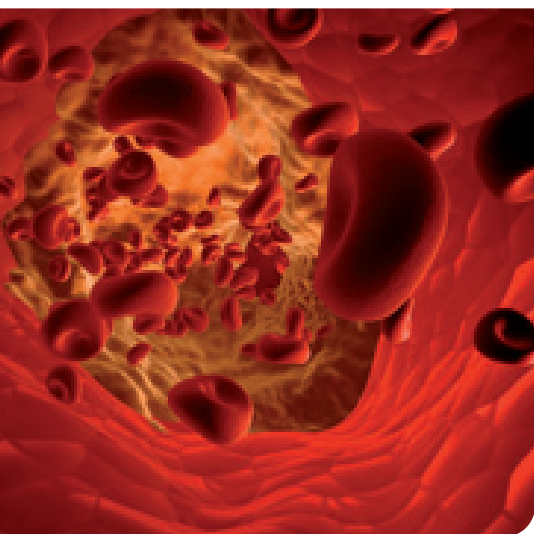
A new therapeutic approach could revolutionise treatment following heart attack: at the University Department of Surgery, a protein solution has been developed that promises to prevent tissue scarring.

In Austria, around one in five myocardial infarctions, or heart attacks, is fatal. If the patient survives, intensive rehabilitation is needed following a usually critical initial phase of treatment. However, the risk of developing heart failure remains. According to the outcome of research

conducted by Hendrik Jan Ankersmit, head of the Christian Doppler Laboratory for Cardiac and Thoracic Diagnosis and Regeneration, this need not be the case in the future. Ankersmit has used white blood cells to create a protein concentrate (APOSEC™) that can be administered as a drug during

the acute treatment phase following a heart attack. In studies, the drug was given intravenously 40 minutes after an experimental infarction. The result: virtually no scarring of the heart muscle.

The treatment works by inhibiting the heart tissue's inflammatory response following a heart attack. Tests on human heart muscle cells have already been carried out in vitro – with highly promising results. The researchers at MedUni Vienna hope to start a series of clinical studies on humans in the near future.



Research Cluster for Cardiovascular Medicine

The Medical University of Vienna's research focus on cardiovascular medicine comprises research into cardiovascular disease as well as imaging and non-imaging diagnostics, and epidemiological and genetic issues. The formation of new blood vessels also forms part of this research, which is an important factor in the growth of malignant tumours and in small vessel disease.

The Cardiovascular Medicine research cluster is distinguished by its work in thrombosis research and vascular biology basic research, as well as its highly interdisciplinary approach taking in the fields of biomechanics, gene therapy and stem cell therapy. New researchers are trained in the Vascular Biology and Cardiovascular and Pulmonary Disease doctorate programmes. The cardiovascular medicine research groups have recently enjoyed a consistent rise in research citations and publications in numerous high ranking journals.

EUROPE'S FASTEST RADIOLOGIST

Florian Wolf from the University Department of Radiology is Europe's fastest radiologist: for the fourth time in a row, he won the S.M.A.R.T. run held at the CIRSE (Cardiovascular and Interventional Radiological Society of Europe) congress in Munich. He successfully beat off competition from 150 other runners. Wolf has previously won the race in Copenhagen, Lisbon and Valencia.

27-10-2011

SCIENCE on board! Medical research opened up to visitors

Exciting visits to research laboratories, plenty of hands-on experiments and an entertaining programme of events for children – Vienna's scientists provided some unique insights into their work at the Research Festival held on Vienna General Hospital's medical university campus.



"With tours through research laboratories, presentations and information stands on our focal areas of research, we aim to offer an informative and entertaining programme of events for the entire family, and to showcase the achievements that the scientists of MedUni Vienna are producing for all of us", said Rector Wolfgang Schütz, explaining the idea behind "SCIENCE on board!".

At this exciting afternoon for all the family, MedUni Vienna unveiled the details of its research work: activities such as gene analysis and cell sorting and counting were demonstrated in high tech laboratories, and at the "Watching the Brain Thinking" workshop, psychiatrists and nuclear medicine experts presented their research project to track molecular processes in the brain. The 7 Tesla magnetic resonance imaging (MRI) scanner, with a magnetic field 140,000 times more powerful than the earth's, was just one of the numerous stations on Science Alley that impressed visitors.

The "star guest" was Patrick Mayrhofer, who had only recently been fitted with a bionic hand prosthesis. Together with his assistants, he demonstrated the functions of his new hand. Younger visitors were particularly enthusiastic when it came to the teddy bear resuscitation exercise. After taking part in the first aid course, they were able to take the stuffed toys home as a cuddly reminder of the day.

CHARITY, 08-10-2011

2,500 run for the Cancer Research Initiative

Around 2,500 runners defied the chilly, damp and stormy conditions on the 8 October 2011 to take part in the Cancer Research Run at the Altes AKH Vienna University Campus, as part of the Cancer Research Initiative set up by MedUni Vienna. Each company taking part donated five euros to the collection box for every lap that their team completed. The donations will directly benefit cancer research. The run around the Vienna University Campus was also intended to raise awareness of the fight against cancer. In Austria, some 36,000 people develop cancer every year, with no fewer than 17,000 of them being treated annually at the University Department of Internal Medicine I.

WORLD DIABETES DAY: MIGRANTS TO AUSTRIA DEVELOP DIABETES EARLIER

People who have migrated to Austria develop diabetes five years earlier on average than their compatriots in their home countries. These are the sobering findings of a diabetes study involving over 100 immigrants, carried out by Bernhard Ludvik and Karin Schindler from the University Department of Internal Medicine III. Reasons for this include poor dietary habits, a lack of exercise and being overweight.

14-11-2011

High field magnetic resonance expert joins ESMRMB Board



The European Society for Magnetic Resonance in Medicine and Biology (ESMRMB) is Europe's foremost society for everything relating to magnetic resonance. At its annual conference, Siegfried Trattnig was elected to the Board as Education Officer.

Respected radiologist Siegfried Trattnig has held MedUni Vienna's professorship in Radiology, with a focus on high field MR, since 2010. He is also project manager for 3 Tesla and 7 Tesla MRI research, and Medical Scientific Head of the University's High Field Magnetic Resonance Centre of Excellence, which he co-founded in 2003. Numerous accolades, such as "Best Presentation in the Skeletal Field" (2008 and 2010) high-

light his leading role in this specialist domain. Trattnig was appointed to the ESMRMB Board at the society's annual conference in Leipzig.

Trattnig was also elected to the European Society of Radiology (ESR) Research Committee Board as part

of the European Radiology Congress in Vienna by that society's 55,000-strong membership.

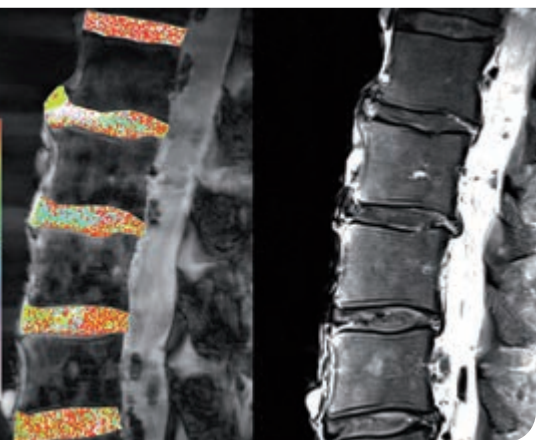
In this leading role, Professor Trattnig will be highly influential in shaping research activities in radiology across Europe.

State-of-the-art imaging: Diagnostics and Imaging research focus

New molecular and functional imaging processes are revolutionising prevention, diagnosis and treatment. MedUni Vienna is playing a key role in the development of new imaging methods that are opening up the visualisation of physiology, biochemistry and genomics. These include clinical applications for ultra-high field MRI technology, for

example, an area in which MedUni Vienna is a world leader, as well as optical coherence tomography (OCT) – an optical "biopsy" based on laser technology.

The University has brought together activities in the field of imaging under a special research focus entitled Diagnostics and Imaging. Numerous cooperation agreements with companies and research institutions are facilitating national and international collaboration, such as with the Institute of Biotechnology at the University of Cambridge.



○ CHRISTIANE DRUML AWARDED DECORATION OF HONOUR FOR SCIENCE AND ART

Christiane Druml, Vice Rector of MedUni Vienna for Clinical Affairs, was awarded the Austrian Decoration of Honour for Science and Art. She was presented with the honour, together with her colleague Franz Wurm, by Science Minister Karlheinz Töchterle.

○ GRAND DECORATION OF HONOUR OF THE REPUBLIC OF AUSTRIA FOR FRANZ WURM

MedUni Vienna's Vice Rector for Finance, Franz Wurm, was awarded the Grand Decoration for Services to the Republic of Austria by Science Minister Karlheinz Töchterle.

Kautzky-Willer among the Austrians of the year

In 2010, Alexandra Kautzky-Willer became Austria's first Professor of Gender Medicine. She has now been selected by daily newspaper Die Presse as one of the top three researchers of 2011.



Alexandra Kautzky-Willer

The expert in gender medicine was ranked among the top three "Austrians of the Year" in the category of research by daily newspaper Die Presse. Generally speaking, the differences between men and women are increasingly being taken into account in modern medicine, with patients benefiting more and more from gender-specific diagnosis and treatment.

Kautzky-Willer has achieved particular success in her research into gestational diabetes. As part of a long-term aftercare project for sufferers of the condition, she discovered that the development of diabetes in women is significantly different to

that in men. Women, for example, are more likely to demonstrate impaired glucose tolerance and early changes in blood clotting.

One of the first universities in Europe to do so, MedUni Vienna created

a teaching chair in Gender Medicine in 2010. A four-semester continuing education course in Gender Medicine, the only one of its kind in Europe, allows doctors to gain expertise in the field.

City of Vienna Future Prize for Werner Mohl

Werner Mohl of the University Department of Surgery and his team have been awarded the City of Vienna's Future Prize in the Applications and Products category. The prize honours Mohl's PICSO concept, which optimises the flow of blood in the heart after an infarction (heart attack). Using a balloon catheter and a pressure pump, the drainage of blood into the coronary veins is temporarily halted. This increases the pressure in the coronary artery, which has the effect of massaging the vessel wall and

stimulating the delivery of blood in the area of the infarction. The technology greatly reduces the risk of a second heart attack. Award winner Werner Mohl has carried out more than 5,000 heart operations and his work has been published extensively.



Werner Mohl

RESEARCHING IN THE SPIRIT OF HANS POPPER

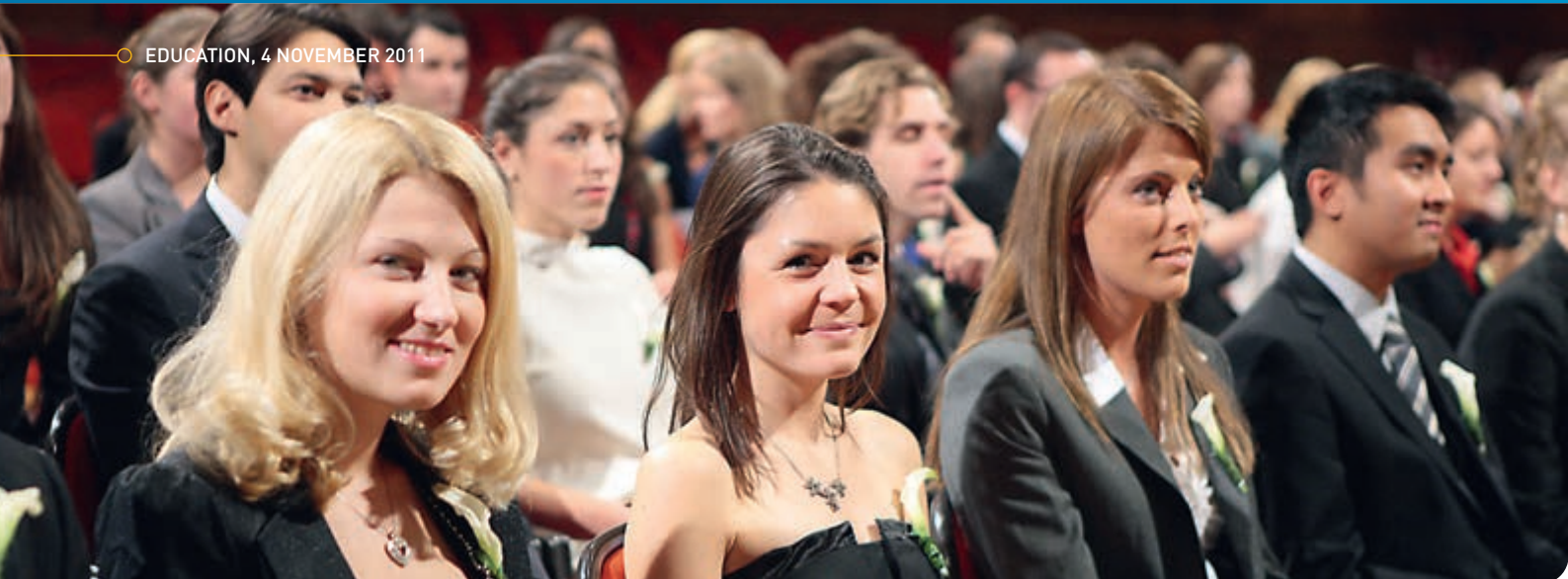
In the new Hans Popper Laboratory for Molecular Hepatology, patent-orientated basic research is carried out in the spirit of the work conducted by Popper himself, with resounding success. In the autumn of 2011 alone, four publications by the Clinical Department of Gastroenterology and Hepatology attracted considerable international attention in the specialist journals Gastroenterology and Hepatology. Together with the establishment of the new laboratory, this underlines the high esteem in which hepatology in Vienna is held worldwide.

16-11-2011

VIENNA ALZHEIMER'S DAY: REHABILITATION POSSIBLE FOR ONE IN TEN CASES OF DEMENTIA

To mark Vienna Alzheimer's Day on the 18th of November, the University Department of Psychiatry and Psychotherapy advised that more attention should be paid to secondary dementia and pseudodementia. This is because around ten per cent of patients who are suffering from a dementia-like syndrome are actually suffering a dementia occurring concurrently with a treatable condition. In many of these cases, correct treatment can result in a regression of the dementia symptoms.

18-11-2011



End-of-studies celebration at Austria Center Vienna for 300 new doctors

At a vibrant ceremony attended by around 7,000 guests, 300 new MedUni Vienna graduates received their degrees in the Austria Center Vienna.

It was surely the best day in the academic lives so far of these 300 doctors of tomorrow. To thunderous applause from countless relatives

and friends, the MedUni Vienna graduates took their academic oath and were handed their degree certificates by Rector Wolfgang Schütz.

It was also a special day for the Rector: "The atmosphere was brilliant," said Schütz, who, just like last year, was delighted by the high number of graduates. This meant that the conferring of degrees had to be carried out in two sittings. By just after 5pm, all of the graduating doctors held their coveted degree scroll in their hand.

The next step for the graduates is specialism training, an internship or a period of scientific study.

The newly-qualified medics are fully prepared for their futures: "Thanks to the combination of scientific and practical training, the course at MedUni Vienna gives young doctors the best possible foundations for responsible and independent clinical practice. In future, we will be expanding the practical aspects, with further syllabus reforms," said Vice Rector Karin Gutiérrez-Lobos at the ceremony.

HOSPITAL HYGIENE: THE GOAL OF PREVENTING HOSPITAL-ACQUIRED INFECTIONS

The prevention of nosocomial infections, i.e. infections that are acquired in hospital, was the key topic of the inaugural lecture given by Elisabeth Presterl, Head of the Clinical Institute of Hospital Hygiene. Alongside the importance of research and innovation, the scientist highlighted the role of communication as being "one of the most important factors in hospital hygiene".

New MMIMS technology used in lung research

MedUni Vienna is only the third medical university in the world to introduce this new lung screening technology, underlining the position held by the Department of General Anaesthesia and Intensive Care Medicine at the forefront of lung research.



Micropore membrane inlet mass spectrometry, or MMIMS, is an innovative extension of the MIGET method previously used to monitor and measure lung function. MIGET stands for multiple gas elimination technique and it is used to investigate the distribution of ventilation/perfusion ratios in the lungs. The overall performance of the lungs can be estimated and monitored effectively using this method. However, it is a convoluted process: the problem lies in the fact that the inert gases dissolved in the blood have to be extracted before analysis,

and the solubility of each gas needs to be measured individually beforehand.

This method can therefore only be carried out in highly specialist research laboratories and entails a great deal of time and expense.

The use of MMIMS makes the task much easier, rendering it suitable for use in everyday clinical settings for the first time. MIGET with MMIMS could therefore lead to earlier detection of lung disease. The method is

Research focus on critical care

Spanning from basic research to the intensive care patient's hospital bed, critical care medicine is a multi-disciplinary domain. Quality assurance is particularly important, especially with regard to the prevention of long-term damage in intensive care patients and the promotion of rehabilitation.

Clinical resuscitation research has a long tradition at MedUni Vienna. Publications from this field of research are regarded as playing a lead role internationally and have had a major influence on the establishment of resuscitation guidelines.

currently being applied in pre-clinical studies. In just a few years' time, however, the innovation could also be in use for hospital patients.

KEY GENE FUNCTION DISCOVERED THAT PREVENTS CELL DEATH

A group of researchers led by Markus Hengstschläger, Head of the Institute of Medical Genetics, has discovered that the two genes TSC2 (Tuberin) and PRAS40 are key regulators in the development of stem cells. Stem cells can only develop and influence cell regeneration or differentiation processes inside if both of the proteins are present. Otherwise, the cells die a programmed cell death.

Osteoporosis drug keeps cancer at bay

At the annual conference of American breast cancer researchers in Texas, Michael Gnant presented the final results of a study from Austria.



The key outcome of Professor Gnant's research created quite a sensation in the spring of 2011 at the annual congress of the American Society of Clinical Oncology (ASCO): administration of osteoporosis drug zoledronic acid alongside anti-hormone therapy reduces the recurrence rate of breast cancer with statistical significance - and compensates for the risk of bone loss caused by treatment.

Gnant, President of the Austrian Breast and Colorectal Cancer Study Group (ABCSG) and Professor of Experimental Surgical Oncology at MedUni Vienna, has now presented the final evaluations of the study. He has been instrumental in ABCSG research for many years and is one of the proponents of MedUni Vienna and Vienna General Hospital's Comprehensive Cancer Center (CCC).

In the ABCSG-12 trial, 1,803 women with hormone-dependent breast cancer were given anti-hormone therapy for a period of three years. The

resulting artificial initiation of the menopause causes a reduction in bone mass, which can lead to an increased risk of osteoporosis. The additional administration of zoledronic acid is intended to compensate for this risk.

During the six-year follow-up phase, it was discovered that zoledronic acid also reduces the likelihood of the cancer recurring by 28 per cent. At the same time, overall survival increased by around 36 per cent.

APPOINTMENTS, 02-12-2011

Gnant becomes Fellow of the American College of Surgeons

The Deputy Head of the University Department of Surgery is active in cancer research, research development and health development. His achievements have already

been honoured by numerous national and international research prizes and awards. Michael Gnant has now been admitted as a Fellow of the American College of Surgeons (ACS), which was founded in 1913. Out of the 70,000 members of the world's largest organisation of surgeons, only 4,000 come from outside the USA.

○ AUSTRIAN CONGRESS ON RARE DISEASES

Rare diseases are those that occur in no more than 5 people out of every 10,000. Barely noticed by the general public, only about 1,000 of the 6,000 or so known rare diseases are treatable at present. "And only a very small number of these are curable," said Till Voigtländer from the Clinical Institute of Neurology. The rare diseases congress at the MedUni Vienna aimed to raise awareness.

● 01-12-2011

○ SIX RESEARCHERS HONOURED

MedUni Vienna had the Vienna Medical Association Theodor Billroth Prize and the Research Promotion Prize sponsored by Erste Bank der österreichischen Sparkassen AG sewn up this year: the prizes were awarded to teams of researchers all based at the University.

● 02-12-2011

Continuing education course for clinical trial assistants is a first among Austrian universities



Clinical trial assistants can now take a two-year training course resulting in a university-accredited academic certificate from MedUni Vienna. This is the first such course of its kind in Austria.

Clinical trial assistants act as the liaison between patients, doctors and sponsors involved in a clinical trial. Their role includes the administration and coordination of clinical studies, support and aftercare for patients, the procurement of diagnostic material, and dispatching samples, study medication and documentation. Assistants are therefore the principle investigator's "right hand". This two-year course prepares its students for these tasks with practi-

cal exercises, extensive teaching, a 40-hour practical training phase and a month-long full-time internship.

The course, full title Academically Accredited Clinical Trial Assistant is worth 60 points in the international European Credit Transfer System (ECTS), which enables comparison of higher education achievements.

This can then be 'topped up' to make a Master of Science qualifica-

Postgraduate training programmes at MedUni Vienna

- Clinical Research
- Gender Medicine
- Health Care Management (in cooperation with the University of Vienna)
- Interdisciplinary Pain Medicine
- Clinical Trials Assistant
- Medical Hypnosis
- Medical Physics
- Oral Implantology
- Periodontology
- Prosthodontics (in cooperation with the MedUni Graz)
- Public Health (in cooperation with the University of Vienna)
- Traditional Chinese Medicine (TCM)
- Toxicology
- Medical Hypnosis for Dental Care

tion. "The new course will lead to a clear increase in quality assurance in the conduction of clinical studies," said Johannes Pleiner-Duxneuner, Head of the Coordination Centre for Clinical Studies.

BOHLE TAKES OVER AS HEAD OF IPA

The Institute of Pathophysiology and Allergy Research (IPA) is under new management, now being headed up by Barbara Bohle. Prof. Bohle, who hails from Vorarlberg, was previously head of the Allergy Research working group at the Institute of Pathophysiology and was appointed University Professor of Cellular Allergology at MedUni Vienna in May 2010.

Seasonal affective disorder – when lack of light causes illness

A team of researchers at MedUni Vienna has demonstrated that lack of light during the dark winter months can actually trigger mental and physical changes.

According to a study conducted by a research group at MedUni Vienna, when light levels are reduced, the function of the serotonin 1A receptor, which acts as a docking site on nerve cells, is significantly impaired – in a similar way to what occurs in cases of depression or anxiety disorder. The study has unlocked a further biological factor in the condition known as seasonal affective disorder and highlighted the fact that light therapy can be of benefit.

Particularly where there is less sunlight, many people experience

mental and physical changes during the winter months. These can include tiredness, exhaustion and lethargy, or a craving for carbohydrates, resulting in weight gain. “In their most severe forms, these changes are known as seasonal affective disorder,” explains Siegfried Kasper, Head of the University Department of Psychiatry and Psychotherapy.

The neurotransmitter serotonin plays a key role in this. It was already known that seasonal fluctuations in serotonin levels occur as a result of seasonal changes in the seroto-

nin transporter. However, seasonal changes to the postsynaptic neuron, the actual target cell for serotonin transfer, had not been demonstrated. This has now been achieved.

The serotonin 1A receptor was investigated. This receptor’s binding potential is markedly reduced in the case of depression and anxiety disorders. In a clinical study of 36 healthy women and men, researchers at the University Department of Psychiatry and Psychotherapy were able to demonstrate that this is also the case when there is a lack of light, and that values are significantly higher in sunlight.

With treatment in the form of light therapy, an improvement in symptoms was noted after just a week, whereas patients taking SSRIs (serotonin reuptake inhibitors) only responded up to three weeks later. The light-dependent adaptation processes of the serotonin 1A receptor demonstrated in the study therefore also provided clarification of the mechanisms behind the effects of light therapy.



○ THE FUTURE OF PSYCHOANALYSIS IN MEDICINE

The inaugural lecture by Stephan Doering, Head of the University Department of Psychoanalysis and Psychotherapy, highlighted the future of psychoanalysis in medicine. According to Doering, the importance of psychoanalysis in medicine is set to grow, since there is increasing evidence for the effectiveness of psychoanalytical therapy. This includes classical psychoanalysis as well as a variety of derived psychotherapies.

Bridging support from the Ministry of Science safeguards patient care

Thanks to a temporary measure to provide financial support, the Ministry of Science is enabling the overnight and weekend on-call service at Vienna General Hospital to be maintained at its established level. Following a roundtable discussion involving representatives of the Ministry, the City of Vienna, MedUni Vienna and Vienna General Hospital, measures are being drafted to improve operational management.

Rector Wolfgang Schütz welcomed the solution, which was drawn up jointly with the Minister of Science and Research, Karlheinz Töchterle: "Thanks to bridging support from the Ministry, we are able to avoid cutting emergency services and begin a fundamental reform of overnight and weekend medical services. I am delighted that my appeal to the state and the city, which has been pending for several months, has now been heard. This will allow us to allay any uncertainty on the part of patients and clinicians."

The funding was provided in advance of the budget for the forthcoming performance agreement period and will be repaid accordingly. The measure was agreed on the under-

standing that everyone involved will work together to create cost-saving working models for on-call duty, new operational management structures and synergies with the City of Vienna. One possible model is a joint opera-

ting company funded by the state and the city.

In the current structure, the City of Vienna and MedUni Vienna both take care of operations at Vienna General Hospital: the physicians who work there are all employees of MedUni Vienna and are therefore paid indirectly by the federal government. The City of Vienna is the owner of Austria's largest hospital, and nursing and administrative staff are employees of the Vienna municipality.

Research and teaching operations are hampered by the existing structure, since routine and on-call hospital duties tie up a major proportion of capacity.



OVERWEIGHT CHILDREN SUFFER MORE KNEE DAMAGE

With the help of 20 sick and overweight children and adolescents, a team of researchers at the University Department of Trauma Surgery has demonstrated that such individuals are not only at greater risk of mental frustration and metabolic diseases such as diabetes, but are also increasingly suffering considerable knee damage.

21-12-2011

LEONARDO DA VINCI AWARD FOR ALFRED KOCHER

Alfred Kocher from the University Department of Surgery was presented with the coveted Leonardo da Vinci Award for Training Excellence at the annual conference of the European Association of Cardiothoracic Surgery in Lisbon. The honour is conferred each year on Europe's best teacher in the field of cardiothoracic surgery.

28-12-2011

Joining forces to fight cancer

The Vienna Comprehensive Cancer Center (CCC) is a joint institute established by MedUni Vienna and Vienna General Hospital. It brings together the interdisciplinary and expert medical care of cancer patients, clinical and fundamental scientific research into the development, growth and spread of tumours, and academic teaching.

At the CCC, patients have the opportunity to participate in the latest national and international research programmes. This is made possible by the close links and cooperation between treatment and scientific research. Because of this scientists working at the CCC are able to advance their work in innovative cancer therapies and quickly use the findings generated to directly benefit patients.

At the end of 2011, the Ethics Committee approved the CCC's first interdisciplinary clinical study in oncology. The study will examine whether a measure currently recommended - i.e. the flushing of a port-a-cath, which is frequently left inside cancer patients after treatment has ended - is actually necessary. It is being carried out by the University Departments of Surgery, Dermatology, Gynaecology, Internal Medicine and Urology.

Another significant project started in 2003. The Vienna Cancer and Thrombosis Study (CATS) identifies cancer patients at risk of thrombosis and develops strategies for targeted blood-thinning treatments in order to avoid blood clots. A newly-developed clotting test unveiled in 2011 makes this process considerably easier.

CCC-Research groups:

- Genetics and Epigenetics
- Immunology and Inflammation
- Toxicology, Adverse Drug Effects and Cancer Prevention
- Experimental Therapy and Drug Resistance
- Microenvironment, Vasculature and Metastasis
- Cell Signalling and Metabolism
- Biomarker Development
- Diagnostic and Therapeutic Techniques

CCC-Units:

- Central Nervous System Tumour Unit (CCC-CNS)
- Drug & Target Screening Unit (CCC-DTSU)
- Gynaecological Cancer Unit (CCC-GCU)
- Pancreatic Cancer Unit (CCC-PCU)
- Musculoskeletal Tumour Unit (CCC-MST)

Other outcomes of the CATS study were published in eight high-profile journals between 2008 and 2010.

In terms of teaching, the CCC cast its net wide in 2011. For patients, their relatives and those who are professionally involved with cancer, the CCC opened the Cancer School in the autumn of 2011, providing the first basic course to educate participants about the disease. With regard to academic teaching, the CCC has brought oncology experts of tremendous international renown to work at the MedUni Vienna. These include Pierfranco Conte, Silvio Monfardini, William Shipley, Josep Llovet, Wolfgang Köstler, Aleck Herbergs, Josef Penninger, W. Fraser Symmans and Roger Stupp.

Doctoral programmes and PhD at MedUni Vienna

Over 1,000 early stage researchers are currently completing a doctorate or PhD qualification at MedUni Vienna. The aim of these courses, which have been offered by the University for just under a decade, is to provide scientific training, as opposed to the vocational orientation of the medical degree course. As part of their studies, doctoral candidates who have already completed a first degree learn how to carry out scientific work independently.

The postgraduate courses are open to graduates of subjects such as biology and chemistry as well as medical doctors. MedUni Vienna offers three study programmes: the course chosen by the majority of students culminates in the title of PhD, with the other two programmes conferring the title of Dr. scient. med.

Students carry out scientific work throughout their period of study, and by the time they graduate they have usually already had numerous papers published. The proportion of foreign students is generally quite high. On the PhD course, for example, almost 38 per cent of students are of international origin. One key reason for this is the high quality of the training, which conforms to the highest standards and has earned PhD studies at MedUni Vienna their formidable international reputation.

From a training perspective, students on doctorate and PhD courses are regarded as early stage researchers. All doctoral students acquire in-depth knowledge of research methodology, critical analysis and scientific integrity.



Subsidiaries of MedUni Vienna

MUVI – Medical University of Vienna International

MedUni Vienna is Austria's first medical university to enter the international health care market. For this purpose, the University founded a subsidiary company in 2005, Medical University of Vienna International GmbH (MUVI). Since then, the company has continuously developed its position as a global player in health care management and is currently involved in hospital projects on three continents. Involvement in major international projects allows MedUni Vienna and its employees to increase their scientific and commercial expertise, and attracts new financial resources.

MFPL – Max F. Perutz Laboratories

The Max F. Perutz Laboratories (MFPL) was founded in 2005 by MedUni Vienna and the University of Vienna, as a scientific centre to advance research and teaching in the field of molecular biology. Over 470 scientists from 25 nations work at the laboratories, researching mechanisms, processes and other issues relating to molecular biology and cell biology. Most of the work of the research groups, which number more than 60, focuses on basic research, but some also work on applied research projects. MFPL has a stated aim to nurture young researchers.

BGMZK – Bernhard Gottlieb University Clinic for Dental Care

Founded in 2004, the Bernhard Gottlieb University Clinic for Dental Care (BGMZK) has more than 220 employees, making it one of the largest dental me-

dicine institutes in Europe. BGMZK is regarded as one of the most successful academic institutions worldwide in certain areas of dental medicine. Each year, the clinic treats more than 20,000 outpatients. A close relationship between clinical and scientific work allows specialist treatments based on the latest results of research to be put into practice directly. The BGMZK is also at the absolute cutting edge internationally.

MedUni Vienna Innovation (Forschungsservice und -beteiligungs GmbH)

This wholly-owned subsidiary provides support to innovative scientists at MedUni Vienna, functioning as an interface with business and an incubator for start-up companies. Concentrating both on commercial and scientific interests, the company offers potential company founders access to know-how and assistance with regard to patent applications, management and financing. Profits from MedUni Vienna Innovation flow back into the University research budget.

Forensisches DNA-Zentrallabor Wien GmbH

Vienna's central forensic DNA laboratory is owned by MedUni Vienna. This ensures a high level of objectivity. The laboratory's immediate proximity to research and teaching institutes means that the latest research findings and technical innovations can be implemented quickly. The central DNA laboratory focuses on trace analysis and forensic DNA analysis in relation to criminal and parentage investigations.



Serving graduates

Founded in 2008, in its third year the MedUni Vienna Alumni Club has further consolidated its position as a knowledge, dialogue and career platform for graduates of MedUni Vienna and the Medical Faculty of the University of Vienna.

The Alumni Club continued to pursue its objective to encourage professional dialogue between the University and non-university practice, and between generations throughout 2011, organising numerous information evenings, networking events, seminars and workshops. Various club-specific offers and cultural events supplemented this programme. Important new professional and cultural cooperation partners were also brought on board, with a particular focus on international partnerships.

As part of this, the Alumni Club launched a cooperation agreement with the ASciNA Mentoring Pro-

gramme. The ASciNA group (Austrian Scientists & Scholars in North America) is a network of over 1,000 Austrian scientists in the USA, Canada and Mexico and facilitates contact with international research and technology institutions.

The ASciNA Mentoring Programme offers students and young scientists starting work in North America a chance to benefit from the experience and networks built up by established Austrian scientists who have already been living and working in North America for a long time. Participants receive support and encouragement via regular e-mail and telephone contact, as well as face-to-face meetings and workshops. In the first year of this new cooperation, the Alumni Club has already enabled two Club members to take part in the Programme.

A young university with a long history



The history of the Medical University of Vienna goes back almost 650 years. As the founding member of the Vienna Alma Mater Rudolphina in 1365, the Faculty of Medicine was a widely-known authority on matters relating to health even in the Middle Ages.

The First Vienna Medical School

In the 18th century, during the rule of Empress Maria Theresa, medicine in Vienna achieved international renown. The Habsburg Empress summoned Dutchman Gerard van Swieten to Vienna, where he laid the foundations for the First Vienna Medical School. Leading lights of the era included Anton de Haen, Maximilian Stoll, Lorenz Gasser, Anton von Störck and the inventor of percussion as a diagnosis technique, Leopold Auenbrugger, who taught and carried out research in the imperial capital. The teaching model nowadays known as 'bedside teaching' became the dominant method of medical training during this period.

The Second Vienna Medical School

With the opening of the General Hospital in 1784, doctors were given a new place to work, which evolved into Vienna's most important medical research centre.

In the course of the 19th century, the work of doctors such as Karl von Rokitansky, Josef Skoda, Ferdinand von Hebra and Ignaz Philipp Semmelweis brought about the emergence of the Second Vienna Medical School. The use of basic science in medicine was expanded and the first skin, eye and ENT clinics in the world were founded in Vienna as the Austrian capital became the birthplace of medical specialisation.

Medicine in Vienna enjoys a global reputation

At the start of the 20th century, "Vienna Medicine" was very much at the top of its international game. Clemens von Pirquet coined the terms 'allergy' and 'serum sickness', Ernst Peter Pick conducted important experiments on chemical specificity in immune reactions and the Viennese School of Dental Medicine (founded by Bernhard Gottlieb) experienced a golden age in the 1920s. The four Nobel Prizes that were awarded in the century's early decades to Viennese doctors - Robert Bárány (1914), Julius Wagner-Jauregg (1927), Karl Landsteiner (1930) and Otto Loewi (1936) - are testament to the work that was carried out during this period. Vienna's tradition of outstanding medical practice and research extended well into the First Republic: for example, the American Medical Association of Vienna, which was founded here, organised well-attended postgraduate courses for doctors from all over the world into the 1930s.

The break from tradition in 1938

With the Anschluss of 13 March 1938, Austria became part of Nazi Germany, and medicine in Vienna experienced its darkest hours. More than half of the medical university lecturers - the majority of whom were of Jewish descent - were dismissed. Many highly respected researchers, doctors and students were either forced to emigrate, died in the concentration camps or were killed in other tragic circumstances. A memorial sculpture in the form of an open book at MedUni Vienna honours the memory of the victims of the Nazi era.

Restoration and the new Vienna General Hospital

After 1945, the difficult process of restoring medical studies in Vienna began. The reputation of Vienna medicine had, at least for the time being, faded markedly. In 1949, around 75 per cent of the medical faculty lecturers at the University of Vienna had to be removed from their posts due to their national socialist sympathies, and were replaced with a more enlightened generation. The impact of this double break in the history of Viennese medicine in the space of just a few years continued to be felt decades later. The official opening of the new Vienna General Hospital in 1994 provided a boost to progress. By 1996, all of the university departments had been brought together and expanded at the General Hospital site. This meant that Vienna's finest medical practitioners were concentrated in one modern university hospital, providing the ideal framework for clinical research.

A new era

Legal autonomy and the founding of the Medical University of Vienna on 1 January 2004 triggered a dynamic period of development that touched every aspect of the institution. In terms of scientific output, the number of publications and associated impact factors rose markedly. In teaching, a new, modern curriculum was implemented and a variety of new courses were developed. On the financial side, third-party funding increased enormously. The formation

of research clusters and interdisciplinary centres has raised MedUni Vienna's international profile in a large number of fields, clearly demonstrating great promise for its future as a university.



The Josephinum

In 1785, the Medical and Surgical Academy, founded by Emperor Joseph II, opened on the Währingerstrasse. One year later, the institution was christened the Medical and Surgical Joseph Academy and granted the right to confer masters and doctoral qualifications. For a long time, it was therefore possible to complete medical training at two different academic institutions - at the Faculty of Medicine and at the Josephinum, as the Academy quickly became known.

Today, the Josephinum is part of MedUni Vienna, and is home to the History of Medicine Department and Collections, comprising the Department's administrative offices and the majority of MedUni Vienna's historical collections. The building also houses the Museum in the Josephinum, a few libraries and the University of Vienna's Kurt Gödel Research Centre. The modern-day Josephinum therefore represents a point of intersection for a variety of disciplines as well as being a historic entrance to the University.







Facts & Figures

Among all the numbers that illustrate MedUni Vienna's performance, the constant growth in the number of research citations in scientific publications, and in third-party funding income that are of particular note. Both of these indicators are becoming increasingly important as higher education organisations compete globally. Behind these achievements are some 5,400 people who work in the numerous organisational units and subsidiaries of this scientific institution.

MedUni Vienna's organisational units are grouped into departments, clinical institutes and centres. All of the departments – with the exception of the University Clinic for Dental Care – are located directly within Vienna General Hospital. Institutes for theoretical research and teaching facilities are also in the main located near this central clinical facility, facilitating the highest possible level of exchange between research, teaching and patient care.

The MedUni Vienna at a glance

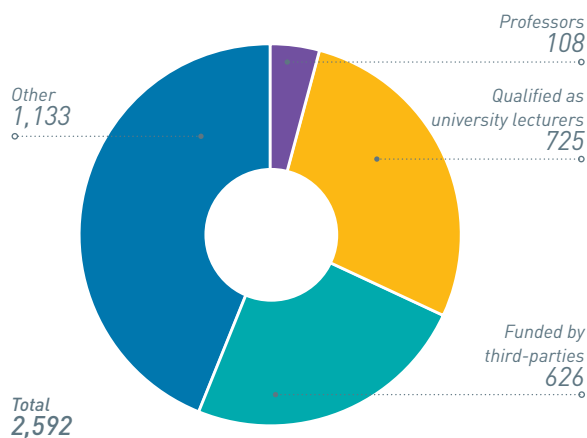
General

Employees

With 5,372 employees, MedUni Vienna is one of the largest medical training and research centres in the German-speaking region.



Academic staff



31 university departments and twelve centres of medical theory

The core activities of research, teaching and patient care are organised into 31 university departments/clinical institutes and twelve centres for medical science.

Research

MedUni Vienna's research activities are summarised under the common theme of "Mechanisms, Prevention, Diagnosis and Treatment of Diseases" and are broken down into five designated areas of focus, or research clusters.

Focal areas of research (clusters)

- Allergies/Immunology/Infectious Diseases
- Cancer Research/Oncology
- Neurosciences
- Cardiovascular Medicine
- Imaging

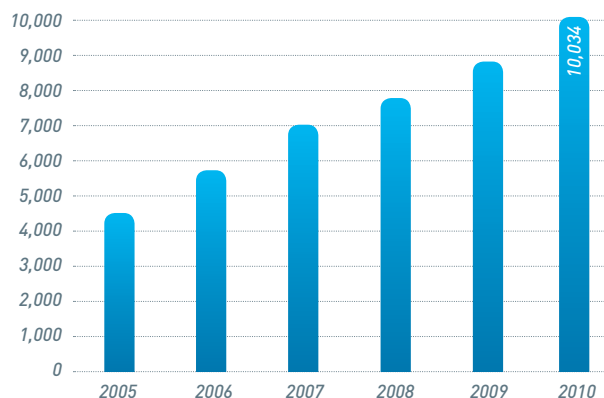
Research infrastructure

MedUni Vienna boasts an extensive research infrastructure that supports the work of individual research groups.

- Core Facility for Flow Cytometry
- Core Facility for Genomics
- Core Facility for Imaging
- Core Facility for Proteomics
- Institute of Medical Genetics
- Center for Medical Statistics, Information Technology and Intelligent Systems
- Clinical Studies Coordination Center
- Medical Imaging Platform
- MedUni Vienna Biobank
- Preclinical Research Facility
- University Library
- Centre for Medical Physics and Biomedical Engineering

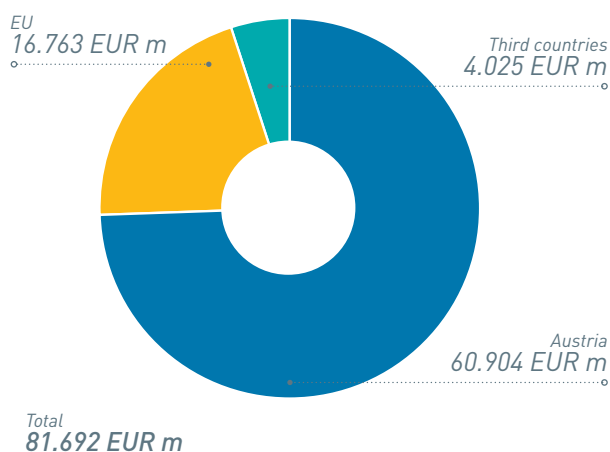
Impact of scientific publications from 2005 – 2010

Scientific output and the quality of research at the MedUni Vienna are constantly rising.



Third-party funding: revenue from R&D projects

Third-party funding attracted in accordance with sections 26 and 27 of the Austrian Universities Act virtually doubled between 2004 and 2010, from EUR 41.9 million to EUR 81.7 million.



Research project submissions to the Ethics Committee

- 233 study reviews pursuant to the Austrian Medicines Act (of which 172 were for multi-centre studies)
- 92 study reviews pursuant to the Austrian Medical Devices Act
- 902 other study reviews

1,227 approval applications for clinical research projects

Patient care

Clinical data from Vienna General Hospital

- 104,000 inpatients (cases)
- 568,000 outpatients (cases)
- 48,100 surgical procedures
- 1,504 doctors

Clinical data from Bernhard Gottlieb Clinic for Dental Care

- 103,883 patients (cases)
- of which 24,052 were new patients (cases)
- 82.2 patients/weekend (mean)
- 72.5 dentists (FTE)

Education

Courses offered by MedUni Vienna

- Medicine Degree Programme
- Dentistry Degree Programme
- Master's Degree in Medical Information Technology
- PhD programme (14 subject programmes)
- Applied Medical Science Doctoral Programme (10 subject programmes)
- Doctorate in Medical Science (currently being phased out)
- 13 postgraduate training programmes

Practical clinical training is provided in 13 teaching hospitals.

Students (WS 2011)	Female	Male	Total
Studying for a degree qualification	3,345	3,516	6,861
Other students participating	244	173	417
Total	3,589	3,689	7,278

Students by nationality	Female	Male	Total
Austria	2,665	2,737	5,402
EU	586	685	1,271
Third countries	338	267	605
Total	3,589	3,689	7,278

Students in exchange programmes (outgoing/incoming)	Female	Male	Total
Host country/origin in the EU	131/64	138/41	269/105
Host country/origin other	57/25	51/21	108/46
Total	188/89	189/62	377/151

Doctoral students (of which students in employment at the University)	Female	Male	Total
Austria	388 [148]	338 [127]	726 [275]
EU	64 [21]	61 [21]	125 [42]
Third countries	101 [23]	64 [9]	165 [32]
Total	553 [192]	463 [157]	1,016 [349]

Facts & Figures

I. Balance sheet as at 31 December.2011

Assets	31.12.2011			31.12.2010		
	EUR			EUR '000		
A. Fixed assets						
I. Intangible assets						
1. Concessions and similar rights, and licences thereto		1,483,182.89			1,624	
<i>of which acquired by purchase</i>	1,483,182.89			1,624		
2. Rights of use (additional clinical expenses)		19,100,000.00	20,583,182.89		18,200	19,824
II. Property, plant and equipment						
1. Land, leasehold rights and buildings including buildings on third-party land		7,450,080.49			7,801	
<i>a) of which land value</i>	593,115.00			627		
<i>b) of which building value</i>	1,259,159.36			1,368		
<i>c) of which investments in third-party buildings and land</i>	5,597,806.13			5,806		
2. Plant and machinery		10,558,664.52			9,688	
3. Scientific literature and other scientific data media		6,525,803.66			6,190	
4. Other fixtures and fittings, operating and business equipment		2,242,166.31			2,223	
5. Advance payments and assets under construction		4,699,172.40	31,475,887.38		3,654	29,556
III. Financial assets						
1. Investments in subsidiaries and associates		2,623,850.18			2,589	
2. Securities held as fixed assets		0.00	2,623,850.18	54,682,920.45	40,000	42,589
						91,969
B. Current assets						
I. Inventories						
1. Inventories		283,755.87			284	
2. Services rendered to third parties not yet invoiced		72,942,370.08	73,226,125.95		67,700	67,984
II. Receivables and other assets						
1. Trade receivables		9,057,956.13			8,924	
2. Receivables from associates		833,533.62			790	
3. Other receivables and other assets		15,170,876.72	25,062,366.47		54,453	64,167
III. Securities			6,235,987.98			5,971
IV. Cash and cash equivalents			99,484,953.08	204,009,433.40		45,299
						183,421
C. Prepaid expenses and deferred charges						
				1,328,884.37		1,067
Total assets				260,021,238.30		276,457

Annual financial statements

Liabilities								
					31.12.2011		31.12.2010	
					EUR		EUR '000	
A. Negative equity								
1. Equity			-8,334,166.31				-8,334	
2. Net loss			-7,375,415.78	-15,709,582.09			1,137	-7,197
<i>of which profit carried forward</i>	1,137,021.87				978			
B. Investment grants					23,817,852.01		22,882	
C. Provisions								
1. Provisions for severance payments			10,595,956.00				11,245	
2. Other provisions			93,769,122.98	104,365,078.98			85,335	96,580
D. Liabilities								
1. Advances received			113,638,295.88				102,978	
<i>of which deductible from inventories</i>	72,942,370.08				67,700			
2. Trade payables			11,335,121.21				7,488	
3. Payables to associates			4,677.32				567	
4. Other liabilities			18,169,090.74	143,147,185.15			20,190	131,223
E. Deferred income					4,400,704.25		32,969	
Total liabilities				260,021,238.30			276,457	
Contingent liabilities				98,749.00				310

Note regarding equity:

In respect of Austria's constitutional guarantee for institutions and its incorporation in the Universities Act, the Federal Government's resulting obligation to guarantee the continued existence of MedUni Vienna and to finance the University means that a positive going concern forecast is to be given for the Medical University of Vienna.

II. Profit and loss account 2011

	2011 EUR	2010 EUR '000
1. Revenue		
a) Revenue from Federal Government global budget allocation	332,069,825.79	327,744
b) Revenue from tuition fees	746,176.90	802
c) Revenue from tuition fee compensation by Federal Government	4,694,520.27	4,666
d) Revenue from postgraduate training programmes	953,119.88	810
e) Revenue pursuant to section 27 Universities Act	62,827,670.71	56,883
f) Reimbursements of costs pursuant section 26 Universities Act	13,051,953.55	12,650
g) Other revenue and reimbursements	14,228,420.01	23,280
	428,571,687.11	426,835
2. Change in services rendered to third parties not yet invoiced	5,242,487.00	9,103
3. Other operating income		
a) Income from disposal and revaluation of fixed assets	618,982.36	14
b) Income from reversal of provisions	1,624,866.39	5,000
c) Other	12,359,367.63	10,562
<i>of which from reversal of investment grants</i>	<i>9,269,811.91</i>	<i>7,367</i>
	14,603,216.38	15,576
4. Expenditure for materials, consumables and purchased services		
a) Expenditure for materials and consumables	-10,476,663.96	-10,700
b) Expenditure for purchased services	-3,638,870.51	-3,517
	-14,115,534.47	-14,217
5. Staff costs		
a) Salaries and wages	-255,544,321.05	-247,934
<i>of which refunds to the Federal Government for officials assigned to the university</i>	<i>78,188,731.39</i>	<i>81,526</i>
b) Expenditure for external teaching staff	-86,921.73	-80
c) Cost of severance payments and payments to employee benefits funds	-3,244,653.12	-3,057
<i>of which refunds to the Federal Government for officials assigned to the university</i>	<i>167,838.21</i>	<i>0</i>
d) Cost of pensions	-4,317,729.90	-3,187
<i>of which refunds to the Federal Government for officials assigned to the university</i>	<i>398,601.70</i>	<i>401</i>
e) Social security contributions and other pay-related contributions	-60,148,725.33	-58,553
<i>of which refunds to the Federal Government for officials assigned to the university</i>	<i>20,533,000.43</i>	<i>20,975</i>
f) Other employee benefits	-2,119,395.95	-1,593
	-325,461,747.08	-314,404

	2011 EUR	2010 EUR '000
6. Depreciation and amortisation	-17,048,339.35	-14,668
7. Other operating expenses		
a) Taxes other than those under item 13	-433,693.81	-333
b) Reimbursements to hospital operator pursuant section 33 Universities Act	-52,842,407.39	-53,708
c) Other	-37,639,094.12	-35,301
	-90,915,195.32	-89,342
8. Subtotal items 1 to 7	876,574.27	18,883
9. Income from financial resources and investments	2,116,176.96	1,512
of which from write-ups	194,199.90	0
10. Expenditure arising from financial resources and equity holdings	-11,425,052.64	-20,032
a) of which from write-downs	11,954.62	43
b) of which expenditure arising from subsidiaries and associates	11,412,958.00	19,989
11. Subtotal items 9 to 10	-9,303,875.68	-18,520
12. Result from ordinary university activity	-8,432,301.41	363
13. Taxes on income and profit	-80,136.24	-204
14. Loss/profit after tax	-8,512,437.65	159
15. Profit carried forward	1,137,021.87	978
16. Net loss/profit	-7,375,415.78	1,137

Due to the increasing impact of general rises in staff costs since 2004, which are only partially covered by the budget, the University was unable to avoid posting a negative result for 2011. In this regard, it should be noted that the entire medical staff requirements of the Vienna General Hospital are covered by MedUni Vienna, due to a contractual obligation of the Federal Government and that efficiency gains in clinical operations have always been used to provide additional services in pursuit of the best possible patient care. Discussions involving all parties have therefore been opened in order to restructure the operational management and financing of the Hospital for the long term.

The 2011 financial statements were audited by Moore Stephens City Treuhand GmbH and awarded an unqualified audit certificate.

University management

• Rectorate Team (from 1 October 2011)

Univ. Prof. Wolfgang Schütz, Rector
Assoc. Univ. Prof. Karin Gutiérrez-Lobos, Vice Rector for Teaching, Gender & Diversity
Dr. Christiane Druml, Vice Rector for Clinical Affairs
Univ. Prof. Markus Müller, Vice Rector for Research
Mag. Dr. Franz Wurm, Vice Rector for Finance

• Rectorate Team (until 30 September 2011)

Univ. Prof. Wolfgang Schütz, Rector
Assoc. Univ. Prof. Karin Gutiérrez-Lobos, Vice Rector for Staff Development and Women's Advancement
Univ. Prof. Rudolf Mallinger, Vice Rector for Teaching and Learning
Univ. Prof. Oswald Wagner, Vice Rector for Clinical Affairs
Mag. Peter Soswinski, Vice Rector for Finance

• University Council

Dr. Erhard Busek (Chairman)
Dr. Elisabeth Hagen
Rudolf Klausnitzer
Dr. Johannes Strohmayer
Univ. Prof. Robert Schwarcz

• Senate (from 1 October 2011)

Professors:

Univ. Prof. Arnold Pollak (Chairman)
Univ. Prof. Michael Gnant
Univ. Prof. Eduard Auff
Univ. Prof. Anita Rieder*
Univ. Prof. Eva Piehslinger

Univ. Prof. Hubert Pehamberger
Univ. Prof. Ingrid Pabinger
Univ. Prof. Wolfgang Gstöttner
Univ. Prof. Rudolf Valenta
Univ. Prof. Veronika Fialka-Moser
Univ. Prof. Ursula Schmidt-Erfurth
Univ. Prof. Ursula Wiedermann-Schmidt
Univ. Prof. Hans Lassmann
Univ. Prof. Erika Jensen-Jarolim

* [Seat not taken due to provisions in respect of incompatibility with the role of Curriculum Director.]

Academic research and teaching staff:

Assoc. Univ. Prof. Ivo Volf (1st deputy)
Assoc. Univ. Prof. Ulrike Willinger
Assoc. Univ. Prof. Stephan Kettner
Assoc. Univ. Prof. Henriette Walter
Ass. Prof. Marianne Winkler
Assoc. Univ. Prof. Wolf-Dieter Baumgartner

Students:

Stefan Konrad
Anna Berghoff
Dr. Johannes Forster
Dr. Judith Böhm (2nd deputy)
Katharina Göral
Dr. Sandra Eder

General staff:

Gerda Bernhard

Co-opted from the Working Group for Equal Opportunities:

Univ. Prof. Alexandra Kautzky-Willer

Organisation

- **Senate** (until 31. September 2011)

Professors:

Univ. Prof. Arnold Pollak (Chairman)
Univ. Prof. Eva Piehslinger
Univ. Prof. Hubert Pehamberger
Univ. Prof. Michael Zimpfer
Univ. Prof. Ferdinand Mühlbacher
Univ. Prof. Ulrich Jäger
Univ. Prof. Rudolf Valenta
Univ. Prof. Christa Fonatsch
Univ. Prof. Herbert Budka
Univ. Prof. Josef Smolen
Univ. Prof. Veronika Fialka-Moser
Univ. Prof. Hans Lassmann
Univ. Prof. Michael Micksche

Academic research and teaching staff:

Assoc. Univ. Prof. Henriette Walter
Assoc. Univ. Prof. Thomas Szekeres
Assoc. Univ. Prof. Ivo Volf
Ass. Prof. Marianne Winkler

Students:

Dr. Judith Böhm
Stefan Konrad
Dr. Sandra Eder
Dr. Johannes Forster
Katharina Göral
Julia Straub

General staff:

Gerda Bernhard

*Co-opted member from the Working Group for
Equal Opportunities:*

Univ. Prof. Alexandra Kautzky-Willer

www.meduniwien.ac.at/senat

Committees

- **Arbitration Committee**

Chairman: Univ. Prof. Herbert Watzke
www.meduniwien.ac.at/schiedskommission

- **Ethics Committee**

Chairman: Univ. Prof. Ernst Singer
Deputy Chairman: Univ. Prof. Michael Wolzt
Deputy Chairman: Univ. Prof. Hildegard Greinix
www.meduniwien.ac.at/ethik

- **Works Council for General University Staff**

Chairman: Gabriele Waidringer
Deputy Chairman: Gerda Bernhard
Deputy Chairman: DI Ernst Eigenbauer
www.meduniwien.ac.at/br-ap

- **Works Council for Academic Staff**

Chairman: Assoc. Univ. Prof. Thomas Szekeres
1st Deputy Chairman: Ass. Prof. Ingwald Strasser
2nd Deputy Chairman: Assoc. Univ. Prof. Wolf-Dieter Baumgartner
3rd Deputy Chairman: Assoc. Univ. Prof. Anita Holzinger
www.meduniwien.ac.at/br-wp

- **Working Group for Equal Opportunities:**

Chairman: Univ. Prof. Alexandra Kautzky-Willer
1st Deputy Chairman: Assoc. Univ. Prof. Ulrike Willinger
2nd Deputy Chairman: Ulrike Stein
www.meduniwien.ac.at/gleichbehandlung

- **University Representation of students (ASU)**

Chairman: Stefan Konrad
Deputy Chairman: Katharina Göral
Deputy Chairman: Damir Joldic
www.uv-medizin.at

- **Advisory Board for People with Disabilities**

Chairman: Univ. Prof. Veronika Fialka-Moser
www.meduniwien.ac.at/behindertenbeirat

- **Intramural Data Protection Committee**

Chairman: Ernst Eigenbauer
Deputy Chairman: Dr. Jasmin Gründling
www.meduniwien.ac.at/datenschutzkommission

University departments and clinical institutes

The MedUni Vienna organisational units performing clinical activities include 26 university departments and 5 clinical institutes. 15 of these departments and clinical institutes are further broken down into clinical sections (pursuant to section 31(4) UG). All departments, institutes and sections have the function of a clinical unit (pursuant to section 7(4) Austrian Hospitals Act, KAKuG).

University Department of Internal Medicine I

Head: Univ. Prof. Christoph Zielinski

- Clinical Section for Oncology
- Clinical Section for Hematology and Hemostaseology
- Clinical Section for Infectious Diseases and Tropical Medicine
- Institute of Cancer Research

University Department of Internal Medicine II

Head: Univ. Prof. Gerald Maurer

- Clinical Section for Cardiology
- Clinical Section for Angiology
- Clinical Section for Pulmonology
- Institute of Occupational Medicine

University Department of Internal Medicine III

Head: Univ. Prof. Josef Smolen

- Clinical Section for Endocrinology and Metabolism
- Clinical Section for Nephrology and Dialysis
- Clinical Section for Rheumatology
- Clinical Section for Gastroenterology and Hepatology

University Department of Surgery

Head: Univ. Prof. Ferdinand Mühlbacher

- Clinical Section for General Surgery
- Clinical Section for Cardiac Surgery
- Clinical Section for Thoracic Surgery
- Clinical Section for Vascular Surgery
- Clinical Section for Transplantation
- Clinical Section for Plastic and Reconstructive Surgery
- Clinical Section for Paediatric Surgery

University Department of Gynaecology

Head: Univ. Prof. Peter Wolf Husslein

- Clinical Section for Obstetrics and Fetomaternal Medicine
- Clinical Section for General Gynaecology and Gynaecological Oncology
- Clinical Section for Gynaecological Endocrinology and Reproductive Medicine

University Department of Ear, Nose and Throat Diseases

Head: Univ. Prof. Wolfgang Gstöttner

- Clinical Section for General Ear, Nose and Throat Diseases
- Clinical Section for Speech and Language Therapy

University Department of Anaesthetics, General Intensive Care Medicine and Pain Therapy

Head: Univ. Prof. Jörg Michael Hiesmayr

- Clinical Section for General Anaesthesia and Intensive Care Medicine
- Clinical Section for Specialist Anaesthesia and Pain Therapy
- Clinical Section for Cardiothoracic and Vascular Anaesthesia and Intensive Care Medicine

University Department of Psychiatry and Psychotherapy

Head: Univ. Prof. Siegfried Kasper

- Clinical Section for Biological Psychiatry
- Clinical Section for Social Psychiatry

University Department of Pediatrics and Adolescent Medicine

Head: Univ. Prof. Arnold Pollak

- Clinical Section for Neonatology, Intensive Care Medicine and Neuropaediatrics
- Clinical Section for Paediatric Cardiology
- Clinical Section for Paediatric Pulmonology, Allergology and Endocrinology
- Clinical Section for Paediatric Nephrology and Gastroenterology
- Clinical Section for Pediatrics with special focus on Pediatric Haematology-oncology (St. Anna Children's Hospital)

University Department of Dermatology

Head: Univ. Prof. Hubert Pehamberger

- Clinical Section for General Dermatology
- Clinical Section for Immunodermatology and Infectious Diseases of the Skin

University Department of Radiology

Head: Univ. Prof. Christian Herold

- Clinical Section for General Radiology and Pediatric Radiology
- Clinical Section for Cardiovascular and Interventional Radiology
- Clinical Section for Neuroradiology and Musculoskeletal Radiology

University Department of Radiotherapy

Head: Univ. Prof. Richard Pötter

University Department of Trauma Surgery

Deputy Head: Univ. Lecturer Dr. Stefan Hajdu, MBA

University Department of Orthopedics

Head: Univ. Prof. Reinhard Windhager

University Department of Urology

Head: Univ. Prof. Michael Marberger (until 30.09.2011)

Deputy Head: Assoc. Univ. Prof. Babak Djavan-Amirkhizi;
Assoc. Univ. Prof. Hans Klingler

University Department of Neurosurgery

Head: Univ. Prof. Engelbert Knosp

University Department of Maxillofacial Surgery

Head: Univ. Prof. Rolf Ewers

University Department of Emergency Medicine

Head: Univ. Prof. Anton Laggner

University Department of Neurology

Head: Univ. Prof. Eduard Auff

University Department of Physical Medicine and Rehabilitation

Head: Univ. Prof. Veronika Fialka-Moser

University Department of Pediatric and Adolescent Psychiatry

Head: Univ. Prof. Max Friedrich

University Department of Psychoanalysis and Psychotherapy

Head: Univ. Prof. Stephan Doering

University Department of Ophthalmology and Optometry

Head: Univ. Prof. Ursula Schmidt-Erfurth

University Department of Nuclear Medicine

Head: Univ. Prof. Robert Dudczak

University Department of Blood Group Serology and Transfusion Medicine

Head: Univ. Prof. Wolfgang Mayr

University Department of Clinical Pharmacology

Head: Univ. Prof. Markus Müller

Bernhard Gottlieb University Clinic for Dental Care

Head: Univ. Prof. Georg Watzek

Clinical Institute of Hospital Hygiene

Head: Univ. Prof. Elisabeth Presterl

Clinical Institute of Laboratory Medicine

Head: Univ. Prof. Oswald Wagner

- Clinical Section for Medical-Chemical Laboratory Diagnostics
- Clinical Section for Clinical Microbiology
- Clinical Section for Clinical Virology

Clinical Institute of Neurology

Head: Univ. Prof. Herbert Budka (until 30.September 2011)

Deputy Head: Assoc. Univ. Prof. Johann Hainfellner

Clinical Institute of Pathology

Head: Univ. Prof. Dentscho Kerjaschki

Centers of medical theory

The medical science division is organised into centres and departments. While the departments - just like the university departments and clinical institutes - mainly only represent one scientific field, centres are subject to functional grouping in respect of research and teaching and represent a fusion of scientific disciplines in line with international best practice.

Center for Anatomy and Cell Biology

Head: Univ. Prof. Helmut Gruber (until 30. September 2011)

- General Section for the Centre for Anatomy and Cell Biology
- Section for Applied Anatomy
- Section for Systematic Anatomy
- Section for Cell and Developmental Biology
- Section for Cell Biology and Ultrastructure Research

Center for Physiology and Pharmacology

Head: Univ. Prof. Michael Freissmuth

- Institute of Vascular Biology and Thrombosis Research
- Institute of Pharmacology
- Institute of Physiology
- Section for Neurophysiology and Neuropharmacology

Center for Public Health

Head: Univ. Prof. Manfred Maier

- Section for General and Family Medicine
- Institute of Social Medicine
- Institute of Environmental Hygiene
- Section for Epidemiology
- Institute of Medical Psychology
- Ethics in Medical Research

Center for Brain Research

Head: Univ. Prof. Jürgen Sandkühler

- Section for Neuroimmunology
- Section for Neurophysiology
- Section for Biochemistry and Molecular Biology
- Section for Neuronal Cell Biology
- Section for Cognitive Neurobiology
- Section for Pathobiology of the Nervous System

Center for Pathobiochemistry and Genetics

Head: Univ. Prof. Markus Hengstschläger

- Medical Genetics
- Institute of Medical Chemistry and Pathobiochemistry

Center for Pathophysiology, Infectious Diseases and Immunology

Head: Univ. Prof. DI Hannes Stockinger

- Institute of Pathophysiology and Allergy Research
- Institute of Immunology
- Institute of Specific Prophylaxis and Tropical Medicine
- Institute of Hygiene and Applied Immunology

Center for Medical Physics and Biomedical Engineering

Head: Univ. Prof. DI Wolfgang Drexler

Center for Medical Statistics, Information Technology and Intelligent Systems

Interim Head: Univ. Prof. DI Wolfgang Dorda

- General Section for the Centre for Medical Statistics, Information Technology and Intelligent Systems
- Institute of Medical Statistics
- Institute of Clinical Biometrics
- Institute of Biosimulation and Bioinformatics
- Institute of Medical Information Management and Image Processing

- Institute of Medical Expert and Knowledge-Based Systems
- Institute of the Science of Complex Systems
- Institute of Artificial Intelligence

Department of Medical Biochemistry

Deputy Head: Univ. Prof. DI Roland Foisner

- Section for Molecular Biology
- Section for Molecular Genetics

Department of Forensic Medicine

Head: Univ. Prof. Daniele Risser

- DNA Central Laboratory

Department of Medical Training

Interim Head: Univ. Prof. Siegfried Meryn

- General Section for Medical Training
- Administration
- Curriculum Coordination
- Medical Media Services
- Methods and Development
- Science and International Relations

Department and Collections of the History of Medicine

Deputy Head: Ass. Univ. Prof. Sonia Horn

Department of Virology

Head: Univ. Prof. Franz Xaver Heinz

- Section for Applied Medical Virology

Service facilities and specialised service units

Rector's office
 Studies and Examinations Department
 HR Department
 Finance Department
 ITSC – IT Systems & Communications
 Legal Department
 Facility Management
 University Library
 Public Relations, Sponsorship & Fundraising
 Technology Transfer
 Clinical Studies Coordination Centre
 Research Service – National Programmes
 Research Service – European Office
 Specialised Unit for Controlling
 Specialised Unit for Evaluation and Quality Management
 Specialised Unit for Gender Mainstreaming
 Specialised Unit for Internal Auditing
 Specialised Unit for Specialised Development
 Specialised Unit for Process Management and Project Development

Subsidiaries

Bernhard Gottlieb Universitätszahnklinik GmbH

Max F. Perutz Laboratories GmbH (mfpl)

60 % University of Vienna, 40 % MedUni Vienna

Medical University of Vienna International GmbH (MUVI)

Forschungsservice und -beteiligungs GmbH

Forensisches DNA-Zentrallabor Wien GmbH

Alumni Club

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ISBN 978-3-902610-08-9

Medical University of Vienna

Annual Report 2011

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