TU VIENNA

Annual report 2008

Table of contents

Photo: TU Vienna

TU Vienna: Technology for people

Developing Scientific Excellence and Enhancing comprehensive Competence

The Vienna University of Technology (TU Vienna) is located in the heart of Europe, in a cosmopolitan city of great cultural diversity. It was founded as a royal-imperial polytechnic institute in 1815. Today, it is the largest technical, scientific education and research institution in Austria, and it is rated as one of the best technical universities in Europe.

The TU Vienna has an important national and international impact in the field of research. The symbiosis of solid basic research and applied research, the high quality of research results and close corporation with commercial companies make the TU Vienna one of the leading research universities in Europe.

Teaching at the TU Vienna distinguishes itself through the insemination of a broad base of knowledge, tied with the possibility of an interest-specific specialisation. The greatest value of the TU Vienna lies in the combination of theory and practice, which becomes obvious for students through an ongoing participation to research projects that follow the precepts of a research-oriented teaching. The studies options are numerous and range from architecture to engineering sciences and to natural sciences. The TU also takes up the challenge of "lifelong learning." Therefore, more emphasis is placed on continuing education.

Company formations and partnerships with business promote a growing environment, at both international and regional level, in which our graduates become employees in industry, business and the public sector immediately after completing their studies. They thereby make a considerable contribution to stimulating the national economy.

The Rector's Welcome Message

Dear reader!

For the Vienna University of Technology, the year 2008 was marked by intense debate about the future: In the run-up to the second performance period (2010 – 2012), we made fundamental revisions to the development plan and pressed ahead with the project ,,TU Univercity 2015'' in order to optimize our city locations. This second annual report should provide information on this and our core business, namely research and teaching.

We've made a synopsis and edited the most important aspects based on official reports (intellectual capital report, performance report, and financial statement). In this way we want to offer our ''stakeholders'' – those citizens interested in where their tax money is being allocated, school pupils (as well as their parents and teachers) who are interested in technical and natural science studies, companies interested in the results of research, our graduates, students, political and economic decision-makers and, last but not least, our employees – an insight into the past year at the TU Vienna.

I wish you a pleasant reading!

Peter Skalicky
Rector of the TU Vienna

Photos: TU Vienna

From left to right: Gerhard Schimak (Vice Rector for Infrastructure and Development), Adalbert Prechtl (Vice Rector for Academic Affairs), Sabine Seidler (Vice Rector for Research), Peter Skalicky (Rector), Paul Jankowitsch (Vice Rector for Finances and Controlling), Hans Kaiser (Rector Delegate for International Affairs)

Highlights 2008

February 2008:

Christian Doppler lab "Ferroic Materials" opened

The new Christian Doppler laboratory for "Ferroic Materials" under the supervision of Jürgen Fleig (TU Vienna) and Klaus Reichmann (TU Graz) was opened on the 4th of February. The aim is to improve and enhance these materials. Furthermore, research should also be centred on those processes which determine the lifetime and resilience of products which contain ferroic ceramics. As an added bonus, the TU Vienna has a new TOF-SIMS analysis device (Time of Flight – Secondary Ion Mass Spectrometry) which researchers use in order to obtain a detailed picture of transportation processes in materials under electric load..

March 2008:

University Board complete

Three members delegated by the Senate (Gabriela Zuna-Kratky, Anke Pyzalla and Siegfried Sellitsch) and three by the federal government (Hannelore Sexl, Albert Hochleitner and Johannes Khinast) have chosen Othmar Pühringer as the 7th member. Siegfried Sellitsch was then chosen as the new Chair person of the University Board at the TU Vienna.

Opening of the TU workplace crèche

Together with Federal Minister Johannes Hahn, Rector Peter Skalicky opened the "Stairs of the Children" and thus the company crèche on the 6th of March 2008.

April 2008:

Development plan: labour-intensive kick-off

The TU Vienna was overhauling its development plan as the basis of the service agreement for the upcoming performance period 2010 to 2012. The kick-off event for the process in the course of which the Rectorate presented its ideas took place on the 12th of March. The faculty development plans were finalised by the end of the year.

May 2008:

Survey: Mobility concept for the TU Vienna

As part of the "TU Univercity 2015", the Institute of Transport Planning and Travvic Engineering drafted a mobility concept for the entire university city location with the cooperation of project management. The concept aims to be able to make improvements to traffic within the TU and its environment in order to satisfy the requests and needs of all employees and students. At the same time, one of its objectives is to improve the transport environmental balance sheet of the TU vis-à-vis its current state.

July 2008:

Children's University of Technology 08

For the second time running, the children's university of technology took place from July 7-11. This varied programme included about 50 different courses. Due to the commitment of its academics, all faculties in the university were represented offering a variety of contributions and providing 1.710 children a colourful insight into technical sciences.

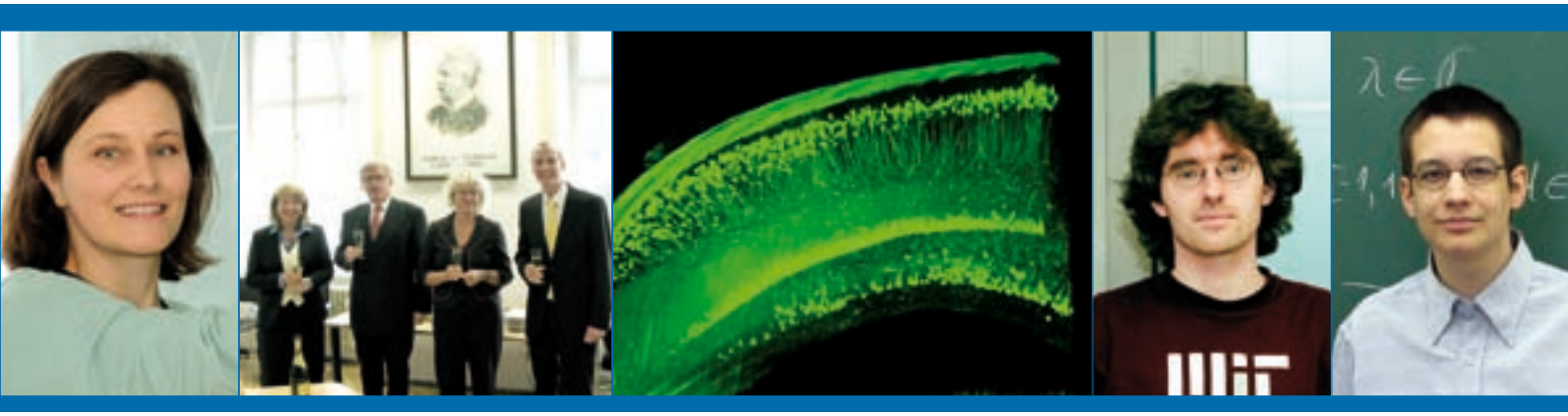
August 2008

Highly Endowed Advancement Award to TU researcher

The solid-state physicist Silke Bühler-Paschen received the highly endowed "ERC Advanced Grant" for her project

Photos: TU Vienna

Jürgen Fleig | Siegfried Sellitsch | Othmar Pühringer | Opening of the TU workplace crèche | Children's University of Technology 08 | Silke Bühler-Paschen | (from left to right) Veronika Mares, Paul Jankowitsch, Sabine Seidler, Stefan Burtscher | Fluorescent bone (Biomedical Engineering) | Daniel Grumiller | Marian Kogler



''Quantum Criticality – The Puzzle of Multiple Energy Scales''. (Cross-reference to ''Research'', p. 10)

October 2008:

New master programme Biomedical Engineering

A new multidisciplinary masters programme in Biomedical Engineering was introduced on the 1st of October. The two-year (four semester) programme, which is based on the bachelor's courses comprising the fields of Civil Engineering, Electrical Engineering, Informatics, Mechanical Engineering, Physics or Technical Chemistry, will commence at this point. One can then choose to specialise in the area of biomedical technology on the basis of in-depth basic knowledge acquired during the bachelors programme.

TVFA new: A step forward

On the 1st of October, the Engineering Experimental Station and Research Institute (TVFA)[1] took the form of a GmbH. Sabine Seidler, Vice Rector for Research, and Paul Jankowitsch, Vice Rector for Finance and Controlling, together with the managing directors of TVFA GmbH, Veronika Mares and Stefan Burtscher, solemnised the foundation.

Sparkling Highlights

Through the ''Sparkling Science''[2] programme, the Austrian Federal Ministry of Science and Research funds projects where school pupils actively participate in ''real'' research projects. A total of 7 funded projects make the TU Vienna the most successful participant institution. Of the winning projects which receive funding of over 640,000 Euros, ''Green Chemistry'' is definitely the biggest fish in the pond.

November 2008:

Symposium "New Energy Worlds"

Oil is running out, energy is becoming expensive. In the form of an academic symposium, the TU Vienna will outline the resources available for meeting the world's energy needs and the shape of practical energy systems in the future. Experts from all eight faculties in the TU came together to tackle issues such as ''Energy-Active Residential Areas and Infrastructure'', ''Sustainable Low-Emission Mobility'' or ''Sustainable Energy Production, Storage and Distribution'' and presented their integrated and inter-disciplinary approaches. This event laid the foundation for the new inter-faculty TU research centre ''Energy and Environment''. (Cross-reference ''In the spotlight: research into the world's future energy needs'', p. 18)

TU researchers receive START prize

In November, Daniel Grumiller (Institute of Theoretical Physics) was included in the START programme with his project ''Black Holes in AdS, in the universe and in analog systems''.

Austria's youngest university graduate comes from the TU Vienna

On the 20th of November 2008, Marian Kogler completed his Bachelor's programme ''Software and Information Engineering'' at the Faculty of Informatics at the TU Vienna. Only aged 16, he is Austria's youngest university graduate.

1 http://www.tvfa.tuwien.ac.at
2 http://www.tuwien.ac.at/forschung/sparkling_science

Awards & Distinctions

Following honours are awarded by the TU Vienna

In June the 1st Hannspeter Winter Prize was awarded to junior physicist **Bianca Mladek** for her dissertation in the field of "Soft Matter".

Control engineer **Thomas Kiefer** was awarded the Ressel Prize 2008 for his dissertation on the modelling and control of the rolling process of heavy plates.

Civil engineer **Bernd Köberl** was awarded the Dr. Ernst Fehrer Prize on the 10th of December 2008 for his dissertation "Development of a new high frequency test procedure and device for dynamic fatigue test of up to 20,000 kN".

On the 15th of December 2008, **Erhard Busek** was awarded the title of Honorary Professor and **Diether S. Hoppe** the academic title of Honorary Senator.

On the 12th of December golden diploma and one iron diploma were awarded.

Golden diploma:

Faculty of Mathematics and Geoinformation: **Herbert Ehrlich, Paul List, Paul Orth, Kurt Schlögl**

Faculty of Physics: **Rupert Schmöller**

Faculty of Technical Chemistry: **Jutta Büchel**

Faculty of Civil Engineering: **Werner Koenne**

Faculty of Architecture and Planning: **Brigitte Öttel, Rupprecht Ottel**

Faculty of Mechanical and Industrial Engineering: **Daniel Kirste**

Faculty of Electrical Engineering and Information Technology: **Heinzfriedrich Binder**

Golden diploma (doctorate):

Faculty of Technical Chemistry: **Kurt F. Büchel**

Faculty of Civil Engineering: **Hermann Neukirchen**

Iron diploma:

Faculty of Mechanical and Industrial Engineering: **Helmut Böhm-Raffay**

Photos: TU Vienna, Haslinger, famelab

Bianca Mladek | Thomas Kiefer | Bernd Köberl | Gernot Fasching | Schahram Dustar | Roman Obermaisser | Bernhard Weingartner | Georg Steinhauser | Ernst Bonek | Johannes Hahn (left), Johann Litzka | Günther Brauner

Members of the TU Vienna were presented with multiple awards in 2008. Here just a small extract of all the awards and distinctions:

The Loschmidt Prize 2007 was awarded by the Chemical-Physical Society in January 2008. TU physicist **Gernot Fasching** was presented with the award for his dissertation in the field of TeraHertz semi-conductor lasers and quantum points at the Institute of Photonics.

The EU presented the environmental and energy project TAQI, which is under the academic supervision of **Georg Schörner**, with the European Regional Champions Award in March.

Schahram Dustdar and **Roman Obermaisser** were awarded with the distinction Austrian Champions in European Research at the ''Open Space for European Research''in April.

The TU celebrated a double victory at the Famelab2008 in April: The winner was **Bernhard Weingartner**. **Georg Steinhauser** was the winner of the public's choice award and the winner of the 3rd jury prize.

Projects run by **Ingo Marini** and **Ernst Pucher** received recognition awards of 5,000 Euro at the awards ceremony of the Dr. Wolfgang Houska Prize on the 29th of April 2008.

Ernst Bonek received an honorary doctorate from the Technical Faculty of the University of Lund in Southern Sweden on the 30th of May 2008.

Johann Litzka, Professor at the Institute of Road Construction and Maintenance, was awarded with the Grand Decoration of Honour in Silver for Services to the Republic of Austria.

The Association for Computing Machinery (ACM) appointed **Georg Gottlob** as its fellow in June. He is the second Austrian to be awarded with this high distinction since the award was introduced in 1993.

On the 1st of September 2008, the German Society for Material Science awarded its highest award, the Heyn Medal, to **Hans Peter Degischer**. It thereby honours his landmark work and pioneering research results in the field of cellular metal and modern composites.

The highest award of the Austrian Association of Electrotechnics (ÖVE) - the Golden Stefan Medal of Honour – will be presented to **Günther Brauner** in October.

Undersecretary of state Christa Kranzl awarded the National Award for Transport 2008 of the Federal Ministry for Transport, Innovation and Technology to the **Institute of Railway Engineering, Traffic Economics and Ropeways** (Faculty of Civil Engineering) on 13th of November 2008.

Paulo Jorge Mendes Cerveira was awarded the Karl Rinner Prize 2007 by the Austrian Geodetic Committee.

Photo: TU Vienna

Research – Developing Scientific Excellence

The research year 2008 was characterised by a profile-sharpening process and by key achievements by TU scientists, particularly at European level.

Profile sharpening. In the course of drawing up the new development plan, the research profile of the TU Vienna was further sharpened by developing five research topics:

- Computational Science & Engineering
- Quantum Physics & Quantum Technologies
- Materials & Matter
- Information & Communication Technology
- Energy & Environment

In 2008, the TU Vienna showed it was a competent actor, most notably in the area of energy. The kick-off event for the TU research centre "Energy and Environment" took place at the start of December in the course of which an interested public was introduced

to competencies in the areas of ''Energy-Active Residential Areas and Infrastructures'', ''Sustainable and Low-Emission Mobility'' as well as ''Sustainable Energy Generation, Storage and Distribution''.

EU Programmes. Success at the launch of the 7th EU Framework Programme for research and technological development (RP7) was maintained. The TU Vienna continues to be the undisputed number 1 in Austria and is by far the most successful Austrian organisation in the specific RP7 programme ''Collaboration'', having been a successful participant in 50 projects. Furthermore, it was able to secure a further 20 EU projects.
The success of the application ''Quantum Criticality – The Puzzle of Multiple Energy Scales''by TU physicist Silke Bühler-Paschen at the time of the first tender of the programme ''ERC Advanced Grants'' , which received over 500 million euro in funding for the promotion of basic pioneer research and over 2,000 applications, underlines the high scientific quality of basic research at the TU Vienna.

Interfaculty Collaboration. The TU Vienna uses ''TU centers of excellence'' to promote collaboration outside of faculties. Two new centres of cooperation, ''Bionics/Biomimetics''and ''Computation of Materials (CompMat)'', were set up in 2008. This brings to eight the number of centres of excellence that are currently active.

"Innovative projects" is another promotional tool which the TU uses to make investments in technical-instrumental equipment. In 2008, 12 projects came out of the Peer Review process and received funding of 1.6 million euro. This meant that the amount of funding increased by 32% over the previous year!
Vienna Spots of Excellence. The three Vienna Spots of Excellence (a funding framework of the Centre for Innovation and Technology of the City of Vienna) which were approved in 2008 are emblematic of the many-sided forms of cooperation between the TU Vienna and the world of business: ''Urban Mining'', ''Visual Computing Vienna'' and ''Mechatelligence for Light Rail Vehicles''.

COMET programme. The centres of excellence which were approved in 2007 have been opened. The TU Vienna is currently involved in two K2 as well as six K1 centres and 2 K-projects. The call for the 2nd tender of the COMET Programme in which the TU Vienna also has a very active role ended in autumn 2008.

Service offensive. The TU Vienna supports the technology transfer from science to business through countless services (company, invention and entrepreneur services amongst others). These were evaluated in 2008 and optimized as a result.

Successful balance sheet. The intellectual capital report provides information on research performance based on a variety of indicators. Continual increases were brought about in key parameters. The number of publications increased by 8 % from 5,005 to 5,408, third-party funds by 19 % from 47.5 to 56.6 million euro and the number of projects by 14 % from 1,553 to 1,763.

Research highlights 2008

Enclosed please find a brief overview of the different research areas of the TU Vienna.
Apart from independent departmental research, a lot of emphasis is placed on multi-disciplinarity.
Both inter-faculty and external partnerships exist in this connection.




Palette House of the TU Vienna travels to Venice

Architecture students win an EU competition with their "Pallet House". The winning project which is built from 800 used europallets has been erected at the architecture biennale 2008 right on the quayside in Venice. Modules from used europallets: A flexible structure which can be easily assembled and dismantled and is both affordable and highly ecological. That is the "Pallet House", designed by the Austrian TU student team Gregor Pils and Claus Schnetzer. These features helped it win 1st prize at the EU architecture competition GAU:DI. A considerable achievement considering that several hundred participants from renowned European universities had entered the competition.

Kosovo: How a new development plan is shaping the future

A group of surveyors tracked and guided the transition from disaster management to regulated development planning in the Kosovan municipality Suva Reka together with the Austrian Development Cooperation (OEZA) and the Austrian Army, the first GIS-based development planning for the former crisis region was set up under the slogan "Help for Self-Help" in a unique pilot project.

When it goes down

Avalanches and landslides, rockfall and hillside slides are subsumed under the concept of mass wastings. Geological engineers at the TU Vienna model mass wastings with specially adapted computer programmes. Their know-how is used to assess the risk of imminent landslides and hillside slides. Famous locations are a moving hillside above the Norwegian Geiranger Fjord or the Gschliefgraben at the foot of the Traunstein in Gmunden.

Spark plug with laser light

An innovative ignition system for fuel and gas engines is based on laser pulses and is supposed to replace the electrical spark plug after about 100 years. Two electrical engineering technicians at the TU Vienna have now developed alternatives in the form of a prototype, something which car manufacturers have been working on intensively for some time now. It may be possible to install the laser ignition system in engines in three years time as standard. Ecological reasons such as a 70 per cent reduction in CO_2 emissions already support its implementation.

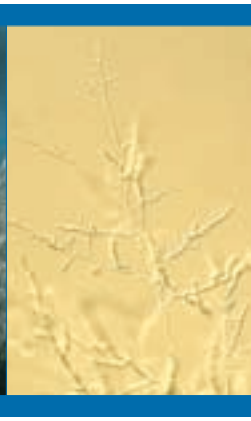
To Mars and back?

Mechanical engineers at the TU Vienna were involved in developing an innovative, multi-functional training device for space travel. The piece of sports equipment is used to combat atrophy of muscle in zero gravity and is set to be used in Moscow in the project "Mars 500", where a crew simulated the flight, landing and docking on the planet of Mars.

Photos: TU Vienna

Florian Aigner | ISS in space | Kosovo: Presentation of the plans in the General Assembly | Spark plug with laser light | 2nd Row from left to right.: Carsten Pathe, Annett Bartsch, Vahid Naeimi, Klaus Scipal, Wouter Dorigo; 1st row form left to right.: Stefan Hasenauer, Marcela Doubkova, Wolfgang Wagner, Zoltan Bartalis, Daniel Sabel (Satellite monitors flooding and drought) | Palette House | Rockfall | Microscopic foto of the mushroom Trichoderma reesei



Fuzzy numbers for risk research

Food safety, technical dependability analyses and the determination of environmental risks which are impacted by global warming are the main focus of risk research as a mathematical discipline and are becoming increasingly important. Mathematicians are analysing fuzzy data in order to be able to predict the economic life of technical products, for example. Specific quantifiable statements and results on the resilience of devices with so-called "Fuzzy Models" can be deduced from data described as "Soft Data" or with "Fuzzy Information".

Satellite monitors flooding and drought

The water which is stored in the ground is subsumed under the term soil humidity and supplies important data for interpreting the earth's water cycle. This means that weather, harvests, effluent right through to mosquito epidemics and natural disasters will be easier to predict. Researchers at the TU are developing the algorithms for extracting soil humidity information from satellite data. This recently resulted in important information being conveyed on the water resources and shortage in Africa.

Bioethanol thanks to fungi

A group of molecular biologists supported by the TU Vienna succeeded in deciphering the genetic code of the mould fungus Trichoderma reesei. This fungus is used in industry to produce enzymes which, in turn, generate biofuel from vegetative waste material. Knowledge of the genome sequence should significantly improve the breakdown of lignocellulose and act as a substitute for starches in bioethanol production.

Quantum waves on the crystal surface

A gravel stone which can be thrown flat on the water bounces and skims over the water surface. However, if individual atoms bounce on the surface, they tend to exhibit different behaviour. If the quantum-physical properties of fast atoms can be calculated correctly, then they can be used to measure the structure of crystal surfaces more accurately. The surface diffraction of fast atoms (FAD),which was discovered two years ago in the course of experiments by research groups in Berlin (Prof. H. Winter) and Orsay (Prof. P. Roncin), now can be explained and calculated on the computer for the first time at the Insitute of Theoretical Physics.

No question of domains

A European research initiative aims to design the basic architecture of embedded systems in cars, aeroplanes or mobile phones across domains. Computer scientists at the TU Vienna want to discover and use synergies in an increasingly dense network of multimedia and consumer electronic applications. They have already received awards as the project coordinator.

Teaching – Enhance Comprehensive Competence

Future prospects: To face the change – to maintain continuity – to ensure quality

The good news: More and more young people are opting to study at the TU Vienna. During winter semester 2008, 20,283 students chose the TU Vienna as the educational establishment for securing their future. An increasing number of women, 25% at any rate, are now thinking of following a technical engineering career path. We have recorded an increase of 11.85% in our intake of students in comparison with winter semester 2006.

The Bologna Reform has had a decisive effect on the way teaching is organised and courses are structured. With the exception of teacher training programmes, we have been offering courses as 6-semester bachelor programmes and 4-semester master programmes since October 2006. Programme options are being increasingly differentiated at third level, although standard degrees connote the same qualification. In order to emphasise the quality of a final degree at the TU Vienna and give our graduates a decisive competitive advantage, all master programmes result in conferral of the title of Diplom-Ingenieur (equivalent of Master of Science).

The TU Vienna is committed to the principle of research-led teaching. Researchers, teachers, students and graduates are considered a community, a social entity. This thought continues to have a structural effect on the way teaching and research is organised, something which we are keen to preserve. We lay claim to continuity under the premise that we want to provide our students with long-term scientific training on the basis of wide-ranging foundation courses. Direct contact with active researchers which proves to be both inspiring and motivating should continue to be maintained. Character-building should also play a role and faculty of judgement enhanced. A separation of research and teaching staff is not attempted.

Photo: TU Vienna

Quality of teaching

A consolidation phase is now beginning to set in following conversion to the Bologna system. If we want to educate qualified graduates, we have to implement our educational mandate in a conscientious manner. We have to be able to offer our students equitable study conditions, but we must also understand how to motivate and support our university tutors accordingly. Only then can we generate a high level of support.

A new *Fragebogen für StudienbeginnerInnen* was designed and used in 2008 in order to find out more about freshmen. The questionnaire can be expanded via a questionnaire cluster and incorporated as a module into the teaching quality assurance system.

A *study-related data basis* has been compiled in order to optimise studies and maybe even identify study process analyses.

Our *Lehrveranstaltungsbewertung durch Studierende* provides important information on the quality of our teaching. The TU's overall grade average according to the school grading system of all evaluated courses was 2008 1,77 (SS 2007 1,95) for summer semester 2008.

Our teachers engage in *"Kollegialer Beratung: Qualität in der Lehre"* to avail of advanced training on offer and to reflect on their teaching activities.

The *E-Learning-Award* rewards good ideas and performance based on digital media used during course development. Three winning projects were awarded prizes in 2008.

Study and Further Education

Due to its intensive courses which are of a high international standard, the TU Vienna is well placed within the third-level educational sector in Austria. The profile of our courses should stand out from those offered by polytechnics.

The TU Vienna offers *21 Bachelor courses, 42 Masters courses* and *5 teaching qualification courses*.

The revamped *interfaculty Masters course "Biomedical Engineering"* allows for specialisation in Biomaterials & Biomechanics, Biomedical Instrumentation & Signals, Mathematical & Computational Biology and Medical Physics & Imaging was introduced in winter semester 2008.

Specially organised Orientation courses which aim to provide freshmen with comprehensive information were set up for all master programmes in 2008.

AKMAT – ein Auffrischungskurs in Mathematik – was launched as a pilot project during winter semester 2008. Those areas of mathematics which were learnt at school and which are necessary for taking a technical course are repeated through Blended Learning so that knowledge acquired during secondary school can be revised.

We have been offering 6-semester *doctorate courses* in technical sciences, natural sciences and social and economic sciences since winter semester 2007/2008.

With the onset of the academic year 2008/09, the TU Vienna began financing two doctorate lecture courses *"partial differential in technical systems"* and *"Functional Matter"* aimed at supporting the development of outstanding junior scientists. A total of 15 doctoral students, 7 of whom are women, are introduced to top inter-faculty research at a high international level by a team of scientists and become acquainted with the university's scientific activities.

The TU Vienna's Continuing Education Center provides further professional education. Postgraduate Masters programmes which confer the title Master of Science (MSc) in the Engineering School and the Master of Business Administration (MBA) in the Business School are currently being offered. The TU College offers seminars and courses.

Visualisation Lehartrakt

In the spotlight: TU Univercity 2015

In 2006, the rectorate decided to optimise the inner-city locations of the TU Vienna pending its bi-centennial celebrations in 2015 and set up a new centralised site for large scale laboratories ("Science Center"). This led to the development of the project "TU Univercity 2015" which was also worked on at full speed in 2008.

Science Center. After examining various options, the rectorate decided mid-year to develop the new location for the *large scale laboratories* together with the Bundesimmobiliengesellschaft (BIG) at the Arsenal. In October Rector Peter Skalicky and BIG CEO Christoph Stadlhuber presented the development plans for the Arsenal. According to this, the area is set to be developed into a science and technology cluster.

New building "Lehartrakt". The first step towards constructing the new chemistry laboratory building in the Lehargasse (''Lehartrakt'') was taken in November 2007. Construction work took place in 2008 according to the time and cost schedule. The other plans for the Getreidemarkt site also ran according to schedule.

Main building. The first stage (''central risalit'') has been largely completed for the main TU building which was erected at Karlsplatz at the beginning of the 19th century.
The preliminary design was completed for the other areas in the course of which, however, it was established that the time and cost schedule could not be observed due to problems with the basic fabric of the building and tighter regulations. Therefore, the revision of the cost budget and schedule was used as the basis for negotiations with BIG and the Austrian Federal Ministry of Science and Research in this context.

Research and teaching. TU Univercity 2015 aims to apply TU know-how acquired during research and teaching to the project. Thus, the ''Chemistry Tower'' at Getreidemarkt should be used as the prototype

Photos: Hiesmayr - Gallister - Kratochwil; TU Vienna

Christoph Stadlhuber (left), Peter Skalicky

for the application of TU know-how. The project TU Univercity 2015 is already a part of numerous research projects and courses, for example:

- An architecture and a mathematics institute of the TU Vienna work together on the project "More-Space" (supervision: Dietmar Wiegand and Felix Breitenecker). The utilisation of teaching rooms should be optimised by dynamic event-oriented simulation of the room occupancy.
- Under the supervision of Ardeshir Mahdavi, an "innovative (energy-efficient and economical) room-cooling mechanism" is being specially developed for historical buildings, such as the one on Karlsplatz.
- A questionnaire was conducted amongst all TU members at the Institute of Transport Science and a "mobility concept TU 2015"developed (supervision: Günter Emberger).
- The course "Town and Gown" (supervision: Richard Stiles) was concerned with developing concepts which would lend a sense of identity to the TU environment.
- A course in the spatial planning department (supervision: Rudolf Scheuvens) dealt with ways of connecting the Getreidemarkt and Karlsplatz areas.
- Students highlighted useful details and visual delights in the main building and Freihaus as part of the tutorial "rooms kissed alive" (supervision: Roland Graf).

Conception: Library and Student Service. An organisational development project for the library was initiated for the purpose of optimising the supply of literature for scientists and students. Attempts are being made to discover an option for reconciling optimal supply with justifiable costs. Departmental libraries which can offer the best possible on-site service may be an option.
An investigation was undertaken to determine which improvements could be made in student services. The various Deans´ offices as well as the study and examinations department were analysed for this purpose. Student Service Centers are going to provide an optimal service at the main city locations in the future.

Project communication. In addition to regular information on current developments for TU members and stakeholders on the project website (www.univercity2015.at), the staff newspaper TU|frei.haus and the project information office, a travelling exhibition was also conceived and implemented with the aim of bringing the project to members on-site.

Project communication. In addition to regular information on current developments for TU members and stakeholders on the project website (www.univercity2015.at) and the staff newspaper TU|frei.haus as well as the project information office, a travelling exhibition was also conceived and implemented with the aim of bringing the project to members on-site.

In the spotlight: Research into the World's Future energy needs

New energy sources

Oil is running out, energy is becoming expensive, the Vienna University of Technology started a new research centre ''Energy and Environment'' in 2008 which aims to find new ways for meeting the energy needs of the world and designing new practical energy systems for the future.

The TU Vienna already possesses wide-ranging technological competence which will be redirected in order to respond to energy issues and thereby be able to provide inter-faculty solutions for the first time. Experts from all eight faculties at the TU have come together to tackle issues such as ''Energy-active Residential Areas and Infrastructure'', ''Sustainable Low-Emission Mobility'' or ''Sustainable Energy Production, Storage and Distribution'' and will present their integrated and inter-disciplinary approaches. The TU Vienna will therefore be a competent contact as regards future energy issues.

Research for the world's energy future

Areas of research range from innovative solar technology to energy-efficient buildings and new energy saving technologies culminating in the use of geothermy and biomass. Research is also being carried out the effects of climate change such as the use of new drive systems (e.g., electric cars), traffic management, everyday chemistry in waste water, the efficient use of space, and energy management.

Research highlights

Two examples can be presented in this regard:

Innovative solar concentrator

In collaboration with industry partner HELIOVIS, the Institute for Thermodynamics and Energy Conversion (ITE) is making an important contribution to the development of revolutionary and patented solar concentrator technology. The first test carriers have already been put into operation at the TU Vienna. The research group is being funded by both the city of Vienna and the Austrian Research Promotion Agency (FFG). EU projects and international partnerships are in the pipeline.

Of all the renewable energy sources, solar energy has by far the greatest potential. The radiation energy which the earth absorbs is approx. 8,000 times the world's primary energy consumption. While the flat plate collectors used in Austria for generating solar

Photo: TU Vienna

energy can absorb unconcentrated light, it makes sense in terms of solar energy generation to concentrate the radiation. Solar-thermal electricity generation based on a parabolic mirror, i.e. concentrators, is currently the most affordable technology available for generating solar power. Many plants of this type are being built or designed worldwide. The concentrator concept can also be used for Photovoltaic Electricity Generation when combined with absorber cooling. Instead of heavy and expensive concentrators made of steel and glass, the technology developed at the ITE uses inflated and automatic slide systems. It is anticipated that the costs in the field of solar energy, which may amount to 50 % of the investment costs of a solar power plant, will be reduced many times over and the costs of solar power generation will therefore be able to approximate the costs of wind power plants in the medium term.

Natural gas vehicles to benefit the environment

Natural gas vehicles have a high potential in terms of solving current environmental problems (e.g. CO_2 emission, fine dust problems).

For this reason, efforts are currently being made at pan-European level to make natural gas fuel 10% of road traffic by 2020. However, the scope of different natural gas vehicles is currently restricted to 300 to 400 km which is why they are primarily used in urban areas.

A close-to-production solution has been formulated under the supervision of Prof. Ernst Pucher in the course of research work relating to the project CNG600 which is ahead of current vehicles in terms of its scope and efficiency and acceptance by customers. The overall power train of the CNG600 prototype vehicle has been designed on the basis of new experimental and simulation tools for minimal fuel consumption. Total optimization of the engine and the power train as well as the systematic reduction of driving resistances resulted in a 15 to 30% improvement in CO_2 emission in overland and urban traffic. The calculation results have been validated using innovative real-world on-board measurements with GPS tracking. Combined with new valve technologies, the lightweight construction tank storage system allows for a lower weight, although there was a 30% increase in the fuel contained in the vehicle. The CNG600mono prototype vehicle is therefore the natural gas vehicle of the future.

Combined with the clean energy source of methane, a 7-seater medium-sized van with a C02 emission level of about 120g/km was able to be developed for the first time, thus surpassing the goals of the European Union for the next decade.

Thinking is good for the climate

In addition to researching the subject ''Energy and Environment'' by different methods, the TU Vienna also hosts an array of events. As an introduction to this subject, the symposium ''New Worlds of Energy'' was held at the TU Vienna on the 3rd of December 2008, featuring more than 160 attendees from the worlds of business, politics and academia. In order to present the subject of ''Energy'' in the broadest way possible, the following renowned experts from the TU Vienna were invited to give a lecture:

Prof. Thomas Bednar, Prof. Christoph Achammer, Prof.Dietmar Wiegand and Prof. Ardeshir Mahdavi all presented exciting solutions in the field of ''Energy-Active Residential Areas and Infrastructures''.

Prof. Bernhard Geringer, Prof. Ernst Pucher and Prof. Günther Brauner introduced new ideas relating to ''Sustainable and Low-Emission Mobility''.

Experts such as Prof. Nebojsa Nakicenovic, Prof. Markus Haider and Prof. Hermann Hofbauer stimulated discussion on the subject of ''Sustainable Energy Production, Storage and Distribution''.

Global Networking

2008 was shaped by new partnerships, the fostering of contacts with transnational networks, international exchange of knowledge and active mobility.

New partnerships

In a globalised knowledge society, international partnerships in research and teaching are a key component of the activities of every university.
The TU Vienna was able to extend many agreements in 2008 and to engage in new partnerships:

- The agreement with the Cheng Chung University (Taiwan) has been extended due to successful collaboration.
- New agreements have also been signed with the Belarusian National Technical University, the University of Novi Sad (Serbia), the University of Havana (Cuba), the National Taipeh University of Technology (Taiwan) and the University of Nis (Serbia).

In order to intensify the exchange of knowledge and closer cooperation between technical universities, ''4 x TU Meetings'' of the rectorates of the Technical Universities of Prague, Bratislava, Budapest and Vienna took place at the beginning of October.

International exchange of knowledge

Universities in Europe and Russia are not the only institutions who are interested in cooperating with TU Vienna. There has also been heightened interest from North America. TU Vienna is considered a role model in the area of ''green technologies''. For this reason, TU Vienna received a delegation with representatives from universities in Florida, California, North Carolina and New Jersey. The goal is to offer a

Photo: pixelio.de

Summer School for American students based on TU Vienna`s postgraduate university programmes ''Renewable Energy in Central and Eastern Europe''.
Several seminars have been offered for selected Russian partner universities. ''Technical universities such as Perm and Tomsk consider the TU Vienna as an example of good practise, particularly in the field of management and organisation. We explained these structures and management processes as part of this seminar'', explains Hans Kaiser, Rector Delegate for International Affairs.
For the second time running, the Junior Scientist Conference took place at the TU Vienna from the 16th to 18th of November 2008. Over 180 young researchers from 15 different universities in 8 countries took part. The aim of the conference, which alternates between New York and Vienna, is to give young scientists the chance to present the first results of their research to a wider audience.
The CEITEC project was established in cooperation with the TU Brno in 2008. By providing the appropriate infrastructure , the Central European Institute of Technology will contribute to further networking of scientists in the fields of ''Material Science'', ''Communication Technology'' and ''Life Science''.

Outgoing Students

TU students from all disciplines have the possibility to study abroad.
As part of mobility programmes, a total of 684 study places were offered at 346 partner universities in 2008 (ERASMUS: 606 places at 225 universities; Joint Study Programme: 78 places at 121 universities). There is also the possibility of graduating in a double degree program (within the TIME programme there are contracts with 9 universities, within the Computational Logic-Network there are 4 partner universities, the TU Vienna offers 3 bilateral double degrees with the universities of UACG Sofia, Aix-Marseille II, INSA Lyon). Furthermore, the TU Vienna supports its degree and PhD students with grants for studies abroad.
In order to be provide students with more information, the Office for International Educational Partnerships organised a fair ''Foreign study – grants for studying abroad'' at the Freihaus in the TU Vienna. Organisations offering grants and partner universities offered advice to a large number of interested students.

"We are one of the important players when it comes to European engineers' education"

This statement made by Hans Kaiser, Rector Delegate for International Affairs, is due to the fact that there has been a substantial influx of students from abroad. About 22 % of the TU students do not have an Austrian citizenship. Furthermore 667 exchange students spent one or two semesters at the TU Vienna. Furthermore, about 370 participants from over 40 countries registered for postgraduate university programmes (in 2008. The number of participants increased by more than 100 alone during the past year from about 250 (winter semester 2007/2008). Furthermore, the programmes also benefit from the fact that students come from different international backgrounds (e.g., China, Great Britain, Guatemala, Canada, Japan, Ukraine, USA, Saudi Arabia).
A Professional MBA Automotive Industry was introduced in 2008. This course involves close collaboration with the TU Bratislava and Vienna Region Automotive Cluster. It is scheduled to start in spring 2009.

Services

The core processes of research and teaching require support processes. The spectrum at the TU Vienna ranges from the Information Technology Services to the Library, Facility Management right through to traditional "administration". The TU Vienna meets its social responsibilities with other services, the Continuing Education Center or Technology Transfer, for instance. Important new initiatives were made in 2008 in order to be able to meet future challenges:

Investment management. Functional requirements and modalities of grant programmes such as COMET result in company formations and investments by the TU Vienna. This area was systematically overhauled in 2008. The establishment of the "Technische Versuchs- und Forschungsanstalt" (TVFA) as TVFA GmbH as at the 1st of October 2008 is clear evidence of the success of this work.

Library. Despite networking and digitalisation, books and magazines have not become obsolete. A project was started in 2008 which aims to optimise the supply of literature to academics and students. Stock at the institutes is the primary concern, where the same service quality (accessibility, opening hours) on offer in the main library and departmental libraries cannot be found.

Image analysis. A representative image analysis was conducted for the first time in 2008 which certified that the TU Vienna had a high degree of brand awareness (unaided 18% of the Austrian population).

Photo: TU Vienna

Experts from politics, business and science were interviewed. The TU Vienna was attested in the international comparison throughout positive achievements in research and teaching.

Cost-earnings accounting. The newly developed cost-earnings accounting was conducted with retroactive effect for 2007 and adjustments were made to enable certification for the EU Framework Programme. This forms the requirement for overhead payments.

HR development. In 2008, a task group was commissioned with reviewing and defining the subject area of HR from the point of view of the TU Vienna (including assets and needs assessment) and devising a solution concept. A training and further education catalogue as well potential needs in the areas of sponsorship and team/organisational development was prepared.

Quality management. A task group also dealt with the subject of quality management. A framework for quality management in the areas of research, teaching and services was devised alongside a criteria checklist.

Accounting. The abrupt conversion from governmental accounting to double-entry accounting via SAP was over all successfully managed. In 2008, any problems which had arisen were fine-tuned and solved in the course of workshops conducted with bursary staff and the relevant institutes.

Student service. In 2008, the Department of Studies and Examination and its interface to the dean's offices in particular were evaluated in the course of routine evaluation of service providers. A concept for ''Student Service Centers'' was drawn up in collaboration with the participants in order to be able to offer students drop-in centre for all their concerns upon admission to the university.

TISS. At the end of 2007, the policy decision was made to integrate or release extensive parts of existing IT systems into a new development. In 2008, an IT architecture in which the sub-systems can build upon basic system functions was created as part of the ''TISS'' (''TU Vienna Information Systems and Services''). The new address book went online as the first application.

TUphone. As part of the project TUphone, the current telephone system, which has over 5,000 extension lines, will be replaced by a modern voice-over IP system in years to come.

Utilisation. The utilisation activities of the TU Vienna were evaluated in-house and checked by the Audit Court. On base of the gained knowledge, processes were optimised and an advisory board for the Technology Transfer was installed. The first phase of the reorganisation process in the research service could be concluded with this.

Continuing education. The courses ''Economics'' (in cooperation with the Institute for Higher Studies) and ''Industrial Engineering'' (in cooperation with the Wirtschaftsförderungsinstitut under the umbrella brand name ''TU-WiFi College'') were introduced for the first time in autumn 2008. Moreover, a milestone in quality management was achieved due to cluster accreditation by the FIBAA (Foundation for International Business Administration Accreditation).


3,14

Facts & Figures

The economic basis

Unlike the corresponding representation of an acquisitive company, the balance of accounts (income statement, balance sheet statement, notes) of a university only permits indirect conclusions to be drawn about the performance and work of the previous year. On the contrary, the financial framework available and the considered handling of scarce resources are displayed. The Vienna University of Technology is also well-positioned in 2008 and can build on a secure financial basis. However, the negative overall result illustrates the very weak financial support lent to the TU Vienna by public sector bodies. Additional research funds including those from private organisations support services which the TU Vienna can show for 2008. Direct financing by the federal state only forms a weak basis and is very marginal when compared with technical universities abroad.

Staff

Approximately 1,380 full time equivalents were accounted as academic personnel in 2004, approx. 1,650 at the end of 2008 although teaching staff had been included in this number in 2004. Thus, the number of full time equivalents rose by about 70 compared with the previous year (2007). An increase which is primarily due to the project area receiving external financing and thus reflects the success of the TU Vienna in its relations with sponsors and companies.

Investments

The investment holdings of the TU Vienna were in many cases timeworn with the onset of autonomy in 2004 and did not always conform to the safety regulations which now apply to universities. For this reason, the TU Vienna invested considerable resources in recent years in furnishing all its lecture theatres and scientific equipment. Investments of almost 26 million Euro were realised in 2008.

TU Univercity 2015

An exemplary project for modernising and partially rebuilding the spatial infrastructure was launched with the decision of the TU Vienna to remain at its inner-city location. After this project has been implemented, funds can be increasingly invested in modernising the equipment and in the human capital of scientific facilities.

Externally-financed project research

The TU Vienna was particularly successful in obtaining external financing for its research activity in 2008. The area therefore shows a nearly balanced result, which reflects the large number of research projects which have been recently launched but not yet settled. Overall, this area makes a significant contribution to academic performance and teaching at the TU Vienna. Thus, almost 80% of publications at the TU Vienna are produced by external funded staff. This area shows a balanced to slightly positive result and therefore does not contribute significantly to the overall result, but enables the TU Vienna to continually provide services.

UNIVERSITY MANAGEMENT

RECTOR

Univ.Prof. DI Dr.techn. Peter SKALICKY

VICE RECTORS

Hon.Prof. Ass.Prof. DI Dr.techn. Gerhard SCHIMAK
Vice Rector for Infrastructure and Development

Univ.Prof. DI Dr.techn. Sabine SEIDLER
Vice Rector for Research

Univ.Prof. DI Dr.techn. Adalbert PRECHTL
Vice Rector for Academic Affairs

Mag.rer.soc.oec. Dr.rer.soc.oec.
Paul JANKOWITSCH
Vice Rector for Finances and Controlling

Univ.Prof. Dr.phil. Hans Karl KAISER
Rector Delegate for International Affairs
(not a member of the rectorate - according to University Act 2002)

DEANS

Univ.Prof. Arch. Dipl.-Ing. Dr.techn. Klaus SEMSROTH
Faculty of Architecture and Planning

Univ.Prof. Dipl.-Ing. Dr.techn. Josef EBERHARDSTEINER
Faculty of Civil Engineering

O.Univ.Prof. Dr.phil. Emmerich BERTAGNOLLI
Faculty of Electrical Engineering and Information Technology

Ao.Univ.Prof. Dr.phil. Gerald STEINHARDT
Faculty of Informatics

O.Univ.Prof. Dipl.-Ing. Dr.techn. Bruno GRÖSEL
Faculty of Mechanical and Industrial Engineering

Univ.Prof. Dr.phil. Dietmar DORNINGER
Faculty of Mathematics and Geoinformation

Univ.Prof. Dipl.-Ing. Dr.techn. Gerald BADUREK
Faculty of Physics

Univ.Prof. Dipl.-Ing. Dr.techn. Johannes FRÖHLICH
Faculty of Technical Chemistry

SENATE

Chairman

Univ.Prof. Dr.iur. Franz ZEHETNER

Deputy Chairpersons

1. Univ.Prof. DI Dr.techn. Helmut KROISS
2. Univ.Ass. DI Dr.techn. Monika LANZENBERGER
3. Ines LEOBNER

UNIVERSITY COUNCIL

Term February 2003 – February 2008

DI Othmar PÜHRINGER (Chairman)
DI Dr. Boris NEMSIC
DI Albert HOCHLEITNER
DI Dr. h.c. Helmut KRÜNES
Dkfm. Dr. Siegfried SELLITSCH

Term March 2008 – February 2013

Dkfm. Dr. Siegfried SELLITSCH (Chairman)
DI Dr.h.c. Albert HOCHLEITNER
Univ.Prof. DI Dr. Johannes KHINAST
DI Othmar PÜHRINGER
Prof. Dr. Anke PYZALLA
Dr. Hannelore SEXL

Balance Sheet 2008

Source: Balance of Account. Period of date: 31.12.2008, Difference in Limits by Rounding

Assets		Amount €	Liabilities		Amount €
Fixed assets		**79.771.249**	**Equity capital**		**58.559.042**
Intangible assets	261.968		Free equity capital	-9.741.928	
Tangible assets	69.516.463		Prudential reserves	45.149.000	
Financial assets	€ 9.992.817		Specific capital	23.151.970	
Current assets		**142.153.650**	**Investment grants**		**5.580.992**
Inventories	€ 69.199.759		**Reserves**		**35.592.010**
Accounts receivables/ other	€ 27.970.269		Settlements on dismissals	5.103.500	
Cash and bank account	€ 44.983.622		Pensions	1.901.710	
Accruals		**1.169.964**	Other	28.586.800	
			Liabilities		**100.235.980**
			Down payments received	83.399.531	
			Other	16.836.450	
			Deferrals		**23.126.838**
Balance sheet total		**223.094.863**	**Balance sheet total**		**223.094.863**

Balance Sheet 2007

Source: Balance of Account. Period of date: 31.12.2007, Difference in Limits by Rounding

Assets		Amount €	Liabilities		Amount €
Fixed assets		**69.331.568**	**Equity capital**		**60.325.920**
Intangible assets	215.269		Free equity capital	-17.470.543	
Tangible assets	62.463.308		Prudential reserves	49.017.000	
Financial assets	6.652.991		Specific capital	28.779.463	
Current assets		**130.450.372**	**Investment grants**		**6.145.578**
Inventories	€ 56.220.236		**Reserves**		**33.987.917**
Accounts receivables/ other	€ 9.582.008		Settlements on dismissals	5.905.500	
Cash and bank account	€ 64.648.128		Pensions	1.247.017	
Accruals		**617.498**	Other	26.835.400	
			Liabilities		**79.025.782**
			Down payments received	65.140.622	
			Other	13.885.160	
			Deferrals		**20.914.240**
Balance sheet total		**200.399.438**	**Balance sheet total**		**200.399.438**

Statement of Profit and Loss

Source: Balance of Accounts. Periods of time: 01.01.2006 – 31.12.2006, 2007 and 2008
in €, Difference in Limits by Rounding

	2008	2007	2006
Gross annual receipts	236.592.945	232.058.494	198.524.616
Change in inventory	13.139.376	6.461.588	11.865.384
Capitalised service	15.558	33.560	23.642
Other income	5.320.444	3.093.428	5.334.955
Material expenditure	- 7.986.502	- 8.702.771	- 7.562.795
Personnel expenditure	- 159.791.225	- 150.007.666	- 132.176.760
Depreciations	- 18.513.853	- 15.857.895	- 13.513.691
Other expenditures	- 72.851.768	- 65.819.404	- 64.173.274
Financial income	2.872.110	2.484.764	1.904.972
Taxes	- 563.964	- 527.230	- 445.935
Profit or loss	**- 1.766.879**	**3.216.868**	**- 218.887**

Organisational units

Source: TU Vienna, ZID/ADV. Status: 31.12.2008

Number	Description	Head
Faculty of Mathematics and Geoinformation		Dietmar DORNINGER
101	Institute of Analysis and Scientific Computing	Anton ARNOLD
104	Institute of Discrete Mathematics and Geometry	Michael DRMOTA
105	Institute of Mathematical Methods in Economics	Uwe SCHMOCK
107	Institute of Statistics and Probability Theory	Reinhard VIERTL
122	Institute of Photogrammetry and Remote Sensing	Wolfgang WAGNER
127	Institute of Geoinformation and Cartography	Andreas FRANK
128	Institute of Geodesy and Geophysics	Harald SCHUH
Faculty of Physics		Gerald BADUREK
134	Institute of General Physics	Herbert STÖRI
136	Institute of Theoretical Physics	Joachim BURGDÖRFER
138	Institute of Solid State Physics	Silke BÜHLER-PASCHEN
141	Atomic Institute	Harald WEBER
Faculty of Technical Chemistry		Johannes FRÖHLICH
163	Institute of Applied Synthetic Chemistry	Heinrich GRUBER
164	Institute of Chemical Technologies and Analytics	Herbert DANNINGER
165	Institute of Materials Chemistry	Ulrich SCHUBERT
166	Institute of Chemical Engineering	Ingo MARINI
Faculty of Informatics		Gerald STEINHARDT
182	Institute of Computer Engineering	Hermann KOPETZ
183	Institute of Computer Aided Automation	Robert SABLATNIG
184	Institute of Information Systems	Thomas EITER
185	Institute of Computer Languages	Jens KNOOP
186	Institute of Computer Graphics and Algorithms	Werner PURGATHOFER
187	Institute of Design and Assessment of Technology	Ina WAGNER
188	Institute of Software Technology and Interactive Systems	A Min TJOA
195	Centre for Communikation & Coordination of the Faculty of Informatics	Gerald STEINHARDT

Number	Description	Head
Faculty of Civil Engineering		Josef EBERHARDSTEINER
202	Institute for Mechanics of Materials and Structures	Herbert MANG
203	Institute for Engineering Geology	Ewald-Hans TENTSCHERT
206	Institute for Building Construction and Technology	Ulrich SCHNEIDER
211	Institute for Structural Analysis	Helmut RUBIN
212	Institute for Structural Engineering	Johann KOLLEGGER
221	Institute for Soil Mechanics and Geotechnical Engineering	Heinz BRANDL
222	Institute for Hydraulic and Water Resources Engineering	Peter TSCHERNUTTER
226	Institute for Water Quality, Resources and Waste Management	Helmut KROISS
231	Institute for Transport Planning and Traffic Engineering	Josef Michael SCHOPF
232	Institute for Railway Engineering, Traffic Economics, and Ropeways	Norbert OSTERMANN
233	Institute for Road Construction and Maintenance	Ronald BLAB
234	Institute for Interdisciplinary Building Process Management	Hans Georg JODL
242	Civil Engineering Computer Laboratory	Josef EBERHARDSTEINER
Faculty of Architecture and Planning		Klaus SEMSROTH
251	Institute of History of Art, Building Archaeology and Restoration	Manfred WEHDORN
253	Institute of Architecture and Design	Manfred WOLFF-PLOTTEGG
259	Institute of Architectural Sciences	Georg FRANCK-OBERASPACH
260	Institute of Urban Design and Landscape Architecture	Richard STILES
264	Institute of Art and Design	Christine HOHENBÜCHLER
280	Department of Spatial Development, Infrastructure, Environmental Planning	Wolfgang FEILMAYR
290	Architecture and Planning Computer Laboratory	Günther WEHRBERGER
Faculty of Mechanical and Industrial Engineering		Bruno GRÖSEL
302	Institute for Thermodynamics and Energy Conversion	Markus HAIDER
307	Institute for Engineering Design and Logistics Engineering	Detlef GERHARD
308	Institute of Materials Science and -Technology	Hans-Peter DEGISCHER
311	Institute for Production Engineering	Dieter SCHUÖCKER
315	Institute for Internal Combustion Engines and Automotive Engineering	Bernhard GERINGER
317	Institute for Lightweight Design and Structural Biomechanics	Helmut BÖHM
322	Institute of Fluid Mechanics and Heat Transfer	Alfred KLUWICK
325	Institute of Mechanics and Mechatronics	Werner MACK
330	Institute of Management Science	Adolf STEPAN
345	Institute for Forming- and High Power Laser Technology	Dieter SCHUÖCKER
Faculty of Electrical Engineering and Information Technology		Emmerich BERTAGNOLLI
354	Institute for Microelectronics	Gottfried MAGERL
360	Institute of Solid State Electronics	Erasmus LANGER
362	Institute of Sensor and Actuator Systems	Jürgen SMOLINER
366	Institute of Electrical Drives and Machines	Michael VELLEKOOP
372	Institute of Power Systems and Energy Economics	Manfred SCHRÖDL
373	Institute of Automation and Control	Günther BRAUNER
376	Institute of Computer Technology	Andreas KUGI
384	Photonics Institute	Christoph GRIMM
387	Institute of Communication Networks	Georg REIDER
388	Institute of Communications and Radio-Frequency Engineering	Harmen R. VAN AS
389	Centre for Micro- and Nanostructures	Christoph MECKLENBRÄUKER
392	Zentrum für Mikro- und Nanostrukturen	Karl UNTERRAINER

Number	Description	Head
Central Services Departments		
010	Organisation and Coordination	Eveline URBAN
0101	Legal Department	Christina THIRSFELD
0104	Personnel Department (scientific staff)	Reinhard LAA
0105	Personnel Department (non-scientific-staff)	Werner WUNSCH
0106	Department for Studies and Examinations	Wolfgang POUSEK
010A	Bookkeeping	Eva GLATZER
010B	Department for economic affairs	Wolfgang SIMANKO
010C	Building Services Engineering	Gerald HODECEK
010F	Archive of the Vienna University of Technology	Juliane MIKOLETZKY
011	PR and Communication	Bettina NEUNTEUFL
012	Controlling	Martin KOLASSA
013	Real Estate Management	Waltraud HALA
014	Internal Audit	Walter HAJEK
0151	International Educational Cooperations	Andreas ZEMANN
0152	E-learning Centre	Franz REICHL
0154	Technology Transfer	Peter KARG
0155	EU Research Management Unit	Siegfried HUEMER
017	Continuing Education Center of the Vienna University of Technology	Hans KAISER
020	Information Technology Services (ZID)	Wolfgang KLEINERT
027	Information and Facility Management (IFM)	Alexander REDLEIN
029	Institute "integrated study" (IS-TU)	A Min TJOA
034	Coordination Centre for the Advancement of Women and Gender Studies	Brigitte RATZER
040	University Library	Peter KUBALEK
050	Cryogenic Equipment	Michael REISSNER
052	Service Institution for Transmission Electron Microscopy (USTEM)	Johannes BERNARDI
Representatives of staff and students		
092	Works Council for Scientific University Staff	Erasmus LANGER
093	Works Council for Non-Scientific University Staff	Walter WEISS
094	Working Group for Equal Treatment Issues	Juliane MIKOLETZKY
095	Union of Students	Lukas HILLE

Staff

Source: Balance of Accounts. Period of date: 31.12.08

	2008		2007		Variance	
	Heads	Full-time equivalent	Heads	Full-time equivalent	Heads	Full-time equivalent
Professors	144	142,1	148	146,6	-4	-4,5
Scientific staff	1.805	1507,0	1.689	1428,4	116	78,6
thereof project members	997	809,1	902	749,9	95	59,2
Non-scientific staff	1.008	888,7	989	879,1	19	9,6
thereof project members	74	47,4	87	62,4	-13	-15,0
Lecturers, external teaching staff	348	34,1	371	48,2	-23	-14,1
Teaching assistants	126	41,7	122	40,3	4	1,4
Tutors	441	36,3	409	34,6	32	1,7
Other personnel	54	42,2	35	29,4	19	12,8
Total	**3.926**	**2.692,1**	**3.763**	**2.606,6**	**163**	**85,5**

Number of current R&D projects and receipts financed by third parties 2008

Source: Knowledge Balance Sheet - Ref. No. III.2.2 und IV.2.5. Period of time: 2008

Client	Basic research	Applied research	Experimental development	Other	Total	Receipts in €
Federal (Ministries)	30	125	10	11	176	3.199.648
EU	54	116	7	0	177	9.973.246
FWF	174	50	7	4	235	10.091.386
Communities and Associations of Local Authorities	6	35	0	0	41	924.830
Legal representative bodies of interest	3	13	0	1	17	355.011
Province	0	43	1	8	52	791.052
Other	52	167	5	12	236	2.245.248
Other promotional bodies (FFG)	44	128	6	6	184	9.909.086
Foundations/funds	12	15	0	1	28	522.828
Companies	47	442	46	22	557	18.633.082
Total	**422**	**1.134**	**82**	**65**	**1.703**	**56.645.417**

Number of current R&D projects and receipts financed by third parties 2007

Source: Knowledge Balance Sheet - Ref. No. III.2.2 und IV.2.5. Period of time: 2007

Client	Basic research	Applied research	Experimental development	Other	Total	Receipts in €
Federal (Ministries)	26	126	8	13	173	3.558.572
EU	43	126	6	0	175	6.811.765
FWF	159	46	5	2	212	9.151.771
Communities and Associations of Local Authorities	4	33	0	1	38	876.415
Legal representative bodies of interest	2	11	0	0	13	147.763
Province	2	42	2	4	50	918.365
Other	37	148	6	5	196	2.338.012
Other promotional bodies (FFG)	33	83	3	6	125	5.515.556
Foundations/funds	11	8	0	1	20	333.724
Companies	40	397	38	17	492	17.857.191
Total	**357**	**1.020**	**68**	**49**	**1.494**	**47.509.134**

Publications

Source: Knowledge Balance Sheet - Ref. No. IV.2.2. Period of time: 2006 und 2008

Auftraggeber	2008	2007	2006
First editions of scientific reference and text books	103	111	90
First publications in SCI, SSCI or A&HCI journals	938	884	790
First publications in other scientific journals	500	525	504
First publications in collected editions	365	263	268
Proceedings	2.176	2.050	1.649
Poster contributions within the scope of international scientific conventions	654	585	544
Other scientific publications	672	587	542
Total	**5.408**	**5.005**	**4.387**

Intellectual Property

Source: TU Vienna, Technology Transfer. Period of time: 2004 – 2008

	2008	2007	2006	2005	2004
Invention announcements	36	55	58	30	40
Inventions taken-up	33	40	21	21	18
Applications for patents	42	48	36	20	14
Chartered patents	20	6	5	3	0

Innovative projects

Source: TU Vienna. Period of time: 2004 – 2008

Year	Projects	Congtribution (K €)
2004	4	313
2005	9	778
2006	10	877
2007	10	1.212
2008	12	1.600

TU cooperation centres

Source:TU Vienna. Period of time: December 2008

Jahr	Bezeichnung	Sprecher
2002/2004	CEAS – Automated Systems	Dietmar Dietrich
2002	Disaster prevention / management	Emmerich Simoncsics
2002	TU-Vienna Materials Center of Excellence	Peter Degischer
2005	TTL Technology/Tourism/Landscape	Meinhard Breiling
2005	CST – Center for Sustainable Technology	Helmut Rechberger
2007	Functional Matter	Karl Unterrainer
2008	Bionic/Bimimetics	Helmut Stachelberger
2008	CompMat – Computation of Materials	Karsten Held

CD-Laboratories

Source: TU Vienna, CDG. Period of date: May 2009

Duration	Description	Head/participation
02/2002 – 01/2009	Compilation Techniques for Embedded Processors	Andreas Krall (E185)
07/2002 – 06/2009	Design Methodology of Signal Processing Algorithms	Markus Rupp (E389)
10/2007 – 09/2014	Early Stages of Precipitation	Ernst Kozeschnik (E308)
01/2008 – 12/2014	Ferroic Materials	Jürgen Fleig (E164)
07/2002 – 06/2009	Use-behaviour oriented Optimisation of Flexible Road Pavements	Roland Blab (E233)
07/2007 – 06/2014	Surface and Interface Analytics	Herbert Hutter (E164)
01/2006 – 12/2012	Portfolio Risk Management	Uwe Schmock (E105)
12/2003 – 11/2010	Spatial Data from Laser Scanning and Remoate Sensing	Wolfgang Wagner, Josef Jansa (E122)
01/2003 – 12/2009	Technology CAD in Microelectronics	Klaus-Tibor Grasser (E360)

COMET participation

Source: performance report 2008 S. 15f, FFG. Period of date: December 2008

Type	Description	TU institutes
K2-Zentrum	MPPE	E164 Chemical Technologies and Analytics
		E317 Lightweight Design and Structural Biomechanics
K2-Zentrum	K2-Mobility-SVT	E307 Engineering Design and Logistics Engineering
K1-Zentrum	CTR	E164 Chemical Technologies and Analytics
		E366 Sensor and Actuator Systems
K1-Zentrum	K1-MET	E166 Institute of Chemical Engineering
		E226 Water Quality, Resources and Waste Management
		E308 Materials Science and -Technology
K1-Zentrum	BIOENERGY 2020+	E166 Institute of Chemical Engineering
		E315 Verbrennungskraftmaschinen und Kraftfahrzeugbau
K1-Zentrum	Wood Comet	E166 Internal Combustion Engines and Automotive Engineering
		E202 Mechanics of Materials and Structures
		E308 Materials Science and -Technology
K1-Zentrum	CEST	E164 Chemical Technologies and Analytics
		Engineering Experimental Station and Research Institute
K1-Zentrum	ftw	E354 Electrical Measurements and Circuit Design
K-Projekt	MPPF	E259 Architectural Sciences
K-Projekt	ECV	E389 Communications and Radio-Frequency Engineering
		E384 Computer Technology

Participations in FWF focus programmes

Source: TU Vienna, FWF. Period of time/date: December 2008. Remarks: italic data = approval

Type	Start	No.	Description	Head
Special research programme	01.03.1999	F14	Synchronisation of Civilizations in the Eastern Mediterranean Region in the 2nd Millenium B.C.	Manfred Bietak
Special research programme	01.03.1999	F15	Control and Measurement of Quantum Systems	Peter Zoller
Special research programme	01.04.2000	F16	Advanced Light Sources: Spectroscopy with Ultrashort Pulses – ADLIS	Joachim Burgdörfer
Special research programme	01.03.2005	F25	Infrared Optical Nanostructures – IR-ON	Karl Unterrainer
National Research Network	01.12.2003	S90	Nanoscience on Surfaces	
National Research Network	15.12.2003	S91	Cognitive Vision - Key Technology for Personal Assistance	Markus Vincze
National Research Network	01.04.2005	S92	Cognitive Vision - Key Technology for Personal Assistance	
National Research Network	01.01.2006	S96	Analytic Combinatorics and Probabilistic Number Theory	Michael Drmota
National Research Network	03.12.2007	S104	Massive High-performance Nano-materials	
National Research Network	03.12.2007	S106	Signal and Information Processing in Science and Engineering	
Doctoral programme	01.04.1999	W4	Computer-aided Theoretical Material Research	Jürgen Hafner
Doctoral programme	01.03.2001	W8	Differential Equation Models in Science and Technology	Christian Schmeiser
Doctoral programme	01.10.2007	W1210	CoQus – Complex Quantum Systems	Markus Arndt
Doctoral programme	*24.11.2008*	W1219	NEW: Water supply Systems	Günter Blöschl

Students 2008

Source: Knowledge Balance Sheet - Ref. No. III.1.5. Period of time: Winter semester 2008/09

	Total	Men	Women	Percentage
Austria	15.556	11.945	3.611	**76,7%**
EU	2.173	1.492	681	**10,7%**
Third countries	2.554	1.782	772	**12,6%**
	20.283	**15.219**	**5.064**	**100,0%**
Percentage	**100,0%**	**75,0%**	**25,0%**	

Students 2007

Source: Knowledge Balance Sheet - Ref. No. III.1.5. Period of time: Winter semester 2007/08

	Total	Men	Women	Percentage
Austria	15.132	11.708	3.424	**77,8%**
EU	1.951	1.345	606	**10,0%**
Third countries	2.371	1.652	719	**12,2%**
	19.454	**14.705**	**4.749**	**100,0%**
Percentage	**100,0%**	**75,6%**	**24,4%**	

Students in first semester 2008

Source: Knowledge Balance Sheet - Ref. No. III.1.5. Period of time: Winter semester 2008/09

	Total	Men	Women	Percentage
Austria	2.467	1.707	760	**70,4%**
EU	642	408	234	**18,3%**
Third countries	394	254	140	**11,2%**
	3.503	**2.369**	**1.134**	**100,0%**
Percentage	**100,0%**	**67,6%**	**32,4%**	

Students in first semester 2007

Source: Knowledge Balance Sheet - Ref. No. III.1.5. Period of time: Winter semester 2007/08

	Total	Men	Women	Percentage
Austria	2.421	1.709	712	**71,4%**
EU	607	398	209	**17,9%**
Third countries	362	240	122	**10,7%**
	3.390	**2.347**	**1.043**	**100,0%**
Percentage	**100,0%**	**69,2%**	**30,8%**	

Curricula

Source: TU Vienna, Department for Studies and Examinations. Period of date: 01.10.2008

Ref. No.	Type	Description	Semester	In force	Degree
033.202	Bachelor	Mathematics in Science and Technology	6	WS 06/07	BSc.
033.203	Bachelor	Statistics and Mathematics in Economics	6	WS 06/07	BSc.
033.204	Bachelor	Mathematics in Computer Science	6	WS 06/07	BSc.
033.205	Bachelor	Financial and Actuarial Mathematics	6	WS 06/07	BSc.
033.221	Bachelor	Geodesy and Geomatics Engineering	6	WS 05/06	BSc.
033.261	Bachelor	Technical Physics	6	WS 06/07	BSc.
033.265	Bachelor	Civil Engineering and Management of Infrastructure	6	WS 05/06	BSc.
033.290	Bachelor	Technical Chemistry	6	WS 06/07	BSc.
033.522	Bachelor	Computer Management	6	WS 03/04	Bakk.
033.526	Bachelor	Business Informatics	6	WS 06/07	BSc.
033.531	Bachelor	Data Engineering and Statistics	6	WS 06/07	BSc.
033.532	Bachelor	Media Informatics	6	WS 06/07	BSc.
033.533	Bachelor	Medical Informatics	6	WS 06/07	BSc.
033.534	Bachelor	Software and Information Engineering	6	WS 06/07	BSc.
033.535	Bachelor	Technical Informatics	6	WS 06/07	BSc.
033.235	Bachelor	Electrical Engineering	6	WS 03/04	BSc.
033.240	Bachelor	Regional Planning and Development	6	WS 05/06	BSc.
033.243	Bachelor	Architecture	6	WS 05/06	BSc.
033.245	Bachelor	Mechanical Engineering	6	WS 06/07	BSc.
033.273	Bachelor	Chemical and Process Engineering	6	WS 06/07	BSc.
033.282	Bachelor	Mechanical Engineering - Management	6	WS 06/07	BSc.
066.011	Master	Computational Logic (Erasmus Mundus)	4	WS 05/06	Dipl.-Ing.
066.400	Master	Mathematics	4	WS 06/07	Dipl.-Ing.
066.401	Master	Statistics	4	WS 06/07	Dipl.-Ing.
066.402	Master	Mathematics in Science and Technology	4	WS 06/07	Dipl.-Ing.
066.403	Master	Mathematics in Economics	4	WS 06/07	Dipl.-Ing.
066.404	Master	Mathematics in Computer Science	4	WS 06/07	Dipl.-Ing.
066.405	Master	Financial and Actuarial Mathematics	4	WS 06/07	Dipl.-Ing.
066.434	Master	Materials Sciences	4	WS 06/07	Dipl.-Ing.
066.435	Master	Energy Engineering	4	WS 03/04	Dipl.-Ing.
066.436	Master	Automation Technology	4	WS 03/04	Dipl.-Ing.
066.437	Master	Telecommunication	4	WS 03/04	Dipl.-Ing.
066.438	Master	Computer Technology	4	WS 03/04	Dipl.-Ing.
066.439	Master	Microelectronics	4	WS 03/04	Dipl.-Ing.
066.440	Master	Regional Planning and Development	4	WS 05/06	Dipl.-Ing.
066.443	Master	Architecture	4	WS 05/06	Dipl.-Ing.
066.444	Master	Building Science And Technology	4	WS 05/06	Dipl.-Ing.
066.445	Master	Mechanical Engineering	4	WS 06/07	Dipl.-Ing.
066.453	Master	**NEW: Biomedical Engineering**	4	WS 08/09	Dipl.-Ing.
066.460	Master	Physical Energy and Measurement Engineering	4	WS 06/07	Dipl.-Ing.
066.461	Master	Technical Physics	4	WS 06/07	Dipl.-Ing.
066.462	Master	Survey and Land Registration	4	WS 05/06	Dipl.-Ing.
066.463	Master	Geodesy and Geophysics	4	WS 05/06	Dipl.-Ing.
066.464	Master	Geomatics Engineering and Cartography	4	WS 05/06	Dipl.-Ing.
066.465	Master	Civil Engineering - Structural Engineering	4	WS 05/06	Dipl.-Ing.
066.466	Master	Civil Engineering - Building Management and Geoengineering	4	WS 05/06	Dipl.-Ing.

Ref. No.	Type	Description	Semester	In force	Degree
066.467	Master	Civil Engineering - Infrastructure Planning and Management	4	WS 05/06	Dipl.-Ing.
066.473	Master	Chemical and Process Engineering	4	WS 06/07	Dipl.-Ing.
066.482	Master	Mechanical Engineering - Management	4	WS 06/07	Dipl.-Ing.
066.491	Master	Technical Chemistry - Synthesis	4	WS 06/07	Dipl.-Ing.
066.492	Master	Technical Chemistry - Materials Technology and Materials Analytics	4	WS 06/07	Dipl.-Ing.
066.493	Master	Technical Chemistry - Materials Chemistry	4	WS 06/07	Dipl.-Ing.
066.494	Master	Technical Chemistry - Chemical Process Engineering	4	WS 06/07	Dipl.-Ing.
066.495	Master	Technical Chemistry - Biotechnology and Bioanalytics	4	WS 06/07	Dipl.-Ing.
066.922	Master	Computer Management	2	WS 03/04	Mag.
066.926	Master	Business Informatics	4	WS 06/07	Dipl.-Ing.
066.931	Master	Computational Intelligence	4	WS 06/07	Dipl.-Ing.
066.932	Master	Computer Graphics & Digital Image Processing	4	WS 06/07	Dipl.-Ing.
066.933	Master	Information and Knowledge Management	4	WS 06/07	Dipl.-Ing.
066.935	Master	Media Informatics	4	WS 06/07	Dipl.-Ing.
066.936	Master	Medical Informatics	4	WS 06/07	Dipl.-Ing.
066.937	Master	Software Engineering and Internet Computing	4	WS 06/07	Dipl.-Ing.
066.938	Master	Technical Informatics	4	WS 06/07	Dipl.-Ing.
066.939	Master	Business Engineering and Computer Science	4	WS 01/02	Dipl.-Ing.
190.406	Teacher Trainer	Mathematics	9	WS 01/02	Mag.
190.407	Teacher Trainer	Descriptive Geometry	9	WS 01/02	Mag.
190.412	Teacher Trainer	Physics	9	WS 01/02	Mag.
190.423	Teacher Trainer	Chemistry	9	WS 01/02	Mag.
190.884	Teacher Trainer	Informatics and Informatics Management	9	WS 00/01	Mag.
084	Doctorate	Science of Social and Economic Affairs	6	WS 06/07	Dr.
086	Doctorate	Technical Sciences	6	WS 06/07	Dr.
091	Doctorate	Natural Sciences	6	WS 06/07	Dr.

Deaneries for Academic Affairs

Field of studies group	Dean for Academic Affairs	Assistant Dean for Academic Affairs
Architektur	Christian KÜHN	Helmut SCHRAMM, Michael SURBÖCK
Bauingenieurwesen	Andreas KOLBITSCH	Helmut RECHBERGER
Elektrotechnik	Heinrich PANGRATZ	Manfred SCHRÖDL
Geodäsie und Geoinformation	Georg GARTNER	Rainer MLITZ
Informatik und Informatikmanagement	Rudolf FREUND	Gerald FUTSCHEK, Gernot SALZER
Maschinebau und Wirtschaftsingenieurwesen-Maschinenbau	Kurt MATYAS	Markus HAIDER
Materialwissenschaften	Ewald BENES	
Raumplanung und Raumordnung	Arthur KANONIER	Christian KÜHN
Technische Chemie	Peter GÄRTNER	Hermann HOFBAUER
Technische Mathematik	Rainer MLITZ	Günther KARIGL
Technische Physik	Ewald BENES	Helmut LEEB
Verfahrenstechnik	Hermann HOFBAUER	Peter GÄRTNER
Weiterbildung	Hans KAISER	Bob MARTENS
Wirtschaftsinformatik	Hannes WERTHNER	Hilda TELLIOGLU

Degree programmes 2008/2009

Source: BMWF/uni:data. Period of time/date: Winter semester 2008/2009

Field of studies group	Bachelor	Master	Diploma	Total
Architecture	2.196	199	1.442	3.837
Civil Engineering	652	51	496	1.199
NEW: Biomedical Engineering		**39**		**39**
Computational Logic (Erasmus Mundus)		22		22
Electronical Engineering	1.475	195	214	1.884
Individual Studies	3	3	24	30
Informatics	4.542	1.114	12	5.668
Informatics Management	215	494		709
Teacher Training Programmes			596	596
Mechanical Engineering	632	50	628	1.310
Material Sciences		9		9
Regional Planning and Development	461	43	172	676
Technical Chemistry	385	53	262	700
Technical Mathematics	602	15	527	1.144
Technical Physics	563	18	599	1.180
Chemical and Process Engineering	163	2	138	303
Surveyin and Geoinformation	151	9	94	254
Actuarial Mathematics	22	7		29
Business Informatics	894	292		1.186
Industrial Engineering - Management	615	26	469	1.110
	13.571	**2.641**	**5.673**	**21.885**
Doctoral Programmes				**1.756**
				23.641

Degree programmes 2007/2008

Source: BMWF/uni:data. Period of time/date: Winter semester 2008/2009 (final data)

Field of studies group	Bachelor	Master	Diploma	Total
Architecture	1.734	93	1.799	3.626
Civil Engineering	530	20	642	1.192
Computational Logic (Erasmus Mundus)		16		16
Electronical Engineering	1.227	119	538	1.884
Individual Studies	1	2	28	31
Informatics	4.260	986	489	5.735
Informatics Management	192	463		655
Teacher Training Programmes			595	595
Mechanical Engineering	478	24	775	1.277
Material Sciences		6		6
Regional Planning and Development	356	18	216	590
Technical Chemistry	279	20	367	666
Technical Mathematics	430	13	663	1.106
Technical Physics	421	9	731	1.161
Chemical and Process Engineering	121	1	165	287
Surveyin and Geoinformation	117	7	118	242
Actuarial Mathematics	32	10		42
Business Informatics	730	287	261	1.278
Industrial Engineering - Management	440	17	569	1.026
	11.348	**2.111**	**7.956**	**21.415**
Doctoral Programmes				**1.772**
				23.187

Average length of study

Source: Knowledge Balance Sheet - Ref. No. III.1.3. Period of time: Academic years 2004/05 until 2007/08

Type of study	2007/08	2006/07	2005/06	2004/05
Bachelor	8,8	9,0	8,6	7,6
Master	4,3	3,8	3,9	3,2
Diploma	15,1	14,3	14,1	14,3

Students taking exams 2008

Source: Knowledge Balance Sheet - Ref. No. III.1.6. Period of time: Academic year 2007/08

	Total	Men	Women	Percentage
Austria	9.722	7.425	2.297	**78,6%**
Abroad	2.641	1.722	919	**21,4%**
	12.363	9.147	3.216	**100,0%**
Percentage	**100,0%**	**74,0%**	**26,0%**	

Students taking exams 2007

Period of time: Academic year 2006/07

	Total	Men	Women	Percentage
Austria	9.243	7.138	2.105	**78,6%**
Abroad	2.516	1.688	828	**21,4%**
	11.759	8.826	2.933	**100,0%**
Percentage	**100,0%**	**75,1%**	**24,9%**	

Completions of studies 2008

Source: Knowledge Balance Sheet - Ref. No. IV.1.1. Period of time: Academic year 2007/08

Type of study	Total	Men	Women	Domestic	Abroad
Bachelor	576	476	100	465	111
Master	420	350	70	343	77
Diploma	699	478	221	601	98
Doctorate	242	196	46	181	61
	1.937	**1.500**	**437**	**1.590**	**347**
Percentage	**100,0%**	**77,4%**	**22,6%**	**82,1%**	**17,9%**

Completions of studies 2007

Period of time: Academic year 2006/07

Type of study	Total	Men	Women	Domestic	Abroad
Bachelor	516	417	99	428	88
Master	330	278	52	297	33
Diploma	715	546	169	601	114
Doctorate	203	158	45	150	53
	1.764	**1.399**	**365**	**1.476**	**288**
Percentage	**100,0%**	**79,3%**	**20,7%**	**83,7%**	**16,3%**

Several semesters post-graduate university training courses

Source: TU Vienna, WBZ. Period of date: End 2008 (*italic data:* not accomplished in winter semester 2008/09)

Ref. No.	Description	Completion	Semester	ECTS	Language	Costs in €
E992.132	Engineering Management	MSc	3	90	Englisch	19.500
E992.155	Immobilienmanagement und Bewertung	MSc	4	120	Englisch	16.500
E992.172	*Building Science and Technology*	*MSc*	*4*	*75*	*Englisch*	*9.350*
E922.179	Renewable Energy in Central and Eastern Europe	MSc	4	90	Englisch	17.500
E992.173	Urban Wood	MSc	3	120	Englisch	10.000
E992.151	Environmental Technology and International Affairs	MSc	4	120	Englisch	20.000
E992.907	Economics	MSc	4	120	Englisch	1.800
E992.556	General Management	MBA	4	90	Engl./Dt.	20.900
E992.587	Entrepreneurship and Innovation	MBA	4	90	Englisch	25.000
E992.501	Facility Management	MBA	4	90	Engl./Dt.	19.500
E992.625	Mergers and Acquisitions	MBA	3	66	Englisch	28.000
E992.187	*Automotive Industry*	*MBA*	*4*	*90*	*Englisch*	*20.000*
E992.627	*Regulation*	*MBA*	*3*	*94*	*Englisch*	*28.000*

Bologna-Implemenation

Source: uni:data (Request: May 2009). Period of time: 2001 until 2008

Year	2008	2007	2006	2005	2004	2003	2002	2001
Key date	11.02.2009	11.02.2008	28.02.2007	28.02.2006	28.02.2006	28.02.2004	28.02.2003	28.02.2002
Bachelor	13.571	11.348	9.192	6.665	4.959	4.152	2.680	1.387
Master	2.641	2.111	1.557	922	387	137	29	5
Diploma	5.397	7.681	9.262	11.291	12.749	13.619	14.345	15.983
Doctorate	1.756	1.772	1.617	1.459	1.307	1.275	1.283	1.362
	23.365	**22.912**	**21.628**	**20.337**	**19.402**	**19.183**	**18.337**	**18.737**
Bachelor/Master vs. Diploma	**75,0%**	**63,7%**	**53,7%**	**40,2%**	**29,5%**	**24,0%**	**15,9%**	**8,0%**

Premises 2008

Source: Knowledge Balance Sheet - Ref. No. II.2.11, GUT. Period of date: 31.12.2008

Building	Building Code	net external area	Percentage (net external area)	Floor space	Percentage (floor space)
Karlsplatz	A* + E*	50.550,7	18,2%	34.657,6	18,2%
Getreidemarkt	B*	49.392,6	17,8%	32.165,9	16,9%
Gußhaus/Favoritenstraße	C* + H	53.671,1	19,3%	34.441,7	18,1%
Freihausgründe	D*	85.360,8	30,8%	59.460,7	31,2%
Rest		38.446,5	13,9%	29.803,0	15,6%
		277.421,7	**100,0%**	**190.529,0**	**100,0%**

Premises 2007

Period of date: 31.12.2007

Building	Building Code	Area	Net floor space	Percentage
Karlsplatz	A* + E*	50.424,6	35.227,3	18,5%
Getreidemarkt	B*	49.393,6	32.250,6	17,0%
Gußhaus/Favoritenstraße	C* + H	53.407,1	34.218,0	18,0%
Freihausgründe	D*	85.328,9	59.432,9	31,3%
Rest		**37.393,1**	**29.007,1**	**15,3%**
		275.947,3	**190.135,9**	**100,0%**

Mobility of staff and studies 2008

Source: See below. Period of time: See below

	Persons	previous year	Source	Period of time/date
outgoing/staff	180	216	Knowledge Balance Sheet - Ref. No. II.1.5	2008
incoming/staff	349	348	Knowledge Balance Sheet - Ref. No. II.1.6	2008
outgoing/students	235	235	Knowledge Balance Sheet - Ref. No. III.1.8	winter semester 2008/09
incoming/students	453	398	Knowledge Balance Sheet - Ref. No. III.1.9	winter semester 2008/09
Completions with stay abroad	304	254	Knowledge Balance Sheet - Ref. No. IV.1.2	academic year 2007/08

Mobility of staff and studies 2007

Source: See below. Period of time: See below

	Persons	previous year	Source	Period of time/date
outgoing/staff	216		Knowledge Balance Sheet - Ref. No. II.1.5	2007
incoming/staff	348		Knowledge Balance Sheet - Ref. No. II.1.6	2007
outgoing/students	235		Knowledge Balance Sheet - Ref. No. III.1.8	winter semester 2007
incoming/students	398		Knowledge Balance Sheet - Ref. No. III.1.9	winter semester 2007
Completions with stay abroad	254		Knowledge Balance Sheet - Ref. No. IV.1.2	academic year 2006/07

Women 2008

Source: See below. Period of time: See below

	Total	Women	Percentage	previous year	Source: Knowledge Balance Sheet	Period of date
Scientific staff (Full-time equivalent)	2.036,7	364,1	17,9%	17,3%	Ref. No. II.1.1	31.12.2008
Non-scientific staff (Full-time equivalent)	849,4	416,7	49,1%	48,1%	Ref. No. II.1.1	31.12.2008
Appointments	11	2	18,2%	0,0%	Ref. No. II.1.3	2008
Habilitations	22	2	9,1%	9,5%	Ref. No. II.1.2	2008
First semester students	3.503	1.134	32,4%	30,8%	Ref. No. III.1.5	WS 2008/09
Students	20.283	5.064	25,0%	24,4%	Ref. No. III.1.5	WS 2008/09
Students taking exams	12.363	3.216	26,0%	24,9%	Ref. No. III.1.6	WS 2008/09
Completions of studies	1.937	437	22,6%	20,7%	Ref. No. IV.1.1	academic year 2007/08
Students outgoing	235	72	30,6%	31,9%	Ref. No. III.1.8	WS 2008/09
Students incoming	453	166	36,6%	39,7%	Ref. No. III.1.9	WiS 2008/09

Appointments

Source: Knowledge Balance Sheet - Ref. No. II.1.3, Performance Report 2008 p. 9. Period of time: 2008

Commencement of duties	Name	Subject	Institute
01.01.2008	Michael Weigand	Engineering Design	Engineering Design and Logistics Engineering
01.02.2008	Alexia Fürnkranz-Prskawetz	Economics of Maths	Mathematical Methods in Economics
01.03.2008	Ernst Kozeschnik	Materials	Materials Science and -Technology
01.03.2008	Rudolf Scheuvens	Regional Spatial Development and Urban Development Planning	Spatial Development, Infrastructure, Environmental Planning
01.03.2008	Karsten Held	Computational Materials Science	Solid State Physics
01.03.2008	Anton Rebhan	Theoretical Physics	Theoretical Physics
01.07.2008	Christian Bauer	Fluid-Flow Machinery	Thermodynamics and Energy Conversion
07.07.2008	Christoph Herwig	Biochemical Engineering	Chemical Engineering
01.09.2008	Norbert Görtz	Multimedia-based Signal Processing	Communications and Radio-Frequency Engineering
01.10.2008	Ulrich Schmid	Microsystems Technology	Sensor and Actuator Systems
01.11.2008	Sibylla Zech	Regional Planning and Regional Development	Spatial Development, Infrastructure, Environmental Planning

Habilitations

Source: Knowledge balance sheet - Ref. No. II.1.2. Period of time: 2008

Name	Subject	Institute
Franz Rottensteiner	Photogrammetry	Photogrammetry and Remote Sensing
Stefan Woltran	Information Systems	Information Systems
Ilse Gebeshuber	Experimental Physics	General Physics
Matthias Dehmer	Applied Discrete Mathematics	Discrete Mathematics and Geometry
Johannes Leitner	Mathematical Methods in Economics	Mathematical Methods in Economics
Doris Behrens	Operations Research	Mathematical Methods in Economics
Michael Eisterer	Solid State Physics	Atomic Institute
Thomas Daxner	Lightweight Design	Lightweight Design and Structural Biomechanics
Alexander Wilkie	General Informatik	Computer Graphics and Algorithms
Peter Burgholzer	non-destructive testing	Materials Science and -Technology
Sandford Bessler	Applied Informatik	Computer Languages
Friedrich Hubalek	Applied Mathematics	Mathematical Methods in Economics
Allan George Hanbury	General Informatik	Computer Aided Automation
Johannes Böhm	Geodetical Space Process	Geodesy and Geophysics
Wilfried Elmenreich	Computer Engineering	Computer Engineering
Shuhei Yoshida	Theoretical Physics	Theoretical Physics
Takeshi Shirabe	Geoinformation and Cartography	Geoinformation and Cartography
Sebastiaan Augustinus Terwijn	Mathematical Logic and Theoretical Computer Science	Institute of Discrete Mathematics and Geometry
Heimo Walter	Applied Thermodynamics	Thermodynamics and Energy Conversion
Michael Wimmer	Praktische Informatik	Computergrafik und Algorithmen

Partner universities

Source: TU Vienna - educational cooperations. Status: May 2009

No.	University	Country
1.	ASEA (Network with 19 universities)	Thailand, Indonesia, Vietnam
2.	Universidad Nacional Del Santa, Buenos Aires	Argentina
3.	Federal University of Rio Grande do Sul	Brazil
4.	Polytechn. Staatsakademie	Belarus
5.	Belarussian State University	Belarus
6.	Waterloo University, Toronto	Canada
7.	Universidad de Concepción	Chile
8.	Universidad de Magallanes, Punta Arenas	Chile
9.	Universidad Técnica Federico Santa Maria, Valparaiso	Chile
10.	Xi'An Jiaotong University	China
11.	Tongji University, Shanghai	China
12.	**NEW: University of Havanna**	**Cuba**
13.	**NEW: José Antonio Echeverría Higher Technical University**	**Cuba**
14.	Universidad Nacional de Colombia, Bogota	Colombia
15.	TU Brünn	Czech Republic
16.	Karls Universität Prag	Czech Republic
17.	TU Prag	Czech Republic
18.	RWTH Aachen	Germany
19.	TU Dresden	Germany
20.	TU München	Germany
21.	TU Illmenau	Germany
22.	Universidad de Alicante	Spain
23.	Escuela Politecnica Nacional, Quito	Ecuador
24.	South Valley University, Qena	Ecuador
25.	Suez Canal University, Ismailia	Egypt
26.	TU Budapest	Hungary
27.	Universität Zagreb	Croatia
28.	Ochanomizu University	Japan
29.	University of Tokyo	Japan
30.	Aoyama Gakuin University	Japan
31.	Seoul National University	Korea
32.	Korea Advanced Institute of Science and Technology, Tae Jon	Korea
33.	Pusan National University	Korea
34.	Changwong National University	Korea
35.	**NEU: Vilnius Gediminas Technical University**	**Lithuania**
36.	**NEU: Mongolian University of Science and Technology**	**Mongolia**
37.	TU Krakau	Poland
38.	Politec. Warschau	Poland
39.	Moscow State Open University	Russia
40.	Moscow State Institute of Radioengineering, Electronics and Automation (MIREA)	Russia

No.	University	Country
41.	TU Perm	Russia
42.	Tomsk Polytechnic University	Russia
43.	Kaliningrad State University	Russia
44.	Technical University Cluj-Napoca (Klausenburg)	Romania
45.	**NEW: Novi Sad University**	**Serbia**
46.	University of Prishtina	Kosovo
47.	**NEW: University of Nis**	**Serbia**
48.	King Abdulaziz City for Science and Technology (KACST)	Saudi Arabia
49.	TU Helsinki	Finland
50.	TU Bratislava	Slovakia
51.	TU Kosice	Slovakia
52.	University of Zilina	Slovakia
53.	Yildiz Technical University, Istanbul	Turkey
54.	**NEW: National Taipeh University of Technology**	**Taiwan**
55.	National Taiwan University of Science and Technology	Taiwan
56.	National Chung Cheng University	Taiwan
57.	Kiewer Polytechnische Hochschule	Ukraine
58.	Lviv Polytechnical State University	Ukraine
59.	Odessa State Polytechnic University	Ukraine
60.	University of Strathclyde	Great Britain
61.	New York City University	USA
62.	Oakland University, Rochester, Michigan	USA
63.	University of North Carolina, Charlotte	USA
64.	University of Hawaii	USA
65.	University of Pretoria	South Africa

Published by
Vienna University of Technology
Karlsplatz 13, 1040 Vienna
http://www.tuwien.ac.at

Responsible for content:
PR & Communication
Operng. 11/011, 1040 Vienna
T. +43/1/58801-41020
F. +43/1/58801-41093
pr@tuwien.ac.at
http://www.tuwien.ac.at/pr
Technische Universität Wien
Karlsplatz 13, 1040 Wien
http://www.tuwien.ac.at

Layout: typothese.at
Printed by
Resch KEG, 1150 Vienna