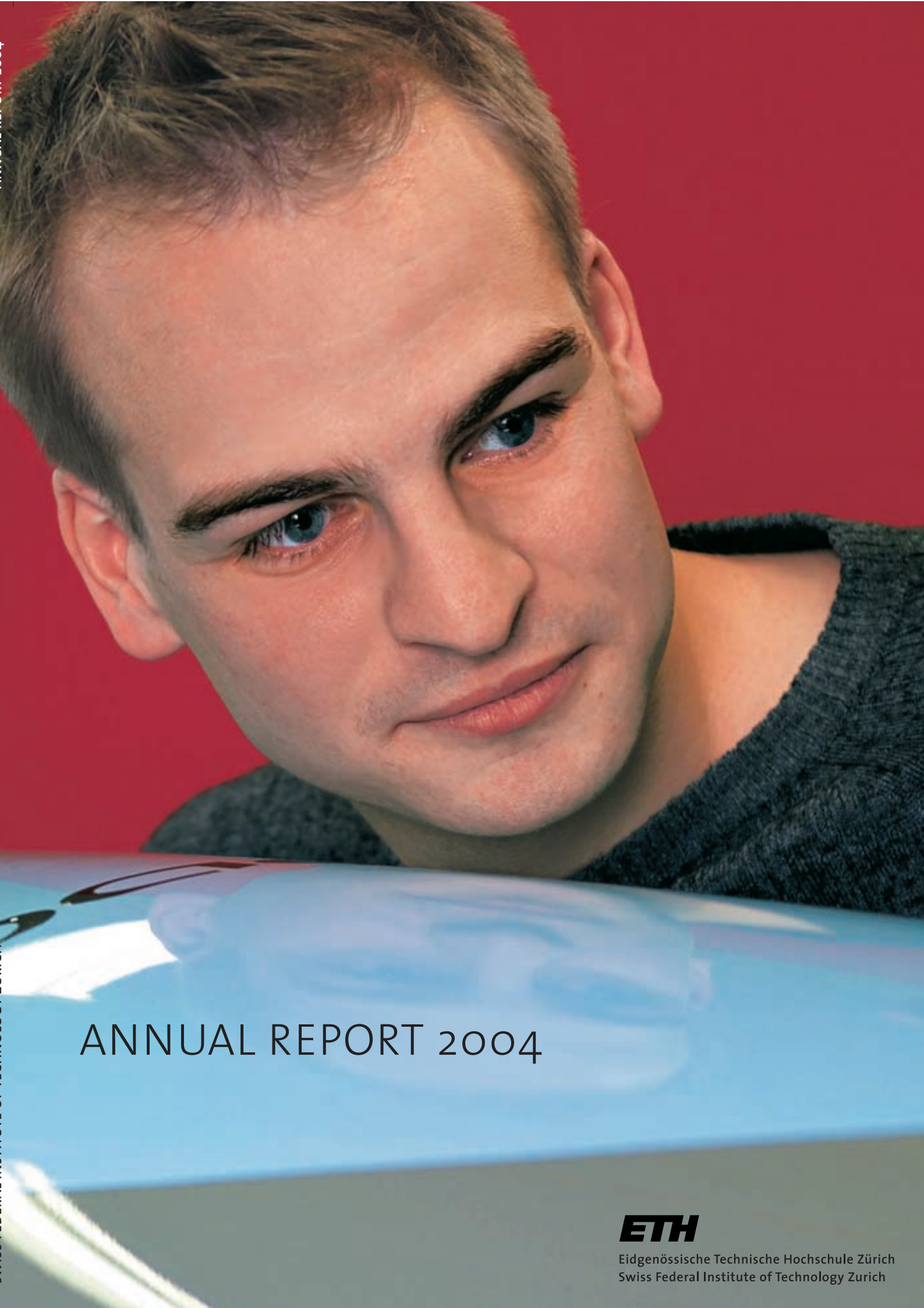


ANNUAL REPORT 2004

ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

CONTENTS

Strategic Objectives

Maintaining strong national foundations and a leading position internationally are the cornerstones of ETH Zurich's strategy. Success, whether nationally or internationally, entails considerable forward planning and flexibility, which is how ETH Zurich intends to consolidate its position as an international research university.
At the same time, ETH Zurich wants to continue to fulfil its complex role as an important player in politics, economics and society and to make a decisive contribution to Switzerland's future viability. This development will be led by the four subject areas Sciences and Mathematics, Engineering Sciences, System-oriented Sciences, and Architecture and Building Sciences. These, together with the Humanities, Social and Political Sciences, define ETH Zurich's identity. Re-industrialisation is being supported by devoting greater attention to important interdisciplinary subjects such as "energy", "materials science" and "micro- and nanosciences".
ETH Zurich has set itself the objective of appointing world-leading scientists, both male and female, in Zurich and attracting the best-qualified students from within Switzerland and abroad. The departments of ETH Zurich find themselves in an ongoing state of flux. For instance, a Management, Technology and Economics department was set up on 1 October 2004 as a result of the reorganisation of the former Department of Industrial Management and Manufacturing. This takes account of the trend of Swiss companies increasingly producing know-how and services as well as traditional products such as machinery. The new department will strengthen ETH Zurich's management in the fields of technology and innovation.
The wide-ranging reform of the study programs as a result of the Bologna Declaration is guided by the principle of providing students with excellent specialist education and further outstanding all-round skills, so making them internationally competitive. This reform will serve ETH Zurich's strategic objective of attracting the best-qualified students.

Aware of the competitive advantage inherent in a well developed and innovative research and teaching environment, ETH Zurich is continuing to invest in infrastructure. The central planks of this investment are two long-term development projects: Science City, which will transform Hönggerberg into a thriving area for studying and living, and a development study for the university area in the centre of Zurich. It is ETH Zurich's intention to widen the focus of infrastructural planning beyond the requirements directly related to teaching and research and to maintain an on-going dialogue with a wider public.
If ETH Zurich is to fulfil its multifaceted tasks at a national and international level, it must be able to build on both the moral and the financial support of politicians, business people, and society as a whole, individuals and groups who are prepared to make an active contribution to putting its objectives and strategies into practice. The most important partner is the Federal government, whose financial contribution ensures that plans can be made with the necessary degree of certainty, while an increasing level of outside funding is intended to promote flexibility and extend entrepreneurial freedom.

Executive Summary

The scope and freedom of action essential to an internationally leading university can only be successfully enhanced by diversification in funding. After 150 years of exclusively public funding, ETH Zurich is set to boost the level of private funding, which is why it has set up the ETH Zurich Foundation.

With the SystemsX project, ETH Zurich and the universities of Basel and Zurich are jointly developing a Swiss systems biology network. SystemsX coordinates and extends Swiss research and teaching activities in this future-oriented discipline. The so-called Cluster of Biosystems Science is being established in Zurich, while Basel has the Center of Biosystems Sciences and Engineering, managed by ETH Zurich.

The first Master's programs will be launched at ETH Zurich in autumn 2005. In the meantime, there has been extensive debate within ETH about the design of the graduate, i.e. Master's and Doctorate, level. ETH Zurich wants to offer Master's programs both of the highest academic standard and attractive in a competitive international field. ETH Zurich also aims to foster outstanding students.

Between January and September 2004, ETH Zurich brought its travelling exhibition "ETH Zurich – where worlds open up" to twelve grammar schools in twelve different Swiss Cantons. The exhibition is being continued as a blueprint for ETH Zurich to draw future students' attention to its Bachelor's programs and present the Federal Institutes of Technology as an attractive university option.

2004 saw the approval of a total of four projects by ETH's own Innovation Initiatives program: "Composite doped metamaterials", "Single-Cell Metabolomics", "Chemical Libraries ETH" and "PLANET-Z". ETH transfer, ETH Zurich's innovation promotion agency, is being expanded and reorganised. It will focus even more closely on providing advice and support to ETH Zurich staff and their business partners regarding joint ventures and matters such as applying for patents, exploiting licences, setting up spin-off companies and drawing up research contracts.

As well as cultivating the disciplines in which ETH Zurich has traditionally been strong, increasing attention has been paid to broad interdisciplinary subjects such as "bioengineering, biosciences and biotechnology", "energy", "materials sciences", "micro- and nanoscience" and "bioimaging".

At the start of 2004, the Executive Board decided to develop a strategy for the use of Information and Communications Technology (ICT) in teaching, research and associated management tasks at ETH Zurich with the aim of ensuring that new technologies are used effectively in all the institution's core processes. The strategy was devised jointly with the departments.

The Science City project is taking form. In 2004, four teams were invited to submit urban development proposals, paying particular attention to three factors: awareness of differing requirements – especially the concerns of the local inhabitants, creating a distinctly European atmosphere on the campus, and making the best possible use of the available resources in terms of land, energy and finance. These guidelines had arisen from the preparatory phase which involved wide-ranging consultation with internal and external stakeholders. The project from the team led by Kees Christiaanse, the Dutch urban planner, architect and now professor at ETH Zurich, proved to be the most convincing. The vision of Science City as a place to think and to live on Hönggerberg has been widely hailed and has triggered a wide-ranging debate on the function of universities in society.

Dear Readers We are living in an era of radical change. The world is open to all as never before. Knowledge and technological ability are no longer the sole possession of a privileged global minority, but have become common property. High quality discoveries and developments are being made all over the world. This competition is a challenge to us, but it is a challenge we are confident we can meet.

In 2005, ETH Zurich celebrates the 150th anniversary of its founding. Yet looking backwards is less important than looking to the future. To mark ETH Zurich's 150th birthday, we have set ourselves the objective of ensuring solid financial foundations – a task which will demand professional fund-raising. The ETH Zurich Foundation has been in operation since spring 2004. It is pursuing the ambitious target of building up a substantial endowment fund over the next few years, the returns from which will enable ETH Zurich to implement specific strategic projects. We want to ensure that ETH Zurich can continue to perform at the highest level in the coming decades as a Swiss-based, internationally focused institution of higher education in the service of Switzerland.

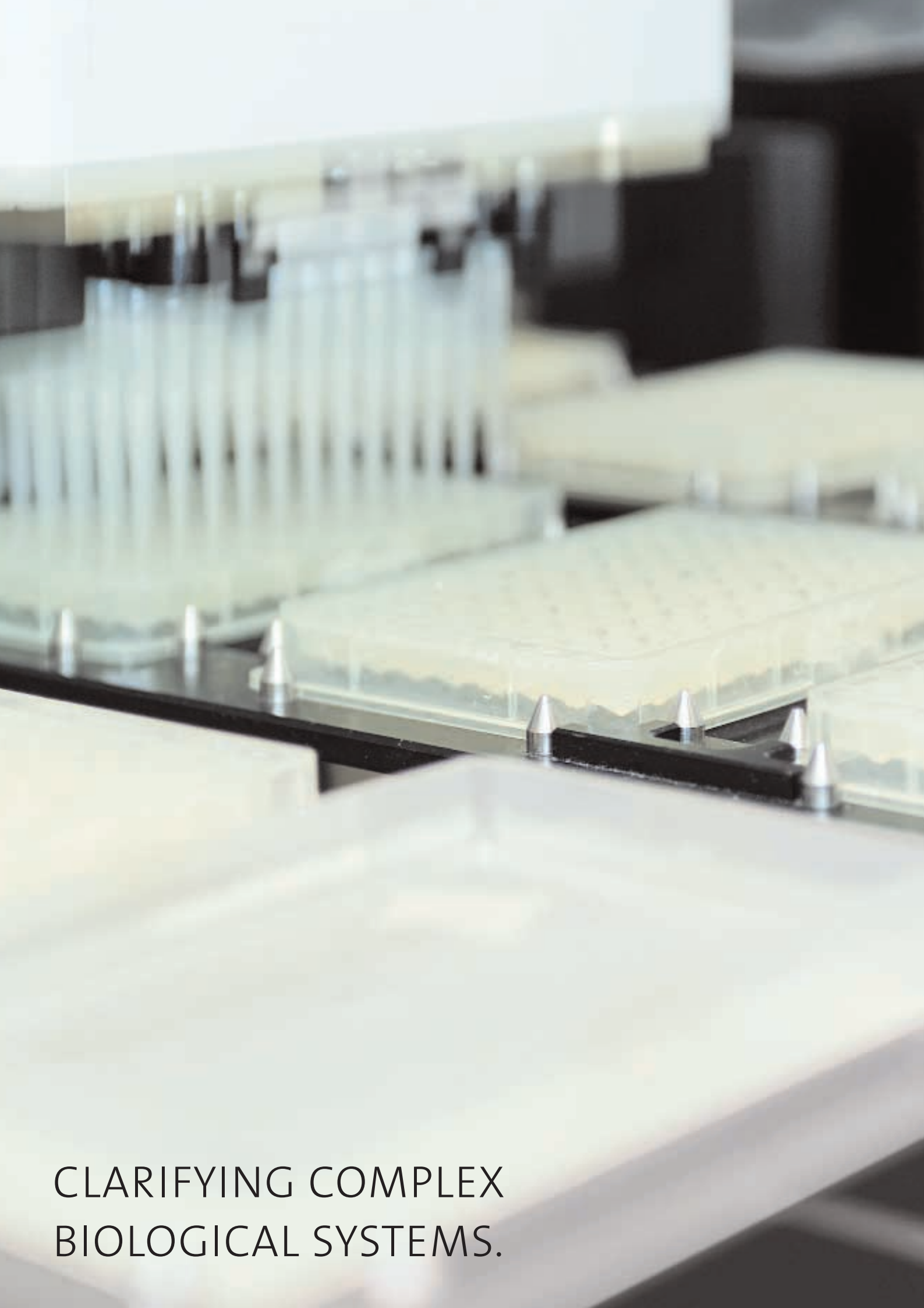
Despite this private fund raising, ETH Zurich will continue to receive the majority of its financing, on a performance-related basis, from the Swiss Confederation. However, we see this as an investment we grow, by not limiting our vision and abilities to teaching and research, but also making a direct contribution to the economy and in turn being stimulated by the economic process. On the basis of a thorough analysis, we have decided to double the volume of ETH Zurich's technology transfer.

ETH Zurich wants to be an engine of growth. Our technology transfer must accordingly assist in establishing activities with particularly strong wealth-creating potential, the aim being to "re-industrialise" Switzerland with industries based on the intellect and knowledge. These include robust knowledge-based services, together with computer-assisted modelling and simulation, understanding and managing of complex processes and systems to ensure success by design rather than trial and error. Re-industrialisation entails converting what's already in place and establishing vigorous new offshoots, and cannot be achieved without some thorough work in preparing the ground.
"Lust auf die eigene Firma", one of Switzerland's most successful and well-known business startup programmes, came into being at ETH Zurich in 1995. Now Business Tools AG is offering the public courses in partnership with the University of Zurich and ETH Zurich. To date, around 13,000 people have been through the programme, over 500 new businesses have been launched and more than 1600 new jobs created.
In 1998, together with McKinsey, we provided an additional sporting incentive to set up a business with the national contest "Venture Business Plan Competition" which leads, every two years, from the business idea via a professional business plan to the financing and formation of a company. There were five prize winners in 2004. This venture has so far resulted in around 100 new businesses with more than 1000 jobs.
Finally, at the start of October 2004, ETH Zurich established a new Management, Technology and Economics department, whose aim is to provide a scientific analysis of the role played by discoveries, inventions and technological developments in the economy. We accordingly set the department the task of determining the economic impact of the University of Zurich and ETH Zurich on the city, Canton and further afield. We eagerly await the results.

The success of an institution of higher education depends on its people. It is all our professors, our staff and our students with their knowledge and skills, their vivacity, their creativity and resourcefulness and the keenness, range and boldness of their intellects which have made ETH Zurich what it is today, a leading international university of applied sciences. They all deserve our greatest recognition and sincerest thanks.

Olaf Kübler
President, ETH Zurich

RAISING ADDITIONAL FUNDS FOR SOUND FINANCIAL FOUNDATIONS.



CLARIFYING COMPLEX
BIOLOGICAL SYSTEMS.

“ETH ZURICH HOPES TO INCREASE THE PROPORTION OF PRIVATE THIRD-PARTY FUNDING SO THAT IT CAN CONTINUE TO MEET ITS OWN HIGH STANDARDS IN TEACHING AND RESEARCH.”

PROF. DR. OLAF KÜBLER, PRESIDENT

What makes a top-flight university?

Rankings are becoming ever more important. Since a large number of comparative evaluations carried out recently meet high quality standards, they should be taken seriously. 2004 saw ETH Zurich achieve good marks in various rankings based on different criteria. In addition to academic criteria, a successful university needs to have a positive working atmosphere as well, so ETH Zurich has launched an awareness campaign to improve levels of respect shown for one another by members of the ETH community.

How should universities be assessed? How should future students go about choosing a university? Rankings have grown greatly in significance in Europe over the last few years as a way of answering these questions. In the USA they've been taken into account for much longer. 2004 saw ETH Zurich achieve good marks on various counts. For instance, in the current Times Higher Education Supplement World University Rankings it holds the no. 10 spot, behind seven American universities and Oxford and Cambridge. In this table it is thus among the top 3 in Europe and the top 10 in the world – a level which ETH Zurich claims for itself on a long-term basis. So should rankings be taken seriously? This question can be answered with a straight yes, since a large number of assessments carried out recently invariably live up to high quality standards. One such ranking is the above-mentioned Times Higher Education Supplement study (www.thes.co.uk/worldrankings). Another weighty example is the university ranking drawn up by the Center for Higher Education Development and the German weekly news magazine Stern (www.dashochschulranking.de).

Campaign for respect. ETH Zurich stands for quality. Quality is based on high performance, which is in turn best achieved in a congenial working environment. ETH Zurich spares no effort to encourage people from Switzerland and abroad to do their first-class research and teaching here. Since cultural backgrounds differ greatly, mutual respect is absolutely essential so that everyone can feel at ease and give free rein to their creativity. Discriminatory behaviour has no place in such an environment.

ETH Zurich's Personnel Office has launched an awareness campaign, "Respect paves the way for high performance.", to remind ETH staff and students of this fundamental prerequisite and to show that fair and respectful treatment is not only agreeable but also pays off. ETH Zurich President Prof. Olaf Kübler is the patron of the campaign. The aim of the campaign is to make people more aware of the mechanisms which give rise to discrimination and, in addition, to promote politeness and good manners, which, while somewhat unfashionable in today's society, greatly smooth everyday interactions. A further aim is to increase awareness of the various services which ETH staff and students can access to answer simple questions or provide emergency assistance. The campaign was launched at the beginning of the winter semester with the distribution of a brochure to all ETH staff and students in conjunction with poster displays.

Investing in the future

Looking back over its 150 years of existence in 2005, ETH Zurich is now laying the financial foundations to secure its next 150 years. A distinct rise in outside funding from private sources is intended to bring about a sustained increase in the flexibility and freedom of action and thus the international competitiveness of ETH Zurich. It is for this reason that the ETH Zurich Foundation was set up.

ETH Zurich is among the world's best and most attractive institutions of higher education and it is determined to maintain and enhance its leading international position in teaching and research. To achieve this aim, it needs funding for projects in which it can score highly in strategically important areas, but which cannot be supported by public funds. ETH Zurich is thus treading a new path by increasingly seeking private funding for such projects.

Fund-raising for ETH Zurich. In order to maintain its top-ranking position, ETH Zurich set up the ETH Zurich Foundation. Founded in 2003 and beginning operations in spring 2004, the ETH Zurich Foundation is an independent, non-profit foundation governed by Swiss law and domiciled in Zurich. The Foundation Board is made up in equal measure of ETH Zurich representatives and representatives of Swiss business. Current President of the Board is Prof. Olaf Kübler; in the mid term, a Swiss business representative is to assume this position. The Foundation is responsible for raising both project-related and non-project-related funds, and for managing these funds for the benefit of ETH Zurich. The ETH Zurich Foundation is the sole carrier of the fund-raising on behalf of ETH Zurich.

The ETH Zurich Foundation's mission is to build up a substantial endowment fund, the returns from which will enable ETH Zurich to implement strategically relevant projects. Over the relatively long term, the Foundation aims to build up an endowment fund of some CHF billion with annual returns of several million CHF. The returns from the endowment fund will be invested in projects which extend beyond ETH Zurich's publicly funded core remit and in further selected projects. The projects to be supported are those which distinguish a top-flight university, which are in line with its particular quality and high level of teaching and research and which ensure its international competitiveness over the long term. Besides fund-raising on behalf of ETH Zurich, the ETH Zurich Foundation serves as an important platform of dialogue and exchange of experience between science, business and society. The ETH Zurich Foundation's assets are broken down into a General Fund and various Principal and Special Funds. The returns from the Principal and Special Funds are used in accordance with the donors' specifications. The returns from the General Fund are freely usable for the Foundation's purposes. The ETH Zurich Foundation can advise potential donors individually about the possible forms donations may take and how they can be contractually arranged.

First donation for Science City. In April 2004, ETH Zurich announced the first donation to be specifically directed to Science City. With his gift of CHF 23 million, the entrepreneur Branco Weiss will provide half the funding for the construction of a new teaching and research laboratory for information science on ETH's Hönggerberg campus. Thanks to this donation, ETH Zurich will be able to begin construction as early as 2005 and the Information Science Lab will be ready for operation in 2006. Dr. Branco Weiss' association with ETH Zurich dates back more than 50 years. He graduated there as a chemical engineer in 1951 and was awarded an honorary doctorate in 1998. The overall cost for Science City will come to around CHF 400 million, some CHF 150 million of which will be available for ETH Zurich's key task of research. CHF 250 million are earmarked for the development of Hönggerberg into an accommodating campus. As in the past, the Federal government will continue to fund the lion's share of research. The conversion into "Science City", on the other hand, will be paid for by private money, i.e. donations and sponsorship.

Swiss systems biology network

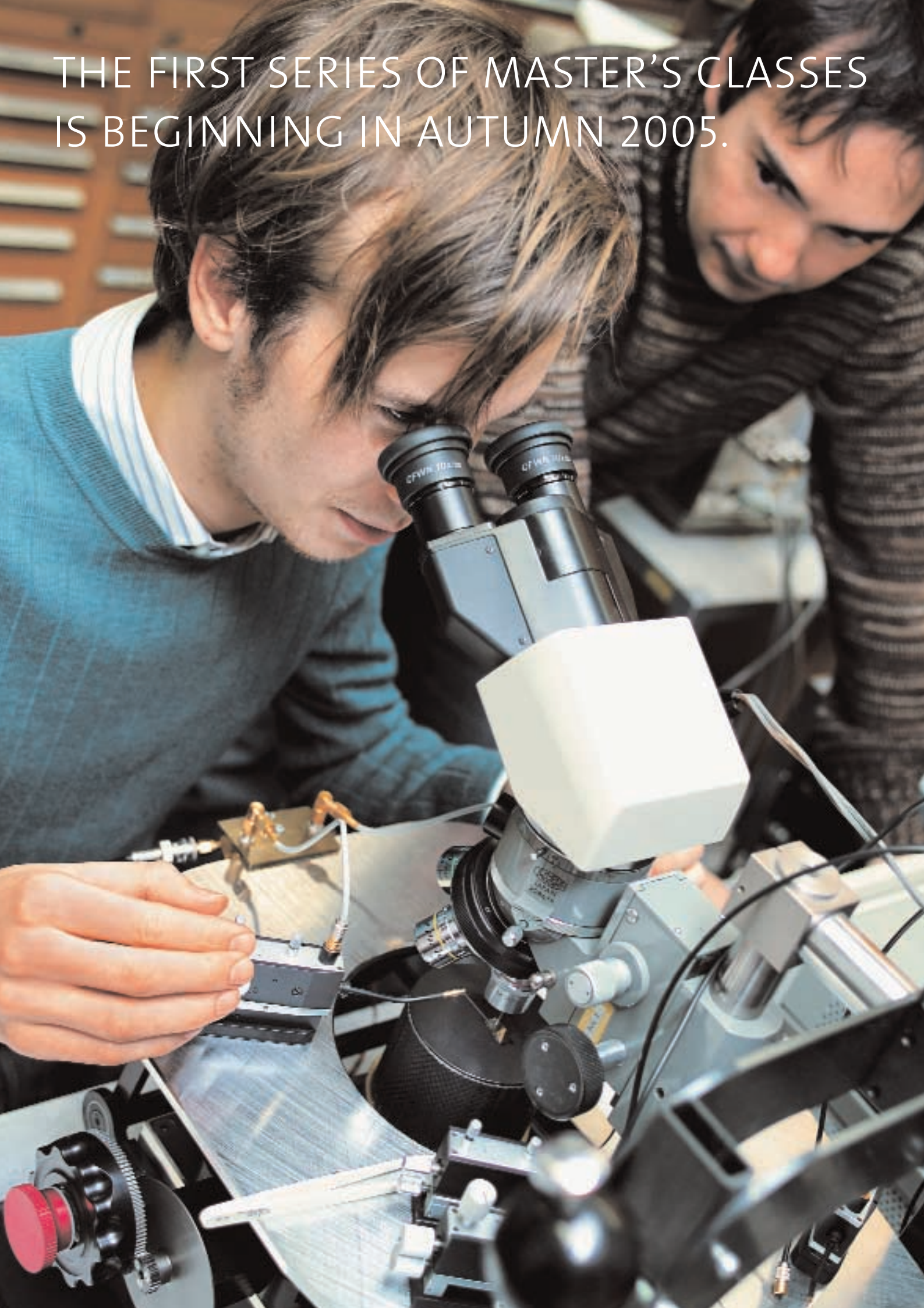
With the SystemsX joint project, ETH Zurich and the universities of Basel and Zurich are jointly developing a Swiss systems biology network. The aim of SystemsX is to coordinate and promote Swiss research and teaching activities in this future-oriented discipline. A Cluster of Biosystems Science is being set up in Zurich, while in Basel ETH Zurich is developing the Center of Biosystems Sciences and Engineering.

The aim of systems biology is to gain an understanding of complex biological systems, using an integrated, interdisciplinary approach and innovative organisational forms to open up new areas of knowledge. Various scientific disciplines (biology, physics, mathematics, computational science, chemistry, information technology, biotechnology, nanotechnology and others) are working closely together to elucidate the behaviour of cells and their interaction with other cells in both qualitative and quantitative terms. Above all, the aim is to investigate how a whole system (a cell or association of cells) behaves when specific changes occur, as is for example the case in disease. The challenge is to process the large volumes of data generated by ever more detailed experiments in such a way that researchers can gain a better understanding of the functioning of complex biological systems.

Center of Biosystems Sciences and Engineering. A new research facility, the Center of Biosystems Sciences and Engineering (www.bsse.ethz.ch) is being set up in Basel in a project being managed by ETH Zurich. ETH Zurich currently has a total of CHF 34 million available for the development and operation of the facility over the period from 2004 to 2007: CHF 20 million are being provided by the half-cantons of Basel-Stadt and Basel-Landschaft, CHF 8 million by ETH Zurich, with a contribution of CHF 5 million from the Swiss University Conference and a CHF 1 million donation from Novartis. In November 2004, ETH Zurich announced the scientific concept for the centre and the profiles for the first four professorships. The aim is to attract two specialists in the field of experimental systems biology and one internationally recognised expert in computational biology and systems nanobiology respectively. The four professors are to begin their research activities at the new centre from autumn 2005. Once the lease for suitable premises in Basel has been signed, there is nothing further standing in the way of opening the Center of Biosystems Sciences and Engineering in autumn 2005.

Cluster of Biosystems Science. A Cluster of Biosystems Science is being established in Zurich, with the professors and institutes of ETH Zurich and the University of Zurich who are researching and teaching in the field of biosystems forming working communities. The appointment of Prof. Ruedi Aebersold on 1 November 2004 has already set the tone. The development of a centre of excellence for systems physiology and metabolic diseases with the participation of various research groups from ETH Zurich and the University of Zurich is being jointly supported and partially funded by the two universities. The aim is to develop lasting collaborative relationships and a leading international position in the proposed areas of research.
The Center of Biosystems Science and Engineering in Basel and the Cluster of Biosystems Science in Zurich will work together closely, so creating an effective systems biology research network centred around Zurich and Basel.

ETH ZURICH – WHERE WORLDS OPEN UP.



THE FIRST SERIES OF MASTER'S CLASSES IS BEGINNING IN AUTUMN 2005.

“ETH ZURICH HAS SET ITS SIGHTS ON ATTRACTING THE BEST QUALIFIED STUDENTS FROM SWITZERLAND AND ABROAD.”

PROF. DR. KONRAD OSTERWALDER, RECTOR

Think tank opened in Bregaglia

ETH Zurich has opened a conference and seminar centre in Bregaglia. This think tank also offers possibilities for contact with the local population. ETH Zurich and its partner universities in the IDEA League are now looking for a fifth university from a Romance-language country, with the aim of having more political influence at a European level.

In mid-May 2004, ETH Zurich officially opened a new kind of conference and seminar centre in the form of the renovated Villa Garbald in the village of Castasegna in the Bregaglia valley. This think tank is equipped with the latest in modern information technology and links Bregaglia directly with ETH Zurich and the world of science. The owner of the Villa Garbald think tank, the Fondazione Garbald, has renovated the villa carefully and extended it by adding the residential tower "Roccolo", which has been awarded the renowned Swiss architectural prize, the "Goldener Hase". As long ago as 2001, a usage contract was signed with ETH Zurich making the Villa Garbald think tank available to the ETH Zurich community and the public. Research groups and other interested organisations can retreat there in one of the most breathtaking geographical corners of Switzerland to attend work-shops, seminars or strategy days. The Villa Garbald is also seen as a venue to promote contact and exchange with the population of the Bregaglia Valley through a series of cultural events.

Latin partner for the IDEA League. The IDEA League, the partnership between the four universities Imperial College London, TU Delft, RWTH Aachen and ETH Zurich, is considering admitting a fifth member in the near future. The intention is to involve a French university and the search is on. With this additional string to its bow, the IDEA League would become a truly European organisation and could thus have more political influence, for example on the issue of the distribution of research funding at a European level. A forum planned for summer 2005 will discuss how best to improve communication with political decision makers. The IDEA League members also decided to work more closely together in the areas of public relations, recruitment and international cooperation. As a result, the IDEA League will be putting in a joint appearance in India in the near future, not only for the purpose of recruiting high-quality people but also to strengthen contact with top-flight Indian educational and research institutions.

UNITECH International Society. The Mid-Term Week, which was held in Gothenburg (Sweden) in January 2004, was a completely different event from the previous year. For instance, cooperation with the UNITECH Corporate Partners was greatly strengthened, with some of them contributing projects for the students to work on during the week. This new concept was much appreciated by all those involved.

At the General Assembly, which took place at Imperial College, London in September 2004, Prof. Konrad Osterwalder, Rector of ETH Zurich, was re-elected for a third period of office as president of the UNITECH International Society. A small number of Corporate Partners left the network before the new academic year, clearly a consequence of the current difficult economic situation. It was all the more pleasing, therefore, that UNITECH managed to attract three new companies, which were welcomed at the General Assembly: Telecom Italia Group, Infineon Technologies (Germany) and SCA AB (Sweden).

ETH Library. All of 2004's user-related activities at the ETH Library were aimed at moving forward the development of an "electronic library". A key issue was getting a broader range of journals, reference databases and full-text publications available in electronic form. The number of e-journals has increased in the meantime to over 7000 titles, while the number of electronically searchable books doubled to around 3500 titles. The steep increase in the amount of times these resources are accessed is a clear indication of the extremely high level of user acceptance.
Another area of focus was the digitisation and electronic provision of various media. For example, all the documents in the ETH library by and about Albert Einstein were digitised and made available online.
However, as well as focusing on electronic services, it is important to point out that the traditional work of the library has not become any less significant.

Travelling exhibition in grammar schools

Between January and September 2004, ETH Zurich brought its project "ETH Zurich – where worlds open up" to a total of twelve grammar schools in twelve Swiss Cantons. This travelling exhibition will be continuing and is a central plank of ETH Zurich's policy for making future students aware of the Bachelor's programs it offers and encouraging them to study at ETH Zurich.
Too much is often demanded of grammar school pupils when it comes to selecting a course of study, as they often have only vague ideas of the areas of study available and ensuing professions. This is particularly true of engineering, which, unlike natural sciences, is not taught at secondary school level. In order to bring the worlds of study, science and work nearer to the pupils, ETH Zurich introduced the project "ETH Zurich – where worlds open up", which they are taking to schools all over Switzerland. A particular aim is to encourage young women to study at ETH and to break down barriers and clichés which have so long stood in the way of their studying "male" subjects.

Five departments are involved. The travelling exhibition was designed and organised by "Equal", ETH Zurich's agency for equal opportunities, the association "Engineers Shape our Future" and five ETH departments (Civil, Environmental and Geomatic Engineering, Information Technology and Electrical Engineering, Materials Science, Mechanical and Process Engineering and Physics). EMPA (Swiss Federal Laboratories for Materials Testing and Research) was also involved, as an example of a research institute. The patron of the travelling exhibition is the Rector of ETH Zurich and the exhibition was supported with money from ETH Zurich's Jubilee Fund. Additional funding came from outside sources.

From Brig to Winterthur. The travelling exhibition's tour of Switzerland took in a total of twelve Swiss German grammar schools between January and September 2004. The schools visited were those in Brig, Immensee (Canton of Schwyz), Wettingen, Lucerne, Leonard in Basel, Romanshorn, Glarus, Am Burggraben in St. Gallen, Olten, Sarnen, Im Lee in Winterthur and Freies Gymnasium in Bern. In addition to the exhibition, accompanying activities were also arranged, such as an opening drinks reception, panel discussions and excursions. The high point at each venue was the Action Day, where representatives of the five departments and EMPA were present and organised various activities designed to provide insights into the various fields of study available and possible professional paths.

Motivating youngsters. The travelling exhibition is a further important way for ETH Zurich to provide information for future students and to encourage them to follow their study programs. The success of the first year has led to a continuation of the project. In 2005, when ETH Zurich celebrates its 150th anniversary, the travelling exhibition will again visit Swiss grammar schools, this year with the name "ETH unterwegs – ETH en Route". This time, it will also visit non-German-speaking schools, accompanied by an "ETH Science Truck" provided by the IDEA League partner university RWTH Aachen. In addition to the travelling exhibition, ETH Zurich also offers young people other opportunities to find out about studying there. These include the open days in September for pupils in their final year of grammar school and the special days for female pupils held in May. The ETH study weeks, a joint project between ETH and the foundation "Schweizer Jugend forscht" gives the young people an additional opportunity to work together with researchers on a specific project for a week.

Admission issues resolved

After a first pilot phase, the first series of Master's programs will begin in autumn 2005. ETH Zurich has been able to resolve issues of admissions and internationalisation. It wants to offer Master's programs which are not only of the highest academic standard but are also attractive in a competitive international field. Once the Bachelor's programs had been introduced, ETH Zurich began intensive internal discussions in 2004 about the design of graduate level studies, i.e. the Master's and doctorate programs. ETH Zurich wants to offer Master's programs which are not only of the highest academic standard but are also attractive in a competitive international field. A Master's is the standard university-leaving qualification. ETH Zurich also wishes to foster outstanding students with a "fast track" to the doctorate program. The students selected are admitted as a rule after one semester as a doctoral candidate and complete a research-focused Master's program.

Admission criteria set. In accordance with the guidelines of the Swiss Universities Conference (SUC), holders of a Bachelor's degree from a Swiss university are admitted to the Master's programs in the appropriate discipline without having to satisfy any additional requirements. Additional requirements may be set for specialised Master's programs. ETH Zurich has defined its admissions criteria accordingly. Profiles of requirements have been drawn up for all the Master's programs and include 60 to 80 percent of the content of the ETH Bachelor's program. The departments determine the standard and specialised programs. ETH Zurich is also developing its own procedure for enabling graduates from other Swiss universities to check their suitability for an ETH Master's program. This procedure includes providing an outline of the required content based on text books and lecture transcripts and an online self-testing process. As ETH Zurich sees it, those admitted should have a very good chance of successfully completing the Master's program.

Master's programs ready to start autumn 2005. The first Master's programs will start in autumn 2005, to coincide with completion of the first Bachelor's programs. These will be in mechanical and process engineering, chemistry, chemical engineering, materials science, physical education and sports and computational science and engineering. The first specialised Master's program will also start, in the field of biomedical engineering.

Striving for internationalisation. By 2007, 50 percent of all ETH students should be following graduate-level studies. To achieve this aim, top-level students from around the world have to be recruited. Regions to which particular attention is paid are Europe, with particular emphasis on Western Europe, South-East Asia and India as well as both North and South America. Internationalising graduate level studies will also foster multilingualism, a definite plus point for a European university education over an American one. The problem of accommodation has also to be solved, especially for foreign students who come to Zurich for short periods, sometimes in groups. In the relatively long term, 1000 residential units will be provided at Science City on the Hönggerberg campus.

Pilot Master's program in D-ITET. The Department of Information Technology and Electrical Engineering (D-ITET) ran a pilot master's program under the auspices of the Filep Fund. The project required a greater time commitment than originally estimated. The greater time requirement is due in part to the project being a pilot program, which would obviously not be the case with similar projects in other departments. However, the integration and care of foreign students takes a lot of effort and is not without difficulties. Wise selection of foreign students is very important in this respect. The pilot Master's program has taught that it is essential to publicise the individual Master's programs on a wide international basis to achieve the desired objectives. To this end, a portal has been set up which provides a centrally controlled way of publishing the study programs, so reducing costs.

EFFICIENT HYDROGEN PRODUCTION USING NANOPARTICLES.

INVESTIGATING NUTRIENT UTILISATION IN PLANTS.

HOPING TO ELUCIDATE THE STRUCTURE OF THE CEREBRAL CORTEX.

A NEW VISION OF AN URBAN SWITZERLAND.

DEMONSTRATING RESISTANCE TO QUANTUM COMPUTER ATTACKS.

“BY PROMOTING INNOVATION ETH ZURICH AIMS TO DEVELOP STRONGER PARTNERSHIPS WITH BUSINESS.”

PROF. DR. ULRICH W. SUTER, VICE-PRESIDENT RESEARCH

Promoting innovation and putting it into practice

A total of four projects were approved in 2004 as part of the Innovation Initiatives program. The Executive Board also decided that much greater effort should be put into fostering innovation at ETH.
As well as cultivating the disciplines in which it is traditionally strong, ETH has increasingly been concentrating its attention on broad interdisciplinary subjects, with "bioengineering, biosciences and biotechnology", "energy", "materials science", "micro- and nanoscience" and "bioimaging" making an appearance. Each of these is being worked on by dozens of research groups in different departments. In the context of the Innovation Initiatives program, the Executive Board gave its approval in 2004 to the projects "Composite doped metamaterials", "Single-Cell Metabolomics", "Chemical Libraries ETH" and "PLANET-Z".

"Ourselves, Reflected". The decoding of the human genome is one of the most important milestones in the history of research. The exhibition "Der gespiegelte Mensch – in den Genen lesen" ("The human species – mirrored in the genes"), which ran for the second half of 2004 at the Swiss National Museum in Zurich, examined the question of the cultural value of biological research. It communicated science to the general population with multimedia exhibits. The experiments carried out in the schools laboratory, which offered schoolchildren the opportunity for some real hands-on activity, were particularly well received. The project was presented by Life Science Zurich, a joint venture between the University of Zurich and ETH Zurich, in collaboration with the Swiss National Museum.

Expanding the ETH innovation agency. "ETH transfer", the innovation promotion agency set up by ETH Zurich, is being expanded and reorganised. The agency will be working more intensively than before to establish partnerships with business and to provide advice and support to the ETH community on matters such as applying for patents, exploiting licences, setting up spin-off companies and drawing up research contracts. Framework contracts will increasingly be concluded with industrial partners who frequently work together with ETH Zurich, as such contracts have proved an important building block in developing a close, long-term partnership between the private sector and ETH Zurich.

Positive developments at CSCS. Since the beginning of 2004, the Swiss National Supercomputing Centre (CSCS) has been functioning as a reorganised unit with greatly increased autonomy and ambitious objectives. The high-performance computing centre has drawn up a business plan based on continual strengthening of scientific computing and is hoping to combine cutting-edge technology with meaningful research. The following are the focal points of CSCS's strategy: renewal and further development of its high-performance computing capacities (increase in computing power by a factor of five to six billion calculations per second), strengthening technical and scientific cooperation, setting up a national computing grid in Switzerland and developing a training program with academic partners. CSCS's funding and therefore its development are secure until 2007.

EU and COST research programs. In 2004, the research agreement between the EU and Switzerland came into force. Now Switzerland counts as an "associated state" in the current 6th Framework Programme.
This full participation has the great advantage that Swiss teams can coordinate projects and thus also to a certain extent have scientific "control" over them. The Institute of Process Engineering is the first ETH unit to act as the coordinator of an EU research project. The Eurobiosyn project aims to set up a modular platform for the biosynthesis of complex molecules.
From the strategic, policymaking standpoint, associated state status means that Switzerland can comment officially on the content of the next Framework Programme. A high number of ETH researchers have for many years been participating in EU Framework Programmes and COST projects. In 2004, ETH research groups were involved in over 90 approved and over 50 ongoing EU projects within the 6th Framework Programme and in 31 ongoing COST projects. Euresearch Zurich supports researchers from the submission of a proposal to the completion of the project.

Hydrogen from solar power and water

Hydrogen produced using renewable energy sources is a highly promising fuel for sustainable energy utilization. Researchers from the Department of Mechanical and Process Engineering, in collaboration with the Paul Scherrer Institute (PSI), have developed an efficient solar thermochemical cycle for splitting water by means of metallic nanopartlcles.
Fuel cells generate pollutant-free electricity by the controlled oxygen-hydrogen reaction. However, a truly sustainable approach requires that hydrogen be produced using renewable energy sources. In collaboration with PSI's Solar technology Laboratory, researchers from the Department of Mechanical and Process Engineering have developed a solar water-splitting thermochemical cycle that has the potential of achieving an energy conversion efficiency of over 40 percent. High energy efficiency implies favourable economic competitiveness.

The solar thermochemical cycle. Hydrogen is produced from water in a two-step thermochemical cycle: The first, endothermic step is the solar thermal dissociation of zinc oxide to zinc and oxygen. The second, non-solar, exothermic step is the hydrolysis of zinc to form H_2 and zinc oxide. The net reaction is $H_2O = H_2 + 0.5O_2$, but since H_2 and O_2 are formed in different steps, the need for high-temperature gas separation is thereby eliminated. While PSI is developing the solar chemical reactor for performing the first step of the cycle, ETH's researchers are investigating a novel combined process for the second step of the cycle that encompasses the formation of Zn nanoparticles followed by their in-situ hydrolysis for H_2 generation. Since nanoparticles have inherently high specific surface area, the reaction kinetics and heat/mass transfer are significantly augmented. Additional advantages are pertinent to the process technology aspects of having a simple, controllable, and scalable reactor technology. Recently, this process has been experimentally demonstrated using a tubular aerosol flow reactor, resulting in high degree of chemical conversion (80 percent chemical conversion in less than one second residence time). The hydrolysis process and associated reactor technology, which have been patented by ETH, are currently being optimised using computational fluid dynamics and nanoparticle-formation models.

Improving plant nutrition

Since plants are immobile they had to develop a wide range of mechanisms for collecting nutrients from the soil. Central to this is the root system. The Institute of Plant Sciences is working on nutrient uptake and utilisation by plants.
Agricultural activities inevitably result in the removal of nutrients from the soil through the exportation of plant and animal products from the farm. If this nutrient removal is not compensated by the application of inorganic or organic fertilisers, the soil becomes exhausted. On small holders' farms of many developing countries, where for economic and logistical reasons, crops are never fertilised, the soil becomes degraded, leading to increased poverty and environmental problems. Should the soil be fertilised to make it suitable to the plant or should the plant be adapted, e.g. genetically modified, to suit the soil? Current research suggests that the correct approach should consider both strategies and that the whole system needs to be looked at.

Projects involving developing countries. The Group of Plant Nutrition is working with various institutes and researchers in Latin America and Africa. One of the projects, in Kenya, looked into the question of whether traditional maize cultivation could be made more sustainable. Maize is harvested twice a year in western Kenya and in most cases is never fertilised although the soils are naturally poor in nutrients.
This monoculture brings with it considerable problems leading to decreasing yields and severe soil degradation. In a field trial carried out in cooperation with the World Agroforestry Centre (ICRAF), maize was sown in rotation with Crotalaria grahamania, a shrubby leguminous plant, in the presence or not of phosphorus fertilisation. Crotalaria fixes atmospheric nitrogen and makes it available to the following maize; it takes up nutrients from deep soil layers and returns them to the surface via the litter; it promotes the biological activity of the soil and stabilizes its humus level. The wood of Crotalaria can be used as domestic firewood. Crotalaria enabled farmers to increase soil fertility and maize yields. However, this proved to be a short-term solution as the leguminous species itself fell victim of diseases and pests after a few years and, without fertilisation with phosphorus, the soil became even more quickly nutrient depleted than when planted only with maize.
The former problem could possibly have been prevented if different legume species had been included in the crop rotation. The project thus shows that sustained improvement of maize production in western Kenya requires an integrated nutrient management taking into account plant and soil resources, potential nutrient sources and the needs of the people.

Architecture of the cerebral cortex

The human brain is capable of impressive feats, and can even develop visions of the future. A central question for researchers at the Institute of Neuroinformatics is how the neocortex enables humans to achieve their exceptional performance. They are seeking answers by studying the structure of the neural circuits of the neocortex.
The human cerebral cortex is the most complex organ known to man. A single cubic millimetre contains around 100,000 nerve cells, which are connected together by four kilometres “wire” (axons). This complex network allows humans to dream of flying and then actually build an aircraft. Even the best supercomputer couldn’t begin to match this performance. But how does the neocortex work? To answer this question, researchers at the Institute of Neuroinformatics, which is a joint institute of the University of Zurich and ETH Zurich, are studying the patterns of activity in the neocortical circuits. These studies will generate a computational theory of how significant parts of these circuits function.

First map of a neuronal circuit. The researchers have published the first comprehensive quantitative description of a local circuit in the cerebral cortex. For this purpose, the researchers used data derived from the primary visual cortex of cats and a combination of anatomical, physiological and mathematical methods. This has opened up the door to comprehensive mapping of the structure of the cerebral cortex and a unified theory about how the human neocortex works. This may also prove useful as a basis for developing new forms of artificial intelligence.

Urbanisation in Switzerland

Switzerland is becoming urbanised, a process which ETH Studio Basel/Contemporary City Institute has been watching and analysing in the context of a teaching and research project. The result is an urban portrait, which provides information about the urban potential of the whole country on the basis of five typologies.
The starting point for the investigation was the hypothesis that large parts of the country are subject to a continuous, almost uncontrollable urbanisation process. Switzerland is now urbanised right into the Alpine regions, with various centres and conurbations. The result of the project realised by ETH Studio Basel, which is part of the ETH Zurich's Department of Architecture and Network City and Landscape, is a portrait in words and pictures. Taking the basic categories Borders, Networks and Differences, selected areas of Switzerland have been depicted cartographically and photographically. Crucial factors in the analysis were, among other things, topography, local authority structure, transport networks, and density of public use.

Five urban typologies for Switzerland. Analysis of these factors resulted in five urban typologies, which help in an understanding of the various manifestations of urbanisation: metropolitan regions, town networks, quiet zones, resorts and uncultivated Alpine land. The real aim of this approach is to highlight new visions for a thoroughly urbanised Switzerland which is increasingly in danger of losing its diversity. Since 1999, over 100 students and numerous scientists have been involved in the project, with no distinction being drawn between teaching, design and research. The methods developed are now being used in a new research project looking at current urbanisation processes in an international context and focusing on the state of affairs in Naples, Hong Kong, Paris, St. Petersburg, Detroit, San Francisco and Casablanca.

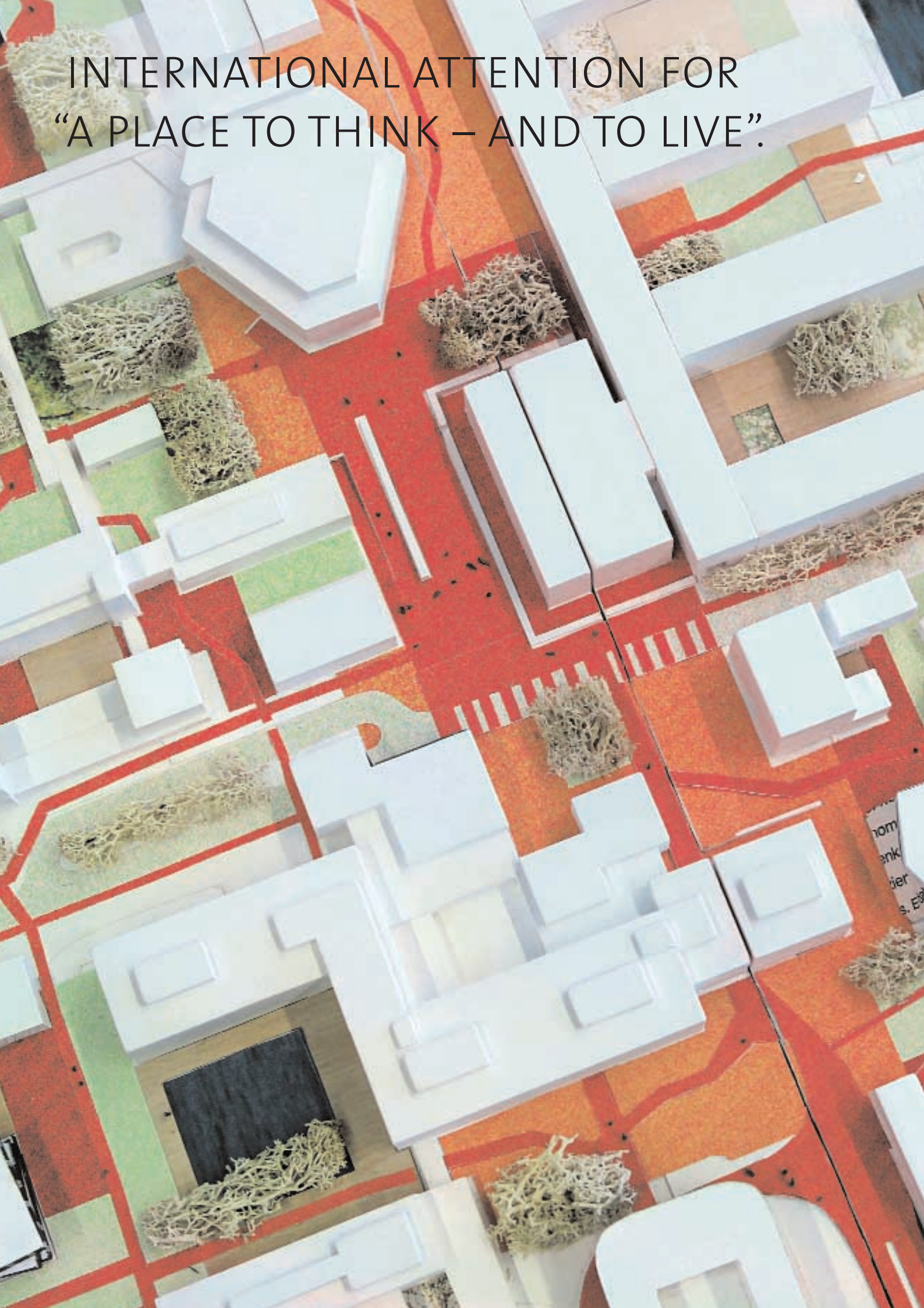
Security against quantum attacks

Are conventional encryption systems secure against attacks by quantum computers? Researchers at the Institute of Theoretical Computer Science concluded that quantum computers are not more powerful than conventional computers when it comes to attacking certain cryptographic schemes. These conventional encryption systems thus also provide security against quantum attackers.
Quantum computers make use of the phenomena of quantum mechanics and are thus capable of performing tasks which are difficult for conventional computers, for instance a quantum computer can quickly factorise large numbers. This has two conflicting consequences for cryptography, the branch of science concerned with the protection of information. On the one hand, using quantum effects allows in principle to produce new, provably secure systems. On the other hand, an attacker with a quantum computer could break encryption systems which are provably secure against an opponent with a conventional computer. It is desirable to prevent these potential attacks, irrespective of just how realistic quantum computers actually are.

Not more powerful. Researchers at the Institute of Theoretical Computer Science have been working on the question of whether quantum-mechanical memory is more powerful than conventional memory. They concluded that this is not generally the case, which means that cryptographic systems which are secure against an attacker with a particular, limited amount of conventional data are also secure against an attacker with the same amount of quantum information. Conversely, these results can also be used to prove the security of quantum encryption systems. In particular, these systems cannot be broken by attackers with a quantum computer, however fast it may be.

HIGH QUALITY ICT INFRASTRUCTURE AS A COMPETITIVE ADVANTAGE.

INTERNATIONAL ATTENTION FOR “A PLACE TO THINK – AND TO LIVE”.



“SCIENCE CITY IS INTENDED TO PROVIDE A LIVELY MIX OF USES INVOLVING THE ETH COMMUNITY AND THE LOCAL POPULATION.”

PROF. DR. GERHARD SCHMITT, VICE-PRESIDENT PLANNING & LOGISTICS

ETH Zurich adopts an integrated approach to planning

The start of a new period of office for the Planning Committee, an ETH-wide staff consultation exercise, and the reorganisation and restructuring of the Finances and Controlling Directorate were the main features of 2004 for the Planning and Logistics office.
On 1 July 2004, the new Planning Committee began its period of office. As an advisory committee to the Executive Board, it deals with the medium- and long-term development of ETH Zurich, placing particular emphasis on interdepartmental topics and consensus. It also deals with professorship planning, setting medium- to long-term priorities. In addition, the committee intends to devote greater attention to the positioning of ETH Zurich in a national and international context and to issues relating to the recruitment and abilities of students. With the start of this new period, the new Planning Committee rules have come into effect, replacing the previous planning rules.

Bioengineering, Biosystems, Biotechnology. The purpose of the BEST initiative (BEST stands for Bioengineering, Biosystems and Biotechnology) is to nurture and coordinate interdepartmental initiatives in research, teaching and technological development. The aim is to develop an overarching strategy for this entire interdisciplinary area, with the emphasis on its significance to the economy. A first phase examined ETH-wide activities in the field of biological systems, identified areas of complementarity, and developed common, labour-sharing approaches and projects. It is intended that cooperation should take place in the context both of interdisciplinary networks and of larger internationally outstanding centres of excellence – to be known as "BEST clusters". At the end of 2004, the Executive Board agreed relatively long-term funding for two such clusters.

Staff consultation exercise completed. The results of the staff consultation exercise became available in October 2004. The exercise was launched by the Executive Board with the objective of obtaining a picture of employees' subjective perception of their work situation and of identifying specific areas of action as a basis for development processes. 57 percent of employees took part in the consultation exercise. The overall results show that ETH has an excellent image in the eyes of its employees and that its employees are generally satisfied with their work situation. The quality and content of each individual's work are central to the level of work satisfaction. On the basis of the overall results, the Executive Board has identified two priority issues, namely strengthening personnel management and boosting staff development, and has already launched appropriate measures. The staff consultation exercise was the first of its kind at ETH Zurich and was given a positive reception by the units involved and the individuals consulted. In future, staff consultation exercises will be carried out to supplement departmental or infrastructure evaluations.

Finances and Controlling. The reorganisation and restructuring of ETH Zurich's finances has been formally implemented with the appointment of new heads for the Controlling and Financial Services departments. The area of Finances and Controlling is now divided into three departments, Controlling, Accounting, and Financial Services. By bringing together staff and expertise, the sector now provides integrated, professional financial and resource management. The medium-term budget for 2005–2008, which enables ETH Zurich's financial plans to include strategic considerations and take into account the basics, aims and influencing factors and thus predicted financial developments of various content items, makes a particularly significant contribution to the ETH-wide synchronisation of departmental financial and strategic planning and of infrastructure concerns into an integrated overall financial plan.

Accreditation of ETH Real Estate. ETH Real Estate, which deals with infrastructure, was accredited to ISO Standard 9001–2000 as of 1 July 2004. The Real Estate Directorate is now composed of the following units: Building Project Management, Building Management, Services Management, Portfolio Management and Health, Safety and Environmental Management. Alongside the work required for accreditation, ETH Real Estate also introduced a new quality and management system.

Fuel savings made. As laid down in the Kyoto Protocol, ETH Zurich wants to reduce its CO_2 emissions by ten percent in comparison with 1990 by 2010 and so far is well on the way to doing just that. Vehicle Management have been instructed to halve fuel consumption compared with 2000, when fuel consumption lay at 167,000 litres per year, by the year 2005. In fact, consumption has already been reduced to 92,000 litres by investing in ETH Zurich's vehicle pool, meaning that the target has almost been reached. In particular, five hybrid drive vehicles have been purchased.

Purchasing/KoBe ETH+. In the ETH Zurich/New Travel Gate travel project, ETH Zurich is working with EPF Lausanne to set up e-procurement software (Internet Booking Engine) for online booking of flights, hotel rooms and hire cars. This will make it easier, quicker and cheaper for ETH employees to book business travel, will reduce administrative and book-keeping work and will further improve travel conditions.

myETH and personETH. myETH and personETH are two projects which come under the auspices of ETH World. Since the end of June, myETH has provided the entire ETH community with a Web portal which can be configured to suit individual requirements, data from the extensive ETH network being bundled into "channels". myETH is run jointly by the ETH Library, Computing Services and Corporate Communications. personETH was developed by the Personnel Office as a new Web application intended to speed up standard processes performed by ETH personnel management. The aim is a paper-less workflow system. The new website has been up since November 2003, so 2004 was devoted to working on the workflow system. Since the beginning of 2005, hourly-paid employees have had their statements of hours worked produced using the workflow system.

Development planning, ETH Zurich Zentrum site. A masterplan was presented in 2004 as a basis for joint further development of the university area in the centre of Zurich by the Canton and city of Zurich and the institutions of further education and research facilities located there. The purpose of the masterplan is to provide a long-term, high-quality framework for further planned development of the area. By applying the four modules of town planning, culture, utilisation and transport, it is intended to integrate the institutions involved into an overarching "campus concept", so establishing a common identity as well as creating and exploiting synergies. The process is less one of creating new contents and spaces than of activation, interlinking and utilisation of the existing structural and town-planning potential of the more prominent institutions.

Overall ICT strategy for ETH Zurich

At the beginning of 2004, the Executive Board decided to develop an overarching strategy for the use of information and communications technology (ICT) in teaching, research and the associated management tasks at ETH Zurich. It is intended that the new technologies should be specifically designed for use in all core processes at the university.
The rapid development of information and communications technology (ICT) has a direct impact on all areas of education and research, with the amount of knowledge and information available growing exponentially. Radical new models are emerging for cooperation, networking and the exchange of knowledge. A good ICT infrastructure is essential for teaching and research, and provides an ever more important advantage in the global competition between universities. With a global strategy for using information and communications technology in its teaching, research and the associated management tasks, ETH Zurich intends to establish itself as one of the internationally leading universities in this respect.

Broad basis for strategy development. It was the recommendations from the interim evaluation of the ETH World at the end of 2003 that provided the stimulus for developing an overall ICT strategy. As a consequence, the Executive Board appointed the ETH World Program Director, Prof. Bernhard Plattner, to chair the strategy development group. Since March 2004, a project group consisting of members from the various academic and infrastructure departments has been working hard on developing a strategy, paying particular attention to teaching and research needs. The departments have been closely involved in the process and the strategy should be ready for adoption by the Executive Board in spring 2005.
The strategy lays down general guidelines and sets targets for the use of ICT in all core university procedures. By using new technologies, ETH Zurich is intending to promote individual flexible learning and self-directed, active engagement of students with the subject matter. ICT is used wherever it adds value from the point of view of learning or teaching and to support not only study but also other work at the university, irrespective of time and place.

Basic research infrastructure. In many areas of research, the use of ICT is crucial to success and ETH Zurich naturally wants to maintain and develop its pole position in this field. ETH Zurich regards ICT as a central component of its excellent infrastructure, giving it a vital competitive edge. This infrastructure must provide and further develop access to the computing power, communication bandwidth and information needed by users. A further challenge is presented by the large amounts of data generated in many research projects and which need to be available to the global scientific community.
ETH Zurich wants to contribute to the advancement of the worldwide scientific community and of global access to knowledge and information. In accordance with its national mandate and its aspirations for global influence, ETH Zurich is pursuing a policy of offering the broadest possible public access to its teaching and study materials, research results and services. In particular, it wants to use new technologies to develop its outreach activities and services for business and society and to use ICT-based continuing education programs to serve existing target groups better and to reach out to new audiences.

Communication and e-services. New technologies also offer ideal possibilities for internal communication and the involvement of staff, students and alumni.
In order to further enhance the efficiency of its business processes, ETH Zurich is continuing to develop e-services in all areas of infrastructure.
The fast pace of development within ICT is a major challenge. ETH Zurich intends to meet this head-on, by actively promoting innovation through the provision of suitable structures and adequate resources.

Science City: a place to think – and to live

In the Science City project, ETH Zurich is creating a window on the future. By 2010, the ETH Hönggerberg site will have become a university campus, a site for thinking and for living. Science City is an audacious but achievable project which at the same time constitutes a metaphor for the ETH of the 21st century. In Science City, ETH Zurich's strategic plans take concrete form: top flight research and teaching, knowledge transfer, internationalisation and intensive ongoing dialogue with the public.

In 2004, ETH Zurich came a lot closer to putting the Science City project into practice: once ETH professor Andrea Deplazes had presented a master plan in 2003, 2004 saw the launch of a competition for selecting the project which will lead Science City into its next phase.

Lively mix of uses. Four teams were invited to submit options for further urban development on Hönggerberg. Particular attention was to be paid to the following three factors: firstly, awareness of differing requirements, especially the concerns of the local inhabitants, secondly creating a distinctly European atmosphere on the campus, and thirdly making the best possible use of the available resources in terms of land, energy and finance. These guidelines were a result of the preparatory phase, which had received input from a wide range of interested parties.

The project submitted by Kees Christiaanse, the Dutch town planner, architect and now Professor at ETH Zurich, and his team was the most convincing of the four extremely high-quality entries. It makes intelligent, clearly thought-out use of what is there already while leaving plenty of scope for forward-looking architecture. The central priority, however, is less the built form and more the desired function and content. Science City is intended to provide a lively mix of uses over the entire area, involving the ETH community, visitors and the local population, with increasing density towards the centre and a fluid transition to the surrounding land- and cityscape.

Vision and stimulus for thought. ETH's vision of a place for thinking and living on Zurich's Hönggerberg has drawn reactions from around the world, in particular during specific exhibitions in Berlin and Barcelona. It has kindled a broad discussion about the role of a university in society and how its creative power extends beyond teaching and research. At a regional level, it has opened up new perspectives for creating links with the University of Zurich, the city and the Canton, and has highlighted how similar interests can be jointly represented and pursued. In this way, it has already made tangible the difference between the university of the 21st century and its predecessors.

Concrete steps. Science City is intended one day to be a working and living space for over 10,000 people, with forward-looking teaching and research buildings, a conference centre, student housing, a guest-house, restaurants, shops and leisure centres. The first turf will be cut in 2005 when a start is made on building the Information Science Lab, the future hub for information sciences. The vision will gradually take physical form, with other parts of the whole growing up in loose succession in accordance with constantly updated priorities and, of course, the availability of resources.

STAFF SUGGEST WAYS TO OPTIMISE USE OF RESOURCES.

TUITION FEES: ENSURING SOCIAL COMPATIBILITY.

RECOGNISING AND SOLVING STAFF PROBLEMS.

TOO MUCH MANAGEMENT AT THE EXPENSE OF TEACHING AND RESEARCH?

UNIVERSITY ASSEMBLIES RAISE THEIR CONCERNS WITH THE ETH BOARD.

Good start for participation in the new ETH Board

The partially revised ETH Law came into force at the beginning of 2004 and so the newly elected ETH Board members, including the President of ETH Zurich and Kristin Becker van Slooten, who was proposed by the University Assemblies of the Federal Institutes of Technology, ETH Zurich and EPF Lausanne, took up office. Since then, ETH Board meetings have taken a somewhat different form, with the two Presidents of the University Assemblies receiving all documents for the meeting at the same time as the other participants in the meeting. The two University Assembly committees meet with Kristin Becker in Berne in order to prepare for the ETH Board meeting and after the meeting, Kristin Becker reports back directly to the University Assemblies at the plenary session. This procedure has got off to a good start and makes it possible to raise issues with the ETH Board on the basis of well-informed statements and requests.

President of the ETH Board visits University Assembly. The new President of the ETH Board, Prof. Alexander J. B. Zehnder, visited the University Assembly on 2 September 2004 for the joint session with the University Assembly of EPF Lausanne and presented his personal views on the ETH Board, the ETH domain and some current issues.
At the end of the year, the University Assemblies produced their comments on the new performance-related salary system and on the amendment of the regulations governing professorial staff. The University Assemblies' comments on the consultation exercises can be found at www.hv.ethz.ch/docs/vernehmlassungen.

Jubilee projects in preparation

Work on the Personnel Commission's jubilee projects was much in evidence throughout 2004. The three project groups – musical ETHeater, charity collection and summer festival – had a mountain of work to climb. Nevertheless, by the end of 2004, they were in a position to say that everything had was well prepared for the staff party. The script for the musical ETHeater "Welcome Tomorrow" has been written and its first performance will take place at the end of June 2005. An ETH song has been composed. The recipient of the "150,000 francs in 150 days" charity collection is "TIXI" transport services for the disabled, Zurich. Many different attractions, including music and dance on Hönggerberg, are planned for the summer festival.

Submitting suggestions over the Web. Although the Jubilee preparations took up a lot of the Personnel Commission's time during 2004, due attention was still paid to policy issues, involving consultation as well as handling and solving staff problems for staff, for example the fact that not all ETH staff and students have access to a computer and are thus periodically cut off from a vital source of information. It is on the initiative of the Personnel Commission that the Vice-President of Planning and Logistics will in future give staff the opportunity to make suggestions for improvement to facilities or for possible savings or more efficient use of resources. There was no shortage of consultation work either. The Personnel Commission commented on those of relevance to personnel issues: the complete revision of regulations governing the use of IT facilities and procedure in the event of suspected scientific misconduct at ETH. The Commission also participated in a discussion with personnel associations regarding the pending negotiations of a new salary system and received explanations about foreseeable changes in the Federal pension fund, Publica.

Information directly from the horse's mouth. So that a true picture of any restructuring, reorganisation or other events at ETH can be gained, the Personnel Commission invites the people in charge to a discussion. In the past year, Personnel Commission members obtained first hand information from Giorgio Broggi (head of Administrative IT Services) on personal privacy and IT data protection in the central administrative bodies. There were further discussions with Markus Meier (director of Real Estate Services) about the reorganisation of the Security department. Adrian Huber (head of staff survey project management) informed the Commission about the overall result of the survey and the measures to be implemented. The Personnel Commission will continue to analyse the results and focus especially on the implementation of the subsequent measures. There was also some happy news for Personnel Commission members: they now have their own email address (info@peko.ethz.ch) and, since spring, a permanent address including secretarial services at 41 Universitätsstrasse.

Social compatibility and tuition fees

VSETH, the ETH students' association, addressed a host of different topics and projects in 2004. The organisation for example drew attention to the problems around mobility arising from the comprehensive introduction of the Bologna process. VSETH was able to convince decision makers that there is was need for action in this respect. Matters have now been taken in hand and it may be assumed that solutions can be found and implemented within a reasonable timescale.
As part of the growing debate around tuition fees, VSETH focused on the fundamental issue of social compatibility. Since this argument seems to be falling on deaf ears, VSETH is now endeavouring through its national umbrella association, VSH (association of Swiss university student bodies), to ensure that social compatibility remains the cornerstone of any reform of the grants system. VSETH is campaigning hard to ensure that tuition fees go to the university coffers and are used appropriately for teaching. Above all, there can be absolutely no question of tuition fees being raised any further before the grants situation has been considerably improved.

Debate about the quality of teaching. VSETH also initiated a debate within university policy-making circles about the quality of teaching. Most senior figures at ETH Zurich are convinced that the quality of teaching at ETH is very good. The debate initiated by VSETH in various fora (study commission, Rector) is intended to make people aware that this is not necessarily the case and that considerable further action is required if ETH Zurich is to be counted among the world's best in teaching too.
Polykum, ETH Zurich's student newspaper, which is published as a sister publication to ETH Life Print and represents the students' viewpoint, is now completely under the editorial control of students. Demanding targets have been met, content and layout have been significantly upgraded and there have been no gaps in continuity.
This year's Polyball was entitled "Ball-àlaika" and, with its elaborate decoration it was again, as every year, one of the highlights of the cultural scene of the city of Zurich.
VSETH continued to make sure that the students' views on Science City were heard, campaigning hard for the creation of residential facilities on Hönggerberg, which are a proven need for students.
Within VSETH, a thorough revision of the association's statutes was prepared and approved, so bringing it into line with the current ETH environment and eliminating various statutory shortcomings. The goal is to ensure that VSETH can continue to operate efficiently in years to come.

Relocation into new student centre. Many changes are in the air for next year – VSETH together with various committees such as the Polyball committee will be moving into the newly renovated old chemistry buildings, where the foundation stone is to be laid for a new student centre, which will doubtless be ETH Zurich's largest Jubilee year gift to its students. The official opening is due to take place on 3 November 2005 under the slogan "StuZ2 – students at home".
Again, the commitment of our 500 volunteer staff and helpers from subject-related associations, commissions and working parties has made it possible to offer students valuable services and to represent their interests effectively.

From researcher and teacher to manager?

Research and teaching versus administration and communication? Administration and committee work have long been part and parcel of an ETH professor's duties, but in recent years expectations in terms of management activities have been raised considerably. No longer is it just a matter of leading research groups or teaching projects, now autonomous departments have to be administered, patrons sought out and politicians and the general public kept informed. On paper, the concept sounds good. However, professors are primarily selected and assessed on the basis of their abilities in teaching and research (administrative and PR abilities are quite correctly of secondary importance). In concrete terms, this means that the higher levels of performance demanded in administration and communication can only be achieved at the cost of competitiveness in research and teaching. It is not only in the medium or longer term that this trend is worrying. There are already indications now that managerial load is becoming a decisive factor in preferring a chair at another institution or rejecting a chair at ETH Zurich. 2005 will thus see a campaign by the Lecturers' Conference to ensure that teaching and research tasks are not increasingly overshadowed by managerial activities.

Efficient review procedure. Not only the individual professors, also the Lecturers' Conference is facing increasing volumes of work. The ever mounting number of review procedures has led the Lecturers' Conference to adopt a new approach. It will now only comment on subjects to which it can make a significant contribution or, in particular, that it can handle more efficiently than the departments themselves. This selective approach has already impacted positively on the review procedure on misconduct in research.

Misconduct in research. The Lecturers' Conference had fundamental reservations about the proposal raised in the review procedure and has drafted a slimmed down version which was closer in line with the provisions in force at the University of Zurich. This led to fruitful discussions with the Executive Board and also to a satisfactory solution in the event of suspected scientific misconduct. In particular, a graduated procedure (preliminary evaluation by an assessor, investigation by a commission of enquiry, decision by the Executive Board) has been introduced which takes proper account of the interests of all parties involved.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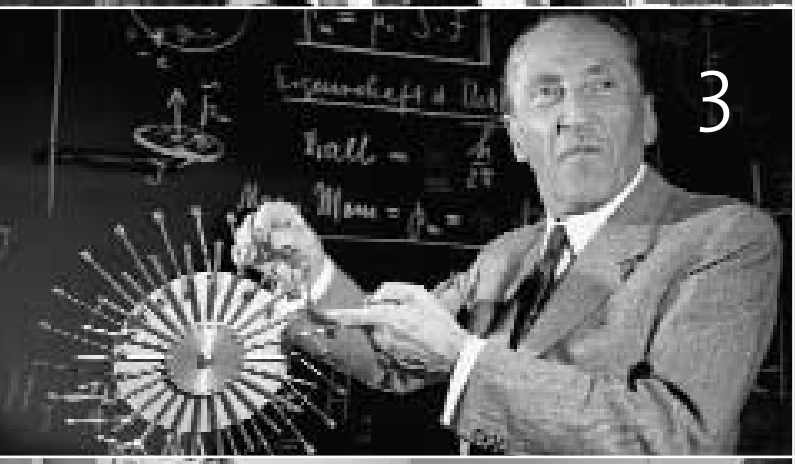
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ETH Day. ETH Zurich needs more private funding if it is to keep its position at the forefront of international competition among the world's top universities, which is why it has begun professional fund raising activities. Such were the words of Prof. Olaf Kübler, ETH President, in his speech on ETH day 2004 to more than 600 guests from the worlds of science, business and politics.

Three new honorary doctors, one guest of honour.
On ETH day the Rector, Prof. Konrad Osterwalder, awarded honorary doctorates to three academics:
Ernst Gisel in recognition of his life's work as an architect, which was characterised by outstanding commitment to architectural and cultural values.
M. J. Nigel Priestley in recognition of his fundamental work in earthquake engineering which is a daily inspiration to engineers.
Richard L. Sandor in recognition of his pioneering work at the interface between universities and society in the development and implementation of innovative and flexible financial instruments for mitigating climate and environmental risk and creating added value from the sustainable management of ecosystems.
Karl Linnepe was awarded the title of Permanent Guest of Honour of ETH Zurich in recognition of his energetic support for the development and fostering of international contacts among students in propulsion technology and mechatronics.
Photo 1

Prizes awarded by industry and foundations.
Asea-Brown-Boveri research prize: Dr. Hans-Peter Burgener and Dr. Benjamin Rembold
Construction industry promotion prize: Dr. Andreas Hartmann
Georg-Fischer prize: Dr. Tobias Leutenegger
Hilti prize: Prof. Wendelin J. Stark
Plastics engineering prize: Dirk I. Uhlenhaut
Heinrich-Hatt-Bucher prizes: Dominic Joray, Elio Raveglia und Valentin Heller
Latsis prize: Dr. Karl Gademann
Otto-Jaag water conservation prize: Dr. Peter Bauer

Medals for outstanding dissertations. Department of Architecture: Christian Müller Inderbitzin, Iris Stelzmüller; Department of Civil, Environmental and Geomatics Engineering: Dominic Joray, Fabienne Perret, Ines Röser; Department of Mechanical and Process Engineering: Claudio Iseli, Josué Sznitman, Hao Chi Ly, Rodrigo J. Weiss; Department of Information Technology and Electrical Engineering: Gabriela Glanzmann, Martin von Siebenthal; Department of Computer Science: Thomas Moscibroda; Department of Materials Science: Marco M. Zappa; Department of Management, Technology and Economics: Andreas Biedermann; Department of Chemistry and Applied Biosciences: Dragan Grabulovski, Lukas L. Imbach; Department of Biology: Vivien A. Exner; Department of Environmental Sciences: Melitta Maradi, Andreas Zünd

Willi Studer prizes for the best final degree examination results. Department of Architecture: Christian Müller Inderbitzin; Department of Civil, Environmental and Geomatics Engineering: Mathias Lehner, Fabienne Perret; Department of Mechanical and Process Engineering: David B. Jenni; Department of Information Technology and Electrical Engineering: Flavio Fröhlich; Department of Computer Science: Daniel Cotting; Department of Materials Science: Dirk I. Uhlenhaut; Department of Management, Technology and Economics: Thomas P. Aebischer; Departments of Mathematics and Physics: Adrian Burri, Gabrio C. Caimi, Lukas D. Meier, Davy S. Graf, Tuomas P. J. Knowles; Department of Chemistry and Applied Biosciences: Michelle Dorn-Aymon, Karin Häfliger, Hans Jakob Wörner; Department of Biology: Chiara Nembrini; Department of Earth Sciences: Michael Strasser; Department of Environmental Sciences: Barbara M. Schlup, Daniel Sutter; Department of Agriculture and Food Sciences: Anita Philipp, Cäcilia J. Spörndli

New Year Drinks Reception. On 14 January, the Executive Board welcomed a good 600 ETH staff and students to the first ever ETH Zurich New Year drinks reception on the Hönggerberg. At this reception, ETH President Prof. Olaf Kübler and Prof. emeritus Meinrad Eberle, CEO of the "150 years of ETH" project, launched ETH's jubilee slogan: "Welcome tomorrow".
Photo 2

German media visit. The debate on the pros and cons of elite universities in Germany has aroused the interest of German journalists in ETH Zurich and resulted, among other things, in a relatively long article in the news magazine Focus.

History of Swiss nuclear power. The archive dedicated to the history of civilian use of nuclear energy in Switzerland (ARK) opened in mid February at the ETH Library. This unique collection, which documents the turbulent history of civilian nuclear power over the last 50 years, passing from initial euphoria to the moratorium on the construction of new nuclear power plants, is now available to researchers and the public. The archive is the fruit of the labours of ETH Zurich, the Paul Scherrer Institute, the Swiss nuclear power industry and private individuals. The ETH Library also hosted an exhibition entitled "Dream of a Swiss reactor: the development of nuclear technology 1955–1969".

Photo 3

432 doctorates awarded. A total of 104 female and 328 male doctoral candidates, around 50 percent of whom were Swiss nationals, were awarded their doctorates at ETH Zurich in 2004. The award ceremonies took place on 30 January and 26 June.

Field trial. The outdoor phase of ETH's trial on transgenic wheat came to its end as planned in mid July. ETH plant researchers took the final plant and soil samples before the wheat was fully ripe. ETH Zurich was relieved that it was possible to carry out the trial as planned. Despite numerous protests, there was no major disruption or sabotage.

All plant material was subsequently removed from the eight square metre trial plot, while the soil was flamed and sterilised.

The plant and soil samples collected are being subjected to molecular biological, biochemical and bacteriological investigations and the results will be reported in the first half of 2005. The field trial of genetically modified wheat is a basic research experiment.

Centre of excellence in finance. The new Centre of Competence Finance in Zurich (CCFZ) was officially opened at the end of March at a ceremony which gave around 200 guests from the worlds of finance and business a glimpse of the activities and objectives of this interdisciplinary centre of excellence of the University of Zurich and ETH Zurich. More than 40 professorships from these two Zurich universities working in the fields of actuarial mathematics, mathematics, economics and law are using this scientific network to promote and coordinate their research and teaching activities.

CCFZ sees itself as an information source and contact point for the financial sector, public authorities and the public. The "Master of Advanced Studies in Finance" program is the centrepiece of CCFZ and is the first master's degree to be awarded jointly by the University of Zurich and ETH Zurich.

Experimental living on Hönggerberg. As part of the Science City project, five ETH students, four men and one woman, took part in a residential experiment during the summer semester by moving into a construction site container on Hönggerberg. The students' impressions and experiences from this three month experiment will provide useful input for the planning of Science City.

Photo 4

Wireless surfing on the bus. In a joint venture with sunrise and VBZ, the local public transport authority, ETH Zurich tested mobile Internet access by wireless LAN (WLAN) in the ETH shuttle bus between the ETH Zurich Zentrum site and Hönggerberg. The trial ran during the summer semester and two surveys were carried out over this period. The majority of those surveyed approved of the experiment itself. After initial teething problems, the WLAN operated without any further technical issues surfacing. It was found that there was widespread interest in WLAN access on public transport, but trains were thought more suitable than the shuttle bus (lack of space, severe vibration/jolting due to bumpy road surface). This trial was part of the ETH World project.

Photo 5

Annual media conference 2004. 2004's annual media conference, which took place on 21 April, focused on Science City and the donation of CHF 23 million by the entrepreneur Branco Weiss. The money will be used for the new information science building as part of Science City.
Photo 6

ETH World information lunches. At the beginning of the summer semester and just before Christmas, ETH staff and students were given an update on the status of the ETH World program during two information lunches. The theme of the May lunch was the myETH web portal, the December event focused on ETH Zurich's new ICT strategy.

Visit by Nobel prize winner. As part of the Wolfgang Pauli lecture series, Nobel prize winner Sydney Brenner gave three public lectures at the end of May about his work on gene analysis and gene evolution. Sydney Brenner is a professor at the Salk Institute in La Jolla, California and is considered a pioneer in genetic and molecular biology. In 2002, Sydney Brenner was awarded the Nobel prize in physiology and medicine for his work.
Photo 7

Transit of Venus. On the morning of 8 June, the planet Venus crossed the sun, showing up as a black dot. The event was broadcast live by ETH from the Semper observatory's solar observation tower and IRSOL, the Institute for Solar Research in Locarno. The next opportunity to observe this planetary event will be in 2012, after that one will have to wait until 2117. The live broadcast was made possible by an initiative of ETH World in partnership with ETH Zurich's Institute of Astronomy, IRSOL and the ETH Zurich's Network for Educational Technology (NET). The Institute of Astronomy made use of the transit of Venus for scientific experiments.
Photo 8

One decade of equal opportunities. Equal, ETH Zurich's agency for equal opportunities for men and women, has been in existence for ten years. The anniversary was marked by various events and the exhibition "Dans la peau de Jeanne – dans la peau de Jean", which asked visitors to reflect on how their life might have been different had they been born the opposite sex. The exhibition was organised by students from the University of Lausanne, members of "Science et Cité" and others. It was first exhibited at the Festival of Knowledge in 2001. In November, Equal also put on the two-character play "If she says, then he says..." in the main hall.
Photo 9

Exhibition of grammar school leavers' projects. In June 2004, 40 graduates from grammar schools from as far afield as Berne to Ftan (Graubünden), exhibited their graduation projects and discussed them with ETH staff and students. The projects were presented in poster form, supplemented with models or information on a laptop. "Rule-based expert systems using the card game Jass as an example", "The headwind vehicle" or "The intelligent revolving car lift" are the titles of just three of the forty projects.
Photo 10

Bülachhof day nursery. On 16 June, the Student Housing Foundation and the Zurich Universities' Child Care Foundation opened a day nursery in Bülachhof, a student residence in Zurich. In so doing, the University of Zurich and ETH Zurich hope to make it easier to combine the demands of a career and of family life. The nursery has 36 day places for preschool-age children and is available for use by all members of the two universities.

Alpine garden at ETH Zurich. On 21 June, ETH Zurich opened its new alpine garden, a joint project of the Geobotanical Institute and ETH Zurich's plant nursery, at the Hönggerberg site. The garden is currently home to 150 mountain plants, but the number is set to rise to 250 in the near future. Students use the alpine garden as a nature trail, but access is free to anyone.
Photo 11

Anniversary competition "Castle in the Air". This competition for young talent was organised by construction-related departments to mark the 150th anniversary of ETH Zurich. The winner was the "Polynational" project, which will involve the construction of a community centre in Afghanistan, with the construction process being transmitted back to ETH Zurich. A book has been written to document the entire competition. In autumn, the winners will visit the construction site in Bamiyan (Afghanistan) and, on the basis of the local situation and local consultation, they will create a new design retaining the basic idea of a community centre.
Photo 12

Agreement with San Francisco. On 2 July, the Rector of ETH Zurich and the Chancellor of UC Berkeley signed a cooperation agreement in Zurich's town hall. The two universities plan to strengthen their scientific cooperation and promote exchange programs for students and researchers. The agreement is a result of the San Francisco-Zurich Initiative, which aims to promote partnerships and networking between the shores of Lake Zurich and the San Francisco Bay area.

Zurich school holiday pass. As part of the Zurich school holiday pass scheme, which provides children from the Canton of Zurich with numerous leisure opportunities in the summer holidays, two groups of children participated in supervised afternoon experiments in laboratories of the Chemistry and Applied Biosciences department. So popular were these afternoons that they were fully booked months in advance.

Science City Brunch. A good one hundred people responded to ETH's invitation to the "Science City Brunch" on 12 September. The informal atmosphere encouraged an open and frank discussion of Science City and the planning process. It was also an opportunity to present inspiring ideas for the future ETH Campus to the public, including the new, prize-winning sports centre.

Study weeks for grammar schools pupils. At the 2004 ETH study week, a joint project between ETH Zurich and the Swiss youth science foundation "Schweizer Jugend forscht", teenagers had the opportunity to work on a project with researchers. Around 90 youngsters took advantage of this chance to get to know ETH before possibly coming to study here. The study week took place at the beginning of October.
Photo 13

Light microscopy centre. ETH Zurich's new "light microscopy centre" at ETH Hönggerberg was officially opened at the beginning of December. It was as long ago as 2001 that ETH Zurich's Institute of Biochemistry first requested the creation of a central light microscopy facility at ETH, but only after an external evaluation of the Biology Department had urgently recommended such a facility was funding actually provided in 2002.
Photo 14

Bridge building competition for schoolchildren. ETH Zurich was on the road this year in German-speaking Switzerland with its travelling exhibition "Where worlds open up" which had the intention of building bridges with grammar schools. The program included a competition organised by the Department of Civil, Environmental and Geomatics Engineering to find out who could build the strongest model bridge. In mid December, the winning teams from nine schools met in the finals of the "Bridge Award 2004" in the engineering hall on Hönggerberg. A team from Sarnen cantonal school were the clear winners with a bridge supporting a load of around 170 kilograms.
Photo 15

Professional training at ETH. At the beginning of 2004, professional training in Switzerland made a huge step forwards when the country's new professional training and education law came into force. For instance, if you have a vocational school leaving certificate, it is now possible not only to attend a University of Applied Sciences or to get a good job, but also, subject to passing an entry examination, to study directly at a traditional university.
ETH Zurich presented the training it offers in twelve different occupations at two very well attended exhibitions (at the ETH Zurich Zentrum site in April and at ETH Hönggerberg in November). The goals of increasing levels of acceptance and of making schools and the general public more aware of the areas of occupation possible at ETH were fully achieved.
Photo 16

ASVZ: Wellness centre at ETH Zurich Zentrum. The latest statistics confirm the sporting success of ASVZ, the academic sports association of Zurich: Over 370,000 visits were recorded for the 80 different kinds of sport on offer, 360,000 individual training sessions took place at ASVZ and more than 13,000 men and women took part in sporting events, 9,000 of which in the SOLA relay race. Individual training in particular has experienced spectacular growth in recent years. ASVZ is responding to this demand by providing background documents, personal consultations and, in particular, appropriate equipment in the fitness and wellness rooms.
In 2004, ETH Zurich gave the go-ahead for substantial upgrades to sporting facilities, for instance the new wellness centre in the new/old chemistry buildings at ETH Zurich Zentrum is shortly to be completed. For the first time, students and staff of ETH Zurich and the University of Zurich will have the opportunity to wind down and recover in the relaxation room, so fulfilling one of ASVZ's long-held wishes. The selection of the winner of the architectural competition for the planned "ETH Hönggerberg Sports Centre" marked the beginning of a very important phase for ASVZ: well developed sports facilities at the future Science City will give a considerable boost to teaching and research. The "Frenchman" project from the Austrian architects Helmut Dietrich and Much Untertrifaller based in Bregenz is an ideal solution.
In the 53rd prestigious Uni-Poly rowing race, the ETH men's team lost for the 13th time in succession, while the women's team won, salvaging ETH Zurich's honour for the fourth time.
Photo 17

gta – the exhibitions program. A presentation from Paris devoted to the French architect Fernand Pouillon was the first on this year's program of exhibitions. Pouillon's post-war housing developments bear witness to a different kind of modernism and have only very recently come to be properly appreciated.
gta's own exhibition with accompanying book entitled "Villa Garbald. Gottfried Semper – Miller & Maranta" described how a chapter in international building history was saved from oblivion by restoration, conversion and rebuilding.
The exhibition and book "Adrian Meyer. Lehre und Praxis" were the fruit of close collaboration between the gta Institute and the Department of Architecture. Adrian Meyer, originally from Baden, has been teaching at the Department of Architecture since 1994.
To mark the occasion of the conversion and reopening of Cabaret Voltaire in Zurich, the gta Institute published a catalogue and organised a series of five evening events at the cabaret held respectively by architects, intellectuals, journalists and the City of Zurich public works office.
A series of travelling exhibitions provided insights into international architectural creativity: "Architektur Slowakei" illustrated chapters from the 20th century history of building in Slovakia; "Neues Bauen am Horn" presented a current exemplary conversion project in Weimar; "The City as Loft" from Rotterdam was a presentation of the novel strategies of town planner/architect and ETH professor Kees Christiaanse.
The last exhibition of the year, "Science City ETH Zurich", shown first in Berlin and Barcelona, met with an enthusiastic public response. It showed historical and current visions for the development of ETH Hönggerberg, including the project for rebuilding the ETH Hönggerberg Sports Centre and Kees Christiaanse's competition entry, which will serve as the basis for development of the Science City campus.
Photo 18

Collegium Helveticum: new structure, new project. The activities of the Collegium Helveticum were greatly influenced by the series of discussions entitled "Debating Science Culture – a self-examination on money, culture and quality", which the Collegium carried out together with the Executive Board of ETH Zurich. These unconventional discussions provided a forum for top representatives from science and business as well as politicians and intellectuals. Until the end of March 2004, mathematician Prof. Norbert Schappacher was the Collegium's visiting scientist. Together with the Research Institute of Mathematics, he organised the conference "On the History of Mathematics". Added to this, the Collegium Helveticum was involved in devising and organising the first Ittinger Summer School, which took place in partnership with the University of Konstanz and the Cohn Institute for the History of Science of the University of Tel Aviv in late July at the Kartause Ittingen, a former Carthusian monastery. The well-attended Summer School, which was entitled "The Cunning of Science" culminated in a greatly admired speech by Federal Council member Moritz Leuenberger on the subject of "Cunning in Politics".
At the end of September 2004, Prof. Peter Rieder completed his term of office as interim chair and the Scientific Advisory Board was dissolved. On 1 October, Prof. Gerd Folkers took over as chair of the Collegium, under the joint sponsorship of the University of Zurich and ETH Zurich. A joint research project was established at the beginning of the winter semester under the title "The role of emotion: the part it plays in human action and in setting social standards". Three Fellows from each of the University of Zurich and ETH Zurich are involved in this project, supported by the cogito foundation. These are Prof. Hans-Ruedi Heinimann (D-UWIS), Prof. Hanns Möhler (D-CHAB), Prof. Reinhard Nesper (D-CHAB) from ETH Zurich, and Prof. Ingolf Dalferth, Prof. Ernst Fehr and Prof. Jakob Tanner from the University of Zurich.
Photo 19

Collection of Prints and Drawings. "Flugstunde – Swiss graphic arts of the 60s and 70s" continued the Collection of Prints and Drawings' overview of 20th century Swiss prints. The stylistic range in these two decades covers the entire range from more or less representational or narrative works to expressive/abstract images. Franz Gertsch is primarily known for his large-scale woodcuts of the 1980s; one such image of a woman is on permanent display on floor E of the main building. With the exhibition, "Franz Gertsch – Scottish watercolours 1961–65", ETH Zurich revealed an unknown facet of his work. In the "Raymond Pettibon – Winged Heart and other prints" exhibition, the focus was for once on contemporary American prints. It was some years ago that the Collection of Prints and Drawings began to collect art prints and this was the first time that these new acquisitions were shown.
Towards the end of the year, the Collection of Prints and Drawings was host to a private collection. "Gusto e passione – Italian sketches from the Gadola collection" demonstrated that the profound impact which Italy has had for centuries on the development of European art extended to drawing too. 2004's final exhibition presented "Italian woodcuts and chiaroscuro works of the 16th to 18th centuries". At the request of Dr. Ruedi Jeker, president of the Cantonal Government, the Cantonal Governments of Geneva and Zurich visited the Collection of Prints and Drawings on 15 September.
Major acquisitions in 2004 include a set of lithographs from the young Scottish artist Richard Wright and a second set of prints from Verena Loewensberg, an important representative of the Zurich school of "concrete art". Works from other sought-after Swiss artists were also purchased (Boris Rebetez, Ian Anüll, Dieter Hall and Peter Emch). The Arts Council of Switzerland, Pro Helvetia, even lent its entire holdings of Swiss graphic arts from 1960 to today for the "Why make prints" exhibition. A wide-ranging group of drawings from the sculptor Robert Müller was obtained from a private collector in Solothurn.
Photo 20