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CZECH TECHNICAL UNIVERSITY IN PRAGUE

The Czech Technical University in Prague is one of the biggest and oldest technical universities in Europe. It was founded on the initiative of Josef Christian Willenberg on the basis of a decree issued on January 18th, 1707 by Emperor Josef I.

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CTU currently has eight faculties (Civil Engineering, Mechanical Engineering, Electrical Engineering, Nuclear Science and Physical Engineering, Architecture, Transportation Sciences, Biomedical Engineering, Information Technology) and about 22,500 students.

For the 2013/14 academic year, CTU offers its students 114 study programmes and 450 fields of study within these programmes. CTU educates modern specialists, scientists and managers with knowledge of foreign languages, who are dynamic, flexible and able to adapt rapidly to the requirements of the market.

In 2013, CTU was ranked between 451st and 460th place out of 17,000 universities worldwide in the QS World University Rankings, which is published in the Times Educational Supplement.

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A GREETING FROM THE RECTOR

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Welcome to CTU in Prague

The Czech Technical University in Prague has traditions represented by names such as Gerstner, Božek, Doppler, Zítek, Křižík, Prelog, and many others. The University's traditions are reflected in structures like the National Theatre and the Rudolfinum, as well as power plants and bridges, railways and roads all over the Czech Republic.

The Czech Technical University in Prague has eight faculties and five autonomous university institutes. Each of these elements teaches its own study programmes, and their staffs carry out significant scientific, research and development work, at home and all over the world.

The Czech Technical University in Prague has almost twenty-three thousand students, who will in future influence the development of our country and will draw on what they have learned at their alma mater for the rest of their lives.

My wish for the Czech Technical University in Prague is that, just as it had an undeniable influence on life in the Czech lands in the past, it will also in the future be a source of strength that cannot be torn apart by internal strife, and that the University will continue to be one of the most prestigious teaching and research institutions in Europe.

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CONTACTS

RECTOR: prof. Ing. Václav Havlíček, CSc. CTU RECTOR'S OFFICE: Zikova 4, 166 36 Prague 6 PHONE: +420 224 351 111 WEBSITE: www.cvut.cz/en prof. Ing. Václav Havlíček, CSc. rector

ORGANIZATION OF STUDY PROGRAMMES

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CTU offers accredited bachelor, master and PhD study programmes. Each faculty, and also the Masaryk Institute of Advanced Studies, offers and administers a range of its own programmes.

BACHELOR STUDY PROGRAMMES

The standard length of a bachelor study programme is 3 or 4 years and it can be studied either in full-time or part-time mode.

A bachelor study programme is a shorter form of university education. Our graduates get a Bachelor's academic degree (Bc.), or Bachelor of Arts (BcA.) at the Faculty of Architecture in the Design study programme. The graduates have all the theoretical and practical skills needed for working in various positions in industry, institutions, schools, shops and services. However, they are primarily well prepared for further studies.

MASTER STUDY PROGRAMMES

Master study programmes are open to bachelor graduates, have a standard length of 1.5 or 2 or 3 years and can be studied either full-time or part-time.

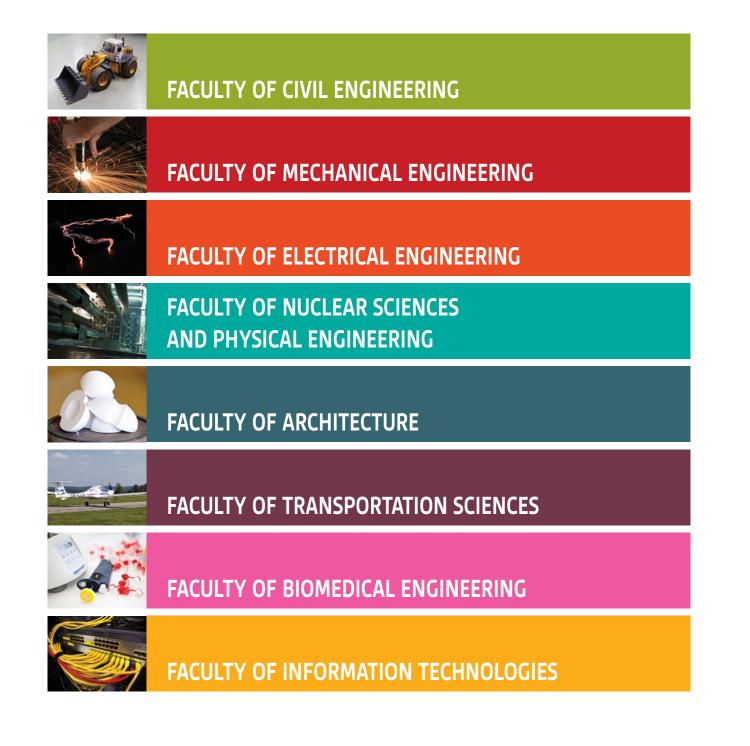
The variety of elective and optional courses is getting wider in the field-oriented studies. The graduates are awarded an Ing. degree (i.e. engineer). At the Faculty of Architecture and at the Faculty of Civil Engineering in the Architecture and Building Engineering study programme the degree awarded is Ing. arch. (i.e. engineer architect).

DOCTORAL STUDY PROGRAMMES

The standard length of a PhD study programme is 3 or 4 years. These programmes are open to the master programme graduates.

Doctoral studies are a higher and more demanding form of education. Students are trained to solve the most complicated problems in applied science. Every doctoral student is requried to demonstrate his or her ability to produce independent creative scientific work by passing some examinations and presenting a dissertation. Graduates are awarded the academic title doctor (Ph.D.). All doctoral study programmes at CTU are also accredited and offered in English language.

FACULTIES



FACULTY OF CIVIL ENGINEERING

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UNIQUE FACTS

WE ARE UNIOUE IN THE CZECH REPUBLIC

The Centre of Excellence CSF

The faculty has been awarded the Centre of Excellence CSF (Czech Science Foundation) in basic research, which is an extraordinary achievement for the whole university. The project deals with cumulative time-dependent processes inside building materials and structures. Further information on:

tpm.fsv.cvut.cz/excelence

The Centre of Competence CESTI

The faculty is a coordinator of the Centre of Competence CESTI – Centre for Effective and Sustainable Transport Infrastructure. The project is focused on technological innovations aimed at the elimination of deficiencies in today's transport infrastructure.

Further information on: <u>www.cesti.cz</u>

The Josef Underground Educational Facility

The main task of this facility is to provide practical on-site training for students, to support experimental research projects, and to contribute to better integration of university education, research and industrial experience.

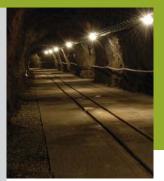
The Josef Underground Laboratory is the first in the Czech Republic to provide underground research facilities:

• A working physical model that simulates the deposition of containers with spent nuclear fuel.

 A physical model will be made of Czech stoppers for sealing the entrance galleries to deep repositories for radioactive wastes, using sprayed bentonite.

The Josef Regional Underground Research Centre is a scientific and technological park located on our grounds, which through its functional connection with an extensive network of tunnels provides an on-site environment for research, training sessions, requalification courses and marketing. The Centre offers the services of accredited geotechnical laboratory.

> Further information on: <u>http://ceg.fsv.cvut.cz</u>



WE ARE UNIOUE IN THE WORLD



Fire Test on an Experimental Building

Under the supervision of members of the Department of Steel and Timber Structures, a fire test was carried out on an office building. The main purpose of the test was to verify predictions of the behavior of the structure of an office building completely exposed to a fire. The results of the test will enable advanced civil engineering technologies to be applied, together with methods for reliability enhancement and for cost-effective fire resistance of buildings. The test was carried out on the premises of UEF Josef.

WE ARE MEMBERS OF:

- ECTP European Construction Technology Platform
- The Czech Society for Mechanics
- ELGIP The European Large Geo-engineering Institutes Platform
- ${\sf EUCEET}\ {\sf Association}\ -\ {\sf The}\ {\sf European}\ {\sf Civil}\ {\sf Engineering}\ {\sf Education}\ {\sf and}\ {\sf Training}\ {\sf Association}$
- FIB The International Federation for Structural Concrete
- IABSE The International Association for Bridge and Structural Engineering
- $\mathsf{IAHR}-\mathsf{The}$ International Association for Hydro-Environment Engineering and Research $\mathsf{IWA}-\mathsf{The}$ International Water Association

RILEM – The International Union of Laboratories and Experts in Construction Materials, Systems and Structures (Réunion Internationale des Laboratoires et Experts des Matériaux, Systèmes de Construction et Ouvrages)

WTA CZ – Scientific and Technical Association for Rehabilitation of Buildings and Monument Care IGD–TP CMET – Implementing Geological Disposal of Radioactive Waste Technology Platform CMET (Competence Maintenance, Education and Training) **Our mission** is to educate experts in accordance with contemporary demands, with a sound theoretical basis which will allow them to be highly flexible in their professional careers. Science and research have become increasingly important activities at our faculty in recent years. Our research focuses on investigating theoretical and applied topics in civil engineering practice. This research is supported by Czech and EU grant systems.

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...the University Centre for Energy Efficient Buildings (UCEEB)

UCEEB is a joint project of five CTU faculties. The Centre carries out research on optimizing energy savings in environment-friendly buildings.

...coordinating the SUSCOS_M programme in the framework of the ERASMUS MUNDUS programme.

The SUSCOS_M (Sustainable Constructions under Natural Hazards and Catastrophic Events) master's programme is the only programme of its type organised in the Czech Republic within the framework of ERASMUS MUNDUS, a prestigious programme aimed at attracting top-quality students from abroad.

...the Centre of Competence CESTI (Centre for Effective and Sustainable Transport Infrastructure), which is focused on technological innovations aimed at the elimination of deficiencies in today's transport infrastructure.

...the Experimental Centre

The Experimental Centre focuses on the experimental investigation of building materials and structures and also on teaching them. It conducts research in its own four basic-research projects (CSF, MI CR, MC CR, MEYS CR) and participates in eight additional projects of basic and applied research. It is a recognized institution for cooperating with construction companies, offering them mostly static and dynamic load testing and various measurements for bridge constructions and other large structures.

...the Centre of Excellence CSF, a prestigious CTU project, which focuses on cumulative time-dependent processes inside building materials and structures. It is an extraordinary achievement of the Department of Material Engineering and Chemistry, the Experimental Centre and the Department of Mechanics in cooperation with the Klokner Institute and the Institute of Theoretical and Applied Mechanics AS CR. Only two of all the 44 centres of excellence in the Czech Republic were acquired by a technical university; in both cases by CTU in Prague – one by the Faculty of Civil Engineering and the other by the Faculty of Electrical Engineering.

... the Innovation of the Year prize

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The prestigious prize for the year 2011 was awarded to the Fiber-reinforced Prestressed Concrete Column for Noise-barrier Wall Systems, which increases their durability and also brings substantial savings. The project was de-

WE ARE PROUD OF

veloped on the basis of collaboration between our Department of Concrete and Masonry Structures and SMP CZ company.

...the Centre of Nanotechnology in Civil Engineering.

We have opened the first institution in the Czech Republic, which has made a combination of advanced research technologies availiable for nano- and micro-scale research of silicate materials and for the production of nanomaterials.

...the Water Management Experimental Centre.

The Centre carries out research on hydraulic phenomena in the field of water structures (weirs, waterways, dams, water power plants), streams, water pipes, wastewater treatment plants, etc.

...the National Architecture Award in the Interior category.

In 2009, the Architecture Grand Prix awarded the first prize in the Interiors category to the new large teaching space designed for the purposes of the Architecture and Building Engineering study programme at our faculty. This reconstruction project was also awarded first place in the Contractworld Award 2011 at the international architecture exhibition in Hannover.

PEOPLE

FACULTY COMMUNITY

Bachelor study programmes: 3,420 students Master study programmes: 1,480 students PhD study programmes: 530 students The academic staff consists of 450 academic workers, of whom 53 are professors and 115 are docents (associate professor), who carry out research in 25 departments and 12 scientific research centres and workplaces.



FACULTY OF CIVIL ENGINEERING

BACHELOR STUDY

ARCHITECTURE AND BUILDING ENGINEERING (4 YEARS) Architecture and Building Enginee

Architecture and Building Engineering

CIVIL ENGINEERING (4 YEARS)

Building Structures Structural and Transportation Engineering Water Management and Water Structures Environmental Engineering Economics and Management in the Building Industry Materials Engineering Preparation, Erection and Operation of Structures

GEODESY AND CARTOGRAPHY (3 YEARS)

Geodesy, Cartography and Geoinformatics

CIVIL ENGINEERING (4 YEARS) (EN) Building Structures Building Surface and Engineering Structures

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ADDRESS: Thákurova 7, 166 29 Prague 6, Czech Republic WEBSITE: www.fsv.cvut.cz

MASTER STUDY

ARCHITECTURE AND BUILDING ENGINEERING (2 YEARS) Architecture and Building Engineeri

Architecture and Building Engineering

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CIVIL ENGINEERING (1.5 YEARS)

Building Structures Structural and Transportation Engineering Water Management and Water Structures Environmental Engineering Management and Economics in the Building Industry Project Management and Engineering Materials Engineering Construction Management Preparation, Erection and Operation of Structures Integral Safety of Structures

GEODESY AND CARTOGRAPHY (2 YEARS)**

Geodesy and Cartography Geoinformatics

CIVIL ENGINEERING (4 YEARS) Building Structures

BUILDINGS AND ENVIRONMENT (1.5 YEARS) Buildings and Environment

INTELLIGENT BUILDINGS (2 YEARS) Intelligent Buildings

CIVIL ENGINEERING (1.5 YEARS) (EN)

Building Structures

Sustainable Constructions under Natural Hazards and Catastrophic Events (Erasmus Mundus Programme) Advanced Master's in Structural Analysis of Monuments and Historical Structures (Erasmus Mundus Programme)

OUTSTANDING STUDENT

Ing. Kamil Seidl studied Structural and Transportation

DOCTORAL STUDY

CIVIL ENGINEERING (EN)

Building Engineering Building and Transportation Engineering Economics and Management in Civil Engineering Environmental Engineering Mathematics in Civil Engineering Physical and Materials Engineering Systems Engineering in the Building Industry and Capital Construction Water Engineering and Water Management

GEODESY AND CARTOGRAPHY (EN) Geodesy and Cartography

ARCHITECTURE AND BUILDING ENGINEERING Architecture and Building Engineering

Sustainable Development and Industrial Heritage

Programmes and fields of study which can be studied in English are denoted by (EN), double degrees by (DD).

**1.5 years for graduates of a relevant 4-year bachelor programme



0 WWW.FSV.CVUT.CZ



FACULTY OF MECHANICAL ENGINEERING

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UNIQUE FACTS

WE ARE UNIQUE IN THE CZECH REPUBLIC

... in the history of teaching mechanical engineering.

We are the oldest faculty of mechanical engineering in the Czech Republic, and we offer study programmes in the widest range of fields of mechanical engineering.

...in maintaining a holistic approach to mechanical structures within the framework of integrated engineering.

Much work is done on automobiles, combustion engines and production machinery. With simulations and physical experiments, the faculty achieves excellent performance, cost-effectiveness and environment-friendliness.

... in research on machine tools.

At our Research Centre of Manufacturing Technologies (RCMT), new machine tool concepts are created and new design methods are developed. These are further applied by Czech producers of machine tools.

...in integration and development of activities related to computer simulation, including the ability to link our own simulation programmes with commercial programs for non-standard equipment.

In collaboration with industry, we have extended and modernized the courses in some fields of study, and the master's projects of our students are now supported by top-level software.

... in the field of biomechanics.

Research is being carried out in the Laboratory of Human Biomechanics on movement, tissues, the cardiovascular system, and also tests on joint replacements and implants.



WE ARE UNIQUE IN THE WORLD

...in constructing the TriJoint new generation machine tool at the Department of Mechanics, Biomechanics and Mechatronics, and research in parallel kinematics is being carried out.



...in the ability to design, model and optimize equipment aimed at a three- to five-fold increase in the output of combustion engines even without the use of conventional turboblowers by applying pressure wave superchargers. Western European car producers are now applying the results.

...in research into parallel kinematics, including the HexaSphere redundant parallel spherical mechanism, which provides the inclinable heads of machine tools with a great range of motion together with great rigidity and powerful dynamics.

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...in experiments with the LM-2 machine tool, whose three controllable axes are driven by linear motors with suspended secondary units. The machine tool was built at the RCMT Research Centre and also serves for research on high-speed machine tools. Machine tools with an H50-type and an H80DD-type floating axle, with a patented design, developed at RCMT and built by Tajmac-ZPS, can be ranked as globally unique.

...in developing the Skyleader 100 aircraft, enabling construction elements to be varied according to individual requirements.

WE ARE PREPARING FOR THE NEAR FUTURE

...broadening participation in research activities.

...developing and renewing our teaching facilities based on the use of a wide range of modern teaching aids.

WE ARE MEMBERS OF THE:

International Federation of Automotive Engineering Societies (FISITA) European Automotive Research Partners Association (EARPA) International Association for the Properties of Water and Steam (IAPWS) International Federation of Automatic Control (IFAC) American Society of Heating, Refrigeration and Air Conditioning (ASHRAE) Society for the Advancement of Materials and Process Engineering (SAMPE) Society of Automotive Engineers International (SAE) American Society of Heating, Refrigeration and Air-Conditioning (ASHRAE)

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Our mission is to be a top-class educational and scientific institution recognized both locally and worldwide. We proactively harmonize our processes with those applied in the European Education and Research Area in order to be compatible with European systems, to be attractive to students, and to meet the demands of society.

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...our several newly established Centres of Competence, based on the high-level scientific findings from our research workplaces, which have achieved a worldwide reputation, e.g. the Josef Bozek Centre of Competence for Engine and Automotive Engineering, the Centre of Competence for Mechanical Engineering Production

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Technology, the Centre of Competence for Advanced Technologies for the Production of Heat-

ing and Electricity, etc.

WE ARE PROUD OF

...the centres of applied research that comprises the Roztoky Science and Technology Centre and the Innovation Centre for Diagnostics and Application of Materials (ICDAM).

...the wide range of our applied research projects – WE ARE AT THE TOP.

PEOPLE

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FACULTY COMMUNITY

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Bachelor study programmes: **1,580 students** Master study programmes: **663 students** Doctoral study programmes: **289 students** Students from abroad **cca 9–10 %** Teachers: **34 professors, 55 associate professors, 155 specialist assistants** A staff of **550 administers and maintains** the faculty and its facilities



FACULTY OF MECHANICAL ENGINEERING

BACHELOR STUDY

ENGINEERING (4 YEARS) (EN)

Information and Automation Technology Computer-supported Construction Power Supply and Process Technology Environmental Technology

THEORETICAL FUNDAMENTALS OF MECHANICAL ENGINEERING (3 YEARS) (EN)

PRODUCTION AND ECONOMICS IN

MECHANICAL ENGINEERING (3 YEARS) Technology, Materials and Economics of Mechanical Engineering

CONTACTS

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MASTER STUDY

MECHANICAL ENGINEERING (2 YEARS) (EN)

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Biomechanics and Medical Instruments Applied Mechanics Energetics Transport, Aircraft and Handling Technology Mechatronics Process Technology Mathematical Modelling in Engineering Instrumental and Control Technology Business Management and Economics* Production, Materials and Economic Engineering* Production Machinery and Equipment Environmental Technology NUCLEAR POWER ENERGY EQUIPMENT

(2 YEARS)

INTELLIGENT BUILDINGS (2 YEARS)

AERONAUTICS AND ASTRONAUTICS (2 YEARS)

MASTER OF AUTOMOTIVE ENGINEERING (2 YEARS) (ONLY IN ENGLISH)

In collaboration with ENSIETA Brest, France and HAN Arnhem, Netherlands Computation and Modelling Design of Vehicles Vehicle Dynamics and Clean Driveline Control System

DOCTORAL STUDY

MECHANICAL ENGINEERING (4 YEARS) (EN)

Materials Engineering Machines and Equipment for Transportation Production Machines and Equipment Power Engineering Design and Process Engineering Manufacturing Technology Environmental Engineering Biomechanics Control and Systems Engineering Mechanics of Solids, Deformable Bodies and Continua Thermomechanics and Fluid Mechanics Mathematical and Physical Engineering Enterprise Management and Economics

DOUBLE DEGREE PROGRAMME

In the master study programme we offer a European Master in Automotive Engineering in collaboration with ENSIETA Brest, France and HAN Arnhem, the Netherlands.

Programmes and fields of study which can be studied in English are denoted by (EN). * only Czech



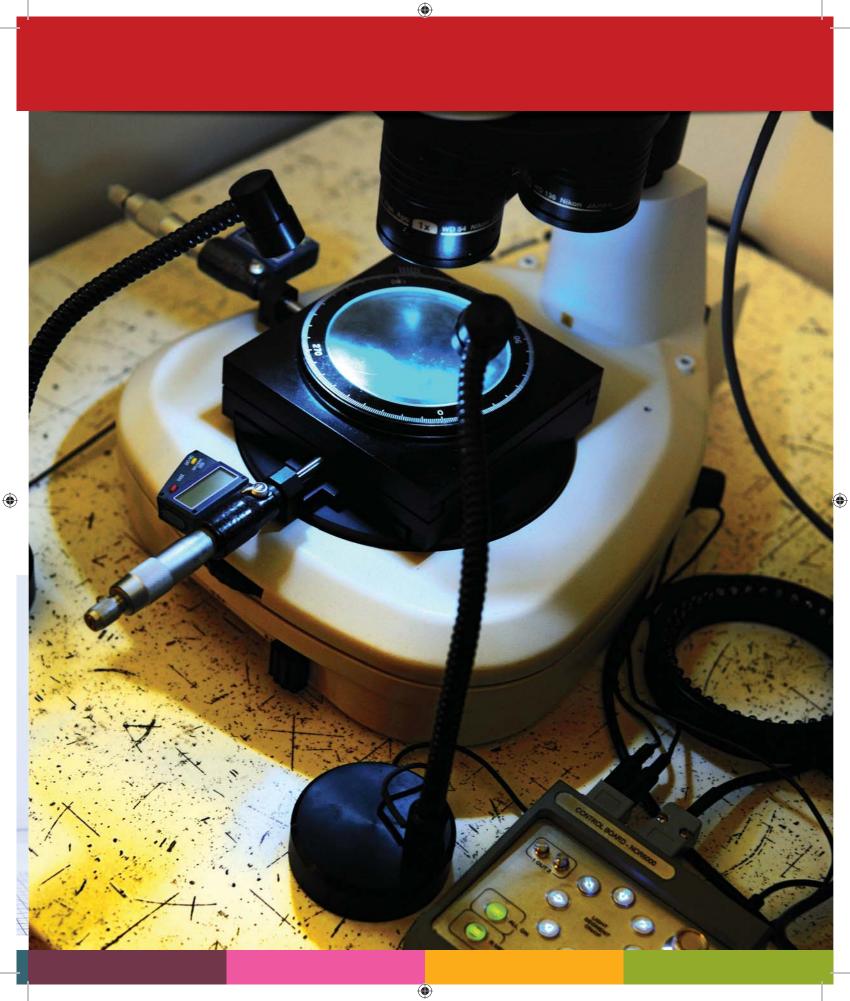
DID YOU KNOW...

THAT OUR FACULTY

TEACHING COURSES

HAS BEEN

SINCE 1864?



FACULTY OF ELECTRICAL ENGINEERING

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UNIQUE FACTS

WE ARE UNIQUE IN THE CZECH REPUBLIC

...in the range and number of the study programmes that we offer.

...in strongly linking informatics with teaching electrical engineering and electronics.

...in offering double degree and joint degree programmes (an opportunity to obtain a degree from two universities, including a CTU partner university in another country).

...in working closely with high schools (so-called Faculty Schools).

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...in offering a set of study programmes appealing to girls.

Several study programmes are focused on a combination of engineering and management, and the graduates are thus trained for leading management positions in companies and institutions. This area is also appealing for girls, who are now increasingly choosing our faculty.

...in the opportunity to study abroad. Already during their studies, stu-

dents can spend 1-2 terms at one of our partner universities abroad.

...in the oppurtunity to simultaneously study teacher education for technical schools.

...in offering individual study programmes for talented students (differentiated studies).

...in our wide range of courses and programmes within the framework of Life-Long Learning and the University of the Third Age.



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WE ARE UNIQUE IN THE WORLD



...in founding many electrical engineering professional associations and institutions.

Our international collaboration includes developing electric drives for experimental equipment for materials research in space for the ISS orbital station. We work on international research projects with numerous universities abroad and with more than 200 companies, institutions and global concerns.

...in occupying the 6th place in the R&D Council's ranking of the research institutions in the Czech Republic.

WE ARE PREPARING FOR THE NEAR FUTURE

...deeper participation in international scientific and research projects, with special reference to practical and industrial implementation of research findings.

...enhancing the teaching of management and communication skills, so-called soft skills.

...maintaining the faculty's good position in research and supporting promising young researchers and teachers.

... offering more study programmes in English.

WE ARE MEMBERS OF THE:

AMTA – Antenna Measurement Techniques Association CIGRE – Conseil International des Grands Réseaux Électriques EAEEIE – European Association for Education in Electrical and Information Engineering Profibus International APVTS – Association of Public Telecommunications Network Operators Czech Acoustics Association Czech Astronomic Association Czech Technical Matrix

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Our mission is to nurture university-educated specialists in the field of electrical engineering and informatics through our study programmes covering electronics, power engineering, telecommunications technology, cybernetics, measurement, automation, control, informatics, computer technology, robotics, economics and management.

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...our long and significant history.

The Faculty of Electrical Engineering CTU in Prague was founded in 1950, while the roots of electrical engineering in Prague reach back to the 1880s.

...being one of the 40 technical universities in the world to have a research program funded by Texas Instruments. We sell our ideas to companies such as Cisco and Samsung.

We are the only faculty in the Czech Republic, which has established a student exchange programme with the prestigious Technion – Israel Institute of Technology.

...our colleagues devoted to young people, such as Ing. Martin Hlinovský, Ph.D. from the Department of Control Engineering, who fully dedicates his time every year to organise the annual RoboCompetition, and prof. RNDr. Petr Kulhánek, CSc. from the Depart-

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WE ARE PROUD OF

ment of Physics, who devotes his spare time to the popularization of science, especially astrophysics, and publishing popular scientifics articles.

...the long-term interest we have been receiving from industrial and commercial companies in our highquality graduates, especially graduates in informatics and power engineering.

...many of our students and employees, who collaborate closely with many high schools, some of which have been awarded Faculty School status.

...generating 29 % of the research results that count towards CTU's ranking as a research-oriented university.

...belonging on our own, as a faculty, among the top 10 research institutions in the Czech Republic for several years.

PEOPLE

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FACULTY COMMUNITY

brings together graduates and friends of the faculty.

The Faculty is a university workplace with more than **3,000 students** and **859 staff members**, and with an annual budget of over CZK 800 million. More than 90 students participate in the ERASMUS programme each year, and about 180 students come to us from abroad. 400 foreign full-time students are currently taking study programmes at the Faculty. The ELEKTRA association



FACULTY OF ELECTRICAL ENGINEERING

BACHELOR STUDY

ELECTRICAL ENGINEERING, POWER ENGINEERING AND MANAGEMENT

Applied Electrical Engineering (EN) Electrical Engineering and Management

COMMUNICATIONS, MULTIMEDIA AND ELECTRONICS

Network and Information Technologies (EN) Multimedia Technology (EN) Communication Technology (EN) Applied Electronics (EN)

CYBERNETICS AND ROBOTICS

Systems and Control (EN) Sensors and Instrumentation Robotics

OPEN INFORMATICS

Software Systems (EN) Computer Systems (EN) Computer and Information Science (EN)

SOFTWARE TECHNOLOGY

AND MANAGEMENT Management Informatics Software Engineering Web and Multimedia

OPEN ELECTRONIC SYSTEMS (EN)

MASTER STUDY

ELECTRICAL ENGINEERING, POWER ENGINEERING AND MANAGEMENT

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Technological Systems (EN) Electrical Machines, Instruments and Drives (EN) Electric Power Engineering (EN) Economics and Management of Power Supply (EN) Economics and Management of Electrical Engineering (EN)

COMMUNICATIONS, MULTIMEDIA AND ELECTRONICS

Networks of Electronic Communication (EN) Multimedia Technology (EN) Electronics (EN) Wireless Communication (EN)

CYBERNETICS AND ROBOTICS

Systems and Control Sensors and Instrumentation Robotics (EN) Aircraft and Space Systems

OPEN INFORMATICS

Artificial Intelligence (EN) Software Engineering Computer Vision and Image Processing (EN) Computer Engineering Computer Graphics and Interactions

INTELLIGENT BUILDINGS

BIOMEDICAL ENGINEERING AND INFORMATICS

Biomedical Engineering (EN) Biomedical Informatics (EN)

OPEN ELECTRONIC SYSTEMS

Solid State Systems Communications and Signal Processing Rf and DSP Engineering

DOCTORAL STUDY

ELECTRICAL ENGINEERING AND INFORMATION TECHNOLOGY (EN)

- Acoustics Electric Machines, Apparatus and Drives and Computer Engineering Electric Power Engineering Electronics Electrotechnology and Materials Plasma Physics Mathematical Engineering
- Information Science Measurement and Instrumentation Air Traffic Control Radioelectronics Control Engineering and Robotics Telecommunication Engineering

Business Management and Economics Electrical Engineering Theory Artificial Intelligence and Biocybernetics

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ADDRESS: Technická 2, 166 27 Prague 6, Czech Republic WEBSITE: www.fel.cvut.cz



Graduates in selected fields of master study can also take a Double Degree or Joint Degree programme.

Programmes and fields of study which can be studied in English are denoted by (EN).

OUTSTANDING STUDENTS

Ing. Jiří Zemánek – Department of Control Engineering

Ing. Lukáš Neumann – Department of Cybernetics



FACULTY OF NUCLEAR SCIENCES AND PHYSICAL ENGINEERING

UNIQUE FACTS

WE ARE UNIQUE IN THE CZECH REPUBLIC

...in being the only university in the Czech Republic which has "nuclear" departments.

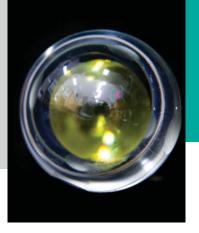
Department of Nuclear Chemistry, Department of Dosimetry and Application of Ionizing Radiation, Department of Nuclear Reactors.

...in the broad range of fields of study and disciplines we offer. Many of them

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are unique – not only the study programmes in nuclear engineering but also the programmes in Physics and Fusion Reaction Technology, Radiological Physics, etc.

...in establishing and developing many new fields in the Czech Republic: ruby and medical lasers, nanotechnologies, vacuum technology, etc. ...in educating many students who have already had their papers published in prestigious journals, and who have participated actively in conferences or have been engaged in investigations for industry and/or commercial companies during their studies.



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WE ARE UNIQUE IN THE WORLD



...in the strong orientation towards nuclear science and engineering.

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...in collaboration with many international partners in a wide range of fields all over the world and with the active engagement of our students.

...in the opportunity our students have to work with both of the two basic types of reactors – fission reactors and fusion reactors. We have our own VR-1 nuclear reactor (in cooperation with

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CEZ Group) and the Golem fusion tokamak (in cooperation with the Academy of Sciences of the Czech Republic).

...in developing, constructing, positioning and operating international laser navigation systems for measuring the distance of man-made satellites from the Earth. The stations have been located on several continents: Egypt, Bolivia, Ecuador, Cuba, Russia, Bulgaria, Hungary, Poland, India, Vietnam, etc.

WE ARE PREPARING FOR THE NEAR FUTURE

...intensification of our participation in international research centres (CERN, ITER, BNL-STAR, ELI). ...more practical applications of our scientific and research results, e.g. through our newly-established Laboratory for Advanced Detection Technologies.

...continuous upgrading of the working conditions, especially for young scientists at the faculty (new spaces, state-of-the-art laboratories, support for participation in international collaborative programmes, etc.) ...introduction of new fields of study and specializations in accordance with the requirements of industry, and closer collaboration with business and commercial companies.

WE ARE MEMBERS OF:

International Radiation Physics Society International Association of Mathematical Physics European Nuclear Engineering Network (ENEN) Association European Radiation Dosimetry Group European Physical Society New York Academy of Sciences SPIE – Society of Photonics Engineering CERN, BNL, JINR Dubna, ESA, ITER, GSI Darmstadt, IEEE, IAEA, etc. Union of Czech Mathematicians and Physicists **Our mission** is to educate well-trained experts who are able to use their broad mathematical, physical and methodological knowledge in their work in the sphere of science or in a number of other fields (tasks in the border area between modern science and its applications in technology, informatics, medicine, economics, environmental policy and other fields).

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...the history – the faculty was established by eminent Czech mathematicians and physicists (Běhounek, Kvasil, Majer, Němec, Petržílka, Šimáně, Votruba). The faculty was established for specific purposes, and has always incorporated advanced disciplines. We are proud of this tradition and it is our aim to continue with it.

..our study programmes, which have always been founded on the basis of mathematics and physics, and on a deep understanding of the links between them. This has meant that our graduates can work flexibly in a wide range of fields of application. This conception has stood the test of time.

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WE ARE PROUD OF

...the enthusiasm and active involvment of our students in the faculty's scientific work and research and their success on an international level.

...the interest of many institutions and companies in collaborating with us, and in our graduates.

...the high quality of our teachers and researchers, who are are recognized and appreciated abroad, and who work on projects at major international research centres.

PEOPLE

FACULTY COMMUNITY

Bachelor study programme: **1,170 students** Master study programme: **330 students** Doctoral study programme: **320 students** Teachers: **64 professors** and **51 associate professors**



FACULTY OF NUCLEAR SCIENCES AND PHYSICAL ENGINEERING

BACHELOR STUDY

MATHEMATICS

Mathematical Engineering

INFORMATICS

Mathematical Informatics Information Physics Applied Software Engineering Applied Informatics

PHYSICS

Solid Materials Engineering Diagnostics of Materials Nuclear Fusion Physics and Thermonuclear Fusion Technology Physical Electronics Laser and Instrumental Technology Physical Technology

ATOMIC PHYSICS

Nuclear Engineering Dosimetry and Application of Ionizing Radiation Experimental Nuclear and Particle Physics

RADIOLOGY

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Radiological Technology

NUCLEAR CHEMISTRY

Nuclear Chemical Engineering

MASTER STUDY

MATHEMATICS

Mathematical Engineering Mathematical Physics Applied Mathematical and Stochastic Methods

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INFORMATICS

Mathematical Informatics Information Physics Applied Software Engineering

PHYSICS

Solid Materials Engineering Diagnostics of Materials Thermonuclear Fusion Physics and Technology Laser Technology and Electronics Optics and Nanostructures

NUCLEAR PHYSICS

Nuclear Engineering Dosimetry and Application of Ionizing Radiation Experimental Nuclear and Particle Physics

RADIOLOGY

Radiological Physics

NUCLEAR CHEMISTRY

Nuclear Chemistry

DOCTORAL STUDY

MATHEMATICAL ENGINEERING

PHYSICAL ENGINEERING

NUCLEAR ENGINEERING

NUCLEAR CHEMISTRY

RADIOLOGICAL PHYSICS

Most master and PhD courses and specializations can be studied in English.

OUTSTANDING STUDENT

Ing. Dan Krasnický is currently working on his doctoral dissertation together with colleagues from Italy and at CERN on the proposal for the new AEGIS experiment. The experimental equipment will produce and investigate antimatter (antihydrogen), and is being built at the antiproton decelerator at CERN. This will be the first direct measurement of the effect of gravity on antimatter.

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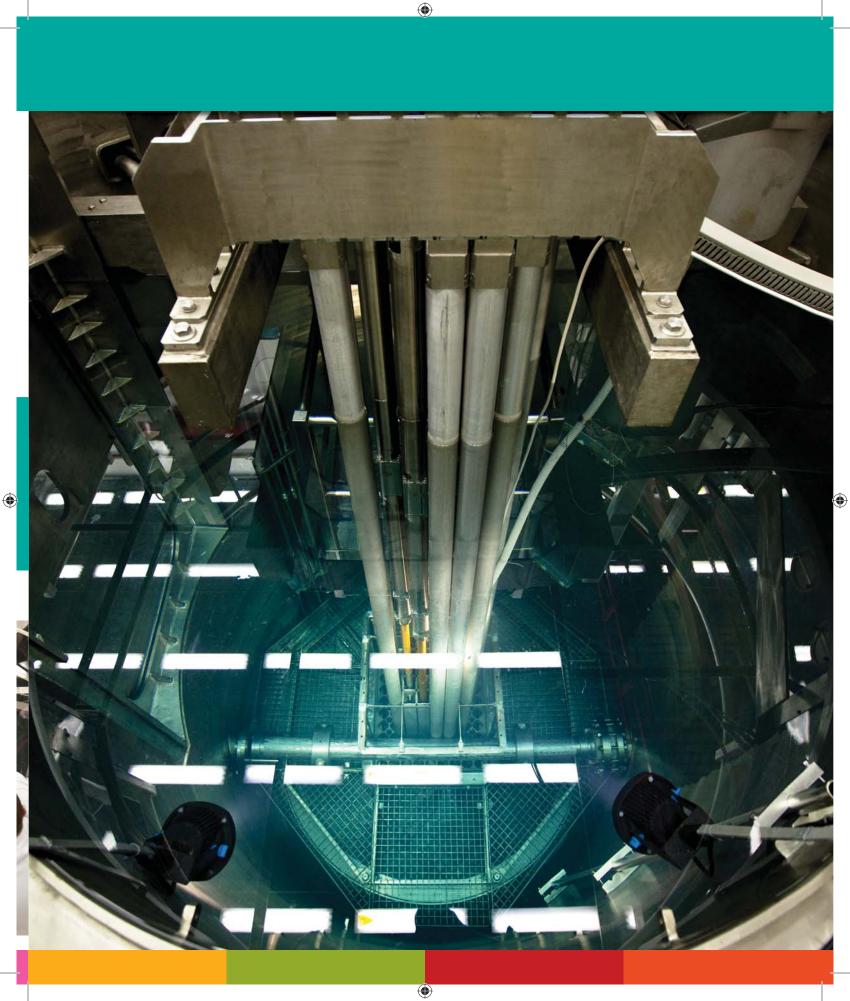
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ADDRESS: Břehová 7, 115 19 Prague 1, Czech Republic WEBSITE: www.fjfi.cvut.cz, www.jaderka.cz DID YOU KNOW... IN OUR CLASSES FOR STUDENTS, WE USE THE FACULTY'S OWN TEACHING NUCLEAR REACTOR AND ALSO A FUSION TOKAMAK. BOTH FACILITIES ARE LOCATED IN PRAGUE.

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FACULTY OF ARCHITECTURE

UNIQUE FACTS

WE ARE UNIQUE IN THE CZECH REPUBLIC

...in organising The Best Urban Design Project competition every year.

This competition is open to students of faculties of architecture at European universities.

...in having the Olověný Dušan (the Lead Dušan) student competition, which is organised by the Association of Students of Architecture, independently from the faculty management.

...in publishing ALFA, the faculty monthly magazine, and the annual ARCHITECTURE FACULTY YEARBOOK, which covers work done in all of the faculty's institutes and studios.

...in regularly holding workshops on current topics, e.g. City Development I–IV (2008, 2009, 2011, 2012), City Park (2007), Antidesign (2008), Design (2009), Digital Architect (2007, 2008, 2009, 2010), Machines Design Machines (2009).

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...in our publishing activities related to visiting teachers from abroad, e.g. Rein Geurtsen: History of

European Urban Planning, Michael Riedijk: Drawing Techniques, Prague lectures Juliette Bekkering & Michiel Riedijk – FA CTU 2011, Architektura, versus Design 2012.

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...in having a wide range of agreements with outstanding faculties of architecture, leading to extensive student exchanges with European and world universities.

...in organising cycles of lectures on hot topics by professors from abroad, for example, in 2010, the



cycle on ECOLOGY versus ARCHITECTURE, in 2011 Collective Housing in Europe, in 2012 ARCHITECTURE versus DESIGN.

...in teaching in a system of vertical studio teaching (38 studios) led by experienced teachers who have also worked as architects.

...in selecting one student each year for an internship in the studio of Renzo Piano in Paris or Genoa.



WE ARE UNIQUE IN THE WORLD



...in having the Research Centre for Industrial Heritage, which is the only institution in the Czech Republic systematically mapping technical and industrial heritage, including their further use. The results of the research are being collected in the Industrial Topography of the Czech Republic – a project carried out within the program of applied research under the Ministry of Culture. An interactive database of industrial heritage is being created at the Faculty of Archi-

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tecture, which is gradually made accessible for professionals, governmental institutions and local authorities, as well as the public, as an online specialized map and series of publications and studies. Scientific research on the history and theory of architecture, heritage preservation and urbanism connects with the teaching activities creating case studies of rescuing and new use of a number of endangered and derelict industrial buildings.

WE ARE MEMBERS OF THE:

European Association for Architectural Education (EAAE) Association of European Schools of Planning (AESOP) Fondazione Romualdo del Bianco Arbeitskreis für Hausforschung e.V.

Our aim is to provide students with professional knowledge on all aspects of the contemporary world with respect to issues in modern architecture. The main target of the studies at the Faculty of Architecture is to support a balance among the humanities, scientific and artistic disciplines.

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WE ARE PROUD OF

...having introduced a new study programme – Industrial Design, with 128 students.

...the high-quality of our study programmes at all levels, which attracts three times more applicants than we have the capacity to accept for the studies.

...the New CTU Building, where we moved our faculty on 1st February 2011, and which is currently the top-modern building for teaching architecture in the Czech Republic.

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...the integration of the Research Centre of Industrial Heritage into the Faculty's structure, thereby enriching its scientific potential.

...the exhibition of student master's projects Directly after the graduation examination of our students we organise an exhibition of all approved master's projects of that year.

...three times more applicants than we have the capacity to accept.

PEOPLE

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FACULTY COMMUNITY

Bachelor study programme:

in Architecture and Urbanism, study branch Architecture: **909 students**, in Design, study branch Industrial Design: **128 students**

Master programme:

Architecture and Urbanism, study branch Architecture: **550 students**, Design, study branch Industrial Design: **15 students**, including **90 foreign students**, total **1,599 students**

PhD programmes:

by full-time study: **94 students**, by distance and part-time study: **76 students** total **170 students**

Teachers: 13 professors, 32 associate professors and 88 specialist assistants Our staff of 199 ensures that the faculty carries out its work smoothly



FACULTY OF ARCHITECTURE

BACHELOR STUDY

ARCHITECTURE AND URBANISM Architecture (EN)

DESIGN Industrial Design

MASTER STUDY

ARCHITECTURE AND URBANISM Spatial Planning Architecture (EN)

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DESIGN Industrial Design

DOCTORAL STUDY

ARCHITECTURE AND URBANISM

Architecture: Theory and Design (EN) Urban Design and Planning (EN) History of Architecture and Monument Conservation (EN) Architecture, Building and Technology (EN)

Fields of study which can be studied in English are marked by (EN).

THE SOLAR DECATHLON PROJECT

In January 2012, a team from CTU was selected to be the first representative of the Czech Republic to participate in the finals of the 6th annual international Solar Decathlon competition. The competition is organized by the U.S. Department of Energy, and the 20 competing university teams have to design, build and operate an energy self-sufficient family house.



CONTACTS

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ADDRESS: Thákurova 9, 166 34 Prague 6, Czech Republic WEBSITE: www.fa.cvut.cz The team of CTU students spent almost two years designing, searching for funding and promoting the AIR House project. They then spent January 2013 building their structure outside the New Building on CTU's main Dejvice campus. The competition finals took place in the Orange County Great Park in Irvine, California from October 3rd to October 13th, 2013. The building was judged in 10 disciplines and the CTU team won the 3rd place.

It is the first project of its type involving interdisciplinary cooperation at CTU and bringing together students from the Faculty of Civil Engineering, the Faculty of Mechanical Engineering, the Faculty of Electrical Engineering, the Faculty of Transportation Sciences and the University Centre for Energy Efficient Buildings, under the leadership of students from the Faculty of Architecture. The biggest challenges were cooperation within the multidisciplinary team, and fundraising. Participating in the competition involved obtaining a grant from the competition organizer, funding from CTU, and support from sponsors in the form of money or construction materials.

The AIR House is a small family house with a generous outdoor space, designed for a two-person household of people aged 50 and over. The house is designed as a cottage for ecologically responsible people at the peak of their productive life, which can become their permanent residence when they retire. The designers

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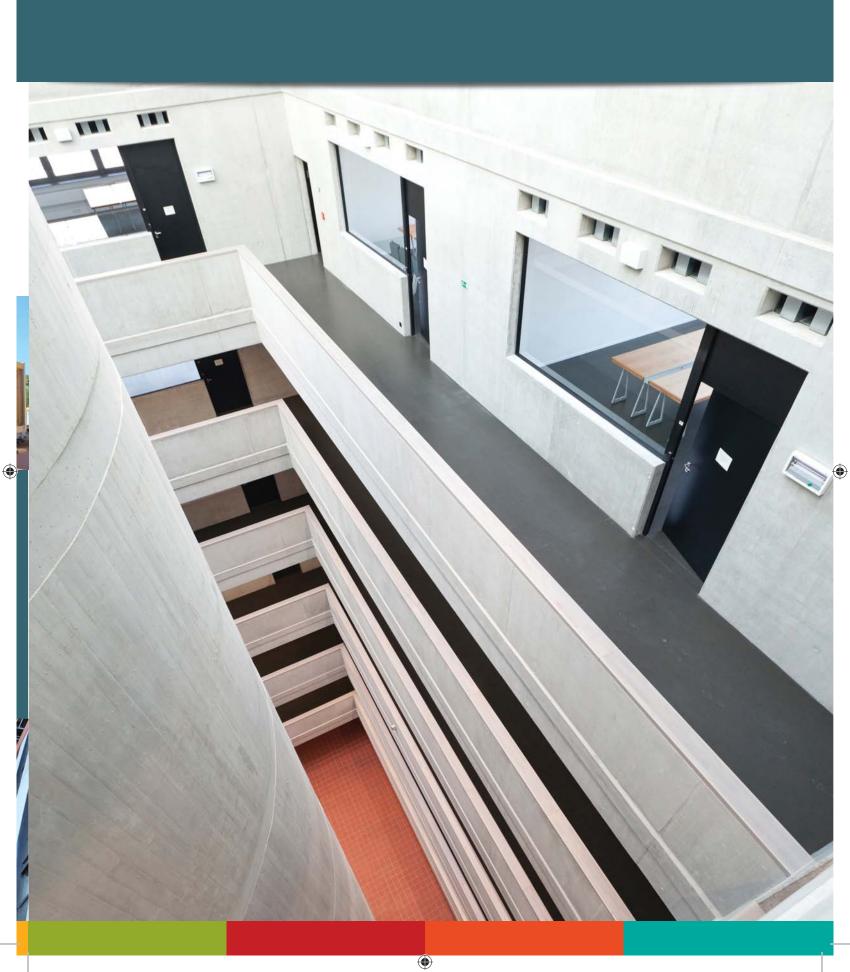
drew inspiration from the Czech tradition of cottages for weekends and for summer housing. With its quite small dimensions, the house can also be built with an average-size garden as a retirement home.

The main features of the AIR House are its simple design, simple operation and timeless appearance. All the energy needed for operating the AIR House is provided from solar radiation. The design is based on the "house-within-a-house" energy concept. The "first skin" consists of the thermally-insulated envelope of the living area, which is made of massive wooden panels. The wooden pergola, which acts as the "second skin", reduces the heat load. Photovoltaic panels generate electricity to run the house.

After the competition, the design will be available for further studies by CTU students as a part of the emerging University Centre for Energy Efficient Buildings.



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FACULTY OF TRANSPORTATION SCIENCES

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UNIQUE FACTS

WE ARE UNIQUE IN THE CZECH REPUBLIC

... in having adopted a specific form of project-oriented education.

...in having set up several unique scientific research facilities since 1993, where we have been providing project education closely linked with practice and collaborating on solving current problems in the field of transportation.



WE ARE UNIQUE IN THE WORLD



...in offering a coherent education programme in intelligent transportation systems (ITS). This programme is closely linked with practical applications and is aimed not only at Czech students but also at foreign students. The programme is taught only in English. Foreign students taking this programme can study at famous universities abroad (Fachhochschule Technikum Wien, Austria and Linköping University, Sweden).

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...in educating students who participate actively in the successful running of the MEPS international student transport engineering seminar, which has been taking place for 15 years. MEPS rotates around towns in the Czech Republic, Hungary and Austria. In mixed groups, participants propose new solutions to transport problems in the host towns.

WE ARE PREPARING FOR THE NEAR FUTURE

...equipping the Systems Geoinformatics Laboratory with instrumentation.
...a new faculty classroom for CAD/GIS/Cax systems and transport modeling.
...the introduction of a new model for an overall study programme structure that will ensure highquality graduates with excellent prospects on the employment market.
...the new Vehicle Drives laboratory.

... the laboratory for physics and diagnostics of surface layer materials.

WE ARE MEMBERS OF THE:

European Rail Research Network of Excellence – EURNEX European Rail Research Advisory Council – ERRAC Advisory Board of the Texas Institute of Science FREIGHTVIS – visions and plans for European freight traffic until 2050 E-FRAME – extended FRAME architecture for the development of cooperative systems European Platform of Transport Sciences – EPTS (in 2013, the Dean of the Faculty is the president of the platform)

Our mission is to educate students, carry out scientific research and investigate projects in the field of transportation, telematics and telecommunications, taking into account the requirements of the market and with emphasis on state-of-the-art technologies, intelligent transportation systems, economic analyses, relations between transportation and the environment, power engineering, etc.

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WE ARE PROUD OF

...the stabilization of the academic life at our faculty, which is going to celebrate its 20th anniversary in 2013. Our graduates participate in major national and international projects and hold important positions both in the private sector and in the state sector.

...the dominant position we have gained in the field of university education in transpor-

tation studies, which had been offered only in Žilina (Slovakia) before Czechoslovakia was split into the Czech and Slovak Republics.

...the high percentage of success in applying for grants and carrying out funded projects, reflecting the high level of professionalism of the projects undertaken at the faculty.

PEOPLE

FACULTY COMMUNITY

Bachelor study programme: 1,212 students in Prague, 71 in Dečín Master study programme: 483 students Doctoral study programme: 149 students Classes at the faculty are taught by 16 professors, 37 associate professors and 132 specialist assistants The number of graduates in 2012: 362 students in Prague, 20 students in Děčín



FACULTY OF TRANSPORTATION SCIENCES

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BACHELOR STUDY

TECHNOLOGY AND TECHNICS OF TRANSPORT AND COMMUNICATIONS

Automation and Informatics Transportation Systems and Technology Intelligent Transport Systems (EN, JD) Air Transport Management and Economics of Transportation and Telecommunications Professional Pilot Aircraft Maintenance Technology

MASTER STUDY

TECHNOLOGY AND TECHNICS OF TRANSPORT AND COMMUNICATIONS

Security of Information and Telecommunication Systems Safety of Transportation Vehicles and Infrastructure Transportation Systems and Technology

Engineering Informatics of Transportation and Communication

Intelligent Transport Systems (EN, JD) Air Traffic Control and Management Transportation and Logistic Systems (EN, JD) Logistics, Technology and Management in Transportation

Fields of study that can be studied in English are marked by (EN), Joint degrees programmes are marked by (JD).

DOCTORAL STUDY

TECHNOLOGY IN TRANSPORTATION AND TELECOMMUNICATIONS

Technology and Management in Transportation and Telecommunication Transportation Systems and Technology Air Transport Control and Operation

ENGINEERING INFORMATICS

Engineering Informatics of Transportation and Communication

LOGISTICS

Transportation Logistics



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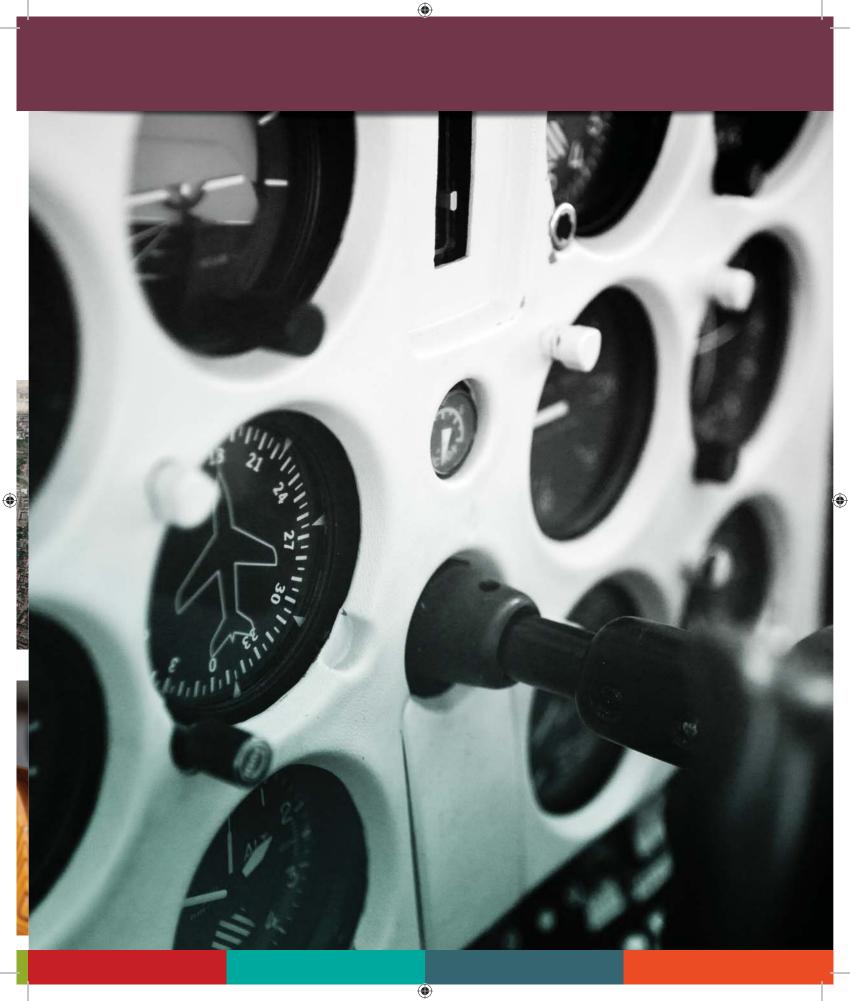
OUTSTANDING STUDENT

Ing. Markéta Vávrová – a graduate of the ATLANTIS joint-degree programme, who won the highest award in the European Platform of Transport Sciences competition and the Friedrich List Award 2012 for her master's thesis on the Development of an Electronic Vehicle Miles Travelled Toll Model. This prize is awarded for the best master's or doctoral thesis in the field of transportation. She elaborated and defended this thesis during the second year of her master's study programme, which she spent at UTEP in El Paso, where she is now studying on the doctoral programme.



DID YOU KNOW... THAT ALTHOUGH WE ARE ONE OF THE YOUNGEST FACULTIES OF CTU, OUR GRADUATES ARE AMONG THE MOST DEMANDED ON THE JOB MARKET IN AREAS RELATED TO TRANSPORT, TELEMATICS AND TELECOM-MUNICATIONS?





FACULTY OF BIOMEDICAL ENGINEERING

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UNIQUE FACTS

WE ARE UNIQUE IN THE CZECH REPUBLIC

...in having our faculty based on an interdisciplinary approach linking technology, biology and medicine, and also being the only public university located in the Central Bohemian Region.

...in our individual study programmes, which are directly related to specific healthcare professions (or occupations). These can either stand on their own or can supplement and support each other in hospital practice.

...in engaging in research on nanotechnologies for medicine. We are developing new types of biocompatible thin layers (surfaces for implants, stents) and new types of sensors.

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...in introducing the Health Technology Assessment method in the Czech Republic.

...in having graduates who become specialists working in teams to save human lives (comfortable pre-hospital emergency care, hospital care, and post-hospital health care).

...in having a platform for simulating patients using the latest medical equipment.

...in offering a broad educational base for future biomedical technicians and engineers including a complete unique set of medical safety testers of electronic equipment, made by world-leading manufacturers, analyzers and simulators of selected physiological subsystems and parameters, and last but not least a unique real model of the MEDICS controlling and monitoring system for electric wiring in hospitals.

...in having modern laboratory equipment for experimental teaching and research comprising 30 laboratories, including those of simulating the environments of selected emergency departments and intensive care units in hospitals, which are unique for biomedical engineering in the Czech Republic.

...in having a platform for teaching biomedical informatics with the opportunity to try out, in various roles, the most widely-used information systems in Czech hospitals.



WE ARE UNIQUE IN THE WORLD



... in having artificial pulmonary ventilation.

We are one of the world's top workplaces in this field, which is working on optimizing the high-frequency pulmonary ventilation used in neonatology and also for adults.

...in having our application-oriented facility in Prague Albertov, which links the innovative potential of the university environment with professional commercial implementations. The potential of the facility is focused on projects linking technology, medicine, health care services and social services together with elements of safety, security and rescue teams.

WE ARE PREPARING FOR THE NEAR FUTURE

...expansion of the existing teaching spaces, next step in reconstruction of the existing spaces and broadening the nanotechnology studies.

WE ARE MEMBERS OF:

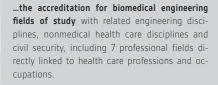
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EAMBES (European Alliance for Medical and Biological Engineering and Science) The consortium of six European universities under the Erasmus – Mundus CEMACUBE project offering a study programme in Biomedical Engineering.

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Our mission is to provide interdisciplinary education for well-trained graduates who will be able to apply their theoretical knowledge and practical skills in medicine and in research. We are a teaching, scientific, research, development and creative institution, working in technological, medical and managerial fields applied in biomedical engineering, medical informatics, medicine and social security.

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...the annually increasing interest in studying at our faculty, also thanks to the expanding range of interesting fields of study. (The number of students at the faculty doubled between years 2009 and 2013, reaching 1,700 students, and the number of graduates rose from 130 to 210.)

...the students participating actively in training for rescue and safety services and thus gaining unique practical and managerial skills. As a result, our students of the Healthcare Service Rescue Worker study branch take leading positions every year in various competitions, including successfully competing against professional rescue teams.

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...establishing a strong position in the Central Bohemian Region. We have become a recognized partner of medical institutions, companies and governmental authorities in the region. One of our major partners is the Town of Kladno, which has collaborated on developing our faculty and on implementing major projects such as an Education for Competitiveness Operational Programme and an Operational Development Programme, and on extending the faculty's teaching facilities.

WE ARE PROUD OF

...our graduates, some of whom have achieved great success (Jan Rieger, M.Sc., Ing. Vladimíra Petráková, Ph.D. and many others, who have won recognized awards and prizes).

...many practical implementations, which help in everyday clinical practice.

...utility models and patents, resulting from highquality cooperation between the faculty, medical facilities and students.

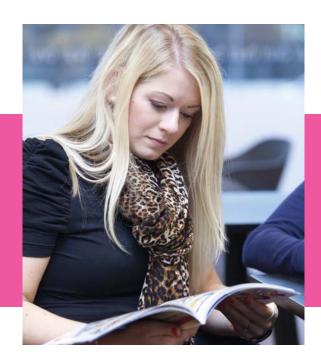
PEOPLE

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FACULTY COMMUNITY

Bachelor study programme: 1,300 students Master study programme: 400 students Doctoral study programme: 100 students Faculty: 10 full professors, 15 associate professors and 66 specialist assistants

The faculty **staff of 248** (40 % of whom are academic staff), is well capable of carrrying out the demanding task of implementing all the Faculty's programmes.



FACULTY OF BIOMEDICAL ENGINEERING

BACHELOR STUDY

BIOMEDICAL AND CLINICAL TECHNOLOGY

Biomedical Technician (KF, EN, RJ) Optics and Optometry Biomedical Informatics (KF)

SPECIALIZATION IN HEALTH SERVICE

Physiotherapy Radiological Assistant Paramedic Medical Laboratory Technician

PROTECTION OF THE POPULATION

Planning and Management of Crisis Situations (KF)

MASTER STUDY

BIOMEDICAL AND CLINICAL TECHNOLOGY

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Biomedical Engineering (EN, RJ) Systematic Integration of Processes in Health Service (KF, EN, RJ) Appliances and Methods for Biomedicine CEMACUBE Erasmus Mundus Masters programme (EN, DD)

PROTECTION OF THE POPULATION Civil Emergency Planning

DOCTORAL STUDY

BIOMEDICAL AND CLINICAL TECHNOLOGY Biomedical and Clinical Technology (KF, EN)

KF indicates that the programme can also be studied on a part-time basis.

EN indicates a field of study that can be studied completely in English.

RJ indicates a field of study that can be studied completely in Russian language.

DD indicates a double degree programme.

OUTSTANDING STUDENT

Ing. Vladimíra Petráková, Ph.D. graduated from the bachelor's, master's and doctoral Biomedical and Clinical Technology study programme with outstanding results. In 2013 she successfully defended her dissertation in English in front of a jury supplemented by experts from abroad which guaranteed high-quality results of the research in the interdisciplinary field of physics and biology. Ing. Vladimíra Petráková, Ph.D. is now continuing in her scientific work at the faculty, and is a coordinator of the Education for Competitiveness Operational Programme project, under which a new laboratory for the analysis of thin films is being set

up at the faculty. She has been involved in supervising various student research activities, and has been developing further cooperation with the Institute of Physics of the Czech Academy of Sciences and with institutions abroad. She is one of the young co-workers who are gradually taking over individual major tasks and projects while creating the prerequisites for implementing the scientific and research results of the faculty in the near future. In previous years she has won many awards and was also nominated for prizes at national level



CONTACTS

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ADDRESS: Sítná 3105, 272 01 Kladno, Czech Republic WEBSITE: www.fbmi.cvut.cz DID YOU KNOW... THAT DURING ACADEMIC YEAR 2013/2014 THE FACULTY IS GOING TO OPEN 11 NEW UNIQUE LABORATORIES FOR STUDENTS?

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FACULTY OF INFORMATION TECHNOLOGIES

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UNIQUE FACTS

WE ARE UNIQUE IN THE CZECH REPUBLIC

...in having a department for forensic analysis of evidence of a digital nature.

...in researching on robots navigated by a stereoscopic camera that can follow a person or escape from him. The robot can be controlled by a simple hand gesture to proceed in various directions and to make turns.

... in carrying out studies of methods for automating data mining processes.

...in our research into massive parallel algorithms for computers with hundreds of thousands of processors. ...in our research into the design of the equipment resistant against attacks and against breaking the ciphers used today in conventional chip cards.

...in our research on robotic toys, suitable for use as accessories for voice communication between man and computer. You can play with them, they can read an SMS or an email to you, wake you up in the morning instead of an alarm clock, and they will give you reminders in the course of the day, e.g. that you need to go shopping.

...being the first to start using field programmable gate arrays (FPGA) for teaching digital design.



WE ARE UNIQUE IN THE WORLD



... in having created a unique library of compressed-sensing algorithms and a unified testing environment for research on the properties of compressed sensing algorithms.

... in designing and modelling highly reliable and self-testing numerical VLSI circuits.

...in knowing how to implement neuron networks effectively on IC cards and gating fields using linearly approximated functions.

WE ARE PREPARING FOR THE NEAR FUTURE

...a new laboratory for knowledge engineering and a laboratory for programming mobile devices.

WE ARE MEMBERS OF: Informatics Europe – the Association of European Faculties of Informatics

OUR ACADEMIC STAFF ARE MEMBERS OF

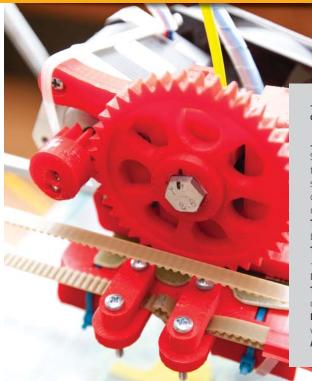
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International Association for Cryptographic Research EUROMICRO (Board of Directors – Representative of the Czech Republic) Institute of Electrical and Electronics Engineers.

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Our mission is to provide top technical education in the major fields of informatics, focusing on information and communication technologies at bachelor, master and doctoral level, and to conduct research and development comparable with that carried out at leading European faculties of information technology.

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...our laboratory for research on security aspects fe of ICC cards.

...organising major conferences. The annual Prague Stringology Conference – a scientific conference in the field of stringology, translators, data compression, arbology and finite automata. The members of the programme committee come from all continents of the world.

The IEEE European Test Symposium in 2009 – the biggest European conference on circuit testing.

The European Computer Science Summit in 2010 – an annual conference of the Association of Informatics Faculties in Europe.

TOOLS 2012 – the biggest European conference on object programming techniques.

LinuxDays – the biggest Czech conference for developers and supporters of open-source software. ARCS 2013 – the leading European scientific con-

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WE ARE PROUD OF

ference on computer architectures and operating systems.

LAW FIT 2013 – a meeting of leading figures in the fields of law and information technology in the Czech Republic, with discussions about current issues in law and informatics.

...our 3D-print laboratory.

...the SAGElab network multimedia laboratory built in cooperation with Cesnet and the Faculty of Electrical Engineering.

...the centre for conceptual modelling.

...COPACOBANA (Cost-Optimized Parallel COde Breaker) – a parallel computational server composed of 120 field-programmable gate arrays (FPGA).

PEOPLE

FACULTY COMMUNITY

Bachelor study programme: **1,700 students** Master study programme: **490 students** Doctoral study programme: **65 students** Academic Staff: **9 professors**, **13 associate professors** and **73 specialist assistants**



FACULTY OF INFORMATION TECHNOLOGIES

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BACHELOR STUDY

INFORMATICS

Information Systems and Management Information Technology (EN) Computer Engineering (EN) Software Engineering (EN) Theoretical Computer Science (EN) Web and Multimedia (EN)

MASTER STUDY

INFORMATICS

Computer Security (EN) Computer Systems and Networks (EN) Design of Digital Systems (EN) Systems Programming – Theoretical Computer Science (EN) Systems Programming (EN) Web and Software Engineering – Information Systems and Management Web and Software Engineering – Software Engineering – Software Engineering – Web Engineering (EN) Knowledge Engineering (EN)

DOCTORAL STUDY

INFORMATICS Informatics (EN)

Study programmes and fields of study which can be studied in English are denoted by (EN).

OUTSTANDING STUDENT

Eliška Šestáková, BSc, aged 22

In my fourth year at the secondary school, when I came to decide what I was going to do next, the choice was clear for me. As far as IT is concerned, when I entered FIT I had only basic programming skills, and my interest was in creating graphics and web pages. Thanks to the fact that at FIT we do not choose our field of specialization until the second year, I had time to find out that the possibilities offered by algorithms and programming languages were closer to my heart. I therefore took Theoretical Informations as my special field.

This year, I successfully completed my three-year study programme by passing the State Examination. In my final project I worked on implementing a game called Tower Defense, in which I proposed an implementation of artificial intelligence based on a way to route and navigate the units.

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Since my second year at FIT, I have been working for IBM in STG Support. I work on analyzing data with a view to visualizing the data in the form of various reports.

I certainly do not regret my decision to study at FIT, and I therefore decided to register for the follow-up master's programme. There is a friendly environment at the Faculty, which is full of real experts who live for the world of IT, and their enthusiam for the work is highly infectious.

CONTACTS

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SECRETARIAT: Markéta Loučková Phone: +420 224 359 811, E-mail: sekretariat@fit.cvut.cz

STUDY DEPARTMENT: Phone: +420 224 359 827, E-mail: studium@fit.cvut.cz

VICE-DEAN FOR STUDY AFFAIRS:

Ing. Miroslav Balík, Ph.D. Phone: +420 224 359 816, E-mail: edu@fit.cvut.cz

VICE DEAN FOR EXTERNAL AFFAIRS:

doc. RNDr. Josef Kolář, CSc. Phone: +420 224 359 872, E-mail: josef.kolar@fit.cvut.cz

ADDRESS: Thákurova 9, 160 00 Prague 6, Czech Republic WEBSITE: www.fit.cvut.cz DID YOU KNOW... THAT WE CREATED THE FIELD OF ARBOLOGY, A NEW THEORY PROVIDING A UNIFIED VIEW OF TREE DATA STRUCTURES AND ALGORITHMS?







UNIVERSITY INSTITUTES





KLOKNER INSTITUTE



UNIVERSITY CENTRE FOR ENERGY EFFICIENT BUILDINGS

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CZECH INSTITUTE OF INFORMATICS, ROBOTICS AND CYBERNETICS

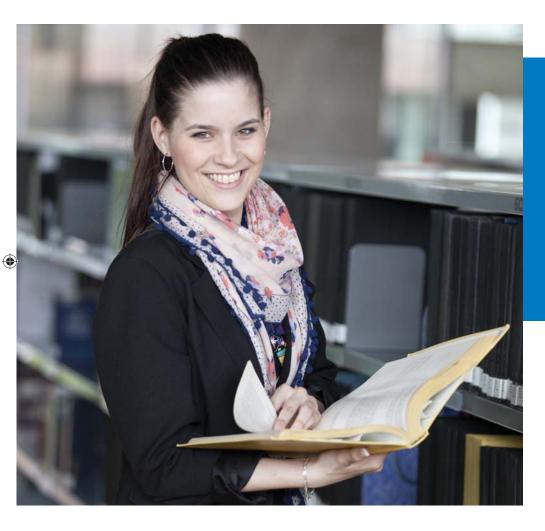


INSTITUTE OF PHYSICAL EDUCATION AND SPORTS

MASARYK INSTITUTE OF ADVANCED STUDIES

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Our mission is to provide graduates of technological disciplines with the managerial, language and teaching skills that engineers have tended not to develop actively in the past. Our aim is to cover the whole range of university education programmes linking technical studies and economics with the humanities, and in this way to supplement the broad offer of technological courses and study programmes provided at CTU in Prague.



WE ARE PROUD OF...

...more than 600 graduates, who have gained their MBA degree at the Masaryk Institute of Advanced Studies.

...almost 4,000 students, who have gained a teaching qualification from us for teaching vocational courses.

...the high quality of our study fields – 4 at bachelor lever, 3 at master level and 2 at doctoral level.

...the wide range of our high-quality language courses.

...our memberships in many national and international organisations.

WE ARE MEMBERS OF THE:

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Czech Association of MBA Schools (CAMBAS) Czech Management Association Personnel Officers Club of the Czech Republic International Society of Engineering Education (IGIP) The Association of Adult Education Institutions in the Czech Republic **We have well-established partnerships with:** Sheffield Hallam University, especially in the MBA programme the University of Economics in Prague all institutions incorporated in the Czech Technical University in Prague

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BACHELOR STUDY

ECONOMICS AND MANAGEMENT Management and Economics of an Industrial Com

SPECIALIZATION IN TEACHER EDUCATION Education for Vocational Teachers Technical Teacher Education

MASTER STUDY

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ENTREPRENEURSHIP AND COMMERCIAL ENGINEERING IN INDUSTRY Entrepreneurship and Management in Indust

MANAGEMENT OF DEVELOPMENT PROJECTS Management and Regional Projects Project Management for Innovation in a Company

DOCTORAL STUDY

COMPUTATIONAL ECONOMICS AND FINANCE Computational Economics and Einance

HISTORY OF TECHNOLOGY History of Technology

LIFE-LONG LEARNING

University of the Third Age Tailor-made courses Coaching – Coach Specific Training Mentor Coaching Specialization in Teacher Education

LANGUAGE EDUCATION

Graduate Teacher Training in English Supplemental Methodological Studies Standardized Exams Czech Exam for Permanent Residence Czech Exam for University Studies Courses of General English Courses of General English Courses of General French Intensive Course of Czech Language Company Courses and Language Audit English for Managers and for MBA University of the Third Age

COMMUNITY

Students: Bachelor study programme: **1,000 students** Master study programme: **500 students** including **40 foreign students** Academic staff: **115 lecturers** Non-teaching staff: **42**

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CONTACTS

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KLOKNER INSTITUTE

The Klokner Institute (KI) was established in 1921 and was originally called the Research and Experimental Institute of Materials and Building Constructions. KI was the first research institute at CTU and is one of the four oldest independent scientific research institutes in Europe. Its initiator, founder and first head was CTU professor Frantisek Klokner.

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The main mission of the Klokner Institute is scientific and research work closely related with education. Experience and knowledge that is gained is used intensely and is applied in dealing with specialized problems in practical engineering. The institute provides expert services for the state administration and for private clients in the field of national and international standardization. The institute plays a key role in developing international collaboration in research activities. It is a founding member of RILEM, and is actively involved in CIB, WTA, IABSE, CEN, and ISO.

Currently, the institute has four specialized departments and accredited laboratory no. 1061. Since 1986 it also has a forensic department for diagnostics, failure analysis and tests of concrete, steel, timber and masonry structures and parts, for structural mechanics (deformation of concrete and steel structures), the impact of dynamic effects on these structures, steel and concrete structures and the use of plastic materials in building structures.

SCIENTIFIC AND RESEARCH ACTIVITIES

Results achieved in recent times confirm our unique position both in the Czech Republic and worldwide, namely in the following fields:

- Structural reliability theory, including probabilistic analysis of damage development and structural durability.
- Material engineering focused on technology micro and macromechanics of structural materials with special emphasis on concrete, masonry, fiber-reinforced composites, steel and glass.
- Modelling load-bearing systems with regard to creating structural computational methods, load effects and responses of structural systems.
- Wind and seismic engineering static and dynamic verification of structures affected by wind, natural and artificial seismicity, climatic load, impacts of machines, etc.
- Diagnostics, monitoring and assessment of structures.
- Degradation of reinforced concrete and masonry structures due to exposure to the environment, and proposals for methods to remediate them.

There are currently 25 basic and applied research projects being carried out at the Klokner Institute. The projects are supported by CSF, MIT – TIP, MI CR, NAEP – Leonardo, TACR, MC – NACI, MEYS CR.



TEACHING ACTIVITIES

The Institute educates doctoral students in study programme P 3607 Structural Engineering, in two fields of study:

- science of non-metallic materials and structural element
- construction theory

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Staff members of the Institute currently participate in teaching courses for master and bachelor students at the faculties of CTU in Prague. The Institute runs one-day Type A accredited courses within the framework of the Czech Chamber of Strucural Engineers' Lifelong Learning programme.

CENTRE FOR TECHNICAL NORMALIZATION

On the basis of an agreement with the Office for Technical Normalization, the Centre for Technical Normalization (CTN) was set up at the department of Reliability of Structural Materials at the Klokner Institute in Prague. CTN is led by prof. Ing. Milan Holický, DrSc., Ph.D., who is also head of the department of Reliability of Structural Materials. CTN is entrusted with collaborating with technical commission CEN/TC 250, with its subcommission CEN/TC 250/SC1 for loading, and also with technical commission ISO/TC 98. The main task of the Centre is to elaborate national supplements to eurocodes, and to elaborate amendments and changes to these norms.

CENTRE FOR COMPOSITES

This Centre works on the development of composite materials for various applications in construction, structural proposals and verification by means of mechanical tests, including non-destructive testing. The Centre for Composites is a leading workplace for international standardization in the Czech Republic in the field of composites (and plastics) in the framework of ISO and CEN (ISO TC 61 and ISO TC 131), and participates in creating norms in the framework of ISO TC 229 (Nanotechnology).

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EXPERIMENTAL EQUIPMENT

Our mechanical testing laboratories are equipped with a number of testing appliances that can be interconnected with a control unit or a portable PC. Laboratories at the institute use our unique testing press with 5 m testing height and 10MN capacity. We also have modern universal static and dynamic stress testing systems made by world-renowned manufacturers, e.g. MTS, INSTRON, and Tiratest. The laboratory is equipped with several TESTSTAR control units made by MTS for controlling 4 separate INOVA hydraulic cylinders on the fracture stand. For durability testing of concrete and other building materials we use Friger and Heraeus Votsch temperature chambers for carrying out tests in the temperature range from -30°C to +80°C, including flooding with water and and the use of aggressive solutions (e.g. NaCl). As an option it is possible to program new user cycles.

In order to be able to carry out our scientific research tasks and expert assignments, we have obtained relatively high funding for the purchase of new experimental and testing appliances.

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The newly acquired instruments include

- AEDSP-32/16B Acoustic Analyzer by Physical acc. Corp. – enabling two-channel detection analysis of sound emission signals during tensile tests of structural elements under laboratory conditions.
- Spectroscan MAKC GVII Sequential Wavelength Dispersive X-Ray Fluorescence Spectrometer – designed for analysing elements in solids, liquids and powders.
- Olympus LEXT Optical Confocal Microscope designed for microstructure analysis and highly accurate measurements and high reliability microscopic observations in 3D.
- Ahura First Defender Mobile Raman Spectrometer

 for analysing specimens (liquids, powders, solids)

both in vials and for direct contactless analysis of freely spilled or dumped specimens.

- MYTRON climate chamber allowing not only temperature and humidity control but also control of the UV radiation and solar radiation while testing.
- Testo 885-2 Thermal Camera Set with a SuperResolution function and radio measurement of humidity.
- Modernization of the Tiratest stress testing machine for tests with small loading forces.

We have also invested in the newest software equipment available:

- SCIA Engineering for static and dynamic analysis of structures.
- ATHENA for non-linear analysis of materials and structures.
- AUTOCAD for drawing project documentation.

EXPERT REPORTS

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Expert reports for institutions in the Czech Republic and for foreign clients are included among the highly significant activities of the Institute. More than 500 expert reports are issued by the institute each year.

- Structural-technical studies and diagnostics of residential, industrial and agricultural buildings of a wide range of structural types (concrete, masonry, wood and steel).
- Static loading tests on highway and railway bridges.
- Dynamic tests (e.g. vibration measurements on the foundations for turbogenerators, desulphurization absorbers, chimney foundations, structures, etc.)
- Approval procedures for buildings and structures.
- Humidity tests and chemical analyses of structural materials, including proposals for remediation measures.
- Testing, e.g. tests on support cables, high-voltage isolators, structural elements, tests on strength of materials, tests of corrosion resistance and frost resistance, resistance to UV radiation and to various aggressive liquids and gases, etc.

SIGNIFICANT ASSIGNMENTS

- Structural technical studies and diagnosis of US and Japanese diplomatic buildings in Prague, Czech diplomatic buildings in London and Moscow, cooling towers, chimneys and other strucures and power plants for ČEZ, Florenc and Vltavská metro stations, the Church of the Sacred Heart of our Lord in Prague, the Summer Palace of Queen Anna at Prague Castle, a number of cultural monument buildings and other structures.
- Vibration measurements on the foundations of the TG1 turbogenerator at the heating station in Kralupy nad Vltavou, measurements on the desulphurization absorbers at the Dětmarovice power plant, tests on the foundations of the chimney at the Vřesová power plant and on the premises of Motol Hospital, structural tests on the Prackovice flyover, etc.
- Approval procedures for structures in the zone subject to influence from the extension of Prague metro line A. Mechanical tests on ceramic, glass and plastic isolators (for NGK Japan, IAC Malaysia, PCI Austria, SEFAG Switzerland, CERAM Austria, France and Slovakia).
- Mechanical tests on elements and entire sections of a special ornamental grille for the Louis Vuitton building in Paris (for Sipral).
 Tests on steel load-bearing elements for the facade of the new building of the National Technical Library on the Dejvice
- campus of CTU in Prague.
- Static loading tests on highway and railway bridges, e.g. for Bögl &Krýsl, Metrostav, SSŽ & Co., SMP Construction, Skanska).
 An experimental invesitigation of the bearing capacity of prefabricated concrete underground railway tube segments for Metrostav
- Experimental certification tests on suspect rods in the structure of Troja Bridge loaded by a combination of axial and transverse forces.
- Remediation proposals for structures and parts of structures affected by humidity, e.g. the building reconstructed for the Vaclav Havel library in Loreto Square, reconstruction of a castle in the framework of the Kejtánka campaign in Prague 6.
- . An expert opinion in the case of a bridge that collapsed on to the railway line and the subsequent railway accident at Studénka.

CONTACTS



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UNIVERSITY CENTRE FOR ENERGY EFFICIENT BUILDINGS

The mission of the Centre is to offer new scientific and technical innovation premises providing state-of-the-art research equipment and facilities for a unique combination of participating specializations.

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The Centre carries out research on optimizing energy saving in buildings. In all programmes, theoretical approaches are combined with experimental research, which will serve to check the results of computer simulations. Full-scale tests will provide reliable information about the functional parameters of buildings, structures, proposed power supply systems and intelligent control systems, and also on their impact on the environment and on the quality of the climate inside buildings.

UCEEB is a joint project of four CTU faculties - the Faculty of Civil Engineering, the Faculty of Mechanical Engineering, the Faculty of Electrical Engineering and the Faculty of Biomedical Engineering. Together they have put together five research programmes and CTU has managed to get funding for them from the Operational Programme Research and Development for Innovations administered by MEYS CR.



WE ARE UNIQUE IN THE CZECH REPUBLIC

Four faculties participated in setting up the Centre: the Faculties of Civil Engineering, Mechanical Engineering, Electrical Engineering and Biomedical Engineering. Together, they have set up five research programmes for which CTU has been able to obtain targetted funding from the Operational Programme for Science and Research for Innovation, supervised by the Ministry of Education, Youth and Sport of the Czech Republic.

We have a truly interdisciplinary approach, bringing together civil engineers, architects, mechanical engineers, electrical engineers, biomedical engineers, computer scientists and others to design energy-efficient buildings for the future.

OUR FIVE RESEARCH PROGRAMMES

RESEARCH PROGRAMME NO. 1:

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Architecture and the interaction between buildings and the environment, headed by prof. Ing. Petr Hájek, CSc.

RESEARCH PROGRAMME NO. 2:

Energy systems for buildings, headed by doc. Ing. Tomáš Matuška, Ph.D.

RESEARCH PROGRAMME NO. 3:

Quality of the internal environment of buildings, headed by prof. Ing. Karel Kabele, CSc.

RESEARCH PROGRAMME NO. 4:

Building materials and building construction, headed by doc. Ing. Petr Kuklík, CSc.

RESEARCH PROGRAMME NO. 5:

Monitoring, diagnostics and intelligent control of efficient buildings, headed by Ing. Jan Včelák, Ph.D.

WWW.UCEEB.CZ

TAUGHT COURSES AND STUDENT PROJECTS

We involve students in the work of the Centre, especially in the framework of their project work at PhD, master and bachelor level.

We offer workshops, seminars and training sessions to CTU students, companies, and others.

WE ARE PROUD OF

...being an extremely well-equipped, forward-looking research centre. ...being able to form teams of engineers to deal with all aspects of energy--efficient buildings.

...the fact that our research findings are directly integrated into study programmes at CTU.

NEAR FUTURE

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We are currently working on organizing the UCEEB team, doing project work, and above all, finishing our own building which is going be ready at the end of 2013. We anticipate that we will enter into full operation in the middle of 2014. In the meantime we are preparing documentation for both Czech and international projects to ensure the sustainability of our centre. The UCEEB Department for Commercialization is also being set up to secure the business activities of the centre and organize its commercial activities.

INTERNATIONAL COLLABORATION

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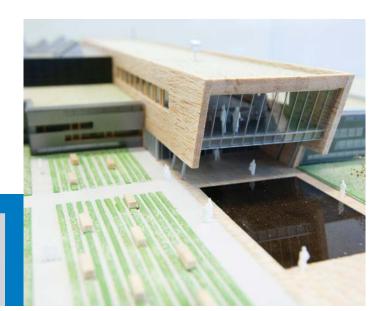
International collaboration is one of the key priorities of UCEEB. Currently we have a doctoral and postdoctoral student exchanges with many universities abroad, while welcoming approximately 20 postdoctoral workers from abroad to UCEEB.

In addition, the Centre has been working on the infrastructure to meet the challenges of the Horizon 2020 project, specifically in terms of construction and power supply systems. The UCEEB Department for Commercialization is also being set up in the activites of EERA, specifically in its Smart Cities and Smart Grids projects.

CONTACTS

PROJECT MANAGER: doc. Ing. Lukáš Ferkl, Ph.D. E-mail: lukas.ferkl@uceeb.cz

ADDRESS: Nám. Sítná 3105, 272 01 Kladno 2, Czech Republic WEBSITE: www.uceeb.cz



CZECH INSTITUTE OF INFORMATICS, ROBOTICS AND CYBERNETICS (CIIRC)

CIIRC was set up on the basis of a decision issued by the Academic Senate of the Czech Technical University in Prague on April 22nd, 2013, which came into force on July 1st, 2013. The main task in the first phase of the establishment of CIIRC has been to prepare a high-quality project within the framework of the Research and Development for Innovation programme to revitalize the existing premises in the building housing the Technical Menza canteen to provide adequate physical facilities for the work of CIIRC.

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The other major task is gradually to build CIIRC up into a national scientific and teaching workplace on a European and international level.

AIMS AND ORIENTATION

CIIRC will be built up as a CTU university institute, aimed at integrating research and education in informatics at CTU, based on links with Centers built up outside Prague within the framework of the Research and Development for Innovation programme and on strong ties with international research centres.

The Institute has a broad field of specialization, covering: automatic control and optimization, robotics, artificial intelligence, computer graphics, computer vision and machine learning, designing software systems and computer devices, designing decision support and diagnostic systems and using these systems in medical applications, distributed decision support systems, industrial diagnostics, telematics, and designing user-friendly and beneficial solutions for citizens and for residents (including smart homes, smart cities, etc.).

CIIRC is open towards all faculties of CTU, and towards collaborating with teams at other universities and work-places of the Academy of Sciences of the Czech Repub-

lic, and seeks to engage in interdisciplinary collaboration with these teams.

The aim is to help to integrate research in connection with educating high-quality doctoral students in the field of informatics, robotics and cybernetics at national level – taking the collaboration among CTU, the institutes of the Academy of Sciences of the Czech Republic, and other technical universities to a qualitatively higher level by linking them with the infrastucture financed by European Structural Funds (CEITEC, NTIS, IT4Innovations), making use of the experience gained by operating the Center for Applied Cybernetics.

The aim is to improve the quality and to internationalize the research and study experience of doctoral students. The attractive and outstanding workplace will attract the interest of leading experts and professors from abroad.

The plan is gradually to build up joint laboratories with some leading universities in Europe, in the USA and el-

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sewhere, and with leading industrial research centers. The eClub start-up company accelerator will be located on the premises of CIIRC. This is one of the best incubators in the Czech Republic, and is linked with incubators in the USA. Education for innovation and for technology transfer will be one of the activities of carried out by CIIRC.

CIIRC will build on the successful tradition of cybernetics and informatics teams at CTU, and will support longterm specific research collaboration with leading global companies and with Czech businesses.

CIIRC will also introduce a new model of autonomous management through the Assembly of Leading Scientific Workers.

CIIRC represents a motivational model for the Czech Republic, and is a step in the direction of restructuring CTU as a modern research university.

CONTACTS

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SECTARIAT: Mgr. Jitka Seguin Phone: +420 224 357 506, E-mail: jitka.seguin@ciirc.cvut.cz

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WWW.CIIRC.CVUT.CZ



INSTITUTE OF PHYSICAL EDUCATION AND SPORT

Our aim is to improve the quality of life of as many students and academic staff as possible through a range of sports activities.

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WE FOCUS ON

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Providing all forms of regular physical education courses at the faculties of CTU. Providing and organizing winter and summer training courses in the Czech Republic and abroad.

Organizing special sports events for students and staff.

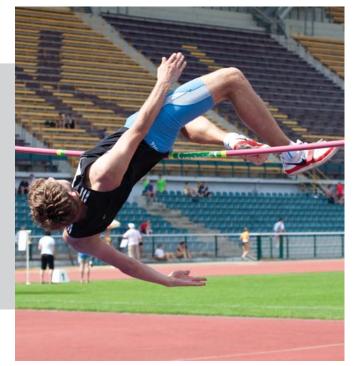
Coordinating the representation of CTU in university competitions in the Czech Republic, the Czech Academic Games and international sports events.

Working on development programmes and on research into physical education and sport.

Administering and operating the CTU physical education facilities.

Collaborating with the physical education units at CTU in providing sports activities and events at the university.

Administering and running the CTU physical education facilities: sports halls, multipurpose training facilities, fitness centres, exercise facilities for contact sports, climbing walls, archery facilities, table tennis rooms, artificial surface tennis courts in an air-inflated hall for winter use.





WE ARE UNIQUE IN THE CZECH REPUBLIC

Teaching about 9,000 students per week. Offering more than 40 types of sports activities. Organizing national sports events: the November 17th Run, the Czech Academic Games, the university floorball league, etc.

WE ARE UNIQUE IN THE WORLD

... in organizing summer and winter PE courses.

In spring and summer, students can sign up for water-sport courses, canoeing, windsurfing, cycling, hiking, tennis, horseback riding and other sports, such as ball games, frisbee, archery, swimming, softball, etc.

In winter, we offer downhill skiing, cross-country skiing and snowboarding courses.

> WE ARE MEMBERS OF THE: Czech University Sports Association

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WE REPRESENT CTU

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We are the main organizer of the CTU sports teams. Under our leadership, our sports teams (floorball, football, volleyball, basketball, handball, etc.) have won medals in national and international events (Czech Academic Games, SellGames, EuroMilano). Each year, we organize a competition for the best athletes of CTU, who are awarded sports scholarships.

FUTURE PLANS

Provide sand courts for beach volleyball and beach football. Offer modern sports facilities in response to demand.

CONTACTS

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OTHER CONSTITUENT PARTS

COMPUTING AND INFORMATION CENTRE



INOVACENTRUM CTU



INSTITUTE OF EXPERIMENTAL AND APPLIED PHYSICS

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CENTRAL LIBRARY

COMPUTING AND INFORMATION CENTRE

Our mission is to coordinate, integrate and develop the university's activities in the area of Information and Communication Technology. We are a partner for each of the faculties and participate in providing mainly centralized services aimed at developing and operating control components and applications.

WHAT YOU MAY NOT KNOW ABOUT US

CIC has a staff of 67, with an average age of 44.1 years.

The CTU data networks transmit 7,850 TB of data per year.

Each year, 25,000 people pass through the doors into CIC.

Our mail servers handle 741,000 e-mails per year. Five administrators handle 48 physical servers, 67 virtual servers, and 57 databases.



INTERESTING FACTS

Our publishing house produces 9,800 new identity cards annually for students, staff and guests, extends 13,600 identity cards annually, and sells 18,800 public transport season tickets per year.

Via the KOS system (an application in support of study agendas), 14,000 oral examination appointments are made each year and 425,000 examination grades are entered into the KOS system per academic year. KOS currently has about 25,000 active users.

The www.cvut.cz server is visited by over one million users annually. More than 1.2 TB of data are downloaded. The largest numbers of hits on the CTU main page are from the Czech Republic, Slovakia, Russia, Germany, Italy and France.

An average of about 12,000 unique visitors per year apply to browse information about scholarships.

We are a leading university in terms of the speed with which we process registration data.

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In the last 14 years the VVVS application has been operating (especially the database of publications and events), and 157,000 publications have been entered into the system. That is one new publication every 47 minutes! Today the information system registers 560 user roles, and 5,000 new users are registre

The information system has 560 user roles, and 5,000 new users are registered every year.

CONTACTS

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ADDRESS: Zikova 4, 166 36 Prague 6, Czech Republic WEBSITE: www.cvut.cz/cs/os/vic



INOVACENTRUM CTU

Our aim is to support technology transfer at CTU, to develop collaboration between the university and industry, and to mediate the transfer of new inventions and technologies developed at CTU to practical applications. We support start-up companies in InovaJET, the CTU Incubator, educate students and scientists in the fields of technology transfer, intellectual property protection and project management. We also provide opportunities for companies to cooperate with top researchers from all CTU faculties or with teams of experts from our faculties. We are a bridge between the university and the practical world.

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OUR SERVICES

- · Customized research and solutions
- Consultations on specialist topics
- Technology assessment

- Inova-forum round-table discussion
- Grant advisory services and grant administration
- · Intellectual property protection
- Starting up a technology company

- InovaJET business incubator

TAILOR-MADE RESEARCH

ing search service. We offer wide-ranging administrative and

FUNDING SEARCH SERVICES

We search for appropriate calls for applications, find academic

InovaJET: THE CTU INCUBATOR

We offer wide-ranging support for start-up innovation companies, lasts for 18 months, and is divided into Warm up, Focus, and Accelerate & Develop phases.

MEMBERSHIP IN INTERNATIONAL NETWORKING ORGANIZATIONS

BIC network Tuesday Business Network

CONTACTS

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ASSISTANT: Yveta Drahošová Phone: +420 222 368 648, E-mail: asistentka@inovacentrum.cvut.cz

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INSTITUTE OF TECHNICAL AND EXPERIMENTAL PHYSICS

We are a scientific and educational institute of the Czech Technical University in Prague working on physics of the microworld and its applications. The institute was established in 2002 as a base platform at CTU for research in experimental physics and for technological development.

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We strive to link top research with specialized education at CTU, and to support the transfer of physical methods from experimental research in the field of the microworld into the engineering education of students at CTU.

Our students in their master's and doctoral theses participate in international projects being undertaken at leading world laboratories e.g. CERN, JINR Dubna (Russia), ESA, ILL and ESRF Grenoble. The Czech Republic is a member of all of these institutions. Our staff members are involved in teaching physics in master's and doctoral study programmes at the CTU.

WE ARE UNIQUE IN THE CZECH REPUBLIC

imaging using ionizing radiation.

sensitive detection of particles in basic research on a nationally-significant research device both for experisubatomic physics.

...in the development of semiconductor detectors forin bringing the Van de Graaff accelerator back into use, and as a result, after the withdrawal of the Mi-...in using these detectors for precise, positionally- croton, acquiring a unique apparatus representing mental research and for educating students.

...in our experimental research carried out in underground laboratories (LSM France, SNO Canada). ... in being a basic research institution with a high level of self-funding.

FUTURE PLANS

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- Introduce a new study programme at CTU under the title Engineering Applications of Physics of the Microworld
- Continue developing the new CTU Central Detector Laboratory.
- Work on new research projects on cosmic radiation in collaboration with ESA, NASA and Japanese partners.

WE ARE MEMBERS OF

...many international projects and experiments, e.g. ATLAS, Medipix, QUICOM and ARDENT (EU FP7 projects), SuperNEMO, PICASSO, COBRA, TGV, where we collaborate with CERN, JINR Dubna and other European institutions.

...the loannes Marcus Marci Spectroscopic Society. ...the Union of Czech Mathematicians and Physicists. ...the Czechoslovakian Section of the IEEE Nuclear and Plasma Sciences Society.

WE PUBLISH IN IMPACTED JOURNALS

- Nuclear Instruments and Methods in Physics Research A
- Nuclear Physics A
- Physical Review D
- Journal of High Energy Physics
- Physics Letters B
- Physical Review Letters B
- Journal of Instrumentation

OUR COMMUNITY

- Number of master students working on their master project: 1.
- Number of PhD students working on their dissertation project: 20.
- 16 employees from abroad, working permanently in our institute.
- In total we have 75 mostly young employees, includina:

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- 5 professors, 2 docents (associate professors);
- · 3 doctors of science and 24 staff members with a Ph.D. scientific degree.

WE ARE PROUD OF

...educating students, not only from the CTU, who have elaborated their master's and doctoral theses in our institute on a high level.

...that we have achieved level of self-financing.

...developing long-term research projects in collaboration with internationally renowned institutions, e.g. CERN and ESA

...our growth - from the original 8 founding members in 2002 to 75 members of staff at the present time

CONTACTS

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CENTRAL LIBRARY

We offer library and information services in support of studies, scientific research, creative and artistic projects at the university. The CTU Central Library is a workplace of the whole university, comprising the central library on the Dejvice campus and three local libraries located at those faculties not located in Dejvice (the Faculties of Biomedical Engineering, Transportation Sciences, and Nuclear Sciences and Physical Engineering). We also administer the library funds housed in the department and institute libraries in the faculty buildings.

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WE CREATE...

...professional library and information security of studies, scientific, research, creative and artistic activities of the university.

- ...a wide collection of specialized printed and electronic documents.
- ...access to top electronic information resources.
- ... organized and interconnected services for students and academic staff of the CTU and other professionals.

...support for developing the information literacy of our students. We collaborate on providing them with key competences for their studies, for their future professions and for lifelong learning.

...support for evaluating the results of activities at the university in the fields of research and development.

WE ARE PROUD OF...

...having an extensive collection of state-of-the-art electronic databases and electronic libraries, which provide high-level coverage of the scientific fields of study and the study programmes offered at CTU (the prestigious electronic IEEE/IET library, the ACM Digital Library, scientific e-journals by Elsevier, Wiley and Springer etc.)

...systematically supporting the development of information literacy using professional courses, training sessions and a range of tools and services in support of work with information. ...establishing a new library information support system for studies, science and research, and integrating it fully into the IT and information systems at the CTU. ...our experience in negotiating licence and financial conditions for accessing electronic specialist databases and their publishers for access to specialist electronic databases and managing consortium projects (the prestigious IEEE/IET electronic library, the ACM Digital Library).

...our offer of tools and services which facilitate work with information.

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...providing innovative services and new tools for a specific group of users.

...our "best-practice" examples: educating doctoral students to be able to work with specialized information, analytical work to evaluate the results of the scientific and research work done at CTU, etc. ...creating documentation for publishing research and development results in Open Access mode, tracking copyright issues and trends in Open Access abroad. ...the small, well-qualifi ed and highly-productive team of workers of the Central Library.

FUTURE PLANS

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- Maintain uninterrupted access to significant digital libraries and databases
- Further promote the Open Access model of scientific communication in the academic environment both in the Czech Republic and abroad.
- Continue to offer innovative services and new tools for effective work with information.

AS A LIBRARY, WE ARE MEMBERS OF THE

- Association of University Libraries of the Czech Republic
- International Association of Technological University Libraries (IATUL)
- Ligue des Bibliothèques Européennes de Recherche/ Association of European Research Libraries (LIBER)

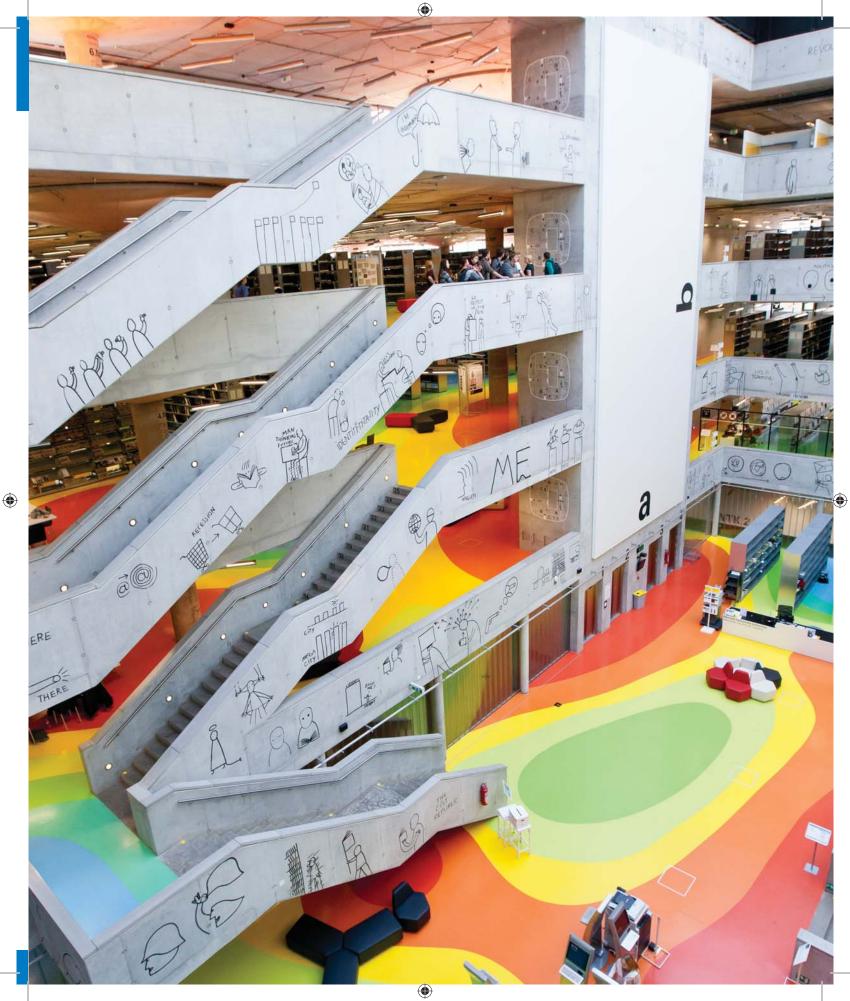
CONTACTS

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56 WWW.KNIHOVNA.CVUT.CZ



INTERNATIONAL OFFICE

The mission of the International Office is to help make the university a good international player, by supporting and facilitating a wide range of international study and research as well as active participation in international networks and organizations.

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The international dimension is becoming a normal, everyday aspect of the work of faculties, departments and research teams, and the distinction between national and international has become less clear and less important. The main partner of the International Office is the university's prize-winning International Student Club (ISC).

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WE ARE PROUD OF

...the good reputation of our outgoing exchange students at our partner universities.

...the popularity of CTU among incoming international exchange students.

...the outstanding achievements of the CTU International Student Club. ...the rapid development of international awareness and internationally-oriented activities throughout the university.

WHAT IS UNIQUE

Internationalisation of education, science and research has become a common part of the academic life of all the university facilities, faculties and departments. There is a huge increase in the number of bilateral agreements on cooperation with universities abroad and in the number of our students going on study exchanges to EU countries, USA, Australia, Latin America and Asia. CTU has become an attractive place for incoming exchange students, teaches and scientific researchers, and the university has been increasingly involved in international projects.

INTERNATIONAL STUDENT CLUB

The International Student Club (isc.cvut.cz) has been active at CTU since 1996. Our vision is to form an international community at CTU in Prague. We attempt to **integrate foreign students** into life in the Czech Republic and activities at the university. We create an environment where different cultures meet, and where Czech and foreign students get to know each other (Cafe lingea, excursions, sports tournaments, etc.) We support active engagement of our members for their own **self-realization and personal development** in a creative environment where an **open and friendly atmosphere predominates**. (contact: hr@isc.cvut.cz)

KONTAKTY

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HEAD OF EUROPEAN OFFICE CTU: RNDr. Dana Mrkvičková Phone: +420 224 353 436, Fax: +420 224 311 042, E-mail: mrkvicko@vc.cvut.cz

FUTURE PLANS

- Continue offering good opportunities for incoming and outgoing students.
- Seek better facilities and a better welcome for foreign doctoral students and visiting professors.
- Campaign for better integration of study abroad into study programmes at CTU.
- Help individuals and teams at the university to take ownership of their international activities.
- Support foreign language learning at CTU.



58 WWW.CVUT.CZ/EN

WHAT DO EXCHANGE STUDENTS SAY?

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I happened to go to Taiwan just by coincidence but now I am very happy about it. I had originally wanted to go study in one of the Western countries, but I eventually accepted this challenge and went to East Asia. I got to know a completely different culture, Asian lifestyle and also a completely new way of teaching. I studied at the National Taipei University of Technology in the Sustainable Architecture and Design master's programme together with other international students. The courses were taught in English and organized in a small group of students so the teachers were very helpful and friendly. Thanks to this exchange, I have made new friends from all over the world, travelled to many places and gained valuable experience. It was definitely the best term I've ever had and I must agree with the local slogan: Taiwan touches your heart.

Kateřina Kamenická (FA CTU) spent the spring term 2012/13 at the National Taipei University of Technology in Taiwan.



I actually had not really known where I would have liked to go, I had just wanted to try something new. Eventually, I chose to go to Finland. I didn't allow the initial bureaucracy to discourage me, passed my last missing exam on the day before the departure day and finally left for Finland. I left for the most intense term of my life. The term that will always be in my mind, leaving unforgettable memories of all those who participated in that dreamcome-true. The Erasmus exchange was in fact the first dose of the drug that kicked off my future trips; at first to Spain and now to Taiwan in Asia. I know that the first step is always hard but believe me, the rest will come by itself!

Zbyněk Poskočil (FEN CTU) spent the spring semester at Aalto University, School of Electrical Engineering in Finland.



It was definitely the best year of my life. Before I came to the Czech Republic I hadn't really known much about the country. The reason why I chose CTU was mainly because the living price in Prague is much lower than in other places in Europe and it also has lots of beautiful buildings, which I thought might inspire me in my design profession. After this amazing year, Prague has, without a doubt, become my second home and also my favourite city in Europe. Thanks to ISC CTU I met so many amazing people from every corner of the world. I have broadened my horizons and have changed a lot in my own personality. At the Faculty of Architecture at CTU I had a chance to work in teams of international students, which was the best feature of my studies there. Before coming to Europe I would never have guessed I would make so many close friends from all over the world. This is definitely the best outcome of my exchange this year. Finally, I would like to thank CTU and my home university for giving me this opportunity of seeing the world and thanks to the ISC CTU motto: "Together, we conquer the world", I'm ready to face all the challenges in the future.

Meng, Fan-Chung from National Cheng University in Taiwan spent the 2012/13 academic year at the Faculty of Architecture, CTU in Prague.



"Berkan, Prague is a city of dreams," said my advisor before I came here. I definitely had an ultra-awesome time in Prague. The ISC team helped us a lot. They arranged orientation meetings, trips and parties too! They also organized other activities such as language courses, sport events, etc. I can really say that I spent my best 5 months here, not getting bored for a single day. A magnificent city, a cheap one, good beer, very friendly people, tearooms, always a good mood, good

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friends, unforgettable memories and dormitory adventures. Simply a paradise on Earth. Děkuji!!! (Thank you!)

> Berkan Soylemez from Turkey studied for one term at the Faculty of Civil Engineering.

OUR INTERNATIONAL COMMUNITY

More than 2,700 foreign students from 101 countries are currently spending their academic life at the Czech Technical University in Prague. Over 600 are students on exchange programmes. Each year, about the same number of CTU students spend one or two semesters at a partner university.

The International Student Club at the university (ISC – www.isc.cvut.cz) organises a so-called buddy programme, in which Czech students help foreign students to deal with the initial cultural differences with a broad range of out-of-school activities, such as excursions, language courses, sports events and recreational sports activities, and help foreign students to integrate into the cultural life in Praque.

THE STUDY AT CTU PROJECT

The Czech Technical University in Prague offers more than 38 study programmes on bachelor's, master's and doctoral levels taught in English and Russian languages. There are currently 230 fee-paying students enrolled at CTU, coming from more than 40 countries of the world.

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Based on the increasing interest in technical disciplines abroad, the 'Study at CTU' project has been launched to increase the number of fee-paying students at CTU, and to take care of them during their studies. There is a study adviser, available via e-mail and on Skype, who is ready to answer any questions that applicants want to ask. Further information on: **www.studyatctu.com**.

HOW DO OUR INTERNATIONAL STUDENTS SEE CTU AND PRAGUE?

I am extremely satisfied with CTU. I think I still have a lot to learn but already now I have the opportunity to work with other leading research teams even from abroad. **Miguel**, **Portugal**

I was amazed by the size of the Dejvice Campus. I like all the historical buildings around but the new library too. I was also surprised by the number of practical classes, e.g. in laboratories. João, Brasil

CTU is an internationally recognized university. If you are looking for a good place to live in, study and enjoy, CTU is one of the best options. **Mustakeem, India** All the colleagues I come into contact with are very friendly and it's great to work with them. I feel being a part of the community. **Muhammad, Pakistan** It is wonderful to live here, especially with the perfectly working Prague public transport. **Jorge, Guatemala**



Pavel, Kazakhstan

Faculty of Information Technology I chose CTU in Prague because it is one of the best technical universities in the Czech Republic and it offers high-quality studies. Before I applied for CTU, I had tried to compare several universities all over the world and CTU came out as the best one in terms of price, quality and location. My first impression after the arrival was very pleasant. I was surprised by the warm welcoming I received. The living cost is not as high as in other countries. The only problem I had to face was the visa policy. I am completely satisfied with CTU, which has more than fulfilled my expectations. Since I arrived, I have met many interesting people and made a lot of friends, who are always there for me.



Khalil, Iraqi Kurdistan

Faculty of Electrical Engineering I chose CTU because of the affordable tuition fees and the living cost. The first impression was stunning but it took me some time to get used to living this far from home. I like the calm local atmosphere. I am very satisfied with CTU, above all with the nice approach to students at the Department of Electroenergetics. The only problem for me was the Czech language and the visa policy. After spending two years here, I feel like at home; thanks to my friends from the Erasmus Exchange programme and my colleague from Kurdistan, Dan.



Oluwatussin, Nigeria

Faculty of Mechanical Engineering

I contacted my study agent in my home country for advice about studying abroad. I told him I didn't want to go to the USA or Great Britain. He suggested the Czech Republic because he himself had studied in Austria and he told me that the Czech people are very kind to foreigners. That's why I came to CTU, which was after all my first choice. I have to admit that coming here was a bit difficult for me being very far from my family and friends on another continent with a completely different cultural environment. It was very hard but I have managed to fit in. I am very happy and satisfied. I attend one of the European Top 50 universities and I'm proud to be a part of it.

Studying at CTU can be very hard. We usually have several source documents

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for a single course but I have amazing colleagues and tutors. We are simply one big family at CTU.

I'm gonna miss the local academic environment so much; e.g. the National Technical Library with its breathtaking interior, or the Strahov Gardens. I like the fact that the city I study in is a favourite tourist destination and I also love traditional Czech food, especially goulash.

WWW.STUDYATCTU.COM



SCIENCE AND RESEARCH AT CTU

Research, development, artistic and other creative activities form an integral part of our work as a leading university.

We are among the largest research institutions not only in the Czech Republic but throughout the world. We cover a broad range of research in many fields of engineering. Basic and applied research have a long-term role at CTU. Research is carried out at all eight faculties, and also at the university institutes: the Klokner Institute, the Masaryk Institute of Advanced Studies, and the Institute of Technical and Experimental Physics.

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In future, too, we aim to be a prestigious university where the emphasis will be on high-quality scientific and research work, and on being a significant performer in the European research and education space.

SUPPORT FOR SCIENCE AT CTU

Through the Student Grant Competition, we provide funding for research and development projects carried out by students in PhD and master study programmes

We provide information, advisory and administrative services for team leaders and participants in Czech and international research projects. We help in popularizing scientific findings and in technology transfer through active participation of scientific teams in fairs and seminars.

RESEARCH CENTRES AT CTU

CTU has many centres for basic and applied research where projects on an excellent international level have been carried out, in many cases, over a long period of time.

RECTOR OF CTU'S PRIZE FOR SCIENCE AND RESEARCH

The Fund in Support of Scientific and Research Work is one of the sources used to motivate researchers. Every year, the rector of CTU awards the Rector's Prize in the following fields:

- outstanding scientific results,
- practical application of research results,
- a prestigious scientific publication,
- an outstanding PhD thesis.

Through the CTU Patent Centre, commercial rights are protected for the university and for external persons and bodies. We collaborate with appropriate national and international organizations.

EXAMPLES OF OUTSTANDING RESEARCH RESULTS

The ANASTOMOSIS Interconnected City project

Doc.Ing.ak.arch. Petr Hájek, together with colleagues from Design Institute III at the Faculty of Architecture, prepared the ANASTOMOSIS Interconnected City exhibition, which presents for the general public ways to regenerate and reanimate hitherto unused border areas between urban districts. This is a specific theme that has not previously been investigated in the Czech Republic.

A simulation of quantum dynamics through light

Specialists from the department of physics at the Faculty of Nuclear Sciences and Physical Engineering were part of an international team that designed and carried out an experiment based on the so-called two-dimensional quantum roamer, which enables us to simulate the dynamics of quantum particles and study the impact of their internal properties on their movement in space. This is a world-first realization of quantum roaming on a plane. The findings were published in the prestigious academic journal Science.

Grant Agency of the Czech Republic prize for Professor Ripka's team

Prof. Ing. Pavel Ripka, CSc. and his team have developed and tested a new type of cordless thin-layer fluxgate sensor. These sensors are used for making precise measurements of the magnetic field, e.g. in space research, for navigation and in warfare. The first stage of the research led to the development of a sensor structure that has been used for detecting mines. The team has also designed and tested a new model of the sensor.

Innovation Prize for 2011

A team led by prof. Ing. Alena Kohoutkova, CSc., from the Faculty of Civil Engineering, won the prestigious Innovation Prize for 2011 for a product known as a pre-stressed fibre-concrete column for an acoustic wall. This product received an award from the Association of Innovative Entrepreneurship of the Czech Republic. The combination of pre-stressing and fibreconcrete in this product is unique on the Czech and European market.

A prestigious scientific publication in the field of applied optics, optical measurements and imaging methods and systems

At the international World of Books Prague 2011 fair, a monograph by prof. RNDr. Miroslav Karlík, from the Faculty of Nuclear Sciences and Physical Engineering, under the title Introduction to Transmission Electron Microscopy, was ceremonially christened. This monograph, published by the CTU Publishing House, fills a gap in the specialized literature. The last Czech texts to be published in this field of specialization are more than twenty years old.

DID YOU KNOW...

- ...that in 2011 we made 41 applications for inventions, 3 European applications, 1 international PCT application, and 2 foreign applications? ...that in 2011 we made 80 applications for utility models and one application for a trademark?
- ...that in 2011 CTU was awarded 29 patents and 1 European patent, and that 76 utility models were registered?
- ...that in 2011 we supported a total of 370 grants with funding from the Student Grant Competition (including 27 student scientific conferences), and that the total amount of funding awarded was in excess of 102.3 million Czech crowns?
- ...that 21 research plans were submitted at CTU in 2011?
- ...that more than 700 scientific and research projects are in progress at CTU?

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UNIQUE SCIENTIFIC WORKPLACES

Research is carried out at a large number of scientific workplaces. We have selected some of the most interesting laboratories, facilities and research groups for you.

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FACULTY OF CIVIL ENGINEERING

Josef Underground Educational and Research Facility (UEF Josef) Centre for the Integrated Design of Progressive Building Structures (CIDEAS) Experimental Centre Micromechanics Laboratory and the Nanolaboratory (under development)

FACULTY OF MECHANICAL ENGINEERING

Josef Bozek Research Centre of Engine and Automotive Engineering Research Centre of Manufacturing Technologies Aerospace Research Centre Applied Cybernetics Research Centre Centre for Quality and Product Reliability Centre for Technological Information and Education Progressive Technologies and Systems for Energetics Centre for Welding Technologies Innovation Centre for Diagnostics and Application of Materials (ICDAM)

FACULTY OF ELECTRICAL ENGINEERING

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Center for Applied Cybernetics (CAK) Center for Assistive Technologies CeduPoint – Continuing Education Point ATG – Agent Technology Center Technology and Innovation Centre – Center for Collaboration with Industry (CSP) Knowledge Management Center (CZM) Antennas, EMC and Simulation of Electromagnetic Fields CAT – Computer-Aided Measurement Computer Graphics Center Machine Intelligence Research and Application Centre for Learning Excellence - MI-RACLE Centre of Excellence Center of Excellence for Microsystems (CEMIS) Laboratory for Nanoelectronics and Semiconductor Electronics High Voltage Laboratory Gerstner Laboratory for Intelligent Decision Making and Management Centre for Machine Perception Transdisciplinary Research Laboratory in the field of Biomedical Engineering

FACULTY OF NUCLEAR SCIENCES AND PHYSICAL ENGINEERING

VR-1 Training Reactor Golem Fusion Tokamak Center for Relativistic Physics of Nuclear Collisions (CFRJS) Center for Particle Physics (CČF) Laser Plasma Center (CLP) Doppler Institute for Mathematical Physics and Applied Mathematics (DÚ) Jindřich Nečas Center for Mathematical Modelling Satellite Laser Ranging Station for ESA and NASA Satellites Laboratory for Quantitative Methods of Research of Historic Monuments

FACULTY OF ARCHITECTURE

Department of Theory and History of Architecture Department of Monument Care Research Centre of Industrial Heritage Department of Spatial Planning Department of Town Planning

FACULTY OF TRANSPORTATION SCIENCES

Joint Systems Reliability Laboratory of the Faculty and the Institute of Informatics at the Academy of Sciences of the Czech Republic (LSS) Faculty of Transportation Sciences Experimental Laboratory (ZL FD) Certification Organ for Production at the Faculty of Transportation Sciences (COV FD) Special Telecommunications Laboratory – a member of the Eurnex network Telematics Laboratory Experimental Mechanics Laboratory K618 Laboratory for Electronic Identification Systems and Communications (e-ident)

FACULTY OF BIOMEDICAL ENGINEERING

Artificial Lung Ventilation Laboratory Excimer Laser Laboratory Joint Workplace of the Faculty of Biomedical Engineering and the First Faculty of Medicine of Charles University Simulated Workshop for Intensive Care and Medical Instrumentation

FACULTY OF INFORMATION TECHNOLOGIES

Software Engineering Group Digital Design and Dependability Research Group The Applied Numerics and Crystography Group, Parallel Computing Group

INSTITUTE OF TECHNICAL AND EXPERIMENTAL PHYSICS

Van de Graaff Laboratory Radiation Imaging Laboratory Detection Laboratory

KLOKNER INSTITUTE

Centre for Composite Materials and Structures

CONTACTS

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CTU DEVELOPMENT

We aspire to be a significant, sought-after research university in the European higher education area, with a demanding but friendly approach to students.

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OUR STRATEGY UNTIL 2015

The University's research strategy has identified three priority areas for the development of tertiary education in the Czech Republic:

1. QUALITY AND RELEVANCE

Quality and relevance will be effective above all in the sphere of education, science, research and other creative activities, and also in the sphere of structure, integrity and personnel policy.

We will focus on enhancing the quality of all study programmes, at bachelor, master and doctoral level, in view of the increasing demand for technical personnel.

We will gradually create a dynamic system for restructuring and modifying our existing study programmes and creating new ones, in order to achieve higher-quality studies, and to enable easy horizontal permeability in all our fields of study.

We are committed to applying state-of-the-art interactive and educational technologies, such as e-learning and e-teaching.

The establishment of more Centers of Excellence will help to raise the level, in particular, of master and doctoral study programmes.

2. SINCERITY IN PUBLIC RELATIONS AND INTERNATIONAL COOPERATION

We will provide substantial support for student mobility, which will enable a large number of our students to spend at least one semester at a foreign partner university or at another technical institution abroad in the course of their studies. Our faculties and other facilities collaborate with major universities from abroad on setting up double-degree study programmes (DD) and joint-degree study programmes (JD). These types of programmes are a necessary condition for positioning CTU as a significant university in the European higher education area, and are a pathway for involving CTU graduates in the European job market. Our university also creates conditions for ECTS and DS Labels to be granted as a reward for being a trustworthy partner in international cooperation. We of course also consider cooperation with industry in the Czech Republic and abroad to be a significant priority. Concerning internationalization of studies, we are striving to increase the proportion of foreign students studying at CTU to 12-14 % by 2015. International cooperation, participation in international projects and foreign experience gained by study stays at foreign universities or technical establishments lasting at least 1 term are becoming an integral aspect of raising the quality and qualifications of doctoral students and members of our academic staff

3. EFFICIENCY AND FINANCING

We will focus on developing university information systems, an up-to-date economic model of university management, and the university's investment activities. We will continue to develop our technical, material and information infrastructure aimed at effective university management in all spheres of its competence.

The management of the university buildings and the organisational structure of the university will be facilitated by introducing the concept of Facility Management, aimed at effective execution of man-

agement functions by applying advanced tools for controlling and supervising all processes.

We are preparing systemic measures to ensure economical and effective use of financial resources. One of these measures is the introduction of a process model of university management and the Full Cost accountancy model. The aim of these measures and mechanisms is to achieve a twofold to threefold increase in secondary financial resources by 2015.

As far as infrastructure is concerned, we will focus on optimizing space utilization, and on refurbishing existing lecture rooms and halls to a level that meets the demands of present-day university education. We will also focus on reducing power consumption.

We will establish the Antonín Svoboda Institute of Informatics and Cybernetics in Prague 6. This will be a leading centre for top research and doctoral education in informatics and cybernetics, and will comprehensively integrate research in these fields. We will continue to support all research centres established in recent years.



SCIENCE, RESEARCH AND INNOVATION

IN SCIENCE

We want to be a worthy partner for leading workplaces in Europe and in the rest of the world, while at the same time continuing to deepen our collaboration with suitable research organisations and institutes in the Czech Republic, especially with the Academy of Sciences of the Czech Republic.

IN DEVELOPMENT AND INNOVATION

We want to occupy a leading position in collaboration with industry and with the public administration, and to create conditions that will provide growing potential for innovation, artistic and other creative activities, technology and knowledge transfer, for the benefit of society.

CONSTRUCTION AND INVESTMENT

Between now and 2015 our investment will be in areas that are in accordance with the long-term plan to develop the material and technical foundations of CTU in Praque. We will:

- optimize the use of present facilities by revitalizing them in such a way that they can be re-used as facilities for teaching, research and development;
- modernize the present teaching spaces and buildings to a level corresponding to the requirements of modern university education. In particular,

we will reconstruct classrooms, lecture halls, laboratories and provide modern instruments and equipment for them;

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- carry through comprehensive structural modifications that will reduce the energy requirements of the buildings, mainly by means of extensive technical measures and by reconstructing facades and roofing, on the basis of recommendations made in energy audits;
- · establish the material and technical facilities

needed for scientific and development activities by making use of the priority axes of the Operational Programmes, using funding from EU sources;

 prepare and implement the construction of teaching, research, development, accommodation and social spaces and facilities on the principle of Public Private Partnership (PPP) as a funding method.

INVESTMENT ACTIVITIES UNTIL 2015

- Replace the external cladding of the monoblock building and renovate the curtain wall of the laboratories of the Faculty of the Electrical Engineering on the Dejvice campus.
- Reconstruct Building A, replace the external cladding and refubrish the lecture halls in Building C, refubrish the lifts in Building B of the Faculty of Civil Engineering.
- Reconstruct the lecture halls in the Břehová Street building, modernize the facade and make a loft con-

version in the Trojanova Street building, both belonging to the Faculty of Nuclear Sciences and Physical Engineering.

- Refubrish the teaching rooms in the Faculty of Transportation Sciences buildings in Horska Street.
- Revitalize the area used by the Faculty of Mechanical Engineering and the Faculty of Electrical Engineering at Charles Square.
- Revitalize the Faculty of Biomedical Engineering building in Kladno.
- Complete the Czech Institute of Informatics, Robotics and Cybernetics by finishing and revitalizing the building on Jugoslávských Partyzánů Street in Prague – Dejvice.
- Reconstruct the building on Jugoslávských Partyzánů Street in Dejvice.
- Construct the University Center for Energy-Efficent Buildings in Kladno.
- Revitalize of the university complex on the premises of the former barracks in Kladno.

FINANCES

The development of the university and its infrastructure receives support especially in the framework of the development programmes of the Czech Ministry of Education, Youth and Sport, the Fund for the Development of Universities, and from CTU's own sources.

There has also been a significant growth in the funding that we receive from the EU structural funds, especially from the Prague – Adaptability Operational Programme, from the Prague – Competitiveness Operational Programme, and from the Education for Competitiveness Operational Programme. In the period 2007–2013, CTU workplaces will have received a total of about CZK1.5 billion from these Operational Funds.

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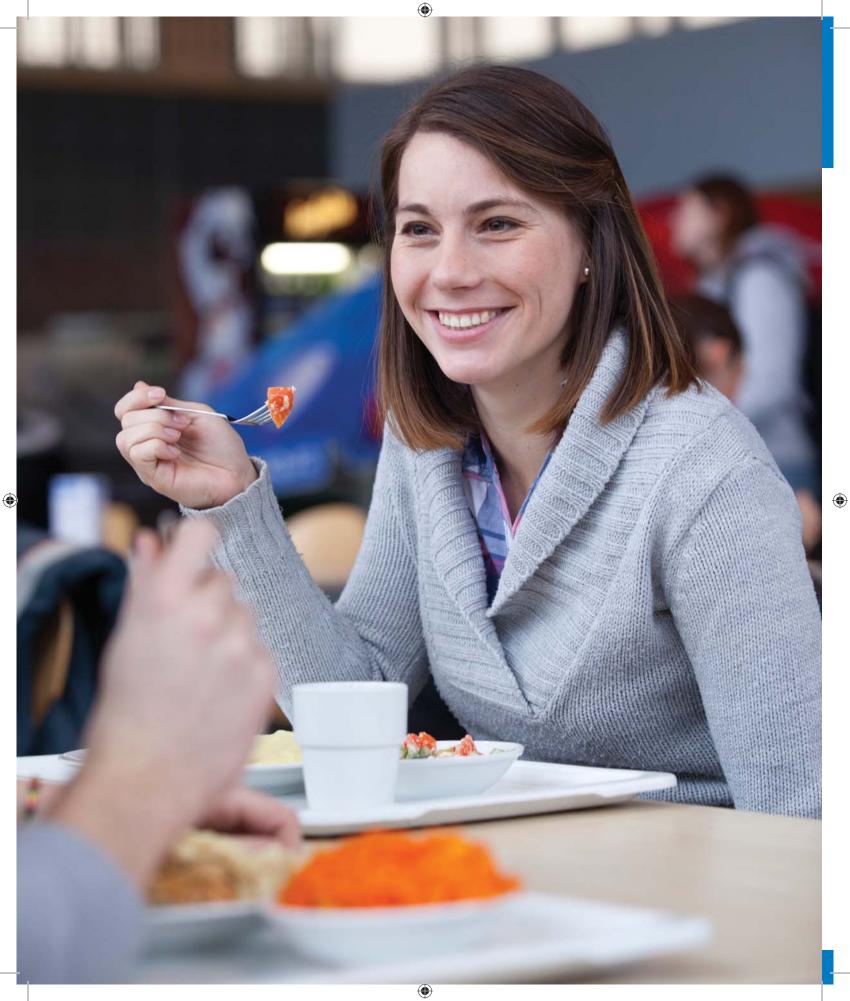
CONTACTS

HEAD OF THE DEPARTMENT FOR DEVELOPMENT:

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SERVICE FACILITIES



SERVICE FACILITIES ADMINISTRATION



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CTU PUBLISHING HOUSE (ČESKÁ TECHNIKA)

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SERVICE FACILITIES ADMINISTRATION

We are a service organisation attached to the Czech Technical University in Prague, and are known under our Czech language abbreviation as SÚZ. We provide board and accommodation for students, staff and guests. We also administer and maintain the outdoor sports facilities at the dormitories. In addition, we offer hotel accommodation and complete catering and gastronomic services. We have our own representative spaces and can offer wide-ranging congress services.

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WE ARE PROUD OF

...extending our services through new facilities - we have opened the new Mega-buffet at the Faculty of Civil Engineering and we have extended our facility at the Faculty of Biomedical Engineering in Kladno. ...stabilizing the numbers of meals being served at a 1.8 million per year.

...maintaining the standard of our accommodation in difficult financial times and also upgrading some of our facilities - e.g. the Podolí dormitory and the Bubeneč dormitory.

WE ARE UNIQUE IN THE CZECH REPUBLIC

- ...in the size we are one of the largest providers of academic accommodation and the biggest producer of food.
- ...in administering the largest student campus in Europe The Strahov Dormitories.

...in the scale of food production and distribution – we serve about 1.8 million meals annually, which makes us one of the biggest food producer in Czech Republic.

OUR FUTURE PLANS

- extend our convices to new CTLL buildings and spi
- ...extend our canteen payment system to payments for other services.
- ...enable online previews of canteen-system accounts
- ...keep on maintaining and, where feasible, immediately repairing our facilities to meet the demands of the academic and commercial customers.
- ...put forward a renovation project for the Strahov dormitories

WE ARE UNIQUE IN THE WORLD

- ... in the overall size, scale and range of the buildings we administer and in the amount and variety of the accommodation we offer.
- ... in the way we combine academic and commercial accommodation
- ...in the symbiosis we have established between student organizations and ourselves – we collaborate closely with the Student Union of the CTU. This collaboration has resulted in a number of outstanding projects, such as the biggest student internet computer network in Central Europe, cultural facilities such as music rooms, tea rooms, photographic studios, fitness centres, solariums and a wide range of social events.

CONTACTS

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WEBSITE: www.suz.cvut.cz, www.studenthostel.cz, www.masarykovakolej.cz, www.novomestskyhotel.cz



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CTU PUBLISHING HOUSE (ČESKÁ TECHNIKA)

Our mission is to produce, print and publish educational textbooks (study notes, university textbooks) and other specialized books, including monographs and compilations. We also prepare and print documents for the inaugural lectures of professors and assistant professors, and we edit and print CTU editorial series (CTU Reports). We edit, graphically prepare and publish three periodicals: the CTU scientific journal Acta Polytechnica (registered in the Scopus database), the news magazine Pražská technika (Prague Technology) and the quarterly magazine about scientific achievements TecniCall.

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The printing house produces general all-university prints and also proceedings, textbooks, promotion materials and other printed matter for the university faculties and other institutions incorporated in the Czech Technical University. Work is also undertaken for external customers.

WE ARE PROUD OF

...keeping up the high standard of the academic journal Acta Polytechnica (published in English).

...our productivity – over a period of 40 years we have published more than 11,600 titles, i.e. an annual average of 250 mainly technically-oriented publications. ...the annual print of 60,000 to 100,000 mimeographed textbooks, monographs and other publications.

...TecniCall, a magazine which makes an excellent presentation of recent scientific research results and the university's links with industrial and commercial companies.

...the journal Pražská technika – we have managed to set up a fully professional magazine on a high editorial and graphical level, that provides information about events and activities at CTU.

WE ARE UNIQUE IN THE CZECH REPUBLIC

...in producing the highest number of printouts - we are among the TOP 5 publishing houses in the Czech Republic.

...in providing the university with comprehensive services, ranging from editorial and graphical processing, printing in our own printing house, to selling technical literature in our own bookstore and via the internet.

FUTURE PLANS

- In addition to high-quality digital printing (including print-on-demand), we are preparing electronic textbook publishing.
- We will expand the range of textbooks (mainly in English) and other technical literature produced by foreign publishing houses on offer in the university bookshop at the National Technical Library.

PRAŽS

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WE ARE MEMBERS OF THE

Czech Association of Booksellers and Publishers.

CONTACTS

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DIRECTOR: PaedDr. Ivana Smolíková Phone: +420 224 358 400, Fax: +420 233 051 142, E-mail: ivana.smolikova@ctn.cvut.cz

ADDRESS: Thákurova 1, 160 41 Prague 6, Czech Republic WEBSITE: www.ctn.cvut.cz

CAREERS CENTRE

Our mission is to facilitate the entry of CTU graduates into the labor market, to help them to find their way in it, and offer them the broadest possible range of opportunities after graduating.

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We provide counseling services for students during their studies and for three years after graduating from CTU.

WE ARE UNIQUE IN THE CZECH REPUBLIC

...in our collaboration with companies such as Hewlett-Packard, McKinsey, Škoda Auto, Linet, Skanska, ČEPS, Tesco Stores and may others.

...in the lecturers in our seminars – they are experienced specialists who also work as seminar leaders for international companies. ...in organising the Mentoring Programme – a unique programme at CTU offering students an insight into the workplace. Students have a superb opportunity to get in touch with leading experts and managers from Czech and international companies and thus broaden their view of the job market in their field of study.

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...in the EconTech Project – a joint project of CTU and the University of Economics in Prague. Students from both universities learn how to collaborate and work in teams by working together on case studies set by Czech and international companies participating in the project.

FUTURE PLANS

Offer career counseling based on a process through which students look for their own ideal career option with help from an adviser. Prepare tailor-made soft-skills seminars for each faculty of CTU. Offer regular soft-skills training sessions.

Administer personality tests aimed at helping students to make a suitable career choice.

WE ARE PROUD OF

 \dots more than 2,000 students and recent graduates who have used our services since 2006.

...more than 150 soft skills and personal development seminars that we have organized.

... individual careers advice with company HR managers.

...our close collaboration with student organisations.

...our library of books on soft skills, management skills and personal development.

...sending information to students on a regular basis.

...our website www.kariernicentrum.cz

CONTACTS

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DIRECTORS: Veronika Lobreisová, Eliška Králová and Lucie Konečná Phone: +420 224 352 944, Mobile phone: +420 773 979 619, E-mail: kariera@cvut.cz MENTORING: Ing. Ilona Prausová Phone: +420 224 353 427, Fax: +420 224 352 940, E-mail: ilona.prausova@vc.cvut.cz

WEBSITE: www.kariernicentrum.cz

mentoring.cvut.cz

www.econtech.cz



70 KARIERNICENTRUM.CZ

THE BETHLEHEM CHAPEL

The Bethlehem Chapel is a national cultural monument and the first "preaching" church in Europe. With its undisputed status in the history of the Czech nation, the Chapel serves predominantly for festive events such as graduation and matriculation ceremonies, Scientific Council sessions, etc.

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BRIEF HISTORICAL NOTES

The foundation of the Bethlehem Chapel in 1391 in the place where it now stands after reconstruction was by not by chance. On the contrary, the location was selected very carefully. The founders knew that the first "preaching" church must be built in this part of Prague, directly in the heart of the kingdom, in the Prague Old Town and where the old Bohemian preaching tradition was centred.

VISITS OF EMINENT PERSONALITIES

The Bethlehem Chapel is often visited on special festive occasions, e.g. by the President of the Czech Republic (Václav Klaus was awarded his honorary doctorate there in 2007), prime ministers, ministers, clergymen, ambassadors, etc.

A notable special visit was made by Mr Toyoda (with a robot playing the trumpet) on his way to Brussels.

Czech and foreign artists often participate in cultural events held in the Chapel (e.g. Eva Urbanová (opera singer), Jaroslav Svěcený (violinist), Daniel Hůlka, Lenka Filipová (singers), Josef Somr, Hana Maciuchová (actors), Saskia Burešová (TV presenter), Jan Talich (musician), the Czech Philharmonic Orchestra), etc.

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EVENTS THAT CAN BE ORGANIZED IN THE CHAPEL

The historic main assembly hall of the Bethlehem Chapel is suited for a range of events: Classical music concerts, Festive meetings of scientific institutions, Formal ceremonies, Literary evenings, International conferences, symposia, exhibitions, etc.

CONTACTS





INFORMATION AND CONSULTANCY CENTRE

Our task is to act as a low-threshold institution for students of the Czech Technical University in Prague (CTU), for prospective students and for the public. We are a place with a friendly atmosphere, open to all, offering a helping hand with emphasis on the individual and her/his own individuality – a place with a positive impact on the atmosphere of the university as a whole.

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We support good relationships between students and the university and thus co-create conditions for successful studying and successful professional and personal life.

WE ARE UNIQUE IN THE CZECH REPUBLIC

...in operating a wide range of information centres: for study enquiries, for psychological counseling, for personal development, for social and legal counseling and spiritual counseling.

- ... in organizing specially-oriented seminars.
- ...in running workshops (in music, art and drama) focused on supporting the creativity of technically gifted students.



WE ARE PROUD OF

..the safe environment we provide for students with problems. ...the decrease in the number of failed students (with the help of the longterm systematic support that we offer).

FUTURE PLANS

- Develop support for students with various types of special needs.
- Support newly enrolled students (1st year).
- · Support students in their own private activities.
- Create a website on which students can offer help to each other.

CONTACTS

HEAD: Mgr. Taťána Cihlářová Phone: +420 224 358 464, E-mail: tatana.cihlarova@cips.cvut.cz ADDRESS: Bechyňova 3, 160 00 Prague 6, Czech Republic WEBSITE: www.cips.cvut.cz



THE ELSA CENTRE GUIDANCE AND SUPPORT CENTRE FOR STUDENTS WITH SPECIAL NEEDS

The Elsa Centre provides support for CTU students and applicants with visual, hearing and mobility impairments, with specific learning disabilities or with mental and chronic somatic disorders.

CONTACTS

HEAD: Mgr. Barbora Čalkovská

Phone: +420 224 358 463, E-mail: stredisko@elsa.cvut.cz **ADDRESS:** Bechyňova 3, Prague 6 (Student House, CIPS premises), Czech Republic Trojanova 13, Prague 2 (katedra matematiky FJFI), Czech Republic **WEBSITE:** www.elsa.cvut.cz

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WE ARE UNIQUE IN...

...the accessibility and quality of our technical resources, which take into account the type of disability. Some equipment can be loaned to students.

WE ARE PROUD OF...

- the wide range of services we offer to students with special needs.
 making study materials accessible for sympole by adapting of special
- ized symbols and transformating study materials into tactile form;
- providing study assistance, personal assistance and training in spatial orientation;
- our intervention to help students with special needs, e.g. negotiating extra time for them in exams and tests;
- the training that we offer in study and work skills

STUDENT UNION

LET THERE BE FOR EVERY X INCLUDED IN THE SET OF ALL THE CTU CLUBS JUST ONE UMBRELLA, AN UNITING AND UNIFYING PLATFORM, AND LET THIS PLATFORM BE CALLED THE STUDENT UNION.

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Our mission is to offer a range of free-time activities for students and to provide opportunities for students to expand all their skills outside the classroom. We have a long tradition, and we are able to arrange access for our members to knowledge and skills from the real world, in particular outside the sphere of technology. We organize social, cultural and sporting events, training courses and enjoyable leisure activities. We are an independent civic association, and most of our members are students of the Czech Technical University in Prague.

WE ARE PROUD OF...

- ...our collaboration with student clubs from other universities
- ...having created the largest student computer network in Europe since 1998. ...teaching certified Autodesk, Microsoft and Cisco courses

...our close collaboration with the CTU Rectorate

... organizing one of the largest music festivals in Prague with a 12-year tradition.

WE ARE UNIQUE IN...

...our size – we are the biggest student organisation in the Czech Republic. ...the wide range of our activities (we provide network connection, run dormitory gyms, host various training seminars and organize a number of out-ofschool events, such as music festivals, Christmas parties and student balls).

IN THE FUTURE WE INTEND TO ...

...collaborate on the European University Hockey League project. ...extend our activities and search for new partners and potential cooperation opportunities.



CONTACTS

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PRESIDENT: Václava SedImajerová PUBLIC RELATIONS: Martin Barič Phone: +420 724 782 501, E-mail: su@su.cvut.cz

WEBSITE: www.su.cvut.cz

COMMUNITY

We have approximately 7,000 members, predominantly students living in the dormitories (90 % of our members). Currently, we unite 18 clubs with a broad range of activities.

OUR MEMBERSHIPS

Several of the student clubs affiliated with the Student Union are members of international organizations (e.g. ESN, IAESTE, BEST). The Student Union as a whole cooperates with similar student organizations at other universites.

EXAMPLES OF EVENTS THAT WE ORGANIZE

Ahoj techniko! (Akce prvák + Žij Studentský život + Strahov Open Air) a set of events and services aimed mainly at welcoming new students entering their first year at the university.

MayDej – a traditional sports day in May, using the sports facilities near the university dormitories.

Student Ball – a fancy-dress ball organised at the Masarykova Dormitory.

MeziBloky – an alternative music festival held at the Podolí Dormitory in May, with an accompanying programme.

SHOW – a spring music festival of student bands on the Strahov Dormitory campus, with mud fighting and the Strahov Strongest Man contest.

We co-organise the **Ice-hockey Battle** and the **Majáles** traditional student festival.



UNIVERSITY NURSERY SCHOOL

A nursery school for the children of university students and employees was opened in September 2010. The children are looked after by qualified personnel (6 teachers).

STUDENTS AND EMPLOYEES WITH SMALL CHILDREN BENEFIT

Mothers can return to work from maternity leave. Mothers can graduate. The nursery school is very near to the University. The fees are the same as at state nursery schools. Child care can be linked with a professional career.





THE CHILDREN BENEFIT

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The small number of children per nursery school teacher creates a friendly atmosphere for the children and close child-teacher contact. The children are introduced to technology at an early stage in their lives. High-quality personnel directly selected by CTU. Joint nursery school and CTU activities (trips, concerts, etc.) The children come into contact with other children of the same age. Parents are at work in close proximity. A good pre-school education is offered.

WE ARE UNIQUE IN THE CZECH REPUBLIC

...in being the first university nursery school of this type in the Czech Republic.

CONTACTS

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ADDRESS: Thákurova 1, 160 41 Prague 6, Czech Republic WEBSITE: www.lvicata.cvut.cz

DID YOU KNOW... THAT THE NURSERY SCHOOL HAS A CAPACITY OF 50 CHILDREN, AND IS OPEN DAILY FROM 7 AM UNTIL 5 PM?

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ALUMNI

Our graduates have been out in the real world for about 300 years. They have helped to establish the position of technology and logical thinking, and have forced technological progress into areas that our predecessors had not in their wildest dreams imagined that it could reach. CTU graduates can be found in many fields of specialization and in a range of positions in industry, commerce and public service, and even at meetings of the Association of Graduates of CTU (www.absolventicvut.cz).

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FACULTY OF ELECTRICAL ENGINEERING Senta Čermáková

Director of Worldwide Media and Analyst Relations for Technology Services and Industries, Hewlett-Packard Corporation.



FACULTY OF MECHANICAL ENGINEERING Ing. Marcel Grün The director of the Observatory and Planetariu

The director of the Observatory and Planetarium of the Capital City of Prague.



FACULTY OF ELECTRICAL ENGINEERING Zbyněk Frolík

The owner and CEO of LINET, which is one of the world's leading companies in hospital and nursing beds.



FACULTY OF CIVIL ENGINEERING Jan Sadil General director of Hypoteční banka



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FACULTY OF ARCHITECTURE Eva Jiřičná

World-famous architect who has received the Order of the British Empire for her work; a member of the Royal Academy of Arts who has been inducted into the American Hall of Fame.



FACULTY OF NUCLEAR SCIENCE AND PHYSICAL ENGINEERING Dana Drábová President of the State Institute for Nuclear Safety

ASSOCIATION OF GRADUATES AND FRIENDS OF CTU (WWW.ABSOLVENTICVUT.CZ)

Are you a CTU graduate? Become a member of the Association of Graduates and Friends of CTU (registration on www.absolventicvut.cz)

- Keep in contact with your Alma Mater.
- Participate in events of the association.
- Find out what your former classmates and teachers are doing now.
- Get regular information about what is going on at CTL
- Become involved in the activities of the association.

CONTACTS

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WEBSITE: www.absolventicvut.cz

WWW.CVUT.CZ/EN WWW.FACEBOOK.COM/CVUT.V.PRAZE

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