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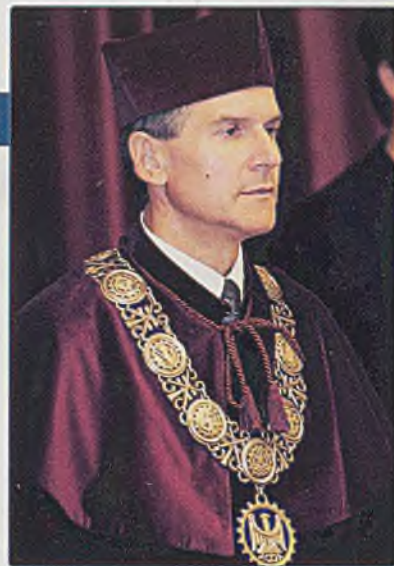


THE SILESIAN UNIVERSITY
OF TECHNOLOGY

THE SILESIAN UNIVERSITY OF TECHNOLOGY



THE SILESIAN
UNIVERSITY
OF TECHNOLOGY



**VICE-RECTOR
FOR SCIENCE
AND CO-OPERATION
WITH INDUSTRY**

Prof. Marian Dolipski
DSc Eng



**VICE-RECTOR
FOR ORGANIZATION
AND DEVELOPMENT**

Prof. Wojciech Cholewa
DSc Eng



**VICE-RECTOR
FOR EDUCATION**

Prof. Ryszard Wilk
DSc Eng

FROM THE RECTOR

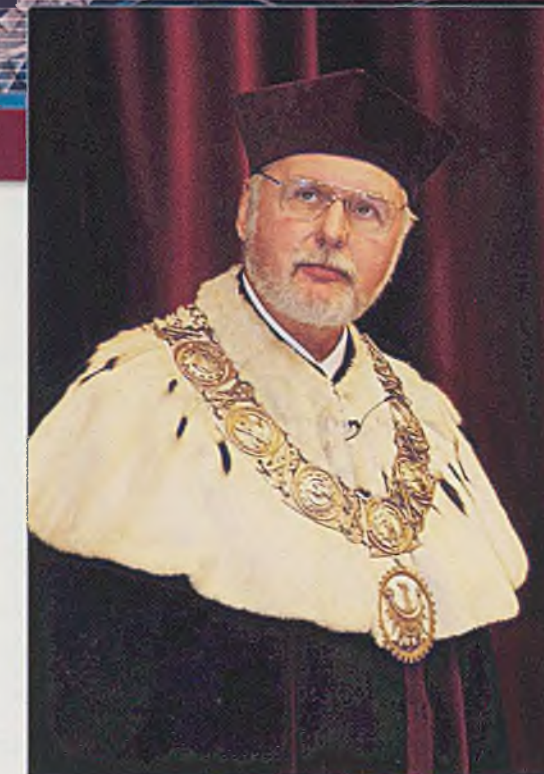
The Silesian University of Technology is one of the biggest and the oldest universities in Poland. It has been fulfilling successfully its academic mission for over sixty years now. Founded in 1945 in Gliwice, the university continues the teaching and scientific research traditions of Technical University in Lvov. Establishing a technical university in the heart of the most highly industrialized region of Poland gave it a character of an extremely important academic centre strongly impacting the whole of Upper Silesia.

The Silesian University of Technology, thanks to its scientific research potential and its strong academic staff, is a rapidly developing technical university, excellently combining academic tradition with modern teaching methods. The university constantly meets new initiatives and challenges. We systematically adjust our teaching directions to the constantly changing labour market and young people's expectations. Every year we open new programmes. At as many as five departments there are five-year Master of Science studies also taught in English. We actively cooperate with numerous scientific research centres all over the world, both in the field of research and teaching. Many scientific exchanges of students and researchers are taking place.

We also care about the development of student entrepreneurship. This is why we participate in the creation of Technopark and enterprise hub incubators organising courses and trainings in enterprise.

Today, the high ranking of the Silesian University of Technology among Polish universities, the careers of its alumni and the unwavering interest in our studies confirm the established position of our university as one of the best in Poland.

Being open to innovation and modern technologies, our highly qualified academic teaching staff allow us to train engineers prepared for the constantly changing demands of the labour market.



RECTOR

Prof. Wojciech Zieliński
DSc Eng

PAST AND PRESENT

THE SILESIAN UNIVERSITY OF TECHNOLOGY PAST AND PRESENT

HISTORICAL BACKGROUND

LOCATION

STRUCTURE

FACULTIES

UNITS

EDUCATION AND RESEARCH

STUDENT ORGANIZATIONS

WHY SHOULD YOU STUDY HERE?



THE SILESIAN UNIVERSITY OF TECHNOLOGY

A BRIEF HISTORY

The Silesian University of Technology is one of the biggest technical universities in Poland. Its rich, over 60-year-old, tradition makes it the oldest in Upper Silesia and one of the oldest in the country.

The University was founded on May 24, 1945 and Gliwice was chosen for its seat despite initial plans to locate it in Katowice. What made the city stand out from other places in Upper Silesia was space potential it offered. Here, empty buildings, grouped in a small area, could be converted and used for didactic and administrative purposes as well as

turned into halls of residence for students and teachers. The concept went along with a far reaching vision to establish an academic district. Another strength of Gliwice were research workers and students of the former Technical University in Lvov who were resettled here after World War II.

The foundation of the Silesian University of Technology fulfilled the idea which had been present in the consciousness of the Silesian community for a long time. Since research development and didactic activity were essential to support this highly industrialized and having great prospects area, the first actions to set up a technical university in this region were taken as early as in the late 1920s.

The inauguration ceremony of the first academic year was held in Gliwice on October 29, 1945. At the time the University had a student population of 2750. It used educational curricula taken from the Technical University in Lvov at four faculties: Chemical, Electrical, Mechanical and Civil Engineering and employed nearly 200 academics. The outstanding teaching staff, made up mainly of professors of the former Technical University in Lvov, were one of the strongest assets of the University since its foundation.



THE SILESIAN UNIVERSITY OF TECHNOLOGY

LOCATION

The Silesian University of Technology was founded as the scientific and didactic base for the most industrialized region in Poland and one of the most industrialized areas in Europe: Upper Silesia.

The Silesian province lies in the south of Poland. It borders with the Czech Republic and Slovakia; it covers 12,000 square kilometers. There are 68 towns and cities in Silesia, 22 of which fulfill big city functions (universities, institutes and research centers).

The population is nearly 4.9 million (the record density per square kilometer – over 398 people). Every fifth working Pole is employed in Silesia. The Silesians are famous for their traditional culture of work which guarantees high qualification of workers and their solidity.

As far as communication infrastructure, accessibility of transport and industrial base are concerned, Upper Silesia takes the first place in the country. Until recently, Silesia was mainly associated with heavy industry, which is undergoing a deep restructuring process at the moment. Other trades, particularly the automotive industry, are developing rapidly.

Nine faculties of the Silesian University of Technology are located in Gliwice – the main seat of the University, and the remaining three in Katowice and Zabrze. Besides, lectures are held in Rybnik, Bytom, Dąbrowa Górnicza, Tychy and Sosnowiec, covering the whole area of Upper Silesia.



STRUCTURE

The Silesian University of Technology is a self-governing, autonomous state university managed by elected one-person and collective bodies. The Rector constitutes the supreme one-person body, and the Senate is a collective body of academics. Vice-Rectors are responsible for individual sectors: Vice-Rector for Education, Vice-Rector for Science and Co-operation with Industry, Vice-Rector for Organization and Development and also the Chancellor.

The organizational structure of the University entails 3 levels. The basic unit is constituted by a faculty, with institutes and departments acting as internal faculty units. The institutes and departments are further divided into divisions, which carry out research and teaching related to particular scientific disciplines. The University also contains extrafaculty, interfaculty and supporting units.



THE SILESIAN UNIVERSITY OF TECHNOLOGY

FACULTIES

At the moment there are twelve faculties at the Silesian University of Technology:

- Faculty of Architecture
- Faculty of Automatic Control, Electronics and Computer Science
- Faculty of Civil Engineering
- Faculty of Chemistry
- Faculty of Electrical Engineering
- Faculty of Mining and Geology
- Faculty of Materials Science and Metallurgy
- Faculty of Energy and Environmental Engineering
- Faculty of Mathematics and Physics
- Faculty of Mechanical Engineering
- Faculty of Organization and Management
- Faculty of Transport

UNITS

Moreover, there are some supporting, interfaculty and extrafaculty units.

- Central Library
- Publishers of the SUT
- PhD School
- Foreign Languages Teaching Center
- Sports Centre
- Research Center for Teaching Techniques
- Career Guidance and Student Promotion Centre
- Geometry and Engineering Graphics Centre
- Engineering Education Centre
- Computer Centre
- Biomedical Engineering Centre
- Foreign Culture Promotion Centre
- Graphic Centre of the SUT
- Centre for the Education in Mechatronics

RESEARCH AND TEACHING

At the moment about 32 thousand students study at 39 specializations comprising the whole range of engineering activities. Five faculties run courses in the English language, thus adjusting to the European educational market and enabling foreign students to study at the University.

The Silesian University of Technology invariably belongs to the group of top Polish technical universities and tops rankings of technical universities. The university proves its high position by outstanding academic achievements and numerous national and international successes. High level of education is ensured by highly qualified academic staff, co-operation with many research centres in Poland and abroad, and research oriented at active co-operation with industry. Location in the centre of the biggest industrial region in Poland and one of the biggest in Europe, enables comprehensive scientific co-operation in many fields essential for the economy.

Number of students **32 000**

Number of employees **3 300**

Number of academic teachers **1 750**

Number of graduates **125 000**

Number of PhD graduates **3 500**

Number of post-doctoral theses **550**



THE SILESIAN UNIVERSITY OF TECHNOLOGY

STUDENTS' LIFE



During academic school year the university is vibrant with life inspired by Student Self-Government and lots of student organizations. Students are involved in cultural, sports and tourist organizations, in 59 scientific associations and also in other organizations motivating them socially and internationally providing them with the possibility of international exchange, apprenticeship and supporting contacts with future employers.

The Silesian University of Technology Campus is one of the biggest in Poland. It comprises 10 students hostels in Gliwice and 1 in Zabrze, a guest house "SEZAM" and 3 canteens. The students hostels provide 3213 beds.

Excellent and efficient sport sections made the Silesian University of Technology won the Championships of Polish Universities.

WHY SHOULD YOU STUDY HERE?

The Silesian University of Technology is one of the biggest in our country, a modern technical university with 60 years of experience in didactics, research and scientific activities.

The presence of Poland in the European Union sets for higher education, and the Silesian University of Technology itself, new tasks. The most important one is to prepare students to work on a demanding European market. Our university

is perfectly prepared for the task thanks to numerous eminent specialists and experts, broad foreign contacts and advanced scientific research, aimed mainly at cooperation with industry.

Dynamic changes of contemporary Silesia, being open to the world and young generation creativity, the development of innovations and innovative technologies as well as academic character of the cities, all these make the Silesian University of Technology an ideal place to study and an excellent investment in your future.



FACULTIES

THE SILESIAN UNIVERSITY OF TECHNOLOGY

Faculty of Architecture

Faculty of Automatic Control, Electronics
and Computer Science

Faculty of Civil Engineering

Faculty of Chemistry

Faculty of Electrical Engineering

Faculty of Mining and Geology

Faculty of Materials Science and Metallurgy

Faculty of Energy and Environmental Engineering

Faculty of Mathematics and Physics

Faculty of Mechanical Engineering

Faculty of Organization and Management

Faculty of Transport



FACULTY OF ARCHITECTURE

STRUCTURE

- Department of Urban and Country Planning
- Department of Architectural Design and Fine Arts
- Department of Design and New Technologies in Architecture
- Department of Office Premises Architecture and Design Strategy
- Department of History and Theory of Architecture

The Faculty is equipped with Computer Laboratory and Faculty Library.

COURSES

COURSE IN: ■ ARCHITECTURE AND TOWN PLANNING

(full-time MSc and part-time BSc,
part-time supplementary MSc (extramural),
full-time post-graduate).

In the academic year 2008/9 a new field of study is to be started.

■ INTERIOR ARCHITECTURE (full-time BSc courses)

POST-GRADUATE STUDIES

- Preservation of Architectural Monuments and Town Planning
- Interior Design
- Spatial Planning and Development and Landscape Architecture

The Faculty also offers foundation course for candidates and computer courses.

DEAN OF THE FACULTY

Krzysztof Gasidło

DSc Eng Arch

Associate Prof. of the SUT



Students of our Faculty can participate in workshops, student trainings in design and history, outdoor painting and drawing sessions. There is a variety of scientific societies and student organizations.

Educational process is focused on developing of designing skills and creativity. Our undergraduates enter and are rewarded in numerous competitions held both at home and abroad, including prestigious competition for the best graduation design organized annually by the Association of Polish Architects, Society of Polish Town Planners and Minister of Infrastructure.

The graduates of our Faculty are well prepared to work creatively in accordance with the needs arising from human biological organism and psychological-social character of human nature.

Professional targets of architects and town planners are achieved through programming of various investment projects, architectural design and town planning coordinated with specialists in other lines of business, and through project architect's and investor's supervision.

Our graduates are also well prepared to work in offices of spatial planning and town development as well as in architectural-building administration institutions. Degrees granted by the Silesian University of Technology are recognized throughout Europe. This provides our graduates with the possibility of being employed both in Poland and abroad.

The studies in architecture were commenced at the Silesian University of Technology in 1945. The independent Faculty of Architecture was established in 1977. Earlier, in the years 1949-54, the Division of Architecture operated within the Faculty of Building and Engineering.

The Faculty Board is entitled to award DSc degrees in Technical Sciences.



FACULTY OF ARCHITECTURE

CO-OPERATION

Membership of: ■ EAAE – European Association For Architectural Education; ■ Association of European Schools of Landscape Architecture (Le Notre).

Co-operation with: ■ International Association for People Environmental Behavior Studies (JAPS); ■ Internationale Bauausstellung Eurest-Pueckler-Land in Germany; ■ Del Bianco Foundation in Italy; ■ National Vestige of Cultural Heritage – Stary Halicz, Ukraine, etc;

International workshops in design studies in 14 sister universities in Europe within the framework of Socrates-ERASMUS Programme; Aachen, Cottbus, Kassel (Germany), Goeteborg (Sweden), Saint-Etienne, Marseille-Luminy (France), Sevilla (Spain), Covilha, Coimbra (Portugal), Bologna (Italy), Brussels (Belgium), Copenhagen (Denmark), Ankara (Turkey).

RESEARCH WORK

The Faculty of Architecture at the SUT continues traditions of the Lvov Technical University. The Faculty of Architecture was founded by professors: Tadeusz Teodorowicz-Todorowski, Zygmunt Majerski and Włodzimierz Buć.

The full-time teaching staff currently amounts to around a hundred employees, including twelve professors and associate professors. Besides, a number of architects and town planners renowned in professional circles for their achievements are employed part-time.

We co-operate successfully with the Association of Polish Architects, Society of Polish Town Planners, Chamber of Architects and Town Planners, local authorities and Silesian Voivodeship self-government.



Numerous research projects concerning architectural design, town and country planning, theory and history of architecture, revitalization of urban areas, restoration and preservation of monuments, as well as evaluation of buildings and objects management, are carried out at the Faculty.

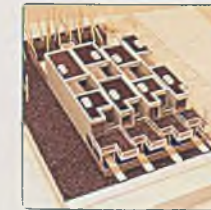
Participation in research programmes and grants results in innovatory studies, monographs, conference publications, architectural designs and other artistic work, awarded at home and abroad. The artistic who rendered great service to Upper Silesia region are awarded with the prof. Zygmunt Majerski Medal established and granted annually by the Faculty of Architecture.

Every year national and international cyclical conferences are organized by the Faculty, including:

- "Theory and Practice in Contemporary Architecture" – held in Rybna since 1996
- "Architecture – Technology – Health" – (ATZ) since 2003
- "Urban Landscape Renewal" – since 2005
- "Conference of Doctoral Students of Faculties of Architecture" – (KDWA) since 2005

All the conferences mentioned above are regarded as significant scientific meetings crowned by book publications. The Faculty issues a semi-annual "Architecture and Town Planning".

The Faculty Art Gallery has been working since 2005 presenting achievement and works of students the staff and Faculty graduates. During two years, numerous exhibitions and vernissages took place.





FACULTY OF AUTOMATIC CONTROL,

STRUCTURE

Institute of
Automatic Control

Institute of
Electronics

Institute of
Computer Science

COURSES

The Faculty offers three types of courses and a macro-course (in English) with the following Honours:

COURSE IN: ■ **AUTOMATIC CONTROL AND ROBOTICS**

(BSc, MSc, PhD studies, both full-time and extramural)

- WITH HONOURS IN: ■ Automatic control
■ Robotics
■ Measurement systems
■ Computer control systems
■ Data processing and control in biotechnology

COURSE IN: ■ **BIOTECHNOLOGY**

(currently BSc courses, MSc to be opened after 2008)

- WITH HONOURS IN: ■ Bio-computer science

COURSE IN: ■ **ELECTRONICS AND TELECOMMUNICATIONS**

(BSc, MSc, PhD studies, both full-time and extramural)

- WITH HONOURS IN: ■ Electronic equipment
■ Biomedical electronics
■ Microelectronics
■ Telecommunications
■ Radioelectronics

ELECTRONICS AND COMPUTER SCIENCE

COURSE IN: ■ **COMPUTER SCIENCE**

(BSc, MSc, PhD studies, both full-time and extramural)

- WITH HONOURS IN: ■ Databases
■ Computer science in medicine
■ Computer science in control systems
■ The Internet and multimedia systems
■ System software
■ Computer networks and systems

COURSE IN: ■ **MACRO-COURSE** STUDIES IN ENGLISH

(currently run as MSc homogeneous studies in English)

- WITH HONOURS IN: ■ Computer control systems
■ Electronics and telecommunications
■ Databases, computer networks and systems

COURSE IN: ■ **BIOMEDICAL ENGINEERING A NEW COURSE!**

(currently BSc courses, MSc to be opened after 2009)

POST-GRADUATE STUDIES

- Computer networks, microcomputer systems and databases
■ Geospatial information systems (GIS)

PHD COURSES (full- and part-time)

- Automatic control and robotics
■ Electronics
■ Computer Science

The Faculty co-operates with 42 technical universities within the EU and the USA and takes part in Socrates/Erasmus student exchange programme.

DEAN OF THE FACULTY
Prof. Jerzy Rutkowski
DSc Eng
Prof. of the SUT



On December 30th, 1963, the Ministry for Higher Education issued the decree establishing the Faculty of Automatic Control. It started its independent activity on February 15th, 1964. The present name was accepted in the academic year 1984/1985. The Faculty Board is entitled to award PhD degrees in Technical Sciences and DSc degrees in Automatic Control and Robotics, Electronics and Computer Science.



FACULTY OF AUTOMATIC CONTROL,

ELECTRONICS AND COMPUTER SCIENCE

CO-OPERATION

The Institute of Automatic Control has developed a several-year co-operation with significant foreign centres among others with: Rice University, Houston (USA); University of Texas, Houston (USA); Technical University of Novosibirsk (Russia); L.A.A.S. du C.N.R.S., Toulouse (France); ADERSA, Paris (France); University of Helsinki (Finland); Nottingham Trent University (England); University of England (England); L'Universite de Montreal (Canada); AO/ASIF Research Institute, Davos (Switzerland); Centre for Mathematics, Amsterdam (Holland); University of Kiev (Ukraine); Uppsala University School of Engineering (Sweden).

The Institute participates in such international projects as COPERNICUS/DYCOMANS, ERASMUS and POLONICUM.

The Institute of Electronics co-operates with foreign research centres, including among others: The Institute of Biomedical Engineering in Brno, The Department of Biomedical Engineering at the St. Petersburg State University; Max-Planck's Institute at the University of Potsdam (Germany); the LAMIH Laboratory of the University in Valenciennes

(France); Ingelectric GmbH, Munich (Germany); University of California in San Francisco (USA); the FIAT Company in Turin.

The research staff of the Institute of Electronics takes part in such international programs as COPERNICUS, SABAYECK and COLUMBUS.

The Institute of Computer Science co-operates with the University of Versailles (France); the University of Arizona (USA); Project Automation Companies (Italy); ALDEC (USA); CEGELEC (France); Deutsche Electronen Synchrotron (Germany).

RESEARCH WORK

Research Activity at the Institute of Automatic Control refers to broadly understood automatic control, robotics, system analysis and signal processing. The results gained in the following areas should be mentioned: control theory in the incomplete information conditions, adaptation and prediction control as well as expert systems in this field, broadly understood superficial intelligence mainly including intelligent control and visual systems with applications in robotics, computer

integrated production system, real time simulations, current measurement problems in view of system analysis and control in biomedical and biotechnological systems.

Research Activity of the Institute of Electronics refers to the analysis, synthesis and design of electronic and telecommunication circuits and system, special microelectronic technologies, digital signal processing, application of signal processors, programmable controllers and microwave technique. The staff also works on the synthesis and automatic recognition of Polish speech methods, new sensor design and easily tested electronic systems.

The Institute of Computer Science carries out research on all the main areas of computer science, including the elaboration of software, the design of data bases and data warehouses, microcomputer science systems and the theory of digital robots, design of computer science equipment, computer networks, communication reports and safety in computer science. The Institute organizes the annual conference on computer networks.

ACHIEVEMENTS

The Faculty has got important achievements in both the research and implementation works such as:

- Elaboration of new control adaptation algorithms, prediction algorithms and algorithms with variable structure; significant contribution to and modification of the existing design methods for regulators; construction of laboratory stands for active noise suppression and heat exchanger control.
- The foundation of the Laboratory of Signal Processes as well as the Laboratory of Specialised Integrated Circuits Design; preparation of the "FUZZY-FLOU" system used for assisting the decision-making process; implementation of the control system for vertical plane etching in the Columbus steel work in South Africa.
- Elaboration of software modules ensuring safety of information in computer systems as well as modules for computer systems of hospital management; systems of oral communication with computers for a blind user; system of visualisation for algorithms, computer data collection and monitoring of city councils.



FACULTY OF CIVIL ENGINEERING

STRUCTURE

Department of Building Structures

Department of Building Engineering

Department of Roads and Bridges

Department of Structural Engineering

Department of Building Processes

Department of Geotechnics

Department of the Theory of Building Structures

Laboratory of Building

COURSES

The Faculty offers both full-time and part-time (extramural) courses organized in three-stage system of studies:

- BSc one-stage courses (8 sem.) – completed with BSc Thesis and the Diploma in BSc,
 - MSc two-stage courses (3 sem.) – completed with MSc Thesis and the degree of MSc,
 - PhD three-stage courses (8 sem.) – completed with Doctoral Thesis and the title of PhD MSc.
- The European Credit Transfer System (ECTS) has been entered in both full-time and part-time (extramural) studies.

The offered courses have Honours in:

AT THE BSc LEVEL:

- Transportation Engineering and Infrastructure (full-time and extramural studies)
- Engineering of Building Processes (full-time and extramural studies)
- Building and Engineering Constructions (full-time and extramural studies)
- Geotechnics and Urban Underground Constructions (full-time studies)
- Macro-Courses – **IN ENGLISH** (full-time studies)

DEAN OF THE FACULTY

Jan Ślusarek

DSc Eng
Associate Prof. of the SUT



- Construction and Architecture (full-time studies), CKI – Rybnik
- Urban Engineering (full-time and extramural studies), CKI – Rybnik

AT MSc LEVEL:

- Transportation Engineering and Infrastructure (full-time and extramural studies)

DIPLOMA PROFILE:

- Roads Construction

- Engineering of Building Processes (full-time and extramural studies)

DIPLOMA PROFILE:

- Environmentally Friendly Civil Engineering
- Technology and Management

- Building and Engineering Structures (full-time and extramural studies)

DIPLOMA PROFILE:

- Urban and Industrial Engineering
- Bridges
- Geotechnics and Underground Constructions
- Computer Aided Construction Analysis and Design

The BSc studies have been introduced with an obligatory apprenticeship which students have either in state or foreign companies. The studies have also offered modern ways of education in form of integrated projects (solving problems instead of teaching subjects). This modern multi-level system of studies was rewarded with The Great Award of Civil Engineering President (Wielka Nagroda Prezydenta Izby Budownictwa) in 2003.

The Faculty was founded as one of the four faculties which gave rise to The University of Technology.

The Faculty Board is entitled to award academic titles (PhD and DSc).

The Faculty was given a positive appraisal by State Accreditation Committee (Państwowa Komisja Akredytacyjna) in 2003.



FACULTY OF CIVIL ENGINEERING

CO-OPERATION

The Faculty is a member of the Association of European Civil Engineering Faculties and an active participant of EUCET – European Civil Engineering Education and Training – the project which assembles 131 partners including 101 civil engineering departments from 29 European countries. Since the academic year 2004/2005 the Faculty has participated in realization of the REPROCITY (Restoration and Protection of City Environment) project, the 6th Framework Program of the European Union with co-operation of 11 foreign partners.

The Faculty students can study one semester at any of the European partner universities or they can have a semester apprenticeship abroad (the programme of students exchange ERASMUS including Socrates and Leonardo da Vinci programmes). Both the students and the staff exchange is organized in co-operation with universities in England, Germany, Italy, Spain, France, Denmark, Portugal and Turkey. Foreign students can take Macro-courses which are conducted in English. The students of Construction and Architecture can get a Polish and Danish BSc diploma as a part of the contract with Vitus Bering Denmark University College in Horsens.

RESEARCH WORK

The Faculty is rewarded the first category in the group of consistent units G4 (Civil Engineering and Architecture). The research activity of the Faculty staff comprises all the fields connected with design of structures, building materials and building technologies, transportation engineering and infrastructure: ■ development of the theory of structures (particularly those exposed to the effects of mining subsidence), ■ reinforced-concrete, prestressed-concrete steel, ■ timbered skeletal structures, ■ testing of soil, foundations and structures, ■ continuous media mechanics and mechanical system dynamics in a non-classical approach, ■ scientific basis for exploitation, renovation and conservation, ■ new methods and techniques in bridge construction and exploitation of bridge structures in areas exposed to mining subsidence, ■ transportation infrastructure design and construction, including the development of the theory of pavements and soil improvement techniques in mining subsidence areas, ■ design, construction and exploitation of town infrastructure including the infrastructure subjected to mining subsidence, ■ testing of durability of materials and structures, ■ ecological buildings, ■ management, information, organization, computer and decision-making systems for building companies, ■ techniques

and testing of building materials and products.

The Research activity of the Faculty staff also comprises modern problems in civil engineering with a special treatment of computer simulation of structure behaviour with the use of FEM and BEM, elasto-plastic modelling of structural materials and soil, applied rheology of three-phase media with a special attention to concrete mixtures, probabilistic methods and the theory of stochastic processes in the analysis of design problems and artificial intelligence systems with special applications of the theory of fuzzy sets, genetic algorithms and neural nets.

In the last 5 years the Faculty staff members have published over 550 articles including 44 books and monographs. Nearly 30 research projects (all accepted by Science and Research Committee) have been done.

The Faculty co-operates with the construction industry of Silesia region in preparing technical opinions and expertise on all of types of building and civil engineering structures considering mining deformations influence on buildings, assessment and consulting of building and structural design, reconstruction, refurbishment strengthening and modernisation of civil engineering structures, transport systems design in urban areas, traffic engineering and environmental protection.

ACHIEVEMENTS

The Faculty has significant achievements in the range of research work, didactic activity and co-operation with industry. Since the Faculty was founded over 60 years ago 13000 graduates have been given academic degrees and titles.

The Faculty Board has given 252 titles of PhD in technical science and 24 titles of DSc.

Among prizes and awards that have been won by the Faculty staff in recent years there are several prizes and honours of Ministry of Science, Higher Educational System and Technics, National Education Ministry, Ministry of National Education and Sports, Ministry of Spatial Economy and Civil Engineering, Ministry of Infrastructure and Ministry of Regional Development and Civil Engineering. They have been awarded for achievements in the didactic and educational areas, significant research achievements including doctoral dissertations, assistant professor theses and other publications.

Apart from this, the Faculty students have been rewarded several times in nation-wide and international Sessions of Student Research Societies and won first prizes in the competitions for the best MSc theses, organized by the Polish Association of Civil Engineers.



FACULTY OF CHEMISTRY

STRUCTURE

Department of Inorganic Chemistry and Technology

Department of Organic Chemistry, Biochemistry and Biotechnology

Department of Analytical and General Chemistry

Department of Physical Chemistry and Technology of Polymers

Department of Chemical Organic Technology and Petrochemistry

Department of Chemical and Process Engineering

COURSES

From the academic year 2007/2008 the Faculty runs the following three-level courses:

- 1st level: 3,5 year BSc studies,
- 2nd level: 1,5 year MSc studies,
- 3rd level: 4 year PhD studies,
- 2,5 year extramural supplementary MSc studies.

COURSE IN:

CHEMISTRY

WITH HONOURS AT 2nd LEVEL IN:

- Biochemical processes
- Bioanalytics
- Materials and special substances

COURSE IN:

CHEMICAL TECHNOLOGY

WITH HONOURS AT 2nd LEVEL IN:

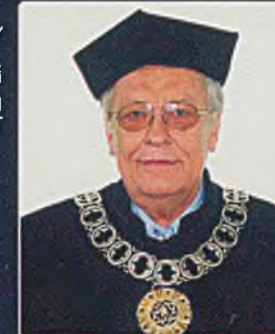
- Organic chemical technology
- Inorganic chemical technology and environment protection
- Technology of polymers and plastics



DEAN OF THE FACULTY

Prof. Jerzy Suwiński

DSc Eng
Prof. of the SUT



- Analytical chemistry for quality control and environment protection
- Computer science in chemical industry

WITH HONOURS AT 1st LEVEL AT DĄBROWA GÓRNICZA IN:

- Chemical technology in industry and environment

INTERDEPARTMENTAL COURSE IN:

BIOTECHNOLOGY

WITH HONOURS AT 1st LEVEL IN:

- Industrial biotechnology

COURSE IN:

CHEMICAL AND PROCESS ENGINEERING

WITH HONOURS AT 2nd LEVEL IN:

- Chemical engineering
- Environment protection in chemical industry

MACRO-COURSE:

INDUSTRIAL AND ENGINEERING CHEMISTRY STUDIES IN ENGLISH

WITH HONOURS AT 2nd LEVEL IN:

- Specialty Materials and Fine Chemicals
- Proces Engineering for Green Technologies

The Faculty of Chemistry has been organizing courses in CHEMICAL TECHNOLOGY AND CHEMICAL AND PROCESS ENGINEERING. In the year 2002/2003 the integrated course of studies INDUSTRIAL AND ENGINEERING CHEMISTRY was launched with all the lectures and classes in English. In the academic year 2003/ 2004 a new course of studies CHEMISTRY was introduced. In the year 2005/2006 a new course in BIOTECHNOLOGY was launched by three bodies: The Faculty of Chemistry, The Faculty of Energy and Environmental Engineering and The Faculty of Automatic Control, Electronics and Computer Science. The Faculty of Chemistry directs its candidates into specialization of INDUSTRIAL BIOTECHNOLOGY. In the year 2005/2006 the first-level course in CHEMICAL TECHNOLOGY IN INDUSTRY AND ENVIRONMENT PROTECTION was opened in Dąbrowa Górnicza.

The Faculty is entitled to confer the scientific degrees of PhD and DSc within the range of chemical technology, chemical engineering and chemistry. The Faculty is entitled to apply for granting the title of professor in these fields.



FACULTY OF CHEMISTRY

CO-OPERATION

The staff of the Faculty co-operate with several academic centres eg. Utah State University, Logan (USA), Iowa State University (USA), University of Michigan (USA), University of Barcelona (Spain), Technical University of Kiev and Technical University of Lvov (Ukraine), Universite de Rennes (France), Università La Sapienza and Università di Bologna (Italy), University College (Great Britain), Universities in Heidelberg and Essen, University of Campinas (Brasil), College of Technological Studies (Kuwait) and National Research Center (Egypt). The co-operation refers to research in several fields, the exchange of professors, young academics with PhD, PhD course students and MSc course students as well as running PhD studies in "the joint supervision" system.

RESEARCH WORK

Research activity of the Faculty comprises basic and applied sciences, focusing on: ■ kinetics, process and technologies of thermal decomposition (steam cracking, hydropyrolysis) of carbohydrates and their catalytic transformations, (dehydrogenation, oxidative coupling, isomerisation); ■ synthesis, structure and reactivity of five- and six-element heterocyclic systems; ■ chemistry of phosphorous yields; ■ metal complexes in organic chemistry; ■ synthesis and reaction of peroxy compounds; ■ engineering of chemical reactions; ■ macromolecular chemistry; ■ physical chemistry and technology of polymers, synthesis and modification of polymers; ■ structure and physical properties of polymers and polymer membranes, gas and ion transportation in polymers and polymer membranes; ■ catalytic processes in technology and environmental protection; ■ coke technology; ■ distribution and process technology of liquid hydrocarbons; ■ utilization of heavy industry waste; ■ technologies and theory of inorganic and electrochemical processes; ■ utilization of chosen heavy industry products, new technologies, and the theory of



inorganic and electrochemical processes; ■ optimization of technical and apparatus solutions of industrial processes; ■ static analysis and macro kinetics of inorganic processes; ■ phase transformations and interface processes in multi-component systems; ■ substances of special clarity and properties; ■ utilization and disposal of industrial waste; ■ corrosion, and protection against it; ■ industrial chemical analysis and eco-analysis, analysis of biological materials, new reactions and analytic reagents; ■ heat and mass exchange; ■ crystallization, filtration, mixing, sedimentation, distillation, pneumatic transportation, gas cleaning, drying; ■ new solutions for the structure of heat exchangers, distillation and absorption columns, loose material dryers, sedimentation tanks with fillings, equipment for the gas cleaning and separation, static mixers and apparatus solutions in the field of applied biotechnology.

ACHIEVEMENTS

The scientific activities of the staff are very modern and diverse. They are mostly connected with health problems and natural environment. The academic members of the staff are the authors

of numerous technological solutions implemented in industry for example: the ecological method of wet quenching of coke, the coagulation-sedimentation method of coke-water tar separation, the method of titanium dioxide recovery from the sludge, the new type of low-power boiler for central heating systems, the technology of polyolefines waste conversion into crude fluid fuel fractions, the technology of platinum covering of the turbine blades in the plane engines, the technology of offsetting the heat-resistant platinum aluminite coatings on the creep-resistant alloy, modernization of galvanic processes to avoid harmful for the environment chromium compound (VI) and cadmium compound.

In the recent years the Faculty has organized many prestigious international conferences among them: 18th Marian Smoluchowski Symposium on Statistical Physics Fundamentals and Applications – 2005, International Polymer Seminar – 2005, CAPE – Forum – 2006.



FACULTY OF ELECTRICAL

STRUCTURE

- Institute of Power Systems Engineering and Control
- Institute of Measurements and Automatic Control in Electrical Engineering
- Institute of Industrial Electrical Engineering and Informatics
- Department of Electrical Machines and Devices
- Department of Power Electronics, Electrical Drives and Robotics
- Department of Mechatronics

COURSES

The faculty offers MSc and BSc courses in:

COURSE IN: ■ **ELECTRICAL ENGINEERING**

BSc courses,
MSc courses,
BSc courses (extramural),
BSc courses in Rybnik,
BSc courses (extramural) in Rybnik.



DEAN OF THE FACULTY
Lesław Topór-Kamiński
DSc Eng
Associate Prof. of the SUT



ENGINEERING

COURSE IN: ■ **ELECTRONICS AND TELECOMMUNICATIONS**

BSc courses,
MSc courses,
MSc courses WITH HONOURS IN:
■ Optronics and fibre-optics technique

Since 2008 new courses will be run in:

■ **COMPUTER SCIENCE**

■ **MECHATRONICS**

Faculty of Electrical Engineering also offers full-time and extramural PhD courses.

POST-GRADUATE STUDIES

- Electric energy market. Energy audit. Distributed energy generation and e-infrastructure in municipalities
- Innovative technologies in power engineering
- Measurement systems and programmable controllers
- Organization and accreditation of laboratories

The Faculty of Electrical Engineering is one of the first four faculties of the Silesian University of Technology established on 24th May 1945.

The Faculty Board is entitled to award PhD and DSc degrees in electrical engineering.



FACULTY OF ELECTRICAL

CO-OPERATION

The Faculty co-operates with foreign scientific centres and universities all over the world. The most important of them are the following: Faculty of Electrical Engineering and Communication BUT, Brno – Czech Republic; Wright State University, Dayton – USA; University of Central Florida – the USA; FH Magdeburg – Germany; Technical University of Catalunya, Barcelona – Spain; University of Catania – Italy; PGTU Mariupol – Ukraine; NPUT Novosibirsk – Russia; Bundesanstalt, Braunschweig – Germany; VBS, Ostrava – Czech Republic; Institut Supérieur Industriel Pierrard – Belgium; University of East London – Great Britain; Louisiana State University – USA; Technical University of Tokyo – Japan; SVST, Bratislava – Slovakia; University of the Federal Armed Forces, Munich – Germany; University of Windsor – Canada.

RESEARCH WORK

Research and development activity conducted in the faculty is focused on:
IT and telecommunication systems in generation, transmission and distribution of electric energy, modelling and simulation of interference in electric power systems, diagnostics of electric power systems, electrical metrology, calibrators and comparators of electrical quantities, automation and control, digital and microprocessor technology, fundamentals of electronics, electromagnetic compatibility, designs of electric circuits and electronic systems, signal processing methods, quality control of electrical energy, designs of power supply systems for commutator motors, electric and hybrid cars, analysis of electromagnetic fields in electrical machines, application of signal processors in the control systems of electrical machines, modernisation of design of electric motors and turbo-genera-



ENGINEERING

tors, power electronic drives, electrothermal systems, microprocessor control of power drives, energy conversion in wind and solar power stations, mobile and walking robots, mechatronics.

ACHIEVEMENTS

Most important achievements of the Faculty of Electrical Engineering are as follows: Digital Generator-Transformer Protection System (CZAZ-GT type); comparator of self-inductance etalons (awarded Siemens Prize in 2003); tools for testing measurement standards of the highest precision for the Central Office of Measures in Warsaw; control system for high-power electric and resistance furnace; new methods for optimization and modification of electrical circuits with deformed waveforms which take into account optimum waveforms and minimization of real power losses; turbogenerators

for the national electric power system; methods for determining electro-magnetic parameters of electric machines based on the results of measurements and field-circuit computations; power electronic frequency drives; microprocessor-controlled power electronic drives; Simulator – UMSA – Windsor University; wind power station 160 kW; technology of HTS superconductors; walking robot XEXOR; eight-legged robot OKTOPOD.





FACULTY OF MINING

STRUCTURE

Department of Mining Electrification and Automation

Institute of Mining Mechanisation

Department of Mining Management and Safety Engineering

Department of Geomechanics, Underground Construction and Surface Safety Management

Department of Mineral Processing and Waste Utilization

Institute of Deposits Extraction

Institute of Applied Geology

Museum of Deposit Geology in Memorial of Czesław Poborski

COURSES

COURSE IN: **MINING AND GEOLOGY**

(full-time MSc courses)

WITH HONOURS IN:

- Automatic control and power engineering in mining
- Underground structures and land surface protection
- Deposits exploitation and waste utilization
- Mining geodesy
- Mining and prospecting geology
- Environmental management of mining areas
- Mining, construction and road machines
- Processing of solid minerals and marketing
- Geotourism
- Organization and economics of mining

(part-time and extramural BSc courses)

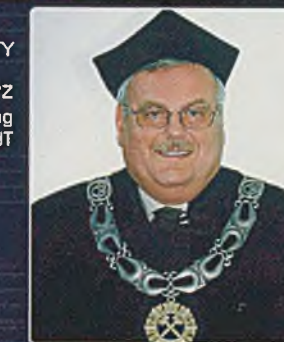
WITH HONOURS IN:

- Automatic control and power engineering in mining
- Underground structures and land surface protection
- Deposits exploitation and waste utilization
- Mining geodesy
- Mining and prospecting geology
- Environmental management of mining areas
- Mining and drilling machines and equipment
- Processing of solid minerals and marketing
- Organization and economics of mining

AND GEOLOGY

DEAN OF THE FACULTY

Prof. Krystian Probiez
DSc Eng
Prof. of the SUT



COURSE IN: **MANAGEMENT AND PRODUCTION ENGINEERING**

(full-time MSc courses)

WITH HONOURS IN:

- Geotourism
- Water management
- Organization and economics of mining
- Techniques and organization of occupational safety and hygiene

(part-time and extramural BSc courses)

WITH HONOURS IN:

- Mining organization and economics
- Techniques and organization of occupational safety and hygiene

Starting with the academic year of 2008/2009 new fields of study will be opened:

■ **SAFETY ENGINEERING**

■ **MECHATRONICS**

RESEARCH WORK

- Geological prospecting
- Economically efficient extraction of mineral deposits
- Application of energy-efficient and reliable machines
- Compliance with all safety regulations
- Protection of the natural environment

The Faculty was established in 1950. It is entitled to confer PhD and DSc degrees in mining engineering and geology engineering.



FACULTY OF MINING

CO-OPERATION

The Faculty co-operates with all Polish universities and research institutes committed to modern mining engineering. The co-operation with foreign research centres includes: Technical University in Ostrava, Czech Republic; Carol's University in Prague, Czech Republic; Moscow Mining National Institute, Russia; Mining University in Yekaterinburg, Ugol Irkuck Russia; Technical University in Donieck, Kiev Technical University, Ukraine; Technical University in Dniprodzerzhynsk, Ukrainian Academy of Sciences, RWTH, Aachen, Germany; Technische Universität Freiberg, Germany; TU Dresden, Germany; Chemnitz Institut Materialfluss und Fordertechnik Maschinenbau, TFH-Bochum, FH-Bielefeld, Germany; Montanuniversität Leoben, Austria; Technical University of Belgrade, Serbia; Technical University in Kosice, Slovakia; NME Technical University in Miskolc, Veszprem University Hungary; Patras University, Greece; University of Nottingham, Cambridge University, Doncaster College, Great Britain; Rijks Geologische Dienst, RGD in Heerlen, Holland; E.T.S. de Enxeneria de Minas Universidade de Vigo, E.T.S. de Ingenieros de Minas Universidad Politecnica de Madrid, Escuela Tecnica Superior Ingenieros de Minas Universidad de Oviedo, Universidad de Oviedo Campus de Mieres, Spain; ISS Ins. Welcome, Republic of South Africa; Univessite de Lille, Centre de Recherches Exploration-

Production Elf-Aquitaine Pau, France; Japanese Institute of Geology in Tsukuba, Japan; Chinese University of Mining and Geology in Beijing, China; Institute of Engineering and Mining Surveyors Fremantle, Australia; Universidad de la Serena, Facultad de Ingenieria, La Serena, Universidad Catolica del Notre Antofagasta, Chile; Vinacoal Hanoi, University of Mining Science and Technology Hanoi, Industrial and Mining Consulting Compay – Vinacoal Hanoi, Vietnam.

ACHIEVEMENTS

The achievements of the Faculty of Mining and Geology concern all pillars of modern mining technologies, especially: automation and control of coal processing, applications of fuzzy sets in modelling and simulation tests and control of coal processing technologies, tests on fire hazards and fire protection measures, control of hazards from stray currents, construction of modern mining machinery, experimental and computer-aided tests on the dynamics of machines, experimental and theoretical complex testing of mining machines and equipment, physical and mathematical modelling of dynamical phenomena in cutting, loading and transporting machines, tribological phenomena, improvement of the structure and organization of mining companies, implementation of modern management methods, surface protection,

AND GEOLOGY

rectification of mining damage and reclamation of post-mining and post-industrial areas, experimental tests on strain and strength of rock, mechanics of anisotropic and discontinuous rock forms, mining extraction under engineering structures and bounce hazards, forecasts and assessment of bounce hazards, location of shocks epicentres, designation of seismic parameters of the rock mass and optimization of the systems of seismometers in coal mines, assessment of the impact of shocks on earthen structures, filling, utilization and disposal of waste from mining operations, hydraulic and pneumatic transport, ventilation and air-conditioning systems in mines, fire control, control of gas and dust explosions, occupational safety and hygiene in mining, control and prevention of water-induced hazards, assessment of geological, engineering and hydro-geological conditions in deposits, geology and geo-physics of coal deposits-predominantly of the Carbonic formations – including heat fields and paleo-fluxes, petrology and quality of coal resources of Upper Silesian Coal Basin, protection of coal resources and provision of power engineering safety, designation of the directions of waste rock and waste minerals recycling, construction of digital mining maps.

Graduates of the Faculty of Mining and Geology hold advisory posts in national, regional and local state administration agencies. Employees of the Faculty

served as rectors, and deputy rectors. Three Faculty professors were conferred the Honorary Doctorates: Professor Miroslaw Chudek, Professor Walery Szuścik, Professor Bernard Drzęzła. Our staff members include experts appointed by the President of Chief Mining Office to explain complex problems involved in mining, they are often experts in commissions operating at the Ministry of Economy. The Faculty employees are members of many scientific societies and organizations and committees of the Polish Academy of Sciences. They are active in editorial and program commissions of many Polish and international publications. In 2006 the team headed by Associate Professor Marek Jaszcuk, DSc Eng, was granted the award bestowed by the President of the Council of Ministers for outstanding research and technical achievements. The Faculty organized several editions of post-graduate courses in "Modern Mining" for engineers from Vietnam within the framework of the co-operation with VINACOL (Vietnamese Coal Corporation). Among numerous conferences organized by the Faculty, there is "The Sustainable Mining" conference held regularly since 2000, the outcome of which is edited in Academic Fascicles (Mining series) of the Publishers of Silesian University of Technology to celebrate the Miners' Day. Since 2006 the Faculty has also published a quarterly: "Mining and Geology".



FACULTY OF MATERIALS SCIENCE

STRUCTURE

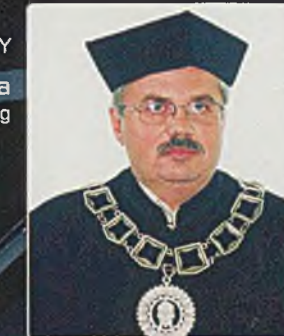
Department of Metallurgy
Department of Process Modelling and Medical Engineering
Department of Electrotechnology
Department of Process Energy
Department of Mechanics and Materials
Department of Technology of Metal Alloys and Composites
Department of Materials Science
Department of Technological Processes Management
Centre of Post-Graduate Studies
Computer Laboratory ETO

COURSES

The Faculty offers full-time, evening and extramural MSc and BSc courses in Katowice, Tychy and Bytom with the following honours to choose:

COURSE IN:	■ TECHNICAL AND COMPUTER SCIENCE EDUCATION
WITH HONOURS IN:	■ Machine and Device Diagnostics ■ Ecological Industrial Processes ■ Information Management ■ Computer Science in Technological Processes ■ Computer-aided Material Engineering

DEAN OF THE FACULTY
Prof. Leszek Blacha
DSc Eng



AND METALLURGY

COURSE IN:	■ MATERIALS SCIENCE
WITH HONOURS IN:	■ Quality Engineering ■ Surface Engineering ■ Composites and Polymers ■ Metallic Materials ■ Ceramic Materials

COURSE IN:	■ METALLURGY
WITH HONOURS IN:	■ Process Power Engineering ■ Plastic Working and Heat Treatment of Metals ■ Environmental Protection and Waste Materials Management ■ Precision and Art Casting Processes ■ Metal Processing in Car Industry

COURSE IN:	■ MANAGEMENT AND PRODUCTION ENGINEERING
WITH HONOURS IN:	■ Operational Safety of Machines ■ Industrial Safety ■ Computer Science in Management ■ Medical Engineering ■ Foundry Production Engineering ■ Recycling Technologies ■ Organization and Management in Industry ■ Technologies for Environmental Protection, Renewable Sources of Energy ■ Materials Management ■ Integrated Management Systems

The Faculty offers also full-time PhD courses in: ■ **MATERIALS SCIENCE AND METALLURGY** as well as post-graduate studies and specialistic courses.

The Faculty emerged in the course of transforming the Faculty of Metallurgy, founded on June 13, 1969. The present organizational structure was settled after it was separated from the Institute of Organization and Management (1995), which became a separate Faculty of Organization and Management, as well as separated from the Institute of Transport (2002), which became a separate Institute of Transport. The Faculty has full academic rights in materials science and metallurgy.



FACULTY OF MATERIALS SCIENCE

CO-OPERATION

The Faculty co-operates with multiple foreign research and development institutes and academic centres, entailing the following countries: USA – University of Minnesota, University of Tennessee; Germany – M. Luter University, Bergakademie Freiberg, TU Dresden, TU Munster; France – Ecole Central Paris; Great Britain – Brunel West London University; Sweden, Russia, Ukraine, Italy, Holland, Czech Republic – Vysoka Skola Banska in Ostrava, Zapodoceska Univerzita Plzen; Slovakia – Technicka Univerzita in Kosice; Lithuania and Estonia. Furthermore, it co-operates with Polish universities – the Academy of Mining and Metallurgy in Cracow, Warsaw Technical University, Technical University in Czestochowa; research institutes – the Institute of Ferrous Metals, Institute of Non-ferrous Metals and many industrial companies, steel mills, etc. especially those operating in Silesia.

RESEARCH WORK

Research work runs along the engineering disciplines of materials science and metallurgy, with particular focus on the following issues: wasteless technologies, waste utilization and management, mathematical modelling and optimization of metallurgical processes, environmental management, electric heating engineering, computer-aided engineering process design, theory and technology of metal working, mechanics of sintering, biomechanics, modelling of heat flow processes, kinetics of combustion, kinetics of creation and destruction of pollutants, composite materials, surface engineering, foundry, structural analysis and investigating the properties of chemical composition of materials used in complex mechanical load and heat conditions as well as corrosive impact, technologies of special property ceramics, stereological methods, new biological materials.



AND METALLURGY

ACHIEVEMENTS

The number of the Faculty graduates has increased to nine thousand and five hundred. Among them there are seventy university professors and over two hundred and fifty professors of science and research institutes. The number of graduates from the Polish and American courses in Environmentally Friendly Industrial Restructuring has reached over one hundred and fifty.

The visible effect of the Faculty activity are numerous, over three hundred publications a year; about twenty books, course books and monographs. The academic staff of the Faculty runs along over two hundred research and development works financed by the Ministry of Education as well as implementation projects and service activities for industry. The Faculty organizes about twenty conferences and seminars, some of them international ones. Many research works and projects were awarded (LIIF London 1997, IMPEX XIII Pittsburg, 1997; 70 International Poznan Fair, Brussels Eureka 98).

Since 1970 the Faculty of Materials Science and Metallurgy has been in charge of the preservation of the unique metallurgical plant in Maleniec. For 30 years the Faculty has been organizing annual congress of graduates on Steel Worker's Day.





FACULTY OF ENERGY AND

STRUCTURE

- Department of Heat Supply, Ventilation and Dust Removal Technology
- Department of Air Protection
- Department of Technology and Equipment for Waste Management
- Department of Environmental Biotechnology
- Institute of Water and Wastewater Engineering
- Institute of Power Engineering and Turbomachinery
- Institute of Thermal Technology
- Division for the Diagnostics and Testing of Combustion Engines

COURSES

The Faculty offers three-stage courses (BSc, MSc and PhD) in the following courses:

COURSE IN: ■ **BIOTECHNOLOGY** (full-time courses)

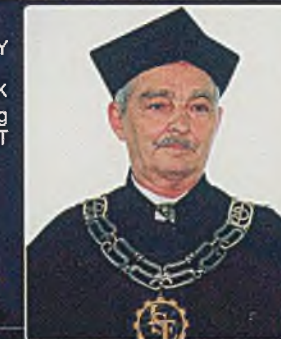
WITH HONOURS IN: ■ Biotechnology in environmental protection

COURSE IN: ■ **ENVIRONMENTAL ENGINEERING** (full-time, part-time and extramural courses)

WITH HONOURS IN: ■ Municipal power engineering
 ■ Waste management
 ■ Environmental protection and clean technologies in the power generation and automotive industries
 ■ Water, sewage and soil engineering
 ■ Heat supply, ventilation and air protection
 ■ Occupational hygiene and safety



DEAN OF THE FACULTY
 Prof. Michał Bodzek
 DSc Eng
 Prof. of the SUT



ENVIRONMENTAL ENGINEERING

- Environmental protection technology
- Water supply and sewage systems
- Technical equipment in buildings

MACRO-COURSE IN: ■ **ENVIRONMENTAL ENGINEERING AND POWER GENERATION**
 (full-time courses run IN ENGLISH)

COURSE IN: ■ **MECHANICS AND MACHINERY DESIGN**
 (full-time and part-time courses)

WITH HONOURS IN: ■ Machines and systems for environmental protection
 ■ Thermal and gas power engineering, refrigerating engineering and car maintenance
 ■ Power plants, machines and power generation systems
 ■ Operation of power generation machines

COURSE IN: ■ **POWER ENGINEERING** (full-time, part-time and extramural courses)

WITH HONOURS IN: ■ Power engineering in power generation
 ■ Energy processes and systems

COURSE IN: ■ **SAFETY ENGINEERING** (full-time, part-time and extramural courses)

COURSE IN: ■ **ENVIRONMENTAL PROTECTION** (full-time courses)

WITH HONOURS IN: ■ Ecotoxicology and biomonitoring
 ■ Air protection systems
 ■ Water and soil protection systems
 ■ Environmental protection in power engineering

The ECTS credit system is observed.

The faculty also offers post-graduate and PhD courses.

The Faculty of Energy and Environmental Engineering was established in 1993 after a merger of two separate Faculties: Energy and Mechanical Engineering and Environmental Engineering.

The Faculty Board is entitled to confer PhD and DSc degrees in Environmental Engineering and Machine Construction and Operation. Since its beginning, the Faculty has had the highest rank in the classification of the Ministry of Science and Higher Education. The Department of Mechanics and Machinery Design has been accredited by the State Accreditation Commission and the Accreditation Commission of Technical Universities.



FACULTY OF ENERGY AND

ENVIRONMENTAL ENGINEERING

CO-OPERATION

The staff of the Faculty are involved in active co-operation with foreign research centres and participate in the framework programmes of the European Commission. The units of the Faculty coordinate several European research programmes.

In recent years, three units of the Faculty have been awarded the title of the Centre of Excellence: DEMETER – a centre of environmental biotechnology research, ENEERINDOOR – an energy centre of efficient technologies and systems in the indoor environment, OPTI-ENERGY – optimization and simulation of energy processes and systems and their impact on the environment.

The Faculty and other foreign centres have carried out collaborative research projects within Polish-German agreement on co-operation – No-Border University, IEA Cooperation Agreement in Paris, co-operation with European Research Community on Flow Turbulence and Combustion ERCOFAC, Marie Curie research project carried out with European and American universities, EUREKA programme dealing with the development of technologies for fat waste recycling in an MSP for energy purposes, and finally SOCRATES-ERASMUS – a student exchange programme.

Other forms of international co-operation include per-

manent contacts with a number of foreign research centres based at universities in Berlin, Dresden, Stuttgart, Clausthal, Zittau, Halle, Wittenberg, Magdeburgh, Bohum, Merseburgh, Munich, Gent, Lyngby, Orlando (USA), Ijmuiden, Cottbus, Erlangen, Wessex, Florence, Athens, Kassel, Louvain, Coleraine. The co-operation involves collaborative research, student and staff exchange programmes and participation in conferences.

RESEARCH WORK

The research work of the Faculty covers broad aspects of environmental protection and engineering, power generation and biotechnology, focusing on the following fields: air protection, aerodynamics of ventilation and dust removal, heat engineering for the building industry and public utility systems, identification of pollutants and their expansion, economic aspects of air protection, design and construction of waste management equipment, use of membrane processes in industrial waste treatment and water treatment technologies, application of microbiology to environmental engineering and environmental protection, optimization of water supply and sewage treatment systems, municipal and industrial waste

management, low-emission energy technologies, theoretical and experimental research and development of new flow machines, operation and diagnostics of machines and power generation systems, analysis of complex heat exchange processes, development of computational methods for boilers and heat generation devices, methods for analysis and synthesis of gas-steam and other energy systems, automatic control of power generation processes, thermodynamics and heat flow, application of renewable energy sources, technical and economic optimization of power systems, gas power engineering, thermal and nuclear power engineering, cooling systems and air conditioning in industry, theory and technology of combustion and low-emission combustion of fuels, construction and operation of combustion engines.

ACHIEVEMENTS

The staff of the Faculty are board members of numerous scientific organizations such as European Research Community on Flow, Turbulence and Combustion, the European Membrane Society, the European Federation of Biotechnology.

The staff of the Faculty include: professor J. Szargut,

member of the Polish Academy of Sciences, as well as members of various scientific associations such as the New York Academy of Science, the Academy of Sciences of the Russian Federation, Committees and Scientific Councils of the Polish Academy of Sciences, editors and editorial board members of a number of magazines, both Polish and foreign, including International Journal of Thermodynamics, Energy Int. J. Exergy, Int. J. Environment and Pollution.

Over the last few years, the staff of the Faculty have received several awards and honours, including a Gold Medal won at the International Exhibition of Technological Innovation in Brussels, ASME Westinghouse Silver Medal and a prize won at the 2005 CFD User of the Year Awards.

In recent years, the staff of the Faculty have won three awards from the Minister of Science and Higher Education. The students and graduates of the Faculty have been granted scholarships by the Minister of Building, the Silesia Ecological Foundation, Fiat Avio and many others. Every year the faculty co-operates in organizing several scientific conferences. In 2006 the faculty held an international conference entitled "Future Energy Mix", which was attended by the EU Commissioner for Energy and Members of the European Parliament.



FACULTY OF MATHEMATICS

STRUCTURE

Institute of Physics

Institute of Mathematics

COURSES

The faculty runs full-time and extramural studies. They consist of:

- 1st level studies (7-semester BSc courses, 6-semester BA courses)
- 2nd level studies (MSc courses – 3 or 4 semesters)
- PhD studies in environmental PhD course "Basic Issues of Technology"

The faculty also runs post-graduate studies.

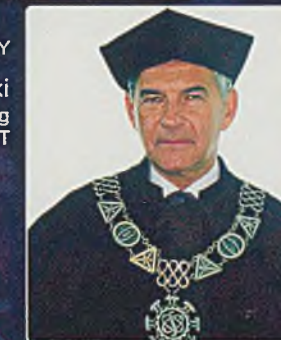
COURSE IN: ■ **ELECTRONICS AND TELECOMMUNICATION**

WITH HONOURS IN: ■ Optoelectronics and waveguide technology

COURSE IN: ■ **TECHNICAL PHYSICS**

WITH HONOURS IN: ■ Physics in Geology Archeology
■ Environmental physics
■ Computer Science in Physics
■ Measurement methods and systems
■ Optoelectronics

DEAN OF THE FACULTY
Prof. Stanisław Kochowski
DSc Eng
Prof. of the SUT



AND PHYSICS

COURSE IN: ■ **MATHEMATICS**

WITH HONOURS IN: ■ Cryptography
■ Financial Mathematics
■ Discrete Mathematics and Computer Science
■ Theoretical Mathematics
■ Computer Science Methods
■ Mathematical Modelling
■ Statistics

COURSE IN: ■ **COMPUTER SCIENCE**

WITH HONOURS IN: ■ Cryptography
■ Multimedia
■ Internet programming

POST-GRADUATE STUDIES

■ Teaching Physics
■ Teaching Mathematics at schools
■ Teaching Computer Science at schools
■ Applied Statistics, Accountancy and Mathematics

The Faculty was founded on June 15th 1969 by the decree of the Minister of Education and Higher Education. At that time it was the only faculty of this type in Poland. The faculty is entitled to confer the degree of PhD.



FACULTY OF MATHEMATICS

CO-OPERATION

The Faculty co-operates with numerous universities and research centers all over the world both in the field of didactics and research work.

The co-operation is in the form of bilateral agreements as well as co-working on intergovernmental programs with such foreign centers as: ■ NERC Radiocarbon Laboratory, East Kilbride (Scotland), ■ Laboratoire des Sciensec du Climat et de Environnement, CNRS, Gif-sur-Yvette (France), ■ Department of Quarternary Geology, University of Lund (Sweden), ■ Centre of Datation par le Radiocarbone, Univerite Claude Bernard Lyon (France), ■ Department of Environmental Radio-geochemistry UAS, Kiev (Ukraine), ■ Institute of Physics, University of Iraklio (Greece), ■ Institute of Physics, University of Bari (Italy), ■ Institute of Physics, University of Camerino (Italy), ■ Research Center for Interface Quantum Electronics, Hokkaido University, Sapporo (Japan), ■ Department of Electronics, Ecole Centrale de Lyon, Ecully (France), ■ Institute of Physical and Theoretical Chemistry, University of Tuebingen (Germany), ■ University Centre of Science and Technology, University B. Pascal, Clermont-Ferrand (France) ■ Institute of Applied Dermatopharmacy, Martin

Luter University, Halle (Germany).

This results in scientific grants for the staff of the faculty, student exchange programs and conducting joint scientific research works.

The faculty of Mathematics co-operates with:

- Department of Mathematics, University of Waterloo (Canada), ■ Department of Mathematics, University of York Toronto (Canada), ■ Department of Mathematics, University of Central Florida (USA), ■ Department of Mathematics and Statistics, University of Campinas (Brazil).

RESEARCH WORK

Research work in the Faculty concerns mainly the following scientific fields:

Institute of Physics

- acoustoelectronics,
- applied nuclear physics,
- physics of semiconductors,
- photoacoustic and photothermal phenomenon in measurements,
- microelectronics of semiconductors,
- optical fiber optoelectronics,
- measurements making use of variable temperature fields.

AND PHYSICS

Institute of Mathematics

- algebra and group theory,
- functional analysis,
- numerical methods,
- mathematical statistics,
- difference equations,
- mathematical modelling,
- application of mathematics.

ACHIEVEMENTS

Among the most important achievements of the Faculty should be mentioned the organization and development of the following laboratories:

- acoustoelectronics laboratory,
- electrical semiconductors research laboratory,
- optical and photoelectrical semiconductors research laboratory,
- radioactive chronology laboratory,
- semiconductor sensors and optical fibre optoelectronics laboratory,
- computer science methods laboratory,
- laboratory of microscopy of atomic forces and other scanning microscopies,
- low activities laboratory,

- laboratory of sensor materials semiconductors,
- Auger spectroscopy laboratory,
- semiconductor surface technology laboratory,
- Application of thermal waves in measurements laboratory.

International research projects are carried out within the framework of the EU and projects financed by Ministry of Science and Higher Education. There are three Centers of Excellence at the Faculty. The Faculty organizes cyclic international scientific conferences in the field of acoustics, photothermics, isotope C 14, semiconductor microelectronics and gas sensors as well as group and sensor rings. The publication of a few hundred articles in world-known scientific magazines as well as numerous monographies and academic handbooks should be also mentioned among the achievements of the Faculty.



FACULTY OF MECHANICAL

STRUCTURE

- Institute of Engineering Materials and Biomaterials
- Department of Technological Processes Automation and Integrated Manufacturing Systems
- Department of Applied Mechanics
- Department of Strength of Materials and Computational Mechanics
- Department of Welding
- Department of Fundamentals of Machinery Design
- Department of Machine Technology

COURSES

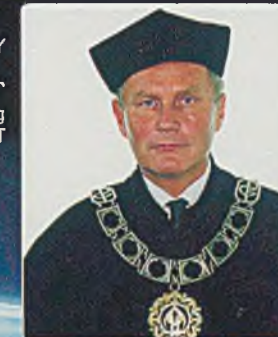
The Faculty offers full time and part time courses (including weekend courses and extramural ones) in accordance with European 3 stage System of University Studies. The core element is 3.5-year 1st degree course (7 semesters) and then 1.5-year 2nd degree course (3 semesters). MSc graduates may enroll on follow-up 3rd degree PhD courses.

The Faculty teaches students in several dozen of attractive specializations in four branches of studies:

- COURSE IN: **AUTOMATION AND ROBOTICS** – 1 out of 10 specializations to choose
- COURSE IN: **TECHNICAL AND COMPUTER SCIENCE EDUCATION**
 - 1 out of 6 specializations to choose
- COURSE IN: **MECHANICS AND MACHINERY DESIGN**
 - 1 out of 15 specializations to choose
- COURSE IN: **MANAGEMENT AND PRODUCTION ENGINEERING**
 - 1 out of 15 modules to choose

DEAN OF THE FACULTY

Prof. Jan Świder
PhD DSc Eng
Prof. of the SUT



ENGINEERING

In the 2008/2009 academic year the Faculty will offer studies at the following new courses:

- MECHATRONICS**
- as well as macro-course in:
 - APPLIED AUTOMATION WITH COMPUTER MATERIALS SCIENCE**
 - NANOTECHNOLOGY AND TECHNOLOGIES OF MATERIAL PROCESSES**

The Faculty has implemented ECTS system, which enables studying abroad within the framework of European Programs.

ACHIEVEMENTS

So far the Faculty has conferred 6884 MSc degrees, 8155 BSc degrees, conferred 500 PhD and over 80 DSc degrees in technical sciences (Last update 31.12.2006). Since the beginning of its existence the faculty has been marked with the highest possible category in the classification of scientific level granted by the given Ministry. Scientific output of the Faculty covers over 600 papers annually, including 200 in international magazines, usually from the Master Journal List, as well as over 20 to 30 textbooks. Numerous Faculty professors are active members of scientific and research committees at the Polish Academy of Science as well as counterpart and foreign academies. Academic staff members participate in research activities of the Silesian Center for Advanced Technologies and carry research within the Faculty Center of Excellence. They participate in many European projects and as well as realize scores of research and goal oriented projects of the Ministry of Science and Higher Education. The faculty has many Students' Associations where students can broaden their knowledge and stimulate their interests, resulting in many scientific publications and interesting seminars, both faculty and interfaculty ones.

At first the Faculty of Mechanical Engineering was opened in 1945 when the Silesian University of Technology was founded. The present name of the Faculty of Mechanical Engineering was adopted in 1965. The Faculty Board is entitled to confer PhD and DSc degrees in materials science, machinery design and operation and maintenance as well as mechanics.



FACULTY OF MECHANICAL

CO-OPERATION

The Faculty enjoys the wide scientific and didactic co-operation with a lot of universities as well as the research and development institutes located in Europe and all over the world, and it also has one of the biggest exchanges of foreign students. It participates in major European research and educational development programs such as: CEEPUS, SOCRATES-ERASMUS. Academics employed in the Faculty are members of renowned international and national organizations and research societies. The Faculty prides on traditionally good collaboration with numerous firms and companies operating in the field of industrial automation and robotics, machinery design, production engineering as well as with the research and development centers.

Current co-operation with industry embraces among others the following assignments: carrying out mutual research and development works, developmental and goal oriented projects, participation of firms in delivering equipment and fitting out the research and didactic laboratories at the Faculty, transfer of new technologies from science to industry, organizing the post-graduate studies for all candidates to raise their professional qualifications, preparing expert opinions and evaluations, doing researches in the laboratories at the Faculty, giving opinions concerning the innovative character of undertakings carried out by business enterprises, making joint projects within the mid-semester projects and MSc theses and organizing production placements.

RESEARCH WORK

Automation and robotics of processes of material processing; quality researches in engineering materials; modeling researches of balanced material technologies; biomedical engineering of motion organ; materials engineering of microscopic constructional steel; materials engineering of magnetically soft, amorphous and nanocrystalline materials; engineering of surface layers achieved in heat, thermo-chemical and physical processes; engineering of gradient surface layers with nanolayers and nanostructural composite materials; computational materials science; application of computer science in scientific research and engineering works in materials engineering; solidification and crystallization of metals and alloys, machines and welding machinery, automation and robotics of welding processes; materials science of tool steels and sintered materials used for tools; materials science of constructional and special-purpose steels and alloys; crystalline and amorphous materials; physical treatment methods on solidification and crystallization processes; modelling of plastic strain of alloys; corrosion and crack resistance of steels and alloys; processes and technologies for plastic processing of metals; quality management, quality evaluation and assurance; systems of decision making and methods of artificial intelligence in materials engineering; cast production technologies (computer simulation); cleaner production technologies; energy-saving technologies, material processing technologies; theory and practice of com-



ENGINEERING

posite castings; theory of machine elements wear, selection of alloys and technologies used in production of wear-resistant castings; pneumatic and fluid transport systems and their application to industry; properties and polymeric materials processing, processing of composites materials with polymeric matrix and laminates; influence of alloy structure on the durability and reliability of machine elements; advanced technologies in the field of tool and functional materials; quality management in organizational units, research and testing laboratories; application of computer science in didactics.

Automation of technological processes; mechanical vibrations, dynamics and vibroinsulation of machinery; manufacturing management computer systems; computer aided machinery design and manufacturing of machinery; non-classical methods of analysis and synthesis of dynamics systems; machinery; transportation machines and load-carrying structures; mechanics; robotics and mechatronics; modelling; synthesis and analysis of mechanical systems; fundamentals of automation, robotics and automation of technological processes, control of dynamics systems; decision making aiding systems; graph theory and its applications to mechanics and dynamics of machines; theory of machines and mechanisms, power transmission systems; virtual models in machine design and operating; integrated manufacturing systems.

Dynamics of machines and mechatronical power transmission; construction optimization; theory and application of finite elements method; sensitivity analysis and

machine construction optimization, dynamics of hoisting systems; engineering biomechanics; modeling in biomechanics; modeling of multi-body systems; continuum mechanics and dynamics of thin-walled bars, fluid mechanics; optimization of machine dynamics properties. Mechanics of solids and continuum; computational mechanics and methods of artificial intelligence; computer methods applied in mechanics and machinery design; computational methods in dynamic analysis of strain systems; numerical methods in thermo-mechanics and biomechanics; optimization of systems and processes and sensitivity analysis; strength of structural elements; thermodynamics of foundry processes; boundary elements method – BEM; finite elements method – FEM. Testing and examination of weldability of modern structural materials; additional materials for welding and surfacing; quality control of welding processes; welding technologies; technologies of welding, bonding and surfacing; monitoring and quality control of technological processes; modeling of welding processes.

Computer aided designing and operation and maintenance of machines and quality assurance; technical diagnostics of machines; development of information technologies in designing and machine operation and maintenance; development of application of expert systems; methods and technologies of noise reduction and vibrations in machines.

Machine tools design and control; machinery; metrology of geometrical quantity.



FACULTY OF ORGANIZATION

STRUCTURE

- Department of Fundamentals of Management and Marketing
- Department of Applied Social Sciences
- Department of Economy and Finance
- Department of Company Management and Organization of Production
- Department of Fundamentals of Technology Systems
- Department of Computer Science and Econometrics
- Department of Product and Process Quality Management
- Department of Environment and Safety Management

COURSES

The Faculty runs courses in four disciplines:

COURSE IN: ■ **MANAGEMENT**

- WITH HONOURS IN: ■ Company Management and Industrial Marketing
■ Human Resources Management and Social Communication
■ Finance and Marketing
■ Design Management in a Company
■ Public Sector Management
■ Safety at Work and Environmental protection

COURSE IN: ■ **MANAGEMENT AND PRODUCTION ENGINEERING**

- WITH HONOURS IN: ■ Production and Logistics Systems in an Industrial Company

AND MANAGEMENT

- Computer Systems in Industrial Technologies
- Quality Management in an Industrial Company
- Health and Safety in an Industrial Company

COURSE IN: ■ **SOCIOLOGY**

- WITH HONOURS IN: ■ Social Politics

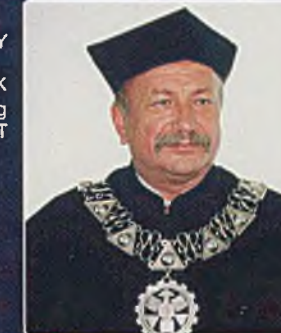
COURSE IN: ■ **ADMINISTRATION**

- WITH HONOURS IN: ■ Public Administration

POST-GRADUATE STUDIES

- Management and Administration in Health Care
- Management of an Educational Institution
- Human Resources Management and Organization of a Health Care Company
- Human Resources Management and Vocational Consultancy
- Management of an Optical Company
- Accounting and Finance in a Company
- Project Management in a Company
- Accounting (organized jointly with Higher Banking School in Poznań)
- Quality Management in a Company
- Health and Safety at Work
- Competitive Tendering
- Management Methods in a Modern Organization
- Management of an Organization in the Power Sector

DEAN OF THE FACULTY
Prof. Andrzej Karbownik
DSc Eng
Prof. of the SUT



The Faculty of Organization and Management emerged from the Faculty of Materials Science, Metallurgy, Transport and Management on 1 September 1995. It is situated in Zabrze but teaching is also carried out in Katowice and Rybnik. The Faculty Board is entitled to award the PhD degree in economic sciences



FACULTY OF ORGANIZATION

CO-OPERATION

International co-operation is an important part of the Faculty research work. Within the co-operation the Faculty staff go on the internship to France, Greece, Germany, Great Britain and other countries, where they give lectures and are involved in joint research.

The Faculty has signed contracts for regular co-operation with numerous foreign research institutes including: ■ Ecole des Mines de Nancy, ■ Ecole des Mines Saint-Etienne, ■ Universite de Lille, ■ Universite Louis Pasteur Strasbourg (France), ■ Abertay University Dundee (Scotland), ■ University of Portsmouth (Great Britain), ■ IHI Zittau (Germany), ■ Kaunas University of Technology (Lithuania), ■ VSB Ostrava (Czech Republic), ■ Technical University of Lvov (Ukraine).

RESEARCH WORK

Research work is focused on the following fields:

- development of methods and techniques of strategic management,
- cultural obstacles and opportunities to transfer modern concepts of management,
- Human Resources management,
- theory of Human Resources marketing,
- pay relations in companies,
- labour market and unemployment problems on regional scale,
- design and technical planning of production systems, including cleaner production technologies,
- logistics of production processes,
- project management,
- quality and technology management,



AND MANAGEMENT

- management of the operation of technical systems,
- acoustic hazards in environment,
- work environment engineering (human engineering systems),
- statistical methods for economic research,
- modelling and forecasting of economic processes and phenomena,
- Integrated Management Systems: quality, environment, technology, safety,
- environmentally friendly processes management.

The Faculty Board is entitled to award the PhD degree in economic sciences in the field of management science.

ACHIEVEMENTS

The Faculty has been accredited by The State Accreditation Board for the specialization of: Management and Marketing, Management and Production Engineering and Sociology.

In a short period of its operation the Faculty has been a success, the most important achievements including:

- carrying out, together with French universities, a joint research programme within Tempus programme dealing with restructuring management of industrial regions and sectors,
- making analyses of the labour market in industrial areas in the period of economic transitions (monographic publication),
- participation in the joint Polish-German-Lithuanian research project on European integration processes including value systems and pro-integration attitude (monographic publication).



FACULTY OF TRANSPORT

STRUCTURE

- Department of Vehicle Services
- Department of Automotive Vehicles Construction
- Department of Logistics and Industrial Transport
- Department of Railway Transport
- Department of Traffic Engineering
- Department of Computer Systems for Transport

COURSES

The faculty conducts studies in the Transport department, which is accredited by the National Accreditation Commission. It offers full time MSc, BSc, part-time BSc courses, as well as supplementary post-BSc courses.

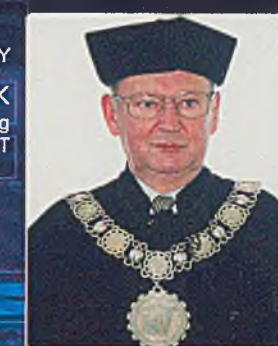
The faculty is based in Katowice and has two teaching units in Tychy and Bytom.

DEAN OF THE FACULTY

Prof. Andrzej WILK

DSc Eng

Prof. of the SUT



COURSE IN: ■ **TRANSPORT**

WITH HONOURS IN: ■ Vehicle service

WITHIN THE FRAME OF THE VEHICLE SERVICE SPECIALIZATION
THE FOLLOWING DEGREES ARE GRANTED:

- Operation and Maintenance of Automotive Vehicles
- Operation and Maintenance of Rail Vehicles
- Industrial Transport
- Traffic Engineering
- Transport logistics

POST-GRADUATE STUDIES

- Transport logistics
- Quality and Environment Management in transport
- Organization of Air Transport in the UE
- Technology and Organization of Railway Transport in the EU
- Integrated Safety System in Railway Transport

The Silesian Technical University has taught students in the Transport department since 1969, initially in the Transport and Communication Division of the Mechanical and Energy Engineering Department. In 1992, the Faculty of Transport was incorporated in the structure of the newly created Faculty of Materials Engineering, Metallurgy, Transport and Administration in Katowice. The development of the didactic and scientific base, along with the development of the personnel, provided conditions for the creation of the Faculty of Transport. The Faculty of Transport was created in 2002. The Faculty Board is entitled to grant PhD degree in Engineering.



FACULTY OF TRANSPORT

CO-OPERATION

The faculty co-operates with the following universities abroad: ■ Vysoká Škola Baňská – Technická ■ Univerzita Ostrava (Czech Republic), ■ Glasgow Caledonian University (GB), ■ St. Petersburg State Transport University (Russia), ■ Ruhr-Universität Bochum (Germany), ■ the Kaunas University of Technology (Kovno, Lithuania), ■ Lvov Technical University (Ukraine), ■ China University of Mining and Technology (Xuzhou Jiangsu, China), ■ East-Ukrainian National University in Lugansk (Ukraine). The Faculty of Transport participates in the Socrates and da Vinci programmes.

Furthermore, it co-operates with many Polish universities and research institutes (University of Mining and Metallurgy in Cracow, The Warsaw University of Technology, transport faculties of other universities) and many industrial companies and research centers, especially those operating in Silesia.

RESEARCH WORK

Research work focuses on the following topic groups:

- Transport research,
- Traffic control in transport,
- Vehicle services,
- Machine and vehicle design,
- Machine and vehicle diagnostics,
- Industrial transport,
- Transport logistics,
- Application of telematics in transport.

Within these groups the following research is carried out:

- Optimization of transport networks,
- Microprocessor techniques and simulation research in transport,
- Mathematical modelling of combustion processes inside the engine,
- Application of alternative fuels in motor transport,

- Wear of elements of transport machines,
- Computer-aided design of transport machine units,
- Research on gear transmission, clutches and conveyor belts,
- Vibroacoustic diagnostics of machines and vehicles,
- Suspension dynamics,
- Application of numerical methods in the design and optimization of wheel units and the wheel-rail system,
- Application of magnetic diagnostic methods in transport,
- Design and management of logistic centres,
- Video detection of events in road traffic,
- Transport safety.

ACHIEVEMENTS

The number of the faculty's graduates has now passed 5000. Annually the faculty staff publish about 180 papers and conduct about 70 R&D projects and grants financed by the State Committee for Scientific Research, implementation and service projects. The Faculty holds 11 cyclical national and international conferences. A number of the Faculty members belong to home and foreign organizations (e.g. the PAN, International Institute of Acoustics and Vibration, Technical Committee of Standardisation). The faculty has been granted national and international authorizations for homologation research of vehicles adopted for gas fuels and certification of machines and vehicles for railway operation and maintenance. Furthermore, at the Railroad Transportation Department, the European Centre of Excellence "TRANSMEC" has been opened for rail transport.



UNITS



THE SILESIAN UNIVERSITY OF TECHNOLOGY

ENGINEERING EDUCATION CENTRE
FOREIGN LANGUAGES TEACHING CENTRE
SPORTS CENTRE
GEOMETRY AND ENGINEERING GRAPHICS CENTRE
CENTRAL LIBRARY
PUBLISHING HOUSE
COMPUTER CENTRE
RESEARCH CENTRE FOR TEACHING TECHNIQUES
CAREER GUIDANCE AND STUDENT PROMOTION CENTRE
EDUCATION AND CONGRESS CENTRE
STUDENT ORGANIZATIONS
ALUMNI ASSOCIATION



ENGINEERING EDUCATION CENTRE

The Engineering Education Centre in Rybnik was founded in 1962. Over the years it has undergone several transformations. Since 1994 it has functioned under the new name as a supporting unit. The Centre runs didactic, academic, research, laboratorial, economic and service activities. The didactic work is run by non-resident education centre of six faculties of the Silesian University of Technology. At present the Silesian University of Technology – Engineering Educational Centre in Rybnik runs full-time, evening and extramural BSc courses in the following engineering disciplines:

COURSES

FACULTY OF AUTOMATIC CONTROL, ELECTRONICS AND COMPUTER SCIENCE
COURSE IN: ■ **COMPUTER SCIENCE**

FACULTY OF CIVIL ENGINEERING
COURSE IN: ■ **CIVIL ENGINEERING**

WITH HONOURS IN: ■ City Engineering ■ Architectural Building

FACULTY OF ELECTRICAL ENGINEERING
COURSE IN: ■ **ELECTRICAL ENGINEERING**
WITH HONOURS IN: ■ Electrical Engineering ■ Computer Science in Electric Power

FACULTY OF MINING AND GEOLOGY
COURSE IN: ■ **MINING AND GEOLOGY**
WITH HONOURS IN: ■ Automatic control and power engineering in mining
■ Underground engineering and land surface protection
■ Mining of deposits and waste utilization
■ Mining and exploring geology
■ Environmental engineering in mining areas
■ Mining and drilling machines and equipment
■ Processing of solid materials and marketing

FACULTY OF ENERGY AND ENVIRONMENTAL ENGINEERING
COURSE IN: ■ **ENVIRONMENTAL ENGINEERING**
WITH HONOURS IN: ■ Municipal Energy Engineering
■ Industrial Energy Engineering

FACULTY OF ORGANIZATION AND MANAGEMENT
COURSE IN: ■ **MANAGEMENT AND MARKETING**
WITH HONOURS IN: ■ Enterprise management

COURSE IN: ■ **MANAGEMENT AND PRODUCTION ENGINEERING**
WITH HONOURS IN: ■ Management and Production Engineering



FOREIGN LANGUAGE TEACHING CENTRE

In the Autumn of 1945, simultaneously with the foundation of the Silesian University of Technology, the first team of lecturers of English and Russian languages was formed. In the following year it was enlarged by teachers of German and French. In 1952 the Ministry of Higher Education formed teaching units called Foreign Language Teaching Centre at all universities, what resulted in introducing organizational frames and first curricula. Having obtained the status of the independent unit FLTC started to build its didactic centre with the modern equipment and library.

At present FLTC runs courses for students of the Silesian University of Technology in the following languages (at all levels of mastery): English, German, French, Spanish, Italian, Russian and Polish for foreigners. The centre co-operates with different institutions promoting culture and language learning.

Since 2005 FLTC has become the licensed TELC Examination Centre and DELF Examination Centre. It is worth mentioning that the Centre publishes special materials for students as well as the didactic handbooks for teachers. The Centre's staff make a lot of translations for the University and local community needs.

Apart from the classes for full-time, evening and extramural students FLTC organizes language courses for the University staff at different levels of language mastery. Besides, there are specialist language courses preparing for international language certificates.

The Centre also conducts PhD language exams in English, German, French and Spanish as well as the ones connected with various requirements established by companies for getting a promotion and going abroad, and for students applying for student's placements abroad (IASTE, SOCRATES and others).

The Centre staff make a lot of simultaneous and conference translations during conferences, seminars and workshops organized at the University and during various official and unofficial meetings and debates with foreign partners of the University. They also translate several formal and official letters for the needs of the Foreign Cooperation Department, Rector's Office and individual Faculties. A great part of the activity consists of numerous translations of workers' research publications.

FLTC organizes biennial international methodology conference, workshops for language teachers and lecturers. Every year the English and German language competition for students of technical universities is held.



SPORTS CENTRE

In 2007 The Silesian University of Technology was classified on the first place in the ranking of most sporting universities.

The Sports Centre at The Silesian University of Technology was established in 1992. It manages the following sports facilities: a sports hall with 1000 seats, a new sports hall with 500 seats, three gymnasiums, a judo hall, a basketball court, the ice-skating rink "Tafla", 20th anniversary Stadium, three saunas, eight tennis courts, three beach volleyball courts and two streetball courts.

In total 6,000 students from ten faculties of The Silesian University of Technology attend the physical training classes. They are allowed to choose from the following sports: basketball, volleyball, table tennis, bodybuilding, aerobics, judo (self defence), figure skating swimming, athletics, beach volleyball, tennis and streetball (in spring and summer). The Silesian University of Technology is the only university in Poland where students can practise curling in their physical training classes.

The Sports Centre runs twenty sports sections which can be attended by those students who have inclinations to practise sports and represent The Silesian University of Technology in the following competitions: Championships of Polish Universities, Championships of Polish Technical Universities, Silesian Academic Championships, Championships of Intercollegiate League Masters. The Sports Centre also organizes sports camps and the teachers carry out researches on students' fitness, physical agility, body coordination and somatic build.

The Sports Centre organizes a number of sports events both competitive and recreational. Some cultural and social events also take place in The Sports Centre.

Apart from the students also university staff and the citizens of Gliwice (especially the young ones) can use the facilities of The Sports Centre.

The Sports Centre contributes a lot to the development of competitive sports in cooperation with Academic Sports Association Club called AZS.

GEOMETRY AND ENGINEERING GRAPHICS CENTRE

The Centre was founded simultaneously with its parent university and started its teaching activity in October 1945 under the name of The Department of Descriptive Geometry. The Department of Descriptive Geometry operated within The Faculty of Civil Engineering for many years and then in 1969 became a part of The Faculty of Mathematics and Physics. It took its final form in 1995 becoming an interfaculty unit and bearing its current name.

In 1994 Prof. Palej initiated The Polish Society of Geometry and Engineering Graphics based in the Centre, where the Society's Bulletin is also published.

The Centre of Geometry and Engineering Graphics is an interfaculty unit of The Silesian University of Technology and carries out both scientific and educational activities. The educational activity provided for students of various faculties covers a wide range of subjects including geometric representation, teaching methodology and computer graphics. The Educational Audio-Visual Laboratory and the Educational Computer Laboratories support teaching.

The scientific activity of the Centre involves researching and creating new methods of repre-

sentation as well as their application in engineering practice and methodology.

THE MAIN FIELDS OF RESEARCH

The issues of geometry are extensively connected with architecture, mechanics, mining, geology, civil engineering, etc. The following ones are of considerable importance:

- numerical geometry,
- geometry of buildings,
- synthetic geometry,
- geometrical aspects of CAD CAM systems,
- geometrical aspects of vision systems,
- geometrical aspects connected with aesthetics,
- computer graphics,
- history of geometry,
- representation of three-dimensional space and its restitution,
- restitution of space,
- expert systems connected with occupational health and safety,
- visualization and computer animation.

CENTRAL LIBRARY

The Central Library of the Silesian University of Technology of Gliwice, together with the two subsidiaries in Katowice and Rybnik as well as 64 institute libraries, make up a unified library and information system.

Thematic range of the collection includes science disciplines consistent with education profile, i.e. automatic control, architecture, civil engineering, chemistry, economics, electrotechnics, electronics, power engineering, physics, mining and geology, computer science, material science, environmental

engineering, mathematics, mechanics, metallurgy, transport and management.

The Library collection has totally 792.187 volumes and inventory units of books and periodicals and a special collection (mainly descriptions of patents, standards and company catalogues). This is the biggest scientific and technical book collection open to a general public in Upper Silesia.

The Library has 9 services of electronic periodicals and 10 databases available on-line. It offers the access to 20 national and foreign bases on CD-ROM carriers.

There are 24.391 registered readers. The on-line catalogue makes it possible to search for and order books from one's own terminal. The database includes the whole didactic book collection (scripts, textbooks) for students, and since January 1994, all foreign books bought by institute libraries of the University.



PUBLISHING HOUSE

In 1961 a publishing unit was started whose aim was to propagate research and educational achievements of the University staff.

Since 1969 the modest section transformed into the Publishing Department of the University co-operating with the Committee of Publishing Houses and editor's offices of all departments. Professional language and technical editors were employed. They were to take care of proper language and graphical form of publications.

In 1990 the Publish Department was re-named into the Publishing House of The Silesian University of Technology and has existed in that form up till now.

Nowadays about 1800 sheets (about 135 publications) are edited annually, which makes our Publishing House one of the leading university publishers in Poland.

Among books published here there are handbooks, scripts, monographs and popularized scientific papers that attract most of readers attention.

The Publishing House takes part in all significant book fairs both in Poland and abroad. In the course of all these years it has been often awarded for its editorial achievements, acknowledged both in Poland and abroad. It has become the University token of publishing success.



COMPUTER CENTRE

The Computer Centre was established in 1993. It replaced the Centre of Electronic Analytic Techniques.

The main function of the Computer Centre is a 24 hour analytical network service for the Silesian University of Technology. It includes running the skeleton network (network management, equipment conservation, configuration), administration of IP address domains (address assignment, maintenance of the university's DNS server), maintenance of the university's WWW, FTP, NEWS servers and of electronic mail. Particularly important is also security assurance of system functioning.



The Computer Centre also functions as a helpdesk-centre for technical support, purchase coordination of computer equipment and software (SELECT), coordination of connecting and maintaining network in dormitories, maintenance of database servers, e-learning servers and also directory service, certificate and mail servers.

The main server is currently used by over 20 000 students and University staff, and the University's WWW Information Service is a priceless source of information about the University.

The Computer Centre is also responsible for the building and operating of the Silesian Academic Computer Network ŠASK, which provides service to all academies and science institutes in the Silesian area.

RESEARCH CENTRE FOR TEACHING TECHNIQUES

The Research Centre for Teaching Techniques is an interfaculty unit created in 1991 after the Centre for Pedagogical Improvement and the Centre for New Teaching Techniques had been combined together to improve teaching and technical service for the University.

The objectives involve the preparation of young academic teachers for the work with students, assistance in the acquisition and arrangement of teaching aids. These activities are supported by the research into the factors contributing to the efficiency of teaching and the dissemination of the results in publications such as reports and conference papers.

The Centre runs the Facultative Teacher Training College as well, which gives to the students of all the faculties an opportunity to obtain pedagogical qualifications. For the Faculties, the Centre offers classes in psychological and pedagogical subjects.



The Centre also leads upgrading qualification courses for uncertified teachers of engineering subjects in secondary schools.

The Centre co-operates with technical universities, the Regional Centre of Methodology in Katowice and secondary schools in our region.

The Centre is equipped with a pedagogical library. Additionally, it subscribes to pedagogical magazines, collects video materials and computer programs and other modern teaching aids.





STUDENT CAREERS CENTRE

The main target of Student Careers Centre is to prepare and promote students and graduates of the Silesian University of Technology and other universities on the employment market, as well as to help them find job vacancies and offers that match their abilities, needs and expectations.

The Centre is responsible for the following activities:

- advising and assisting students in the identification of personal skills and capabilities required for certain professions and possible future career opportunities;
- collecting information on home and foreign employers that may offer jobs to graduates of different technical faculties;

- arranging meetings and fairs with home and foreign employers, organizing presentations of companies and requirements that future employees have to meet (some companies offer students internships and training that help them to decide about the future profession or write their MSc theses);
- arranging trainings, seminars, conferences and employee assemblies.

The Centre collaborates with the University authorities, representatives of the Faculties, student organizations, district and regional employment offices and social and economic organizations.



EDUCATION AND CONGRESS CENTRE

The Education and Congress Centre of the Silesian University of Technology is an excellent place for organizing various conferences, celebrations and scientific meetings because of its central location and high-class equipment. During an academic year, its rooms are used for didactic purposes.

The Education and Congress Centre is equipped with ten rooms, as follows:

- an amphitheatrical congress room with 476 seats,
- a conference room with 250 seats,
- three seminar rooms with 120 seats each,
- five laboratory rooms with 30 computer stands each.

Thanks to the equipment in all rooms, there is a possibility of delivering lectures and multiple presentations using materials created on a computer, S-VHS cassette, CD or DVD. It is also possible to present materials prepared on a piece of paper, slides or any three-dimensional object by using a visual device. The two biggest rooms are equipped with interactive whiteboards, allowing simultaneously to project the notes on a screen and to archive them. That solution enables to print notes later on and to send them by e-mail to participants.

To organize international events, the biggest congress room is equipped with digital system for simultaneous translations into four languages. There is also the possibility of organizing a long-distance video conference with the use of ISDN telephone lines. Wireless central control system helps to operate all devices in every room in a very easy way.

The Education and Congress Centre of the Silesian University of Technology is fully air-conditioned and equipped with free-for-all Internet connection. Usable floor of the building amounts to over 6.000 square meters and it mainly consists of ten rooms, a cafeteria, a cloak-room and spacious halls, which could be successfully used for exhibition, reception or catering purposes.



STUDENT ORGANIZATIONS

There are many student organizations active at the Silesian University of Technology.

The Students Self-Government is the only representative body of the whole student community which promotes culture, science and tourism. The Students Self-Government stands up for the student rights and in cooperation with University authorities decides about vital student interests.

The Independent Students Association and the Polish Students Association spur the social involvement of students and their participation in cultural events.

There are other active student organizations at the University that enable students to learn about employment prospects and industrial placement

opportunities all over the world: ■ AEGEE – European Students Forum in Gliwice, ■ Students Organization Best Gliwice, ■ IAESTE – Exchange of Students for Technical Experience.

Academic Tourist Club (AKT) "Watra" is a general tourist club which organizes hikes, winter camps, canoeing trips, bicycle excursions, cave exploration and rock climbing trips. Water sports fans can choose between Academic Scuba diving Club "Kalmar" and Silesian Yacht Club (SYC).

Students interested in sport can join Academic Sport Union (AZS) acting at the Silesian University of Technology. Presently there are about 600 people training at university AZS.

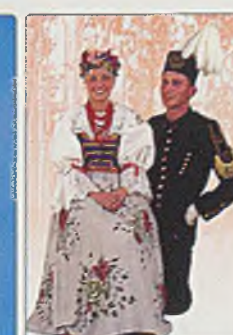
Students interested in music and dance can assess their abilities coming to the rehearsals of Academic Musical Ensemble, Academic Choir and Academic Folk Ensemble "Dąbrowiaczy".

There are also numerous scientific societies active at the Silesian University of Technology, for example Electronics Students Scientific Society, Mathematics Students Scientific Society, Sociology Students Scientific Society "Socius", Students Scientific Society "Fryszernia", Students Scientific Society "Geotourist", Safety Management Students Society "Westa", Students Scientific Society "Linux" and Free Software Society at the Silesian University

of Technology, European Logistics Society "FENIKS".

The religious associations which act at the university are Christian Students Association and Academic Catholic Union "Communio".

Other organizations include Academic Short-Wave Transmitter Club, Academic Antique Motorbike Club "Cyklop", Students Club of the Beskid Mountains Guides, Independent Student Association NZS, Students Radio and Association STG at the Silesian University of Technology.



INFORMATION

THE SILESIA UNIVERSITY OF TECHNOLOGY

ACADEMIC CAMPUS MAP

ADDRESSES

ALUMNI ASSOCIATION

The origin of the Alumni Association goes back to 1956. The Association procures graduates corporate body together with physical persons united by the main goal defined by the Statute of Association.

The main objective of the Alumni Association is to unite all graduates of the Silesian University of Technology, by sustaining the links between them and University authorities, systematic co-operation in technical sciences, teaching, professional training and supporting fresh university graduates entering their professional careers. Nowadays the number of ordinary members amounts to over 12 thousand people including 43 honourable members. The Association has 13 faculty sections at all the Faculties and one Club having the rights of such a section.



ACADEMIC CAMPUS MAP



KEY

- 1 – Rector's Office
- 2 – Education and Congress Centre
- 3 – Central Library
- 4 – Sports Centre
- 5 – Graphics Centre
- 6 – Canteen
- 7 – Student hostels
- 8 – The "X" Cinema & Theatre,
"Spirala" Student Club

- RAr – The Faculty of Architecture
- RAu – The Faculty of Automatic Control,
Electronics and Computer Science
- RB – The Faculty of Civil Engineering
- RCh – The Faculty of Chemistry
- RE – The Faculty of Electrical Engineering
- RG – The Faculty of Mining and Geology
- RIE – The Faculty of Energy
and Environmental Engineering
- RMF – The Faculty of Mathematics and Physics
- RMT – The Faculty of Mechanical
Engineering

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CONTENTS

5 RECTOR'S WORDS OF INTRODUCTION

7 THE SILESIAN UNIVERSITY OF TECHNOLOGY – PAST AND PRESENT

- 8 HISTORICAL BACKGROUND
- 10 LOCATION
- 11 STRUCTURE
- 12 FACULTIES
- 12 UNITS
- 13 RESEARCH AND TEACHING
- 15 STUDENT ORGANIZATIONS
- 15 WHY SHOULD YOU STUDY HERE?

17 FACULTIES

- 18 FACULTY OF ARCHITECTURE
- 22 FACULTY OF AUTOMATIC CONTROL, ELECTRONICS
AND COMPUTER SCIENCE
- 26 FACULTY OF CIVIL ENGINEERING
- 30 FACULTY OF CHEMISTRY
- 34 FACULTY OF ELECTRICAL ENGINEERING
- 38 FACULTY OF MINING AND GEOLOGY
- 42 FACULTY OF MATERIALS SCIENCE AND METALLURGY
- 46 FACULTY OF ENERGY AND ENVIRONMENTAL ENGINEERING
- 50 FACULTY OF MATHEMATICS AND PHYSICS
- 54 FACULTY OF MECHANICAL ENGINEERING
- 58 FACULTY OF ORGANIZATION AND MANAGEMENT
- 62 FACULTY OF TRANSPORT

67 UNITS

- 68 ENGINEERING EDUCATION CENTRE
- 69 FOREIGN LANGUAGES TEACHING CENTRE
- 70 SPORTS CENTRE
- 71 GEOMETRY AND ENGINEERING GRAPHICS CENTRE
- 72 CENTRAL LIBRARY
- 73 PUBLISHING HOUSE
- 74 COMPUTER CENTRE
- 75 RESEARCH CENTRE FOR TEACHING TECHNIQUES
- 76 CAREER GUIDANCE AND STUDENT PROMOTION CENTRE
- 77 EDUCATION AND CONGRESS CENTRE
- 78 STUDENT ORGANIZATIONS
- 80 ALUMNI ASSOCIATION

81 ADDRESSES

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