CRACOW UNIVERSITY OF TECHNOLOGY

CONTENTS

Rector Prof. Dr Józef Nizioł

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CRACOW UNIVERSITY OF TECHNOLOGY - TRADITION AND THE PRESENT

THE IDEA TO FOUND CRACOW UNIVERSITY OF TECHNOLOGY WAS INITIATED AT THE ACADEMY OF MINING AND THE ACADEMY OF FINE ARTS IN CRACOW AS EARLY AS INTERWAR PERIOD. THE INSPIRING ROLE SHOULD BE ATTRIBUTED TO THE FUTURE PROMOTER OF THE SCHOOL - PROF. IZYDOR STELLA-SAWICKI, HEAD OF THE SECTION OF BUILDING AND ENGINEERING FOUNDED IN THE EARLY YEARS OF THE MINING ACADEMY (ESTABLISHED IN 1919). IN THE YEARS 1922-23, WHEN PROF. ADOLF SZYSZKO-BOHUSZ WAS RECTOR OF THE ACADEMY OF FINE ARTS, THE STRUCTURE OF THE ACADEMY INCLUDED DEPARTMENT OF ARCHITECTURE, ON THE PREMISES OF WAWEL CASTLE. THE ARCHITECTURAL SPECIALIZATION, CLOSER TO THE EDUCATION OF AN ARTS SCHOOL, COULD BE PROFILED TOWARDS TECHNICAL SCIENCES AT THE TECHNICAL UNIVERSITY OF LVOV.

THE ACTIVITIES TO CREATE A TECHNICAL UNIVERSITY IN CRACOW WERE ACTUALLY UNDERTAKEN ONLY IN 1945. THE 9 YEAR STATE OF ENTANGLEMENT CRACOW UNIVERSITY OF TECHNOLOGY HAD TO GO TROUGH FROM EARLY 1945 TO BEING GRANTED LEGAL STATUS OF AN AUTONOMOUS SCHOOL WAS MAINLY CAUSED BY THE POLITICAL REALITIES OF THE POST-WAR PERIOD. TOWARDS THE END OF 1945 PROF. WALERY GOETEL, RECTOR OF THE MINING ACADEMY, OBTAINED A FORMAL AGREEMENT TO EXPAND THE SCHOOL AND CREATE POLYTECHNIC DEPARTMENTS: ARCHITECTURE (WITH THE FORMER SEAT ON WAWEL), CIVIL ENGINEERING, WATER ENGINEERING,

SURVEYING ENGINEERING WITH A COMMUNICATION SECTION AND FORESTRY DEPARTMENT. THE FUNCTION OF PRO-RECTOR FOR THE POLYTECHNIC DEPARTMENTS WAS ASSIGNED TO PROF. IZYDOR STELLA-SAWICKI. THE DOCUMENT AUTHORIZING LEGAL ACTIVITY OF DEPARTMENTS OF ARCHITECTURE, ENGINEERING AND COMMUNICATION OF THE MINING ACADEMY WAS SIGNED ON OCTOBER 6, 1946 (THIS DATE IS IDENTIFIED AS THE DATE OF FOUNDATION OF CRACOW UNIVERSITY OF TECHNOLOGY) WITH RETROACTIVE LEGAL VALIDITY SINCE APRIL 1, 1945.
THE POLYTECHNIC DEPARTMENTS FORMALLY SUBMITTED TO THE MINING ACADEMY WERE IN FACT, AS AN INSTITUTION, COMPLETELY SEPARATE - WITH THEIR OWN SENATE, PRO-RECTOR FOR THE DEPARTMENTS, ADMINISTRATION, AND SINCE 1948 THEIR OWN PRECINCTS IN WARSZAWSKA STREET.

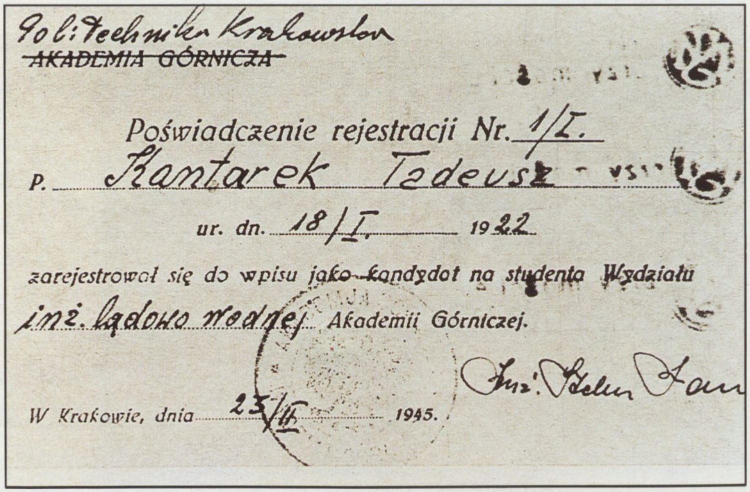
THE IDEA TO SEPARATE THE POLYTECHNIC DEPARTMENTS FROM THE ACADEMY WAS FIRST LAUNCHED BY PROF. LUDOMIR ŚLEŃDZIŃSKI, PRO-RECTOR, DURING THE SENATE MEETING IN NOVEMBER 1948. HOWEVER, THE DECISION OF FORMAL AUTONOMY OF THE UNIVERSITY WAS PRONOUNCED ONLY ON JULY 7, 1954. BY THIS DECISION CRACOW UNIVERSITY OF TECHNOLOGY WITH DEPARTMENTS OF ARCHITECTURE, CIVIL ENGINEERING, WATER ENGINEERING AND MECHANICS WAS FOUNDED. IN 1966 DEPARTMENT OF CHEMISTRY AND IN 1975 DEPARTMENT OF TRANSPORT WERE FORMED.

THE DEVELOPMENT OF NEW FIELDS OF SCIENTIFIC RESEARCH AND TEACHING DONE AT THE UNIVERSITY HAS LED - AT VARIOUS PERIODS OF TIME - TO SOME NECESSARY CHANGES IN THE DEPARTMENTS FORMAT. AT PRESENT AT CRACOW UNIVERSITY OF TECHNOLOGY THEREE ARE: DEPARTMENT OF ARCHITECTURE, DEPARTMENT OF CIVIL ENGINEERING, DEPARTMENT OF CHEMICAL ENGINEERING AND TECHNOLOGY, DEPARTMENT OF SANITARY AND WATER ENGINEERING, DEPARTMENT OF ELECTRICAL ENGINEERING AND DEPARTMENT OF MECHANICAL ENGINEERING.

THE TRADITIONAL DIVISION OF UNIVERSITY SCHOOLS IN POLAND INTO CHAIRS WAS REPLACED IN 1970 BY DIVISION INTO INSTITUTES. AFTER THE REORGANIZATION, AT CUT THERE WERE 29 INSTITUTES, THEREE OF WHICH ARE INTER-DEPARTMENTAL. AT PRESENT, FOLLOWING THE PRINCIPLES OF THE HIGHER EDUCATION STATUTE, CHAIRS TAKE BACK THEIR PLACE IN THE STRUCTURE, HOWEVER IN MOST CASES THE ADMINISTRATIVE FUNCTION OF INSTITUTES HAS BEEN PRESERVED.

SINCE 1948 THE MAIN PRECINCTS OF CUT HAVE BEEN LOCATED IN THE MODERNIZED AND EXPANDED COMPLEX OF BUILDINGS OF FORMER MILITARY BARRACKS. AS A RESULT OF PARTLY EXECUTED PLAN OF SCHOOL'S EXTENSION IN CZYŻYNY (A DISTRICT IN CRACOW), THERE HAS BEEN ADDED TO THE PRECINCTS A MODERN BUILDING OF DEPARTMENT OF MECHANICAL ENGINEERING WITH LABORATORY FACILITIES AND FOUR LARGE HALLS OF RESIDENCE FOR STUDENTS.

IN 1976 THE 30TH ANNIVERSARY OF CUT WAS CELEBRATED. ON THIS OCCASION THE SCHOOL WAS GIVEN THE NAME OF TADEUSZ KOŚCIUSZKO. THE CHOICE OF THE GREAT POLE AS A PATRON, THROUGH HIS NUMEROUS ACHIEVEMENTS AS A LEADER-HERO, POLITICIAN, ORGANIZER AND ENGINEER - REFLECTS THE ASPIRATIONS OF THE SCHOOL. DESPITE ITS 47TH ANNIVERSARY TODAY, CUT'S TRADITION GOES MUCH DEEPER. BECAUSE OF THE POST-WAR REALITIES, THE PEOPLE WHO CREATED THE UNIVERSITY AND WORKED HERE AT THE VERY START WERE PROFESSORS OF TECHNICAL UNIVERSITY OF LVOV WHO STAYED IN POLAND, PROFESSORS OF WARSAW TECHNICAL UNIVERSITY, JAGIELLONIAN UNIVERSITY AND MINING ACADEMY. THANKS TO THEIR ACTIVITIES AND INVOLVEMENT THE NEWLY CREATED CUT COULD CONTINUE THE TRADITIONS OF THE ALREADY RENOWNED SCHOOLS.


Politechnika Krakowska
~~AKADEMIA GÓRNICZA~~

Poświadczenie rejestracji Nr. 1/I.

P. Kantarek Tadeusz

ur. dn. 18/I. 1922

zarejestrował się do wpisu jako kandydat na studenta Wydziału inż. lądowo wodnej Akademii Górniczej.

W Krakowie, dnia 23/II. 1945.

The first student

AT PRESENT CUT'S RESEARCH STAFF IS 1016 PEOPLE INCLUDING 154 PROFESSORS AND ASSOCIATE PROFESSORS. FROM AMONG THE OTHER 1434 EMPLOYEES, 464 PERSONS ARE ENGINEERING-TECHNICAL STAFF.

THE STUDENT POPULATION AT THE SIX DEPARTMENTS IS NEARLY 5300 STUDENTS, WHICH NUMBER INCLUDES OVER 1700 FIRST YEAR STUDENTS. DURING THE LAST ACADEMIC YEAR 1991/92 430 STUDENTS GRADUATED FROM THE UNIVERSITY.

Pro-rector Prof. Dr Zenon Waszczyszyn

Pro-rector Prof. Dr Jan Ryś

Pro-rector Prof. Dr Władysław Ziobroń

"Cantata" - the University choir

COOPERATION WITH FOREIGN COUNTRIES

Cracow University of Technology is actively involved in scientific cooperation with many countries. This cooperation covers the exchange of information and materials, joint research programmes and exchange of staff and students, preparation of diploma works, short and long term training for students, post-graduate students and young scientists This cooperation is based on formal agreements with the following partners:

- Technical University Budapest (Hungary)
- Technical University Miskolc (Hungary)
- Technical University Berlin (Germany)
- Technical University Chemnitz (Germany)
- University Blaise Pascal - Clermont Ferrand (France)
- Rijkshogeschool - Groningen (Holland)
- University at Austin (Texas, USA)
- Technical University Lvov (Ukraina)
- Ivanovo Chemical-Technological Institute (Russia)
- Engineering-Building Institute (St. Petersburg)

CUT has also several very close although not formal agreements with:

- Delft University of Technology (Holland)
- Technical University in Kosice (Slovakia)
- Technical University in Stuttgart (Germany)
- University in Liege (Belgium)

Under TEMPUS programme CUT is at present involved in 13 Joint European Projects. These projects join several institutions from all over Europe and are designed to develop education in Europe and promote exchange of students and academic staff.

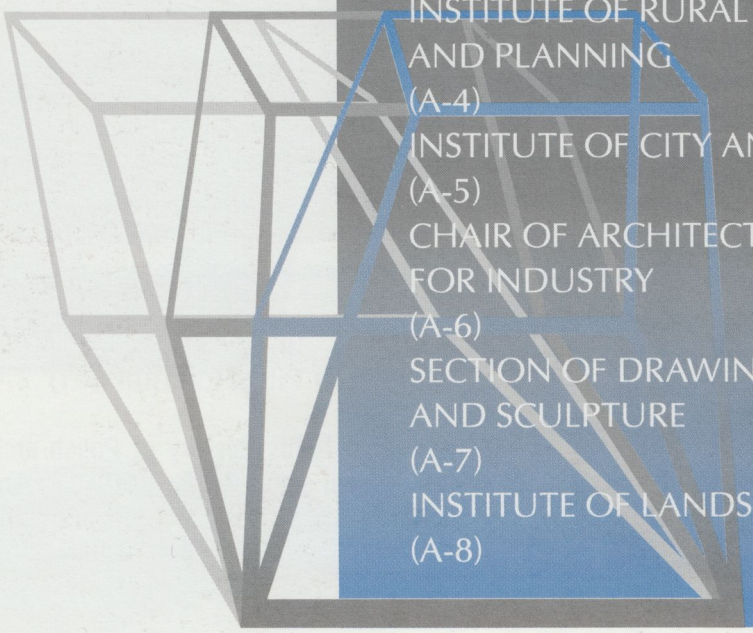
COOPERATION WITH INDUSTRY

As a technical school, Cracow University of Technology has had numerous bilateral agreements with industry. Due to the events of recent years, including the economic depression we are going through now, the number of these contracts has declined. They are still maintained in the area of consultancy and expert reports, research work on implementation of prototype solutions, modernization of equipment and objects and other R & D projects as well as participation in engineering associations.

In 1991 the works done within contracts brought the turnover of about $ 1.2 mln. These contracts covered: investigation of effective heat pumps, application of new technologies for ashes from fluidized beds, evaluation of transportation caused vibration of buildings, sewage and industrial waste treatment, modernization and expansion of public utility buildings, assistance in implementation of patents and licensing contracts in the field of, for example, storage reservoirs, so important in environment protection.

Scientists and research staff of our school take active part in various research councils and committees of the city of Cracow and the southern districts of Poland mainly in the field of protection of natural environment and national cultural heritage. Some of more interesting projects include studies on cooperation with border countries, renovation of historical buildings and reconstruction of engineering industry. A spectacular example is our participation in the salvage operation in the Wieliczka salt mine.

INSTITUTE OF HISTORY OF ARCHITECTURE
AND MONUMENT PRESERVATION
(A-1)
INSTITUTE OF ARCHITECTURAL DESIGN
(A-2)
INSTITUTE OF URBAN DESIGN
(A-3)
INSTITUTE OF RURAL ARCHITECTURE
AND PLANNING
(A-4)
INSTITUTE OF CITY AND REGIONAL DESIGN
(A-5)
CHAIR OF ARCHITECTURAL DESIGN
FOR INDUSTRY
(A-6)
SECTION OF DRAWING, PAINTING
AND SCULPTURE
(A-7)
INSTITUTE OF LANDSCAPE ARCHITECTURE
(A-8)



DEPARTMENT OF ARCHITECTURE

Degree courses and specializations:
Department of Architecture programme encompasses a broad range of disciplines within the field of architecture and urbanism. Thus: history of world and Polish architecture, urbanism and art, historic preservation and monument revitalization design; architecture of residential and public buildings, regional architecture, architecture for industry, building structures and urban design for housing, facility centres and city centre areas, urban renewal; physical and regional planning, environment protection, town planning and city design; landscape architecture; architecture and planning in rural areas; building systems and materials.

Main research fields:
Design for housing - looking for new models and experimental housing units; ecological problems in urban design in central and residential districts; urban renewal and development; landscape architecture with restoration of historic parks and gardens.

Faculty and research staff:
175 employees, including 20 professors, one member of the Polish Academy of Sciences, and of the Polish Academy of Sciences and Letters, 6 associate professors, 74 assistant professors.

Number of students:
750, first year enrollment approximately 180.

Institute of History of Architecture and Monument Preservation, Kanonicza street

INSTITUTE OF HISTORY OF ARCHITECTURE AND MONUMENT PRESERVATION (A-1)

Research fields: history of Polish architecture and historic preservation; history of world architecture, urbanism and art; history of 19th and 20th c. architecture; modernization and reconstruction of monumental structures, history of monument preservation; research on theory, methodology and practice in historic preservation; studies on adaptation of monumental structures complexes (methods and means of preservation specifically in Cracow and region of Małopolska).

The Institute is composed of:
Chair of History of Architecture and Monument Preservation (A-11)
Section of History of World Architecture, Urbanism and Art (A-12)
Section of History and Revitalization of the 19th and 20th c. Architecture (A-13)

Section of History and Revitalization of 19th and 20th c Architecture - teaching staff

INSTITUTE OF ARCHITECTURAL DESIGN (A-2)

Programming and designing of housing buildings and complexes (new and modernized): public buildings (culture and art, administration, education, retail and facilities, recreation, sport, tourism and leisure, specifically in Cracow and Małopolska); studies on construction industry, design methodology, designing of finishing; technical methods of preservation and modernization with emphasis on monumental structures.

The Institute is composed of:
Chair of Housing (A-21)
Section of Public Buildings Design (A-22)
Chair of Regional Architecture (A-23)
Section of Building Structures (A-24)

INSTITUTE OF URBAN DESIGN (A-3)

Research fields: urban and architectural design of family and multifamily residential complexes; intense forms of housing systems; ecological problems in housing environment design; theory and practical problems of urban renewal and development; theory and design of educational complexes; design of facility centres and city centre areas.

The Institute is composed of:
Chair of Urban Composition (A-31)
Section of Housing Environment (A-32)
Section of Urban Renewal and Development (A-33)

INSTITUTE OF RURAL ARCHITECTURE AND PLANNING (A-4)

Research fields: development of construction and settlements in rural areas; architectural design in rural areas: residential and farm buildings, facilities and rural industry complexes; physical planning of settlement systems and agricultural areas; design of local government and facility centres; influence of industry and recreation on rural settlements transformation; studies on traditional wooden construction, materials and building systems in contemporary construction; monumental building systems - wooden and masonry.

The Institute is composed of:
Chair of Rural Architecture and Planning (A-41)
Section of Building Systems and Materials (A-42)

Student seminar

INSTITUTE OF CITY AND REGIONAL DESIGN (A-5)

Research fields: problems of composition in towns and urbanized areas; spatial aspects of city and regional design; programmatical, functional and compositional problems in design of city areas and facility centres; planning of resort areas; ecological problems of towns and urbanized areas.

The Institute is composed of:
Section of City Design (A-51)
Section of Physical Planning and Environment Protection (A-52)
Section of Regional Planning (A-53)

CHAIR OF ARCHITECTURAL DESIGN FOR INDUSTRY (A-6)

Research fields: architectural design, industrial buildings design, theory of architecture.

Drawing studio

Faculty of Institute of Landscape Architecture

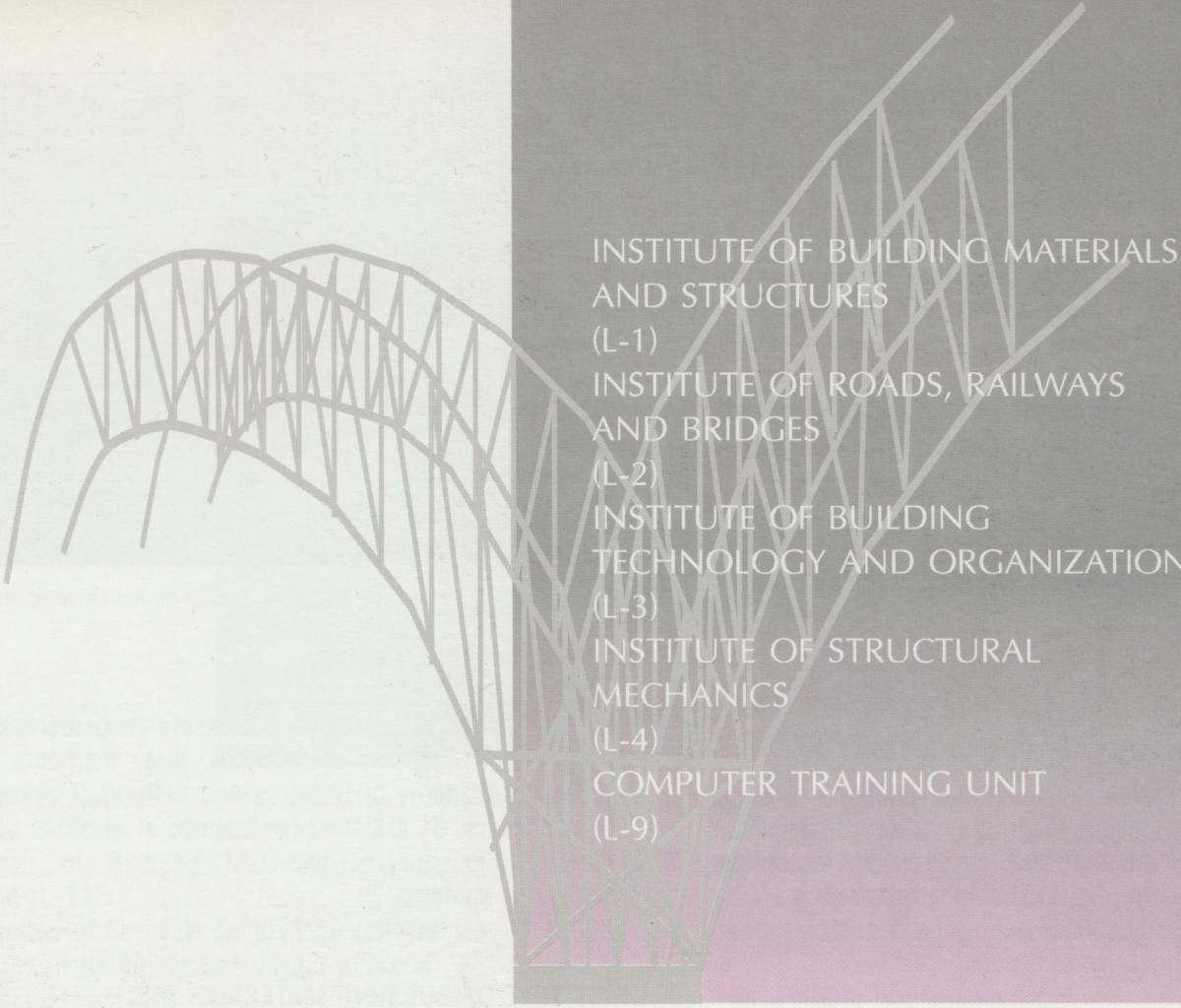
SECTION OF DRAWING, PAINTING AND SCULPTURE (A-7)

Teaching areas: architectural drawing; fine arts in architecture; individual activities in art.

INSTITUTE OF LANDSCAPE ARCHITECTURE (A-8)

Research fields: natural landscape and engineering structures; art of gardens and green areas; landscape of urban and suburban areas.

The Institute is composed of:
Section of Natural Landscape and Engineering Structures (A-81)
Section of Urban Landscape (A-82)
Section of Parks and Gardens (A-83)



INSTITUTE OF BUILDING MATERIALS
AND STRUCTURES
(L-1)
INSTITUTE OF ROADS, RAILWAYS
AND BRIDGES
(L-2)
INSTITUTE OF BUILDING
TECHNOLOGY AND ORGANIZATION
(L-3)
INSTITUTE OF STRUCTURAL
MECHANICS
(L-4)
COMPUTER TRAINING UNIT
(L-9)

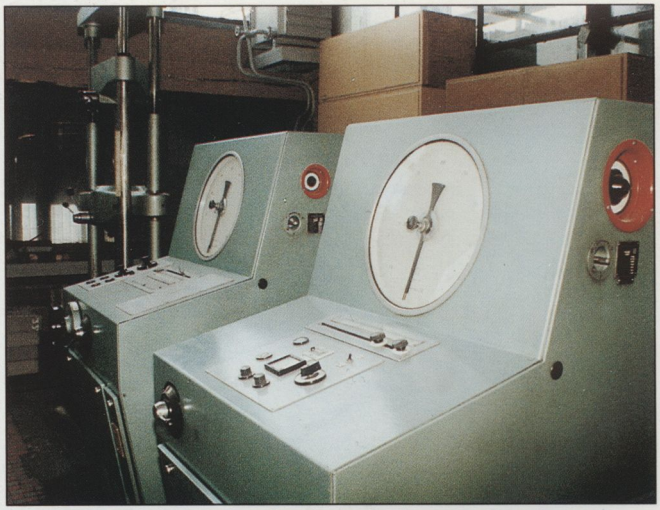
DEPARTMENT OF CIVIL ENGINEERING

Degree courses and specializations:

The teaching covers the following branches of civil engineering: building structures, building technology and organization, streets and roads, railway lines, computational mechanics, theory of structural mechanics.
D.Sc. courses: structural mechanics, building materials and structures, railway and road construction, building technology and organization. Post-graduate courses: building materials and structures, traffic engineering, upgrading in reconstruction and maintenance of buildings.
Evening studies: building structures, building technology and organization, roads and streets.

Main research fields:

Solid mechanics: theory of structures (statics, dynamics, stability), experimental methods, numerical analysis and optimization; design theories and structural reliability; reinforced concrete and prestressed structures; steel structures; bridges; industrial structures; building materials technology, building physics; traffic engineering; building technology and management.



ZD-40 pulsator - device for dynamic tests

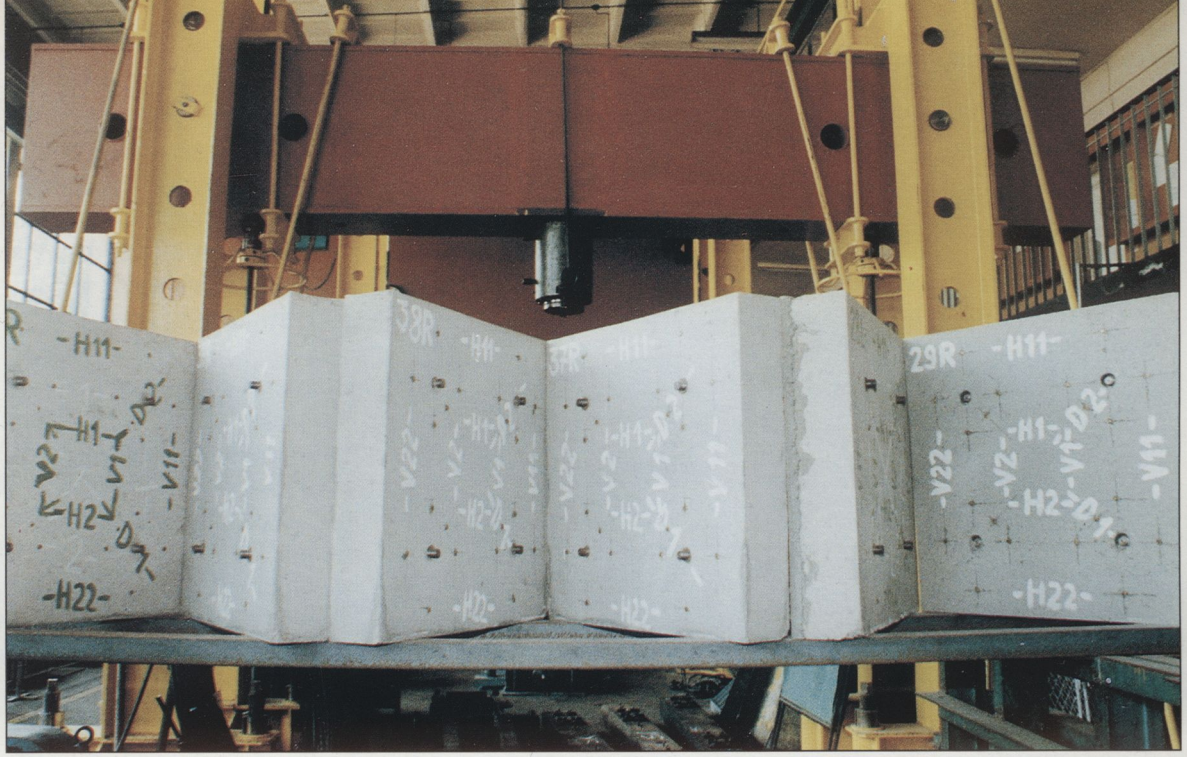
Faculty and research staff:

115 employees, including 31 professors (two members of the Polish Academy of Sciences, three members of the Polish Academy of Sciences and Letters), 7 associate professors, 61 assistant professors.

Number of students:
1280, first year enrollment: 276

INSTITUTE OF BUILDING MATERIALS AND STRUCTURES (L-1)

Research fields: concrete and other building materials, service life of engineering materials and structures, environment protection, reinforcement and reconstruction of existing structures and buildings, prefabrication technology, technology of reinforced prestressed concrete structures, composite structures, probabilistic design methods, steel structures, theory of design of bridges and tunnels, energy-saving buildings design, non-conventional energy sources for building heating.



Tests in air washer

The Institute is composed of:
Chair of Building Materials and Structure Protection (L-11)
Section of Concrete Technology (L-12)
Chair of Reliability and Design of Metal Structures (L-13)
Section of Prestressed Structures (L-14)
Chair of Reinforced Concrete Structures (L-15)
Section of Bridges and Tunnels (L-16)
Chair of Steel Structures and Welding (L-17)
Section of Civil and Industrial Structures (L-18)

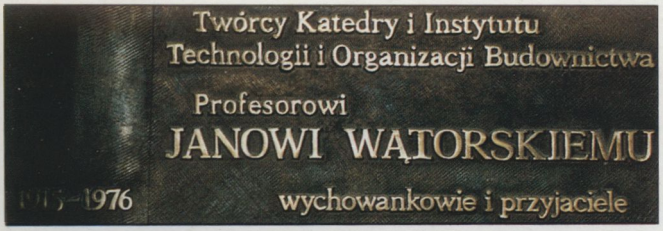
INSTITUTE OF ROADS, RAILWAYS AND BRIDGES (L-2)

Research fields: road and intersection design; pavement technology and design; transport system planning; traffic and municipal transport modelling, simulation and management; highway and railway computer design; effects of roads and traffic on environment; railway track reliability; railway modernization, maintenance and renewal; railway optimization and technology.

The Institute is composed of:
Chair of Road and Traffic Engineering (L-21)
Section of Railway Track Engineering (L-22)
Section of Transport Systems (L-23)

INSTITUTE OF BUILDING TECHNOLOGY AND ORGANIZATION (L-3)

Research fields: systems of new building technologies; project planning; building economics and organization; construction management; cost estimation and control; ergonomics; mechanization of building works; technol-



ogy and organization of repair and modernization works.

The Institute is composed of:
Section of Building Organization and Economics (L-31)
Chair of Building Technology (L-32)
Section of Building Management (L-33)

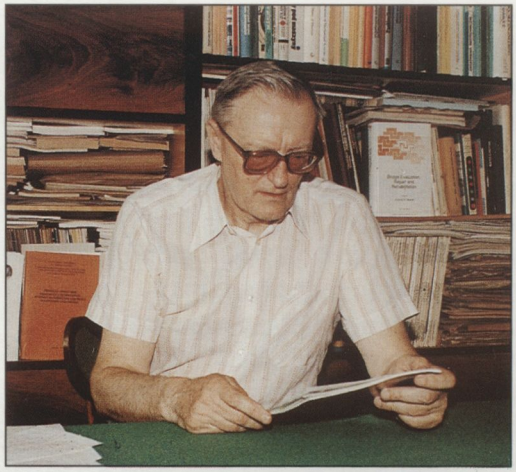
INSTITUTE OF STRUCTURAL MECHANICS (L-4)

Research fields: solid mechanics; mechanics of porous media; structures in creep conditions; damage mechanics; structure sensitivity and optimization; design of tall structures and machine foundations; structural identification and dynamic diagnostics; seismic and para-seismic effects on structures; theory of structural stability; numerical analysis of structures; FEM in the analysis of structures.

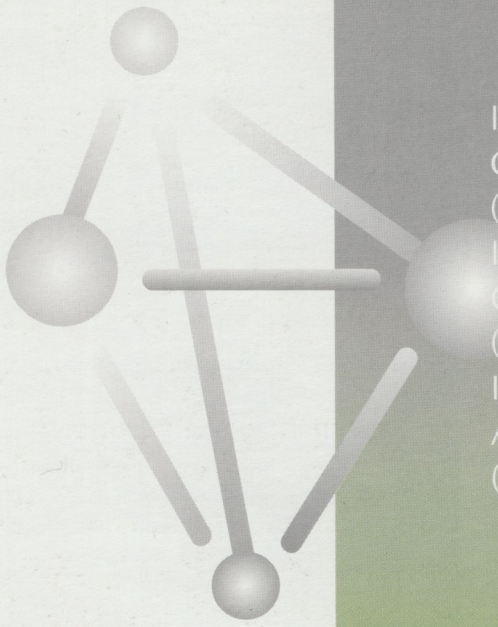
The Institute is composed of:
Chair of Building Statics and Dynamics (L-41)
Chair of Strength of Materials (L-42)
Chair of Mechanics of Continuous Media (L-43)
Section of Computational Mechanics (L-44)
Vibration and Strain Measurements Lab (L-45)
After reorganization new units will be created from L-44:
Institute of Computer Methods in Civil Engineering (L-5)
Section of Computer Methods in Mechanics (L-6)

COMPUTER TRAINING UNIT (L-9)

The Unit provides teaching activities only.



Prof. Roman Ciesielski, head of Institute of Structural Mechanics



INSTITUTE OF INORGANIC
CHEMISTRY AND TECHNOLOGY
(C-1)
INSTITUTE OF ORGANIC
CHEMISTRY AND TECHNOLOGY
(C-2)
INSTITUTE OF CHEMICAL ENGINEERING
AND PHYSICAL CHEMISTRY
(C-3)

DEPARTMENT OF CHEMICAL ENGINEERING AND TECHNOLOGY

Degree courses and specializations:

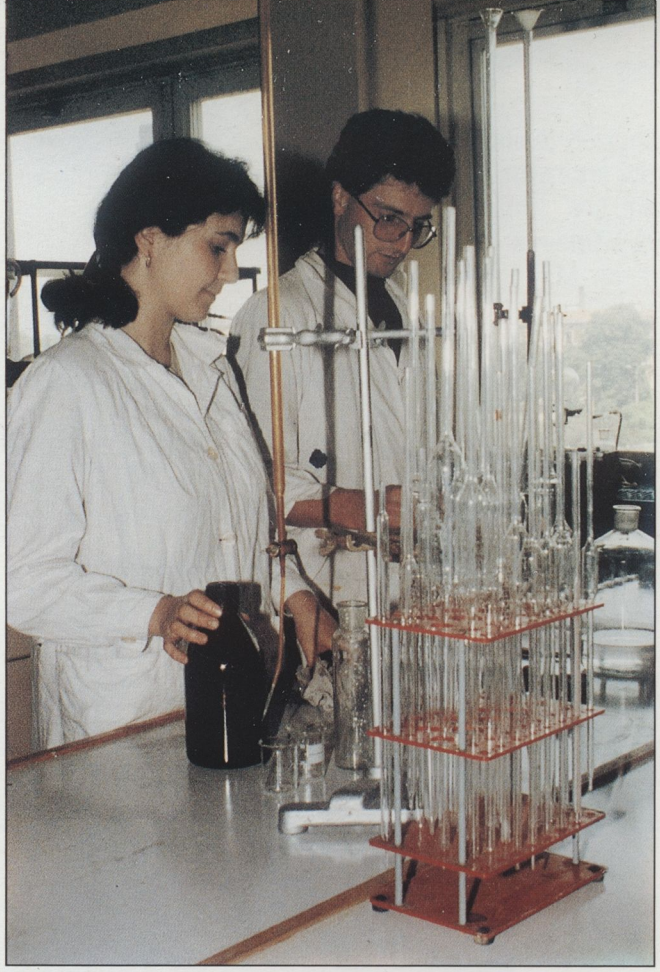
The teaching covers two basic fields: **chemical technology** with specializations: inorganic chemical technology, polymer technology, coal processing technology and petrochemistry, computer chemistry, chemistry and technology of environment, and **chemical engineering** with specializations: chemical and process engineering, chemical and bioprocess reactors engineering, analysis and development of industrial processes.

Main research fields:

Technologies associated with rare earth elements, the recovery of metallic elements from industrial wastes, utilization of phosphogypsum; sulfidation of alloys in H_2/H_2S atmospheres; the determination of trace concentrations of highly toxic pollutants - dioxins; combustion chemistry, fluidized bed combustion of coal and waste materials. Technologies associated with special polymer materials obtained by synthesis and polymer modification (polyurethane); special lubricants for use in metallurgy; coke production and coal gasification; heterocyclic chemistry; phase-transfer catalysis; computational methods in chemistry. Chemical reactor theory; development of devices for use in environment protection.

Faculty and research staff:
76 employees, including 11 professors, 6 associate professors, 55 assistant professors.

Number of students:
Total number of students: 300, first year enrollment: 100



Student lab

INSTITUTE OF INORGANIC CHEMISTRY AND TECHNOLOGY (C-1)

Research fields: inorganic technology and in particular: the chemistry of rare earth elements and technology of their recovery and extraction from waste materials; special materials of high purity; solid state chemistry; utilization of inorganic industrial wastes, particularly

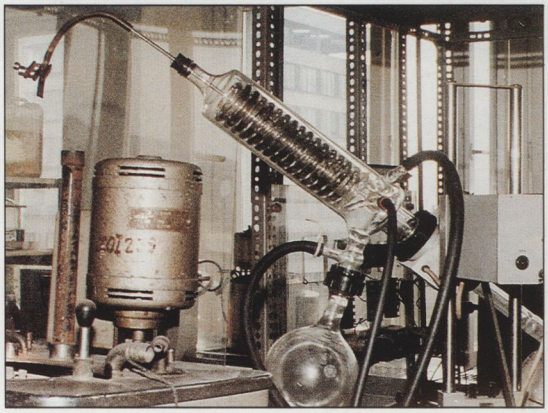
Student lab

from phosphoric acid and chromate production; chemistry and technology of construction materials, especially those based on gypsum and anhydrite; technology of phosphate, potassium and complex mineral fertilizers; technologies associated with production of nitrogen compounds, mainly nitrogen oxides and catalyst technology; corrosion, particularly of non-ferrous metals caused by sulphur compounds, anti-corrosion protection; chemistry of combustion processes, chemical reactions in flames, fluidized bed combustion of coal and low grade fuels with simultaneous flue gas desulfurisation, chemical flame extinguishants and flame retardants; analytical chemistry, with special reference to environmental protection, determination of pollutants in air (nitrogen oxides, sulphur dioxide, particulates), in water and wastewaters (heavy metals, organophosphorous pesticides, dioxins).

The Institute is composed of:
Section of Analytical Chemistry (C-11)
Section of Inorganic Chemistry (C-12)
Section of Inorganic Chemical Technology (C-13)

INSTITUTE OF ORGANIC CHEMISTRY AND TECHNOLOGY (C-2)

Research fields: organic chemistry, especially synthesis of new heterocyclic compounds, oxidative amination of aromatic compounds, benzylation of pyridin derivatives, reactions of dichloroacetylene, quantum-chemical computation of the reactivity of heterocyclic compounds, cycloaddition reactions, technology of bulk organic intermediates, modification of zeolites catalytic dehydrogenation and oxidative processes, transformations of alkylaromatic compounds, methatesis of olefins, chemistry and technology of polymers, especially modification of polyvinyl carbazoles, flexible urethane foams, copolymerization of vinyl monomers, utilization



and recycling of plastics wastes, gas and petroleum technologies, mainly refining processes and lubricant technology, synthesis and modification of lubricant additives, mathematical modelling of petrochemical processes, chemical processing of coal, in particular gasification of coal and carboderivatives, thermal and chemical processing of coke.

Mass spectroscopy lab

The Institute is composed of:
Section of Organic Chemistry (C-21)
Section of Organic Technology (C-22)
Section of Petroleum and Gas Technology (C-23)
Section of Coal Chemical Technology (C-24)
Section of Polymers Chemistry and Technology (C-25)

INSTITUTE OF CHEMICAL ENGINEERING AND PHYSICAL CHEMISTRY (C3)

Research fields: experimental research on hydrodynamics, mass and heat exchange in multi-phase systems; theoretical and experimental work on non -conventional methods of liquid-liquid extraction; design and development guidelines for economic exploitation of devices for separating the components in heterogeneous systems; research on new methods and technologies of gas desulfurisation, development of flue gas desulfurisation methods; mathematical modelling of chemical homo- and heterogenic processes; theoretical studies on multiple steady states of autothermal systems; heterogeneous and homogeneous catalysis; theoretical and experimental studies on photoelectron transfer.

The Institute is composed of:
Section of Chemical and Process Engineering (C-31)
Section of Physical Chemistry (C-32)

INSTITUTE OF WATER ENGINEERING AND MANAGEMENT
(W-1)
INSTITUTE OF GEOTECHNICS
(W-2)
INSTITUTE OF WATER SUPPLY AND ENVIRONMENT PROTECTION
(W-3)
SECTION OF STRUCTURAL MECHANICS
(W-4)
INSTITUTE OF HEAT ENGINEERING AND AIR PROTECTION
(W-5)

DEPARTMENT OF SANITARY AND WATER ENGINEERING

Degree courses and specializations:

The teaching covers the following: hydro-engineering; computer mechanics in environment engineering; water supply, sewage and wastewater treatment, heating, air conditioning and air protection; water management and hydrology; water systems monitoring.

Main research fields:

Methodology and technology of mathematical modelling of flow and run-off in river catchments; micro-scale models of water exchange dynamics in natural environment; short term hydraulic ground waters management; hydrometeorological data collecting and processing, structural data bases using satellite data; investigation of biogenic and chemically detrimental substances in water habitat; hydraulics in municipal water facilities design; designing complex hydrotechnical mountain catchments; numerical modelling of the effect of shrinkage and thermal changes on concrete of hydrotechnical objects; reliability of water supply, sewage disposal and environment protection systems, engineering hydrogeology, municipal wastewater recovery for industrial purposes; removal of biogenic compounds from sewage; small highly efficient biological sewage treatment plants; mathematical modelling of heat and mass transfer processes in thermal systems; heating systems design; waste heat recovery in industrial and municipal buildings; renewable energy sources in household; appliances for heat and power co-generation; solid waste disposal; desulfurisation of flue gases, compressor and absorption heat pumps.

Faculty and research staff:

200 employees, including 16 professors, 6 associate professors and 67 assistant professors.

Number of students:

Total number of students enrolled: 900, first year enrollment: 280.

INSTITUTE OF WATER ENGINEERING AND MANAGEMENT (W-1)

Research fields: transport of water, pollution sediment; dynamics of river channels; flood control; hydraulics of water structures and municipal installations; water cycle; hydrology of mountainous and agricultural catchments;

hydrologic operational systems; automatic systems of hydrometric data collection and management; stability of river channels; rivers and streams training; waterways; modelling of hydrotechnical systems; design of weirs and spillways; strength and stability of water structures; water management systems; informatic systems in water management; protection and exploitation of water resources; technological processes in water treatment plants.

The Institute is composed of:
Section of Hydraulics and Hydromechanics (W-11)
Section of Hydrology (W-12)
Section of Water Management (W-13)
Section of Construction Engineering (W-14)
Section of Hydrological Systems and Forecasting(W15)

Apparatus for triaxial compression of soil samples

INSTITUTE OF GEOTECHNICS (W-2)

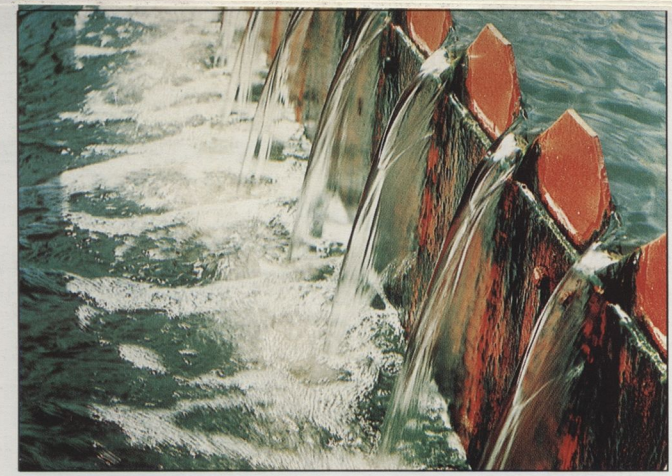
Research fields: theoretical and experimental problems in soil and rock mechanics; new technologies in ground foundation works and construction; geotechnic problems in historical monument revalorization; industrial waste materials utilization in geotechnics; petrographic, geological and hydrogeological problems in hydro-engineering; geodesic measurement of structure deformation.

The Institute is composed of:
Section of Engineering Geodesy (W-21)
Section of Engineering Geology and Hydrogeology (W-22)
Section of Soils Mechanics (W-23)
Section of Foundation Engineering (W-24)

Survey training

INSTITUTE OF WATER SUPPLY AND ENVIRONMENT PROTECTION (W-3)

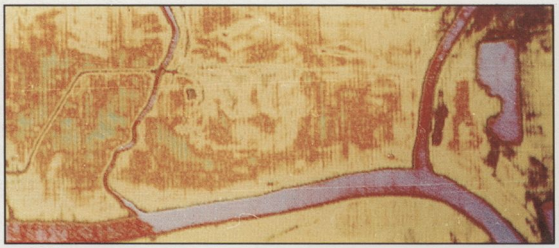
Research fields: water supply of municipal and rural areas and industrial plants including water treatment; transportation, storage reservoirs and distribution networks; application of reliability theory in water and



View of biological treatment and recovery plant in Chrzanów-Trzebinia plant

sewage systems; protection of impoundment reservoir against negative impact of river damming; water and sewage systems analysis; balneotechnical facilities; municipal, rural and housing estate areas sewage collection; objects and units for wastewater transportation and storage, wastewater treatment and reclamation, sludge treatment and disposal; water and wastewater samples analysis; technological tests of treatment of drinking, industrial and special purposes water, municipal and industrial wastewater and stormwater; utilization and disposal of sludge from water and wastewater treatment plants; efficiency and energy consumption at wastewater treatment plants; advanced anaerobic treatment plants; nutrients removal processes including nitrogen and phosphorous biological removal; sanitary biology with emphasis on hydrobiology and epidemiology.

The Institute is composed of:
Chair of Supply and Sewage Removal (W-31)
Section of Water and Wastewater Treatment (W-32)
Section of Environmental Protection Principles and Systems (W-33)
Section of Sanitary Biology (W-34)



Infrared mapping of dammed section of the Vistula river in Przewóz

SECTION OF STRUCTURES MECHANICS (W-4)

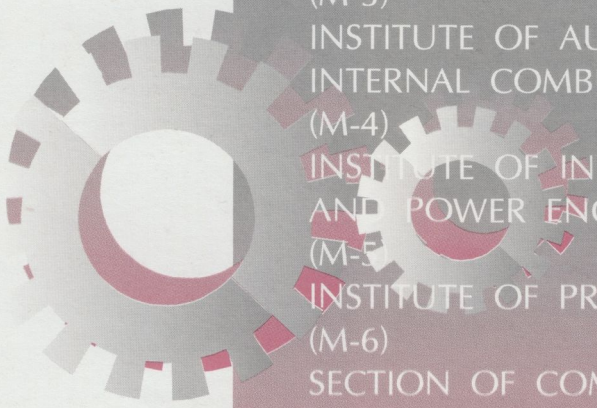
Research fields: numerical methods for the analysis of concrete and massive structures including rheological, thermal and dampness phenomena; mechanics of embankments subject to seismic loads - with computer science application.

INSTITUTE OF HEAT ENGINEERING AND AIR PROTECTION (W-5)

Research fields: mathematical modelling of heat and mass transfer processes; optimization of thermal and refrigeration processes and systems; heating, ventilation and air conditioning systems in municipal and industrial complexes; combustion of gas, liquid and solid fuels in communal appliances; heat management and technology; waste energy recovery by heat pumps; ecocybernetics in urban areas; municipal and industrial solid waste disposal; cleaner technologies; fluidized bed reactors for solid waste incineration; hazardous hospital waste treatment; flue gases purification and desulfurisation.

The Institute is composed of:
Section of Thermal Processes, Metrology and Air Protection (W-51)
Section of Heating, Thermal Systems and Waste Utilization (W-52)
Section of Ventilation, Air Conditioning and Refrigeration Systems (W-53)

INSTITUTE OF MECHANICS AND MACHINE DESIGN
(M-1)
INSTITUTE OF MATERIAL SCIENCE AND METAL FORMING
(M-2)
INSTITUTE OF HEAVY DUTY MACHINES
(M-3)
INSTITUTE OF AUTOMOBILES AND INTERNAL COMBUSTION ENGINES
(M-4)
INSTITUTE OF INDUSTRIAL APPARATUS AND POWER ENGINEERING
(M-5)
INSTITUTE OF PRODUCTION ENGINEERING
(M-6)
SECTION OF COMPUTER SCIENCE APPLICATION
(M-7)
INSTITUTE OF RAILWAY VEHICLES
(M-8)



DEPARTMENT OF MECHANICAL ENGINEERING

Degree courses and specializations:

Types of courses run at present:
M.Sc. regular courses, evening (engineering and M.Sc.) post-graduate, Ph.D. courses. Within three major fields of instruction the following specializations are run:
Mechanics and mechanical engineering
Specializations: production engineering, machine tools and production equipment, chemical and food industry apparatus and equipment, power engineering systems and equipment, I.C. engines, automobiles and tractors, heavy duty machines, railway vehicles, computational mechanics.
Material engineering
Automatic control engineering and robotics
Specialization: industrial processes automation.

Main research fields:
Inelastic bodies and structures; structural optimization; gear dynamics; power mechanical systems; vibroinsulation systems; plastics and composites; non -metallic inclusions in steels; properties of metallic materials; sintered and cast materials; pulsatory pressing; weldability assessment, CAD of experiments; design, analysis and testing of cranes, earthmoving and mechanical handling machines; design and testing of mechanical and hydraulic systems; design and investigation of vehicle chassis assemblies and I.C. engines; effect of in -service conditions on vehicle life and reliability; fuel and energy economy in transportation; application of substitute fuels; chemical and food industry apparatus; refrigeration and air conditioning; thermal energy systems; automation of manufacturing; mechanic design optimization; industrial robots; simulation; machine tools and machining; measurement processes and means; power hydraulics; railway vehicle dynamics and

design; rail-vehicle and rolling stock technology; rail -vehicle technical operation processes and systems.

Faculty and research staff:
169 employees, including 39 professors, one member of the Polish Academy od Sciences, two members of the Polish Academy of Sciences and Letters, 10 associate professors, 120 assistant professors.
Number of students:
1700 including: regular daily courses 1100, evening courses 600. First year enrollment: 380.

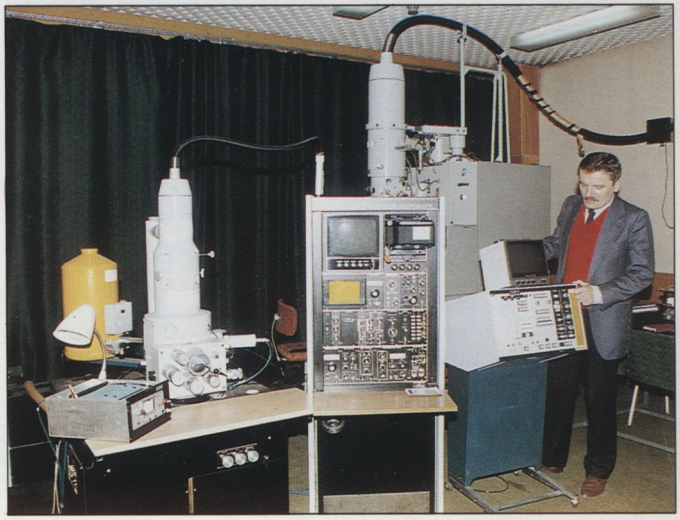
INSTITUTE OF MECHANICS AND MACHINE DESIGN (M-1)

Research fields: mechanics of inelastic bodies and structures under constant and variable loads, structural stability, optimal structural design under stability constraints, optimal structural design under creep conditions, toroidal shells, elbows and bellows, helical springs, decohesive carrying capacity, investigation of shape of bodies subject to full plastification at the stage of collapse, dynamics and design of gear systems, design and optimization of pressure vessels, mini-wind power plants, numerical analysis of structures, CAD, vibration of continuous and discrete -continuous systems, dynamic analysis of pneumatic -mechanical vibroinsulation systems, analysis and optimization of active vibroinsulation systems, experimental stress and strain analysis, experiment and design methodology in biomechanics, mechanical properties of plastics and composites and their application in pressure vessels and refrigeration, fatigue and tribology of plastics.

The Institute is composed of:
Section of Mechanics of Deformable Bodies (M-11)
Section of Machine Design (M-12)
Section of Dynamics of Mechanical Systems (M-13)
Section of Experimental Mechanics (M-14)

INSTITUTE OF MATERIAL SCIENCE AND METAL FORMING (M-2)

Research fields: material science: effect of non-metallic inclusions on steel properties, steels for low and high temperatures, steels for power industry, quantitative metallography and fractography, fracture properties and decohesion mechanism; heat and thermochemical treatment; plastic working: theoretical and experimental foundations, pulsatory pressing of sinters; welding:



Electron microscopy lab - TME-JEOL 200 + SME-JEOL 50 A

Pulsatory press PXP-100 type for powder products

steel weldability and selection of materials for welded structures, welded joints properties; foundry: alloy crystallization, new foundry technologies, serviceable properties of casts; powder metallurgy: sintering tools and corrosion resistant materials; methodology of experiments: CADEX programming.

The Institute is composed of:
Section of Physical Metallurgy (M-21)
Chair of Plastic Working (M-22)
Section of Heat Treatment (M-23)
Section of Welding Technology (M-24)
Unit of Foundry Engineering (M-25)
Section of Powder Metallurgy (M-26)
Unit of Experimental Research Methodology (M-27)

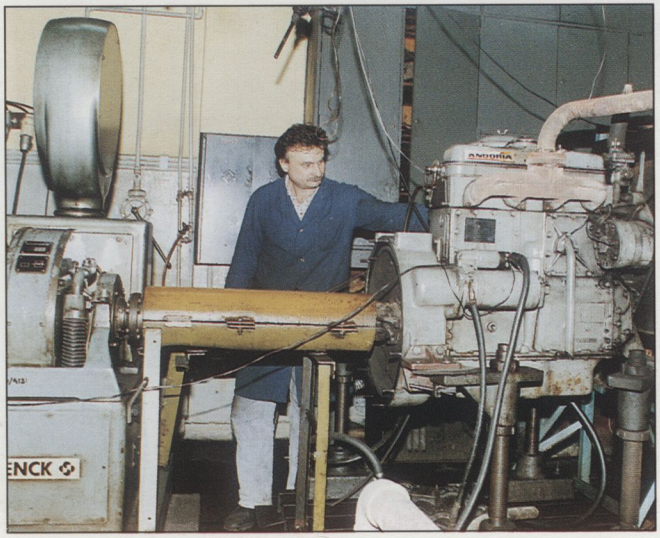
INSTITUTE OF HEAVY DUTY MACHINES (M-3)

Research fields: dynamic behaviour and performance limits of cranes, mechanical handling and earthmoving machines; design, analysis and optimization of mechanism and machine systems; design, analysis and testing of mechanical and hydraulic power systems: testing and diagnostic procedures of machines; testing and adaptation of heavy duty machines to operation under extreme climatic conditions; ergonomics and comfortability of cabins; vibrations and noise control.

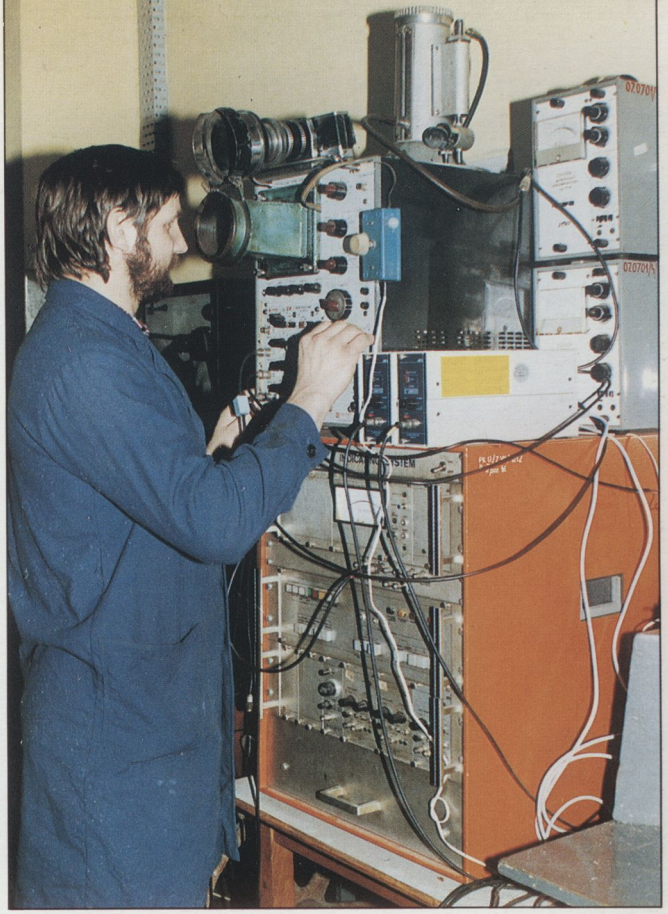
The Institute is composed of:
Section of Cranes and Mechanical Handling Machine Design (M-31)
Section of Construction Machine Design (M-32)
Section of Theory of Machines and Mechanisms (M-33)
Unit of Technical Documentation (M-34)

INSTITUTE OF AUTOMOBILES AND INTERNAL COMBUSTION ENGINES (M-4)

Research fields: vehicle dynamics: effects of wheel guiding mechanisms parameters on vehicle handling; modelling of passenger car using multibody dynamics; vehicle handling; measurement, recording and evaluation methods and measurement procedures for vehicle dynamics (steady state circular test, transient response test); transfer of interaction forces between tyres and roadway; characteristics of tyres; methodology of estimation of parameters of vehicle stability and steerability; ABS and ASR systems for 4 WD vehicles - computer simulation and experimental research; transmission and drive systems optimization for low emissions and fuel economy of automobiles; hybrid and electrical drive systems of automobiles; reduction of engine emissions; application of alternative and renewable fuels in engines (e.g. natural gas, alcoholic fuels, vegetable oils); noise and vibration in engines; turbocharging processes of engines; methods improving engine efficiency and fuel economy; low heat rejection engines;



Diesel engine lab - engine test house - Schenck water test bench



Diesel engine lab - apparatus for engine indicating

utilization of waste energy of engines; computer simulation of engine processes; CAD of engine combustion; optimization of inlet ports and air motion in combustion chambers; fuel injection processes and spray characteristics; design of fuel injection equipment; cold starting of diesel and spark ignition engines; fuel systems for spark ignition engines; development of pneumatic fuel injection systems; development of two-stroke engines; automobile and engine diagnostics; automobile tribology; automobile production automation; energy and material saving methods and environment friendly technologies in automobile and engine production; application of plastics in automobiles; durability and reliability improvement methods in automobile production.

The Institute is composed of:

Section of Automobile Design (M-41)
Section of Theory of Motion and Automobile Testing (M-42)
Section of Automobile Electrical Engineering and Electronics (M-43)
Section of Automobile Exploitation (M-44)
Section of Automobile Production Technology (M-45)
Section of Spark Ignition Engines (M-46)
Section of Diesel Engines (M-47)
Section of Special Engines and Feed Systems (M-48)
Driving Training Centre

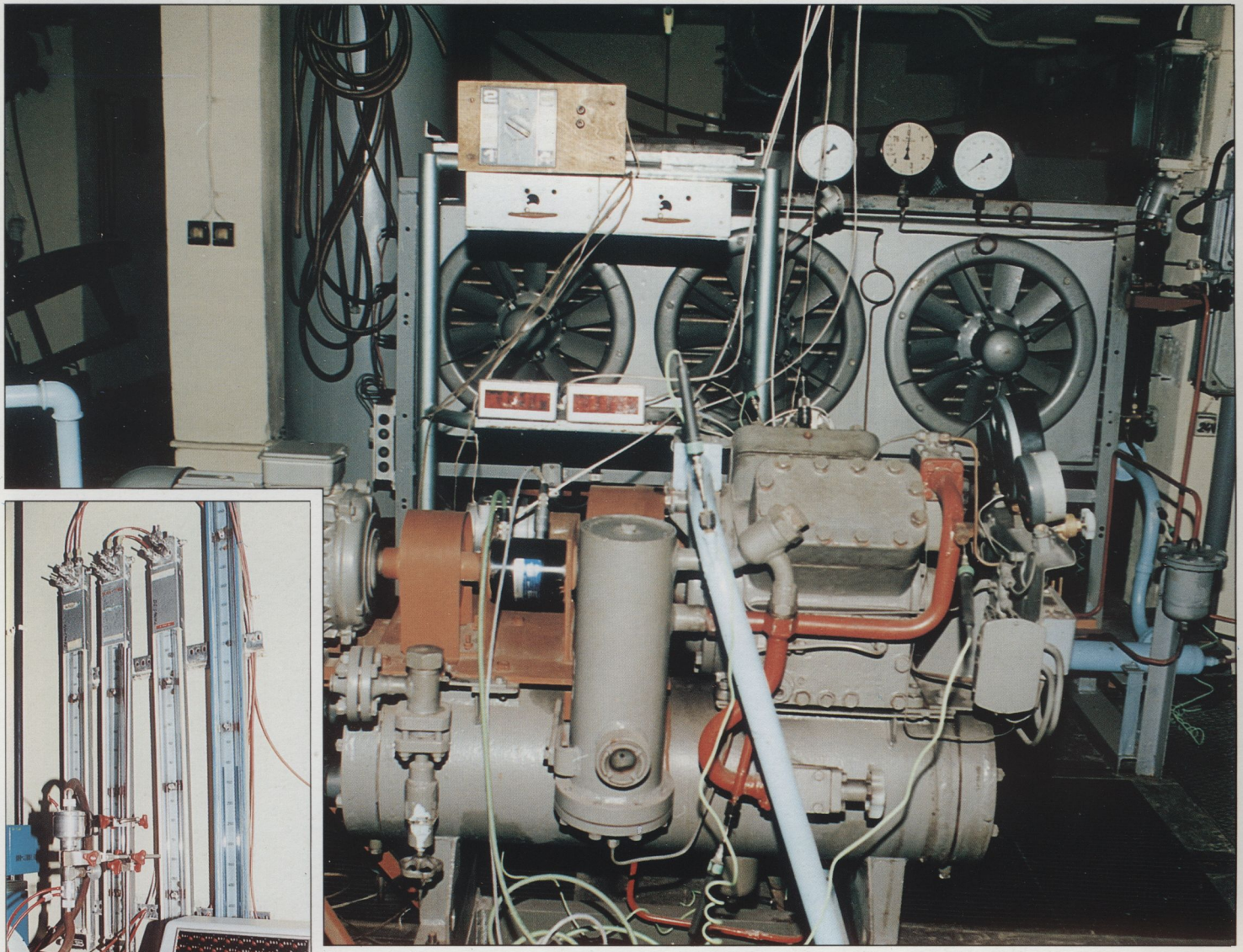
INSTITUTE OF INDUSTRIAL APPARATUS AND POWER ENGINEERING (M-5)

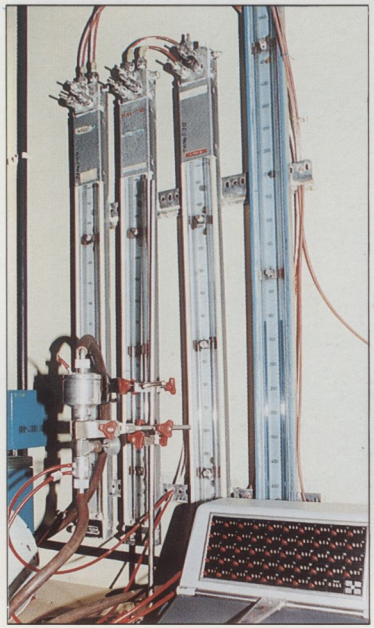
Research fields: research on and design of apparatus and equipment for production and distribution of dispersed systems; heat and mass transfer processes, air

pollution control and equipment; optimization of thermodynamic and flow processes; non-Newtonian fluids dynamics and rheometry; measurements of thermal properties of fluids and solid bodies; improvement of balance methods and thermal systems measurement; computer simulation of reciprocating compressor, research on pressure pulsation in compressed gas pipelines, dynamics of steam boilers and power generating blocks; refrigeration and air conditioning; heat pumps and waste heat utilization equipment.

The Institute is composed of:

Section of Process Engineering (M-51)
Section of Fluid Mechanics (M-52)
Section of Thermodynamics and Heat Machines Measurements (M-53)
Section of Power Engineering Machines and Installations (M-54)
Section of Refrigeration and Air Conditioning (M-55)



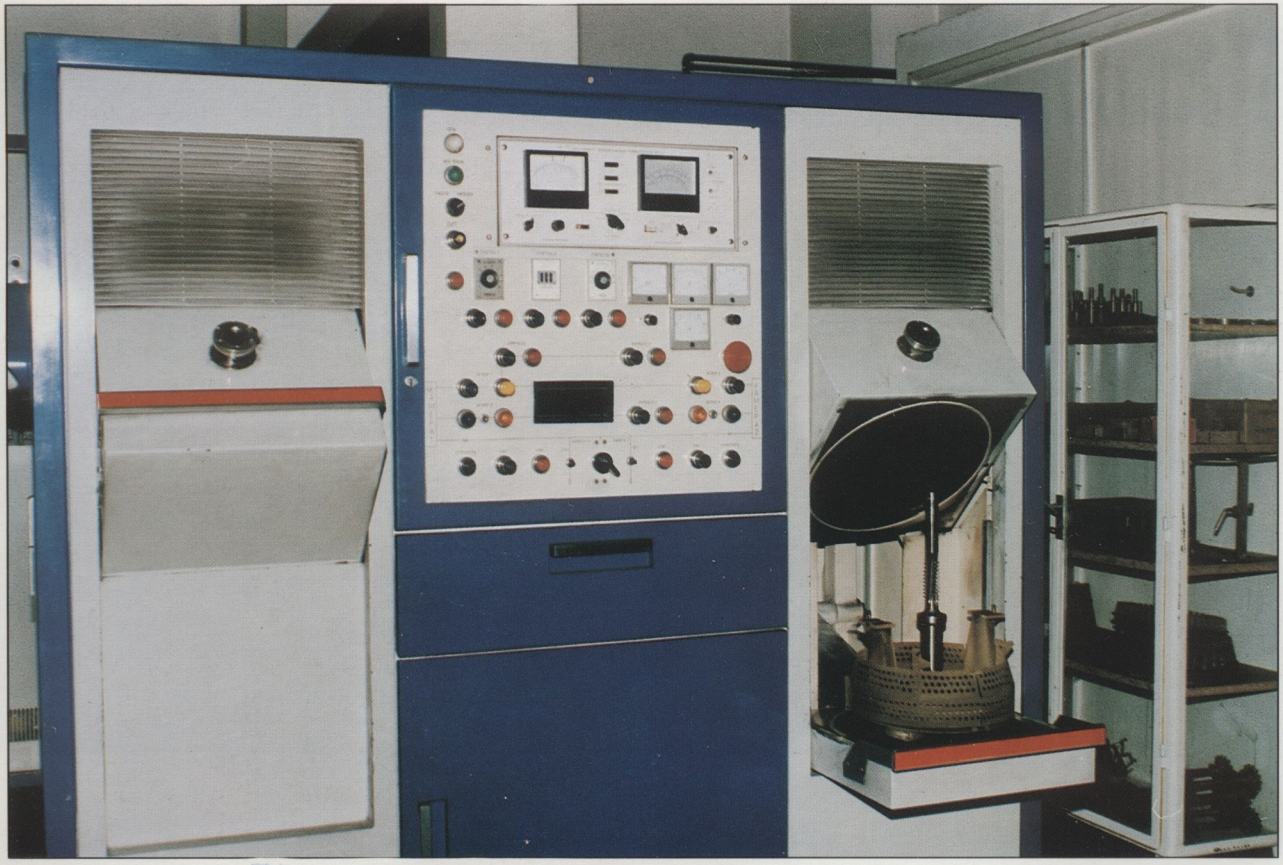


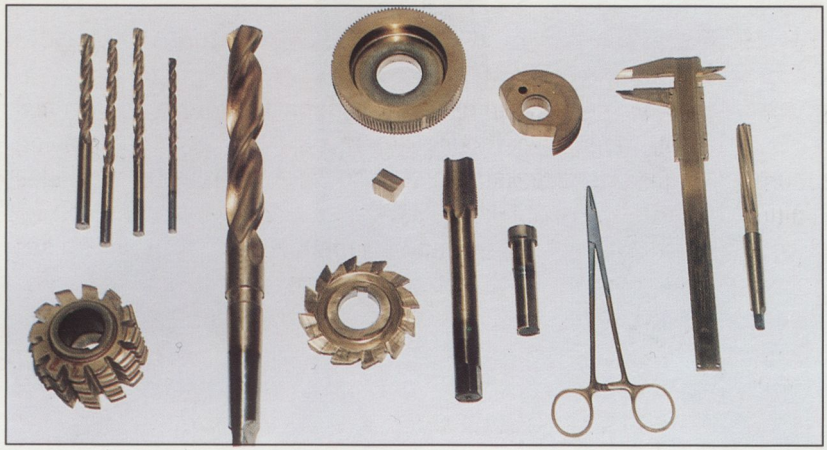
A test stand

INSTITUTE OF PRODUCTION ENGINEERING (M-6)

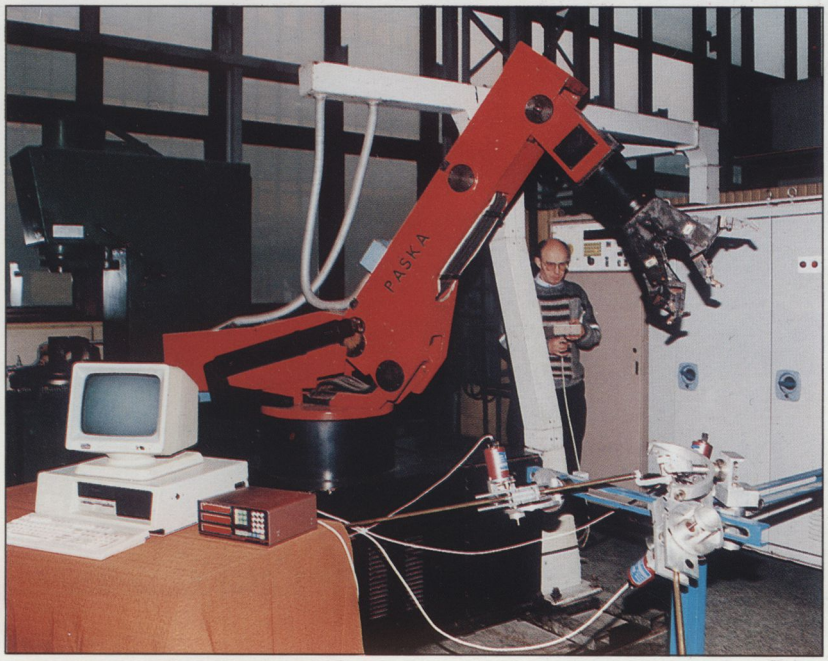
Research fields: automation and robotics of production processes in engineering industry; machining methods and computer control systems with computerized measurement-controls; complex automation of machining, CAD/CAM designing in technology, machine tools and machine elements; flexible manufacturing systems, automated machine tools, special technologies - eg. wear resistant coating for tools and machine elements, methods and means of electromachining, tests on measurement and multicoordinate machines, application of laser in testing machines and equipment accuracy; design and diagnostic tests of machines, simulation and optimization of production systems, theoretical and experimental research on hydraulic control elements.

PUSK-83 - apparatus for nitride-titanizing of cutting tools





A set of tools for surface nitride-titanizing

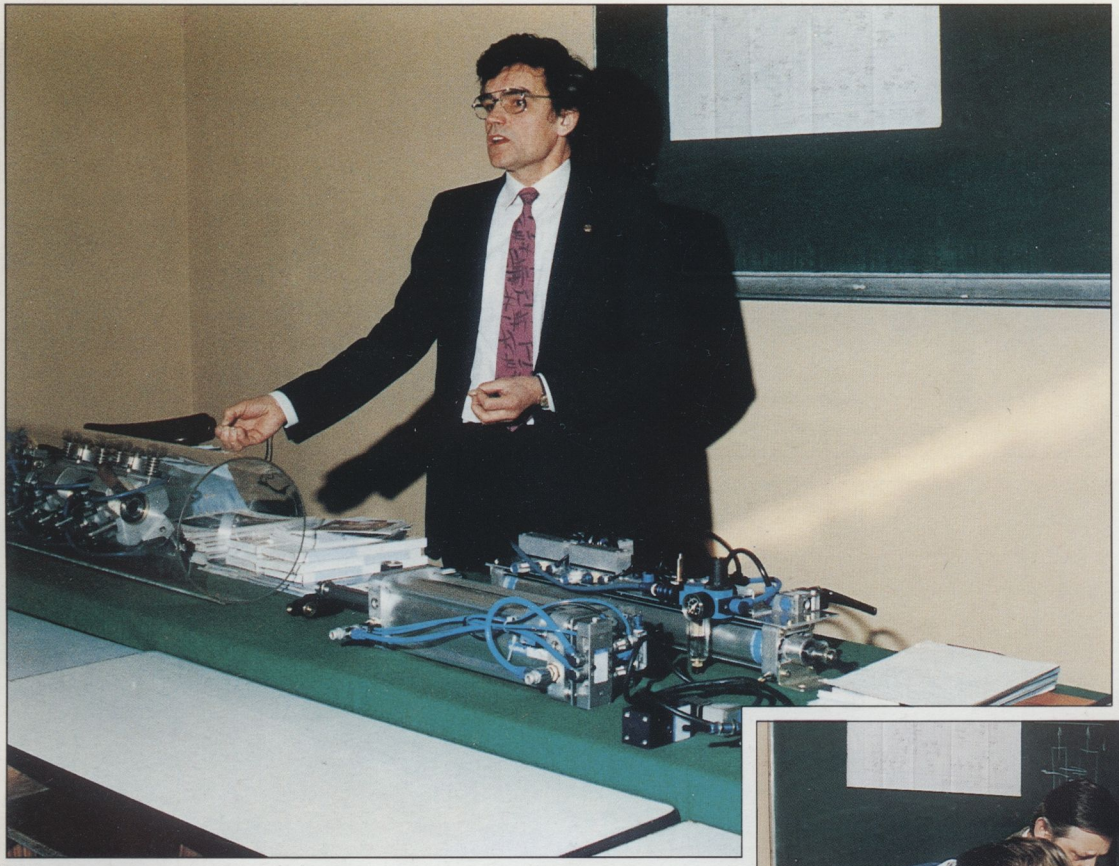


Robot for machining station automation

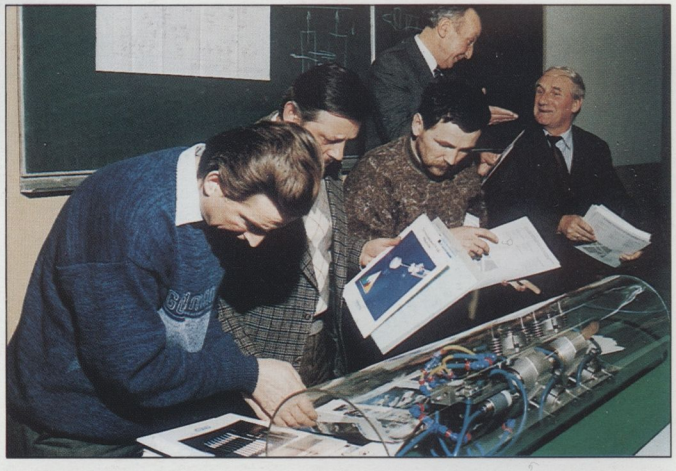
The Institute is composed of:
Section of Machining and Tools (M-61)
Section of Technological Processes Design and Automation (M-62)
Section of Metrology and Quality Inspection (M-63)
Section of Machine Tool Systems (M-64)
Section of Hydraulic Drive and Control (M-65)
Equipment Pilot Plant (M-66)
Laboratory of the Institute (M-68)

INSTITUTE OF RAILWAY VEHICLES (M-8)

Research fields: tractive vehicle and rail car construction and design; drive and brake computation; braking system of rapid passenger trains and long freight trains experimental research; rail vehicle dynamics; dynamics of vehicle suspensions and drives; vibroisolation systems; active and passive suspension; computational simulation of vehicle-track interaction on complex continuous models; rolling stock - new technology of production and repair; new construction materials for rail vehicle elements; diesel locomotive diagnostics; rail vehicles and rolling stock reliability optimization; basic types of wear of rail vehicles in relation to their reliability; investigation of technical operation processes; computer supported technical operation system; technical condition diagnostics of rail vehicles; computer simulation of technical operation processes; data bases of rail vehicle technical operation systems; technical operation of tramways.



FESTO symposium



The Institute is composed of:
Section of Rail Vehicle dynamics and Design (M-81)
Section of Reliability and Technical Operation of Vehicles (M-82)

SECTION OF COMPUTER SCIENCE APPLICATION (M-7)

Research fields: extensive research in computer science, programmes for computer aided designing and experiment analysis within CADEX packet (covering present ESDET and IDEF programmes); theoretical work on computer simulation of powder pressing.

INSTITUTE OF THEORY AND METROLOGY
(E-1)
INSTITUTE OF ELECTROMECHANICAL ENERGY CONVERSION
(E-2)
INSTITUTE OF AUTOMATICS
(E-3)
SECTION OF ELECTRONICS
(E-4)
COMPUTER TRAINING UNIT
(E-5)

DEPARTMENT OF ELECTRICAL ENGINEERING

Degree courses and specializations:

The Department of Electrical Engineering offers full -time degree courses leading to the degree of M.Sc. Three specializations are offered:

- **Engineering of Electrical Systems,**
- **Automatics,**
- **Electrical Engineering in Railway.**

Specialization in Engineering of Electrical Systems is geared towards the following problems: power electronics and drives, engineering of electromechanical systems, quality and reliability of electrical energy, electrical measurement systems.

Specialization in Automatics concerns the following problems: automatic control of industrial processes, engineering of computer systems, electromechanical instrumentation.

Specialization in Electrical Engineering in Railway is dedicated to the following: power railway system, traction drives, railway traffic control, electronic and telecommunications equipment for railway, municipal traction.

Part-time evening courses in the field of Electrical Engineering are also offered with the same specializations leading to a Diploma in Engineering.

Main research fields:

In the scope of electrical engineering: circuit theory, electrical machines and drives, electromechanical systems, theory of dynamic errors, electric traction.

In the scope of automatics: systems engineering, time -optimal control systems, railway traffic control.

Faculty and research staff:

The Department has a staff of 68 employees, including 9 professors, 3 associate professors and 24 assistant professors.

Total number of Students:

Total number of students: 420, first year enrollment - 120. Number of students enrolled in the full time M.Sc. courses - 320. Number of students enrolled in the engineering evening courses - 100.

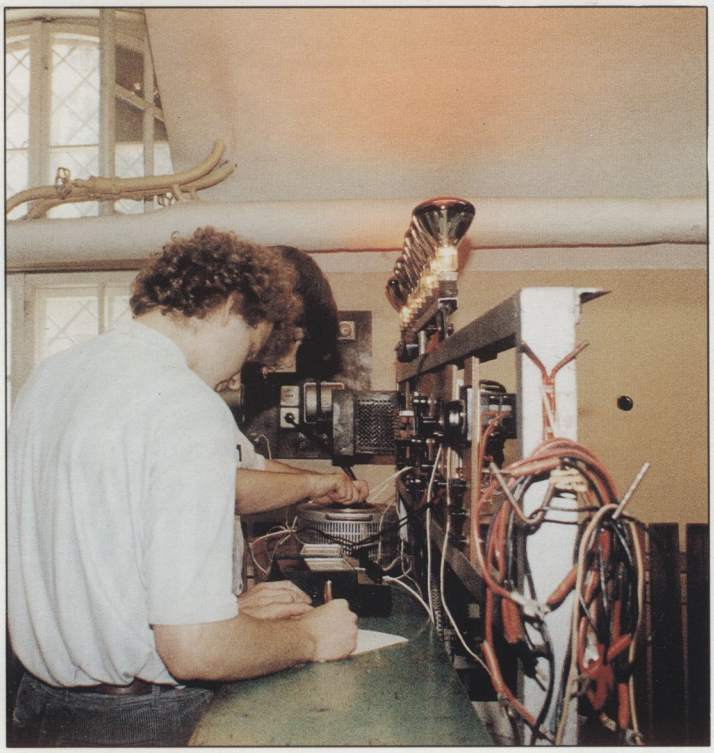
INSTITUTE OF CIRCUIT THEORY AND METROLOGY (E-1)

Research fields: theory of non-linear circuits; signal theory; measurement of nonelectrical quantities; dynamic metrology; waves and fields in homogeneous media.

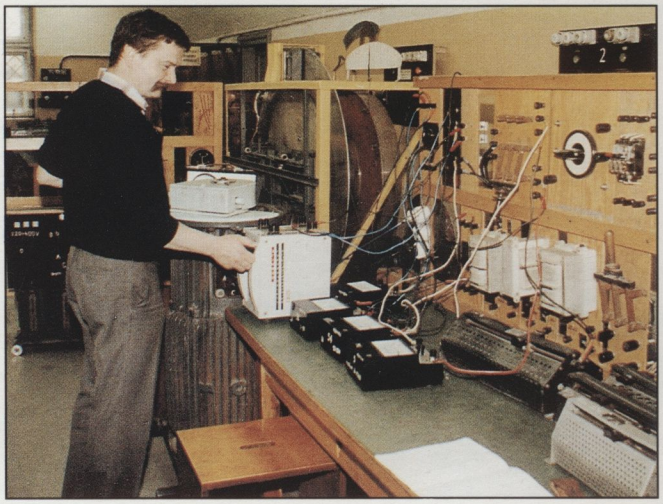
The Institute is composed of:
Section of Circuit Theory (E-11)
Section of Electrical Metrology (E-12)

INSTITUTE OF ELECTROMECHANICAL ENERGY CONVERSION (E-2)

Research fields: theory of electromechanical energy conversion; modelling of electric machines and electromechanical systems; electric machines fed by power electronic systems; power electronic systems in tractions drives; tractions power apparatus and systems; electromagnetic compatibility in electric traction.



Electric machines lab



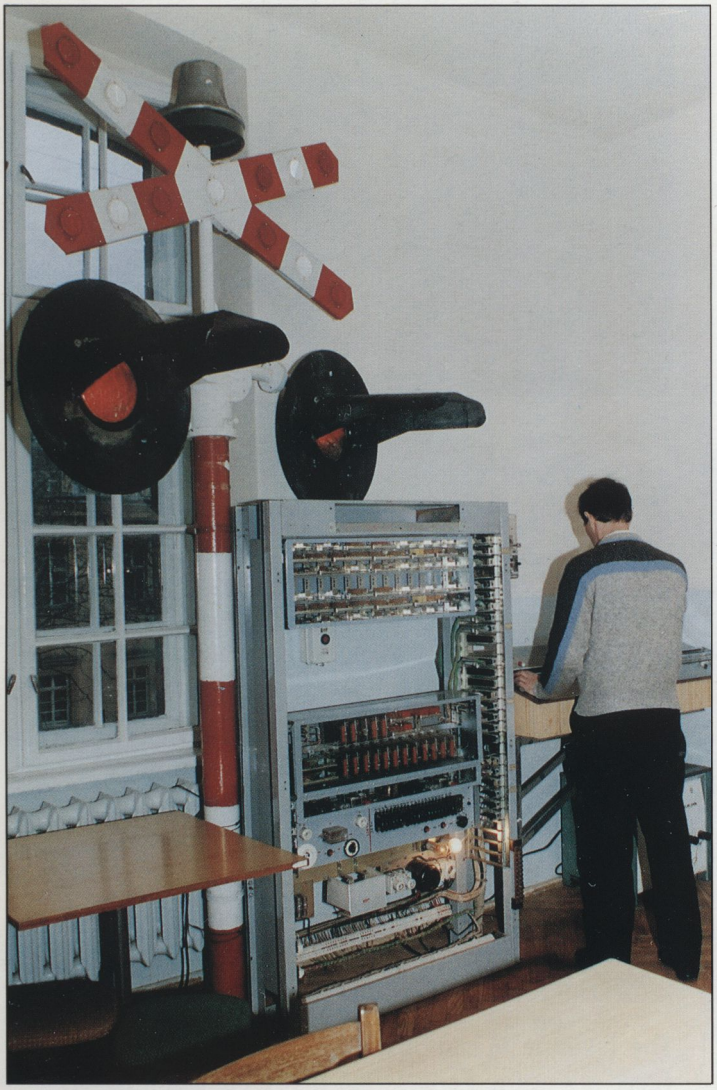
Electric machines lab

The Institute is composed of:
Section of Electric Machines and Drives (E-21)
Section of Electric Traction (E-22)
Unit of Power Apparatus and Systems (E-23)

INSTITUTE OF AUTOMATICS (E-3)

Research fields: time-optimal control with non-linear and discontinuous motion resistances: optimal control of objects with random disturbances; non collision optimal control of robots and industrial automatics; architecture of microprocessor systems; design of electrohydraulic systems and their modelling, based on deterministic and randomized models; railway traffic control systems.

The Institute is composed of:
Chair of Control Engineering Instrumentation (E-31)
Section of Control Theory (E-32)
Unit of Computer Systems Architecture (E-33)



Institute of Automatics - automatic higway crossing signalling (SPA type)

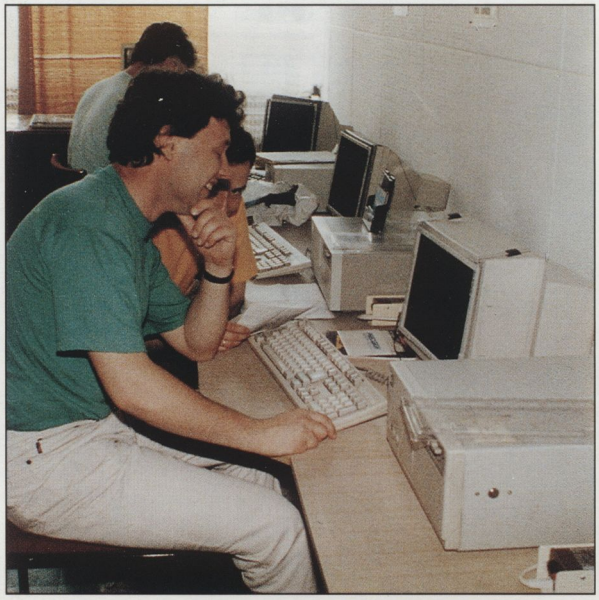
SECTION OF ELECTRONICS (E-4)

Research fields: signal analysis; design and simulation of analog and digital electronic systems; microprocessor based electronic devices; application of optical fibre technology to railway traffic control.

COMPUTER TRAINING UNIT (E-5)

The Unit provides teaching activities only.

Computer lab



INSTITUTE OF ECONOMICS, SOCIOLOGY AND PHILOSOPHY (U-1)

INSTITUTE OF MATHEMATICS (U-2)

INSTITUTE OF PHYSICS (U-3)

SECTION OF DESCRIPTIVE GEOMETRY AND ENGINEERING GRAPHICS (U-4)

INTER-DEPARTMENTAL INSTITUTES

INSTITUTE OF ECONOMICS, SOCIOLOGY AND PHILOSOPHY (U-1)

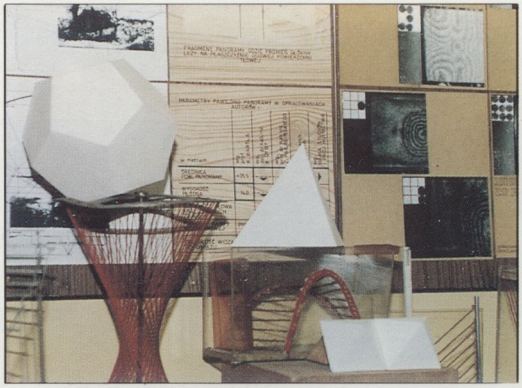
Teaching and research fields: logistics of relations between technology and economics, rationality of business activities and optimization of enterprise management; general sociology and sociological theories of city, industry and law; problems of epistemology and philosophy of science, ethics, axiology and philosophical anthropology.

Faculty and research staff:
19 employees, including 1 professor, 3 associate professors and 10 assistant professors.

The Institute is composed of:
Section of Economics and Management (U-11)
Section of Sociology (U-12)
Section of Philosophy (U-13)

INSTITUTE OF MATHEMATICS (U-2)

Main research fields: differential equations and inequalities, functional analysis and certain aspects of G-space; equations of evolution in Banach space, equations with a parameter, spectral theory of operators, classical theory of differential-functional equations, Klein geometry invariants. The research in some of the above areas is computer aided.



Faculty and research staff:
39 employees, including 2 professors and 15 assistant professors.

The Institute is composed of:
Section of Mathematical Analysis (U-21)
Section of Differential Equations and Functional Analysis (U-22)

INSTITUTE OF PHYSICS (U-3)

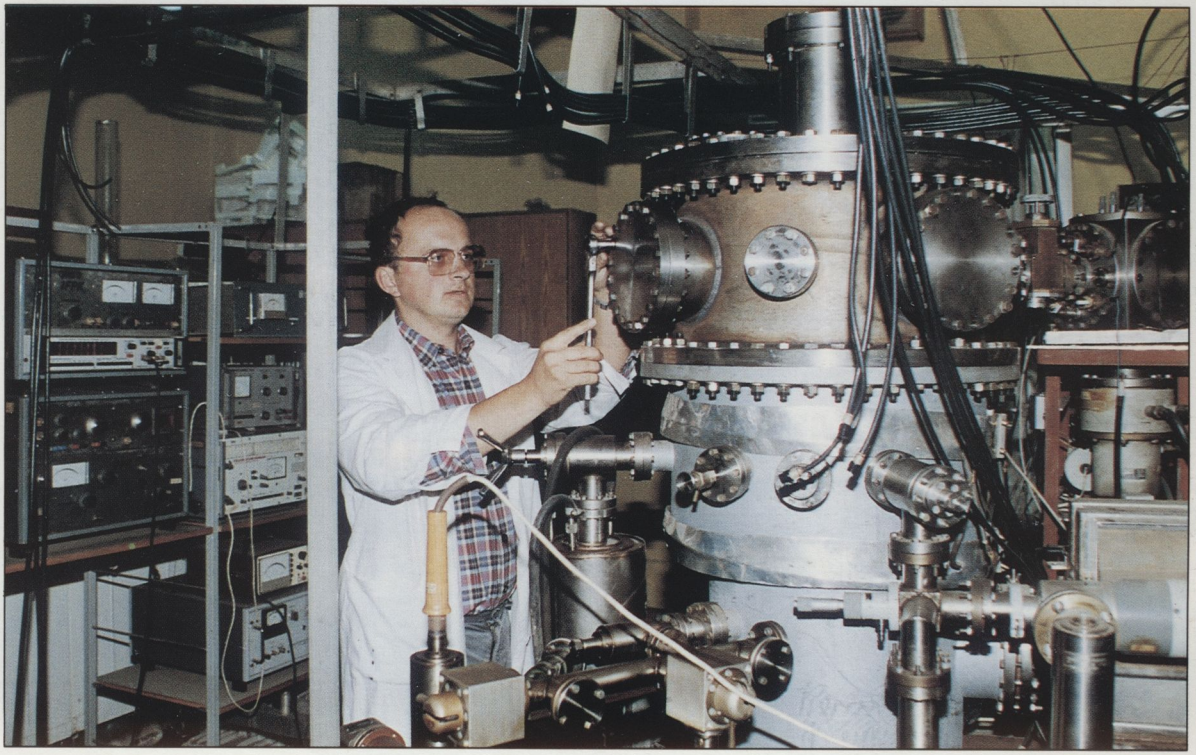
Main research fields: classical physics, elements of solid state physics, laboratory of physics, many-body theory of strongly correlated fermion systems; electron

structure and magnetic properties of intermetallic compounds; photon emission induced by ion bombardment; electronic properties of thin polymeric layers and polymer CT-complexes; analysis and optimal structural design under stability and vibration constraints; internal resonance in structural elements; application of Pontriagin's maximum principle in the optimization of structural elements.

Faculty and research staff:
34 employees, including 2 professors

The Institute is composed of:
Section of Solid State Physics (U-31)
Section of Technical Physics (U-32)

Lecture on Computer Mechanics for 1st year students.



Apparatus for solid body surface examination by ion bombardment

A teaching lab for investigating properties of optically sensitive bodies and light polarization

SECTION OF DESCRIPTIVE GEOMETRY AND ENGINEERING GRAPHICS (U-4)

Main research fields: descriptive and projective geometry (cones theory, 3D-2D projections, perspective projection), geometric design in engineering practice (civil engineering, architecture, transportation - road-view research, dynamic space simulation), visualisation, 3D perception, CAD and computer graphics, CAI for descriptive geometry problems.

Faculty and research staff:
21 employees, including 2 professors, 6 assistant professors.

COMPUTER SERVICES CENTRE
(O-1)
URBAN EDUCATIONAL CENTRE FOR
DEVELOPING COUNTRIES
(O-2)
FOREIGN LANGUAGES CENTRE
(O-3)
PHYSICAL EDUCATION AND
RECREATION CENTRE
(O-4)
PEDAGOGY AND PSYCHOLOGY UNIT
(O-5)
LAB FOR MANAGEMENT COMPUTERIZATION

THE UNIVERSITY LIBRARY

PRINTING HOUSE

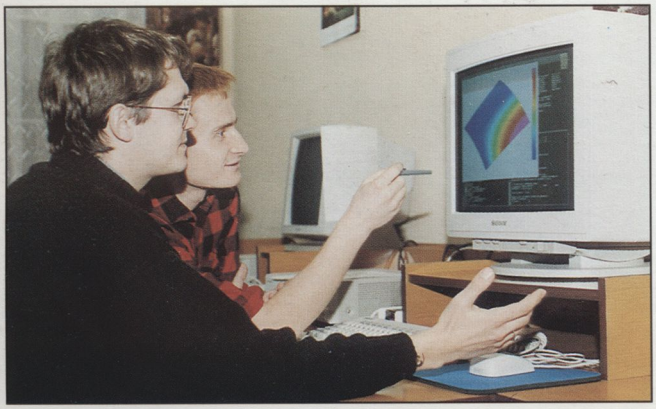
EDITORIAL BOARD OF PUBLICATIONS

OTHER INTER-DEPARTMENTAL UNITS

COMPUTER SERVICES CENTRE (0-1)

Main activities: basic training in computer science; operating systems; programming languages; networking; numerical methods; computer graphics; CAD; computational methods in mechanics (finite element, finite difference and boundary element methods, mathematical foundations).

Research and teaching staff:
14 employees, including 1 professor, 13 assistant professors.

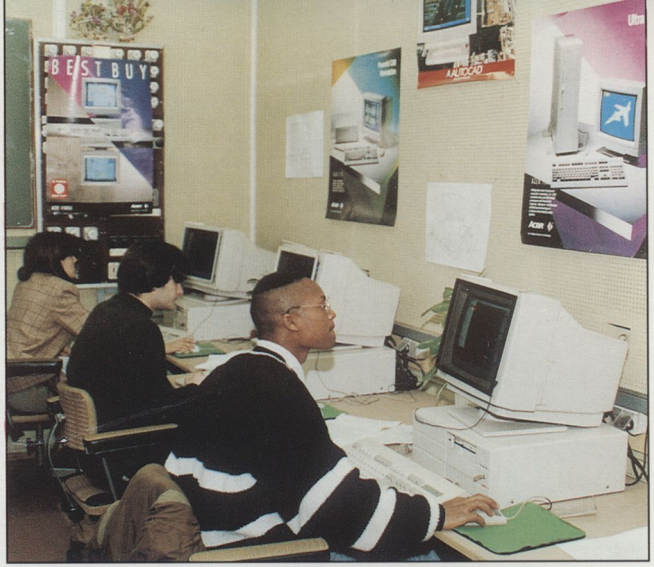


URBAN EDUCATIONAL CENTRE FOR DEVELOPING COUNTRIES (0-2)

The aim of the Centre is to contribute to the cooperation between Poland and developing countries.

Main objectives of the Centre:

- to train staff for urban and regional planning departments at the universities of developing countries;



- to train staff for urban planning offices in federal and state departments, agencies and consulting companies;
- to work out expertise and reports for developing countries with participation of the students coming from these countries;
- to organize training courses for Polish specialists employed in developing countries.

Range of activities of the Centre:

1) studies for M.Sc. and Ph.D. for candidates from developing and other foreign countries;
2) postgraduate courses in urban and regional planning, in urban design and site planning, in urban planning and conservation of historical heritage, housing planning, advanced technique in planning, etc;
3) a special; programme dealing with urban and regional planning for the candidates having urban planning practice;
4) preparatory courses for foreigners who want to study architecture at Polish schools;
5) courses for Polish specialists who are going to work as urban and country planners in developing countries.

Research and teaching staff:

4 employees, including 1 professor, 6 visiting lecturers.

FOREIGN LANGUAGES CENTRE (0-3)

Areas of activities: five languages are taught: English, French, German, Italian and Russian at different levels. The courses are offered for beginners, intermediate and advanced students. The aim is to prepare students to use specialist texts in a foreign language and be able to communicate in everyday situations. Specialist textbooks meeting the needs of the students of particular Departments have been worked out by the teachers of the Centre. The Centre is equipped with modern teaching devices: video, cassette recorders, satellite dishes that make programmes from all over Europe available and a library of over 15.000 volumes plus monthly and quarterly magazines both foreign and published in Poland. The Centre keeps up useful contacts with foreign institutions - the British Council, International House, the Goethe Institute, Institut Francais, A.Pushkin Institute of the Russian Language, Societa Dante Alighieri Cimitato di Firenze, which cooperation helps in upgrading the teachers' qualifications and obtaining the latest teaching materials.
The Centre provides services in translation, interpretation and language consultancy.

PHYSICAL EDUCATION AND RECREATION CENTRE (0-4)

Areas of activities: general physical education courses obligatory for students over 8 semesters and optional courses for graduate students of all the University Departments. Students also take part in sporting events organized by the Centre, such as annual "Street Relay Race" along the route of Tadeusz Kościuszko monuments. Students from all over Poland and foreign student teams participate in it. Every year sailing courses are arranged in the Centre's Sailing Club on the Żywiec Lake.

CUT skiing championship

Rowing race for Rector's cup is held every year at the club. In winter Skiing Championships are held in Zakopane (a resort place in the Tatra mountains) with the participation of students, graduate students and teachers.

Race along the route of T.Kościuszko monuments

PEDAGOGY AND PSYCHOLOGY UNIT (O-5)

Areas of activities: teaching and improving of pedagogical skills for young research-didactic staff; teaching of pedagogy to students (students obtain teaching qualifications); services for the University in the field of audio-visual aids, photo-filming and didactic design; social-educiational research.

LAB FOR MANAGEMENT COMPUTERIZATION

The main task of the Lab is to computerize the management in all the University's units carrying out the teaching-research activities, services and administration (with PC equipment). The Lab is also responsible for the design and coordination of the integral computerization of the central administration, Deans' offices and

Central Library. Other responsibilities of the Lab are control of the computer networks devised for the above tasks, instruction for and supervision of the University's staff in the field of systems modification, making non -typical analyses and statistical records directly from data bases (for the needs of the school).

THE UNIVERSITY LIBRARY

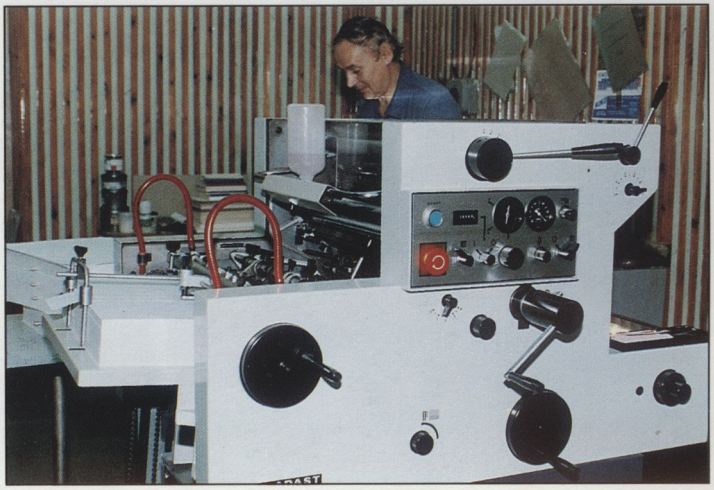
The Library is located on three sites (the Central Library in Warszawska street and in two Students Residential Halls DS-2 and DS-4 in Czyżyny). It has a total bookstock of 274301 volumes and subscribes to 1300 periodical titles. The Library houses collections connected with the teaching and research of the University: architecture, civil and water engineering, sanitary engineering, mechanics and machine design, vehicle and railway transport, electronics, chemistry and chemical technology, computer science, scientific information. The books, periodicals and special collections (norms, patents, business reference materials, graphics, audiovisual aids, etc.) are available in the reading rooms and in a loan service system. The system covers both technical publications and fiction. The loan facilities can be used to obtain materials (Polish and foreign) not on the shelves. The reading room in DS-4 is equipped with reading apparatus and microforms (e.g. microfiches of some articles published in foreign journals) are also available to students and staff.

There are reprographic facilities available: photocopies, xerox, microfilms and slides can be obtained. The Section of Scientific Information provides catalogues, documentation, factographic resources, texts (translations). It also runs teaching of librarianship and summer practical training for students of librarianship. The staff of the Section work out Bibliography of Publications of the University Scientific Staff and Selected Lists of Recent Foreign Acquisitions (quarterly).

A computer programme for subscribing foreign periodicals has been introduced. Computerization of other activities of the Library is being prepared. The Library also participates in a project of setting up a computerized Central Catalogue of Foreign Periodicals in Cracow Libraries.

PRINTING HOUSE

Area of activities: printing of Scientific Papers, Monographs, manuals and other teaching aids, books of reference as well as printing jobs for the needs of the School.



Printing machine

EDITORIAL BOARD OF PUBLICATIONS

Area of activities: preparation and execution of the publishing programme of the school; editorial work and distribution of publications, such as: Scientific Papers of Cracow University of Technology, Monographs, manuals, Technical Bulletin and books of reference.

"SOLIDARITY" TRADE UNION - COMMITTEE
OF CRACOW UNIVERSITY OF TECHNOLOGY

POLISH TEACHERS' TRADE UNION -
UNIVERSITY COUNCIL

SOCIAL ORGANIZATIONS

"SOLIDARITY" TRADE UNION - COMMITTEE OF CRACOW UNIVERSITY OF TECHNOLOGY

The main aims and methods of the activities of Independent and Autonomous Trade Union "Solidarity" are defined in its Programme. The basic range of activities of the Union covers the defence of socially just interests, both material and intellectual, of the employees. This refers particularly to salary, social welfare and other payment matters as well as affairs related to the practicing of the profession of academic teacher, engineer and technician.

Rejecting the model of a union whose aim is claiming, it attempts to form decisions favourable for the employee already at the stage of their being made. Hence the necessity of active participation in election of the School's authorities. Apart from this, representatives of the Union sit on collective bodies (in an advisory capacity) such as the University Senate, Institute Councils, as well as Senate, Rector's and Department committees.

The highest governing bodies of the Union in the periods between General Assemblies of Delegates are Union Committees and Commissions of Appeal elected by the General Assembly. Members of the Union are also members of higher level governing bodies of the Union - at the level of region as delegates to the National Convention, members of National Commission of Appeal and National Section of Education.

POLISH TEACHERS' TRADE UNION - UNIVERSITY COUNCIL

The Polish Teachers' Trade Union, as old as Cracow University of Technology, is an organization that represents professional, economic and social interests of the School's employees. The Union's aim is to see to the realization of employees' rights, assurance of proper conditions of work, recreation and cultural needs guaranteed within the Trade Union Bill and Labour Code.

The Polish Teachers' Trade Union is autonomous and independent, with the status of legal entity, and acts on the basis of the Statute through its statute bodies, i.e. University Council, Commission of Appeal and Arbitration Panel.

At all the Departments, Administration section and Association of the Retired and Pensioners there function branch councils. The basic tasks of the Union are carried out by permanent and temporary specialized commissions and by the Union representatives in all Rector's and Senate commissions appointed by the University authorities. Decisions and resolutions are made by the Presidium and the University Council of the Union, whose members are chiefs of branch councils and chiefs of all the commissions together with labour inspector.

STUDENTS' UNION

STUDENTS' SPORTS
ASSOCIATION - UNIVERSITY CLUB

ASSOCIATION OF ALUMNI
OF CRACOW UNIVERSITY
OF TECHNOLOGY

STUDENTS' ORGANIZATIONS

Juvenalia - student festival

STUDENTS' UNION

All students become members of the Union automatically. Its task is to represent students before the School authorities, participation in governing the School via its representatives in collective bodies and organization of students' living conditions.

There are following permanent commissions of the Union:
- for social affairs, which deals with the distribution of places in student hostels, scholarships, grants and benefits,
- for teaching affairs, which participates in all works connected with current teaching activities and changes of the teaching process at particular Departments.

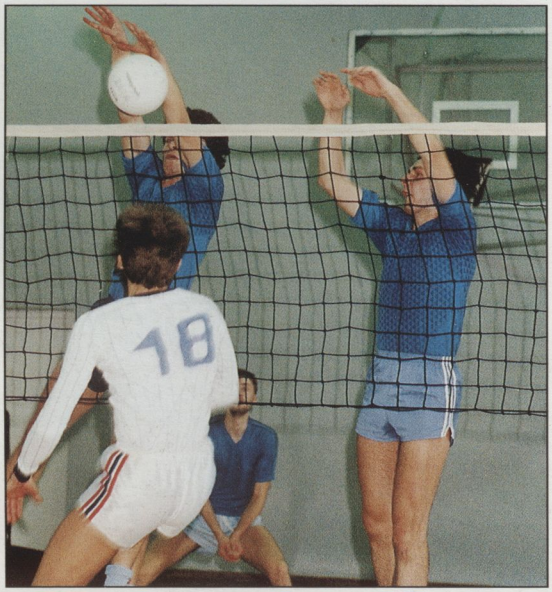
The Union does not represent opinions or postulates of any political party or other student organization.

Czyżyny - CUT housing cooperative

STUDENTS' SPORTS ASSOCIATION-UNIVERSITY CLUB

The main aim of the University Club of the Students' Sports Association is to encourage the largest possible number of students to practise sports and to provide opportunities of recreation. The main sporting events are: the "Street Relay Race" along the route of Tadeusz Kościuszko monuments, Skiing Championships for students and teachers, organizing (together with the Physical Education Centre) training camps for the degree of qualified sailor and yachting helmsman: sea and lake cruises; organization of tennis tournaments, basketball, volleyball and football matches; organization of cultural events.

The activities of the Association are run by 17 sections which take part in inter-school competitions, school championships of Polish Universities and International Tournaments.

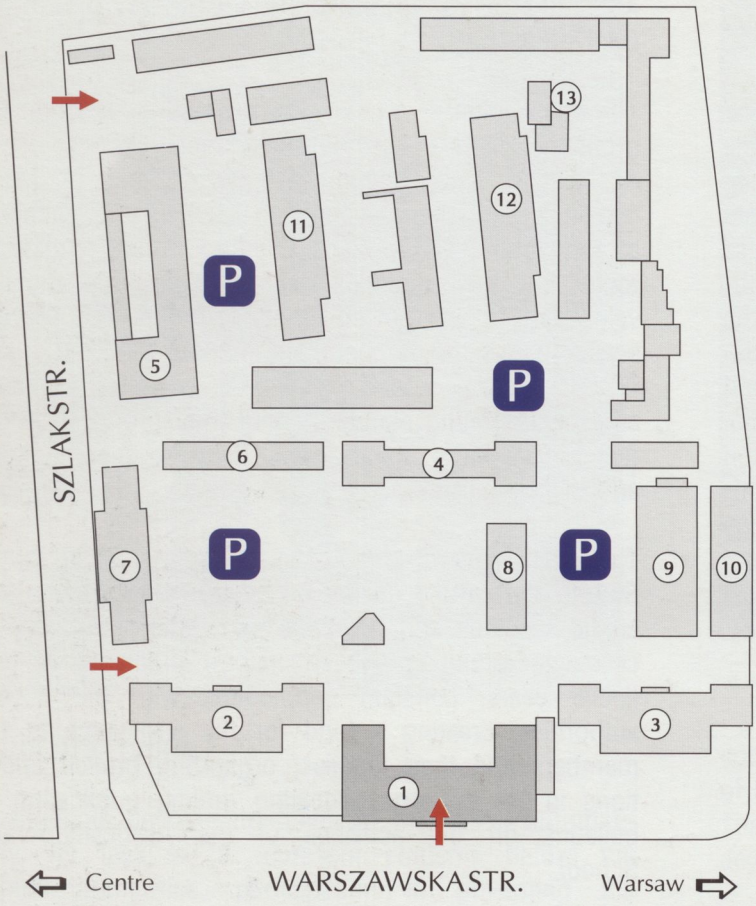


ASSOCIATION OF ALUMNI OF CRACOW UNIVERSITY OF TECHNOLOGY

The Association of Alumni was founded in 1958 on the ground of General Assembly resolution. The aim of the Association is to encourage former students to maintain links with the University to keep up the traditions of the School and provide the opportunity to stay in touch with colleagues as well as to keep up and develop the principles of ethics of the profession. The Association assists its members in scientific and qualifications upgrading and exchange of experience; it takes care of the young people starting their professional career; it organizes financial assistance to the members and their families.

The main aims of the Association are defined in the Statute and carried out by the Board by organizing scientific sessions and meetings and publishing the proceedings; arranging conventions for graduates of particular years, constant cooperation with the School authorities; creating a fund for the assistance to the members and their families; organizing branch affiliations in the country; allocating grants; publication of bulletins on the activities of the Association and School.

Membership of the Association is manifested by the Association Badge. Members of particular merit are bestowed with honorary membership and Golden Badge of the Association.

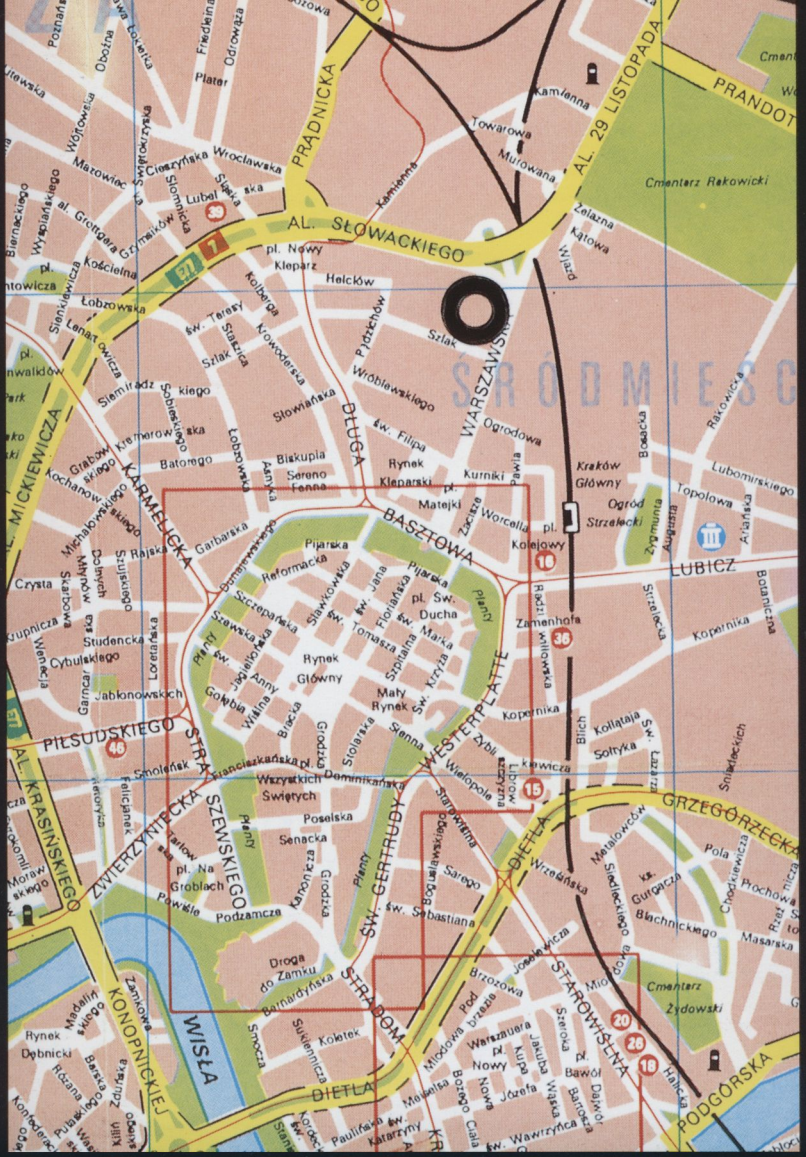


MAIN BUILDINGS OF THE UNIVERSITY

1. DEPARTMENT OF CIVIL ENGINEERING - MAIN BUILDING OF THE UNIVERSITY
2. DEPARTMENT OF MECHANICAL ENGINEERING AND ELECTRICAL ENGINEERING
3. DEPARTMENT OF WATER AND SANITARY ENGINEERING
4. DEPARTMENT OF ARCHITECTURE
5. DEPARTMENT OF CHEMICAL ENGINEERING AND TECHNOLOGY
6. DEPARTMENT OF MECHANICAL ENGINEERING (INSTITUTE OF AUTOMOBILES AND INTERNAL COMBUSTION ENGINES)
7. THE UNIVERSITY LIBRARY
8. READING-ROOM
9. CANTEEN
10. ADMINISTRATIVE OFFICES AND INSTITUTE OF LANDSCAPE ARCHITECTURE
11. DEPARTMENT OF CIVIL ENGINEERING - INSTITUTE OF BUILDING MATERIALS AND STRUCTURES
12. DEPARTMENT OF MECHANICAL ENGINEERING -LABORATORY, INSTITUTE OF HEAVY DUTY MACHINES (M-3) AND INSTITUTE OF INDUSTRIAL APPARATUS AND POWER ENGINEERING (M-5)
13. DEPARTMENT OF ELECTRICAL ENGINEERING - INSTITUTE OF ELECTROMECHANICAL ENERGY CONVERSION (E-2)

P PARKING LOT

ENTRANCE



PODCHORĄŻYCH STR.

INSTITUTE OF PHYSICS

PE AND RECREATION CENTRE

PEDAGOGY AND PSYCHOLOGY UNIT

EDITORIAL BOARD OF CUT PUBLICATIONS

PRINTING HOUSE

DRIVING TRAINING CENTRE

CZYŻYNY

FACULTY OF MECHANICAL ENGINEERING

STUDENT HALLS OF RESIDENCE

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