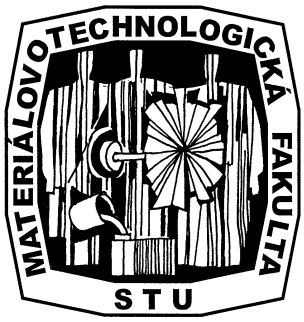
FACULTY OF MATERIALS SCIENCE AND TECHNOLOGY

ANNUAL REPORT 2000



SLOVAK UNIVERSITY OF TECHNOLOGY
BRATISLAVA

FACULTY OF MATERIALS SCIENCE AND TECHNOLOGY
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ANNUAL REPORT 2000

SLOVAK UNIVERSITY OF TECHNOLOGY
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Foreword

The Faculty of Materials Science and Technology (MtF) in Trnava was established on 1 January 1986 by decree of the Czechoslovak Government. It was originally named the Faculty of Machine Technology. However, the history of this Faculty is much older than the date of its establishment shows. Its history is closely connected with the technological branches of machine construction, the foundations of which were laid at the Department of Mechanical and Electrical Engineering in the forties.

In February 1991 the Academic Senate of the Faculty suggested a new name for this institution - the Faculty of Materials Science and Technology - which is its present official name. Faculty of Materials Science and Technology is one of the six faculties of the Slovak University of Technology (STU), the oldest and the largest University of Technology in Slovakia.

In the academic year 1999-2000 the Faculty comprises the following departments:

Department of Applied Mechanics
Department of Engineering Pedagogy and Psychology
Department of Forming
Department of Foundry
Department of Humane Sciences
Department of Industrial Ecology
Department of Information Technology and Automation
Department of Languages
Department of Machining and Assembly
Department of Management and Quality Engineering
Department of Materials Engineering
Department of Mathematics
Department of Physical Education and Sports
Department of Physics
Department of Technological Devices and Systems
Department of Welding

Detached workplaces in Brezno, Dubnica, Partizánske and Komárno

The educational and research activities of the Faculty are aimed at training the experts and solving research tasks in the field of industrial (partially mechanical engineering) production, where issues related to engineering materials, technological processes, production management and quality control, information technologies and automation processes in production plants, together with ecological and humane aspects of production processes are being dealt with.

Following the requirement for diversification of all forms of study and graduate profiles, the Faculty provides Bachelor's degree courses (BSc.), Master's degree courses (MSc.), and postgraduate doctoral (PhD) degree courses. In the academic year 2000 - 2001 studied at the Faculty in various courses 3380 students.

It is possible to study the following majors within the below mentioned types of accredited courses:

1. Bachelor degree courses (3 years)
Information Technologies
Technical Materials
Industrial Ecology
Industrial Management

Applied Informatics and Information Systems

2. Master of Science degree courses (5 years)
Machine Technology
Technological Devices and Systems
Materials Engineering
Environmental Engineering
Management of Industrial Plants
Applied Informatics and Automation in Industry
Production Quality Engineering

3. PhD degree courses (4 years)
Automation and Control
Materials Engineering and Limiting States of Materials
Machine Technologies and Materials
Production Quality Engineering
Plant Management
Theory of Technical Subjects Training

4. Complementary Teacher Training (2 years)
Teaching the Technical Subjects

The scientific research of the Faculty of Materials Science and Technology respects the scientific and pedagogic profile of the Faculty and is carried out in the following forms:
grant research, institutional research, research within the framework of programmes of international scientific and research co-operation, research within the framework of entrepreneurial Faculty activities.

The basic organisational units promoting the scientific research programme at the Faculty are the departments.

In organising the activities the Faculty builds upon its traditional and long-term relations with foreign partner universities and foreign enterprises. The most important are: Technische Universität Wien Austria, Technische Universität Darmstadt Germany, Technische Universität Cottbus Germany, Fachhochschule Koethen, Germany, State University of Technology in Izhevsk Rusia, IFW e.V. Dresden Germany, NIS USA.

International co-operation programmes concentrate especially on co-operation in curriculum development and innovation, professional growth of the Faculty staff and the exchange of students, pedagogic documentation and other information. TEMPUS and CEEPUS (Central European Programme for University Studies) programmes represent a significant form of the updating of our foreign activities.

February 2001

Jozef Sablik, PhD, Professor
Dean of the Faculty

Presidium of the Faculty

Dean:	***Jozef Sablik, PhD, Prof.***
Vice-deans:	Oliver Moravčík, PhD, Prof. Milan Turňa, PhD, Prof. Jozef Vaský, PhD, Assoc. Prof. Alexander Štrpka, PhD, Assoc. Prof. Viktor Bajčík, PhD, Assoc. Prof.
Adress:	Materiálovotechnologická fakulta STU Paulínska 16 917 24 Trnava Slovak Republic
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Scientific Board

Chairman: Jozef Sablik, PhD, Prof.
Vice-chairman: Milan Turňa, PhD, Prof.
Members:

Jozef Bača, PhD, Prof.
Viktor Bajčík, PhD, Assoc. Prof.
Karol Balog, PhD, Prof.
Pavel Blaškovitš, PhD, Prof.
Peter Grgač, PhD, Prof.
Marián Halabrín, PhD, Assoc. Prof.
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Ján Kalužný, PhD, Assoc. Prof.
Alexander Linczényi, PhD, Prof.
Oliver Moravčík, PhD, Prof.
Jozef Mudrik, PhD, Assoc. Prof.
Alexander Štrpka, PhD, Assoc. Prof.
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Jaroslav Holeček, MSc.Eng.
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Peter Kostka, PhD, Assoc. Prof.
Peter Palček, PhD, Prof.
Štefan Schmidt, MSc. Eng.
Juraj Sinay, PhD, Prof.
Milan Belko, PhD
Jozef Barančok, PhD
Štefan Rosina, MSc. Eng.
Branko Katalinic, PhD, Prof.
Miroslava Ožvoldová, PhD, Assoc. Prof.
Jozef Vaský, PhD, Assoc. Prof.

Academic Senate

Chairman of Senate: Peter Grgač, PhD, Prof.
Chairman of Chamber of Employees: Miroslava Ožvoldová, PhD, Assoc. Prof.
Members:

Viktor Bajčík, PhD, Assoc. Prof.
Karol Balog, PhD, Prof.
Miloš Čambal, PhD
Ivan Jurčo, PhD, Assoc. Prof.
Peter Kotras, PhD, Assoc. Prof.
Ľubomír Martinec, PhD, Assoc. Prof.
Martin Mišút, PhD, Assoc. Prof.
Jozef Mudrik, PhD, Assoc. Prof.
Kvetoslava Rešetová, MSc.
Anton Pokusa, PhD, Assoc. Prof.
Jarmila Šalgovičová, PhD, Assoc. Prof.
Karol Velíšek, PhD, Assoc. Prof.

Chairman of Chamber of Students: Michal Harnúšek
Members:

Erika Bábeľová
Peter Hummel
Ľubomír Košík
Katarína Martyščáková
Andrej Potfaj
Martin Valovič

DEPARTMENT OF APPLIED MECHANICS

Head of the Department
Jozef Mudrik, Assoc. Prof. MSc.(Eng), Ph.D.

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I. STAFF

Professors:	0	Research Fellows:	0
Assoc. Professors:	4	Technical and Admin. Staff:	3
Senior Lecturers:	12	PhD Students:	4
Lectures:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Mechanical laboratory
- Tribological laboratory
- Computational laboratory
- Specialised CAD laboratory
- Manufacturing workshop

II.2 Special Measuring Instruments and Systems

- Experimental stend for testing of mechatronic systems
- Equipment for testing of tribological material properties
- Codes - ANSYS, DYNAST, AutoCAD
- Equipment for noise measurements
- Equipment for strain gauges measurements
-

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Basics of engineering design	1	2-2	Muráň
Manipulations with materials	4	2-1	Janský
Manipulations with materials	4	0-2	Janský
Degradation processes of materials	4	1-1	Jelemenský
Fracture mechanics	4	2-1	Jelemenský
Basics of Engineering Design	1	9-9	Muráň
Technical documentation	5	5-10	Tomaníček

III.2 Graduate Study (Ing.)

H/W Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	Reader's name
Basics of engineering design	8,9	2-1	Muráň
Mechanics of solids	3,7	3-3	Mudrik, Pekárek, Naď
Hydro-thermomechanics	5,7	2-2	Taraba,Behúlová,Kraváriková
Thermodynamics	6	2-2	Behúlová
Strength of materials	4,8	2-2	Jelemenský, Nánási
Mechanisms and machine parts	5	2-2	Muráň
Computer aided design	6	2-2	Muráň
Theory and technology industry heating	9	2-2	Taraba
Mechanics of technological systems	9	2-2	Mudrik
Mechanics of machines	5	2-2	Mudrik
Fracture mechanics	5	2-1	Jelemenský
Finite element method	6	2-1	Jelemenský
Mechanics of manipulation systems	7	2-2	Mudrik
Tribology	8	2-2	Muráň
Mechatronics	8	2-2	Mudrik
Practice of basics of engineering design	2	0-10	Tomaníček, Riečičiarová
Strength of materials	4	10-10	Jelemenský
Mechanics of solids	4	14-12	Pekárek
Hydro-thermomechanics	5	14-4	Kraváriková
Mechanisms and machine parts	7	10-8	Muráň
Thermodynamics	7	10-8	Behúlová
Theory and technology industry heating	11	9-9	Taraba
Mechanics of manipulation systems	8	8-8	Mudrik

IV. RESEARCH TARGETS

- Modelling, analysis, simulation and experimental investigation of machine aggregates as mechatronic systems.
- Investigation of new friction materials with progressive tribological properties.
- Research and application of new approaches in numerical methods - analysis and simulation of technological and industrial processes, static and dynamic analysis of engineering structures.
- Research and development in the field of theoretical and applied mechanics.
-

V. RESEARCH PROJECTS

V.1 Institutional Projects

- Analysis and synthesis of mechatronical systems (No.MtF/814)
- Analysis of dynamical properties of some mechatronic systems. (No. MtF/815)
- Reliability of energetical equipment (No. MtF/816)
- Numerical prediction of temperature fields, energetic and deformation states and structures in technological process problems (No. MtF/817)

V.2 National Grants (VEGA, KEGA)

- none

V.3 International Projects

- „Methods of analysis and synthesis of rotational machine aggregates with gearing„ International grant - Cooperation with foreign partners: IzhGTU Izhevsk, Russia, IMS TU Brno, Czech Republic
  Problems of improvement of gears, being the most widespread, universal and effective means of torque and motion transfer, development of new methods of their research, design and production are one of the urgent problems of mechanical engineering and attract the engineers and researchers attention. The stated activity plan involved sections and stages, oriented to a wide class of gears, in particular:
  - development of numerical methods of gear dynamics and geometry modelling,
  - development of the approach to the item design construction based on the composition - decomposition method,
  - development of testing and measuring equipment, the results adaptation, and other, and also sections, connected with development of the theory of spiroid gears, gear-boxes and motor-gears design, with scientific bases and their design, manufacturing and tests practice.

VI. CO-OPERATION

VI.1 National Co-operation

- Department of Machine Parts, Faculty of Mechanical Engineering, Slovak University of Technology in Bratislava

VI.2 International Co-operation

- Co-operation with foreign partners: IzhGTU Izhevsk, Russia; BAS Sofia, Bulgaria; TU Warsaw, Poland; IM RAS Moscow, Russia; IMS TU Brno, Czech Republic

VI.3 Contracts with Industry

- Co-operation with EBO Jaslovské Bohunice, EMO Mochovce, VUJE Trnava.

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

- Protection of human-operator against sound and vibration effects. (Mudrik)
- A Comparison of classical and typical frame welded constructions. (Naď)

VII.2 Dissertations (Ph.D.)

- Labašová Eva - Development of student self-access work to application of cross-subject relations.

VII.3 Habilitations (Assoc. Prof.)

none

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- Mudrik Jozef - staff - Institute of Mechanics, Izh.GTU Izhevsk, Russia
-

VIII.2 Foreign Visitors to the Department

- Goľdfarb V. I. - Director of Institute of Mechanics, Izh.GTU Izhevsk, Russia
- Minkoff K. P. - Head of Institute of Mechanics, BAS Sofia, Bulgaria
- Airapetov E. L. - IM RAS Moscow, Russia
- Tesker J. I. - Volgograd State University of Technology, Volgograd, Russia
- Kostjukov V. N. - NPC - Dynamics, Omsk, Russia
- Oleksiuk W. - Institute of Micromechanics and Photonics, Warsaw University of Technology, Warsaw, Poland
- Mitutsova L. - Institute of Mechanics, BAS Sofia, Bulgaria
- Branowski B. - Poznan University of Technology, Poland
- Torzyński D. - Poznan University of Technology, Poland

VIII.3 Organised Conferences, Seminars and Workshops

- 5th International Conference - „Dynamics of Machine Aggregates 2000“
- 27-29. June 2000, Gabčíkovo

IX. PUBLICATION

[1] **JELEMENSKÝ Jozef**: Assessment of sudden fracture of T-type high-energy piping. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s.

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[4] **RIEČIČIAROVÁ Eva**: Reduction of product weight. In: *OBRÁBANIE - VÝROBNÁ TECHNIKA 2000 - Medzinárodná vedecká konferencia pre doktorandov, školiteľov a pracovníkov z praxe*. Žilina, 2000, s. 105-109.

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[6] **KRAVÁRIKOVÁ Helena**: Evaluation of the experiment and numerical simulation of inverse problem of conduction of the heat. In: *Zborník prednášok zo 6. medzinárodnej konferencie AKADEMICKÁ DUBNICA* 2000. Bratislava: STU, 2000, s. 79-86.

[7] **MUDRIK Jozef**: The effect of stiffness of the speed-torque characteristics of the electric motor upon the vibration of the machine aggregate. In: *Zborník prednášok zo 6. medzinárodnej konferencie AKADEMICKÁ DUBNICA* 2000. Bratislava: STU, 2000, s. 97-102.

[8] **PEKÁREK František**: Axoids of body motion for helical-rotationally of body motion. In: *Zborník prednášok zo 6. medzinárodnej konferencie AKADEMICKÁ DUBNICA* 2000. Bratislava: STU, 2000, s. 113-118.

[9] **TARABA Bohumil**: State deformation and stress in welded CuSn10 on the steel substrate, numerical analysis. In: *Zborník prednášok zo 6. medzinárodnej konferencie AKADEMICKÁ DUBNICA* 2000. Bratislava: STU, 2000, s. 137-142.

[10] **LABAŠ Vladimír - LABAŠOVÁ Eva - MINÁRIK Stanislav**: Computation of the residual stresses in layered composite z/ZrO_2+Al_2O_3. In: *Zborník prednášok zo 6. medzinárodnej konferencie AKADEMICKÁ DUBNICA* 2000. Bratislava: STU, 2000, s. 193-198.

[11] **ĎURIŠ Rastislav - JELEMENSKÝ Jozef**: Numerical simulation of joint assembly process of flange. In: *CO-MAT-TECH* 2000: *8. medzinárodná vedecká konferencia*: *Časť*: *Aplikované prírodné a inžinierske vedy. Bratislava*: STU, 2000, s. 225-230.
[12] **KRAVÁRIKOVÁ Helena**: Statistical evaluation of the experimental results. In: *CO-MAT-TECH* 2000: *8. medzinárodná vedecká konferencia*: *Časť*: *Aplikované prírodné a inžinierske vedy. Bratislava*: STU, 2000, s. 237-242.
[13] **MUDRIK Jozef**: The influence of the electric drive parameters on the elecktromechanical systems vibrations. In: *CO-MAT-TECH* 2000: *8. medzinárodná vedecká konferencia*: *Časť*: *Aplikované prírodné a inžinierske vedy. Bratislava*: STU, 2000, s. 255 – 260.
[14] **NAĎ Milan - ĎURIŠ Rastislav - LABAŠOVÁ Eva**: Numerical stress analysis of surface layers of the toothing. In: *CO-MAT-TECH* 2000: *8. medzinárodná vedecká konferencia*: *Časť*: *Aplikované prírodné a inžinierske vedy. Bratislava*: STU, 2000, s. 261-266.
[15] **TARABA Bohumil**: Thermal and pneumatic analysis of the cooler. In: *CO-MAT-TECH* 2000: *8. medzinárodná vedecká konferencia*: *Časť*: *Aplikované prírodné a inžinierske vedy. Bratislava*: STU, 2000, s. 287-292.
[16] **TARABA Bohumil**: Analysis of air flow in technological space. In: *Proceedings of the 5th International Conference DYNAMICS OF MACHINE AGGREGATES 2000*. Bratislava: STU, 2000, s. 205-210.
[17] **PEKÁREK František - PEKÁRKOVÁ Ružena**: Relation for translational velocities of center velocity for contemporary movement of pair of plane rigid bodies. In: *Proceedings of the 5th International Conference DYNAMICS OF MACHINE AGGREGATES 2000*. Bratislava: STU, 2000, s. 165-170.
[18] **NÁNÁSI Tibor**: Qualitative estimation of locallization of vibrational eigenmodes. In: *Proceedings of the 5th International Conference DYNAMICS OF MACHINE AGGREGATES 2000*. Bratislava: STU, 2000, s. 148-151.
[19] **MUDRIK Jozef - RIEČIČIAROVÁ Eva**: Stand for transmission testing. In: *Proceedings of the 5th International Conference DYNAMICS OF MACHINE AGGREGATES 2000*. Bratislava: STU, 2000, s. 128-131.
[20] **MUDRIK Jozef - KRÁL Štefan**: Analysis and modelling of kinematical and geometrical deviations in gearing. In: *Proceedings of the 5th International Conference DYNAMICS OF MACHINE AGGREGATES 2000*. Bratislava: STU, 2000, s. 121-127.
[21] **NAĎ Milan - LABAŠOVÁ Eva - ĎURIŠ Rastislav:** Contact analysis of involute toothing with tooth covered by surface layers. In: *Proceedings of the 5th International Conference DYNAMICS OF MACHINE AGGREGATES 2000*. Bratislava: STU, 2000, s. 143-147
[22] **GOĽDFARB V. I. - AIRAPETOV E. L. - MUDRIK Jozef - KRÁL Štefan - KRATOCHVÍL Ctirad**: Organizacija meždunarodnogo naučno-obrazovateľnogo centra „Peredači i transmissji„. In: *Proceedings of the 5th International Conference DYNAMICS OF MACHINE AGGREGATES 2000*. Bratislava: STU, 2000, s. 74-79.
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[24] **LACKO František**: Possibilities of vibration damping of a tower building crane with non-slewing tower. In: *Proceedings of the 5th International Conference DYNAMICS OF MACHINE AGGREGATES 2000*. Bratislava: STU, 2000, s. 117-120.
[25] **MUDRIK Jozef - LABAŠOVÁ Eva - RIEČIČIAROVÁ Eva**: The experimental equipment for measurement of dynamical characteristics of the machine aggregate. In: *EXPERIMENTÁLNÍ ANALÝZA NAPĚTÍ 2000: Experimental Stress Analysis 2000*. Brno: TU, 2000, s. 207-214.
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[29] **TOMANÍČEK Stanislav**: Effect of engineering work automatization in PTA-appliances on the final quality and reliability of machines. In: *5. medzinárodné vedecké sympózium*: *5th international scientific symposium KVALITA A SPOĽAHLI-VOSŤ STROJOV*: *QUALITY AND RELIABILITY OF MACHINES*. Nitra: SPU, 2000, s. 106-108.
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[33] **ANTALA Jozef - MURÁŇ Miroslav:** New standards ISO STN for technical documentation. In: *STROJNÉ INŽINIERSTVO* 2000: *MECHANICAL ENGINEERING* 2000: *Zborník referátov z medzinárodnej konferencie.* II. *Časť*. Bratislava: STU, 2000, s. 7/6-7/9.

[34] **LABAŠOVÁ Eva - ĎURIŠ Rastislav - NAĎ Milan**: Stress analysis of inovative surface layers of involute toothing. In: *STROJNÉ INŽINIERSTVO* 2000: *MECHANICAL ENGINEERING* 2000: *Zborník referátov z medzinárodnej konferencie.* II. *Časť*. Bratislava: STU, 2000, s. 7/14-7/18.

[35] **MUDRIK Jozef**: Resonant phenomenon of machine aggregate with gearing. In: *STROJNÉ INŽINIERSTVO* 2000: *MECHANICAL ENGINEERING* 2000: *Zborník referátov z medzinárodnej konferencie.* II. *Časť*. Bratislava: STU, 2000, s. 7/27-7/32.

[36] **RIEČIČIAROVÁ Eva - ORAVCOVÁ Jarmila:** Transmission testing. In: *STROJNÉ INŽINIERSTVO* 2000: *MECHANICAL ENGINEERING* 2000: *Zborník referátov z medzinárodnej konferencie.* II. *Časť*. Bratislava: STU, 2000, s. 7/33-7/36.

[37] **DUFEK J. - TARABA Bohumil**: Thermal analysis and evaluation of exotermical properties of nickel-aluminium powders for bond layers in plasma and fame sprayed coatings. In: *European Conference JUNIOR EUROMAT* 2000. Lausanne: DGM, 2000, s. 443.

[38] **NAĎ Milan - LOVÍŠEK Ján**: Dynamical analysis of a straight elastic structures in a viscoelastic environment. In: *NMCM* 2000: *Proceeding of* VIIIth I*nternational Conference on NUMERICAL METHODS IN CONTINUUM MECHANICS* 2000. Žilina: ŽU, 14 s.

DEPARTMENT OF ENGINEERING PEDAGOGY AND PSYCHOLOGY

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I. STAFF

Professors:	2	Research Fellows:	0
Assoc. Professors:	3	Technical and Admin. Staff:	3
Senior Lecturers:	7	PhD Students:	23
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

-

II.2 Special Measuring Instruments and Systems

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Industrial Psychology	1	0-2	Schuller
Communication in Management	8	0-2	Borošová

III.2 Graduate Study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	Reader's name
Psychology in Management	9	0-2	Kováč
Leadership	7	2-2	Schuller
Industrial Psychology	5	0-2	Schuller

IV. RESEARCH TARGETS

V. RESEARCH PROJECTS

V.1 EDUCATION AND RESEARCH PROJECTS

-
- **Education and Training of Engineering Graduates in the Third Millennium.**
  *Grant task VEGA, 770 (1/6186/99).*The aim of the research is to investigate the ways of reshaping the system of education and training of engineering graduates so that they are able to meet the requirements for graduates qualification in the field of intellectually demanding technologies, regarding the pass to information society.
-

- **Pedagogical Study of** Higher **Education Teachers.** *Grant task G/600/2000.* It is being widely recognized that to ensure continuous increase in a level of higher education in Slovakia, there is a need for consistent innovation of the contents of education at all faculties and in all specializations with future prospects. However, this is likely to be determined by implementation of progressive organization forms of education, such as module and distance learning.
  In the case of Pedagogical Study for Higher Education Teachers, the need to shift towards partly distance type of learning is driven by the fact that the curriculum of this study consists in 12 different subjects amounting to 204 lectures.
  The aim of the present project is, therefore, to convert two main subjects of the Pedagogical Study for Higher Education teachers, in particular Engineering Pedagogy and Psychology, into a module and distance on-line form of instruction.
- **Designing** the **Model of the STU Staff Teacher Training.** Grant task KEGA. The aim of the grant task is making needs analysis of the University staff and its official representatives in-service teacher training, getting their attitudes and opinions on this type of training, and consequently creating the teacher training model based on the needs analysis.
- Slovak Educational System on the Way to European Union. Faculty task, 819
- Projecting Multimedia Applications. Faculty task, 820
- Didactic Parameters of Hypertextual and Multimedia Applications. Faculty task, 810
- Evaluation of Study at MtF STU. Faculty task.
-

VI. COOPERATION

- Beloruskij Politechnitcheskij Institute, Minsk
- Technische Universität, Dresden
- Muszaki Egyetem, Budapest
- Politechnika Slonska, Gliwice
- Universität für Bildungswissenschaften, Klagenfurt
- Technische Universität, Wien
- Technische Universität, Darmstadt
- Technische Hochschule, Hannover
- Technische Hochschule, Zürich
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VII. THESES

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

VII.2 Dissertations (Ph.D.)

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[1] Krajčovič J.: The Intensity of the engineering subjects education by the innovation of the physics education.

[2] Labašová E.: Development of student self-access work to application of cross-subject relations.

[3] Mišútová M.: The Development of creative technical thinking in subject Basic Computer Graphics.

VII.3 Habilitations (Assoc. Prof.)

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- [1] Kostelník, J.: Automous learning of secondary and tertiary technical school students.

VIII. OTHER ACTIVITIES

VIII.1 Complementary Pedagogical Study - four-semester, daily:

-

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	Reader's name
Pedagogy I	1	2,3-0	Budinec, Kostelník
Psychology I	1	2,3-0	Borošová, Bustinová
School Youth Biology	1	1,53-0	Broniš
History of Engineering	1	1,53-0	Chyba
Pedagogy II	2	1,4-0,92	Budinec, Kostelník
Psychology II	2	1,4-0,92	Borošová, Bustinová
Didactics of Special Technical Subjects I	2	1,4-0,92	Vašková, Hrmo, Kundrátová, Tináková, Koláriková
Didactics of Special Technical Subjects II	3	2,3-0	Vašková, Hrmo, Kundrátová, Tináková, Koláriková
Adult Education	3	1,53-0	Kostelník
Basics of Legal Education	3	1,53-0	Kopšová
Mental Hygiene	3	1,53-0	Bajčík
Didactic Techniques	3	1,53-0	Hambalík
Seminar on Pedagogical Practice	4	0-1,53	Vašková, Hrmo, Kundrátová, Tináková, Koláriková
Pedagogical Practice	4	0-3,1	Vašková, Hrmo, Kundrátová, Hambalík, Tináková, Koláriková

VIII.2 Graduation Exam Subjects

-
- Pedagogy
- Didactics
- Psychology

In 2000 the Department also delivered the following courses:

- Complementary Pedagogical Study (part-time) - three-semester / 300 hrs
  Note: Both types of the Complementary Teacher Training are accredited by the European Monitoring Committee of the International Society of Engineering Pedagogy (IGIP) for an 'ING.PAED-IGIP' degree standards.
- Pedagogical Study for Higher Education Teachers - in compliance with the European standards - 204 hrs.
- The Second Qualification Exam for the High School Pedagogical Workers with at least 10-year Experience - 30 hrs and defence of final work.

IX. PUBLICATIONS

[1] ROSA Vladislav – **TUREK Ivan** – ZELINA Miron: *A concept design of Education Development in Society: Project Millennium*. Bratislava: Slovdidac, 2000. 55 s.

[2] Education of Adults. Andragogy: A terminological one-language dictionary. Kol. autorov : … Alexander Hambalík. Bratislava: Slovenské pedagogické nakladateľstvo. 2000.

[3] **HRMO Roman – BOROŠOVÁ Zuzana**: Opinions of university teachers on the use of videotechnology in educational process. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 8, s. 113 – 118.

[4] **DRIENSKY Dušan**: Didactics aspects of life-long education of engineers for 21st century. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s.

[5] **HAMBALÍK Alexander**: Basic didactic parameters of hypertext and multimedia applications. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s.

[6] **KOSTELNÍK Jan – KOLÁRIKOVÁ Helena**: Particular aspects of study at the Slovak University of Technology. In: *Aula* , 8, 2000, č. 4, s. 93 – 99.

[7] **TUREK Ivan**: System of education of pedagogical staff in SR by turn of millennium. In: *Technológia vzdelávania*, 8, 2000, č. 1, s. 8 - 13.

[8] **TUREK Ivan**: System of education of pedagogical staff in SR by turn of millennium. In: *Technológia vzdelávania*, 8, 2000, č. 2, s. 16.

[9] **TUREK Ivan**: Education policy of EU and effects of enrolment SR into EU on education system. In: *Technológia vzdelávania*, 8, 2000, č. 3, s. 3 - 10.

[10] **TUREK Ivan**: Education policy of EU and effects of enrolment SR into EU on education system. In: *Technológia vzdelávania*, 8, 2000, č. 4, s. 10 - 13.

[11] ROSA Vladislav - **TUREK Ivan** - ZELINA Miron: Suggest of conceptions development of training and education in SR: Project "Millennium. In: *Slovenský učiteľ-príloha Technológie vzdelávania*, 2000, s. 1 - 55.

[12] **HAMBALÍK Alexander**: Experiences from the course for teachers of secondary schools in information science and computer technique. In: *Technológia vzdelávania*, 8, 2000, č. 8, s. 5-6.

[13] **HAMBALÍK Alexander** – MESÁROŠOVÁ Adriana: Real possibilities of applying new forms and method of instruction on information science and computer technique. In: *Technológia vzdelávania*, 8, 2000, č. 8, s. 2 –4.

[14] **WÁGNER Róbert – BAJČÍK Viktor**: Regarding cognitive styles and learning styles in educational process. In: *Vzdelávanie dospelých,* 5, 2000, č. 2, s. 23 – 31.

[15] **DRIENSKY Dušan**: Function physics in engineering study. In: *FUNKCIA PRÍRODNÝCH DISCIPLÍN VO VZDELÁVANÍ INŽINIEROV*. Bratislava: ZSVTS, 2000, s. 4 – 8.

[16] **DRIENSKY Dušan**: Position of didactic in engineering technical study. In: *NIEKTORÉ ASPEKTY PRÍPRAVY INŽINIEROV PRE 21.STOROČIE*. Bratislava: STU, 2000, s. 4 – 8.

[17] **BAJČÍK Viktor** – SARMÁNY-SCHULLER Ivan: Cognitive and emotional reflection of work environment factors in the field of health care. In: *ZVLÁDANIE PSYCHICKEJ ZÁŤAŽE A STRESU*. B.v.ú. (2000), s.163 – 168.

[18] **BUSTINOVÁ Ludmila – BOROŠOVÁ Zuzana**: Positive and negative pedagogical and psychological characteristics of university teachers. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Humanitné a spoločenské vedy v technike*. Bratislava: STU, 2000, s. 15 – 20.

[19] **DRIENSKY Dušan**: Humanise of engineering study by turn of 21st century . In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Humanitné a spoločenské vedy v technike*. Bratislava: STU, 2000, s 21 – 24.

[20] **HAMBALÍK Alexander**: Network technology in engineering courses. In: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Humanitné a spoločenské vedy v technike. Bratislava: STU, 2000, s 33 – 36.

[21] **HRMO Roman**: Evaluation of control methods. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Humanitné a spoločenské vedy v technike*. Bratislava: STU, 2000, s 45 – 48.

[22] **KOSTELNÍK Jan – KOLÁRIKOVÁ Helena**: To the instruction in a group of subjects forming the university type of study at the STU. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Humanitné a spoločenské vedy v technike*. Bratislava: STU, 2000, s. 61 – 66.

[23] **TINÁKOVÁ Katarína**: Enforcement of new technologies in technical subjects at the technical school. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Humanitné a spoločenské vedy v technike*. Bratislava: STU, 2000, s . 105 – 108.

[24] **HRMO Roman**: Video – modern mirror. In: *XIII. DIDMATTECH 2000* . Nitra: PdF UKF, 2000, s.
[25] **TINÁKOVÁ Katarína**: Microteaching and university lecturer. In: *XIII. DIDMATTECH 2000*. Nitra: PdF UKF, 2000, s.
[26] **TINÁKOVÁ Katarína**: Multimedia of technical education. In: *XIII. DIDMATTECH 2000*. Nitra: PdF UKF, 2000, s.
[27] **HAMBALÍK Alexander**: Perspective of multimedia aided teaching in Slovak Republic. In: *MODERNIZACE VYSOKOŠKOLSKÉ VÝUKY TECHNICKÝCH PŘEDMĚTŮ: Sborník příspěvků z mezinárodní konference*. Hradec Králové: Gaudeamus, 2000, s. 62 – 64.
[28] **TINÁKOVÁ Katarína**: The implementation of multimedia in the diagnostics of acquired pedagogical skills in teacher training. In: *MODERNIZACE VYSOKOŠKOLSKÉ VÝUKY TECHNICKÝCH PŘEDMĚTŮ: Sborník příspěvků z mezinárodní konference*. Hradec Králové : Gaudeamus, 2000, s. 217 – 219.
[29] **VAŠKOVÁ Ľubica**: Personalisation and individualisation the potential of university teachers. In: *TRENDY TECHNICKÉHO VZDĚLÁVÁNÍ 2000: mezinárodní vědecko-odborná konference* . Olomouc: Univerzita Palackého, 2000, s. 72 - 74.
[30] **WÁGNER Róbert**: Implication of cognitive styles and learning styles in educational process. In: *TRENDY TECHNICKÉHO VZDĚLÁVÁNÍ 2000: mezinárodní vědecko-odborná konference* . Olomouc: Univerzita Palackého, 2000, s. 75 - 77.
[31] **BOROŠOVÁ Zuzana - HRMO Roman**: Evaluation of the use of video in educational process. In: *TRENDY TECHNICKÉHO VZDĚLÁVÁNÍ 2000: mezinárodní vědecko-odborná konference*. Olomouc: Univerzita Palackého, 2000, s.165 - 168.
[32] **KOSTELNÍK Jan**: Qualitätsbewertung des Pilotstudiums der Hochschulpädagogik für Lehrer-Ingenieure. In: *UNIQUE AND EXCELLENT INGENIEURAUSBILDUNG IM 21.JAHRHUNDERTZ: Referate des 29.Internationalen Symposiums „Ingenieurpädagogik 2000*". Biel: Leuchtturm Verlag, 2000, s. 500 – 503.
[33] **HAMBALÍK Alexander**: Problems and perspective of multimedia aided teaching in status of EU and in the Slovak Republic. In*: VZDĚLÁVÁNÍ – Brána k evropské integraci*. Brno: Masarykova Univerzita, 2000, s. 122 – 126.
[34] **DRIENSKY Dušan**: Humanise aspects of education of European engineers. In*: VZDĚLÁVÁNÍ – Brána k evropské integraci*. Brno: Masarykova Univerzita, 2000, s. 225 – 228.
[35] **HAMBALÍK Alexander**: Development and design of hypertext and multimedia applications in Department of Engineering Pedagogy and Psychology SUT. In: *AGRIA MEDIA 2000*. Eger: Esterházi Károly Főiskola, 2000, s. 16.

DEPARTMENT OF FORMING

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I. STAFF

Professors:	2	Research Fellows:	1
Assoc. Professors:	3	Technical and Admin. Staff:	3
Senior Lecturers:	2	PhD Students:	7
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Laboratories of Forming
- Laboratories of Computing Machinery
- Laboratories of Measuring
- Laboratories of High-parametric Forming

II.2 Special Measuring Instruments and Systems

- EU40 and TIRATEST tearing machine
- Hardness tester
- Pendulum impact
- Tool - maker's microscope
- Profile projector
-

III. TEACHING

III.1 Bachelor Study (BC.)

III.2 Graduate Study (ING.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	*Reader's name*
Technology of Forming	6	2-2	Bača, Kotras, Ulík
Theory of Forming	7	3-1	Polák
Volume Forming	9	2-2	Bača
Flat Forming	9	2-2	Kotras
Projection of Manufacturing Processes and Systems in Forming	9	2-1	Polák
Machines and Equipment for Forming	8	2-2	Ulík
Final Project	9	0-5	Kapustová
Technical Preparation for Manufacturing	9	2-2	Polák
Machines for Forming	7	2-2	Ulík
Special Methods of Forming	9	2-1	Bača
Modelling of Forming Processes	9	2-1	Žatkovič
Safety of Machines and Production Facilities	11	9-5	Kapustová
Automation of Forming	11	16-6	Ulík
Flexible Production Lines for Forming Processes	11	9-5	Ulík

Name of subject	*Semester*	H/W L-P	*Reader's name*
Experimental Methods of Forming	10	10-5	Žatkovič
High Parametric Forming	8	2-1	Bača

IV. RESEARCH TARGETS

- Research of new materials forming
- Formability of new materials
- High parametrical forming
- Hardening of surface layer
- Experimental methods for forming
- Computer Simulation
-

V. RESEARCH PROJECTS

V.1 Institutional Projects

- Cavity dies produced by nonconventional technologies, No.893
- Drawing of holes in closed profiles, No.897
- Simulation of the volume forming process. No.807

V.2 National Grants (VEGA, KEGA)

- Kumulative plastical deformation. No. 764, VEGA
- For viewpoint of unstable development of plastic strains of metals with local effect in is important to note approximate equality of the yield and tensile stranght values. Theoretical and experimental analyses of stress overloading for strain $\epsilon > 10^{3}\ s^{-1}$ with superposition of the effects of contact pressures, local temperature increases, the adiabatic Poisson contant, reduction of the moduls of plasticity and the increase of lateral strains shows remitising conditions of the loss of stability in the contact surface layers.
- Production of cavity tools by high-parameter forming. No.776 VEGA
- Project solves the design and application of new non-conventional technology of cavity and cavity bimetallic tools by high-parameter forming with aim by expensive and deficient materials saving. It deal mainly with preparation of new bimetallic materials by surfacing and plating of higher quality and plating of higher quality (move expensive) material on basic (tess quality or less expensive) substrate with following deformation (cavity production) by high-parameter shooting or high-pressure (hobbing methods joined with suppression of residual tensile strains negative effects on the face of cavity tool.
-

VI. CO-OPERATION

VI.1 National Co-operation

- VŠDS, SjF Žilina
- TU, HF Košice
- TU, SjF Košice
- STU, SjF Bratislava
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VI.2 International Co-operation

- University of mining, TU Ostrava
- Military academy, Brno
- VUT, SjF Brno
- Politechnika Katovice

VI.3 Contracts with Industry

- EBO Jaslovské Bohunice
- ŽOS a.s. Trnava
- PFS a.s. Brezová po Bradlom
-

VII. THESES and dissertations

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

[1] Magyarics, C.: Holes drawing in tubes of the big dimensions (Kotras)

[2] Michalička, Z.: Partition of patented wires to the high strenght springs with goal of the minimalization burr dimension (Bača)

[3] Tulis, S.: Physsical model of the forming process and detectors of trajectories for identification stamp velocity and acceleration in the process of forming (M.Bača)

[4] Zlocha, J.: Comparison of conventional and special of pressing the rape from the thin steel sheets. (Polák)

[5] Bezák, M.: The high-rate forming in the practise conditions. (Polák)

[6] Kušnír, R.: Computer scoring of the metal formability. (Ulík)

[7] Lacika, R.: Simulation of forming of the gear uheel forging. (Ulík)

[8] Minárik, J.: Influence of technological and economical aspects on the current development of inreining forming to half – heating. (Kapustová)

[9] Murárik, J.: The lightweight buildings. (Polák)

[10] Ryban, J.: The forming with plastic medium. (Polák)

[11] Rybanová: The high-strength concrete tools with plastic surface. (Polák)

[12] Sajan, B.: Explosion forming of thin sheets. (Kotras)

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

- Žatkovič, J.: The experimental methods and models in the forming.
- Ulík, A.: The utilization of the high hydrostatic pressures in the forming.

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

VIII.2 Foreign Visitors to the Department

VIII.3 Organised Conferences, Seminars and Workshops

- The model plastometry, International science seminar, Trnava, 2000.
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IX. PUBLICATIONS

[1] **BAČA Jozef - BÍLIK Jozef**: *Technology of forming.* Bratislava: STU, 2000. 235 s.

[2] **BAČA Jozef - BÍLIK Jozef - ŽATKOVIČ Juraj**: *The experimental methods in forming*. Bratislava: STU, 2000. 227 s.

[3] **BAČA Jozef – ČAUS, A.S**. – BAČA Marek: Izgotovlenije press-form iz bimetaličeskich zagotovok netradicionnymi sposobami dlja stekoľnoj promyšlennosti. In: *Progressivnyje technologii i sistemy mašinostrojenija,* 11, 2000, s. 32 – 36.

[4] **BAČA Jozef**: The high parametric stamping of ductile iron in collars. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 8, s. 33 – 40.

[5] **KAPUSTOVÁ Mária – BALOG Karol – ŽATKOVIČ Juraj**: The numerical evaluation of the energetic expense from dates attained with measurement during the weight translation. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 8, s. 41 – 46.

[6] **KOTRAS Peter – TARABA Bohumil**: Drifting of the tubing holes with different fillet radiuses and their effect on the velocity medium of fluid liquid. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s. 63 – 68.

[7] **MATEJOV Martin**: The stress fields in forming. In: *III.celoštátny doktorandský odborný seminár: JUNIOR-SLOVMAT 2000: Zborník prednášok*. Trnava: MtF STU, 2000, s.51 - 56.

[8] **BAČA Jozef – BÍLIK Jozef**: New trends in production of cavity tools by methods of forming. In: *TRANSFER 2000: Využívanie nových poznatkov v strojárskej praxi*. Trenčín: GC-TECH, 2000, s. 135 – 137.

[9] **BÍLIK Jozef – BAČA Jozef**: Theoretical aspects of surface layers hardening. In: *TRANSFER 2000: Využívanie nových poznatkov v strojárskej praxi*. Trenčín: GC-TECH, 2000, s. 142 – 145.

[10] **ULÍK Anton**: Working conditions at precise die forging. In: *TRANSFER 2000: Využívanie nových poznatkov v strojárskej praxi*. Trenčín: GC-TECH, 2000, s. 244 – 249.

[11] ALBRECHTOVÁ Irena – BAČA Marek – MIKLEŠOVÁ Katarína – **ŽATKOVIČ Juraj**: Improved transfer of temperature scale from standard to operating instrument. In: *TRANSFER 2000: Využívanie nových poznatkov v strojárskej praxi*. Trenčín: GC-TECH, 2000, s. 290 – 291.

[12] **BAČA Jozef – ŽATKOVIČ Juraj**: Contribution to criterion on the Chocen of Radiating methods for temperature measuerement. In: Konferencia so zahraničnou účasťou : *TEPLOTA A GEOMETRICKÉ VELIČINY*. Bratislava: Slovenská metrologická spoločnosť 2000, s. 54 – 60.

[13] **ŽATKOVIČ Juraj** – BAČA, M.: Equalization of the measured dependences by application of the regression methods as an extrapolation consequence of radiance temperature scale realisation. In: Konferencia so zahraničnou účasťou : *TEPLOTA A GEOMETRICKÉ VELIČINY*. Bratislava: Slovenská metrologická spoločnosť 2000, s. 61 – 64.

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[15] **KOTRAS Peter – POLÁK Karol**: Explosive forming of forging from steel sheet. In: *Zborník prednášok zo 6.vedeckej medzinárodnej konferencie AKADEMICKÁ DUBNICA 2000*. Bratislava: STU, 2000, s. 171 – 174.

[16] **ŽATKOVIČ Juraj** – BAČA Marek – **BAČA Jozef**: Contribution to the temperature measurement in technological processes. In: *Zborník prednášok zo 6.vedeckej medzinárodnej konferencie AKADEMICKÁ DUBNICA 2000*. Bratislava: STU, 2000, s. 255 – 262.

[17] **BAČA Jozef**: Possibilities of the quasi-static and the dynamic stamping of the ductile iron. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 15 – 20.

[18] **BÍLIK Jozef – BAČA Jozef**: Mechanical hardening surface layers. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 39 – 44.

[19] **KAPUSTOVÁ Mária – KOŠŤÁLOVÁ, M. – BÍLIK Jozef**: Suggestion of the technology process of ring forging on HKS with the computing technology standby. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 117 – 122.

[20] **KAPUSTOVÁ Mária – KADLEC, Rudolf**: Influence of increase temperature on mechanical properties of steel 14 220. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 123 – 126.

[21] **POLÁK Karol – KOTRAS Peter**: High parameters forming. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 263 - 266.

[22] SHYMANOVICH Olga – SHYMANOVICH Igor – **BAČA Jozef**: The peculiarities of kinematics flowing metal in the centre of deformation during processing of superficial layers of band by means of the rolling with the dragging. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 269 – 272.

[23] **ULÍK Anton**: Exploration of strain process parameters by simulation program. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 321 – 326.

[24] **ŽATKOVIČ Juraj – BAČA Marek** – TULIS Silvester: Adaptation of the optical path detector applied in die forming process. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 367 – 372.

[25] **POLÁK Karol**: The theoretic basics of impact dynamics. In: *Proceedings of the 5th international Conference DYNAMICS OF MACHINE AGGRE-GATES*. Bratislava: STU, 2000, s. 171 - 176.

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DEPARTMENT OF FOUNDRY

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I. STAFF

Professors:	1	Research Fellows:	2
Assoc. Professors:	3	Technical and Admin. Staff:	3
Senior Lecturers:	3	PhD Students:	4
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Laboratory of foundry theory
- Laboratory of powder metallurgy
- Laboratory of plasma-electrolytic technology
- Laboratory of molten metal
- Laboratory of electromagnetic method and magnetohydrodynamics
- Laboratory of manual formation
- Robotised working-place of die casting

II.2 Special Measuring Instruments and Systems

- The vertical electromagnetic caster for the small profiles
- The high-frequency generator - 400 kHz for the levitation melting
- The medium-frequency induction furnaces 40/100 kg
- The vacuum induction fumace 50 l
- The electric resistance furnace 90 kg for non-ferrous metal
- The electric chamber furnace 35 l
-

III. TEACHING

III.1 Bachelor Study (Bc.)

III.2 Graduate Study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	semester	H/W L-P	Reader's Name
Technology of Casting and Powder Metallurgy	8	2 - 2	Pokusa
Materials and Technologies	2	2 - 3	Podhorský
Processes of Heat-Treatment and Sintering	7	2 - 2	Pokusa
Foundry Technology	5	2 - 1	Pokusa
Tools and Jigs	7	2 - 2	Makovnik
Selected Technologies of Mechanical Engineering	7	3 - 2	Podhorský
Equipment and Tools in Casting and Heat-Treatment	7	2 - 2	Chaus
Technology of Casting and Welding	7	4 - 2	Pokusa
Engineering Technologies and Ecology	7	4 - 2	Murgaš
Non-conventional Metallurgical Processes	8	3 - 2	Murgaš
Technical Preparation of Manufacturing	8	2 - 2	Chaus
Foundry Metals and Alloys	8	3 - 2	Murgaš
Theory of Metallic Powder Material Preparation	9	2 - 2	Pokusa

Name of subject	semester	H/W L-P	Reader's Name
Technology of Metallic Powder Material Processing	9	3 - 2	Pokusa
Foundry Metals and Alloys and their Preparation	9	2 - 2	Murgaš
Special Production Method in Foundry	9	2 - 2	Makovník
Projecting of Manufacturing Processes and Systems in Foundry	9	2 - 2	Chaus
Automation of Casting Processes	9	2 - 2	Beznák
Theory of Foundry	7,8	2 - 2	Chaus
Preparation and Processing of Ceramic and Friction Materials	9	2 - 1	Makovník
Manufacturing Technology of Composite Materials	8	2 -1	Chaus
Final Project	9	0 - 4	Tóth
Selective subject: Programming in Foundry	8	1 - 2	Podhorský
Prognosis and Trends of Casting Production Development	8	2 - 1	Pokusová

IV. RESEARCH TARGETS

- Foundry - preparation of the molten metal
- Preparation of moulding materials
- Powder metallurgy - technology of the powder processing
- Plasma-electrolytic technology - surface treatment of the metals
- Magnetohydrodynamics
- Continuous casting
-

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Surface pretreatment of the metals by plasma discharges in electrolyte, Podhorský, Š.

V.2 National Grants (VEGA, KEGA)

- Project VEGA - Electromagnetic processing of metal material's No.
- 1/6187/99, Murgaš Marián.

The aim of the project is the development of the progressive electromagnetic methods for technical metal materials processing, and the research of the phenomena accompanying the application of these methods. Theoretical research of the physical phenomena, which occur during the technical metal material's solidification under the action of electromagnetic force, the magnetic field and electric one. The qualitative analisys of the individual factors partaking in the effect on the primary crystallization process. The investment of the MHD interactions occurring at the molten metal surface shaping in the electromagnetic caster of the horizontal arrangement for the continuous casting of the Al-alloy strip; and the development of the inductors, which allow the homogeneous distribution of the magnetic field in the solidification zone. Obtaining of information for the property prediction of the selected metal materials that are effected by the action of electromagnetic force, the movement or magnetic field during the solidification.

VI. CO-OPERATION

VI.1 National Co-operation

VI.2 International Co-operation

VI.3 Contracts with Industry

- OSRAM Slovakia, a.s, Nové Zámky - The development of the heat-resistant cast iron and Al-alloys for the machine's parts for the lamp production.
- Town Brezno - Casting of the sculpture of gen. M. R. Štefánik
-

VII. THESES

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

[1] CHHIM, K.: Metrologická charakteristika technológie úpravy kovových povrchov elektrolyticko – plazmovým procesom. (Tóth, R.)

[2] PLAVECKÝ, M.: Ovplyvnenie výslednej hustoty výlisku využitím tekutej fázy. (Tóth, R.)

[3] DUBOVEC, P.: Vplyv množstva tekutej fázy na konečné rozmery výlisku po spekaní. (Pokusa, A.)

[4] FARSKÝ, S.: Možnosti ovplyvnenia rozmerov výlisku infiltráciou pri spekaní. (Pokusa, A.)

[5] KOVÁČ, J.: Povlakovanie liatinových odliatkov z nástreku formy bronzovým práškom CuSn10 (Pokusa, A.)

[6] BANSKÝ, A.: Elektrokontaktné spekanie zmesí a kompaktov dopovaných Cu. (Podhorský, Š.)

[7] HLAVAČKA,R.: Povlakovanie liatinových odliatkov z nástreku formy modifikovaného navarovým práškom K60. (Pokusa, A.)

[8] PISOŇ, J.: Vplyv granulometrického zloženia prášku na elektrické parametre pri elektrokontaktnom spekaní. (Podhorský, Š.)

[9] SZALAY, R.: Počítačový program pre návrh technológie výroby odliatkov z tvárnej liatiny metódou vnútroformovej modifikácie. (Podhorský, Š.)

[10] GOGOLA, S.: Využitie monolitického mikropočítača na riadenie procesu pri technológii elektrolyticko-plazmovej úpravy kovových povrchov. (Podhorský, Š.)

[11] KOLLÁR, R.: Vývoj tvárnej liatiny odolnej voči opalu. (Pokusová, M.)

VII. 2 PhD Theses

VIII. OTHER ACTIVITIES

VIII. 1 Visits of Staff Members to Foreign Institutions

VIII. 2 Foreign Visitors to the Department

VIII. 3 Organized Conferences, Seminars and Workshops

IX. PUBLICATIONS

[1] **MURGAŠ Marián – ČAUS Alexander S. – POKUSA Anton – POKUSOVÁ Marcela**: The Electroslag Remelting of High-Speed Steel Using a Magnetic Field. In: *ISIJ International*, 40, 2000, No.10, pp. 980 – 986.

[2] **ČAUS, A.S. – MURGAŠ, M.**: Osobennosti struktury i svojstv kompleksnolegirovannoj litoj vysokochromistoj instrumentaľnoj stali. In: *Metally*, 2000, č. 5, s. 67 – 75.

[3] **ČAUS, A. S.:** Modificirujuščij effekt vismuta v litych vystrorežuščich staljach. In: *Vesci nacyjanaľnaj akademii navuk Belarusi: Serija fizika-techničnych navuk*, 2000, č. 2, s. 10 – 17.

[4] **ČAUS, A.S. – POKUSOVA, M. – MURGAŠ, M.** – LATYŠEV, I.V.: Razrabotka i ispoľzovanije litych bystrorežuščich stalej netradicionnogo chimičeskogo sostava. In: *Progressivnyje technologii i sistemy mašinostrojenija*, 14, 2000, s. 44 – 48.

[5] **MURGAŠ, M. – CHAUS, A.S. – POKUSA, A.:** The method of the stirring for continuous casting of steel. In: *Progressivnyje technologii i sistemy mašinostrojenija*, 14, 2000, s.226 – 230.

[6] **POKUSOVÁ, M. – MURGAŠ, M. – CHAUS, A.S.**: Horizontal electromagnetic caster for continuos casting of the Al-alloys. In: *Progressivnyje technologii i sistemy mašinostrojenija*, 14, 2000, s. 236 – 241.

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[8] **ČAUS, A. S.**: Osobennosti iznašivanija instrumenta iz litoj katonoj vystrorežuščich stalej při frezerovanii. In: *Trenie i iznos : Friction and wear*, 21, 2000, č. 4, s. 444 – 450.

[9] **TÓTH Roman – PODHORSKÝ Štefan** – GÖRÖG Augustín: The effect of electrolytic-plasma technology on the machined part. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s. 35 – 40.

[10] SOLÁR Jozef – **PODHORSKÝ Štefan – TÓTH Roman** – CHHIM Kosal: The changes of the metrological properties of metal surface under electrolytic-plasma process. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s. 41 – 46.

[11] **VOZÁR Pavol**: The prosperity improvement of the continuous cast steels. In: *III.celoštátny doktorandský odborný seminá : JUNIOR-SLOVMAT 2000: Zborník prednášok*. Trnava: MtF STU, 2000, s. 91 - 94.

[12] **TÓTH Roman**: Cleaning and surface finishing of castings using the electrolytic-plasma technology. In: *III.celoštátny doktorandský odborný seminár: JUNIOR-SLOVMAT 2000: Zborník prednášok*. Trnava: MtF STU, 2000, s. 83 - 86.

[13] **ŠUBA Roland**: Infiltrácia výliskov zo železného prášku WV 200 meďou. In: *III. celoštátny doktorandský odborný seminár: JUNIOR-SLOVMAT 2000: Zborník prednášok*. Trnava: MtF STU, 2000, s. 78 - 82.

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[15] **MURGAŠ Marián** – SOLÁR Jozef – NOVOTNÝ Ivan: Metrological characteristics of the metal surfaces treated on the mirror finishing. In: *EKOLÓGIA A EKONOMIKA POVRCHOVÝCH ÚPRAV*. Žilina: DT ZSVTS, 2000, s. 83 – 88.

[16] **MURGAŠ Marián – SOLÁR Jozef – PODHORSKÝ Štefan** – NOVOTNÝ Ivan: Boundary of possibilities of electrolytic – plasma technology at reducing of a metal surface roughness. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 183 – 188.

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[20] **MURGAŠ Marián – POKUSOVÁ Marcela**: Interaction of the electromagnetic casters inductor and the shaped molten metal. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 207 – 212.
[21] **POKUSA Anton** – TEHLÁR Pavol **– ŠUBA Roland**: Non-traditional utilization of modified mould surface spraying for castings adjustment. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 227 – 232.
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[25] **POKUSOVÁ Marcela** – BELICA Eugen – BERTA Igor: Rapid prototyping in foundry technology. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 251 – 256.
[26] **POKUSOVÁ Marcela – MURGAŠ Marián**: Structure of AlSi8,5Cu1 alloy solidified in alternating magnetic field. In: *CO-MAT-TECH 2000: 8. medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 257 – 262.
[27] SOLÁR Jozef – **PODHORSKÝ Štefan – TÓTH Roman – VOZÁR Pavol**: The influence of plasma – electrolytic process on surface layer hardness. In: *CO-MAT-TECH 2000: 8. medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 273 – 278.
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[30] **VOZÁR Pavol – TÓTH Roman** – SOLÁR Jozef: The effect of conductive stirring method on the steel properties in continuous casting. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 357 – 362.
[31] **POKUSA, A. – ŠUBA, R. – TEHLÁR, P**.: Metallic layers produced by foundry mould coating on the castings. In: *MAŠINOSTROJENIJE I TECHNOSFERA NA RUBEŽE XXI VEKA : Sbornik trudov VII meždunarodnoj naučno-techničeskoj konferencii*. Doneck: DGTU, 2000, s. 254 – 258.
[32] **CHAUS, A.S**. - LATYSHEV, I.V.: Improvement of durability of as-cast high-speed steel tool by carburizing. In: *Medzinárodná konferencia NÁRADIE 2000 : International Conference TOOLS 2000*. Bratislava: STU, 2000, s. 112 - 115.
[33] LATYŠEV, I. V. **– ČAUS, A.S.**: Primenenjie stali 11M5F v litom variante. In: *Materiály meždunarodnoj naučno-techničeskoj konferencii VKLAD VUZOVSKOJ NAUKI V RAZVITIJE PRIORITETNYCH NAPRAVLENIJ PROIZVODSTVENNO - COZJAJSTVENNOJ DEJATEĽNOSTI ČISTYCH TECHNOLOGIJ I PROGRESSIVNYCH METODOV OBUČENIJA*. Minsk : Ministrestvo obrazovanija Respubliky Belarus, 2000, časť 5, s. 125.
[34] **POKUSA, A. – ŠUBA, R.**: Elektrokontaktnoje spekanije metaličeskich poroškov. In: *Materiály meždunarodnoj naučno-techničeskoj konferencii VKLAD VUZOVSKOJ NAUKI V RAZVITIJE PRIORITETNYCH NAPRAVLENIJ PROIZVODSTVENNO - COZJAJSTVENNOJ DEJATEĽNOSTI ČISTYCH TECHNOLOGIJ I PROGRESSIVNYCH METODOV OBUČENIJA*. Minsk : Ministrestvo obrazovanija Respubliky Belarus, 2000, časť 5, s. 126.
[35] **MURGAŠ, M. – ČAUS, A.S. – POKUSOVA, M.**: Peremešivanije rasplava v kristallizatore i v slitke pri neprepyvnom litje. In: *Materiály meždunarodnoj naučno-techničeskoj konferencii VKLAD VUZOVSKOJ NAUKI V RAZVITIJE PRIORITETNYCH NAPRAVLENIJ PROIZVODSTVENNO - COZJAJSTVENNOJ*

DEJATEĽNOSTI ČISTYCH TECHNOLOGIJ I PROGRESSIVNYCH METODOV OBUČENIJA. Minsk: Ministrestvo obrazovanija Respubliky Belarus, 2000, časť 6, s. 134.

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Professors:	1	Research Fellows:	0
Assoc. Professors:	3	Technical and Admin. Staff:	1
Senior Lecturers:	6	PhD Students:	0
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

II.2 Special Measuring Instruments and Systems

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	Reader's name
History of Technology	2	0-2	Petráš
Entrepreneurial Law	2	0-2	Paulíčková
Design	4	2-2	Dubnička
Psychology of Personality	6	1-2	Sawicki
Planning the Personnel and Social Development	6	2-2	Šíma
General Economic Theory	6	2-1	Mrvová
Industrial Sociology	6	2-1	Csampai
Philosophy of Technology	6	0-2	Skalský

III.2 Graduate Study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	Reader's name
History of Technology	1	0-2	Petráš
Principles of the Philosophy, Methodology and Logic	1	0-2	Šíma
Philosophy of Technology	2	0-2	Skalský
Rhetoric	2	0-2	Odlerová
Sociology	3	0-2	Csampai
General Economic Theory	3	0-2	Mrvová
Politology	4	0-2	Končal
International Economic Relations	4	0-2	Mrvová
Humane Ecology	5	0-2	Odlerová
History of Technology	5	0-2	Chyba
History of Philosophy	5	0-2	Šíma
Industrial Sociology	6	0-2	Csampai
Rhetoric	6	0-2	Odlerová

Name of subject	*Semester*	H/W L-P	Reader's name
Fundamentals of Law for Technics	7	2-1	Paulíčková
Fundamentals of Law for managers	7	2-1	Paulíčková
Introduction into Research Work	9	0-2	Holkovič
Introduction into Research Work	8	1-1	Skalský
Fundamentals of Law for Managers	7	2-1	Paulíčková
Prognostics	8	0-2	Dubnička
Introduction into Law for Engineers	7	2-1	Paulíčková
Design	7	2-1	Dubnička
Synergetic	8	0-2	Dubnička
Industrial Sociology	8	0-2	Csampai
Social Politics	8	0-2	Holkovič

IV. RESEARCH TARGETS

- Human Sciences
- Social Sciences
- Philosophy
- Cosmology
- Physics
-

V. EDUCATION and RESEARCH PROJECTS

V.1 Institutional Projects

- The Human and Social Sciences - the Advicer Garant of the process Human Education of the Students on the Technical University
-

V.2 National Grants (VEGA, KEGA)

KEGA:

- Model and its Creation in the education of the society – science objects on the Universities and its context with the model of the education and the human education in the countries EU.

V.3 International Projects

VI. CO-OPERATION

VI.1 National Co-operation

VI.2 International Co-operation

- Technical university Izhevsk - Russia

VI.3 Contracts with Industry

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

VII.2 Dissertations (PhD.)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

VIII.2 Foreign Visitors to the Department

- Doc. PhDr. František Ochrana, DrSc. - Economy University, Praha, Česká republika
-

VIII.3 Organised Conferences, Seminars and Workshops

IX. PUBLICATIONS

[1] **SKALSKÝ Vladimír**: The gauge factor increase and the hypothetical emerging of the matter objects on the horizon in the standard model of universe, I. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 8, s. 119 – 124.

[2] **SKALSKÝ Vladimír**: The gauge factor increase and the hypothetical emerging of the matter objects on the horizon in the standard model of universe, II. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s. 213 – 218.

[3] **ŠÍMA Rudolf**: Topical, revival and perspective of the Age of Enlightenment in the light "Challenge of the 21-st. century. In:*ČAS A DEJINY I.: Zborník príspevkov z 3.výročného stretnutia SFZ v Liptovskom Jáne*. Liptovský Mikuláš: Vojenská akadémia, 2000, s. 65 –86.

[4] **ŠÍMA Rudolf**: Place and the function in the education of the social science on its forming profile of graduate of the Technical University. In: *HUMANIZÁCIA VYSOKOŠKOLSKÉHO VZDELÁVANIA NA PRAHU 21.STOROČIA*: Zborník referátov zo 4.vedeckého seminára s medzinárodnou účasťou. Trnava: Bliss, 2000, s.9-15.

[5] **KONČAL Viliam**: Personality freedom and the socialization's process (political philosophical aspects). In: *HUMANIZÁCIA VYSOKOŠKOLSKÉHO VZDELÁVANIA NA PRAHU 21.STOROČIA*: Zborník referátov zo 4.vedeckého seminára s medzinárodnou účasťou. Trnava: Bliss, 2000, s.47 – 50.

[6] **HOLKOVIČ Ľubomír – CSAMPAI Otto**: Process of education on the Faculty of Materials Science and Technology STU from the look of the people law (Thesis of the results of the research experience). In: *HUMANIZÁCIA VYSOKOŠKOLSKÉHO VZDELÁVANIA NA PRAHU 21.STOROČIA*: Zborník referátov zo 4.vedeckého seminára s medzinárodnou účasťou. Trnava: Bliss, 2000, s. 55 – 61.

[7] **CHYBA Juraj**: Academia Istropolitana – first University on the Slovakia. In: *HUMANIZÁCIA VYSOKOŠKOLSKÉHO VZDELÁVANIA NA PRAHU 21.STOROČIA*: Zborník referátov zo 4.vedeckého seminára s medzinárodnou účasťou. Trnava: Bliss, 2000, s. 83 – 88.

[8] **SKALSKÝ Vladimír**: Philosophy and its importance on the technical universities. In: *HUMANIZÁCIA VYSOKOŠKOLSKÉHO VZDELÁVANIA NA PRAHU 21.STOROČIA*: Zborník referátov zo 4. vedeckého seminára s medzinárodnou účasťou. Trnava: Bliss, 2000, s. 89 – 98.

[9] **MRVOVÁ Ľubica**: University education in the terms of the economical market. In: *HUMANIZÁCIA VYSOKOŠKOLSKÉHO VZDELÁVANIA NA PRAHU 21.STOROČIA*: Zborník referátov zo 4.vedeckého seminára s medzinárodnou účasťou. Trnava: Bliss, 2000, s. 99 – 103.

[10] **SAWICKI Silvester**: Specifics of the quantitative research on the education. In: *HUMANIZÁCIA VYSOKOŠKOLSKÉHO VZDELÁVANIA NA PRAHU 21.STOROČIA*: Zborník referátov zo 4.vedeckého seminára s medzinárodnou účasťou. Trnava: Bliss, 2000, s. 104 – 109.
[11] **ODLEROVÁ Eva**: Environmental education and its importance for the technical intelligentsia 21-st century. In: *HUMANIZÁCIA VYSOKOŠKOLSKÉHO VZDELÁVANIA NA PRAHU 21.STOROČIA*: Zborník referátov zo 4.vedeckého seminára s medzinárodnou účasťou. Trnava: Bliss, 2000, s. 110 – 114.
[12] **CSAMPAI Otto**: University idea = Humane idea. In: *VI.vedecký seminár s medzinárodnou účasťou: HUMANIZÁCIA VZDELÁVANIA NA UNIVERZITÁCH A FAKULTÁCH TECHNICKÉHO ZAMERANIA NA PRAHU 21.STOROČIA*. Žilina: Žilinská univerzita, 2000, s. 17 - 19.
[13] **MRVOVÁ Ľubica**: System of the Slovak education and the way to the Europe Union. In: *VI.vedecký seminár s medzinárodnou účasťou: HUMANIZÁCIA VZDELÁVANIA NA UNIVERZITÁCH A FAKULTÁCH TECHNICKÉHO ZAMERANIA NA PRAHU 21.STOROČIA*. Žilina: Žilinská univerzita, 2000, s. 96 - 98.
[14] **ŠÍMA Rudolf**: Philosophy – top integral and the guarantee of the humane. In: *VI.vedecký seminár s medzinárodnou účasťou: HUMANIZÁCIA VZDELÁVANIA NA UNIVERZITÁCH A FAKULTÁCH TECHNICKÉHO ZAMERANIA NA PRAHU 21.STOROČIA*. Žilina: Žilinská univerzita, 2000, s. 126 - 129.
[15] **ODLEROVÁ Eva**: World preservation and the paradigmma of the new formation rationalism. In*: Zborník vedeckých prác: Vedecký seminár s medzinárodnou účasťou: HUMANIZÁCIA ŽIVOTNÉHO PROSTREDIA A VZDELÁVANIA NA TECHNICKÝCH UNIVERZITÁCH*. Bratislava: STU, 2000, s. 103 – 105.
[16] **KONČAL Viliam**: Creation of human being and methods its development in the technical universities. In*: Zborník vedeckých prác: Vedecký seminár s medzinárodnou účasťou: HUMANIZÁCIA ŽIVOTNÉHO PROSTREDIA A VZDELÁVANIA NA TECHNICKÝCH UNIVERZITÁCH*. Bratislava: STU, 2000, s. 75 – 78.
[17] **CSAMPAI Otto**: Etnics society versus politics. In: *VÝCHOVA K OBČIANSTVU 2000*. Bratislava: UK, 2000, s. 65 - 68.
[18] **CHYBA Juraj**: Technique or technology? In: *Zborník prednášok zo 6.vedeckej medzinárodnej konferencie AKADEMICKÁ DUBNICA 2000*. Bratislava: STU, 2000, s. 315 – 318.
[19] **KONČAL Viliam**: Teacher's personality, working conditions and humanisation of the university. In: *Zborník prednášok zo 6.vedeckej medzinárodnej konferencie AKADEMICKÁ DUBNICA 2000*. Bratislava: STU, 2000, s. 327 – 330.
[20] **SKALSKÝ Vladimír**: Deductive derivation of an expansive and isotropic relativistic universe model from the Einstein field equations. In: *Zborník prednášok zo 6.vedeckej medzinárodnej konferencie AKADEMICKÁ DUBNICA 2000*. Bratislava: STU, 2000, s. 357 – 360.
[21] **ODLEROVÁ Eva**: Ekophilosophy and its methodology consequence for the environmental education. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 317 – 320.
[22] **CHYBA Juraj**: Engineering profession and its forming and evolution. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Humanitné a spoločenské vedy v technike*. Bratislava: STU, 2000, s. 49 – 54.
[23] **KONČAL Viliam**: Methodical differention and integration of learning about education. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Humanitné a spoločenské vedy v technike*. Bratislava: STU, 2000, s. 55 – 60.
[24] **MRVOVÁ Ľubica**: Third sector and its development in Slovakia. In: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Humanitné a spoločenské vedy v technike. Bratislava: STU, 2000, s . 67 – 72.
[25] **CSAMPAI Otto**: Assimilation or formal change of the identical? In: *ĽUDIA ĽUĎOM BEZ HRANÍC: Emberi kapcsolatok határon innen és túl: Menschen zu Menschen ohne Grenzen*. Nitra: NP HOZ, 2000, s. 157 - 160.
[26] **CSAMPAI Otto**: Nemzettudat és biztonsági stratégiák. In: *NATO-TAGSÁG, BIZTONSÁG, STRATÉGIÁK : Különszám*. Budapest: TIT HABE, 2000, s. 34 – 43.
[27] **SKALSKÝ Vladimír**: The Friedmannian models of flat expansive universe and the planck quantum hypothesis. In: *Joint European and National Astronomy Meeting JENAM-2000: 9th European and 5th Euro-Asian Astronomical Society Conference: Abstracts*. Moskva: European Astronomical Society, 2000, s. 47.
[28] **SKALSKÝ Vladimír**: The dark ages 100(Z(10 and hypothetical model properties of the universe. In: Joint European and National Astronomy Meeting JENAM-2000: 9th European and 5th Euro-Asian Astronomical Society Conference: Abstracts. Moskva: European Astronomical Society, 2000, s.192.

DEPARTMENT OF INDUSTRIAL ECOLOGY

Head of the Department:
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E-mail: kpe@mtf.stuba.sk

I. STAFF

Professors:	3	Research Fellows:	1
Assoc. Professors:	3	Technical and Admin. Staff:	2
Senior Lecturers:	3	PhD Students:	2
Lecturers:	1		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Teaching laboratory for chemistry

II.2 Special Measuring Instruments and Systems

- Polaro ECOR 626 Metrohm Ltd Swiss DC polarography/voltammetry DP polarography /voltammetry
- PHOTOMETER SQ 118 Merck Germany
- HPLC Hitachi system Hitachi Belgium
-

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: Hours per Week L-P: Lectures-Practices

L-P: Lectures-Practices **Name of subject**	***Semester***	**H/W L-P**	***Reader's name***
Introduction into Environmental Studies	1	2-1	Tureková
Chemistry I., II.	3, 4	2-3	Fendrich
Environmental Physics	3	2-2	Kováč
Industrial Toxicology	3	2-2	Póor
Work Safety Management	3	2-1	Sabo
Basics of Biological Systems	3	2-2	Škárka
Working Environment Hygiene	3	2-1	Sabo
Environmental Informatics	3	2-1	Balog
Industrial Technologies and Environment	4	3-2	Murgaš, Šilhár
Monitoring of Environment	4	2-2	Kočan
Risk Judgement	4	2-2	Sabo
Safety Systems	4	2-2	Boleman
Protection of Radiation	4	2-2	Kováč
Technology for Waste Treatment	5	3-1	Lacuška
Environmental Management I., II.	5, 6	2-1	Cáliková
Remediation of Ecosystems	5	2-2-	Leontiev
Water Protections	5	2-2	Hlavačka
Reliability of Technical Systems	5	2-0	Sabo
Energy of Environment	6	2-2	Wittlinger
Data processing	6	2-2	Žatkovič
Dangerous Materials	6	2-2	Póor
Non-metallic Materials	6	2-1	Hrivňák

III.2 Graduate Study (Ing.)

H/W: Hours per Week L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	*Reader's name*
Basics of Environmentalistics	5	2-2	Tureková
Basics of Biological Systems	5	2-2	Škárka
Environmental Physics	6	22	Kováč
Environmental Chemistry	7	2-2	Lukáčová
Machine Technology and Environment	7	2-1	Murgaš
Environmental Management I	7	2-1	Polívka
Environmental Engineering	7	2-2	Šilhár
Structure and Date and Database Systems	7	2-2	Schreiber
Energy and Materials Transport	7	2-2	Wittlinger
Reliability of Technical systems	7	2-1	Sabo
Biotechnologies and Environment	8	2-1	Polívka
Industrial Toxicology	8	2-2	Poór
Environmental Engineering II	8	2-2	Tureková, Kočan
Environmental Management II	8	2-1	Polívka
Chemical technologies and Environment	8	2-1	Škárka
Working Environment in Industry	8	2-1	Wittlinger
Risk Judgement	8	2-1	Sabo
Fire Engineering	8	3-0	Balog
Environmentalistics	8	1-1	Polívka, Tureková
Waste Economy Technologies	9	2-2	Lacuška
Environmental Informatics	9	2-3	Balog
Remediation of Ecosystems	9	2-2	Leontiev
Environmental Engineering III.	9	2-2	Kočan
Environmental Law	9	2-1	Cáliková
Final Project	9	0-5	Polívka
Safety of Chemical Compounds and Matters	9	2-3	Poór

IV. RESEARCH TARGETS

- Problem of wastes of cutting fluids, cooling emulsion their life cycle prolongation, changes of composition during microbial contamination
- Potential decomposition of grinding, brushing sludge and utilisation of metal parts
- Engineering analysis of industrial fire hazard, dangerous wastes, hazardous substances
- Halons alternatives
-

V. EDUCATION and RESEARCH PROJECTS

V.1 Institutional Projects

- Research of destructive changes by isothermic and dynamic thermal strait of selection polymeric materials in oxidation and inert atmosphere. (Balog). N: 812.
- Characterization of reactivity and oxidation ability of danger matters and wastes. (Balog), N:878.
- Contract N.68/99 : Exaction of safe disposal with halons and alternative of halon´s alternative.

V.2 National Grants (VEGA, KEGA)

V.3 International Projects

- Selection of Environmentally Friendly Gaseous Extinguishing Substances.

- Occupational Safety and Health Systems in the European Union (An Open and Distance Learning Program).

VI. CO-OPERATION

VI.1 National Co-operation

- Technical University Košice
- Technical University Zvolen
- Fire Research Institute Bratislava
- Ministry of the Environment of Slovak Republic
- Slovak Environment Agency, Center of Waste Management, Bratislava
- Regional Training Center for Implementation of the Basel Convention, Bratislava
- Research Institute of Safety on Workplace, Bratislava

VI.2 International Co-operation

- VŠB - Technical University of Ostrava, Department of Fire Protection Engineering and Industrial Safety, Czech Republic.
- Technical Institute of Fire Protection, Prague.

VI.3 Contracts with Industry

- VUJE (Nuclear Power Station Research Institute) Trnava: Training the experts in industrial ecology, research development, development of information system.
- Nuclear power plants Jaslovské Bohunice and Mochovce (Fire prevention)
- Swedword Ltd, Malacky (Safety on Workplace).
-

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

- Radoslav Glembek: Predauditová analýza zavádzania EMS v ESSEX s.r.o Slovenská Lupča. (Doc. Ing. Ľudovít Polívka, CSc.)
- Milan Herich: Identifikácia rizikových faktorov pracovného prostredia pri zváraní. (Doc. Ing. Milan Sabo, PhD.)
- Valéria Hipsová: Vplyv výluhov z formovacích zmesí na mikroflóru kompostu. (Ing. Peter Pástor)
- Eva Krišková: Vplyv výluhov z formovacích zmesí na pôdne mikroorganizmy. (prof. Ing. Bohumil Škárka, DrSc.)
- Peter Lukačovič: Analýza environmentálnych a bezpečnostných dopadov havárie chloračnej stanice plavárne. (prof. Ing. Karol Balog, PhD.)
- Juraj Šupa: Faktory ovplyvňujúce vyplavovanie aeróbneho kalu v dosadzovacej nádrži. (Ing. Ivana Tureková)
- Henrieta Vargová: Chladiace a rezné kvapaliny na polysyntetickej báze. (prof. RNDr. Július Kováč, CSc.)
- Marcel Duda: Účinok oxidácie ozónom a vzduchom pri použití HNO_2. (PhDr. Emil Fendrich)
- Viera Belková: Overenie účinnosti katalyzátora po recyklácii. (PhDr. Emil Fendrich)
- Ján Sirota: Katalytické vlastnosti oxidu železitého. (PhDr. Emil Fendrich)
- Daniela Kuchárová: Výber a modifikácia katalyzátora. (PhDr. Emil Fendrich)
- Anton Čičmanec: Technológia čistenia odpadových vôd z procesov obrábania. (prof. RNDr. Július Kováč, CSc.)

- Jozef Čupaj: Zhodnotenie odstraňovania N a P pri prevádzkovaní S-ČOV Žilina. (Ing. Maroš Soldán, PhD.)

VII.2 Dissertations (Ph.D.)

- Peter Pástor: Využitie biologických systémov pri skvalitňovaní životného prostredia. (prof. Ing. Marián Murgáš, CSc., Doc. Ing. Ľudovít Polívka, CSc.)
- Gabriel Lošák: Návrh zriadenia pracoviska na technologické spracovanie materiálov explóziou. (prof. Ing. Milan Turňa, CSc., prof. Ing. Karol Balog, PhD.)

VII.3 Habilitations (Assoc. Prof.)

- Milan Sabo: Riadenie rizík technického systému.

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- Technical Institute of Fire Protection, Prague.
- Department of Safety Engineering, Technical University Ostrava.
- Department of Fire Protection, Technical University Budapest.

VIII.2 Foreign Visitors to the Department

- Technical Institute of Fire Protection, Prague.
- Department of Safety Engineering, Technical University Ostrava.

VIII.3 Organised Conferences, Seminars and Workshops

- Fire Protection and Assessment of Fire Hazard (Workshop)
-
-
- IX. PUBLICATIONS

[1] FERENČÍK Miroslav – ŠKÁRKA **Bohumil** – NOVÁK Michal – TURECKÝ Ladislav: *Biochemistry.* Bratislava: Slovak Academic Press, 2000. 924 s.

[2] **ŠKÁRKA Bohumil – BALOG Karol – POLÍVKA Ľudovít**: *Chemical technologies and environment.* Bratislava: STU, 2000. 155 s.

[3] **BALOG Karol**: Quantification of fuel formation process during thermolysis of lignocellulosic materials within controlled atmosphere by applying thermoanalytical techniques. In: *Sborník vědeckých prací Vysoké školy báňské – Technické univerzity Ostrava*, 45, 1999, č. 2, s. 5 – 11. (vyšlo v roku 2000)

[4] **SABO Milan**: Identification of manual arm welding risks. In: *Sborník vědeckých prací Vysoké školy báňské – Technické univerzity Ostrava*, 45, 1999, č. 2, s. 149 - 161. (vyšlo v roku 2000)

[5] **KAPUSTOVÁ Mária – BALOG Karol – ŽATKOVIČ Juraj**: Numerical evaluation of energy leaving from data getting by measuring at burdens carrying. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 8, s. 41 – 46.

[6] HLAVAČKA Vladimír **– PÁSTOR Peter**: Neutralization capacity of chosen. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 8, s. 47 –52.

[7] BARANOVIČ Milan – **FENDRICH Emil – POLÍVKA Ľudovít**: Catalic oxidation of waste waters. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s. 155 – 160.

[8] **BALOG Karol**: Hit toleration values of noxious games and steams and medical risks of firemen. In: *ARPOS*, 1, 2000, č. 3-4, s. 22 – 24.

[9] **TUREKOVÁ Ivana** – RAČKO Tibor: Limitation of halons using in new objects and equipment's. In: *ARPOS*, 1, 2000, č. 3-4, s. 48 – 51.

[10] **POLÍVKA Ľudovít – PÁSTOR Peter**: Social, ethical and economical aspects and perspectives of biotechnology development in agriculture and food industry. In: *FERMENTAČNÉ TECHNOLÓGIE A BIOCHEMICKÉ INŽINIERSTVO*. Nitra: Inštitút vzdelávania, výskumu a poradenstva, 2000, nestr.
[11] **POLÍVKA Ľudovít – LUKÁČOVÁ Viera – FENDRICH Emil – ŠKÁRKA Bohumil**: Degradation and detoxikation of the rest of the dangerous noxious water's from wastes in a oil. In: 8.konferencia *EKOTECH 2000*. Bratislava: APE, 2000, s. 145 – 150.
[12] **SABO Milan**: The identification of undesirable occasion in the production systems. In: *VII.medzinárodná konferencia PREVÁDZKOVÁ SPOĽAHLIVOSŤ VÝROBNÝCH ZARIADENÍ V CHEMICKOM A POTRAVINÁRSKOM PRIEMYSLE*.Bratislava: Slovnaft, 2000, nestr.
[13] **BALOG Karol – TUREKOVÁ Ivana**: Thermics stability verification of PVC used of production electric cables. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 293 – 298.
[14] **BALOG Karol – TUREKOVÁ Ivana**: Effect of fire retardant for thermal degradation of cellulose. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 299 – 304.
[15] **CÁLIKOVÁ Emília – PÁSTOR Peter – POLÍVKA Ľudovít**: Cleaner productions in conditions of Slovak Republic. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 305 – 310.
[16] **LUKÁČOVÁ, V. – ŠKÁRKA, B. – TUREKOVÁ, I.:** Biodegradable polymers. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 311 – 316.
[17] **POLÍVKA Ľudovít**: Negative impact of rougher rustles surfaces on sanitation procedures. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 321 – 324.
[18] **SABO Milan**: Evaluate of safety system by application of theory risk field. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 325 – 330.
[19] **TUREKOVÁ Ivana – LUKÁČOVÁ Viera**: Risk increase of troposperic ozone. In: *CO-MAT-TECH 2000: 8. medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 331 – 336.
[20] **WITTLINGER Viktor**: Human organism balance of heat. In: *CO-MAT-TECH 2000: 8. medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 337 – 392.
[21] **BALOG Karol**: Influence of oxygen mixture temperature on lower limit oxygen concentration for flaming combustion of lignocellulosic materials. In: *Sborník přednášek : I.díl: POŽÁRNÍ OCHRANA 2000*. Ostrava: VŠB TU, 2000, s. 9 – 13.

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DEPARTMENT OF INFORMATION TECHNOLOGY AND AUTOMATION

Head of the Department:
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I. STAFF

Professors:	2	Research Fellows:	0
Assoc. Professors:	5	Technical and Admin. Staff:	4
Senior Lecturers:	9	Ph.D. Students:	21
Lecturers:	4		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- CAD/CAM System Pro/ENGINEER Laboratory (1 Sun Ultra Creator 3D, 4 Sun SPARCstation 4, 3 HP 715/50,)
- Automation and Control Laboratory
- Unix Laboratory (16 alpha-numeric terminals)
- 2 PC Laboratories
- Internet Laboratory
- Robotics Laboratory
- X-Terminals Laboratory
- Multimedia Laboratory

II.2 Special Measuring Instruments and Systems

- PCL System

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Information Technology Basics	1	3-2	Važan
Theory of Automatic Control	3	3-2	Moravčík
Data Models	3	2-2	Mišút
Information Technology Basics II	3	2-2	Schreiber
Software Technologies I,II	3,4	0-3	Tanuška
Software Engineering	4	3-3	Moravčík
Computer Architecture	4	2-2	Pecko
Operation Systems	4	2-2	Halenár
Computer Graphics	5	3-3	Nemlaha
Database Systems	5	3-3	Mišút
System Programming	5	2-2	Michalčonok
Computer Networks	5	2-2	Halenár
Automation in Industry	6	3-3	Božek
Information Systems	6	3-3	Mišút

III.2 Graduate Study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Information Technology Basics I,II,III,IV	1,2,3,4	1-2	Schreiber, Michalčonok
Theory of Automatic Control	5,7	2-2	Vrban, Pecko, Gese
Software Engineering	5	2-2	Moravčík
Computer Graphics	6	2-2	Vaský, Nemlaha
Computer Architecture	6	2-2	Pecko
System Programming I,II	7,8	2-2	Halenár
Artificial Intelligence	7	2-3	Schreiber
Graphics Systems I, II	7,8	2-3	Vaský, Nemlaha
Devices of Automatic Control	8	3-3	Michalčonok
Database Systems	8	3-3	Mišút
Modelling and System Simulation	8	2-2	Važan
CIM	7	3-3	Važan
NC Programming	7	3-3	Božek
Production System Planning	8	3-2	Mišút
Information Systems	9	2-4	Mišút
Computer Networks	9	3-3	Halenár
Production Systems Design	9	2-3	Mišút
Production Systems Control	9	3-3	Važan
CAD/CAM	9	3-3	Vaský

IV. RESEARCH TARGETS

- Information and database systems
- Client-server architecture systems (design, tuning, data management, data security, applications)
- Control systems
- Artificial intelligence and expert systems
- Modelling and simulation of systems (discrete-event simulation, Petri-nets, queuing theory)
- Computer networks
- Computer graphics, graphical and CAD/CAM systems
- CIM
- Multimedia, virtual reality

V. EDUCATION and RESEARCH PROJECTS

V.1 Institutional Projects

- Virtual museum of the Trnava region
- Multimedia support of teaching
- Database expert systems
- Robustness of the control systems
- Automation of department administration
- PROMAN-W: Research projects administration

V.2 National Grants (VEGA, KEGA)

- Design and implementation of the mechatronical system control algorithms with using of computer graphic methods – VEGA

- Computers in the pedagogical process – (VEGA, Co-operation with the Pedagogical Faculty of Trnava University)

V.3 International Projects

- Continuing Education System for Academic Staff in Trnava. TEMPUS JEP 12 290
- In years 1997-2000 there was established a continuing education centre for university teachers in the Trnava region. The main goal of the project was to improve the personal and pedagogical abilities and computer skills of the teachers.
- Socrates Programme (student mobilities abroad, 6 stays in Germany)
- Germaniac - an international program for teaching of the German language via internet in different countries of the world. KAIA guarantees its realisation in the Slovak republic.
- PROMAN-W: Research Projects Administration. Common software development with the Institut für Festkörper- und Werkstofforschung in Dresden, Germany
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VI. CO-OPERATION

VI.1 National Co-operation

- Faculty of Electrotechnic and Computer Science STU Bratislava
- Faculty of Engineering STU Bratislava
- Trnava University Trnava
- University of Cyril and Metod Trnava
- Faculty of Electrotechnic TU Košice
- Fakulty of pedagogical sciences UKF Nitra
- Faculty of Engineering Žilina
- Research Institute of Nuclear Power Supply Trnava
- Nuclear Power Jaslovske Bohunice
- AITEN ltd. Trnava

VI.2 International Co-operation

- IFW e. V. Dresden, Germany
- TU Darmstadt, Germany
- University of Lisboa, Portugal
- Politechničeskij universitet Peterburg, Russia
- Universitzy of Zelona Gora, Poland
- KAHO Gent, Belgium
- FH Köthen, Germany
- FH Darmstadt, Germany

VI.3 Contracts with Industry

- The proposal of the methodology for the data acquisition and manipulation in selected organisation units in the Nuclear power station Jaslovske Bohunice
- IS development in Microsoft Access according contractor instructions.
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VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

[1] Benčúrik Ján: Information system of a department.
[2] Bezák Pavol: Database application in Intranet environment.
[3] Blaha Marián: The Web interface design and implementation for relational data base.
[4] Bulla Michal: Information system for administration of LAN networks.
[5] Ďurči Martin: Information system of a department.
[6] Ďuriš Daniel: Application design and realisation for creation, editing and archiving of authentication transactions in ORACLE.
[7] Eliáš Michal: IS - apartmenthouse administration.
[8] Gono Pavol: Integration of network operating system in LAN network on TCP/IP protocol.
[9] Grznár Róbert: Industrial network LON (Local Operating Network).
[10] Halenar Rober: Applications design and development for universal geographic client GEOMEDIA 3.0.
[11] Kanócz Branislav: Simulation of mechanical system.
[12] Kašša Tomáš: 3D STUDIO software exploitation for technical scene modelling and technical process animation.
[13] Kebísek Michal: Information system of a department.
[14] Klčo Ľuboš: Distributed applications INTERNET/INTRANET on XML standard basis.
[15] Klieštinec Martin: News software support for scientism-research activity (as a part of a department information system).
[16] Kližan Jaroslav: Information system of a department.
[17] Kočtúch Miroslav: Information system design for accommodation equipment.
[18] Kohút Peter: Design of multimedia application for CAD / CAM training support.
[19] Kosterec Štefan: Microcomputer control.
[20] Leitner Roman: Multimedia in an education.
[21] Makyš Peter: Software support system of administration activity for head of Study and Information centre.
[22] Malachovský Daniel: Multimedia in an education.
[23] Masárová Michaela: Design of multimedia application of educational software.
[24] Matava Ľubomír: Exploitation of Intranet solution in IIS -SE environment.
[25] Morgoš Michal: Determination of area limit from statements received from CT for 3D model generation.
[26] Niedl Juraj: Verification of PVS control strategies by simulation.
[27] Ondriš Marián: 3D STUDIO software exploitation for modelling of technical scene and technical process animation.
[28] Parák Martin: Multimedia in an education.
[29] Radošicky Gabriel: Design of multimedia application of educational software.
[30] Rekem Roman: Dialogue panel generator in AutoCAD graphic interface.
[31] Sedlák Radoslav: New system control creation for robot MSR-84.
[32] Šteller Michal: Information system design for small firm.
[33] Štrauchová Marcela: Analysis and design of solution of data acquisition for information system in Slovnaft Benzinol, a.s. Bratislava.
[34] Štuk Martin: IS of a small organisation.
[35] Šuran Jozef: Exploitation of CAD / CAM system script files for education support.
[36] Tomašovič Róbert: Automatic generation of LOD for VRML.
[37] Tuček Slavomír: Exploitation of CAD / CAM system script files for education support.
[38] Vlasák Tibor: Multimedia exploitation at education.

[39] Zwiržina Juraj: Database system for evidence of values, measuring instruments and account of index predisposition Cg. and CgK with Intranet support in condition of VUJE Trnava.

Bachelor Theses

[1] Brozmanová Andrea: Information system of stock management for little businesses.
[2] Gažo Daniel: Design of chosen parts of IS for West Slovak museum in Trnava.
[3] Kosorín Ľuboš: Design of chosen parts of IS for West Slovak museum in Trnava.
[4] Macek Mich: Ddata warehouse in banking institution.
[5] Melúchová Mária: IS of Health care.
[6] Sawicki Karol: Information system for storage facilities.

VII.2 Dissertations (Ph.D.)

- Tanuška, P.: Proposal of the automatic generation of the test data ant their influence on the database in information systems. MtF STU Trnava, 2000.

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- IFW Dresden, Germany (4 stays)
- FH Darmstadt, Germany (3 stays)
- FH Köthen, Germany (6 stays)

VIII.2 Foreign Visitors to the Department

- FH Köthen, Germany (2 persons)
- IFW Dresden, Germany (3 persons)
- KAHO Gent Belgium (4 persons)

VIII.3 Organised Conferences, Seminars and Workshops

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IX. PUBLICATIONS

[1] **SAKAL Peter - BOŽEK Pavol - NEMLAHA Eduard**: *Digital control systems.* Trnava: Tripsoft, 2000. 193 s.
[2] **MICHAĽČONOK German – BOŽEK Pavol – HUSÁROVÁ Bohuslava**: *Automation in the industry..* Trnava: Tripsoft, 2000. 236 s.
[3] **BOŽEK Pavol – HUSÁROVÁ Bohuslava** – PIVARČIOVÁ Elena: *Control of the automated production devices.* Trnava: Tripsoft, 2000. 195 s.
[4] PIVARČIOVÁ Elena – **BOŽEK Pavol**: *Vocabulary of the computers in the engineering.* Trnava: Tripsoft, 2000. 129 s.
[5] **VASKÝ Jozef – KLAČO Marián – NEMLAHA Eduard**: *Graphical data processing.* Bratislava: STU, 2000. 243 s.
[6] **BOŽEK Pavol - MIKSA František**: *Projektovanie Production systems design.* Bratislava: STU, 2000.130 s.

[7] **MICHAĽČONOK German – VRBAN Anton**: Modelling of a phase machine with the compensation of the deterministic jams. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s. 149 – 154.
[8] JOEHNK Peter – **MORAVČÍK Oliver – SCHREIBER Peter** – DUCKÝ Miroslav – PETRÍK Daniel: EASY – electronic assistant for the design of the grant application forms. In: *AT&P Journal*, 7, 2000, č. 12, s. 56 –57.
[9] **TANUŠKA Pavol – SCHREIBER Peter**: Problems of the information systems design from software engineer point of view. In: *AT&P Journal*, 7, 2000, č. 12, s. 60 – 62.
[10] JOEHNK Peter – BERNHARDT Michael **– MORAVČÍK Oliver** – DUCKÝ Miroslav – PETRÍK Daniel: EASY – ein integriertes elektronisches Antragssystem für öffentliche Fördermittel in Deutschland. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Manažment priemyselných podnikov a kvalita*. Bratislava: STU, 2000, s. 121 – 126.
[11] **HUSÁROVÁ Bohuslava – BOŽEK Pavol**:. Transformation data in Microsoft SQL server 7.0. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 21 – 26.
[12] **IRINGOVÁ Miriam**: Human – machine interface (HMI). In: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy. Bratislava: STU, 2000, s. 27 - 30
[13] **MICHAĽČONOK German**: Simulate of element phasic control system with compensation determination noise for machine aggregate. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 37 – 42.
[14] **PAVLINOVA Jevgenia**: Optimization measurement subsystems for local elektrodrives. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 43 – 48.
[15] **TANUŠKA Pavol – SCHREIBER Peter – JUHÁS Martin**: Oracle database management system´s referential integrity identification. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s.49 – 54.
[16] **VASKÝ Jozef – HANČIN Milan – NEMLAHA Eduard – MASÁR Ladislav**: Intranet of the faculty. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 55 – 62.
[17] **VÁŽAN Pavol – HARNÚŠEK Michal**: Non-standars using of simulator Simfactory II.5. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 63 – 68.
[18] **VRBAN Anton**: Dynamic system evaluations on robustness. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 69 – 74.
[19] **VRBAN Anton**: Cybernetic aspects on control of system society. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Humanitné a spoločenské vedy v technike*. Bratislava: STU, 2000, s. 113 – 118.
[20] **VRBAN Anton**: Some aspects of the control of dynamic processes with a transport delay. In: *Proceedings of the 5th international Conference DYNAMICS OF MACHINE AGGRE-GATES*. Bratislava: STU, 2000, s. 259 - 262.
[21] **MIŠÚT Martin** - HELD Ľubomír: Continuing education system for university teachers in Trnava. In: *Proceedings : EDUCATION, INFORMATION TECHNOLOGY AND INTERNA-TIONAL ACADEMIC CO-OPERATION*. Köthen: Hochschule Anhalt, 200, s. 5 - 10.
[22] **MIŠÚT Martin** - SALEMA, M.H. - VALENTE, M.O. - HELD, Ľ.: Empirical View on Continuing Education System. In: *Proceedings : EDUCATION, INFORMATION TECHNOLOGY AND INTERNA-TIONAL ACADEMIC CO-OPERATION*. Köthen: Hochschule Anhalt, 200, s. 21 - 28.
[23] **SCHREIBER Peter - MIŠÚT Martin - TANUŠKA Pavol**: Hypermedia in the Continuing Education of University Teachers. In: *Proceedings : EDUCATION, INFORMATION TECHNOLOGY AND INTERNA-TIONAL ACADEMIC CO-OPERATION*. Köthen: Hochschule Anhalt, 200, s. 39 - 42.
[24] HOLICKÁ Beata - **VAŽAN Pavol**: Some Modern Ways of Presenting New Vocabulary. In: *Proceedings : EDUCATION, INFORMATION TECHNOLOGY AND INTERNA-TIONAL ACADEMIC CO-OPERATION*. Köthen: Hochschule Anhalt, 200, s. 47 - 51.
[25] **MICHALČONOK German - HUSÁROVÁ Bohuslava - PAVLÍNOVÁ, J**.: Optimalization of Using SQL Language for ORACLE Server. In: *Proceedings : EDUCATION, INFORMATION TECHNOLOGY AND INTERNA-TIONAL ACADEMIC CO-OPERATION*. Köthen: Hochschule Anhalt, 200, s. 86 - 89.
[26] **BOŽEK Pavol – IRINGOVÁ Miriam**: Application of the virtual reality in pedagogical process. In: *STROJNÉ INŽINIERSTVO 2000: MECHANICAL ENGINEERING 2000: Zborník referátov z medzinárodnej konferencie: II. časť.* Bratislava: STU, 2000, s. 12/2 – 12/7.

DEPARTMENT OF LANGUAGES

Head of the Department:
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I. STAFF

Professors:	0	Research Fellows:	0
Assoc. Professors:	0	Technical and Admin. Staff:	1
Senior Lecturers:	7	PhD Students:	0
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching Language Laboratories

- Audio-Video Workshop

II.2 Special Measuring Instruments and Systems

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	*Reader's name*
English	2 – 4	0-2	Mironovová, Rusková,
German	2 – 4	0-2	Reháková, Tandlmajerová
Russian	2 – 4	0-2	Bujnová

III.2 Graduate Study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	*Reader's name*
English	2 – 5	0-2	Mironovová, Miština, Rusková
German	2 – 5	0-2	Reháková, Tandlmajerová
Russian	2 – 5	0-2	Bujnová

III.3 Ph.D. Study

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	*Reader's name*
English		0-2	Mironovová
German		0-2	Reháková
Russian		0-2	Bujnová

IV. RESEARCH TARGETS

- Improving professional communication of PhD candidates in written and spoken English using e-mail and Internet
- Working out a Slovak modulus of the course design aimed at improving language competence of engineering students in German and disseminating the outcome
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- V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Improving language competence of PhD students at MtF STU within international scientific communication in English

V.2 National Grants (VEGA, KEGA)

V.3 International Projects

- GERMANIAC (German Modular and Integrated Accredited Courses for Engineers), Socrates-Erasmus project
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VI. CO-OPERATION

VI.1 National Co-operation

VI.2 International Co-operation

- The British Council in Bratislava
- Purdue University, Kokomo, Indiana, USA
- The Pushkin Institute in Moscow
- The Goethe Institute in Bratislava

VI.3 Contracts with Industry

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- Mironovová Emília, Purdue University, Kokomo, Indiana, USA, 15 – 30 May 2000.
- Bujnová Eleonóra, International Student Art Festival, Moscow, Russia, 20 – 28 May 2000.

VIII.2 Foreign Visitors to the Department

- Rick Homkes, associate professor, Department of Electrical Engineering Technology, Purdue University, Kokomo, Indiana, USA, 13 – 15 March 2000,
- Kevin D. Taylor, associate professor, Department of Electrical Engineering Technology, Purdue University, Kokomo, Indiana, USA, 10 – 13 July 2000,
- Mike Williams, student, Department of Electrical Engineering Technology, Purdue University, Kokomo, Indiana, USA, 18 – 23 November 2000.

VIII.3 Organised Conferences, Seminars and Workshops

- Spektrum 2000, Workshop N°1 for secondary and tertiary LSP (Language for Specific Purposes) teachers from the region of Trnava, 30 March 2000.
- International Conference of Teachers of German 6 – 9 September 2000.
- Spectrum 2000, Workshop N°2 for secondary and tertiary LSP teachers from the region of Trnava, 7 December 2000.
- National Information Day within Germaniac Project, under the auspices of Ministry of Education SR, 22 May 2000.
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IX. PUBLICATIONS

[1] **BUJNOVÁ Eleonóra – RUSKOVÁ Dagmar**: *Biznes i kommercija*. Bratislava: Metodické centrum, 2000.

[2] **MIRONOVOVÁ Emília**: Language training for PhD candidates at Faculty of Materials Science and Technology STU in Trnava. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s. 219 – 222.

[3] **MIRONOVOVÁ Emília**: Integrating Skills – ESP Course January 2000: Trainers´Evaluation. In*: ESP Spectrum*, 2000, č. 19, s. 18 - 19.

[4] **MIRONOVOVÁ Emília**: Organisation of Language Training for Ph. D. Candidates at MtF STU Trnava. In*: ESP Spectrum*, 2000, č. 20, s. 15 – 16.

[5] **REHÁKOVÁ Anna**: Application of a Computer Programme in Language Training of PhD Candidates. In: *XIII. DIDMATTECH 2000.* Nitra: PdF UKF, 2000.

[6] **MIŠTINA Juraj**: Humanizing ESP classes through the use of the overhead projector. In: *VI.vedecký seminár s medzinárodnou účasťou: HUMANIZÁCIA VZDELÁVANIA NA UNIVERZITÁCH A FAKULTÁCH TECHNICKÉHO ZAMERANIA NA PRAHU 21.STOROČIA*. Žilina: Žilinská univerzita, 2000, s. 88 - 91.

[7] **MIRONOVOVÁ Emília – BUJNOVÁ Eleonóra**: Social and Cultural Aspects in Foreign Language Training. In: *VI. vedecký seminár s medzinárodnou účasťou: HUMANIZÁCIA VZDELÁVANIA NA UNIVERZITÁCH A FAKULTÁCH TECHNICKÉHO ZAMERANIA NA PRAHU 21. STOROČIA.* Žilina: Žilinská univerzita, 2000, s. 83 – 87.

[8] **MIŠTINA Juraj**: The Overhead Projector in English Language Classes. In: *TEACHING FOREIGN LANGUAGES TO ADULTS: Fremdsprachenunterricht für Erwachsene: Vyučovanie cudzích jazykov pre dospelých*. Nitra: UKF, 2000, s. 135 - 138.

[9] **MIRONOVOVÁ Emília**: Using a Video Commercial in an ESP Classroom. In: *TEACHING FOREIGN LANGUAGES TO ADULTS: Fremdsprachenunterricht für Erwachsene: Vyučovanie cudzích jazykov pre dospelých*. Nitra: UKF, 2000, s. 133 - 134.

[10] **RUSKOVÁ Dagmar**: How to make ESP more interesting. In: *TEACHING FOREIGN LANGUAGES TO ADULTS: Fremdsprachenunterricht für Erwachsene: Vyučovanie cudzích jazykov pre dospelých*. Nitra: UKF, 2000, s. 155 - 157.

[11] **RUSKOVÁ Dagmar**: Teaching english for specific purposes – some types for making esp more interesing. In: *Zborník prednášok zo 6.vedeckej medzinárodnej konferencie AKADEMICKÁ DUBNICA 2000*. Bratislava: STU, 2000, s. 347 – 350.

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[13] **MIŠTINA Juraj**: Technology in the service of language learning – trends and issues. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Humanitné a spoločenské vedy v technike*. Bratislava: STU, 2000, s . 149 – 152.
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DEPARTMENT OF MACHINING AND ASSEMBLY

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I. STAFF

Professors:	1	Research Fellows:	2
Assoc. Professors:	4	Technical and Admin. Staff:	3
Senior Lecturers:	5	PhD Students:	12
Lecturers:	2		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Measurement Laboratory
- Assembly Laboratory
- Mechanical Engineering Laboratory
- CAD/CAM Laboratory

II.2 Special Measuring Instruments and Systems

- DKM1-3000 DP co-ordinate measurement apparatus fy Zeiss
- Zeiss length gauge l m
- Zeiss universal microscope
- Zeiss universal length gauge
- Hilger Watts autocollimator + mirror polygon
- Zeiss collimator + telescope
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III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	Reader's name
Industrial Technologies and Production Equipment	1	3-2	Lipa, Štefánek
Industrial Technology I	3	3-2	Štefánek
Industrial Technology II	5	2-2	Štefánek
Production Machines	3	3-2	Velíšek
Tools and Fixtures	4	3-2	Charbula
Final Work	6	0-2	Janáč
Production Metrology	7	2-2	Borovička
Automatization of production planning	6	2-2	Peterka, Kuric

III.2 Graduate Study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Machining Technology	6	2-2	Lipa
Metrology	5	2-2	Maduda, Borovička
Fundamentals of Assembly	5	2-1	Valentovič
Machining Theory	7	3-2	Békés, Peterka
Cutting Machines and Equipment	8	2-2	Javorčík
Assembly Technology	7	2-1	Valentovič
NC Machine Programming	7	1-2	Peterka
Metrology Practice	8	0-4	Maduda
Progressive Machining Methods	9	3-2	Hrubec
Production Planning	9	2-2	Békés, Peterka
Mechanisation and Automation	9	3-2	Potocký
Final Project	9	0-5	Janáč, Slanina
Finishing Machining Methods	9	2-1	Lipa
Computer Controlled Production	9	2-1	Peterka, Kuric
Experimental Machining Methods	9	2-1	Lipa
CAD/CAM Systems	9	1-2	Peterka
Design for Manufacture	8	2-1	Hrubec
NC Machine Programming II	8	0-4	Peterka
Prediploma praxis	10		
Diploma project	10		

IV. RESEARCH TARGETS

- Theory of machining parts manufacturing, measurement and assembly,
- CIM, CAD/CAM, CAPP, CAQ, CAA,
- 3D art engraving,
- Manufacturing of dies,
- Ecological aspects of machining.

V. EDUCATION and RESEARCH PROJECTS

V.1 Institutional Projects

- Machining of metal and ceramics depositions created by fire- splutter plasma and by other techniques, No.804 (Lipa, Z.)
- Set of inaccuracy problems by high-precision measurements of complex workpieces. No.844 (Janáč, A.)
-

V.2 National Grants (VEGA, KEGA)

- Structures of machinery production objects and processes VEGA 1/6188/99 MŠ SR, (Janáč, A.)
  Research of structures of machinery production objects and processes is not till now systematic developed. New solutions were created accidentally, method experiment-mistake; experiment-success was used. It influenced prosperity of machinery production. The project is targeted for debugging of this deficiency. Solvers intend, that systematic research will lead to new scientific method of creative proposing of new production structures of processes, machines and equipment and will contribute to development of national economy.
- Towards Ecologically Friendly Machining, MŠ SR Project - PL95978058S (Peterka)

- Ecological behave of subject in human society is today priority for modern civilization. On ferst step we must put take pff prevention of catastrophe. In engineering production we must run over on ecological acceptable technology. The technology of chippy cultivation have most engineering production, therefor us research is direct to ecological cultivate. The project reveal direction development of ecological tooling. In project we reveal solution which have minimum unecological
- Influence to surrondings. The way is: a, totool with minimum cutting liquid.
- b, totool without cutting liquid.

V.3 International Projects

- Towards Ecologically Friendly Machining (ECOFRIM) - INCO-COPERNICUS Project - PL95978058 (Peterka)
- The project solution on international level of ecological totool completely from legal regulations, order and standard ecological cutting liquid. We solution again employ and liquidation cutting liquid in life environment. The project is direct on creation data base about ecological totool, data base of notion and on internet inform about new knowledges from this area.
- CEEPUS PL-0001-99/00 Geometrical Surface Structure of Machine (Janáč, A.)
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VI. CO-OPERATION

VI.1 National Co-operation

- Faculty of Mechanical Engineering, Slovak University of Technology, Bratislava
- Slovak Academy of Science

VI.2 International Co-operation

- National Institute of Standard and Technology, Gaithersburg, USA
- Faculty of Mechanical Engineering, Technical University of Vienna, Austria
- Faculty of Mechanical Technology, Technical University of Gliwice, Poland

VI.3 Contracts with Industry

- Vunar a.s. Nové Zámky, Magna Slovteca s.r.o. Nové Mesto nad Váhom, Jacobs Suchard Figaro a.s. Bratislava, Skloplast a.s. Trnava, SACHS slovensko s.r.o. Trnava, TZK a.s. Trnava, TOMA Trnava, TRENS Trenčín, IDC Holding Trnava.
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VII. THESIS AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Thesis

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[1] Martin Drobný: Measuring roughness by method of print creations (Ing. Augustín Görög)
[2] Marek Hanus: Database of machining objects (Ing. Michal Štefánek, CSc.)
[3] Radovan Hnidka: The copy milling (doc. Dr. Ing. Jozef Peterka)
[4] Martin Jánošík: Roughness of the roller burnishing (Ing. Augustín Görög)

[5] Dušan Kochan: Energy consumption testing methods during metal machining with the use cutting lubricant (Ing. Michal Štefánek, CSc.)
[6] Martina Králiková: An influence of the cutting conditions to the Abbott curves at the grinding (doc. Ing. Zdenko Lipa, CSc.)
[7] Marián Kurajda: The database of the steels from the viewpoint of the machining (Ing. Peter Košťál)
[8] Vlasta Kyseľová: The possibility how to spacify sources of shape deviations arising at manifacturinge with measuring (doc. Ing. Miroslav Maduda, CSc.)
[9] Adrián Luščík: Fastening of non-rotating gadgets in system MTWP (doc. Ing. Karol Velíšek, CSc.)
[10] Daniel Pavlík: Influence of the wear on product roughness (doc. Ing. Milan Borovička, CSc.)
[11] Zdena Štepníková: An influence of the cutting conditions to the Abbott curves at the turning (doc. Ing. Zdenko Lipa, CSc.)
[12] Juraj Turoň: The machining reinforced plastic materials with coated tool (Ing. Michal Štefánek, CSc.)
[13] Juraj Turza: Production of non-circular outside surface (Ing. Jozef Šandora)
[14] Tomáš Polakovič: Towards ecologically of friendly machining (doc. Dr. Ing. Jozef Peterka)

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- TU Vienna, VTT Helsinky, TU Miskolc, TU Budapest, University of Bradford, PS Glivice, ČVUT Praha, VUT Brno, TU Berlin, VŠB Ostrava, TU Kielce, TU Maribor, IOS Krakov

VIII.2 Foreign Visitors to the Department

- Prof. P. H. Osanna, Ass. Prof. Durakbasa, J. Brichta

VIII.3 Organised Conferences, Seminars and Workshops

- Seminar Tools for progressive machining
- Ecofrim Meeting
- Conference Temperature and geometrical values

IX. PUBLICATIONS

[1] **LIPA Zdenko - JANÁČ Alexander**: *Finishing methods of machining*. Bratislava: STU, 2000.94 s.
[2] **VALENTOVIČ Ernest**: *Fundamentals of Assembly*. Bratislava: STU, 2000.136.
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[12] **HRUBEC Ján - JANÁČ Alexander - LIPA Zdenko**: Machineability of hard-to-machine steels and alloys. In: *Strojárstvo v hospodárstve a priemysle,* 4, 2000, č. 4, s. 52 - 53.
[13] **BOROVIČKA Milan – JANÁČ Alexander**: New properties of recrystalized materials. In: *Strojárstvo v hospodárstve a priemysle,* 4, 2000, č.11, s. 52.
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DEPARTMENT OF MANAGEMENT AND QUALITY ENGINEERING

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I. STAFF

Professors:	2	Research Fellows:	2
Assoc. Professors:	7	Technical and Admin. Staff:	3
Senior Lecturers:	18	PhD Students:	15
Lectures:			

II. EQUIPMENT

II.1 Teaching and Research Laboratory

- Personal Computer Laboratory

II.2 Special Measuring Instruments and Systems

- Testing system for psychology studies Ergometer
- Basic technical equipment for labour environment studies

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	*Reader's name*
Enterprise Economy	1	3-2	Ščepka
Statistical Methods	1	2-2	Kučerová
Enterprise Management	1	2-2	Čambál
Accounting	1	2-3	Mulíková
Marketing	2	2-2	Jedlička
Information System	2	2-3	Ončák
Operational Research	2	2-3	Štrpka
Industrial Technologies	2	3-2	Velíšek
Production Management	2	2-2	Čambal
Personnel and Social Programme	3	3-1	Holková
Computer Aided Management	3	1-3	Šrubařová
Logistics	3	2-2	Červeňan
Economical Analysis	3	3-3	Doubková
Investment Development	3	3-3	Sablik
Ergonomic	4	2-2	Sablik
Information Systems Automation	4	2-4	Dobrotka
Engineering Metrology	4	2-2	Maduda
Value Analysis	4	2-2	Molnár
Machines and Equipment Maintenance	4	2-2	Burcl
Final Project	4	2-1	
Plant Information System	4		
Taxation			

III.2 Graduate study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	*Reader's name*
Management of Enterprise Development	7	3-2	Molnár
Accounting	7	2-1	Mulíková
Information Systems Automation	7	2-3	Dobrotka
Operational Research	7	3-3	Štrpka
Marketing	7	3-1	Brezník
Production Management	8	3-3	Čambál
Management and Banking	8	3-2	Červeňan
Taxation	8	2-2	Mulíková
Enterprise Economy	6	3-2	Ščepka
Accounting in Enterprise Activities	9	0-3	Horváthová
Economical Analysis	9	2-2	Doubková
Finances and Banking	9	2-2	Nováková
Quality Management	9	3-2	Linczényi
Enterprise Management	6	3-2	Cambál
Operational Research	7	3-3	Štrpka
Management of Enterprise Development	7	3-2	Molnár
Quality Management	7	3-2	Linczényi
Tools and Techniques of Quality Management	7	2-2	Šalgovicová
Logistics in Quality Assurance	8	2-2	Brezník
Marketing in Quality Management	8	3-2	Jedlička
Production Management	8	3-3	Čambál
Statistical Methods of Quality Inspection	8	2-3	Kučerová
Personal Management	8	2-2	Holková
Information Systems	7	2-2	Oncák
Computer Operating	8	0-2	Šrubarová
Taxation	8	2-1	Mulíková
Certification of Products, Quality Control System and Personnel	9	1-1	Linczényi
Statistical Methods of Quality Inspection	9	2-3	Kučerová
Computer Aided Quality Control	9	2-2	Dobrotka
Logistics	9	2-2	Červeňan
Final Project	9	0-5	

IV. RESEARCH TARGETS

- Progressive forms of managers education
- Quality control in industrial enterprises
- Quality control in service enterprises
- Value management application
- Advanced information technologies implementation
- Environmental Management
-

IV. EDUCATION AND RESEARCH PROJECTS

V.1. Institutional Projects

- Economics problems of industrial plants ecologysation in market economy
- Quality assurance system at production and maintenance organisations in aviation industry

- Quality of communication system as Agent Influencing Competitiveness of Small and Medium Companies

V.2. National Grants (VEGA, KEGA)

- Quality Management (KEGA –146/98)
- (Elaboration of textbook in the field quality management)
- Synchronisation of project management education at Slovak universities with methodology applied in EU countries (KEGA 990)
- Quality assurance system at production and maintenance organisations in aviation industry (VEGA 1/7166/20)
- Quality of communication system as Agent Influencing Competitiveness of Small and Medium Companies (VEGA 1/7162/20)

V.3. International Projects

- Co-operation with TU Košice on Program TEMPUS – STAMP (University Utrecht University Palermo)
  IB – JEP – 14092, Modul „Quality Professional“

VI. CO – OPERATION

VI.1. National Co-operation

- Technical University Košice
- Technical University Zvolen
- Faculty of Engineering Bratislava
- Faculty of Engineering Žilina

VI.2. International Co – operation

- Department of Work Sciences, Brandenburg Technical University, Cottbus, Germany
- Agricultural University of Poznaň Chair of Economic and Wood Industry Management, Poznaň, Poland
- Institut für Festkorper und Werkstofforschung, SRN, Dresden

VI.3. Contracts with Industry

- Contract with Tatravagonka, a.s. Poprad „Monitoring the Processes Quality Costs“
- Contract with LOT Trenčín „Quality Assurance in Maintenance Organisation“
- Contract with Slovakofarma a.s. Hlohovec „Validation of company management system“

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1. Graduate Theses (Number of the Thesis - 290)

Fields in which the Thesis are elaborated:

- Field of quality control systems
- Costs analysis
- Value analysis application
- Company organisational models
- Enterprises marketing management
- Operational research application
- Controlling application

VII.2. Dissertations Ph.D)

- Ing. Renáta Nováková: Quality Planning

VII.3. Habilitations (Assoc.Prof.)

VII.4. Other Activities

VII.5. Visits of Staff Members fo Foreign Institutions

- TU Dresden, Germany
- TU Utrecht, Holland

VII.6. Foreign Visitors to the Department

VII.7. Organised Conferences, Seminars and Workshops

- Specialised course in the field of work rationalisation
- Seminars in the field of project management
-

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- -

VIII.2 Foreign Visitors to the Department

- -

VIII.3 Organised Conferences, Seminars and Workshops

- -
-

IX. PUBLICATIONS

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DEPARTMENT OF MATERIALS ENGINEERING

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I. STAFF

Professors:	4	Research Fellows:	3
Assoc. Professors:	2	Technical and Admin. Staff:	9
Senior Lecturers:	10	PhD Students:	8
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- X-ray Diffraction Laboratory
- Electron Microscopy Laboratory
- Light Microscopy Laboratory
- Laboratory of Physical Measurement
- Mechanical Testing Laboratory
- Heat Treatment Laboratory
- Laboratory of Hard Magnetic Materials
- Laboratory of Vacuum and Plasma Metallurgy
- Laboratory of Isostatic Pressing

II.2 Special Measuring Instruments and Systems

- Transmission Electron Microscopes JEOL 200 CX, TESLA BS 500
- Scanning Electron Microscopes TESLA BS 300, TESLA BS 343
- X-ray Diffractometers DRON 3M, HZG 4, MIKROMETA 2
- Light Microscopes NEOPHOT
- Induction Magnetometer
- Image Analyser MINI BVS
- FPZ 100/l Direct Stress Testing Machine
- EDZ 40 dyn Direct Stress Lasting Machine
- Hardness Testers ZWICK 3212, RB 1, HPO 250, HPO 3000
- Pendulum Impact Testing Machines PS 30
- Isostatic Press QICH 16
-

III. Teaching

III.1 Bachelor study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	Reader's name
Materials II	3	2-2	Kupča
Non-metallic Materials	6	2-1	Martinec, Kozík

III.2 Graduate study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	Reader's name
Materials Science	2	3-3	Martinec, Šimkovič, Grgač, Hazlinger
Physical Metallurgy	4	3-2	Hrivňáková
Structural Materials	5	3-2	Šimkovič
Experimental Methods of Material Science	6	2-2	Čaplovič
Plasma and Vacuum Technology	6	1-1	Žitňanský
Technology of Heat Treatment and Surfacing	7	2-2	Grgač
Processes of Heat Treatment and Sintering	7	2-2	Grgač
Theory of Phase Transformation	7	2-1	Hrivňáková
Physical Chemistry	7	2-2	Sorentínyová
Mechanical Testing of Materials	7	2-2	Kadlec
Thin layers and surface spectroscopy	7	2-1	Čaplovič
Theory of Technology Processes	7	3-2	Martinec
Information Technology in Materials Science	7	1-2	Čaplovič
Experiment planing and evaluating	7	2-1	Varkoly
Vacuum Technology	8	3-2	Žitňanský
Experimental Methods of Material Research I	8	1-2	Čaplovič
Structure and Properties of Plastics	8	2-2	Martinec
Corrosion, Tribology and Surfacing	8	2-2	Opravil
Vacuum Technology	8	3-2	Žitňanský
Materials III	8	2-0	Šimkovič
Basics of Stereology Metallography	8	2-2	Martinkovič
Utility Properties and Choice of Materials	8	3-2	Hrivňák
Machinery of Plastic Technology	8	2-1	Horváth
Composite Materials	9	2-2	Šebo
Experimental Methods of Material Research II	9	1-3	Čaplovič
Degradation Processes and Time Life Prediction	9	2-2	Hazlinger
Final Project	9	0-5	all KMI
Fractography	9	2-1	Bošanský
Radiation Degradation of Materials	9	2-1	Hrivňák
Vacuum Technology in Heat Treatment	9	1-2	Žitňanský
Theory and Technology of Industrial Heating	9	2-2	Taraba
Advanced Methods of Heat Treatment	9	3-2	Hazlinger
Choice of Materials and Advanced Material Technologies	9	2-1	Hrivňák
Projecting of Production Processes and Systems in Heat Treatment	9	2-2	Onderčanin
Theory and Technology of Plastics Treatment	9	3-2	Horváth
Metrology and Testing of Plastics	9	2-2	Grom
Bonding of Plastics	9	2-1	Martinec
Production Plastics Tools	9	3-2	Horváth
Plastic Parts Design	9	1-2	Osuský

IV. RESEARCH TARGETS

- Vacuum metallurgy, metal rafination, crystallisation of metals, materials science
- Tool steels and nickel alloys
- Biocompatible materials
- Powder metallurgy
- Structure and weldability of polymers

- Weldability of steels
- hard magnetic materials
- Boronizing of steels
-
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V. EDUCATION and RESEARCH PROJECTS

V.1 Institutional Projects

- Quantification of Microstructure Parameters of Rapidly Solidified Materials. No 892, (Martinkovič, M.)
- Design of Precision Termoplastic Composite Parts. No 891, (Horváth, J.)
- Study of Degradation Processing in Nd-Fe-B based Magnets. No 865,
- (Hrivňáková, D.)
- Shear Tools Damage and Lifetime Shortage Analysis. No 895, (Hazlinger, M.)

V.2 National Grants (VEGA, KEGA)

- Research of the Method of Preparation of Human Joints and Sceleton. VEGA 1/7170/20, **(Žitňanský, M.)**
  Research and development of a model total hip replacement /THR/ and spinal fixator with the goal to construct at prevalence measure so working process utilizing contemporary research knowledge of top Slovak specialists in materials research and orthopaedic surgery. We proposed an original design THR. This THR has more original signs and is secured by patent application in SR and in EUR area. Research team can utilize CT scan and will investigate this scientific grant in extent – Scanning – THR placement in patient skeleton. At last follow technical solution of THR mailing. In the framework of investigation project will go as for acquiring a master model by stereolytographic process. This master model we need for judging by specialist orthopaedic surgeon and for application of investment casting.

- Weldability of High Strenght Steels - II . VEGA 1/7168/20, **(Hrivňák, I.)**
  The project has three stages: In first stage welding and weldability problems of electron beam welding of tailored blanks for car industry was investigated. We have studied the weldability of various steels with zinc surface layer, with various strength level and thickness. Investigated were the properties of weld. It has been proved that laser beam welding is possible and proper welding parameters were found. This stage was finished.
- In the second stage we are investigating the submerged arc pulsed current welding of steels. The fundamental research was finished. It was shown that employing the pulsed current it is possible to decrease the heat input, welding distortions and optimise the weld microstructure. The developed technology was applied in production of huge (40.000 m3 capacity) tank for crud oil in Slovakia. The third stage is dealing with the occurrence of M-A (martensite-austenite) constituent in high strength steel welds. Mechanism of the M-A formation and its effect on impact properties was investigated in various high strength steels.

- Microstructural evolution in high-alloyed alloys in the process of rapid solidification and consecutive thermo-deformational operations. VEGA 1/7339/20, **(Grgač, P.)**
  The project is oriented to the investigation of complex microstructural changes during rapid solidification at atomising the liquid metals of high alloy eutectic alloys,

and subsequent technological operations. It is focused on the microstructural, substructural, and phase composition identifications of rapidly solidified particles so as to describe and explain solidification mechanisms in undercooled liquid droplets. The goal is to describe the evolution of original, rapidly solidified particles during thermo-deformational compacting, and following heat treatment processes.

- Technological and Structure Characteristics of Particle Reinforced Polymer Matrix Composites. VEGA 1/5236/98 (**Martinec,Ľ.**)
  The analysis of choose properties of the filled reinforced mixtures polyolefines, PET mixtures. The preparation of patterns. The alterantive for experiment. The solution of experiment with new different method, include with a method of productive trial. New achievements on field of weldability PE matrix, filled with $BaSO_4$.

V.3 International Projects

- CEEPUS Project PL 13/20 (Žitňanský, M.)
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-

VI. CO-OPERATION

VI.1 National Co-operation

- AVANTEK Nové Mesto nad Váhom. Laser marking.
- Atomic Power Plant Research Institute VUJE a.s. Trnava. X-ray difraction.
- IMR SAS Košice. Grant project.
- FNE SUT Bratislava. Grant project.
- VUSAPL Nitra. Grant project.
- Orthopedic Clinic FN LF UK Bratislava. Grant project.

VI.2 International Co-operation

- Institute of Solid State and Research Materials IFW Dresden Germany. TEM microscopy.
- Uniplast Brno Czech Republic & TGM Wien Austria. Computer aided and polymer and environmental engineering.
- Military Academy Brno Czech Republic. Nitriding of steels.
- Silesian Technical University in Gliwice Poland. Grant project.

VI.3 Contracts with Industry

- SACHS ltd. Trnava - microanalysis of materials
- Slovnaft ltd. Bratislava - material expertise, welding expert opinion
- SLOVALCO ltd. Žiar n. Hronom- microanalysis of materials
- Best ltd. Beluša - development of magnets
- SAV-UMMS (Academy of Science) Bratislava - isostatic presswork
- VSŽ Košice ltd. - laser welding of sheet metal development
- Hydrostav ltd. Bratislava - material and welding expertise of container
- PFS ltd. Brezová - expertise of heat treatment of springs
- HChZ Nováky – material expertise
- Elektrokarbon Topoľčany – material expertise

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

[1] Buchan Miroslav: Study of the dual-phase stainless steel weldability (Hrivňák, KMI)
[2] Fričová Soňa: Supermolecular structure of PA filled by short glass fibres (Horváth, KMI)
[3] Gális Radoslav: The changes of mechanical properties in HAZ of weld joints of polymers (Martinec, KMI)
[4] Galko Vladislav: Micromorphology and microstructure analysis of steel borers marked by laser (Bakalová, KMI)
[5] Gašparíková Adriana: The analyse and the possibility of stress generation in plastic gun cylinders (Horváth, KMI)
[6] Gromová Renáta: The time factor of the mechanical properties change of polymers during static loading test (Martinec, KMI)
[7] Hanková Adriana: Morphological changes in HAZ weld joints of polymers (Martinec, KMI)
[8] Heško Róbert: Analysis of carbide morphology changes in thermally affected RS powder particles of Ch3F12 tool steel (Kusý, KMI)
[9] Hlaváčik Jozef: Study of the plastic coatings created by flame spraying (Poštrková, UMMS SAV)
[10] Holecová Katarína: Technologies of the foamy zinc production (Jerz, UMMS SAV)
[11] Jánsky Róbert: Study of solidification microstructures and phase interface of SDK 42 Ni based alloy (Martinkovič, KMI)
[12] Katreňáková Lubomíra: Study of the wearing mechanism of Hardox, Weldox material and KODUR E 700 TS microalloyed steel (Hudáková, KMI)
[13] Kováčová Janka: Composite materials with magnetic properties (Hudec, ChTF)
[14] Križan Daniel: Structural stability of duplex stainless steels (Hrivňák, KMI)
[15] Kuníková Terézia: Structural changes in martensitic stainless steel 17 021 and 42 2904 by welding, surfacing and heat treating (Kvasnicová, ZTS-Matec)
[16] Kuzmová Miroslava: Study of sigma phase precipitation in austenitic stainless steel (Hrivňák, KMI)
[17] Lobotková Monika: Contact diffusion boriding of K 190 tool steel (Sedlická, KMI)
[18] Mališková Lucia: Electric and dielectric properties of plastic-ferritic composites (Kubliha, KF)
[19] Matuščinová Martina: Supermolecular structure of plastic-ferritic composite (Sorentínyová, KMI)
[20] Moravec Rastislav: Analysis of carbide morphology in RS powder particles of Ch3F12 tool steel (Kusý, KMI)
[21] Rusnák Vladimír: Design of technological line for polyolefine recycling (Špirk, KPK)
[22] Spevárová Denisa: The simulation and analysis of rheological conditions of modified polymers (Horváth, KMI)
[23] Svetko Miroslav: Design of waste free injection tool for particular polymer product (Horváth, KMI)
[24] Šimková Martina: Mechanical properties of foam aluminia (Jerz, UMMS SAV)
[25] Šudy Róbert: The microstructure analysis of Ch12MF4 tool steels compacts after hipping (Martinkovič, KMI)
[26] Trokan Bohuslav: The microstructure analysis and phase composition of SDK 42 Ni based alloy (Trnková, KMI)

[27] Trsťanová Terézia: Conditions of the high-alloy austenitic two-phase steel resistance against to corrosion cracking in the Cl- ion water solutions (Bakai, Duslo)
[28] Tršková Michaela: Plastic-ferritic composites with reduced combustibility for extrusive technologies (Kalužný, KF)
[29] Vaško Marek: Optimisation of tool conception for injection with computer simulation support (Horváth, KMI)
[30] Vrabcová Lenka: Effect of stocking conditions on quality of welding joints of polypropylene pipe (Martinec, KMI)
[31] Weisenpacher Martin: Microscopic analyse of heat affected RS powder of Ch12MF4 tool steel (Moravčík, KMI)

VII.2 Dissertations (Ph.D.)

[1] Čaplovič Lubomír: Study of reversed transformation $\alpha' \rightarrow \gamma \rightarrow \alpha'$ in maraging steels.
[2] Koruk Ali Ihsan: Laser welding of tailored blanks for car body assembly.

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- Sillesian Technical University, Gliwice, Poland – one PhD student and professor one week
- Junior-Euromat 2000, Lausanne, Switzerland – two PhD students and associate professor one week
- IFW Dresden, Deutchland – three PhD students and one assistant professor two weeks
- Audi company, Ingolstadt, Germany - students and associate professors one day
- Opel Austria, Wien, Austria - students and associate professors one day
- Aichelin gmbh, Modling, Austria - students and associate professors one day
- Purdue University, Kokomo, USA - one PhD student one week
-

VIII.2 Foreign Visitors to the Department

- Wetzig Klaus, prof. Dr., IFW Dresden Germany - Analytical Electron Microscopy seminar, one day
-

VIII.3 Organised Conferences, Seminars and Workshops

- Welding of High Strength Materials - seminar
- Junior-Slovmat 2000 PhD. Students Seminars - seminar and workshop
- Analytical Electron Microscopy - seminar

IX. PUBLICATIONS

[1] PUŠKÁR Anton – **HAZLINGER Marián**: *Failure and fractures of components.* Žilina: ŽU, 2000. 259 s.
[2] **HRIVŇÁKOVÁ Dáša**: *Physical metallurgy and limiting states of materials.* 2. vyd. Bratislava: STU, 2000. 156 s.
[3] **HRIVŇÁK Ivan**: Repair of spherical storage tanks for liquefied hydrocarbon gases. In: *Metalurgija*, 39, 2000, č. 3, s. 171 - 176.
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[5] **HRIVŇÁKOVÁ Dáša** - HRNČIAR Viliam - **ČAPLOVIČ Ľubomír**: Degradation processes in Nd-Fe-B permanent magnets. In: *Kovové materiály*, 38, 2000, č. 3, s. 188 - 197.
[6] **MARTINKOVIČ Maroš**: Heat treatment of tungsten fibre reinforced superalloy. In: *Materiálové inžinierstvo*, 7, 2000, č. 2, s. 73 - 76.
[7] **MARTINKOVIČ Maroš - HUDÁKOVÁ Mária**: Quantitative analysis of austenitisation temperature influence to structure of microalloyed steel E 700 TS. In: *Materiálové inžinierstvo*, 7, 2000, č. 1, s.23 - 28.
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[9] **MARTINKOVIČ Maroš**: Structure of heat treated tungsten fibre reinforced superalloy composite. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 8, s. 27 –32.
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DEPARTMENT OF MATHEMATICS

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I. STAFF

Professors:	1	Research Fellows:	0
Assoc. Professors:	3	Technical and Admin. Staff:	0
Senior Lecturers:	15	PhD Students:	5
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- 2 special teaching rooms

II.2 Special Measuring Instruments and Systems

- 13 computers

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	Reader's name
Mathematics I	1	3-2	Ďurikovič,Červeňanský
Mathematics II	2	3-2	Ďurikovič, Červeňanský

III.2 Graduate Study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	Reader's name
Fundamentals of Computer Graphics	2	3-2	Zámožík
Mathematical Statistics	5	3-2	Halabrín
Applied Mathematics	5	2-2	Halabrín
Mathematics I	1	5-4	Červeňanský,
Mathematics II	2	3-4	Červeňanský
Mathematics III	3	3-3	Híc, Zalabai
Applied Mathematics III	5	2-2	Urbaníková
Applied Mathematics I	5	2-2	Híc
Insurance and Financial Mathematics	6	2-1	Urbaníková

IV. RESEARCH TARGETS

- Properties of solutions of ordinary differential equations
- Metrics and topological properties of real functions
- Computer graphics - geometry problems

- Fractal and chaos
- Graph theory - special types of graphs
- Geometric interpolation of massifs
- Image processing - algorithms
- Fuzzy sets and systems

V. RESEARCH PROJECTS

- Functional analysis and quantitative theory of ordinary differential equations
- Geometric and related structures used in computer techniques

VI. COOPERATION

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII. THESES

VII.1 Graduate Theses

VII.2 Dissertations (Ph.D.)

[1] Bare classification of real functions (Kostyrko, Ph.D., Assoc. Prof.)

[2] Dense allocation of objects (Božek, Ph.D., Assoc. Prof.)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

- Distance Education Courses
- 2 Courses in Mathematics
- Mathematics for Engineers
- Seminar: Teaching of Mathematics in Bachelors' Courses
- Pre-studies Courses of Mathematics
- Computational Geometry and Related Problems
- International Conference: Mathematics in Technical Education

VIII.1 Members of Department in Aboard

- Jaroslava Trubenová, Edita Vranková

VIII.2 Invited Lectures from Aboard

- Prof. František Bubeník, Czech Technical University in Prague, Thákurova 7, 166 29 Praha 6
- Prof. Roman Bek, Czech Technical University in Prague, Konviktská 20, 110 00 Praha 1
- Prof. Jaroslav Černý,CSc., KM FSv , Czech Technical University in Prague, Thákurova 7, 166 29 Praha 6

- Jiří Dočkal, ÚM FS Technical Univerzity in Brno, Technická 2, 616 69 Brno
- Prof. Zděnek Jankovský, FS Technical Univerzity in Brno, KM FEL ČVUT Technická 2, 166 27 Praha 6
- Prof. Milada Kočandrlová, KM FSv , Czech Technical University in Prague, Thákurova 7, 166 29 Praha 6
- Prof. Anežka Wohlmuthová, KM FSv ČVUT, Czech Technical University in Prague,
- Prof. Čeněk Zlatník, Csc. KTM FSI ČVUT, Czech Technical University in Prague, Karlovo Nám. 13, 121 35

IX. PUBLICATIONS

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[22] **URBANÍKOVÁ Marta**: Yield of portfolio and risk. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Aplikované prírodné a inžinierske vedy*. Bratislava: STU, 2000, s. 191 – 194.
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DEPARTMENT OF PHYSICAL EDUCATION AND SPORTS

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I. STAFF

Professors:	1	Research Fellows:	0
Assoc. Professors:	1	Technical and Admin. Staff:	7
Senior Lecturers:	9	Ph.D. Students:	1
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Gymnasium
- Fitness Centre
- Swimming Pool
- Track and Fields
- Tennis Courts
- Stadium (Baseball, Softball)

II.2 Special Measuring Instruments and Systems

- Dynamometers
- Bicycle-ergometer

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	*Reader's name*
Physical Education and Sports	1-6	2-1	Adamec, Blaškovič, Glesk

III.2 Graduate Study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	*Reader's name*
Physical Education and Sports	1-8	2-1	Adamcová, Gálik, Hlavatý L+R , Merica, Rafaj, Morvay, Lukačovičová, Zaťovičová
Olympism	1	2-1	Glesk, Merica

IV. RESEARCH TARGETS

- Physical Culture and Fitness of People

V. EDUCATION and RESEARCH PROJECTS

V.1 Institutional Projects

- The evaluation of somatometry and physical fitness of students by the system of EUROFIT. No. 861. (Glesk, P.)
- The evaluation of the level and the changes of physical fitness in selected sports. No. 862. (Merica, M.) – (successfully finished)

V.2 National Grants (VEGA, KEGA)

-

V.3 International Projects

-

VI. CO-OPERATION

VI.1 National Co-operation

-

VI.2 International Co-operation

-

VI.3 Contracts with Industry

-

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

- Merica, M.: Didactical aspects of swimming at Slovak schools. B. Bystrica, 1999, p. 153

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

-

VIII.2 Foreign Visitors to the Department

-

VIII.3 Organised Conferences, Seminars and Workshops

- Winter training camp for students
- Summer training camp for students
- Seminars:
  - „The development of Physical Education and Sport“
  - „The growth of performance and success in competitive games“

IX. PUBLICATIONS

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[2] **GLESK Pavol**: *English-slovak slovak-english sports management glossary*. Bratislava: PEEM, 2000.121 s.
[3] **GLESK Pavol**: *Managing aspects of sport.* Bratislava: PEEEM, 2000. 180 s.
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[6] **GLESK Pavol**: The evaluation of muscular fiber structure. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s. 223 – 228.
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[11] **MERICA Marián**: Stretching on bodybuilding lessons of university students. In: *NOVÉ TECHNOLÓGIE V ŠPORTOVOM TRÉNINGU, V ŠPORTOVOM MARKETINGU A V MANAŽMENTE*. Bratislava: STU, 2000, s. 106 - 110.
[12] **GLESK Pavol**: One – year indicators of training volume of external training load. In: *OPTIMALIZÁCIA ZAŤAŽENIA V TELESNEJ A ŠPORTOVEJ VÝCHOVE: Zborník z vedeckého seminára*. Bratislava: STU, 2000, s. 32 - 38.
[13] **GLESK Pavol – MERICA Marián**: Swimming of pre-school children. In: *Zborník: III. medzinárodná vedecká konferencia: POHYB A ZDRAVIE V HODNOTOVOM SYSTÉME ĽUDÍ NA ZAČIATKU NOVÉHO TISÍCROČIA*. Nitra: PdF UKF, 2000, s. 40 – 43.
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[22] **GLESK Pavol – RAFAJ Dušan**: Health value, rising number of physical education disabled students and remedial physical education. In: *ZDRAVOTNÝ STAV, TELESNÝ A POHYBOVÝ ROZVOJ ŠTUDENTOV UNIVERZÍT*: Zborník z vedeckého seminára. Bratislava: STU, 2000, s. 35 – 39.
[23] **GLESK Pavol**: The basis of the sport performance of triathlon is in the aerobic endurance. In: *Zborník prednášok zo 6.vedeckej medzinárodnej konferencie AKADEMICKÁ DUBNICA 2000*. Bratislava: STU, 2000, s.281 – 284.
[24] **GLESK Pavol** – KUDLA Jozef: Sport and regional self-administration. In: *Zborník prednášok zo 6.vedeckej medzinárodnej konferencie AKADEMICKÁ DUBNICA 2000*. Bratislava: STU, 2000, s. 285 – 288.
[25] **MERICA Marián**: Swimming at Slovak universities. In: *Zborník prednášok zo 6.vedeckej medzinárodnej konferencie AKADEMICKÁ DUBNICA 2000*. Bratislava: STU, 2000, s. 339 – 342.
[26] **GÁLIK Karol**: Choice of the game system according to the type of the tennis player. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Humanitné a spoločenské vedy v technike*. Bratislava: STU, 2000, s. 183 – 188.
[27] **GLESK Pavol**: Motor starting-points in speed skating for short distances in 9-10 age group. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Humanitné a spoločenské vedy v technike*. Bratislava: STU, 2000, s. 189 – 192.
[28] **HLAVATÝ Rastislav**: The relationship of the stroking and anthropometric characteristics and performance in swimming. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Humanitné a spoločenské vedy v technike*. Bratislava: STU, 2000, s . 197 – 202.
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[30] **MERICA Marián**: Possibilities of using of some training systems in bodybuilding of university students. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Humanitné a spoločenské vedy v technike*. Bratislava: STU, 2000, s . 227 – 232.
[31] **GLESK Pavol**: Uticaj nastave fizičkog vaspitanija svesti i osobina ličnosti učenika u srednoj školi. In: *EFEKTI DIFERENCIRANICH MODELA NASTAVE FIZIČKOG VASPITANIJA NA PSICHOSOMATSKICH STATUS UČENIKA I STUDENTA*. Novi Sad: Univesity of Novi Sad, 2000, s. 104 – 107.
[32] **GLESK Pavol – MERICA Marián**: The endurance abilities level expressed by results of the 12 minutes fun of 4 – 6 years old children. In: Zborník z medzinárodnej vedeckej konferencie *: MOTORIKA DETÍ PREDŠKOLSKÉHO A MLADŠIEHO ŠKOLSKÉHO VEKU* . Prešov : Vedecká spoločnosť pre telesnú výchovu a šport, 2000, s. 112 – 115.

DEPARTMENT OF PHYSICS

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I. STAFF

Professors:	2	Research Fellows:	2
Assoc. Professors:	2	Technical and Admin. Staff:	5
Senior Lecturers:	13	PhD Students:	1
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Laboratory of Physics I-II; teaching of the mechanics, thermodynamics, and electromagnetism
- Laboratory of Physics III; teaching of the quantum mechanics and the nuclear physics
- Laboratories of Electrotechnics; teaching of the elementary electrotechnics
- Laboratory of Interferometry techniques, applications of interferometry to elastic and elastic - plastic properties investigations
- Laboratory of electron beam; processing specific system and unique techniques enabling the welding of large samples by the electron beam in the high vacuum
- Laboratory of advanced materials; effects of the process technology on microstructure, conductivity, dielectric response, mechanical, dilatation properties and optical properties of ceramics, glasses, nano-composites and superionic fluoride eutectic composites may be investigated

II.2 Special Measuring Instruments and Systems

- Impedance spectroscopy in the temperature range 20-600 °C
- Modular spectroscopy in the frequency range 1 - 106 Hz , up to 300 °C
- Flow Sorb, fy. Micrometrics, determination of the surface of the powder systems, accuracy 0.5 - 3%
- Electron beam welding apparatus FL 7.5 (high vacuum 10-5 Pa, power required 7.5 kW)

III. TEACHING

The objective of the physics branch of study is to educate engineers who should be competent to solve problems concerning the wide spectrum of the industry and also extending to the field materials engineering, industrial technologies, management and ecology, information technology, etc. The study involves the necessary theoretical introduction into subjects that provide general education for an engineer, which is followed by specialised courses. The topics of lectures, laboratory and seminar exercises have been choosen for the reason of useful knowledges obtaining. Thus, he obtains also a basic for creative work in engineers' practice.

III.1 Bachelor Study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	Reader's name
Basic Physics	2	4-2	Garaj
Electrotechnics	4	3-3	Kosorin

III.2 Graduate Study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	Reader's name
Physics I	2	3-3	Kozík, Labaš, Ožvoldová
Physics II	3	3-2	Kalužný, Kozík
Physics III	4	3-3	Ožvoldová, Kalužný
Electrotechnics	4	3-3	Kosorin
Solid State Physics	6	2-2	Ožvold
Ceramics Materials	9	2-2	Kozík

IV. RESEARCH TARGETS

In the Year 2000 the Department of Physics has continued research activities through grants. The projects of the Department are in continuation of our previous work, focused on the investigation of the relations between preparation conditions, microstructure and physical properties of ceramics (based on ZrO_2, YBaCuO and basalt), ceramic composites, superionic fluoride composites and glasses (system TeO_2 - ZnO, TeO_2 - ZnO - $ZnCl_2$, TeO_2 - $PbCl_2$ etc.), rubber and composites ferrite - plastic are the main topics in research area. The aim of this research area is to contribute to the fundamental understanding of materials. This is realised by the investigation of materials structure, modelling and simulations, and finally by the development of characterisation methods with the main topics improved quantification and in situ materials manipulations.

V. EDUCATION and RESEARCH PROJECTS

V.1 Institutional Projects

- Relationship of the technology to the mechanical and optical properties of the non-metal materials. No 876, (Labaš, V.)
- Physical properties of optical, dosimetric, ferroelectric and superionic materials based on oxides, chalcogenides and halogenides of heavy metals. No 818, (Ožvoldová M.)

V.2 National Grants (VEGA, KEGA)

V.3 International Projects

- TASUM - Training and Advanced Study of University Management (Kalužný, J.)
  The project prepare the study materials for theoretical preparation of the high school management workers in the all areas of management. The purpose of the project is

education of the chiefs of the academic institutions with theoretical knowledge of the management, which will be able to lead the institutions on the all levels.

- IDEP - Internet Distance Education Program (Ožvoldová, M.)
  The project prepare the on-line study materials for education of Physics of the high school. This is an experimental program in course delivery using the World Wide Web.

VI. CO-OPERATION

VI.1 National Co-operation

- Institute of Physics of the Slovak Academy of Sciences.
- Model and numerical simulation of technology, structure and properties of advanced materials, in co-operation with the Department of Applied Mechanics.
- Investigation of the luminescence properties of zirconia ceramics and glasses in co-operation with the Department of Solid State Physics, Comenius University in Bratislava.
- Faculty of Mechanical Engineering ŽU Žilina
- Faculty of Mechanical Engineering STU Bratislava
- Faculty of Chemical Engineering STU Bratislava
- Faculty of Industrial Technologies, University of Trenčín

VI.2 International Co-operation

- The preparation of the experimental materials (glass, ceramics) in cooperation with the Laboratory of Inorganic Materials, common working-place of Institute of Inorganic Chemistry, Academy of Sciences and Institute of Chemical Technology, Prague, Czech Republic
- Institute of Solid State Physics Russian Academy of Sciences Chernogolovka Russia
- Institute of Physics, Faculty of Electrical Engineering and Computer Science, Brno University of Technology

VI.3 Contracts with Industry

- Sony Slovakia, Trnava
- Slovak Power, Jaslovské Bohunice Nuclear Power Plant
- Research Institute of plastic materials in Nitra

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

- Tršková, M.: The influence of combustion retarders on choosen physical and technological properties of plastic-ferrite composites (Kalužný, J.)
- Malíšková, L.: Electrical and dielectrical properties of plastic-ferrite composites (Kubliha, M.)

VII.2 Dissertations (PhD)

- Krajčovič, J.: The intensify of the engineering subjects education by the innovation of the physics education. Trnava, 2000, 100 p.

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- Instituto de Quimica - Universidade Estadual Paulista Júlio de Mesquita Filho, Laboratório de Materials Fotonicos, Araraquara, Sao Paolo, Brasil
- Laboratory of Inorganic Materials, common working-place of Institute of Inorganic Chemistry, Academy of Sciences and Institute of Chemical Technology, Prague, Czech Republic
- IFW Dresden, Germany

VIII.2 Foreign Visitors to the Department

- Prof. Marcel Poulain, Centre d' Etude des Matériaux Avances, University of Rennes, France
- Ing. Dimitrij Ležal, DrSc., Laboratory of Inorganic Materials, common working-place of Institute of Inorganic Chemistry, Academy of Sciences and Institute of Chemical Technology, Prague, Czech Republic
- Doc. RNDr. S. Bartoň, PhD., MZLU Brno, Czech Republic

VIII.3 Organised Conferences, Seminars and Workshops

- Co-operation in organising the regional Physics Olympiad
- Seminars:
  - Relation of Physics to the special technological subjects (Mgr. Jozef Krajčovič)
  - Perspectives of Physics in new millennium (Prof.RNDr.Július Krempaský, DrSc.)
  - The DTA and DSC utilization methods for solid state research (RNDr. Emília Illeková, CSc.)
  - Methods and principles of the navigation by physical fields (RNDr. Igor Jančuška)

IX. PUBLICATIONS

[1] **KRAJČOVIČ Jozef – KVETAN Karol – LABAŠ Vladimír – MINÁRIK Stanislav**: *Physic: Exercises in practical Physics.* Bratislava: STU, 2000. 156 s.

[2] **KALUŽNÝ Ján** – LAURINC Viliam – ŠEBKOVÁ Helena: *"High school management": Education quality evaluation in high school.* Praha: Centrum pro studium vysokého školství, 2000. 64 s.

[3] JURIŠICA Ladislav – **KALUŽNÝ Ján** – SPIŠÁK Emil: *Training and additional education of management in university. Study and teaching management in university*. Bratislava: Centrum ďalšieho vzdelávania EU, 2000. 125 s.

[4] **TRNOVCOVÁ Viera** – STAROSTIN, M. Y. – ČIČKA, R. – FEDOROV, P.P. – BÁRTA, Č. **– LABAŠ, V.** – SOBOLEV, B.P.: Microstructure and fast ionic conduction of inorganic fluoride and oxide eutectic composites prepared from the melt. In: *Solid State Ionics*, 136-137, 2000, č. 1, s. 1-7.

[5] **OŽVOLDOVÁ, M. – KAŠŠÁKOVÁ, V. –** GAŠPARÍK, V.: The influence of preparation technology on luminescence properties of Y-TZP and… In: *Ceramic – Silikáty*, 44, 2000, č. 4, s. 142 – 145.

[6] **MINÁRIK Stanislav – LABAŠ Vladimír**: Analytical and software solution of electrostatic fields in one-dimensional charge objects surrounding. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s. 139 – 148.

[7] **ČIČKA Roman**: Impedance spectroscopy of alumina-zirconia eutectic composites. In: *III. celoštátny doktorandský odborný seminár: JUNIOR-SLOVMAT 2000: Zborník prednášok*. Trnava: MtF STU, 2000, s.13 - 17.

[8] **KRAJČOVIČ Jozef – LABAŠOVÁ Eva**: Realization of pedagogical experiment in didactic transformation of physics education. In: *NIEKTORÉ ASPEKTY PRÍPRAVY INŽINIEROV PRE 21.STOROČIE*. Bratislava: STU, 2000, s. 65 – 68.

[9] **KALUŽNÝ Ján**: Principles of education quality guarantee in Slovak Technical University in Bratislava. In: Zborník zo seminára *VZDELÁVANIE V TECHNICKÝCH ODBOROCH*. Bratislava: STU, 2000, s. 40 – 52.

[10] **LABAŠ Vladimír - LABAŠOVÁ Eva – MINÁRIK Stanislav**: Computation of the residual stresses in layered composite y/$ZrCO_2$ + Al_2O_3. In: *Zborník prednášok zo 6.vedeckej medzinárodnej konferencie AKADEMICKÁ DUBNICA 2000*. Bratislava: STU, 2000, s. 193 – 198.

[11] **TURŇA Milan – OŽVOLDOVÁ Miroslava**: Targets for deposition by high purity materials. In: *Zborník prednášok zo 6.vedeckej medzinárodnej konferencie AKADEMICKÁ DUBNICA 2000*. Bratislava: STU, 2000, s. 247 – 254.

[12] KOSTKA, P. – **KUBLIHA Marián – KALUŽNÝ Ján** – LEŽAL Dimitrij – MARIANI Emil: The influence of technology on electrical, dielectrical and optical properties of PbO-Ga_2O_3 glasses. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Materiálové inžinierstvo*. Bratislava: STU, 2000, s. 101 – 106.

[13] **KUBLIHA Marián – KALUŽNÝ Ján** – LEŽAL Dimitrij – PEDLÍKOVÁ, J. –**MARIANI Emil**: Properties of TeO_2-$PbCl_2$ glasses doped with metallic Pr. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Materiálové inžinierstvo*. Bratislava: STU, 2000, s. 107 – 112.

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[17] **TRNOVCOVÁ Viera** – FEDOROV Pavel – KRIVADLINA Elena – GARASHINA Liza – SOBOLEV Boris: Superionic conductivity of orthorhombic and tysonite – structured rare earth fluorides. In*: CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Materiálové inžinierstvo*. Bratislava: STU, 2000, s. 231 – 236.

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[22] **OŽVOLDOVÁ Miroslava – TRNOVCOVÁ Viera** – GREGUŠ Ján – GAŠPARÍK Vladimír – ILLEKOVÁ Emília – **KAŠŠÁKOVÁ Viera** – LEŽAL Dimitrij: Absorption and photolumini science spectra of sulfide glasses doped with rare earth ions. In: *PROCEEDINGS OF THE FIRST SLOVAK GLASS CONFERENCE*. Trenčín: TnU, 2000, s. 160 – 167.

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[32] KALUŽNÁ Marta – **TRNOVCOVÁ Viera**: Directional dependence of alternating high voltage ceramics conductivity. In: *STROJNÉ INŽINIERSTVO 2000: MECHANICAL ENGINEERING 2000: Zborník referátov z medzinárodnej konferencie:II.časť.* Bratislava: STU, 2000, s. 12/132 – 12/137.

[33] **ČIČKA Roman – TRNOVCOVÁ Viera** – STAROSTIN M.: Microstructure and electrical properties alumina-zirconia eutectic composites. In: *DEVELOPMENT OF MATERIALS SCIENCE IN RESEARCH AND EDUCATION: Abstracts of the 10th Joint Seminar*. Praha: Maydorf, 2000, s. 14.

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DEPARTMENT OF TECHNOLOGICAL DEVICES AND SYSTEMS

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I. STAFF

Professors:		Research Fellows:	1
Assoc. Professors:	1	Technical and Admin. Staff:	1
Senior Lecturers:	1	PhD Students:	1
Lecturers:	2		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- CAD Laboratory

II.2 Special Measuring Instruments and Systems

- Modular education system for simulation and analysis of controlling of production systems

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	*Semester*	H/W L-P	Reader's name
Machinery Technologies and Equipment	1	3-2	Lipa, Velíšek
Production Machines	3	3-2	Velíšek

III.2 Technological Devices and Systems Graduate Study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Cuttings Tools	5	2-1	Javorčík
Designing of Production Processes and Systems	8	2-3	Baránek
Cutting Machines and Equipment	8	2-2	Velíšek
Final Project	9	0-5	
Design for Manufacture	8	2-1	Hrubec

NC Machine Programming	7	0-4	Gorog
Machine tools	7	2-2	Velíšek
Assembly machines and equipment	7	2-2	Štefánek
Industrial robots and manipulators	8	2-2	Velíšek
Fixture and machine tools technological equipment	8	2-2	Baránek
Theory of automata	8	2-2	Štefánek
Automatization of production planning	7	2-2	Peterka
Theory of systems	8	2-2	
Reliability of production machines and systems	8	2-2	Bátora
Machines and equipment for special technologies	8	2-2	Baránek
Production systems I.	9	2-2	Velíšek
Operation of production systems	9	2-2	Baránek
Prediploma praxis	10		
Diploma project	10		
Computer integrated manufacturing CIM	9	2-2	Velíšek
Machine and tools for plastics processing	8	2-2	Horváth
Forming tools	7	2-2	Ulík
Forming machines	7	2-2	Ulík
Welding and foundry machines	7	3-3	Murgaš
Production systems II	9	2-2	Ulík
Technological devices mechanics	9	2-2	Mudrik

IV. RESEARCH TARGETS

- The Structure of machinery production objects and processes
- Aplication of Ultrasound into Grinding
- Clamping of nonrotary workpieces

V. EDUCATION and RESEARCH PROJECTS

V.1 Institutional Projects

- Completion and adjustment of machineability normative CCN 10-0-1, No.869 (Velíšek,K.)

V.2 National Grants (VEGA, KEGA)

- Structures of machinery production objects and processes VEGA 1/6188/99 MŠ SR, (Janáč, A., Velíšek, K.)
  Research of structures of machinery production objects and processes is not till now systematic developed. New solutions were created accidentally, method experiment-mistake; experiment-success was used. It influenced prosperity of machinery production. The project is targeted for debugging of this deficiency. Solvers intend, that systematic research will lead to new scientific method of creative proposing of new production structures of processes, machines and equipment and will contribute to development of national economy.

V.3 International Projects

- CEEPUS A-104 1999/2000 Asembly Automation in Manufacturing Engineering (Velíšek, K.)
- CEEPUS A-104 2000/2001 Asembly Automation in Manufacturing Engineering (Velíšek, K.)

VI. CO-OPERATION

VI.1 National Co-operation

- Faculty of Mechanical Engineering, Slovak University of Technology, Bratislava
- Faculty of Special Technique, University of Trenčín, Trenčín
- Department of Enviromental Studies and Process Control, Technical university of Košice

VI.2 International Co-operation

- Faculty of Mechanical Engineering, University of Technology, Vienna, Austria
- Faculty of Mechanical Technology, Silesian University of Technology, Gliwice, Poland
- University of Technology and Economics, Budapest, Hungary
- Department of Manufacturing Engineering, Technical univerity of Cluj-Napoca, Romania
- Department of Robotics and Manufacturing System Automation, University of Zagreb, Croatia
- Institute of Production Engineering, University of Maribor, Slovenia
- Faculty of Mechanical Engineering, University of Technology, Brno, Czech Republik

VI.3 Contracts with Industry

- VUNAR Nové Zámky,
- Skloplast Trnava,
- SACHS Slovensko Trnava,
- ŽOS Trnava,
- TOMA Trnava,
- TRENS Trenčín,
- ZTS Dubnica nad Váhom
- VOJUS Považská Bystrica

VII. THESIS AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Thesis

[1] Jaroslav BINDAS: Implementation of the educational system Festo-Didactic to the education, (Ing. Ernest Valentovič, PhD.)

[2] Miloš CÚCIK :Implementation of Logic Circuit Trainer Software into education process, (Ing.Michal Štefánek, PhD.)

[3] Jaroslav CVIK: Structures of machines for chip removaling rotary and unrotary machines, (Assoc.Prof.Ing. Karol Velíšek, PhD.)
[4] Ján JANKOVIČ: The organize – technical structures for the light assembly, (Ing.Ernest Valentovič, PhD.)
[5] Monika KUDLOVÁ: Structures of maschinery for unconventional methods of machining, (Prof.Ing.František Slanina PhD.)
[6] Martin LOSKOT: Structure of machines for tooling of unrotate parts, (Ing.František Pecháček)
[7] Jozef MINÁR: Structure of machines for tooling rotate parts, (Assoc.Prof.Ing. Karol Velíšek, PhD.)
[8] Zdenko MULLER: Structures of industry robots and manipulators, (Assoc.Prof.Ing. Karol Velíšek, PhD.)
[9] Juraj RUŽEK: Modelling of disposition and perfomance parameters of assembly equipment, (Ing.Michal Štefánek, PhD.)
[10]Miriam ŠČEVÍKOVÁ: Structures single – function machines, (Ing.Peter Koštál)
[11]Erika ŽIŠKOVÁ : Foundation structures of projecting production systems, (Ing.Michal Štefánek, PhD.]

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- TU Vienna,
- TU Budapest,
- TU Cluj – Napoca,
- TU Zagreb,
- TU Brno,

VIII.2 Foreign Visitors to the Department

- Assoc.Prof. Ferenc Alpek, TU Budapest
- Prof. Gyenge Csaba, TU Cluj-Napoca
- Assoc.Prof. Zdenek Kolíbal, TU Brno
- st. Allen Doganac, TU Wien

VIII.3 Organised Conferences, Seminars and Workshops

-

IX. PUBLICATIONS

[1] **PECHÁČEK František – LIPA Zdenko**: Contribution to some representations of surface roughness profile by machining with one – wedge tools with defined geometry. In: *CO-MAT-TECH 2000: 8. medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 221 – 226.

[2] **VELÍŠEK karol – KOŠŤÁL Peter**: Dedicated machine structure analysis in base of workpiece. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 343 – 350.
[3] **PECHÁČEK František – SEVERÍNOVÁ, J.** – KATALINIČ, B.: Machine structures for machining of unrotate workpieces. In: *Annals of DAAAM for 2000*. Wien: DAAAM International 2000, s. 361 – 362.
[4] **VELÍŠEK Karol – KOŠŤÁL Peter**: Assigning of dedicated machine structure to workpiece. In: *Annals of DAAAM for 2000*. Wien: DAAAM International 2000, s.471 – 472.
[5] **VELÍŠEK Karol - SEVERÍNOVÁ J.**: Algorithm for design of fixture. In: *INFORMACIONNYJE TECHNOLOGII V INNOVACIONNYCH PROJEKTACH: Trudy meždurednoj naučno - techničeskoj konferencii*. Iževsk: Izdateľstvo Mechaničeskovo zavoda, 2000, s.181 - 182.
[6] **PECHÁČEK František**: Contribution to evaluation of deposited tools and deposited construction parts. In: *INFORMACIONNYJE TECHNOLOGII V INNOVACIONNYCH PROJEKTACH : Trudy meždurednoj naučno - techničeskoj konferencii*. Iževsk: Izdateľstvo Mechaničeskovo zavoda, 2000, s.182- 185.
[7] **LIPA Zdenko** - PÁLKA Viliam **- GÖRÖG Augustín - CHARBULA Jozef - PECHÁČEK František**: Research of grinded, plasma - sprayed layers surface quality, by dimenzional analysis.
[8] In: *5.medzinárodné vedecké sympózium: 5rd international scietific symposium: KVALITA A SPOĽAHLIVOSŤ STROJOV: Quality and reliability of machines*. Nitra: SPU, 2000, s. 83 - 84.
[9] **LIPA Zdenko - PECHAČEK František**: Structural approach into selection of machine and tool for machining of coat. In: *Medzinárodná konferencia NÁRADIE 2000 : International Conference TOOLS 2000*. Bratislava: STU, 2000, s.47 - 49.
[10] **VELÍŠEK Karol - KOŠŤÁL Peter**: Structures in dedicated machines. In: *Medzinárodná konferencia NÁRADIE 2000 : International Conference TOOLS 2000*. Bratislava: STU, 2000, s. 55 - 57.
[11] **KOŠŤÁL Peter - VELÍŠEK Karol**: The technological process plan as system. In: *Medzinárodná konferencia NÁRADIE 2000: International Conference TOOLS 2000*. Bratislava: STU, 2000, s. 249 - 252.
[12] HRUBEC Ján **- VELÍŠEK Karol -** JANÁČ Alexander: Surface integrity of workpieces from high durability steals after the tooling. In: *Medzinárodná konferencia NÁRADIE 2000: International Conference TOOLS 2000*. Bratislava: STU, 2000, s. 33 - 37.
[13] HRUBEC Ján **- VELÍŠEK Karol -** JANÁČ Alexander: Reliability of cutting tools. In: *Medzinárodná konferencia NÁRADIE 2000 : International Conference TOOLS 2000*. Bratislava: STU, 2000, s. 151 - 154.
[14] BÉKÉS Ján **- VELÍŠEK Karol**: The production laws. In: *Medzinárodná konferencia NÁRADIE 200 : International Conference TOOLS 2000*. Bratislava: STU, 2000, s. 242 - 244.
[15] **PECHÁČEK František**: Grinding wheel as a technological system. In: *V. medzinárodná konferencia: NOVÉ SMERY VO VÝROBNÝCH TECHNOLÓGIÁCH 2000: Zborník referátov*. Košice: TU, 2000, s. 339 - 342.
[16] **KOŠŤÁL Peter - SEVERÍNOVÁ Jana**: Determination of dedicated machine technological parameters. In: *3.medzinárodná vedecká konferencia: ROZVOJ TECHNOLÓGIE OBRÁBANIA RTO 2000*. Košice: TU, 2000, s. SK22 - SK24.
[17] **LIPA Zdenko - VELÍŠEK Karol - ŠTEFÁNEK Michal**: Kinematics structures of superfinishing. In: *3.medzinárodná vedecká konferencia: ROZVOJ TECHNOLÓGIE OBRÁBANIA RTO 2000*. Košice: TU, 2000, s. SK30 - SK31.
[18] **PECHÁČEK František**: Cutting methods classification. In: *3.medzinárodná vedecká konferencia: ROZVOJ TECHNOLÓGIE OBRÁBANIA RTO 2000*. Košice: TU, 2000, s. SK 41 - SK43.
[19] **VELÍŠEK Karol - KOSŤÁL Peter**: Dedicated machine as a system. In: *3.medzinárodná vedecká konferencia: ROZVOJ TECHNOLÓGIE OBRÁBANIA RTO 2000*. Košice: TU, 2000, s. SK59 - SK61.
[20] **VELÍŠEK Karol - KOŠŤÁL Peter**: Structure of dedicated machine. In: *Mezinárodní kongres VÝROBNÍ STROJE, AUTOMATIZACE A ROBOTIZACE VE STROJÍRENTSVÍ: Machine tools, automation and robotics in mechanical engineering: International congres: Sborník přednášek : Sekce 1 Obráběcí stroje a výrobní systémy pro obrábění*. Praha: ČVUT, 2000, s. 70 - 75.
[21] GÖRÖG Augustín **– VELÍŠEK Karol –** ŠTEFÁNEK Michal: Surface Roughness Evaluation. In: *XVI IMEKO WORLD CONGRESS: IMEKO 2000:: Proceedings: Volume I: Abstracts and Plenary Papers*. Wien: ŐGMA, 2000, 226.

DEPARTMENT OF WELDING

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I. STAFF

Professors:	3	Research Fellows:	2
Assoc. Professors:	2	Technical and Admin. Staff:	3
Senior Lecturers:	5	PhD Students:	11
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Welding school for gas welding, welding with covered electrode and GMAW
- Resistant welding laboratory
- Plasma welding laboratory

II.2 Special Measuring Instruments and Systems

- Krautkrämer USK 7D Ultrasonic testing equipment
- Welding current detector for resistant welding
- Friction and Wear Tester TE97A

III. TEACHING

III.1 Bachelor Study

III.2 Graduate Study

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Welding Technology	5	2-2	Hudák, Marônek
Theory of Welding	8	3-2	Hrivňák
Special Welding Methods	9	3-2	Turňa
Weldment Design and Production	9	2-2	Jasenák
Projecting of Manufacturing Processes and Systems in Welding	11	16-6	Monček
Control and Computer Technology in Welding	9	2-1	Marônek
Final Project	9	0-4	Monček
Welding Machines and Equipments	9	2-2	Kozma
Assembly of Welded Units	9	2-2	Kozma
Tribology, Surface Engineering	7	2-1	Blaškovič
Automation of Welding Processes	9	2-2	Jajcay
Technical Preparation of Production	9	2-1	Kozma
Non-destructive Weld Joint Testing	9	2-1	Hudák
Adhesive Bonding	7	2-1	Marônek
Theory of Technological Processes	7	3-2	Blaškovič
Industrial technologies and production equipments	8	2-1	Monček

Name of subject	Semester	H/W L-P	Reader's name
Welding Certification	8	2-1	Hudák
Repairs and renovation	8	2-1	Blaškovitš
Metalography and Fractography of Welded Joints	8	2-3	Bernasovský, Bošanský
Specification of assembly units in welding	8	2-1	Ulrich

IV. RESEARCH TARGETS

- Explosive welding
- Ultrasonic testing
- Weldability of steels
- Welding of plastic materials
- Surfacing and Tribology

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

V.2 National Grants (VEGA, KEGA)

- Diffusion welding and similar processes. VEGA 1/4452/97

V.3 International Projects

- COST 516 TRIBOLOGY SUBPACKAGE: CAST - ABR - SK1:
  In present time for hydroabrasive and erosive condition we are using high chromium steels or high chromium irons with high content of chromium carbides.
  New filler materials like composites and hardfacing technology have been developed for hydroabrasive and erosive conditions.
  The content of chromium in the hardfacing layers with new electrodes is very low (max.5% Cr) and has been replaced with non carcinogenous hard particles (TiB_2 + CrB_2) in the iron matrix.
  The wear behaviour of the newcomposite materials has been tested by laboratory tests and by industrial tests with better long life (60%).
- Development and application of new hardfacing composite materials for hydroabrasive and erosive conditions. 1/1996 - 6/2000
- COST 516 TRIBOLOGY SUBPACKAGE: CAST - COEA - SK2:
  The magnetic fields have been tested for magnetic stirring of the weld pool.
  Combination of magnetic fields and ultrasonic field will be next programm in this project.
- Tribological behaviour of the surfacing layers with affecting of energetic fields for metallurgical tools. 1/1996 - 6/2000. Coordinator: Pavel Blaškovitš, DrSc.Prof.

VI. COOPERATION

VI.1 National Co-operation

- SES -Tlmače
- SL - Komárno

- MATEC Dubnica n/V.
- Faculty of Mechanical Engineering, University of Transport and Communication in Žilina
- Faculty of Mechanical Engineering , Slovak University of Technology, Bratislava
- Thermosolar - Žiar n/ H.
- STROJAL - Žiar n/H.
- MFF-UK, Department of Solid State Physics , Bratislava
- AE - Jaslovské Bohunice
- VÚJE - Trnava
- SKLOPLAST - Trnava
- VÚZ - Bratislava
- VSŽ, a. s. oceľ

VI.2 International Co-operation

- Materials Research Corp., New York
- Faculty of Mechanical Engineering, Ljubljana
- Welding Institute, Ljubljana
- LINDE a.s., Brno

VI.3 Contracts with Industry

- SES Tlmače
- SPP, a.s.

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

AREAS:

- Computer simulation of welding
- Special welding methods
- Ultrasonic testing of welds
- New adhesives used for joining metals
- Solving of practical problems in industry
- 30 graduation thesses.

VII.2 Dissertations (Ph.D.)

-

VII.3 Habilitations (Assoc. Prof.)

-

VIII. OTHER ACTIVITES

VIII.1 Visits of Staff Members to Foreign Institutions

- Materials Research Corp., New York
- Faculty of Mechanical Engineering, TU Brno

- Faculty of Mechanical Engineering, ČVUT Praha
- Technical university Esslingen

VIII.2 Foreign Visitors to the Department

- Materials Research Corp. New York
- Faculty of Mechanical Eng. Technical University of Ostrava
- Faculty of Mechanical Eng. Technical University of Brno
- THUNDERSPRAY Co. Ltd. Ljubljana
- Institute for Solid State and Materials Research Dresden
- Krško Nuclear Power Plant KRŠKO, Slovenia
- University of Ljubljana, Faculty of Mechanical Eng. Ljubljana

VIII.3 Organised Conferences, Seminars and Workshops

- All forms of basic welding classes
- Postgraduate class for European welding engineers according EWE
- Member of Slovak Welding Society Board
- Certification board directorship
- Welding Normalization Committee Member
- Member of IIW
- Workshop "Welding in Energetic Industry"
- Exposition at International Engineering Fair in Nitra

IX. PUBLICATIONS

[1] **BLAŠKOVITŠ Pavol – SUKUBOVÁ Ingrid**: Wear of materials. In: *MATERIÁLY A ICH SPRÁVANIE PRI ZVÁRANÍ: I.diel učebných textov pre kurzy zváračských technológov* . Bratislava: VÚZ, 2000, s. 207 – 220.

[2] **BLAŠKOVITŠ Pavol – SUKUBOVÁ Ingrid**: Protective layers. In: *MATERIÁLY A ICH SPRÁVANIE PRI ZVÁRANÍ: I.diel učebných textov pre kurzy zváračských technológov* . Bratislava: VÚZ, 2000, s. 221 – 230.

[3] **BLAŠKOVITŠ Pavol**: Submerged an welding. In: *MATERIÁLY A ICH SPRÁVANIE PŘI ZVÁRANÍ: I.diel*

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[9] **HUDÁKOVÁ Mária – MARÔNEK Milan**: Weld microstructure identification of high strength steels. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s. 75 – 80.

[10] TURŇA Ľubomír **– TURŇA Milan**: The qualitative analysis of the convective process in the thermally, electrically and magnetically conductive liquid layer: Part 1 : Preliminary analysis. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s. 95 – 98.

[11] TURŇA Ľubomír – **TURŇA Milan**: Influence of variable pressure field on equilibrium state of metal liquid situated in homogenous gravity and magnetic field and heated from below. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s. 99 – 104.

[12] **KOLEŇÁK Roman – KOVAČÓCY Pavel – TURŇA Milan** - VASCAK Milan: Joining of non-metallic targets. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 2000, zväzok 9, s. 87 – 94.
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[17] **KOZMA Ladislav**: Deformation and inner stresses at brazing of ceramic – metal combination. In: *Zborník príspevkov z konferencie AGA GAS 2000*. Žilina: b.v.ú., 2000, s. 8 – 14.
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[34] **TURŇA Milan**: Verification technology of spot and seam explosion welding. In: *Zborník prednášok zo 6.vedeckej medzinárodnej konferencie AKADEMICKÁ DUBNICA 2000*. Bratislava: STU, 2000, s. 241 – 246.
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[37] **KOLEŇÁK Roman**: Physical and metallurgical aspects joining of ceramic with active solders. In: *CO-MAT-TECH 2000: 8.medzinárodná vedecká konferencia: Časť: Strojárske výrobné technológie a zariadenia*. Bratislava: STU, 2000, s. 139 – 144.
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APPENDIX A LIST OF FACULTY DEPARTMENTS

Slovenská technická univerzita	STU	Slovak University of Technology	Slowakische Technische Universität
Materiálovotechnologická fakulta	MtF	Faculty of Materials Science and Technology	Fakultät für Materialwissenschaft und Technologie

Zoznam katedier		List of Faculty Departments	Liste der Fakultätslehrstühle
No.	**Slovak Name of Department**	**Abbrevation**	**English Name of Department**	**German Name of Department**
1	Katedra aplikovanej informatiky a automatizácie	KAIA	Department of Applied Informatics and Automation	Lehrstuhl für angewandte Informatik und Automatisierung
2	Katedra aplikovanej mechaniky	KAM	Department of Applied Mechanics	Lehrstuhl für angewandte Mechanik
3	Katedra fyziky	KF	Department of Physics	Lehrstuhl für Physik
4	Katedra humanitných vied	KHV	Department of Humane Sciences	Lehrstuhl für Humanwissenschaften
5	Katedra inžinierskej pedagogiky a psychológie	KIPP	Department of Engineering Pedagogy and Psychology	Lehrstuhl für Ingenieurpädagogik und Psychologie
6	Katedra manažmentu a kvality	KMaK	Department of Management and Quality Engineering	Lehrstuhl für Management und Qualitätsicherung
7	Katedra matematiky	KM	Department of Mathematics	Lehrstuhl für Mathematik
8	Katedra materiálového inžiniestva	KMI	Department of Materials Engineering	Lehrstuhl für Werkstofftechnik
9	Katedra obrábania a montáže	KOM	Department of Machining and Assembly	Lehrstuhl für spanende Fertigung und Montage
10	Katedra odbornej jazykovej prípravy	KOJP	Department of Languages	Lehrstuhl für Fremdsprachen
11	Katedra priemyselnej ekológie	KPE	Department of Industrial Ecology	Lehrstuhl für industrielle Ökologie
12	Katedra telesnej výchovy a športu	KTVŠ	Department of Physical Education and Sports	Lehrstuhl für Körperkultur und Sport
13	Katedra tvárnenia	KT	Department of Forming	Lehrstuhl für Umformen
14	Katedra zlievárenstva	KZl	Department of Foundry	Lehrstuhl für Gießen
15	Katedra zvárania	KZv	Department of Welding	Lehrstuhl für Schweißen
16	Detašované pracovisko (Brezno, Dubnica, Komárno, Partizánske)	DP	Detached workplace in ...	Außenarbeitsstelle in ...

APPENDIX B LIST OF ACCREDITED STUDY PROGRAMMES

No.	Name of Study Programme	Abrevation	English Name of Study Programme	German Name of Study Programme
	Bakalárske štúdium (Bc.)		**Bachelor Study (B.S.)**	**Bachelor-Studium**
1	Aplikovaná informatika a informačné systémy	BAIIS	Information Technology and Systems	Angewandte Informatik und Informationssysteme
2	Priemyselná ekológia	BPE	Industrial Ecology	Industrielle Ökologie
3	Priemyselné technológie	BPT	Industrial Technologies	Industrietechnologien
4	Priemyselný manažment	BPM	Industrial Management	Betriebswirtschaft
5	Technické materiály	BTM	Technical Materials	Technische Werkschtoffe
	Inžinierske štúdium (Ing.)		**Master Study (M.S.)**	**Ingenieurstudium (Dipl.-Ing.)**
1	Aplikovaná informatika a automatizácia v priemysle	AIAP	Information Technology and Automation in Industry	Angewandte Informatik und Industrieautomatisierung
2	Inžinierstvo kvality produkcie	IKP	Production Quality Engineering	Qualitätsicherung
3	Inžinierstvo životného prostredia	EI	Environmental Engineering	Umwelttechnik
4	Manažment priemyselných podnikov	MPP	Management of Industrial Plants	Betriebswirtschaft
5	Materiálové inžinierstvo	MI	Materials Engineering	Werkstofftechnik
6	Technologické zariadenia a systémy	TZS	Technological Devices and Systems	Technologische Anlagen und Systeme
7	Technológie strojárskej výroby	TSV	Machine Production Technology	Technologie der Maschinenbauproduktion
	Doktorandské štúdium (PhD.)		**Ph.D. Study**	**Doktorandenstudium (Dr.)**
1	Automatizácia a riadenie, **špec.** riadenie procesov	DAR	Automation and Control Spec.: control engineering	Automatisierung und Steuerung Spez.: Steuerungstechnik
2	Inžinierstvo kvality produkcie	DIKP	Production Quality Engineering	Qualitätsicherung
3	Materiálové inžinierstvo a medzné stavy materiálov	DMI	Material Technology and Limiting States of Materials	Werkstofftechnik und Grenzzustände der Werkstoffe
4	Podnikový manažment	DPM	Plant Management	Betriebswirtschaft
5	Strojárske technológie a materiály	DSTM	Machine Technologies and Materials	Maschinenbautechnologien und Werkstoffe
6	Teória vyučovania predmetov všeobecno-vzdelávacej a odbornej povahy, **špec.** teória vyučovania technických odborných predmetov	DTVP	Theory of Technical Subjects Training Spec.: theory of teaching technical vocational subject	Teorie des Unterrichts der technischen Fächer, Spez.: Teorie des Unterrichts der technischen Fächer
	Doplňujúce pedagogické štúdium		**Complementary Teacher Training**	**Pädagogische Ergänzungsstudium**
1	Učiteľstvo technických odborných predmetov	PUTOP	Teaching the Technical Subjects	Lehrer für technische Fächer

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SLOVAK UNIVERSITY OF TECHNOLOGY BRATISLAVA
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