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Ladies and gentlemen,

A new year has come, it is time to sum up past events in the life of our institution and to plan the Faculty development in near and far future. The previous year was not easy, but now we can retrospectively look at the period with a feeling of pride and growing self-confidence.

1. MTF STU became an awarded finalist in competition “National Prize for Quality SR” and Faculty deputies obtained this high acknowledgement personally from Ivan Gasparovic, President of SR; such a prize is a commitment for the future. We have beaten our competitors by more than 40 per cent in the points system.

2. In hard conditions of common European research area we participated in 2 projects within the 7th Framework programme,

3. With highly positive responses we organized the 19th World Symposium DAAAM with more than 500 participants from five continents in the Faculty campus.

4. We submitted 4 significant projects worth a total of more than 6.6 million €; 3 of them dedicated to construction of excellent workplaces and the 4th one is a common project of STU aimed at university development wherein we participate with an amount of 2.6 million €.

In the nearest future, we are going to create two centres of excellence- two of three submitted projects were successful. Within the STU, which includes 6 approved centres of excellence, one third of all STU projects are submitted by our Faculty – that is a giant success- our centre of excellence will be devoted to materials science and forming technologies. In Slovakia 45 projects were approved in this category.

Probably very soon we will obtain professional assessment results of other projects and so an opportunity for their implementation. In this connection I again would like to express my thanks to the teams who participated in preparing these projects, while others were enjoying their holidays.

I would like to focus on this fact. It is highly probable that the challenge will not come again. All follow-up projects can be submitted only by workplaces, which succeeded in the first round and the discussed amount of an irretrievable grant is 5-8 million €.

5. I assure you that we prepared new projects for the challenges of 2009 and following years not only in the first consideration stage; we already have defined project goals and nominated teams for project development and later implementation. Possible obstacles or partial failures can not discourage us.

6. The Concept of the SLOVAKION project (Ion and Plasma Centre) has been clearly outlined in these days. Construction documentation is available and has been forthwith submitted for approval procedures to obtain a building permit in the first half-year of 2009.

7. The working team of the Accreditation Committee, which started with an intensive complex accreditation of the University and our Faculty based on the accreditation file submitted in February, did not express any objections or doubts related to our highly positive and optimistic self-evaluation during meetings with the Faculty management and students. We wish to proceed actively to integration of the Slovak University of Technology into the highest rank of Slovak universities and to become a Faculty with this predicate. Results of complex accreditation of both the University and our Faculty should appear already in the next month.

8. Results from the ARRA Agency for the year 2007 confirmed our position of the previous year, however we gained in the total evaluation of technology faculties 5 points more than in 2006. ARRA will remain an important indicator of school quality in Slovakia in the future and we will understand it in context of a complex practical academic environment, including its economic aspects.

9. In the last term the Faculty management could decrease weekly pedagogic duty in all teaching categories by one hour a week, and another reduction by a minimum of one hour is expected from 1 September 2009, when
starting the education also in the second class of the first and second level according to the new accreditation. At the same time in the spring term 2008-2009 we are going to test the new unified and transparent system of scientific research results of our teachers and researchers. It is based on general criteria taken into consideration not only by rating and ranking agencies but also by our Ministry for calculation of additional funds for individual faculties and universities.

10. As far as salary administration, we continued to differentiate salaries of individual groups of employees and also inside of individual groups on one hand, and to increase salaries of all employees globally on the other hand. During the previous two calendar years we were able to increase the salaries of our employees by 35% on average.

11. The Culture of the workplace where we and our students spend daily a minimum of 8 hours is one of substantial elements. Last year we finished reconstruction of the restrooms in MTF STU pavilions; we finalized migration of persons and provided for monitored entry.

12. We are proud of the extraordinary activities of employees in Prof. Balog’s Institute, which enabled integration of funds from three resources to recultivate visibly the former arboretum and fence it, which will protect the area from devastation. Other projected plans for this place are not secret and were broadly presented when the first revitalization phase was completed. We also have to draw attention to the new parking place in Bottova street including drainage and lighting. I am sure that the parking place is a trump-card of this year for the Faculty image being used by our staff and students, and has been noticed by hundreds and thousands of Trnava citizens. Its capacity of 100 parking places is enough at present.

13. Information systems have become an integral part of our life in our workplaces. We are working on their improvement and integration but don’t want to be their slaves. I am under the impression that our relation to students is quite improving also due to transparency enforced by global use of the academic information system. Information provided to users by all of our IS are nowadays essential for efficient and successful Faculty functioning.

14. Foreign cooperation provided us equipment for our workplaces in the amount of nearly 200 000, – € last year. To mention at least the most important partners out of the university sector: we continue to lean on our traditional partners in Germany (FZD, IFW), Austria (Boehler) and Belgium (Beakert), having bilateral scientific and research agreements with them. This year our Faculty gained new partners – institutions in the Korean Republic and in Cuba.

15. By our joint effort the Faculty is changing outside and inside. It’s up to us to determine the tempo and quality of these changes. Neither now nor in future do we intend to compare ourselves with the weak ones, the best ones must be our challenge. In every area. We have a vision of an advanced research faculty at the campus on Bottova street, including rebuilding and 3-4 new modern buildings with the most upgraded equipment for science and research and with half the number of current students or with double the number of lecturers and researchers. This vision is not fantasy. EU funds will still be available for 4-5 years as noticed by our Ministry. Simply, we must learn to be successful.

16. To do so we need a sufficient number of good projects. There are construction projects and our construction preparations. On websites there was published the reconstruction study of our buildings in Bottova and Razusova streets. Based on the published study the Faculty management decided to elaborate ground plans for our built up areas and thereafter to proceed to development of construction documentation.

The pedagogical and scientific results summarized in this annual report are paramount for every university institution. During the past year, scientists at our Faculty were able to push forward in entirely unknown territories and to discover new effects.

We thank our sponsors, curators, advisory council members and all partners for the constructive collaboration in the year 2008, and we are happy to fulfill new tasks, challenges and tackle future projects together!

Prof. Dr. Ing. Oliver Moravčík
Dean of Faculty
MANAGEMENT OF THE FACULTY

Oliver Moravčík, Professor, PhD.
Dean of the Faculty

VICE-DEANS

Jozef Peterka, Professor, PhD.
• Development
• Information Technologies
• Know-how Transfer
• Prognostics

Mária Mišútová, Assoc. Professor, PhD.
• Bachelor Degree
• Accreditation of Bachelor Degree
• Motivation Scholarship
• Study Promotion

František Horňák, Assoc.Professor,PhD.
• Engineering and PhD Degrees
• Accreditation of Engineering and PhD Degrees
• Student Social Affairs
• Education Quality, Educational Process Inspection

Peter Grgač, Professor, PhD.
• Research
• International Relations
• Professional Development of Academic Staff

Jozef Sablik, Professor, PhD.
• Internal Relations
• Public Relations
• Security System
• Publishing Activity
• Social Programmes for Staff
• ALUMNI

INSTITUTES OF THE FACULTY

Institute of Materials Science
Department of Materials Engineering
Department of Physics

Institute of Production Technologies
Department of Welding
Department of Machining and Assembly
Department of Foundry
Department of Forming

Institute of Production Systems and Applied Mechanics
Department of Applied Mechanics
Department of Technological Devices and Systems

Institute of Industrial Engineering, Management and Quality
Department of Industrial Engineering
Department of Management
Department of Quality Engineering

Institute of Safety and Environmental Engineering
Department of Environmental Engineering
Department of Safety Engineering
Department of Industrial Safety

Institute of Applied Informatics, Automation and Mathematics
Department of Mathematics
Department of Applied Informatics and Industrial Automation

Institute of Engineering Pedagogy and Humanities
Department of Engineering Pedagogy and Psychology
Department of Humanities
Department of Professional Language Communication
Department of Physical Education and Sports
Nitra Detached Workplace
Brezno Detached Workplace
Komárno Detached Workplace
Dubnica Detached Workplace

Division of Academic Activities
Registrar's Department
Section of Research and International Relations

Division of Knowledge Management
Academic Library
Publishing House
Section of Public Relations

Division of Economical and Estate Activities
Section of Economy
Section of Operation and Maintenance
Section of Estate Management

Division of Communication and Information Systems
Section of Information Systems Operation
Section of System and Technical Services

Division of Personnel and Administration Activities
Department of Personnel and Social Affairs
Dean's Secretariat
Department of Work Economy
Department of Safety Systems

Centre for Technologies Transfer

Student Hostel and Canteen
Student Hostel
Student Canteen

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Štefan Schmidt, MSc.Eng.
Miroslav Solava, MSc. Eng.
Róbert Riedlmajer, PhD.

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Roman Hrmo, Assoc. Prof., PhD.
Marián Merica, Assoc. Prof., PhD.
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Milan Nad, PhD.
Pavol Tanuška, Assoc. Prof., PhD.
Karol Velišek, Professor, PhD.
Róbert Riedlmajer, PhD.
Lubomír Čaplovič, Assoc. Prof., PhD.
Koloman Ulrich, Professor, PhD.
Helena Vidová, PhD.

Student Chambre
Eva Zibrínová
Zuzana Kelemenová
Kamil Vidička
Linda Kubecová
Monika Lukáčová
Michal Čavrčka
Michal Ondruška
MTF STU is authorised to grant:

The academic title “bachelor” to the graduates of 13 study programmes, the academic title “engineer” (corresponding to master degree) to the graduates of 16 study programmes, the academic title “philosophiae doctor” to the graduates of 6 study programmes in both study formats, full-time and part-time.

In February 2008, the Faculty submitted the accreditation file regarding the accreditation of new study programmes and the enforcement of appointing associate professors and professors for the following 6-year period. The results of complex accreditation of STU, including STU MTF, as well as the ranking of Faculty and University within the hierarchy of the tertiary education institutions in Slovakia will be announced in the first half of the year 2009.

Study system and organisation

The credit system introduced in STU has been implemented in all three degrees of university education in STU MTF in compliance with the law and accreditation within the defined standard length of study in both full-time and part-time study formats:

Degree 1: bachelor studies, completed by granting the academic title “bachelor” - Bc. Having successfully passed the State exam and gaining the academic title of “bachelor” (Bc.), the graduates can either continue the study in degree 2, or leave the Faculty.

Degree 2: master studies, accomplished by gaining the academic title of engineer – Ing. (corresponding to MS)

Degree 3: doctorate studies– both full-time and part-time formats, while the defined standard length of study in full-time format is 3 years and in part-time format 5 years. The study is accomplished by gaining the academic title of “philosophiae doctor”.

All of the above mentioned programmes can be studied either full-time or part-time, or externally in the case of PhD. study.

In the academic year concerned, the Academic information system (AIS) was introduced to STU. Despite some piloting problems, the AIS implementation has improved the operational effectiveness of the student – teacher – registrar contacts. Its full utilisation can be expected in the near future.

Complementary teacher training

Along with the engineering study at the Faculty, students can enroll in complementary teacher training, which is a special type of university study enabling the students to gain pedagogical qualifications entitling them to teach the subjects the contents of which is related to the Faculty study programmes and the defined graduate profiles.

Faculty provided the complementary teacher training in a parallel form for the students of all STU faculties, and in a serial form for the STU graduates. In the academic year 2007/08, 223 students enrolled in complementary teacher training. The Faculty thus remarkably contributed to the improvement of secondary education.

Interest in study

The Faculty had quite stable interest in study within individual degrees. A partial decrease in the number of the students admitted and enrolled was due to the change in financing of universities by the Ministry of Education SR, and consequently the changed policy of the Faculty management’s policy.

Admission procedure varies according to the degree.

The admission procedure for the bachelor degree is based on the criteria of the applicant’s secondary school results, i.e. without entrance examination.

Besides the results from the bachelor degree, the admission procedure for the master degree considers the results of the entrance examinations in 3 profile subjects within the programme studied.

![Graph No. 1. Number of the bachelor degree candidates (applicants, admitted, enrolled) within the last three years](image1)

![Graph No. 2. Number of master degree candidates (applicants, admitted, enrolled) within the last three years](image2)
Besides the MTF Bc graduates interested in master studies, there is a high number of candidates from other universities.

The admission procedure in doctorate degree comprises the entrance examination consisting of a foreign language test (English or German) and a discourse regarding the chosen topic of the doctorate thesis.

The number of fulltime PhD students is influenced by the financial policy of the Ministry of Education SR, where the number of scholarships allotted to a university is based upon the criterion of the university's achievements in research (domestic grants, foreign grants, internal PhD candidates having passed the dissertation exam, number of PhD graduates and a share of publication activity). In long term horizon, Faculty succeeded in increasing the number of allotted scholarships via influencing the entrance criteria (see Graph No.3).

Besides study, the students can be involved in institutional research activity either by participating in research projects and the Student Research Conference, or working as a research student-helper. The Student Research Conference provides the students of degrees 1 and 2 with a chance to get acquainted with research methods, to analyse a research task and articulate the attained research results in both oral and written forms, and to defend his/her opinion in a professional forum. PhD students can present partial results of their research projects in the International Doctoral Seminar, an annual event organized by the Faculty and attended also by the PhD students of foreign universities and research institutes.

Besides the students of Slovak citizenship, there are also foreign students studying at MTF. Unfortunately, the Faculty is failing in attracting a higher number of foreign students, so their percentage is quite low so far.

The number of fulltime PhD students is influenced by the financial policy of the Ministry of Education SR, where the number of scholarships allotted to a university is based upon the criterion of the university's achievements in research (domestic grants, foreign grants, internal PhD candidates having passed the dissertation exam, number of PhD graduates and a share of publication activity). In long term horizon, Faculty succeeded in increasing the number of allotted scholarships via influencing the entrance criteria (see Graph No.3).

We managed to improve the access to textbooks by implementing the model of electronic textbooks available for all the Faculty students free of charge. Trying to meet the students' requirements, we introduced Saturday office hours in the Registrar's Office and the academic library. Regarding social policy, the study at the detached workplaces in Komárno, Dubnica nad Váhom and Nitra (the first two years of bachelor and master studies) is quite significant.

### QUALITY OF EDUCATION

Education efficiency and quality can be assessed by various criteria and parameters, such as placement rate of graduates, and the unemployment rate regularly announced by the Ministry of Labour, Social Affairs and Family, SR. The fact that STU belongs to the universities with the lowest unemployment rate is justified by the education quality and interest of social practice in the STU faculties' graduates.
The aim of the educational process is the training of graduates for their future profession. Its efficiency is measured by various methods, the most important of which is the method of feedback mapping the students’ opinions regarding the study contents, activities of the education process implementation, study environment and teaching strategies. Besides this tool of education quality improvement, the Faculty carries out a survey regarding the students’ satisfaction with the aim to identify weaknesses in the education process, teaching strategies, as well as administration and organisation.

The Faculty management analysed the results of the questionnaire and recently has introduced measures to eliminate the imperfections. This act justified the acceptance of students’ opinions and consequently motivated their involvement in further inquiries. Though there was the option of responding to the questionnaire electronically, only 3% of part-time and full-time students used it, which the Faculty management does not find satisfactory.

**SOCIAL MATTERS**

Accommodation and board are provided for students in the Student Hostel of M. Uher and the adjacent cafeteria and snack bars. Students appreciate mainly the quite high standard of comfort including free Internet connection, as well as availability of sports facilities such as the fitness centre, gym, indoor swimming pool, tennis courts, and softball and baseball fields directly on the campus.

Besides the above-mentioned facilities, students can take advantage of social scholarships and other bonuses such as the ones for study achievements and motivational, study loans and consultancy in the Career centre. All this is considered when designing the time schedule, length of a training unit, arrangements of subjects, administrating the student agenda via AIS, PC connection, medical care and the possibility of arranging one’s matters in the Registrar’s and Academic library on Saturdays, etc.

As amended by law, the social system includes both enforceable and non-enforceable scholarships provided within the framework defined by the Act on Universities or internal University and Faculty legislation.

Authorized by Ing. Jana Štefánková
BACHELOR PROGRAMMES (Bc.)

Applied Informatics and Automation in Industry
The graduate of this major will have deep knowledge of automation and informatics and will be able to implement it in computer-aided systems. Knowledge and skills in the field of machine technology, automation and ICT implementation in processes as well as fundamentals of diagnosing, collecting, processing and transferring data, along with the experience in programming, computer modelling and simulation, and operation of the automatic measuring, control and information systems, all contribute to the graduate’s ability to solve problems regarding the implementation and utilisation of computational and automation technology. The graduate will successfully operate in the jobs connected with the implementation, operation and maintenance of control and information systems for technological processes control and data processing in various fields of industry.

Technical Materials
The graduate of this major will have deep knowledge of basic kinds, properties and utilisation of technical materials. S/he will gain knowledge on production and processing technologies such as welding, forming, machining, casting, heat-hardening and surface-finishing, along with the knowledge of work organisation and safety, informatics and management of industrial plant. The graduate will be able to identify and evaluate mechanical and technological properties of materials, and also operate the devices used in defectoscopic tests. S/he will successfully perform in industrial plants, particularly in the field of materials production and processing, as well as the fields of servicing, maintenance, purchase, sale and quality control.

Non-Metallic Materials
The graduate will understand production, testing, processing, selection, exploitation and degradation of non-metallic materials such as plastics, ceramics, glass and rubber, as well as relationships between the structure and properties of non-metallic materials. He will gain knowledge of machine technology disciplines, information and automation systems. He will be able to specify, design and implement the methods and devices used in mechanic and defectoscopic tests of materials. The graduate will successfully operate traditional and modern technologies (essential for the production and processing on non-metallic materials) in the field of material’s quality control, purchase, sales and servicing, and also maintenance in the industrial plant oriented on the non-metallic materials’ production and processing.

Production Devices and Systems
The graduate of this major will understand machine technologies and tools, and have the knowledge of fundamentals of plant economy, management and marketing. This will enable him to solve problems in the field of technical materials and their properties, as well as machine mechanics. He will be prepared either for the Master degree study programme of production devices and systems, or for postgraduate degree in the same field, as well as for entering the job market. The graduate will design automated production systems and devices, work as a technologist or entrepreneur in engineering services and various production sections.

Computer-Aided Production Technologies
The graduate will be able to perform the job of a production technologist able to operate computational technology CAx systems and Cax technologies used in production preparation and control. The graduate will be able to prepare technical documentation and construct and design programs for CNC production machine tools, model complex 3D products and simulate preparation of their production. The graduate is also able to implement and operate production and technological systems in a position of a CAD/CAM technologist, constructor of production tools and a programmer of NC technology using appropriate computer systems and software.

Production Technologies
The graduate will understand theoretical and practical issues in production technologies and systems. He will be able to solve creatively the tasks in the field of production, seek new progressive technology procedures in the production of parts and technology units, using modern technology devices and information systems. He will be prepared either to continue his study within the Master degree study programme, or to enter the job market as a technologist or a team member in various areas of industry in both private and public sectors.

Industrial Management
The graduate will understand social and technical systems integrating human resources, information, materials, devices and processes within complex life cycle of products and services. He will possess fundamental knowledge of natural sciences, technical, technological and humane disciplines, as well as knowledge of informatics and specific knowledge of industrial engineering oriented on plant management, economy, production management, marketing, accounting etc., with emphasis on practical application of the above mentioned knowledge. He will be able to apply the acquired knowledge and skills in practice, mainly as a team-leader or team-member in the middle management. He will also be able to set and run small businesses or companies.

Personnel Policy in Industrial Plant
The graduate will understand the strategy of personnel management and its connection with theory and practice of market mechanics as well as related social and economic development processes in organisations and entrepreneurial subjects. The set of knowledge and skills will create a supposition for successful performance in managerial practice and creative management of human resources. The knowledge pool will also comprise solid computer literacy and the ability to individually create or utilise foreign databases. The graduate will successfully perform as a personnel manager or finance manager in small and medium-sized companies, and a member of middle management of larger companies, agencies as well as in both governmental/non-governmental and profit/non-profit organisations.
Production Quality
The graduate will understand the issues of quality management in industrial plants and quality management systems, application of basic tools and techniques of quality management, including statistical methods. He will gain detailed knowledge of quality management, basic knowledge of natural science disciplines (mathematics, physics), machine technologies and management of machine production. General knowledge of industrial plant management together with basic computer literacy will create a supposition of successful communication with research staff as well as management and organisation structures of staff in economic organisations. He will be able to collaborate in operating quality management systems and process related documentation and other regulation documents. He will be employed as a manager responsible for quality assurance in individual structures of industrial plant, or an expert in quality management. He can also utilise his knowledge of machine technologies in technical inspection of mechanical engineering plants.

Environmental Engineering
The graduate will gain theoretical knowledge in the field of technical and natural sciences as a basis for solving specialised environmental tasks, focusing on protection. He will master the fundaments of industrial technologies and their impact on environment. He will also gain theoretical and practical knowledge of environmental protection from adverse influence of engineering production, technological procedures and other potential sources of negative environmental factors. He will also gain knowledge of monitoring the environment, handling wastes, toxicology, safety and environmental management. He will also get insight into the jurisdiction of environmental science. The graduate will be either prepared to continue his study for the master degree, or perform as an expert in middle management.

Work Safety and Health Protection
The graduate will gain theoretical knowledge of natural, economic and social sciences. During the study, he will develop the knowledge of technical sciences with orientation on safety and reliability of production technologies, safety of work environment and environmental protection. He will also learn how to assess safety of technical systems, production technologies, analysis of failures and disasters, risk identification and quantification, suggestion of preventive measures aimed at the staff and safety improvement and health protection. The graduate will also gain knowledge in the field of legislative tools for managing dangerous activities, testifying and certification of materials and products and application of safety and technological procedures and parameters of materials. The graduate will work as a safety officer in industry, organisations, governmental bodies, insurance companies, or an advisor/consultant in the engineering organisations dealing with designing and assessing safety systems. He will successfully contribute to designing a safe and healthy working environment.

Teaching Practical Subjects in Engineering Majors
The graduate will get familiar with organisational characteristics of educational systems and institutional rules of schools as well as the basic structure of technology and material disciplines, principles of designing, implementation and evaluation of teaching process. He will be able to teach practical professional and vocational subjects aimed mostly at developing skills in technical subjects in secondary technical and vocational schools, or work as a manager providing practical training in professional education, or an instructor in extra-curricular activities. The graduate will be prepared to either continue his study for the master degree, or enter the job market.

Mechatronics of Technological Devices and Systems
The graduate of this major will has mastered the fundamentals of mechanical systems and managed to solve problems in mechatronics’ implementation. He has gained knowledge of mechanical and electrotechnical components and modules, management theories and informatics in application to modern technological systems and devices. He will be familiar with modern products supporting the implementation of engineering operations with controlling algorithms based on methods of artificial intelligence in technological processes. The graduate will successfully work in designing, manufacturing, controlling, running and maintaining mechatronic systems and devices integrating precise mechanics, electro-technology and electronics with an intelligent computer control, such as CNC machines, robots, technological automatic machines and assembly machines, mobile machines, means of transport and manipulation, devices, specialised technology as well as micro-electro-mechanical systems (MEMS). He will also perform in the fields of monitoring, diagnostics, and visualisation, automated evaluation of production quality and control of technological processes.

MASTER PROGRAMMES (MSc., Eng.)
Automation and ICT Implementation in Processes
The graduate will gain deep knowledge of theoretical and applied sciences necessary to understand the laws of physical, technological, information, automation and control processes. He will master control systems of technological and production processes so as to be able to design their hardware, algorithmic and software solutions. He will be familiar with the systems of information collecting, processing and transfer, from process up to managerial control level. He will successfully work in the fields of development, design and utilisation of automated control systems in industrial plants, in project and consultancy institutions designing control and information systems, as well as in schools and educational institutions.

Technical Materials
The graduate will have deep knowledge of the types kinds, properties and utilisation of a wide spectrum of conventional and advanced technical materials. He will master experimental study methods of evaluating materials structure and properties, and understand relations between chemical composition, production technology and structure, as well as technological and utility properties of materials. With the knowledge of production, processing technology, testing, operational diagnostics, and degradation and recycling of materials, he will be qualified to assess the impact the type
and parameters of processing technology have on mechanical, technological and utility properties of semi-products and products. He will be able to design material solutions for various sectors for engineering practice. The graduate will successfully operate in industrial plants, particularly in the field of materials production and processing to semi-products and products, or the field of materials research and development.

**Non-Metallic Materials**
The graduate will gain complete bachelor degree education in the field of non-metallic materials such as primary plastics, ceramics and glass. He will understand production, technological process, examination, exploitation and degradation of non-metallic materials such as plastics, ceramics, glass, rubber and some special kinds of materials, relation between the structure and properties of the above mentioned materials, as well as the inspection of their quality and operational diagnostics. He will have knowledge of production, processing, quality control, application, recycling and secondary processing of the abovementioned materials, methods, techniques and means of properties analysis, selection and application of non-metallic materials.

He will work as a team leader or team member in the field of materials engineering (research, development, production or implementation of non-metallic materials), project leader, entrepreneur or a manager in related fields of industrial production.

**Production Devices and Systems**
The graduate will gain a complete bachelor degree education in the field of production technology and materials, production processes and production systems. He will understand the function of machines and constructions of production equipment. He will have knowledge in the field of production machines and materials used in the process of manufacturing. He will be able to solve the tasks of machines' mechanics, mechanisation and automation. He will recognize the social, moral, legal and economic impacts of his profession. He will be prepared either to continue his study in post-graduate degree, building his scientific career in the wide scale of production technology and systems, and implementing advanced methods and techniques of design and development, or to enter the job market immediately as an expert in production, project and development organisations in solving conceptual technical and organisational tasks of complex automation of production processes.

**Machining and Assembly**
The graduate will gain complete bachelor degree education in production of machinery products and implementation of the latest technologies in the field of chip and chipless machining and products assembly in particular. He will understand the subject, from the material origin up to the change of its properties after machining, and to the phase of its assembly into larger units. He will have deep theoretical knowledge in the field of production technologies (machining, welding, forming, foundry and assembly), materials and tools, the application of production machines and equipment supported by the knowledge of CAx technologies. He will perform as a production technologist, tool technologist, CNC technologist and assembly technologist, as well as a leader in the sectors of technological preparation of production.

**Computer-Aided Design and Production**
The graduates will master the complex field of CA systems and CA technologies used in production preparation and control. He will be able to meet special requirements and design specialised applications, form and lead the teams implementing engineering computer analyses, simulations of production processes, design computer-aided production units, lead the teams using computer technology in the field of technical preparation of production, or work as managers and entrepreneurs in the field computational technology and CA systems’ implementation in production support.

**Forming**
The graduate will gain complete university education in the major of Production Technologies with the orientation on Technology of Forming and its implementation in manufacturing practice. He will understand fundamentals of various production technologies, processes of metallic materials' transformation, functions of forming tools and forming machines, as well as application of mechanisation and automation in forming.

He will be able to design technological procedures and design forming tools, deal with work safety, utilise calculations of force and energetic strain parameters and control calculations for the construction of individual parts of tools, implement the knowledge of utility properties of forming machines, and solve automation in forming. He will successfully perform as a production manager in the fields of technology development and manufacturing practice in various sectors of automobile, consuming, machine and electro-technical industry, as well as in private sector.

**Welding and Joining Materials**
The graduate will be able to assess the choice of materials and modern progressive products made by welding, cutting and other joining technologies using computational technology and simulations of thermal processes with the aim to minimise degradation of the materials used, defend safety aspects and provide expertise for economical assessment of a product.

He will successfully perform in top production, and research, at engineering universities both at home and abroad and in managerial positions requiring the knowledge of materials and their further processing.

**Engineering of Co-ordination and Inspection in Welding**
The graduate will receive university education in the field of theory of welding, designing constructions, technological processes and equipment, engineering manufacturing applications and quality assurance in welding and related processes. He will also master the knowledge of European and national standards, safety regulations and engineering applications in production, along with deep theoretical knowledge in the field of technological processes, welding, standards development, certification and inspection, enabling him to co-ordinate working teams with the aim to assure production quality in engineering projects and bear responsibility for complex solutions. The graduate will have
a chance to win a certificate of the European Welding Federation (EWF) and International Institute of Welding (IIW), currently recognised within EU and possibly all over the world, in the later stage. He will work as a team manager or a team leader in various sectors of industry, and in staff education and training.

**Industrial and Art Foundry**
The graduate will gain complex knowledge of technological processes of liquid metal preparation, production of moulds for industrial and art castings with high-precision and high-quality surface. He will have theoretical knowledge of metallurgy of casting materials, processes, design of castings' form, forms manufacturing, and apertures of castings. He will be able to work with computational technology, software for simulation of casting processes, computer-aided design of castings' shape, prediction of castings' properties and in the phase of production preparation. He will autonomously design technological procedures and control production in foundry. He will successfully perform in public and private sectors, research, as well as in construction and project workplaces.

**Powder Metallurgy**
The graduate will gain complete engineering education in the field of production of metal powder materials and technologies of their processing to compact parts, technological procedures, computer simulation of sintering processes, construction of tools for powder metallurgy technologies, chemical and thermal treatment of such parts for various fields of application and diagnostics of their defects. He will understand the basic principles of production of metal powder materials and technologies of their further processing, enabling the utilisation of the whole scale of progressive solutions based on the latest scientific achievements. He will have developed computer literacy and deep theoretical and practical knowledge of interdisciplinary metallurgy. He will be capable of finding and presenting his own solutions to the tasks of engineering practice and research.

**Engineering of Surfaces**
The graduate will gain complete engineering education in classical and specialised technologies of formation of functional surfaces of components with the aim of increasing the lifecycle and aesthetic features of the parts produced. He will understand physical and chemical principles of surface engineering technologies such as galvanisation, chemical and heat treatment, hard surfacing, various depositions (PVD, CVD) as well as methods of quality control of layers. His expertise will enable him to select appropriate technologies for formation of surfaces with required parameters, to optimise technological processes and to simulate thermal processes, all with the aim to improve the surface properties and base material – deposited layer interface, as well as to assess tribological and other aspects of functional surfaces in the conditions of engineering practice.

**Industrial Management**
The graduate will gain complete university education in the field, focused on planning, designing, implementing and managing production systems, as well as creativity development in engineering projects or processes. He will have deep knowledge of natural sciences, technical, technological disciplines and humanities, along with expertise in industrial management, company management, and production management and plant economy, and theoretical knowledge of operation and system analysis, logistics, personnel, investment, finance, innovation, information management, etc.

The graduate will be ready either to continue his study in a postgraduate degree and develop his research career in a wide scale of industrial management while implementing progressive methods and techniques, or to enter the job market immediately. He will successfully perform as a middle or top manager in organisations within various sectors of industry requiring the synergy of managerial, economical, technical and soft skills and knowledge.

**Engineering of Production Quality**
The graduate will understand basic technological and managerial issues of an industrial plant and servicing company, as well as designing, maintaining and implementing quality management systems. He will master the subject matter of international standards for quality management and intellectual property. He will have deep knowledge of natural sciences and specific areas of plant management, particularly in designing maintaining, implementing and improving quality management systems, total quality management (TQM) approaches, as well as modern tools and methods of quality management. He will be able to develop and implement quality management systems.

**Environmental and Safety Engineering**
The graduate will gain knowledge in the field of environmental and safety risks management. He will be able to control the activities within work and environment safety, carry out risk analysis and related documentation, and propose system measures to increase the efficiency of control systems of integrated safety.

The graduate will be successful in administration, labour inspectorates, technical inspection and environmental inspection, and also in the positions of a leader and consultant in engineering organisations dealing with designing and assessing the safety systems in industry, insurance companies and manufacturing.

**Teaching Technical Professional Subjects**
The graduate will gain complex university education in the field, with orientation on teaching related technical professional subjects in secondary and tertiary educational institutions. He will be able to participate in the development of methodology materials for practice, and will be aware of social, moral, legal and economical professional issues. The graduate will be ready either to continue his study in postgraduate degree, or to enter the job market immediately, particularly as a teacher in secondary technical and vocational schools, methodology instructor and expert in administration and educational institutions in the field of specialised engineering education and training.
POSTGRADUATE PROGRAMMES (PhD.)

Technical Materials
The graduate has mastered research methods, process-solving procedures in the field of technical materials as well as the principles of individual and team research. He will grasp the philosophy of material research-development-production-utilisation-recycling, and legal and environmental aspects of new material products. He will be prepared to build his own research career, or enter the job market immediately as a researcher in research institutes, universities and large industrial plants in the sector of materials manufacturing and technologies.

Industrial Management
The graduate will gain complex university education in Industrial Management oriented to knowledge development in the field of managerial activities, tools and methods applied in various types of companies. He has mastered research and development methods for gaining knowledge autonomously. He will be able to develop creative methods in the field of industrial management and design, provide social, technical and managerial systems in various types of companies, accelerate the development of innovative processes, and apply various management improvement approaches.

Integrated Safety
The graduate will master the research and experimental methods within safety and security administration systems and safe working environment. He will be able to develop theory in accordance with the requirements of practice, focusing on technical and humane aspects of the man-machine-environment system. He will be able to carry out scientific research in teams, bringing his own solutions to complex tasks of theory and practice, risk management, safe working environments, fire protection and other related sectors.

Didactics of Technical Professional Subjects
The graduate is capable of lecturing in university, identifying, analysing and solving demanding empirical and conceptual tasks, as well as planning, organising and evaluating the research tasks in the field of Major Didactics. He will successfully perform as a teacher in teacher-training faculties, concept and programme fellow in governmental administration and education, as well as research and development fellow in research and development institutions.

Machine Technologies and Materials
The graduate will gain wide theoretical knowledge in the field of metallurgy, progressive technologies of chipless and chip processing of materials, computer support and applications of CA technological systems, simulations and automation of technological processes, as well as possibilities of their application in companies, and qualitative, technical, economical and environmental aspects of various types of production.

The graduate will master scientific methods of research and development in production processes, particularly in technologies of machining, welding, forming, foundry, machine metrology, assembly, powder metallurgy and CA technologies. The graduate will find jobs in research and development institutes in managerial positions in the field of sophisticated production technologies, and in engineering universities. He will be able to autonomously articulate and solve research tasks and lead a research team.

Automation and ICT Implementation in Processes
The graduate will have expertise in modern fields of automation and control processes utilising information technologies in the development of new methods, algorithms and procedures. Depending on the choice of elective subjects, he can specialise in the control of complex systems utilising information technologies, quality and reliability assessment of control systems software, utilisation of multimedia and virtual reality in management, or in intelligent control methods with elements of artificial intelligence, i.e. application of information technologies in automated control systems. He will grasp the relations of automation and control with related natural sciences, as well as the physical nature of original solutions implemented in the field of automated and automatic control in the field of information technologies, experiment preparation and control, modelling, simulation, visualisation and prognostics. He can successfully perform as a development researcher in top scientific, research and academic institutions in both the domestic and foreign job markets.

SCIENTIFIC PROFILE OF THE FACULTY

The research orientation of the STU Faculty of Materials Science and Technology corresponds with its pedagogic profile and the long-term STU orientation. As amended by section 30, paragraph 1, subparagraph c of Act 131/2002 of the Coll. on Universities and as amended by other acts, the Faculty Scientific Board evaluates the Faculty’s activity in the field of science and technology once a year.

Orientation of the research
The scientific and research activity of STU MTF research staff is carried out in the following forms:

- research and pedagogical projects within VEGA and KEGA grant agencies
- projects solved within international programmes
- projects of international collaboration
- projects of applied research and development
- projects of contractual research and development.

The research content is oriented to the following fields:

- materials research with a focus on the research, development and technological processing of the basic kinds of technical materials,
• research and development of new technologies of industrial production oriented particularly on the technological processing of modern technical materials and ecologically clean products,
• process identification, automation and control, as well as information support for technological, production and organization systems,
• research and verification of managerial control principles and their organization structures,
• quality control and certification of processes and products,
• safety and reliability of technological equipment and systems, while emphasising the analysis methods and systems synthesis,
• humanities and social sciences with emphasis on the improvement and innovation of the teaching methods and forms in the training of technical intelligentsia.

Established in 2002, the Agency for Science and Technology Support manages the governmental research programmes involving the Faculty researchers.

INSTITUTIONAL MEMBERSHIP OF MTF

The Faculty of Materials Science and Technology, STU, is a member of:
• Automobile Cluster
• Slovak Society for Quality
• Slovak Chamber of Commerce and Industry
• Internationale Gesellschaft fur Ingenierpädagogik - IGIP
• Association of Industrial Ecology in Slovakia
• Slovak Natural Gas and Crude Oil Union

AWARDS 2008

Granting the Slovak Republic Quality Award 2008
On 3 November 2008, 5:00 pm, in the Mirror hall of the Primatial Palace, Ivan Gašparovič, President of the Slovak Republic, granted the STU MTF representatives the “Awarded Finalist” prize within the SR National Quality Award 2008 in the category C3 – other organisations of the public sector. The National Quality Award is the premier award an organisation can achieve in the field of quality management systems. The prestigious competition is recognized as a benchmarking tool both in Slovakia and abroad.

As Dr. Ing. Oliver Moravčík stated:
This prestigious competition presented the top challenge in the field for the selected team of key middle and top management Faculty staff. Elaborating the analytical report, we frequently recognised the actual situation in particular fields of the Faculty activities, which automatically made us reflect and plan corrective measures or seek new solutions. The main contribution of the competition for our institution is evidently in the possibility to discuss and defend our solutions with the commission on-site. Each independent opinion of experienced experts provides an impulse for our systematic and continuous improvement in all the fields of our activity.

Karol Balog, Professor of the Year 2008 in STU MTF
Prof. Ing. Karol Balog, PhD. of STU MTF was granted the “Professor of the Year 2008” award by Professor Vladimír Baleš, his magnificence and STU Rector.

MTF students awarded by STU rector
On the occasion of the Student Day, the STU rector granted the “Student of the Year” award to the following MTF students: Lubomír Šmid – for outstanding achievements within the Bachelor degree, Bc. Marián Samák - for outstanding achievements within the Master degree, Ing. Peter Szabo - for outstanding achievements within the final year of PhD degree, Bc. Eva Zibrinová - for considerable and beneficial activity for STU and Bc. Zuzana Kelemenová - for considerable and beneficial activity for STU.

Special Bounty of the Literary Fund for the best projects within the Student Research Conference 2008
Upon the proposal of the Faculty dean, the Section for scientific and professional literature and computer programs of the Literary Fund, in its meeting of 25 September 2008, awarded the following participants for the best contributions to the Student Research Conference in the academic year 2007/08: Ján Líška, Ondrej Herchl, Alexandra Görtlérlová, Miroslav Valičko and Martina Homolová.

Awarded theses
During the European Quality Week 3 – 7 November, an international conference by the title “Accountability of the organisations and sustainable development” was held in Žilina on 4 – 5 November 2008. Ing. Michal Marton of MTF was awarded the prize for the best Master thesis in the field of quality management and total quality management (TQM): Proposal of the DOE application methodology in a company. Ing. Tomáš Boelen of MTF won the Prize of Dexia Bank for the best Master thesis: Utilising water flows for alternative energy and environment.
On 10th May 2008, prof. Ing., Karol Balog, PhD. was awarded the international prize "Honorary Medal" of the Czech National Fire Brigade.

On 13th October 2008, prof. Ing. Karol Balog, PhD. took The Red Cock Medal - Czech National Award for the public fire protection support.

**SCHEDULE OF MTF STU ACTIVITIES IN 2008**

**10 January 2008**
New-year's meeting of the MTF staff and friends

**15 January 2008**
Ivan Gašparovič, President of the Slovak Republic, appoints new professors: Jozef Janovec in the major of Materials and Ivan Baránek in the major of Machine Technologies and Materials

**18 January 2008**
Univ.Prof.Dipl.-Ing. Dr.tech.Dr.mult.h.c. Branko Katalinič of Technical University of Vienna visits MTF with the aim to negotiate the possibility of organising DAAAM 2008 World Symposium in Trnava in co-operation with STU MTF

**25 January 2008**
Open-Door Day in STU MTF in Trnava

**7 February 2008**
Conference on Environmental Aspects of Fires and Failures

**12 February 2008**
Launch of the electronic admission application

**14 February 2008**
Seminar: Slovak language in scientific and administrative style

**13-15 February 2008**
MTF negotiations with BEKAERT/Belgium

**27 February 2008**
MTF participates in the “Graduate and Practice” Fair

**28-29 February 2008**
Visit from the partnering FOI Varazdin University of Zagreb

**1 March 2008**
Reception of Prof. Ing. Jozef Bača CSc. at the occasion of 50 anniversary of his joining STU

**4-5 March 2008**
MTF in the “Slovak Tertiary Education Presentation 2008” in Žilina

**10-20 March 2008**
A questionnaire inquiry aimed at the STU MTF staff's satisfaction

**12-13 March 2008**
“Science closer to students” – a meeting with secondary school students at MTF

**18 March 2008**
STU Rector and Chair of STU Academic Senate visit STU MTF

**27 March 2008**
Dies iovis occursus – a Thursday afternoon session on Technocratic government of society

**27 March 2008**
Workshop on information and communication systems and technologies in the university environment

**1 April 2008**
12th ESAB seminar on welding; with international participation

**4 April 2008**
A company of Mühlbauer, Germany, visits STU MTF

**4 April 2008**
MTF Day – annual meeting of the MTF staff at the occasion of the Teacher Day

**4 April 2008**
Dr.h.c. Prof. Ing. Anton Čižmár, CSc., Rector of Technical University of Košice, appoints Peter Košťál an associate professor. His Magnificence Prof. Ing. Vladimír Báleš, DrSc., Rector of Slovak University of Technology, appoints Mária Dománková associate professor

**10 April 2008**
Sun Ray 2 Platform at STU MTF – piloting operation launched

**11 April 2008**
Students of Vocational schools of Trnava visit the Faculty within the science popularisation scheme

**12-18 April 2008**
A visit from the Izhevsk State Technical University

**16 April 2008**
A visit of the BEKAERT technical manager at STU MTF

**23 April 2008**
Promotion of BEKAERT Company for MTF students in Trnava

**24 April 2008**
Dies iovis occursus – a Thursday afternoon session devoted to Albert Einstein – a scientist, personality and legend

**29 April 2008**
Municipal television of Trnava presents a discussion forum with MTF representatives

**2 May 2008**
NONSTOP – football match

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On 10th May 2008, prof. Ing. Karol Balog, PhD. was awarded the international prize "Honorary Medal" of the Czech National Fire Brigade.

On 13th October 2008, prof. Ing. Karol Balog, PhD. took The Red Cock Medal - Czech National Award for the public fire protection support.
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>22 May 2008</td>
<td>Dies iovis occursus – a Thursday afternoon session on the topic of Technical activity and law</td>
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<tr>
<td>22-23 May 2008</td>
<td>A meeting of MTF management and staff</td>
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<tr>
<td>26-30 May 2008</td>
<td>“Lecture series on the Ion Beam Research in Materials Science”, a project of the STU MTF Institute of Materials in co-operation with the Slovak Physical Society a Forschungszentrum, Rossendorf, Germany</td>
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<tr>
<td>29 May 2008</td>
<td>Final meeting of partners and participants of the project “Establishing a technology and consultancy laboratory for the solar energy utilisation and subsequent promotion”, carried out within the initiative programme of INTERREG IIIA AT-SR Association</td>
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<tr>
<td>3 June 2008</td>
<td>A memorandum on co-operation of STU MTF and the city of Dubnica nad Váhom signed</td>
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<td>6 June 2008</td>
<td>MTF presented in the Hospodárske noviny daily</td>
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<td>10 June 2008</td>
<td>Seminar – Enhancing the preparation of project managers</td>
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<tr>
<td>17 June 2008</td>
<td>A visit of the scientists Prof. Viktor K. Dragunov, DrSc. of the Moscow Power Institute – Technical University in Moscow, and Prof. Anatolij Kajdalov, DrSc. of the Institute of Electric Welding of E.O Paton in Kiev</td>
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<td>27 June 2008</td>
<td>TEACHER’S CUP 2008 – 8th year of the Slovak and Czech tennis tournament of the university teaching and administration staff</td>
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<td>7-9 July 2008</td>
<td>Graduation ceremony in Trnava</td>
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<td>10 July 2008</td>
<td>Visit of associate professor Valentina Gečevska, PhD., vice-dean for science and international collaboration of the University of ss Cyril and Method in Skopje (Macedonia), Faculty of Mechanical Engineering, to MTF</td>
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<tr>
<td>11 July 2008</td>
<td>External assessment of CAF model within the “CAF method and self-evaluation preparation” project</td>
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<tr>
<td>25-30 July 2008</td>
<td>Public discussion regarding the architectonical studies of STU MTF</td>
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<tr>
<td>18-20 August 2008</td>
<td>Enrolment of the first-year students</td>
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<td>27 August 2008</td>
<td>On-site visit of the assessment team for awarding the Slovak National Quality Award 2008</td>
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<td>28 August 2008</td>
<td>Payment of motivation scholarship to 106 participants of the Student Research Conference 2008</td>
</tr>
<tr>
<td>8-11 September 2008</td>
<td>2nd Summer Universiada – the STU MTF baseball team wins the 1st place, and the STU MTF softball women team wins the 2nd place</td>
</tr>
<tr>
<td>12 September 2008</td>
<td>A visit of Prof. Petru Berce, PhD., of the Technical University in Cluj-Napoca, Romania, dean of the faculty of mechanical Engineering University, and Prof. Dr. Dr.h.c. Ing. Gyenge Csaba of the Institute of Production Engineering of the same University to MTF</td>
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<tr>
<td>19 September 2008</td>
<td>Sports Day of the STU MTF staff v Trnava</td>
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<tr>
<td>22 September 2008</td>
<td>Ceremony of the granting of the degree of doctor honoris causa of the Slovak University of technology in Bratislava to the academician B. J. Paton</td>
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<tr>
<td>25 September 2008</td>
<td>Seminar: “New Methods and Procedures in Metallography and Materialography”</td>
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<tr>
<td>2 October 2008</td>
<td>STU MTF becomes one of the participants in FP-7, the VII framework project by the title &quot;Improving the Gender Diversity Management in Materials Research Institutions&quot;.</td>
</tr>
<tr>
<td>3 October 2008</td>
<td>STU MTF – an awarded finalist of the Slovak National Quality Award 2008</td>
</tr>
<tr>
<td>8 October 2008</td>
<td>An agreement signed between the Institute of Materials and Machine Mechanics of the Slovak Academy of Science and STU MTF on establishing a common research laboratory of advanced metallic materials and composites</td>
</tr>
<tr>
<td>9 October 2008</td>
<td>MTF at Akadémia 2008, the education fair</td>
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<tr>
<td>12 October 2008</td>
<td>34th year of the Small Carpathians Marathon (MKM), including 16th year of the Slovak Universities Championship in marathon</td>
</tr>
<tr>
<td>13 October 2008</td>
<td>Meeting of the Dean with the staff</td>
</tr>
</tbody>
</table>
16 October 2008
Dies iovis occursus – a Thursday afternoon session on the topic of Fungi, mycology and mycologists

16 October 2008
A visit of Dr. Ir. Peter Backx and Freddy Aps, representatives of BEKAERT, Belgium

20 October 2008
Dr. rer. nat. Andreas Kolitsch, director of the Ion Centre of the Research Institute, Dresden-Rossendorf, a visiting professor of STU MTF

21-24 October 2008
MTF participates in GAUDEAMUS 2008 Fair

22-25 October 2008
STU MTF – co-organiser of DAAAM - Danube Adria Association for Automation and Manufacturing

27 October 2008
His Magnificence Vladimir Báleš, STU Rector, appoints Mária Kapustová and Viliam Cibulka associate professors of MTF

28 October 2008
RADOM 2008, a workshop of PhD students in Trnava

3 November 2008
Matriculation ceremony in Dubnica nad Váhom

3 November 2008
Ceremony for granting the Slovak National Quality Award 2008 in Category C3 – other organisations of public sector, by Ivan Gašparovič, the President of the Slovak Republic

5 November 2008
Matriculation ceremony in Komárno

6 November 2008
Matriculation ceremony in Brezno

6 November 2008
Workshop of the Department of Forming and the Department of Applied Mechanics with the staff of ZF SACHS AG Schweinfurt, Germany and ZF SACHS, Slovakia, a.s.

10 November 2008
A meeting of the STU MTF students with the representatives of the Accreditation Commission

10-11 November 2008
MTF participates in the Days of Professional Consultancy for secondary school students

12-13 November 2008
Matriculation ceremony in Trnava

13 November 2008
Breakfast with the BEKAERT Company for the MTF students

19 November 2008
A meeting of the MTF management with students

20-21 November 2008
Elections to the Academic Senate

21 November 2008
Granting a decree to the visiting Professor Dr. Andreas Kolitsch, the head of the Ion and Plasma Technologies Centre, Research Centre, Dresden-Rossendorf.

24 November 2008
An outside session of the STU MTF Dean’s collegium

27 November 2008
Detached workplace in Komárno celebrates the 15th anniversary of its activity

27 November 2008
The 1st meeting of the “Risk Analysis” project team

11 December 2008
STU MTF Delegation in the Republic of Korea and Japan

11 December 2008
Dies iovis occursus – a Thursday afternoon session on the topic “The truth about the occupation in 1968”

12 December 2008
Botanic Garden – opening ceremony

16 December 2008
STU MTF succeeds in the competition for Excellence Centres
1 Excellence Centre of 5-axis machining – in the Institute of Production Technologies
2 Centre for the development and application of progressive diagnostic methods in processing metallic and non-metallic materials - in the Institute of Materials

17 December 2008
Graduation ceremony of the PhD graduates

18 December 2008
Prof. Ing. Karol Balog, PhD. is granted the prestigious “Professor of the Year 2008 ” award by His Magnificence Professor Vladimir Báleš, STU Rector

22 December 2008
Dean’s visit to Dubnica nad Váhom

23 December 2008
Negotiations with the Bang Joo Electronics Slovakia Comp.
Andrea Runow • Germany IFW Dresden
Dr. h. c. Dr. Ing. Peter Joehnk • Germany FZD Rossendorf
Ing. Andreas Kolsch • Germany FZD Rossendorf
prof. Mirosław Kiesielewicz • Poland Uniwerzita Gdańska
prof. Volkmann Richter • Germany FH Köthen
Ing. Jürgen Eckert • Germany IFW Dresden
Ing. Freiderike Hesserscheidt • Germany IFW Dresden
prof. Rolf Prengel • Germany IFW Dresden
prof. Dr. Igor Drstvenšek • Slovenia TU Maribor
prof. Dr. Ing. Branko Katalinić • Austria TU Viedeń
prof. Neven Vrćek • Croatia Univerzita Zagreb
prof. Blaženka Divjak • Croatia Univerzita Zagreb
prof. Miroslav Bača • Croatia Univerzita Zagreb
prof. Tomislav Hunjak • Croatia Univerzita Zagreb
Domnita Florina Fratila • Romania TU Cluj - Napoca
Jurij Michailov, prof. Ing. DrSc. • Russia ITU Iževsk
Alexander Balitsky • Russia ITU Iževsk
Wetzig Klaus, prof. • Germany Fachhochschule Nordhausen

HUNGARY
Budapest: Budapest Muszaki és Gazdaság tudományi Egyetem
Miskolc: Miskolci Egyetem

CHINA
Baotou: Baotou Research Institute of Rare Earths (BRIRE)

KOREA
Pohang: Pohang University of Technology

POLAND
Gliwice: Silesian Politechnics
Kielce: Kielce University of Technology

ROMANIA
Bucharest: National Institute of Res for Materials Physics, Bucharest-Magurele,
Faculty of Physics, University of Bucharest

RUSSIA
Saint Petersburg: Sankt-Peterburskij State Electrotechnical University
Iżhevsk: Sarapulsk Politechnical Institute
Moscow: Moscow Electrical Engineering Institute, Dept. of Engineering Management
Ufa: Faculty of Applied Informatics and Robotechnologia, UGAT
Faculty of Economics, Management and Finance, UGAT

SLOVENIA
Ljubljana: Faculty of Mechanical Engineering, University of Ljubljana

SPAIN
Valencia: Politecnical University of Valencia

UNITED KINGDOM
Coventry: Coventry University

AUSTRIA
Graz: Berufspädagogische Akademie des Bundes

BELGIUM
Lieven: KaHo Sint-Lieven

CZECH REPUBLIC
Prague: Czech Technical University in Prague, Institute of Radiotechnology and Electronics, Academy of Science, Czech Republic
Olomouc: Palacky University in Olomouc
Ostrava: Faculty of Mechanical Engineering, Technical University

FRANCE
Deuil La Barre: Abanico Sarl

GERMANY
Berlin: ISCO AG
Cottbus: Brandenburg Technical University
Dresden: Forschungszentrum Dresden/Rossendorf
IFW Technische Universität Dresden
Kothen: Fachhochschule Anhalt, Wirtschaft und Gestaltung, Bernburg, Dessau,
Hochschule Anhalt, Anhalt University of Applied Sciences

CROATIA
Zagreb: Faculty of Organisation and Informatics of Zagreb University
Director  Jožef Janovec, Professor, DrSc.
e-mail:  jozef.janovec@stuba.sk
tel.:  ++421918646072

Address  Bottova 25, 917 24 Trnava, Slovak Republic
tel.:  ++421918646038
tel./fax:  ++421/33/5521007

Institute Departments
• Department of Materials Engineering
• Department of Physics

Staff
• Professors: 6
• Assoc. Professor: 7
• Senior Lecturers: 19
• Research Fellows: 7
• PhD Students: 7

Study programmes
• Engineering Materials
• Non-metallic Materials
• Surface Engineering

Research targets
• Vacuum metallurgy, metal refining and solidification
• Powder metallurgy, properties of rapidly solidified particles
• Tool steels, creep and/or corrosion resistant steels
• Weldability and surface treatment (boridation) of steels
• Complex metallic alloys and amorphous materials
• Nickel and titanium based alloys
• Biocompatible materials
• Physical properties of ceramics, non-metallic composites, plastics, rubbers, fluoride, oxide and chalcogenide special glasses, as well as fluoride and oxide superionics
• Segregation phenomena and grain boundary engineering
• Modelling and simulation of solid structures
• Lead free solders
**RESEARCH CHARACTERISTICS**

The Institute of Materials Science was established on 1st of January, 2007 joining the former departments into a larger unit achieving an improvement of scientific and research activities as well as of international cooperation. The Institute is responsible for materials and physics oriented courses at MTF. On bachelor degree, the Institute guarantees study program Materials Engineering, on engineering and doctorate degrees it guarantees study programs Materials Engineering, Processing and Application of Non-metals as well as Surface Engineering of Advanced Materials. Research and expertise activities of the Institute are aimed at crystallization of metals and alloys, tool material and nickel-based alloys, powder metallurgy, bio-compatible materials, stainless steels, steels for power plants, weldability of steels, magnetic materials, thermal treatments and surface modification of materials, complex metallic alloys, grain boundary engineering as well as ceramic and polymer materials. At present, the Institute possesses’ 7 laboratories equipped with a number of modern experimental techniques (for example: high resolution transmission electron microscopy Philips CM300, X-ray diffractometer Philips PW 1710, differential scanning calorimeter Perkin Elmer). In areas, research and education, the Institute established intensive cooperation with local and foreign institutes. It became a part of a network of foreign academic and commercial institutes which gives an opportunity for extensive exchange of students and academic staff members of the Institute contributing to dynamic and sustainable professional growth. As the most prestigious academic institutes could be mentioned Leibnitz Institute of Solid State and Materials Research Dresden (Germany), Institute Jožef Stefan, Ljubljana (Slovenia), Vienna University of Technology (Austria), Research Center Dresden-Rossendorf (Germany), Institute of Physics of Materials, Academy of Sciences of the Czech Republic, Brno (Czech Republic), Faculty of Mechanical Engineering, University of Ljubljana (Slovenia) and other Slovak universities and institutes of the Slovak Academy of Sciences. From the list of industrial partners the most recognized are Bekaert SA (Belgium), Böhter - Edelstahl and Branson div. Emerson. The Institute has long term tradition in cooperation with regional industrial partners as INA Skalica, Ltd., Skalica, VUJE corp., Jaslovske Bohunice, ZF Sachs Slovakia, corp., Treňa, Zlievareň, corp., Trnava, HKS Forge Ltd. Trnava; MANZ, corp. Nové Mesto nad Váhom; SONY Slovakia, Nitra; Samsung Electronics Slovakia, Galanta, Voderady; Faurecia Trnava; PSA Peugeot Citroen, Trnava; Noble International, Ltd. Senica; TRW Steering System Slovakia Ltd., Nové Mesto nad Váhom; Hella Lighting Slovakia, Kočovce; Kinek-KLF, corp., Kysucké Nové Mesto; PSL, corp. Považská Bystrica; EM0, corp. Mochovce; Johns Manville, corp. Treňa; Sauer Danfoss, corp., Považská Bystrica; ŽOS corp., Trnava; PFS, corp., Brezová pod Bradlom; Kompozitum Topočany; Fremach, Trnava; Slovalco, corp. Žiar nad Hronom; IMS Kupa, corp. Nováky

**INTERNATIONAL PROJECTS**

**FZD MTF STU (01.01.2007-31.12.2008)**

Doc. Ing. Jozef Janovec, DrSc.

Slovakian - Research of cluster structures and nanomaterials

The Faculty of Materials Science and Technology of STU acquired from the Forschungszentrum Dresden-Rossendorf a high-resolution transmission electron microscope PHILIPS CM300 with acceleration voltage of 300 kV, LaB6 cathode, and lateral resolution of 0.14 nm. It enables also nanodiffraction and EDS. After small modifications of the microscope the electron tomography presenting 3D-images of nanoparticles will also be available. The microscope is unique equipment in Slovakia from the technical parameters point of view. The microscope will be used mainly for the characterization of thin layers, nanolayers, multilayers, interfaces, complicated cluster structures in complex metallic alloys and ceramics, and 3D-nanoparticles of various types. A complex nanoscale analysis of the material possible in the microscope will also extend the state of knowledge about conventional materials (e.g. high-strength low-alloy steels, aluminium and titanium alloys, nickel superalloys).


prof. Ing. Jozef Janovec, DrSc.

Investigation of fine structures in metallic materials using TEM

With the intention to improve the investigation of fine metallic structures at the Faculty of Materials Science and Technology of STU, the IFW provided financial resources for purchase ancillary units for TEM (Delta Abrasiments).

**COST MP0602 (COST) (05.08.2008-15.05.2011)**

Prof. Ing. Jozef Janovec, DrSc.

Preparation and characterisation of lead-free solders

The project is focused on processing and investigation of properties of novel lead-free solders for high-temperature applications. New solders developed in the frame of the project will consist of various combinations of tin, zinc, cobalt, silver, copper and rare earth elements. Thermodynamic and kinetic aspects of soldering will be studied. Phase equilibria and formation of intermetallic phases at the solder/substrate interface will also be investigated.

**EUREKA E3437 (01.01.2005-01.01.2008)**

Ing. Mária Hudáková, PhD.

Progressive surfacing of metals

The main and general goal of the project is to improve and optimize surface properties of advanced metallic materials through the physical and chemical deposition of thin and hard layers and their combinations. The efforts leading to the reduction of wear, corrosion, and generally to the prolonging of the service-time of tools and engineering parts is the main driving force for development of suitable surface technologies for the metallic materials.


Ing. Martin Kusý, PhD.

Visegrad Scholarship-Structure and properties of X40CrMoV5-1 hot-work steel melted and alloyed by tungsten carbide WC with the high power diode laser (HPDL)

It was found out, based on the research carried out, that it is feasible to develop the surface layers on the X40CrMoV5-1 hot-work tool steel by remelting and alloying with the tungsten carbide using the high power diode laser (HPDL). The structure of the material solidifying after laser remelting is characteristic of the diversified morphology connected with the repeated changes of the crystals’ growth direction, from small dendrites, whose principal axes are oriented in accordance with the heat removal directions at the boundary between the solid and liquid phases, clusters of carbides arranged in accordance with the swirls caused by the metallic liquid convection motion, and partially non-remelted WC conglomerates as alloying material in the central zone. The very fast heat removal from the remelting zone by the material core with the much larger thermal capacity, decides the martensitic transformation of the austenite originated due to crystallization, and the lathe martensite developed in this process, partially twinned, is characteristic of the significant refinement of the martensite with the martensite lathes’ length several times smaller than that of the ones of the martensite developed during the conventional quenching. Laser remelting and
alloying with the tungsten carbide results in the refinement of the structure in the entire laser power range and in the remelted zone is about twenty times smaller compared to the conventionally heat treated material. Increase of the steel surface hardiness to 66.5 HRC occurs due to refinement of the structure. The research results indicate to the feasibility and purposefulness of the practical use of the remelting and alloying with the tungsten carbide using the high power diode laser, e.g. for making new tools or for regeneration of the used ones from the X40CrMoV5-1 hot-work tool steel.

**Bekaert, Zwevegem, Belgium (26.05.2008-25.05.2010)**
Ing. Martin Kusý, PhD.
Progressive materials, processing and automation

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**NATIONAL PROJECTS**

**APVV-20-043505 (01.01.2006-31.12.2008)**
Marian Kublíha, doc., Ing., PhD.
Study of disordered structures of non-metallic by chosen physical methods.
To characterize internal arrangement of chosen kind of non-metallic materials (special glasses determined as active elements in infrared area of spectra, caoutchoouc mixtures for the automobile rubber preparation) on the basis of precise measurements of chosen physical properties. To utilize mentioned information at optimization of composition and single parameters of mentioned materials preparation technology. It is possible to briefly resume the treatment on the physical properties description, the recovery correlations among reached values of measured physical properties and internal arrangement parameters, verification of obtained informations by means of other methods, results valuation, proposal of solutions, prospective optimization of determining parameters, conclusion.

prof. Ing. Palček, Peter, PhD.
Electronic interactive Slovak-Slovak and Slovak-English dictionary of Material Engineering.
Project is aimed at developing the electronic dictionary of Material Engineering on a web page available for universities and the Slovak Academy of Science free of charge. The dictionary is designed for teachers and researchers in the Slovak universities. It comprises 1 200 selected expressions from the field on Material Engineering, while any workplace can contribute and enhance it via its web administrator. The explanation will be illustrated by schemes, video-sequences, photographs and examples. English equivalent is also given with individual expressions.

Prof. RNDr. Slabiecyus, Juraj, CSc.
Multimedial support and conception of subject named "Diagnostic methods in material engineering". Target of the project is multimedia promotion of subject named "Diagnostic methods in material engineering" redrafted for magister educational program "Materials engineering" by means of multimedial lectures and other teaching aids. Innovated laboratory measurements will be included to the subject too. Attractiveness of education will be increased by application of multimedial technologies, knowledges of students will be enhanced and creative approach to study will be stimulated. Extended version of subject will be exploited also for graduant preparation.

**KEGA 1/3032/06 (01.01.2006-01.01.2006)**
Milan Ožvold, prof., RNDr., CSc.
Preparation and physical properties of lead/free solders
The aim of this project is to increase the basic konwledge on lead-free solders as an interconnecting material. The work will cover the areas of physical, metallurgical and partially mechanical properties. Due to the special importance of today`s application in electronics industry, the top four physical properties aremelting point temperature, electrical conductivity, thermal conductivity and surface tension. The surface tension of molten solder is a basic parameter affecting wettabillity and therefore soldara-bility. The wettabillity and wetting reaction of the solder alloy are influenced by the interface reaction and intermetallic growth between solder and under bump metallization. The aim is establishing (micro)structure-property relations and potential reliability issue of Pb-free solders.

**KEGA 1/3190/06 (01.01.2006-31.12.2008)**
Peter Orgač, prof., Ing., CSc.
Study of the transformations processes in the rapidly solidified polycrystalline multiphase alloys
Rapid solidification of undercooled melts in non-equilibrium conditions is used in several modern production technologies of high alloyed alloys and superalloys. These procedures are based on the production of rapidly solidified powders by inert gas atomisation. In the dependence on the chemical composition, size of a rapidly solidified particle and cooling conditions the variable metastable multiphase solidification microstructures are developed and later quantitatively and qualitatively altered during compaction processes. Project is focused on the detailed study of primary metastable structures and their transformations in the thermodeformation densification processes of polycrystalline high alloyed technical alloys with intermediate phases of solidification origin. The main object of the project is on the base of experimental study and theoretical computations to develop a set of mutually connected knowl-edge providing a detailed description of transformation processes during the production and technological processing of high alloyed iron and nickel based alloys with the aim to contribute to optimistion of their chemical composition, production parameters and following technological processing.

**KEGA 1/4107/07 (01.01.2007-31.12.2009)**
Janovec Jozef, doc. Ing. DrSc.
Characteristics of quasicrystals and quasicrystalline approximants in Al-Pd-TM alloys (TM-transition metal)
The project aim is to characterise the phases in Al-Pd-Fe, Al-Pd-Co and...
Al-Pd-Rh-based alloys. The attention will be devoted to the description of lamellar forms accompanying transformations of quasi-crystalline phases. Stable quasi-crystals, quasi-crystalline approximants and related crystalline phases will be characterised by means of transmission electron microscopy including electron diffraction, X-ray diffraction, thermal analysis and other methods. The examined samples will be supplied either by 6. RP EK Complex metallic alloys, Network of Excellence, or will be prepared in our own laboratories. The project contribution dwells in its connection with international scientific network uniting the experts from various fields and types of organisations (Academies of Science, universities). The project output will be also used in the study of progressive materials by means of modern experimental methods. The project reflects technological and physical aspects of Materials Science and can be considered a base research with the direct impact on the knowledge pool in the field and information exchange.

**VEGA 1/0126/08 (01.01.2008-31.12.2010)**

Ing. Mária Domáňková, Phd.

Improvement of microstructural stability and corrosion resistance of stainless steels controlled by precipitation of secondary phases.

The process of the secondary phase precipitation controls the mechanical and physical properties of the stainless steels. The main goal of this project is characterisation of the influence of the chosen factors (chemical composition, annealing conditions, deformation) on kinetics and thermodynamics of the secondary phase precipitation in stainless steels.

**VEGA 1/0173/08 (01.01.2008-31.12.2010)**

Ing. Viera Trnovcová, CSc.

Physical properties of optical crystals and glasses of heavy metal halides, chalcogenides and oxides

To study optical, mechanical, thermophysical and electrical properties and phase transition in crystalline, glassy and composite heavy metal halides, oxides, oxides and chalcogenides doped with rare earth, for applications in optonics, fiber optics, supernonics and dosimetry. To determine relations between properties, composition, defect structure and preparation technique.

**VEGA 1/0148/08 (01.01.2008-31.12.2010)**

Ing. Roman Moravčík, Phd.

Analysis of prepared by progressive powder metallurgy processes the tool materials

Project will be primary oriented to the analysis of distinguished parameters of atomisation process to distinguished characteristics of the microstructure of rapidly solidified powder particles, which were prepared form highalloyed materials of tool steels and properties with respect of application possibilities. Obtained knowledge will be the base for correlation model design which simulates relations between rapid solidification of materials produced by powder metallurgy processes.

**VEGA 1/0940/08 (01.02.2008-31.12.2010)**

RNDr. Andrej Antušek, PhD.

Ab initio calculations of NMR properties with electron correlation and relativistic effects and vibrational corrections

This project is focused on precise ab initio calculations to NMR properties of molecules. We will explore trends of all important contributions such as electron correlations effects, relativistic effects and vibrational corrections for NMR properties of selected systems. The accuracy which can be reached using "state of the art" quantum chemical methods will be evaluated by comparison of theoretical results and gas-phase NMR experimental values.
Practise Processing and applications of plastics
Processing technologies of non-metallic materials
Production technologies of plastics tools
Professional translation
Quantitative metallography
Research work
Safety of electrical devices
Semiconductor materials and technologies
Structural materials of nuclear power plants
Structure and properties of polymers
Structure and properties of non-metallic materials
Technologies of special alloys
Technology of coating
Technology of materials production
Technology of special alloys
Theory and technology of ceramic materials processing
Theory and technology of glasses processing
Theory and technology of plastics processing
Theory of materials production
Theory of materials treatment
Theory of phase transformations
Tool materials
Utility properties and materials design
Vacuum engineering and technology
Vacuum technique and technology

GRADUATE THESES

Bachelor Theses

Margorínová, Sylvia: Analysis of chromozing steel C 67
Hreščák, Peter: Microcopy analysis of compacts from tool steel K390 Microce
Cabadajová, Zuzana: Analysis of damaged carbonitridated part
Holič, Ján: Analysis of cutting wedges of inserts made from sintered carbides after machining of the bearing steel
Vígh, Tomáš: Analysis of static tensile tests with the use of numerical simulation
Slabodová, Zuzana: Analysis of the brake cylinder from rear wheel car Škoda Felicia
Czibor, Peter: Analyse of a car’s rolling brake’s friction segments
Repiská, Marianna: Analysis behaviour and material gears spiroid set
Majerniková, Monika: The analysis of properties surface tool steels after boronizing
Horváth, Vladimír: Diffusively chromized steel C67
Papp, Marián: Electrical and dielectrical properties of corundum ceramics prepared by isostatic pressing
Javorčík, Ján: Coloring of polyethylene by technology rotation molding

Krajčovič, Michal: Steel’s properties evaluation of nuclear power plant’s primary loop after long time service
Boledoovič, Peter: Use of defectoscopy for indication of surface faults of materials and welding joints
Daxner, Peter: Al based complex metallic alloys
Švantner, Tomáš: Al based complex metallic alloys
Messing, Martin: Complex alloy based on aluminium
Božík, Stanislav: Tightness control of welded tanks by defectoscopy methods
Vacho, Juraj: Quality of weld as one of the factors influencing the decrement of signal
Nagová, Erika: Quantification of microstructure of heat-treated titanium alloy Ti6A14V
Kozánek, Oto: Macroscopic and microscopic analysis of the welded joints (unions) made of the steel S235JR61
Janotová, Irena: Materials produced by powder metallurgy and technology of producing materials in a isostatic press
Židek, Radovan: Measuring elastic moduls by means of double pendulum
Škoríková, Ivana: Microstructural analysis magnetically hard-bitten materials on the base of metals rare earths neodinium - iron-boron
Sabo, Jaroslav: Microstructural analyse of hard magnetic materials on base metals of noble earths type samarium – cobalt
Baranyai, Szilárd: Microstructure analyse of titanium alloy Ti6A14V
Lipan, Rastislav: Resources of electrical measures by taking choseed optical properties of chalcogenic glasses
Bohovíčová, Jana: Possibilities of Increasing of Surface Hardness of Tool Steels
Mičuda, Michal: Cutting materials design for machining of hardening and hard to-machined steels
Ostrožlík, Peter: Numerical simulation of sample heating in the conditions of electro-magnetic levitation
Chrenčík, Filip: The comparison of macroscopic and microscopic plastic deformation of steel in connection with the static tensile test
Rau, Vladimír: Preparation and properties of ferrite ceramics
Sandtner, Jaroslav: Monitoring of degradation PVC through the electric methods
Kamocsai, Imrich: Observing the diffusion of silver into sintered basalt with electric methods
Tompošová, Adela: Monitoring of vulcanization of rubber mixtures by measurements chosen electrical and dielectrical parameters
Zahradník, Juraj: The structure and thermophysical properties of metal matrix composites

Borsuk, Dušan: Structure and properties boride layers steels of ledeburit types

Pribylová, Zuzana: Structural analysis of boride tool steel M 390

Kolínek, Michal: Research of electric and dielectric characters of basalt ceramics including alloys

Ergang, Rudolf: Study of mechanical characters trip steel

Kubík, Michal: Sintering study of lanthanum oxide

Mičková, Mária: Sintering of LaCoO3

Miškove, Matej: Technology rotational molding filling polyethylene

Nagy, Tamás: Thermomechanical treatment of steels

Halás, Tomáš: Identification of modules of elasticity of hard materials

Reichbauer, Luboš: Choosing suitable contact type for monitoring electric and dielectric properties of a ethylenevinylacetate wrap

Čietek, Ján: Determination of basic physical - technological properties of selected solders

Štepanovský, Ondrej: Influence of a hardening agent on deformations of bearings after heat treatment

Haramia, Ján: Austenization parameter effects on hardness and structure of hardenable corrosion proof steel AISI 440 C

Žilinský, Adam: Effect of the heat treatment parameters to the final microstructure of light pipes from austenitic stainless steels

Ševčík, Martin: The effect of sample position in cast of head cylinders from AlSi6Cu4 alloy on structure and mechanical properties

Konopka, Pavol: Effect of technology treatment on quality of X-ray diffraction optics

Sahul, Martin: The Investigation of the Basalt Coating Properties on Steel Substrate

Bakulár, Tomáš: Explotation electrical methods for tracking changes in gum compositions

Abelovič, Tomáš: The eddy current testing method exploitation in operating diagnostics

Masters Theses

Mikušová, Katarína: Aging response in two types of precipitation hardenable stainless steel

Šipoš, Marek: Analysis and interpretation of data at impedance spectroscopy of non-metallic materials using distributed elements

Belák, Marián: The analysis of part worked by nitrocarburizing

Bednár, Matej: Analysis of forming of image in light microscopy and transmission electron microscopy

Šlesaník, Roman: Diffusionsborieren von dem Stahl 17MnCr5

Čavojský, Karol: Electric properties of sintered ferrite dust

Mihalovič, Michal: Phasic analysis of alloys TiAl prepared by HIP method

Kapusňák, Michal: Influence of cobalt on internal porosity and microstructure of rapidly solidified particles and compacts of high speed steels S590 and S790 Microclean

Szmolka, Tibor: Isothermic annealing of the material 18CrNiMo7-6

Nečas, Dušan: Mathematical description and using of non-linear least squares method in analyzing the results of diffraction experiment and impedance experiment

Hýroš, Ján: Microstructure of high strength titanium alloys

Sokolay, Gabriel: Possibility of monitoring of corrosion processes using impedance spectroscopy

Čavojský, Miroslav: X-ray diffraction analysis of rapidly solidified K390 Microclean

Béreš, Gergely: X-ray diffraction analysis of rapidly solidified alloy S290 Microclean

Valášek, Imre: A Monitoring of the Kinetics Thermally Degradation Vulcanizate Selected Rubber Mixture by electric and dieletric methods

Janoštiak, Marek: Thermal Degradation process monitoring of PVS by using the electric methods

Matiašovič, Tomáš: Monitoring the process of temperatures degradation of selection vulcanizate rubber mixture at its linear heating

Šallay, Luboš: Monitoring the influence of filler capacity in the process of rubber mixture vulcanization by electric and dielectric methods

Mafusová, Stanislava: Influence of filler value on process of vulcanization of rubber composition by electric methods

Görtlerová, Alexandra: Monitoring of the influence of heating speed on the process of vulcanization of rubber mixture by electric methods

Babek, Pavol: Study of secondary phases precipitation in steel 17 349 (AISI 316L) after isothermal holding time 900°C

Homporová, Petra: Transformation kinetics in titanium alloys

Behanec, Dušan: Influence of the roughness on the surface of steel S235JRG1 on the formation of the boride layer

Bakajová, Jana: The dependence of US signal intensity upon the macroscopic measuring result of specified welded joints defects
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RNDr. Igor Jančuška, PhD. Czech Republic ČVUT Praha

Mgr. Jozef Kraľovič, PhD. Czech Republic AV ČR Brno
doc. Ing. Maroš Martinkovič, PhD. Czech Republic VŠB TU Ostrava

 Association for Heat Treatment of Metals of the Czech Republic
prof. Ing. Peter Grgač, CSc.

Minerals, Metals and Materials Society
doc. Ing. Jozef Janovec, DrSc.

International Union of Crystallography (IUCr)
doc. Ing. Lubomír Čaplovíč, CSc.
Ing. Viera Trnovcová, CSc
doc. Ing. Jozef Janovec, DrSc.

European Physical Society
doc. Ing. Marián Kubíša, PhD.
Ing. Viera Trnovcová, CSc.
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Ing. Roman Čička, PhD.
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Czech and Slovak Crystallographic Society
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Ing. Martin Kusý, PhD.
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Mgr. Andrej Dobrotka

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Mgr. Viera Kaššáková, CSc.
Ing. Roman Čička, PhD.
RNDr. Igor Jančuška, PhD.
Mgr. Jozef Kraľovič, PhD

Union of Slovak Mathematicians and Physicists
Ing. Viera Trnovcová, CSc.
Mgr. Ondrej Bošák

Slovak Academy of Science/ Metal Science Society
doc. Ing. Jozef Janovec, DrSc.
doc. Ing. Maroš Martinkovič, PhD
Ing. Lýdia Trnková, PhD.
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Ing. Mária Hudáková, PhD.
In: Vedecké práce MTF STU v Bratislave so sídlom v Trnave. - ISSN 1336-1589. - Nr. 24 (2008), pp. 65-69


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Institute Departments  
• Department of Applied Mechanics  
• Department of Technological Devices and Systems

Staff  
• Professors: 2  
• Assoc. Professors: 3  
• Senior Lecturers: 15  
• Research Fellows: 2  
• PhD Students: 2

Study programmes  
• Production Devices and Systems  
• Mechatronics of Production Devices and Systems

Research targets  
• intelligent workpiececlamping  
• thematic network on manufacturing technologies  
• new concept of integrated multifunction manufacturing system  
• modelling, analysis, simulation and experimental investigation of machine aggregates as mechatronic systems  
• investigation of new 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  
• numerical simulation of heat transfer processes, fluid-structure interaction  
• reserach and development in the field of theoretical and applied mechanics
The research works at Institute of Production systems and Applied Mechanics are focused to support and development of several degrees of studying subjects realized at our institute. The following studying subjects are focused to support and development of several degrees of studying subjects realized at our institute, bachelor degree: Production Devices and Systems, Mechatronics of Production Devices and Systems, master degree: Production Devices and Systems. Our institute takes part in the PhD degree study program Machine Technologies and Materials. The research activities of our institute are focused on solving actual tasks from the field of production systems and devices and applied mechanics so as to support the institute staff’s professional growth.

Main topics of research activities:

- Flexible manufacturing systems,
- Intelligent clamping systems,
- Special production systems,
- Pneumatics and electro-pneumatics in control systems,
- Material flow in production,
- Use of computers in design and manufacturing of machines and devices,
- Modeling, analyses and simulations of mechanical systems and machine aggregates,
- Mechatronical principles application to production devices,
- Methods of diagnostics and identification,
- Mechanical systems reliability,
- Vibrations, acoustics and biomechanics,
- Determination of cooling characteristics for heat treating mediums,
- Mechanical, thermal, fluid and other analyses for mechanical parts of machine and skeletons,
- Modeling, numerical simulations, analyses and optimisation for processes of forming, welding, founding and heat treatment.

Our institute has at this time the following laboratories: laboratory of robotics, virtual laboratory of pneumatics and electro-pneumatics systems, laboratory of pneumatics, FESTO laboratory, laboratory of CAD systems, laboratory of machine mechanics, laboratory of tribology, laboratory of thermo and fluid mechanics, laboratory of numerical analyses, laboratory of modeling, laboratory for vibration and acoustics research, mechanical workshop.

In the frame of cooperation between research and praxis our institute has cooperation with several industrial enterprises and research centres (FESTO spol. s r.o. Bratislava; SMC Priemyselná automatizácia spol. s r.o. Bratislava; ZF Sachs Slovakia, a.s. Trnava; TOMA INDUSTRIES spol. s r.o. Trnava; ŽOS, a.s. Trnava; INA Skalica, spol. s r.o. Skalica; VIJE, a.s. Trnava; EBO Slovenské elektráre, a.s. Jaslovoú Bohunice; JAVYS, a.s. Jaslové Bohunice; AllDeco, spol. s r.o. Jaslovske Bohunice) and by institutes of SAV.

An important part of the research activities of our institute is represented by cooperation with abroad universities. Most important partners are TU Vienna, TU Miskolc, TU Cluj-Napoca, TU Poznań, VUT Brno, UTB Zlín, VŠB Ostrava, TU Brašov, TU Chamnitz, ZČU Plzeň, TU Lževsk, and a lot more.

Results of our research activities are presented at domestic and international scientific journals and conferences and symposiums. These results are applied to educational processes at our institute too.
robot is not used. Exchange grippers for manipulation and assembly are installed on end effector -vertical axis of system parallel with spindle. Implementation of this concept projected like flexible production-assembly cell brings smaller occupied place, smaller expense, and higher ratio of production device usefulness.

**VEGA 1/0837/08 (01.01.2008-31.12.2010)**

RNDr. Mária Behúlová, CSc.

Design and optimisation of innovative forming and heat treatment technologies supported by FEM simulation.

Submitted project is focused on the application of advanced approaches to the design, analysis and optimisation of chosen innovatives forming processes including incremental deformations in order to achieve final products with very fine microstructures and specific material properties. From the theoretical point of view, the project should contribute to advance in knowledge in the field of material behaviour under conditions of intensive deformations, to the explanation of physical and metallurgical reasons of microstructure development in the processes of incremental forming and their influence on the material, technological and utility properties of chosen materials. Further the attention will be aimed at the study of rapid solidification processes during thixoforming. The object of project creates also the development, verification and application of new simulation models, material models and computing procedures for numerical simulation of forming and heat treatment process.

**VEGA 1/0721/08 (01.01.2008-31.12.2010)**

doc. Ing. Bohumil Taraba, CSc.

Quantification of cooling properties of coolants in the field of heat thermal treatment processes supported by computer modeling supor of dominantly thermal technological processes.

Project is oriented on research of transfer phenomena by cooling of parts in chosen coolants used in industrial production. The aim is the quantification effect of coolants on vertical, horizontal and skewed parts surface. By experimental temperature measurement in the chosen point of the cooled part and with the numerical simulation support it is possible to predict the combined heat transfer coefficient as the surface temperature function, momentary heat fluxes from cooled surface and cooling rates.

**VEGA 1/0832/08 (01.01.2008-31.12.2010)**

Ing. Helena Kraváríková, PhD.

Thermo-mechanical analysis of the welding process using the experimental and modeling by the finite element method.

Modeling and simulation of melt welding process is a very demanding process requiring experience and special knowledge of the welding technology, heat transfer and exploitation of computer techniques. By appropriate application of these skills, you can obtain solution to specific problems in the field of welding process, such as residual thermal stresses and deformations of welded materials or structural changes of phases in heat affected zone (HAZ). Structure changes in HAZ are caused by changed temperature as a result of introduced heat into weld. Structure changes in HAZ cause changes of mechanical properties of welded materials. Stress gradient is high in HAZ, because of its thickness. Measurement of parameters obtained from experiments are used for verification of results achieved by FEM. Engineering scientific software ANSYS is suitable for solving thermo-mechanical analysis of the welding process by FEM. Structure changes in HAZ could be satisfactorily solved by software SYSWELD.

**VEGA 1/0090/08 (01.01.2008-31.12.2010)**

Ing. František Pecháček, PhD.

Optimised systems and processes of performance ultrasound. Project is a base research oriented on ultrasonic tool resonators for technology applications of ultrasound. Amplitude and frequency parameters of ultrasonic piezoelectric converters, wave conductors, concentrators and tools are being analysed.

**LIST OF SUBJECTS GUARANTEED WITH THE INSTITUTE**

- Applied Mechanics
- Assembly Machines
- Bachelor Project
- Bachelor Thesis
- Computer Aided Design
- Cutting Tools
- Design of Production Systems
- Diagnostics of Production Devices
- Diploma Project
- Diploma Thesis
- Elasticity, Strength and Plasticity
- Finite Element Method in Production Technologies
- Fixtures and Technological Equipment of Production Machines
- Fixtures
- Fundamentals of Engineering Desing
- Fundamentals of Engineering Desing and Technical Documentation
- Fundamentals of Mechatronics
- Hydromechanics and Thermomechanics
- Industrial Robots and Manipulators
- Logistics of Production Systems
- Machine Parts and Mechanisms
- Machine Tools
- Machines for Special Technologies
- Mechanics of Fluids and Thermomechanics
- Mechanics of Materials
- Mechanics of Production Machines
- Mechanics
- Mechatronics
- Modeling and Simulation of Technological Processes
- Noise and Vibration
- Operation and Maintenance of Production Technique/Devices
- Operation of Production Systems
- Practice
- Practice in Strength, Rigidity and Plasticity
- Practice on the Fundamentals of Engineering Design
- Production Devices
- Production Logistics
- Production Process Planning
- Production Systems
- Programming of Production and Manipulating Devices
- Reliability and Safety of Technical Systems
- Reliability of Technical Systems and Products
- Semestral Project
- Solid Mechanics
- Technical Documentation
- Technological Equipment of Production Machines
- Technological Process Modelling and Simulation
- Theory of Automatic Machines
- Theory of Industrial Heating and Furnaces
- Thermodynamics
**Bachelor theses**

Peško, Michal: The algorithmic proposal for inside spur gear for application in a more radial head

Omelka, Tomáš: Characteristics of a flexible manufacturing system and its recent application in mechanical engineering practice

Krajčová, Katarína: Diagnostic methods of inspecting the technical conditions of machineries and devices

Szabo, Zoltán: Electro-hydraulic control of moulding press

Bačo, Michal: Hypothetic project of single-purpose cutter machine for selected component

Lančarič, Ivan: Hypothetic project of single-purpose drilling machine for selected component

Ivančíková, Zuzana: Draft of Ideas for Improvement of Line MV1-POM Performance in PCA Slovakia Trnava

Daniš, Jerguš: Complex solution of forging tools renovation

Havran, Štefan: Conceptual design for conveying equipment suitable for coal transport

Gyurcsovics, Gabriel: Methodics creation of automatized manipulator with pneumatic control

Prochážka, Peter: Modernisation of six-spindle automatic machine in the conditions of INA SKALICA

Gavlas, Juraj: Fitting-on PLC controlled in process automation furnished

Žilinský, Branislav: Design for a pneumatic circuit of the bow control and the brake system of the two-system electric railway engine

Figura, Lukáš: Proposal of pneumatic circuit for education purposes

Šuhajda, Peter: Workplace allocation design according to the material flow and relationship between operations for designated semi-product

Žilinská, Silvia: Design of production system for producing a chosen semi-product. (Comparison - forging - cast - workpiece)

Pompura, Marek: Design of production system for producing selected semi product (Comparison for a pressing - a weldment)

Kopka, Radoslav: Pneumatic control in selected automated devices

Drška, Pavol: Application of gear drives with nonparallel and nonintersecting axes

Horváth, Mário: The pressure control elements application by hydraulic control system of automated systems

Kollár, Andrej: Working environment of production equipment

**Masters theses**

Kopas, Andrej: Automation of dotting assembly workplace of the production line

Brisuda, Jaroslav: Time analysis of assembly process linear pneumatic motor in assembly unit

Sondej, Andrej: Solution of material flow of the linear pneumatic motor assembly process

Kovács, Ladislav: Frequency analysis in vibrodiagnostics of technological equipments

Evanič, Martin: Information system for secured dependability program of production systems

Sýkora, Ján: Handling tool with load capacity aprox. 200 kg - lifter for depositing workpieces on the tool machine

Hrčka, Marek: Methods of analysis of possible failures in production systems

Miškovič, Oto: Model and simulation of disassembly process required product on the flexible manufacturing cell

Gebrlin, Branislav: Technological designing Model of Production system for production of select semi-product

Varga, Štefan: The proposal of automatic and measuring workplace for loading mechanical aggregates

Tahotný, Peter: Project of intelligent operating sequences in the flexible Production cell on the Institute of technological devices and Production systems

Koleno, Miroslav: Proposition of optimization of material flow of production system for assembly of select raw product

Blažek, Marián: Preposal antivibration and antinoise precautions in the flexible manufacturing cell

Rozboril, Pavol: Design of teaching stand with stepper motor

Auschenschwandtner, Dušan: Optimization of Cutting and Pressing Machine Komax 433

Mikuš, Július: The optimization lines of production in welding shop for 5-door version of vehicles body

Vítek, Peter: Computer simulation of kinematic design clutch gripper

Chovanec, Martin: Predictive analysis of possible failures of production systems
Šilhár, Martin: Optimization of Automatic Machine
Kubičková, Lucia: Remake of producing process of specialized tempered safety glass production
Godál, Daniel: Mechanical gripper calculation - numerical simulation of contact deformations
Švrček, Lukáš: Formation of an algorithm for selecting an element's multiple spindle heads following technological parameters of product

Dissertations
Danišová, Nina: Intelligent manufacturing systems: Design of intelligent manufacturing cell
Zvolenský, Radovan: Disassembly of automation process: Methodology of automated disassembly device design

FOREIGN VISITORS TO THE INSTITUTE
Miroslav Grzelka, MSc., PhD. Poland TU Poznań
Sinica Kuzmovic, prof. MSc. Eng. Serbia TU Novi Sad
Alexandar Makedonski Bulgaria TU Sofia
Georgi Popov, prof. Bulgaria TU Sofia
Piotr Mikolaiczak, Dr. Poland TU Poznań
Gabriela Lobontiu, Dr. Romania North University of Baia Mare
Prof. Csaba Gyenge Romania TU Cluj – Napoca
Prof. Peter Koštál, PhD. Hungary TU Miskolc – MTF
Imrich Lukovics Czech Republic Univerzita Tomáše Bati ve Zlíně – MTF

VISITS OF STAFF MEMBERS TO FOREIGN INSTITUTIONS
prof. Ing. Karol Velišek, CSc. Austria TU Viedeň; Czech Republic Univerzita Tomáše Bati ve Zlíně; Austria TU Viedeň; Poland TU Poznań; Poland Politechnika Poznań; Austria TU Viedeň; Egypt Univerzita Káhira; Czech Republic UTB Zlín; Romania TU Cluj – Napoca; Austria TU Viedeň; Israel TU Technion Haifa; Czech Republic VUT Brno; Slovenia TU Maribor; Romania TU Brașov; Romania TU Baia Mare; Cuba TU Magdeburg; Czech Republic VŠB TU Ostrava; Poland CMG KOMAG; Hungary TU Miskolc
prof. Ing. Milan Turňa, PhD. Hungary TU Miskolc; Slovenia TU Maribor; Poland Politechnika Poznań; Austria TU Viedeň; Egypt Univerzita Káhira; Czech Republic UTB Zlín; Romania TU Cluj – Napoca; Austria TU Viedeň; Israel TU Technion Haifa; Czech Republic VUT Brno; Slovenia TU Maribor; Romania TU Brașov; Romania TU Baia Mare; Cuba TU Magdeburg; Czech Republic VŠB TU Ostrava; Poland CMG KOMAG; Hungary TU Miskolc

doc. Ing. Peter Koštál, PhD. Hungary TU Miskolc; Slovenia TU Maribor; Poland Politechnika Poznań; Egypt Univerzita Káhira; Romania Universitatea Transilvania; Cuba TU Magdeburg; Poland CMG KOMAG; Poland Politechnika Krakow; Hungary TU Miskolc; Hungary TU Miskolc

RNDr. Mária Behúlová, CSc. Czech Republic Západočeská univerzita Plzeň; Czech Republic Cesko-slovenská společnost pro růst krystalů; Cuba TU Magdeburg
doc. Ing. Jozef Mudrik, CSc. Czech Republic VUT Brno; Czech Republic VUT Brno; Czech Republic VUT Brno; Czech Republic VUT Brno
Ing. Marcela Charbulová Czech Republic ČVUT Praha
Ing. Milan Nad, CSc. Czech Republic VUT Brno; Czech Republic VUT Brno; Czech Republic VUT Brno; Czech Republic TU Liberec
Ing. Miriam Matušová Croatia Univerzita Zagreb; Romania TU Bukurešť

RNDr. Mária Behúlová, CSc. Egypt Univerzita Káhira; Czech Republic Východočeská univerzita Plzeň; Germany IFW Dresden; Czech Republic VUT Brno
Ing. Tibor Nánási, CSc. Czech Republic VUT Brno; Czech Republic VUT Brno; Czech Republic ZČU Plzeň
Ing. Eva Labašová, PhD. Czech Republic PF UP Olomouc
Ing. Andrea Mudriková, PhD. Bulgaria Univerzita Sofia
Ing. Marcela Charbulová Bulgaria Univerzita Sofia; Romania TU Baia Mare
Ing. Helena Kravárková, CSc. Czech Republic Východočeská univerzita Plzeň
doc. Ing. Peter Koštál, PhD. Israel TU Technion Haifa; Hungary TU Miskolc; Czech Republic VUT Brno; Romania TU Baia Mare
Ing. František Pecháček, PhD. Poland TU Poznań; Czech Republic VUT Brno
Ing. Rastislav Šuľiš Czech Republic ZČU Plzeň; Greece CST 2008
doc. Ing. Bohumil Taraba, CSc. Bulgaria UCTM Sofia
Ing. Nina Danišová, PhD. Romania TU Baia Mare
Ing. Erika Hrušková Romania TU Bukurešť

MEMBERSHIPS IN INTERNATIONAL PROFESSIONAL ORGANISATIONS

DAAM
prof. Ing. Karol Velišek, CSc.

Österreichischer Ingenieur- und Architekten-Verband
prof. Ing. Karol Velišek, CSc.

Machine Tools Association, Prague
prof. Ing. Karol Velišek, CSc.
Ing. Marcela Charbulová

European Acoustical Association
Ing. Tibor Nánási, CSc.

The Czechoslovak Association for Crystal Growth
RNDr. Mária Behúlová, CSc.

MEMBERSHIPS IN SLOVAK PROFESSIONAL ORGANISATIONS

Slovak Acoustical Society
Ing. Tibor Nánási, CSc.
Ing. Milan Nad, CSc.

Technical Commission 21 SÚTN Bratislava
Ing. Tibor Nánási, CSc.
International Academy of Informatisation

Mechanical Devices Engineering Association

Machine Tools Association
Ing. Peter Košťál, PhD.
prof. Ing. Karol Veľšiek, CSc.

Slovak Associations of Mechanical Engineers
prof. Ing. Karol Veľšiek, CSc.
Ing. Peter Košťál, PhD.
Ing. František Pečaček, PhD.

Slovak Academy of Science/ Slovak Mechanical Society

Slovak Academy of Engineering

Technical Commission 66 SÚTN Bratislava
Ing. Milan Nad, CSc.

Technical Commission 57 SÚTN Bratislava
Doc. Ing. Bohumil Taraba, CSc.

Technical Commission 58 SÚTN Bratislava
Doc. Ing. Bohumil Taraba, CSc.

Technical Commission 81 SÚTN Bratislava
Doc. Ing. Bohumil Taraba, CSc.

Technical Commission 21 SÚTN Bratislava
Ing. Milan Nad, CSc.

PUBLICATIONS

BOOKS


TEXT OF BOOKS

JOURNALS


Pečaček, František - Charublová, Marcela: Unit-construction fasting systems. In: Strojárstvo - Strojírenství. - ISSN 1335-2938. - Vol. 12, Nr. 9 (2008), pp.191/5-192/5


Taraba, Bohumil: Influence of the material probe at energy transfer into cooling oil using the Wolfsen test. In: Vedecké práce MF TU v Bratislave so sídom v Trnave. - ISSN 1336-1589. - Nr. 24 (2008), pp. 205-210

CONFERENCES


INSTITUTE OF PRODUCTION TECHNOLOGIES

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Institute Departments
• Department of Welding
• Department of Machining and Assembly
• Department of Foundry
• Department of Forming

Staff
• Professors: 6
• Assoc. Professors: 10
• Senior Lecturers: 12
• Research Fellows: 8
• PhD Students: 35

Study programmes
• Computer-Aided Production Technologies
• Production Technologies
• Machining and Assembly
• Computer-Aided Design and Production
• Forming
• Welding and Joining Materials
• Engineering of Co-ordination and Inspection in Welding
• Industrial and Art Casting
• Powder Metallurgy
• Machine Technology and Materials

Research targets
• soldering and brazing
• explosive welding
• weldability of steels
• welding plastic materials
• surfacing and tribology
• adhesive bounding
• foundry technology – preparation of the molten metal
• preparation of moulding materials
• powder metallurgy – technology of powder processing
• plasma-electrolytic technology – surface treatment of metals
• art foundry
• development of new foundry alloys
• theory of machined parts manufacturing, creatics, measurement and assembly
• CIM, CAD/CAM, CAPP, CAQ, CAA
• 3D art engraving
• manufacturing of dies
• quality of measurement
• formability of new materials
• high parametrical forming
• hardening surface layer
• experimental methods for forming
• computer simulation
RESEARCH CHARACTERISTICS

The research of the Institute of production technologies is oriented to the industrial technologies with respect to research and development in the sphere of high-tech technologies. The main fields of the industrial technologies on the Institute of production technologies are: machining, forming, foundry and welding.

Key directions of scientific research activity of the Institute of production technologies are focused on the support of the development of individual science and educational branches. It is safeguards to the responsibilities for the special growth of workers. The attention is devoted first to the actual and perspective questions related with industrial technologies in conditions of SR, at which are made provision for international trends as well as the integration processes to EU. Mark of scientific research work and activity are determined with originality of scientific orientation of the teachers and scientific research workers, material supply of main workstations and of the solution of scientific and socially best known questions of social work. The Institute of production technologies is oriented to the trans-regional own pedagogic and scientific activity in many aspects, cooperates and enlarging the co-operation with the more renowned scientific research institutes abroad. International co-operation in research is implemented mainly with the change of information, results, knowledge for education of PhD students (fellowships, educational visits, workshops).

The scientific directions of main workstations are determined to the long time and covered the production and technological aspects of exploitation of all resources and solutions of the actual questions in a given branches. The lay of projects is oriented mostly to the production technologies in co-operation with industrial practice on the basic of actual global problems.

Center of sphere of the scientific research are:
• Production and controlling of components with complex form and strict surface.
• Numerical simulation and optimization of production in surface and volume forming of the metallic materials - prediction of formability.
• Modification of surface of the stainless steel with plasma discharge in electrolyte.
• Art casting.
• Classical and special method of joining, cutting metallic and non-metallic materials.
• Tribology and surface engineering.

All important and original results are presented in our institute on the seminars and conferences at home and abroad, are published in reviewed or non-reviewed scientific journals and in the professional journals.

The results from the research activity are transferred to the educational process within the subjects also the solution of bachelor, diploma and PhD works.

NATIONAL PROJECTS

Ing. Ladislav Morovič
THE IMPLEMENTATION OF EUROPEAN CREDIT TRANSFER SYSTEM INTO THE SHORT TIME HIGHER EDUCATION WITHIN BOLOGNA PROCESS AT TECHNICAL UNIVERSITY OF CLUJ NAPOCA
The present CEEPUS proposal intends to continue the actual CII-RO-0058-02-0607 (CII-RO-0058-01-0506) network focused on ECTS at academic long time studies in the frame of Bologna process. The result will be the establishment of ECTS for the new specializations "Industrial Engineering" and "Economical Engineering" beginning at Alba Iulia in 2006. It is connected with other networks, developed since 1999 till present such as Ro103, Ro129, using the acquired information and materials developed in the frame of these networks.

Ing. Ladislav Morovič
Geometrical Product Specifications - a new tendency in the design and implementation of technological processes
To produce goods or provide services companies need standards. Standardization is applied to achieve a certain level of orderliness that is optimal under specific circumstances by formulating procedures for general and repeated use and providing solutions to the existing or possible problems. In industry standards are necessary, for example, to specify the ways of communication and preparation of documents at the particular stages of product design and construction. They are responsible for process smoothness and the quality of semi- and finished goods. Of significance are also the quality assessment and control methods.

INTERNATIONAL PROJECTS

prof. Dr. Ing. Jozef Peterka
The main purpose of the project is to expand theoretical concept CAD-CAM-CNC on concept CAD-CAM-CNC-CAQ-CAD and experimentally verify this new concept in the field of manufacturing of free form surfaces and in the field of assembly parts with free form surfaces in conditions of university.

prof. Ing. Koloman Ulrich, CSc.
Non-deformation welding of indoor beams by four torches
The research deals with non-deformation welding technology and the design of functional nods model of a single-purpose welding machine by four torches for welding the indoor beams. The welding machine has the high shape and dimension adaptability with the exploitation of a completely new method of arc automatic MIG/MAG welding methods by four torches simultaneously in horizontal and overhead positions from both sides of l-shaped indoor beam by fillet weld. The new technology will increase the productivity and quality of the welded indoor beams’ production.

doc. Ing. Augustin Görög, PhD.
Accurary of machining and machine tools

APVV-0057-07 (08.08.2008-09.08.2008)
doc. Ing. Milan Marônek, CSC.
Research into welding and forming the nitrooxidation-treated steel sheets.

The nitrooxidative layers enhance significantly mechanical and anticorrosive properties of metal sheets. The project deals with the research of nitrooxidative layers making on metal sheets, the research of appropriate welding methods of such treated plates and with the study to forming and corrosive resistance of made weld joints. In the field of welding the basic characteristics of made weld joints will be studied (shape, structure, mechanical properties, weldability) by using the advanced technologies of welding of nitrooxidatively treated sheets.
Analytic theory of machining worked till now mainly by mathematical tools of lower level and did not utilize the possibilities of various mathematical and physical methods. Some machining problems are possible to solve by using procedures and methods utilized in other scientific discipline (transformational and rheological methods). We can also use the Mathematical analysis, Dimensional analysis, Energetic analysis, especially in Dynamics of machining, in machining forces theory, in Thermodynamics of machining (thermic and temperature conditions) and in research of all attendant phenomena in machining.
VEGA 1/0354/08 (01.01.2008-31.12.2010)
Ing. Štefan Podhorský, PhD.

The technologic and the enviromental aspects of the plasma-electro-lytic process used for stainless steel polishing

The subject of the project is a new, unconventional method of the polishing and the surface finishing of stainless steel products - the technology of plasma polishing. The technology utilizes physical effect of the electric discharges onto the metal surface sunken in an electrolyte.

VEGA 1/0130/08 (01.01.2008-31.12.2010)
Ing. Peter Pokorný, PhD.

Research of influence of CAM strategies on achieved dimension accuracy and roughness of machined surface in conditions of university Hi-tech laboratory.

The project is focused on research of influence CAM strategies 3D milling (for example raster, spiral, offset, box etc.) and 4D milling of parts with free form surface on achieved accuracy of dimensions and achieved roughness of machined surfaces.

VEGA 1/0060/08 (01.01.2008-31.12.2010)
doc. Ing. Jozef Bílik, PhD.

Numerical simulation and experimental verification of laser welded tailored blanks formability for the automotive industry.

The project submit a proposal of formability prediction of laser welded tailored blanks of different thicknesses and properties using the numerical simulation and its subsequent experimental verification. The aim of the project will be to observe the kinds of tailor welded blanks failure and welded joints location influence on their formability.

VEGA 1/0381/08 (01.01.2008-31.12.2010)
doc. Ing. Roman Koleňák, PhD.

Study of effect of physico-metallurgical aspect of high-temperature brazing on the structure of joints in metallic and ceramic materials.

The physico-metallurgical characteristics of high-temperature brazing of high-alloy steels Ti, Ta, Mo, Co alloys etc. were investigated, Structural characteristics of brazing alloy during high-temperature brazing were studied.

LIST OF SUBJECTS GUARANTEED WITH THE INSTITUTE

Adhesive bonding
Aperature of artistic castings
Assembly machines
Assembly Technology
Assembly Technology and CAA systems
Assembly Theory
Atelier of Modeling and Production of 3D Products
Bachelor project
Bachelor thesis
Basis of Assembly
Basis of CAx technology
CA systems and computer simulation processes
CAD/CAM Systems
CAPP systems of Process Planning
Castings design considerations
CAx technologies
Complex Systems Quality
Computer aid in foundry and PM
Computer Aided Productions Technologies
Design and manufacturing of welding constructions
Disertary Project
Effects of foundry technology on environment
Equipment for foundry and metal casting
Experimental Methods in Forming
Experimental Methods in Machining
Final project
Finishing Methods of Machining
Flat Forming
Flexible Production Lines for Forming Process
Forming Machines
Forming Process Automation
Forming Tools
Foundry technology
Fundamentals of manufacturing technologies and systems
Geometrical Product Specification
Graduate project
Graduate thesis
Industrial Technologies and Production Devices
Information and control technology in welding
Inspection in welding
Investment casting for artistic purposes
Machine Tools and Fixtures
Machine Tools and Tools
Machines and equipment in foundry and PM
Machines and Tools for Forming
Machining and Forming Theory
Machining Technology
Machining Technology and Metrology
Machining Theory
Maintenance and renovation
Materials joining
Measuring and Control Parameters of Products
Mechanization and Automation
Mechanization and Automation in Machining
Metrology
Metrology and CAx systems
Metrology and Testing
Non-conventional metallurgical processes
Non-conventional mould production
Opening Computer aided of production technologies
Optimization of Forming Processes
Optimization of Forming Processes for Small-Lot Production
Paedeutical Activity
Performance of production systems
Planning of welding manufacture
Practice
Preparation of castings and PM parts production
Production Process Planning
Production processes and systems in foundry and PM
Production System
Programming NC machines
Programming Practice
Progressive methods of measuring parts
Progressive Machining Methods
Progressive Methods of Assembly Machines Products
Projecting of Forming Tools by Computer
Projecting of production processes and systems
Projecting of production systems
Quality and casting defects
Quality control of weld joints
Research Work
Safety of Machines and Production Facilities
Selected Clauses from Theory and technologies casting
Selected Clauses from Theory and technologies forming
Selected Clauses from Theory and technologies machining, metrology and assembly
Selected Clauses from Theory and technologies welding
Semestral Project
Simulation of Forming Processes
Soldering
Special Technologies of artistic castings production
Special Technologies of casting
Special welding and cutting methods
Studio of modeling and production 3D products
Technical Preparation of Production in Forming
Technical Preparation of Production in Machining
Technological Design
Technological Process Modelling and Simulation
Technologies of special cast iron preparation
Technology of composite materials processing
Technology of Forming
Technology of materials production
Technology of powder metallurgy
Theory of Forming
Theory of foundry
Theory of foundry and welding technology
Theory of welding
Tribology and surface engineering
Volume Forming
Welding and casting machines
Welding fixtures
Welding machines and equipments
Welding technology

GRADUATE THESIS

Bachelor theses

Mikyška, Tomáš: Adhesive bonding in the automotive industry
Hrušovská, Dominika: Analysis of energetic savings for production of drope stampings
Buchanec, Ivan: The analysis of the cut off layer cross-section in lathe turning of trapezoid threads
Sojak, Ivan: The analysis of compacts shapes manufacturable by die pressing of powders
Pročka, Tomáš: Analysis production decision milling
Duračka, Andrej: Application of lead-free solders in settings of company Delipro Piešťany
Kirišová, Veronika: The application of welding preparations in process of resistance welding
Kirišovský, Peter: Resistance butt welding application
Krutý, Igor: Point Welding in Automobile Industry
Lütthmerding, Matej: CAM for 5D cutting

Jadrný, Radovan: CAM strategies in machining
Haršányi, Ondrej: CAPP systems in engineering
Brečko, Tomáš: CAQ and information quality assurance
Servátka, Stanislav: CNC tool machines
Hejed, Kristián: Metrological laboratory gauges databases
Desát, Martin: Diffusion welding of ceramics and ceramics with metals
Sékely, Andrej: Diffusion welding of combined metals
Forro, Roman: Roughness of the Processed Surface
Soviš, Vladimír: Electronic stabilization systems for automobile
Valent, Peter: Einschätzung und Regulierung der Flüssigkeit des mit dem Wasser bespritzten Pulver
Májek, Miroš: Evaluation of fracture toughness in transition regime by master curve conception
Bodišová, Petra: Implementation of CAD system CATIA in automobile industry
Trklová, Lubica: Lubricant additives and friction stabilizers used in PM sliding and friction materials
Varkaš, Peter: Check of quality of adhesive joints
Magula, Jaroslav: Welded joint quality made by laser
Hrčka, Miroslav: Technology of production angular extracts
Stemmer, Robert: Measurement of shakiness during turning
Nagová, Mária: Methods of welding aluminium and steel
Raček, Roman: Methods mode of production dust bare metal
Laczo, Peter: Installation of the binder room at company Johns Manville
Pátoprstý, Róbert: Design of installation lighting device
Gejdoš, Karol: Design of coupling devices for passenger and commercial motor vehicles in company GALIA SLOVAKIA s.r.o.
Mravec, Ivan: Suggestion of welding technology for Mg alloy-Titanium joint
Molnár, Imrich: Suggestion of brazing and soldering technology for Mg alloys with dissimilar metals
Čížmárik, Rastislav: The project of technology and production of the tenons and mortises by the company UT - Umwelt und Transporttechnik, s.r.o. Dolná Streda
Mezzey, Peter: Optimization of TECHNOLOGICAL WELDING PROCEDURE for Horizontal Heat Exchanger W701
Masters theses

Habán, Michal: Analysis of cast tool steel of forging die molten into accurate ceramic moulds

Vook, Peter: Animation and simulation in assembly

Koryťáková, Ivana: Application of logistics methods to the optimization of material flow in the drop-forging firm

Trhan, Miroslav: CA treatment and manufacturing of checking fixture of interior plastic part

Mikeska, Martin: Electrical Discharge Machining - video

Balážik, Pavol: Graphic simulation of CNC machining process

Omámik, Michal: Evaluation of efficiency and production’s quality of shaped surfaces by milling

Ješko, Peter: Management of gauges, measuring accuracy devices and measuring accuracy equipment for machining

Muchová, Mária: Informative assurance of technological activities

Šaur, Miroslav: Chart of shaped surfaces produced by machining

Vargová, Elena: Measurement of machine tool guide inaccuracy by optical method

Hrušovská, Marcela: Detection cut tools wear

Protoš, Marian: Metallurgical Joining of Zinc Coated Sheets Using the CMT Method

Barek, Adrián: Metallurgical bonding of Ti with chosen light alloy

Šikuda, Ondrej: Modification of selfsolidified ST silicate assortments by natrium metylsilane

Zbojanová, Jana: Morphological and tribological conditions of superfinishing

Vrtochová, Tatiana: Possibilities of renovation of selected tools with laser weld deposition

Kupec, Peter: Welding of tin to copper by explosion

Hengerics, Tomáš: Design of assembly of a lifting device

Petrášek, Pavol: Employment of CA Technologies in Design and Manufacture of a Medal

Porubská, Eva: Proposal and production of pressing tool for automobile-car industry

Blaško, Marek: Activities of informations management

Kuhák, Peter: Project of the system for measurement properties of the cutting fluid

Ivanovič, Pavol: Proposal technology produce traverse
Gál, Alexander: Study of Intermetallic Compound Growth of Lead-free Solder Joints

Džúr, Peter: Study the effect of heat treatment on structure and properties of high speed steels for cast cutting tools

Asztalosová, Zuzana: Theory of cutting forces during the finishing operations

Vičan, Branislav: Create a test module for programming on CNC machines

Miknič, Miloš: The wear resistant layers creation by laser beam surfacing

Lechovič, Emíť: Influence of Bi to the lead-free solder joints lifetime and their reliability

Barták, Michal: Effect CAM strategy 3D milling on make dimensions area

Slíž, Juraj: Effects of zinc elimination on quality weld at the resistance welding

Ester, Jozef: The Effect of Turning Process on Dynamical Behaviour of Cutting Tool

Mičuneková, Mária: Influence of superfinish tools at an abrasiveness worked surface

Horváth, Michal: Influence of technological factors on the accuracy of the part for cutting

Filo, Richard: Chosen aspect of copy milling

Kopůnek, Tomáš: Production of Selected Components in TOMA INDUSTRIES L.t.d. Trnava

Hrčka, Roman: Research of Mg alloy welding with aluminium by electron beam welding

Schwarz, Ladislav: Creating of abrasive wear resistance surface coatings with laser weld deposit using rod as an additional material

Jelinková, Ivana: Utilization of Reverse Engineering in design and manufacturing free form surface

Hrnčiarik, Tomáš: The utilization of simulation programmes in the forging technology design

Vojtech, Marek: Assessment of GTAW and Nd:YAG laser welding technologies applied for welding CrNi steels

Dissertations

Lisický, Peter: Analysis of the degradation effect of the deformation cycle in welding

Plíkna, Lukáš: Corrosion properties of the two-phase steels welded joints prepared by laser beam

Špilová, Dana: Analysis of elastic and plastic deformations of steel plates by bending on different strain degree

FOREIGN VISITORS TO THE INSTITUTE

Daniela Popescu, prof. Dr. Romania TU Cluj – Napoca – MTF (UVTE)
Sorin Dumitră Grozav Romania TU Cluj – Napoca – MTF (UVTE)
Valentina Gecevska, prof. Macedonia SS. Cyril and Methodius University in Skopje – MTF (UVTE)
Chris Smallbone, past IIW president, Australia

VISITS OF STAFF MEMBERS TO FOREIGN INSTITUTIONS

Ing. Peter Pokorný, PhD. Czech Republic DELCAM Brno

Ing. Ivan Buransky Czech Republic DELCAM Brno

Ing. Erika Hodúlová, PhD. Czech Republic Czech Republic; Austria Fronius Wien; Czech Republic MESAC-ESI Plzeň; Austria TU Graz

prof. Ing. Alexander Janáč, CSc. Czech Republic VUT Brno

prof. Ing. Pavel Blaškovič, DrSc. Austria TU Graz

Ing. Štefan Václav, PhD. Czech Republic ČVUT Praha; Germany Frankfurt nad Mohanom

Ing. Ladislav Morovič, PhD. Czech Republic MCAE Systems, s.r.o. Kuřím

doc. Ing. Mária Kapustová, PhD. Czech Republic Třinecké řezární Třinec

Ing. Ladislav Morovič, PhD. Czech Republic Munich Dvořák, s.r.o. Olšany

Ing. Peter Pokorný, PhD. Czech Republic Delcam Brno; Germany Frankfurt nad Mohanom

doc. Ing. Jozef Jasenák, PhD. Austria fy Wels

prof. Ing. Koloman Ulrich, CSc. Austria Fronius Wien; Austria TU Graz

Ing. Zuzana Turňová, PhD. Austria Fronius Wien; Czech Republic ČVUT Praha

doc. Ing. Pavel Kovačócy, PhD. Austria Fronius Wien

doc. Ing. Milan Marońek, PhD. Austria Fronius Wien; Austria TU Graz

Igor Krčmárik Austria Fronius Wien

Ing. Ingrid Kovaříková, PhD. Austria Fronius Wien; Austria TU Graz

doc. Ing. Viktor Tittel, CSc. Germany Dusseldorf; Czech Republic BVV Brno; Czech Republic VŠB TU Ostrava; Czech Republic Třinecké řezární Třinec

doc. Ing. Augustín Görög, PhD. Czech Republic ČVUT Praha; Czech Republic BVV Brno; Czech Republic VÚT Brno; Czech Republic BVV Brno

prof. Ing. Marián Murgaš, CSc. Macau Milovy; Czech Republic VUT Brno

Ing. Vladimir Půčík Czech Republic BVV Brno

Ing. Eugen Belica Czech Republic FONDLEX

prof. Ing. Alexander Čaus, DrSc. Czech Republic FONDLEX; Spain Universitza Barcelona; Japan Tokyo; Poland Politechnika Krakow

doc. Ing. Jozef Blík, PhD. Czech Republic BVV Brno; Czech Republic VŠB TU Ostrava; Czech Republic VÚT Brno; Czech Republic Třinecké řezární Třinec
MEMBERSHIPS IN INTERNATIONAL PROFESSIONAL ORGANISATIONS

DAAM
Prof. Ing. Alexander Janáč, CSc.
Prof. Ing. Jozef Peterka, PhD.

American Welding Society
prof. Ing. Milan Turňa, PhD.

Czech Welding Society
prof. Ing. Milan Turňa, PhD.

Czech Society for New Materials and Technologies
doc. Ing. Pavel Kovačócy, PhD.

International Institute of Welding (Commisions)
prof. Ing. Koloman Ulrich, PhD. – delegate XIII, XV.
prof. Ing. Pavel Blaškovišt, DrSc. – delegate XII.
doc. Ing. Milan Marônek, PhD. – expert XII, XVI.

International Tribology Society
prof. Ing. Pavel Blaškovišt, DrSc.

MEMBERSHIPS IN SLOVAK PROFESSIONAL ORGANISATIONS

Slovak Welding Society
Ing. Helena Kraváriková, PhD.
doc. Ing. Milan Marônek, PhD
Ing. Erika Hodúlová
Prof. Ing. Koloman Ulrich, CSc.
Ing. Pavel Kovačócy, PhD.
Ing. Vladimír Púčik
doc. Ing. Roman Koleňák, PhD.
Ing. Ladislav Pavlovič
Ing. Marián Kasala
Prof. Ing. Pavel Blaškovišt, DrSc.
DAAM Slovakia
Prof. Ing. Jozef Peterka, PhD.

Slovak Associations of Steel Constructions
Prof. Ing. Koloman Ulrich, CSc.

Section of Production Machines and Equipment
prof. Ing. Ivan Baránek, CSc.

Mechanical Slovak Republic

Prof. Ing. Alexander Janáč, CSc.
Association of Universities of the Third Age
Doc. Ing. Ivan Baránek, CSc.

Slovak Chamber of Commerce and Industry
Doc. Ing. Ivan Baránek, CSc.

Slovak Metrology Society
doc. Ing. Augustin Görög, PhD.

Slovak Academy of Science / Metal Science Society
doc. Ing. Viktor Tittel, CSc.

Nuclear Safety Committee
Prof. Ing. Milan Turňa, PhD.

1st Welding Company, Inc.
prof. Ing. Koloman Ulrich, PhD.

Technical Standard Committee - Welding
prof. Ing. Koloman Ulrich, PhD.
prof. Ing. Pavel Blaškovišt, DrSc.

Technical Standard Committee – Steel Construction
prof. Ing. Koloman Ulrich, PhD.

Slovak Institute of Technical Standardisation
Ing. Peter Pokorný, PhD.
Ing. Štefan Václav, PhD.

Slovak Tribology Society
Prof. Ing. Pavel Blaškovišt, DrSc.

Slovak Society for Tribology and Tribotechnic
Ing. Marián Kasala

Slovak Mechanical Society
prof. Ing. Jozef Baća, CSc.

Slovak Scientific Technical Society
Doc. Ing. Milan Borovička, CSc.

PUBLICATIONS

BOOKS

Koleňák, Roman: Solderability of metal and ceramic materials by active solders.

Chaus, Alexander: Advanced materials and technologies of production of cast cutting tools.

Görög, Augustin: Kinematical element of the surface roughness.

Marônek, Milan - Báta, Jozef: Multimedial guide on the technology of welding.


Pecháček, František - Charbulová, Marcela - Charbula, Jozef: Cutting Tools:


INSTITUTE OF INDUSTRIAL ENGINEERING, MANAGEMENT AND QUALITY

**Director**  Miloš Čambal, Assoc. Professor, PhD.
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**Institute Departments**
- Department of Industrial Engineering
- Department of Management
- Department of Quality Engineering

**Staff**
- Professors: 4
- Assoc. Professors: 8
- Senior Lecturers: 18
- Research Fellows: 4
- PhD Students: 29

**Study programmes**
- Industrial Management
- Production Quality
- Production Quality Engineering

**Research targets**
- progressive forms of manager education
- human resource management
- environmental management
- organizational culture
- project management
- advanced information technologies implementation
- quality control in industrial enterprises, service enterprises and public organisations
- quality of communication with customers
- monitoring customer satisfaction in quality management and marketing
Concept and focus of the research activities:
Research and pedagogical projects within VEGA & KEGA grant agencies
Internationally funded projects
Contractual research and development projects funded by business and industry

Major fields of research: Progressive approaches in the area of the organization management, Human resources management, Development of managerial competences, Knowledge management, Project management, Sustainable development, Ergonomics, Logistics, production, marketing, Quality management

Products and processes certification.

### INTERNATIONAL PROJECTS

**37 IRE 6 (01.06.2005-29.02.2008)**
Prof. Ing. Alexander Lincžényi, CSc.
Development and Implementation of Regional Innovation Strategy in the Self-Governing Region of Trnava

Needs of regional companies, mainly technology-based SMEs in terms of research, innovation and technology development and to compare these needs with the offer of innovation infrastructure in the region, to compare the companies needs in implementing and partner region, to introduce innovation audits into the SMEs.

**11230220391 (01.04.2006-30.09.2008)**
Ing. Ončák Peter
Modular system of distance education in project management with e-learning and information technologies support.
The project aim comprises an intention to build a training and consultation workplace equipped with appropriate program tools for effective training of project managers.

**ERDC (01.06.2008-30.05.2010)**
doc. Ing. Renáta Novákóvá, PhD.
Emergence of Research Driven Clusters in Central Europe

The project aims at supporting regional authorities and governments in convergence regions with know-how, methods and financial instruments necessary to create capacities for stimulation and emergence of research-driven clusters. This will lead to clustering research institutions, universities, R&D companies, SMEs, large companies and financial institutions (if appropriate) in the region.

**VEGA 1/0229/08 (01.01.2008-31.12.2010)**
doc. Ing. Iveta Paulová, PhD.
Perspectives of quality management development in coherence with requirements of the Slovak Republic market

Project is aimed at the exploration and analysis of contemporary theoretical knowledge of quality management and expected trends of theory and practice requirements (requirements and needs of market). The elaboration of information and results evaluation for explored industry on the base of analysis. Evaluation of process application related to quality management in explored branches of industrial practice in comparison with requirements of individual models of quality management system (ISO 9001:2000, TS 16 949, ADAP). Elaboration of proposals for processes improvement in the areas where the biggest failures were discovered. The output will be the elaboration of system solving proposal for more effective requirements application in the area of quality management for requirements of plant practice.

**VEGA 1/0156/08 (01.01.2008-31.12.2010)**
doc. Ing. Andrea Holková, PhD.
Key managerial competences in the range of specific functional management areas and their applicable development concept.
The merit of the project is to vindicate the importance of management competencies in human resource management as a crucial factor of organization success and competitiveness. The project is focused on comparison of variable approaches to management competencies, their identification and key managerial competencies definition. Identification and development of managerial competencies is necessarily needed for high performance of key managers. The project is also focused on methods and techniques of managerial competencies evaluation, development of competency models and selection of applicable methods for key managerial competencies development.

### NATIONAL PROJECTS

**KEGA 3/4155/06 (01.01.2006-31.12.2008)**
Holková Andrea, doc., Ing., PhD.
The evaluating resources and the applicable methods for management objects teaching practice
Project is aimed at the methods confrontation used for the evaluation and methodology and recommendation proposal for management objects teaching evaluation. It is mainly centred on evaluating processes which can influence or evaluate the teaching process as well as quality, qualification and effort assessment ways documented by students and by the teaching platform. The emphasis is laying on informative and collective aspects of the evaluation and their task at the quality and effectiveness of the management objects teaching improving.

**VEGA 1/3764/06 (01.01.2006-31.12.2008)**
Jarmila Šalgovičová doc., Ing., CSc.
Implementation of Quality Management in Non-governmental Health-Service Institutions
The project analyses the methods and approaches to implementation and improvement of services quality in the area of human medicine in selected non-governmental health-service institutions. It should help providers understand and implement the philosophy and principles, methods, tools and techniques of total quality management, which can increase the efficiency and effectiveness of the services offered. This should consequently improve the population's health state and clients satisfaction, decrease the costs and bring better economic results to the providers of medical health care. The project outcome will become a model of quality management programme in non-governmental health-service institutions. The publication will respect the current European and world trends applied in quality management in the field of health service. The model will be implemented in selected organisations of providers of both primary and specialised outpatient health care.

**LIST OF SUBJECTS GUARANTEED WITH THE INSTITUTE**

- Accounting
- Assurance of Product Dependability
- Bachelors Project
- Bachelors Thesis
- Business Economy Basics
- Business Economy
- Business Finances
- Business strategies for small and medium-sized enterprises
- Calculation and Prices
- CAG
- Computer Aided Design of Quality Management System
- Computers in Business Practice
- Controlling
- Designing and Manufacturing Process Management
- Designing of Basic Processes in Quality Management
- Diploma Project
- Diploma Thesis
- Dissertation Thesis
- Economics Analysis
- Economy
- Ergonomy
- Exact Methods in Managerial Decision making
- Financial and Investment Management
- Financial Management
- Human Resource Management
Change Management
Information Management
Innovation Management
Integrated Marketing Communication
Intellectual and Industrial Property
Intercultural Management
Labour Rationalization Basics
Logistics
Logistics in Quality Management
Management
Management and Marketing
Management Basics
Management Information Systems
Management of Investment Progresses
Managerial Ethics
Managerial Skills and Communication
Marketing
Marketing in Quality Management
Marketing Management
Marketing Strategies
Operation and Maintenance of Machines
Operational Research
Organizational Culture
Pedagogical Activity
Personnel Management
Practical Experience in Production
Practice
Production Management
Products Reliability Ensurance
Project Management
Project of conformity assessment
Project of satisfaction monitoring
Quality Audits
Quality Economics and Financial Analysis
Quality Management
Quality Management Case Studies
Quality Management
Quality of Production and Services
Research Thesis
Satisfaction Monitoring Project
Semestral Project
Standardization, certification, conformity assessment
Standardization, conformity assessment, certification and accreditation
Statistical Methods
Statistical Methods of Quality Control
Strategic Management
Taxes Management
Tools and Techniques of Quality Management
Total Quality Management

**Graduate Theses**

**Bachelor theses**

Fojtlin, Pavol: The pricing analysis as the part of the cost oriented to managing of quality

Boleček, Adam: The Analysis of the Evaluation of Competitiveness in the Selected Organisations from the Perspective of Quality Management

Hrkeľová, Lucia: Analysis about influence of innovation activities on increase of quality in bussinesses which they offer new products or services

Prekopová, Katarina: CRM - exigence, evolution, anticipation and routing at the better decision

Polakovič, Matúš: Economic and noneconomic motivation tools as instruments of work productivity increase

Vyskupová, Monika: Economic and non-economic motivators as tools for improving work productivity

Šlúzelová, Karina: Environmental oriented personal management as a tool of a sustainable development of Smurfit Kappa Obaly Štúrovo a.s.

Jaseňský, Matej: External vs. internal coaching of subordinates and his influence for the development of business

Šmalinská, Veronika: Quality and career affecting performance of organizations

Omelková, Hana: Quality and career like factors affecting performance of an organization

Palacka, Andrej: Application possibilities of principles of JIT (Kanban) in planning and managing of production processes in Pastorkalt a.s.

Voznický, Marek: The application of an adaptation program of new employees in company Zentiva a.s. Hlohovec

Doboš, Marián: Proposition of complex of arrangements to improve the reward system in ABATEK s.r.o. Vrbová

Bahno, Ján: Proposal of complex measurements for improvement of motivation system and social program in company VETROPACK s.r.o. Nemsőva

Tárráková, Monika: The conception of propose steps concentrated on the improvement of the system of employees education as the condition of the optimisation of the firm’s culture in the company TOMA INDUSTRIES, s.r.o., Trnava

Lábsky, Ivan: Projection of criteria for choosing about juridical form of company

Vrbovská, Beáta: Proposal for a methodical process of measurement of satisfaction of MTF STU Trnava employees using CAF model

Baháková, Zuzana: Proposal on the methodical progress for determination of capability the measures

Murgáč, František: Design of methodical process by competency testing of production

Šimášek, Milan: Proposal of Suppliers selection Procedure in an Automobile Industry

Šúržová, Jaroslava: Environmentally Oriented Management in the Company ŽOS Trnava, a.s.

Danko, Dušan: Improvement suggestion of marketing mix selected instruments

Moleková, Veronika: Proposal of references to motivation employees for increase productivity of work

Srogončíková, Katarína: The proposal of recommendations for the improvement of chosen personal activities

Chudý, Ján: Proposition of recommendation for quality improvement in planning and control

Lízák, Roman: Proposal of recommendations for improvement of quality in production process

Machalová, Jana: Recommendation proposal for improvement of the quality guarantee in the production process

Gábiš, Martin: Design of advices to improve the system of classification employees
Gábelová, Darina: Action proposals for improving the system of assignment and adaptation of employees in the company HBP, Inc.

Kostrejová, Zuzana: Arrangements design about improve introduce system and adaptation of employees for job position with cooperation
Lugera & Maklér company in Trnava

Kissová, Eva: Measures plans for improving the structure and choosing of employees in the Slovak Shipyard in Komárno

Chromčíková, Katarína: The suggestion of arrangements for improvement of the recruitment and selection of employees system in the PCA Slovakia, s.r.o. Trnava

Poboček, Pavol: Proposal of measures for system improvement during new employees recruitment in Sauer-Danfoss, a.s. Považská Bystrica

Budjačová, Denisa: The actions design for improvement system to recruit and the selection of employees

Gábiš, Marián: Application measure for development formation effective team in OSRAM Slovakia, a.s. Nové Zámky

Kubíšová, Zuzana: The design of procedure for improving the change control in the company ELSTER, s.r.o., Stará Turá

Kolečáková, Jaroslava: Suggestion of steps for more effective identification and analyse necessity education of employees of ZF SACHS Slovakia stock company, Trnava

Zaňko, Ivan: Proposal of steps for more effective internal directives for accounting in company TOMA INDUSTRIES, s.r.o.

Šamudovský, Jaroslav: Proposal of measures to increase efficiency of staff periodic training in the field of EMS and serious industrial accidents (SIA) in the SE, a.s., power station Vojany

Morvayová, Blanka: Suggestion of measures for efficiency augmentation of the integration of management systems process, security and work health protection in ŽOS Trnava, a.s.

Drieniková, Katarína: The Project of Arrangements How to Make Strategic Management of KONŠTRUKTA-Industry, a.s. More Effective

Ivanovič, Juraj: A proposal of steps for increasing efficiency of education system in JAVYS, a.s. Jaslovske Bohunice

Gallová, Nadežda: Proposal of actions to achieve more effective logistic management in the company LOMBARDINI SLOVAKIA, s.r.o. Martin

Hološková, Katarína: The application of arrangements for more effective system of managing supplies in OMS, s.r.o. Senica

Burský, Vladimír: The Proposal of Remedies for the Improvement of the Adaptation of Newly Recruited Employees of the Nuclear and Eliminative Company a.s. Jaslovske Bohunice

Ščasnovičová, Ivana: Bill of actions to upgrade motivation in company Jadrová a vyraďovacia spoločnosť, a.s. Jaslovske Bohunice

Pompurová, Anna: Proposal of the measures for improvement of motivation of employees in Volkswagen Slovakia, Inc. Bratislava

Černáková, Katarína: Draft measures for the improvement of the motivation system in the workplace Kuster - automotive industry, company Ltd. Vlkovanová

Bučeková, Drahomira: Suggestion of arrangement for improvement of motivation system in OLYMPS DOOR spol. s r.o.

Zsigo, Tomáš: Application of arrangements for better motivation system in company - Slovak dock-yard in Komárno, joint stock company Bratislava

Rozenbergová, Martina: Design of arrangements on improvement motivational the system in the company ENERGOMONT s.r.o. Trnava

Tomeček, Peter: Proposal of recommendations for the improvement of employees motivation during the manufacturing process of my chosen organization

Krečková, Veronika: Proposal of measures in order to improve work motivation of employees in ZTS - ŠPÉCIAL, a.s. company

Kováčová, Silvia: Application's measures of business process management to logistics division

Púchla, Veronika: Suggestion of actions for improvement in ŽOS Trnava a.s.
Trnava company

Pavelková, Ladislava: Measurement design to increase the training of Slovak Railways employees

Balážová, Erika: Suggestion of actions to improve further education of the employees in the company TOMA INDUSTRIES s.r.o.

Križan, Daniel: Suggestion of precaution to improve system motivation in conditions company Slovak Telekom, a.s. Bratislava

Malá, Jana: Proposal of faction for improvement of Orange Slovensko document management system

Repiková, Dana: Application of measures on educational system of Employees‘ improvement in relation to forming of corporate culture in Dipex spol. s r.o., Sered'

Ágg, Luboš: Suggestion of measure for improve system of recruitment and selection of suitable job candidates in typecast of work positions in company Hydrostav, a.s. Bratislava

Hozza, Kamil: Proposal of precautions for improving the personnel recruitment and selection system in conditions of Embraco Slovakia, s.r.o. Spišská Nová Ves

Chalupová, Lenka: An outline of improvements in the system of recruitment and choice of employees for SOZAR Ltd. Humenné

Koštialová, Martina: Projection of arrangements to upgrading the level of motivation in iron-works Podbrezova, inc.

Kucejová, Jana: The Measures Proposal for the Implementation Improvement in the Cost Analysis and the Effective Utilization in Financial Decisions in the GE.NE.S.JSC.

Pokryvková, Stanislava: Suggestion of actions for improving the selection and hiring of employees in the company AQUATING s.r.o. Trnava

Dadíková, Jana: Proposal improvement of marketing-mix usage in company HP ltd., Považany

Bugyiková, Katarína: Proposal of measures on better utilization of the marketing-mix in the company STARDEC, s.r.o., Tvrdošovce

Jankovič, Vladimír: Proposal of remedies for improving marketing-mix in Tatrachema, producer cooperative Trnava

Bláško, Miroslav: Suggestions of measures for marketing-mix use improvement in TOMA INDUSTRIES s.r.o.

Uhrincová, Zuzana: Proposal of measures improvement of project management software tools in company Holcim, a.s. Rohožník
Kaliska, Zdenka: Proposal of measures to improve the adoption of the Internet in the course of management of company PFS a.s., Brezová pod Bradlom

Hašťášková, Marcel: Draft proposal for improvement of the intranet utilization in the management of the company VELKOPEK, a.s. Piešťany

Hulej, Marián: Proposal of measures for improvement of information system in the TERMSTAV, a.s. Bratislava

Hurčalová, Miroslava: Proposals on how to enhance the application of crisis management in economic crisis situation in MRAZIARNE POPRAD, Ltd.

Chnapková, Dana: Draft proposal for improvement of software support utilization in the management of the COOP VOZ a.s. company in Tmava

Boledovičová, Zuzana: Suggestion of measures on improvement of use software support in enterprise GLYNWED, Ltd. Tmava

Džanajová, Zdenka: Proposal of actions to improve employees’ education with focus on their involvement in a production quality improvement process in the company Kinex, a.s. Bytča

Míksádová, Lubica: Arrangements design to improve in the process of supplying in the company ŽOS Tmava, a.s., Tmava

Labová, Katarína: The project of measures to increase motivation level and social program in the company FIMAD Ltd. Dulov

Voleková, Lucia: Proposal of measures for optimization of strategy I.D.C. Holding, a.s. Sereď, after the admission to eurozone

Demian, Peter: The need for detailed monitoring of costs from different perspectives for economical management of company Štiavnické strojárne spol. s r.o. Banská Štiavnica

Zelnerová, Lucia: A projection of measures for improvement of marketing mix in MATEP, spol s r.o. Bratislava

Lukyová, Vladislava: Draft measures for the implementation of ergonomic work rationalization in the selected workplace in the company Lichmann Aluminium Casting Ltd. Žarnovica

Koban, Lubomir: Proposal of measures for application of ergonomical rationalization in hearing protection in chosen operation of company MI Plastík s r.o., Michalovce

Vanek, Dušan: The concept of arrangements for SWOT conclusions using in chosen facility of Slovnaft, a.s.

Kolín, Martin: A proposal for steps of conservation for environmental ethics in realization of forest redevelopment by The SLOVAK FORESTS, State Enterprise Banská Bystrica, branch Šaštín

Zálubyová, Eva: Proposal of the measures related to introduction of information strategy in the company SLOVKORD, a.s. Senica

Cibulková, Soňa: Measures proposal for improvement of motivation program and social program in company ZF SACHS Slovakia, a.s. Tmava

Gloneková, Erika: Proposal of measures for improving movement programme in EKOTHERMA Tmava, s.r.o. Tmava

Kincč, Štefan: Suggestion of measures for ENPAY Transformer Components, s.r.o. employees system payment development

Mančová, Katarína: The suggestions for improvement of employees incorporation and adaptation on job position in ŽOS Tmava, a.s.

Hrčka, Jozef: Proposal of measures for production control improvement in ŽOS Tmava, a.s.

Viselka, Andrej: Proposal measures for advance of method of calculation of costs and their application in establishing of prices in Hörle Tr?d, Ltd Nitra

Kamenická, Monika: Proposal of arrangements for improvement current status of application of Project Management in big industrial companies in Slovakia

Nemečkayová, Katarína: Proposal of measure for improvement of the employees evaluation system in the ZVS holding enterprise (joint stock company), Dubnica nad Váhom

Zemanová, Dáša: Proposal measure for improved predicate financial strategy

Sadloňová, Dana: Draft of measures for improvement of the business strategy creation in SAM HOLDING, Inc. Košice

Malý, Daniel: Proposal of faction for improvement level motivation of employees in Orange Slovensko, inc.

Bartoš, Rastislav: The application arrangements for the improvement of motivation level of employees at Vodárenská spoločnosť Ružomberok, a.s.

Gáborová, Jana: Proposal of arrangements for innovation of education in project management field for small and medium companies in SR 5.2.52 priemyselné inžinierstvo.

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Šerjenik, Tomáš: Action proposals for the improvement of the company's Steel Form, s.r.o., Piestany current status of products brand control

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Institute Departments
• Department of Environmental Engineering
• Department of Safety Engineering
• Department of Industrial Safety

Staff
• Professors: 1
• Assoc. Professors: 4
• Senior Lecturers: 8
• Research Fellows: 1
• PhD Students: 13

Study programmes
• Environmental Engineering
• Work Safety and Health Protection
• Environmental and Safety Engineering
• Integrated Safety

Research targets
• assessment of wastes of cutting fluids, cooling emulsion and their life cycle prolongation, changes of composition during microbial contamination
• risk assessment and hazard analysis of industrial fire
• hazard assessment of dangerous wastes and hazardous substances
• fire hazard analysis of industrial dust and flammable materials
• safety analysis of technical systems
• the use of progressive oxidation processes for degradation of organic pollutants
• application of SETUR sprinkler for removal of some water pollutants
• utilization of solar energy
• determination of drinking water quality
**Research Characteristics**

**Laboratory testing:**
- testing of combustibility and explosiveness of substances, product and wastes in different states,
- appraisal of fire-fighting foam and spray properties in the aging process,
- monitoring of chosen factors in the work environment, appraisal of noise and lighting at the workplace,
- analysis of drinking water quality,
- determination of biodegradability of cutting fluids,
- determination of organic pollutants using analytical methods.

**Document elaboration:**
- danger characterization and risk appraisal of selected substances, products, wastes and technologies in dependence on the partner requisites,
- elaboration of protocol on identification of the external effects, elaboration of documentation on explosion protection,
- elaboration of emergency plans in accordance with legislation,
- risk assessment and risk analysis of fires in the industry,
- implementation of occupational health and safety assessment series (OHSAS), (internal audits, preparation for certification audits).

**Research studies:**
- study of limiting conditions of initiation of burning process of powder materials,
- impact of fires and its liquidation to the environment,
- environmental charge from the usage of foam extinguishing agents, appraisal of biological degradability of chosen foaming agents,
- fire danger of PVC cables and their protection,
- creation of knowledge database and expert system for the risk appraisal of dangerous substances, products, wastes and technologies and other dangerous processes,
- modeling of impacts of industrial accidents to the environment,
- usage of PC models to the material escape modeling, comparison of different types of modeling programs in the field of dispersion of the materials to the environment,
- study of health and safety aspects of occupational indoor environment,
- progress and utilization of small hydroenergetic source in combination with solar equipments for branch of engineering,
- establishment technical-consulting laboratory for utilizing and consequently propagation of solar energy,
- determination of characteristics of emission quantification and indicators of atmosphere quality in conditions of European legislation,
- The exploitation of advanced oxidation processes in removal of organic pollutants from wastewaters by the use of wastes from production and treatment of metals as catalysts,
- advanced environmentally suitable methods for utilization and removal of wastes from machine industry,
- research and development of utilization of biowaste technologies for liquid fuel production from renewable resources,
- botanic garden as an instrument for environmental consciousness of citizen escalation.

**Consulting, training and courses:**
- training and courses focused on the health and safety at work, safety education in the sense of international standards, research coordination for the specifically application targets and requirements for the increase of the safety of industrial regions,
- guidance for implementation of occupational health and safety assessment series (OHSAS), consulting in the field of emergency planning,
- consulting in utilization of renewable sources of energy.

**International Projects**

doc. Ing. Ivana Tureková, PhD.
Modelling the dispersion of emissions of dangerous substances during major industrial accidents.

The project deals with the ways of supporting the international collaboration in research into the modeling of dispersion of emissions of dangerous substances during major industrial accidents. The STU MTF Department of safety Engineering is a partner - candidate for EUREKA E! 3266-EUROENVIRON VEBAIR project. The software programs purchased will enable to calculate the dispersion of emissions in residential and industrial areas. The output will be a practical application of monitoring and modeling the dangerous states.

**14150100019 (01.08.2006-28.02.2008)**
prof. Ing. Karol Balog, PhD.
Establishment of the technical-consulting laboratory for the utilisation and consequent promotion of solar energy.

The project is oriented on an alternative source of energy promotion - solar energy through thermal and photovoltaic panels. The established technical-consulting laboratory will provide consultations, presentations and lectures with practical demonstrations of several working solar systems. The actual power of the installed solar equipment can be seen online.

Prof. Ing. Karol Balog, PhD.
Ecological aspects and control of major-accident hazards involving dangerous substances.

**11230100437 (01.01.2007-31.10.2008)**
doc. Jasenák
Increasing the competencies and education of PhD students.

**National Projects**

**LPP-0171-07 (01.04.2008-31.03.2011)**
Ing. Anna Michalková
Natural phenomena in experiments for children and adults.

After consultations with the basic and secondary school teachers, a communication portal oriented on the following ideas will be developed: environmental education and health, physics in common life, astronomy, alternative energy sources, wastes and recycling. The website will contain e-materials with visual experiments which cannot be carried out in the classroom due to the dangerous chemicals and the absence of related tools and instruments. The e-learning courses developed in collaboration with the teachers could be used in pedagogical process and also in the preparation of talented students for specialised competitions and will be available for interested parties. The project output will facilitate the communication with public, teachers and students of basic and secondary schools.
If fires in nature are not extinguished early, they can seriously endanger nature. Fire-fighting foams used by the fire-interventions bring these substances into natural environment and can cause the contamination of environment. It is important therefore to know the foam in terms of fire-fighting properties and also of the environmental impact. Due to the absence of information about ecotoxicological properties and biological degradation of fire-fighting foams, the physical and chemical properties and also the effect external conditions on the efficiency and stability of foam will be searched. The valuation system of parameters and screening for selection of foams will be also designed. This information is necessary to reduce the negative impact on environment.
Risk Analysis Methods
Risk Control Methods
Risk Evaluation in Environment
Risk Theory and Casual Processes
Safety and Reliability of Systems
Safety Engineering
Safety of Industrial Technology
Safety of Technical Systems
Sanitation of Work
Social and Economic Aspects of WSHP
Technical and Safety Conditions of Materials and Constructions
Technical Apparatus Risks
Technical Systems Reliability
Technologies and Environment
Technologies of Waste Management
Theory and Management of Safety Control
Theory of Diagnostic, Maintaining and Repairs
Thesis / Diploma Work
Thesis Project / Diploma Project
Work Safety and Health Protection
Work Safety of Man

**GRADUATE THESIS**

**Bachelor theses**

Ďurčanský, Matej: The Analysis of human health risk in car service.
Benedikovič, Igor: The analysis of dustiness in beton factory Hidrostavbet Ltd.
Žižňanský, Tomáš: Risk analysis by lathe work.
Michálek, Ivan: The analysis of damaging volatile substances by the gas chromatography.
Košíková, Jana: Analysis of separated collection of communal waste in the village.
Hrubšová, Jana: Analysis of the system of collection and assessing waste in the company Delphi Slovakia, Ltd.
Šramatá, Dagmar: Analysis of narcotic and psychotropic substances by gas chromatography and their effect on users.


Trnovský, Martin: Application of legal requirements in managed documentation of Safety and Health Protection.
Konya, Juraj: Audit of health and safety at work on selected workplace.
Ďurej, Jozef: Audit of health and safety at work in selected organisation.

Vékony, Peter: Job safety industry background.

Tompoš, Michal: Safety at work and working processes of firefighters.
Čapková, Jana: Foreign substances in food.

Lysá, Lenka: Inorganic substances in food sequence.
Dubovan, Michal: Decontamination of Firemen.
Kubica, Lukáš: Energy budget contiguous with exploitation of solar power.

Žilová, Andrea: Energetical use of biomass.
Bartovicová, Monika: Environmental information for consumers about products.
Mančíková, Erika: Environmental manager accountancy as an environmental policy tool.
Blašková, Eva: Public Procurement and red-tapie.
Adamusová, Dušana: Environmental charges of the region Horná Nitra.

Lamačka, Peter: Environmental reporting in organisations with established environmental management systems.

Záhorec, Peter: Evaluation of the quality of underground water in a chosen area.

Štibránová, Monika: Evaluation of the utilization biomass as an energy source.

Janovič, Martin: An internal audit under the OHSAS regulations in Skanska BS, a.s.

Gergelová, Dana: Water quality control by regulation to drinking water.
Chocholoušková, Zuzana: Quality of water in the selected locality.

Hornáček, Matej: Human factor in accident occasion.

Morávková, Jana: Proposal improvements occupational health and safety in upholstery productio.

Kocian, Karol: The improvement of work safety in the stone-pit Buková.

Zaoralová, Lucia: Untraditional possibilities of using for solar energy.

Štibrányiová, Tatiana: New trends in the area of processing wastes from plastics.

Kollárová, Mária: The air protection in the face of dust particles.

Halászová, Tünde: The safety plan of a construction in practice.

Ďuriš, Lubomír: Safety and occupational hygiene policy in The Execution of punishment Institute and The Execution of pre-trial custody Institute in Ilava.
Bukový, Filip: Examination of the Quality of Underground Water of Inactive Sludges - Pastuchov.

Mikva, Barbora: Review of the influence of selected waste dump to environment.

Vanečková, Jana: Environmental impact assessment of the rebuilding of the city swimming-pool in Vrútky on environment.

Uváčik, Martin: Transport of radioactive waste from an environmental point of view.

Kardošová, Jana: State help on protection and creation in environment.

Gajošová, Renáta: Study of effect chosen service of fork lift to environment.

Duda, Martin: The study of the utilization of waste sediment as source of power.

Danková, Mária: Cooperation between the provider of nuclear devices with the state administration and local government on protection of emergency planning and emergency readiness.

Dostálová, Monika: The technology of processing biomass into fuels and the influence of biofuels usage on the living environment.

Horváth, Michal: Influence of physical-chemical characteristics on initiation of the process burnings industrial dust.

Galášová, Marta: The effect of noise on the health of the employees in the company Drevomont-Fitos, Dunajská Streda.

Masters theses

Repa, Ondrej: Analysis of waste made in Chemolak, a.s.

Čemez, Peter: Application of voluntary tools of environmental policy in business practice.

Harangozó, Jozef: Audit of safety and health protection at work in plant in chosen workplace.


Babeľová, Ivana: Safety and orientation marking as a significant element of employer and employee health and safety at work executive.

Holčková, Gabriela: Biodegradability of informations management.

Lorencová, Martina: Economic assessment of investment intention with solar energy utilisation in the chosen enterprise.

Švantnerová, Katarína: Environmental and safety products labeling.

Erőss, Pavo: Check lists of selected activities on Fire Station in Komárno.

Bagó, Marian: Modeling the accident state of dangerous substances in the workplace sewage tank in Smurfit Kappa Štúrovo, a.s.

Holičková, Lucia: Monitoring of pollutants on selected dump.

Rohálová, Miroslava: Possibilities of sanitation and remediation of soils involved with acidification.

Kupková, Veronika: Possibilities of stabilization of organic pollutants in soils and bottom sediments.

Morávková, Ivana: Settings possibilities of chosen organic matters in biomass.

Krajčí, Martin: Ways of use of environmentally sound technologies.

Boleman, Tomáš: Application possibilities of renewable....

Volner, Lukáš: Pretreatment possibilities of phytomass for fermentation production of ethanol.


Galinski, Marek: Arbitration noisiness at the workplace Oceliareň.

Šudy, Marián: End-of-life vehicles recycling like the source of matters and raw materials.

Blinová, Lenka: Treatment of biomass to biofuels in terms of their environmental impact.

Fiala, Jozef: Biodegradability determination of selection components of biomass.

Gáspárová, Marta: Assessing properties of biodegradable plastics.

Bacák, Peter: Old vehicles and assessing windshields in SR.

Spišeková, Silvia: Study of characteristics of chosen type of hydroengine Selur according to its use for irrigation.

Kollár, Martin: Study of the usage of photovoltaic systems for chosen electrochemical processes.

Adamec, Matúš: Study of thermic pump utilization alternatives in selected enterprise.

Sucharda, Michal: Study of impact of external conditions on ignition temperature of woody dusts.

Schön, Milan: Creaton of e-documents in education and science research in branch of environmental engineering.

Schmiedtová, Michaela: Application tool ecological foot print in environmental management.

Kolmosová, Jana: Application FSC Standard on requirements of Swedwood Malacky.


Bútorová, Martina: Exploitation of renewable sources of energy.

Šersen, Miroslav: EMS implementation according ISO 14 001 in Tatrachema, co-opt, Tmava.

FOREIGN VISITORS TO THE INSTITUTE

Assoc. prof. Dr. Ing. Michael Šenovský, FBI, TU Ostrava, Czech Republic
Dr. Reiner Jaspers, OKOTEC, Schwalmtal, BRD

VISITS OF STAFF MEMBERS TO FOREIGN INSTITUTIONS

prof. Ing. Karol Balog, PhD. Austria Wels; Czech Republic Dům techniky České Budejovice; Czech Republic VŠB TU Ostrava
doc. Ing. Ivana Tureková, PhD. Czech Republic VŠB TU Ostrava

MEMBERSHIPS IN INTERNATIONAL PROFESSIONAL ORGANISATIONS

Czech Republic Firework and Safety Engineering association
Prof. Ing. Karol Balog, PhD.

International Institute of Welding
Prof. Ing. Karol Balog, PhD.

MEMBERSHIPS IN SLOVAK PROFESSIONAL ORGANISATIONS

ARPOS
Prof. Ing. Karol Balog, PhD

Slovak National Accreditation Society (SNAS)
prof. Ing. Karol Balog, PhD.

Slovak standards Institute
Prof. Ing. Karol Balog, PhD.
RNDr. Miroslav Rusko

Slovak Academy of Science / Slovak Chemical Society
Ing. Richard Kuracina, PhD.

Slovak Academy of Science / Slovak Ecology Society
RNDr. Miroslav Rusko

Slovak Academy of Science / Slovak Biology Society
RNDr. Miroslav Rusko

Civic Association UMBRA
RNDr. Maroš Sirotiak

Nature Protection Club
RNDr. Maroš Sirotiak

PUBLICATIONS

BOOKS


JOURNALS


Fidlerová, Helena - Hajník, Bartolomej - Sakál, Peter - Hatliar, Karol - Jacinto Assuncao, Domingos - Sekera, Branislav - Výboch, Jozef: Cost externalization vs. internalization - "Hidden" effect of globalization on

Gerulová, Kristína: Plants - the nature power for eliminating the pollution. In: Odpady. - ISSN 1335-7808. - Vol. 8, Nr. 8 (2008), pp. 11


Svetský, Štefan - Balog, Karol: Prolonging the lifecycle of coolants. In: Strojárstvo - Strojírenství. - ISSN 1335-2938. - Vol. 12, Nr. 4 (2008), pp. 112-113

CONFERENCES


INSTITUTE OF APPLIED INFORMATICS, AUTOMATION AND MATHEMATICS

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Institute Departments
• Department of Mathematics
• Department of Applied Informatics and Industrial Automation

Staff
• Professors: 3
• Assoc. Professors: 9
• Senior Lecturers: 26
• Research Fellows: 2
• PhD Students: 13

Study programmes
• Applied Informatics
  and Automation in Industry
• Automation and ICT Implementation in Processes

Research targets
• control theory, control systems, control systems sensibility and robustness, PLC
• information and database systems
• client-server architecture systems
• artificial intelligence and expert systems, genetic algorithms, fuzzy sets and systems
• system modelling and simulation
• computer graphics, graphical and CAD/CAM systems
• CIM
• multimedia, virtual reality
• properties of solutions of ordinary differential equations
• metrics and topological properties of real functions
• fractals and chaos
• graph theory – algebraical and topological graph theory
• geometric interpolation of massifs
• rationalization of teaching in the sphere of contents, methods and forms,
  • e-learning
Institute research is oriented to the process control informatization and automation fields on all levels of production control, i.e. technological, workshops and managerial in consideration of new trends in the mentioned fields (development of intelligent control methods, new software support, new trends in the information storing, obtaining and using, multimedia and graphic systems, process visualization field, etc.). With the orientation on production process we reach near co-operation with other MTF institutes. Actually we increase part of applied research at the expense of basic research. This depends on the increasing interest of companies to solve their real problems.

The main fields of research: information and database systems, software engineering, control and regulation systems of technological and production processes, including the questions of control quality, optimality, sensibility and robustness of control systems, as well as control system reliability, modeling and simulation, graphic and multimedia systems, intelligent control systems (genetic algorithms, neuronal networks, fuzzy controllers, expert systems, systems to support decision, ...). The scope of the mathematical part of the institute covers differential equations, real functions, fractals and chaos, graph theory, teachings rationalization methods, E-learning.

Institute AIM provides math, information and automation support. Except scientist- research projects the institute focuses also on education projects, rapprochement contacts, material and financial contributions.

**International Projects**

**1123020340 (01.04.2008-30.06.2008)**
doc. Ing. Pavol Tanuška, PhD.
Increasing the staff’s qualifications and adaptability via the welding and computational courses
The project is oriented on completion of further training in order to increase and improve the adaptability through welding technology and PC courses.

**11230100458 (01.07.2007-30.06.2008)**
doc. Ing. Peter Schreiber, PhD.
Transformation of the Master degree study programme “Automation and ITC Implementation in Processes” to English language

**National Projects**

**LPP-0202-06 (01.10.2008-31.10.2009)**
prof. Dr. Ing. Oliver Moravčík
Science closer to students
Project of science and technology popularisation is orientated to students of secondary schools with the aim to increase their interest in new knowledge in the field of science, research and development and to improve the education quality. The main aim of the project is to support education and research through the motivation tools for students and to improve the quality of education.

doc. Ing. Peter Schreiber, CSc.
Nuclear and radiation safety demonstration methodology of containers for spent fuel transportation based on experimentally achieved data

It is impossible to perform direct measurement of spent fuel residual output in the container. In case the container is presented as a mathematical model of specific thermal system, we would be able to derive residual output based on power proportions or on base of known or measurable physical value (heat capacity, surface, the container and surrounding temperature, heat transition coefficient, etc.). These values could be a link to residual output computation. Obtained values should be compared with values received from standard atomic-physical computation.

Prof. Dr. Ing. Oliver Moravčík, Ing.
Virtual laboratory of programmable logic controllers LOGO12/24 RC and selected control objects
One of the goals of this project is to design and implement a virtual lab of the programmable logic controllers according to the model Siemens LOGO12/24RC with integrated transfer possibility of the control algorithms from the development and simulation environment LOGO! Soft Comfort v5.0. Solving of the project involves also the design and implementation of the selected control objects applicable for control with virtual PLC described above. The project solving method regards the standard requirements and recommendations using in EU for laboratory building for purposes of the classic approach education, distance form of education, e-learning, involving web environment education.

**KEGA 3/4149/06 (01.01.2006-31.12.2008)**
doc. RNDr. Hanzel Pavol, CSc.
Designing electronic courses in Mathematics
The project deals with e-learning courses of Mathematics. The materials can be used in any university. The use of the materials will be free of charge and available anytime for any students.

Miloslávová Mária, doc. RNDr., PhD.
The teaching model of mathematical courses with support of ICT.
A research project, granted from KEGA agency is solved by Departments of Mathematics of MTF STU and Department of Informatics of USCM.

**VEGA 1/3008/06 (01.01.2006-31.12.2008)**
Marcel Abas, RNDr., PhD.
Symmetries of graphs and maps
The purpose of this project is to develop new methods to investigate symmetric structures in topological graph theory. We will focus on cellular embedings of graphs in surfaces and main objects of our study will be Cayley maps and regular maps. We believe that using theory of Cayley maps on surfaces with boundary recent developed, we will able to solve problems unsolvable up to now.

**VEGA 1/3368/08 (01.01.2008-31.12.2010)**
doc. Ing. Peter Schreiber, CSc.
Artificial intelligence in flexible manufacturing control systems
The traditional procedural (imperative) approach is used in the programming of programmable productions systems. A sequence of instruction must be given in order to execute a required function.

**VEGA 1/0282/08 (01.01.2008-31.12.2010)**
doc. Ing. Jozel Vaský, CSc.
3D model generating by means of reconstruction from part engineering drawing orthogonal views
Engineering drawing is a formal 2D notation of geometrical, material and technological features of a real part. Today’s CAD/CAM systems
are based on 3D solid modeling. They make it possible to generate drawings from visualizational and technological operations. It would be therefore effective to transform paper drawings of parts right into 3D representation.

VEGA 1/0068/08 (01.01.2008-31.12.2010)
Mgr. Róbert Vrábeľ, PhD.
Analysis of the boundary layers for three and four points boundary value problem of singularly perturbed second-order ordinary differential equations
We provide geometric and quantitative analysis of the dynamics of three and four points boundary value problem for singularly perturbed second-order ordinary differential equations \( \epsilon y'' = f(x,y,y') \) near of the critical manifold (hyperbolic and non-hyperbolic).

VEGA 1/0170/08 (01.01.2008-31.12.2010)
doc. Ing. Pavel Važan, PhD.
The proposal of alternative procedure of manufacturing lot size determination in flexible manufacturing systems by simulation optimization
The main goal of the project is the proposal of alternative procedure of manufacturing lot size determination in flexible manufacturing systems by simulation optimization. The procedure will be designed and verified for a piece and batch production.

VEGA 1/0582/08 (01.01.2008-31.12.2010)
doc. RNDr. Jaroslav Červeňanský, CSc.
An extension types of convergence in fuzzy spaces
Analysis of various type of convergence at fuzzy spaces, fuzzy metrics and types of convergence in these metrics, problem analysis according to commonplace axioms and selection of optimal application and numerical times-consuming algorithm.

LIST OF SUBJECTS GUARANTEED WITH THE INSTITUTE

Actuarial Mathematics
Analytic Geometry
Applied Mathematics
Automatic Control Hardware
Automatic Control Theory
Automation of Data Scanning and Processing
Bachelor Project
Bachelor Thesis
Basics of Automation
CAD/CAM Systems
CIM (Computer Integrated Manufacturing)
Complex System Theory
Computer Architecture and Operating Systems
Computer Networks
Computers in Personal Practice
Control of Flexible Manufacturing Systems
Data Visualization
Database Systems
Database Systems and Works in Networks
Decision Support Systems
Descriptive Geometry
Development Environment
Development of Information Systems
Differential Equations
Digital Control Systems
Diploma Project

Dissertation Project
Education Activity
Fuzzy Systems
Graduation Project
Graduation Theses
Graphical Data Processing
Industrial Programmable Controllers
Information Systems
Information Technologies
Information Technologies Basics
Information Technology and Society
Integration of Production Control Systems
Intelligent Control Methods
Introduction to Discrete Mathematics
Knowledge Representation and Inference Mechanism
Linear Algebra
Mathematical Methods of Experiment Planning and Evaluation
Mathematics
Modeling and Simulation
Neural Networks and Genetic Algorithms
Numerical Mathematics
Planning in Production Systems
Practice
Production Systems Control
Production Systems Modelling and Simulation
Programmable Logic Controllers
Programming Languages
Programming of Control Systems
Programming Practicum
Projects Control
Reliability of Control Systems
Research Working VII
Robots and Manipulators
Selected Chapter from Technical Systems and Cybernetics
Simulation Optimization in Production Systems Control
Software Engineering
Spreadsheets and Graphics Processors
Systems Analysis
Systems Modeling and Simulation
Systems Programming
Systems Theory
Theory of Experiments Planning
Web Technologies

GRADUATE THESSES

Bachelor theses


Paraj, Ladislav: String searching algorithms.

Uhlík, Matej: Analyze options of creating applications for mobile devices (Windows Mobile, Symbian).

Trnka, Kamil: Animation of the interactive cybernetic system.

Szöke, Kristián: Contact management application with support of electronic communication.
Braniš, Martin: Authoring systems.

Tomeček, Juraj: Digitalisation and processing by chosen softwares of the data collected by videocamera.

Babolčai, Andrej: Distribution of static ARP entries using XML web services.

Tulala, Daniel: Documentation analogue models.

Slovinský, Miroslav: Electronic service book.

Hucík, Vladislav: Database system for a business car repair shop.

Ágh, Daniel: Registration system of publication activities for KAIA.

Arpáš, Filip: Formats and interfaces for digital video.

Tomiš, Ján: Geographics informations systems.

Vyskoč, Lukáš: The graphical formats for medical images.

Pintér, Tomáš: HW simulator of technological process.

Kuna, Ivan: Implementation of GSM modul with 12C bus.

Kozáková, Adriána: Interactive multimedia application for mathematical text - Differential calculus of function of two or more variables.

Lukáč, Martin: Interactive multimedia application for electric machine measurement (Practise directions).

Ploczek, Michal: Interactive Whiteboard and its exploitation in Integrated e-Learning.

Szabó, Ondrej: Interactive Education of German Language.

Krajčír, Lukáš: Internet interface for discussion forum.

Orlický, Matej: Internet interface for store (PHP, MySQL).

Rehák, Miroslav: Comparison analysis of backup technologies.

Kozma, Miroslav: Graphics Images Format Compression.

Roncek, Lukáš: Computer configuration software.

Sokol, Juraj: Linux server - firewall, web, mail, ftp and samba server.

Graňák, Boleslav: Monitoring and management Headend CATV.

Mikušik, Marcel: Monitoring and analyzing data in computer network.

Vaský, Andrej: Design and implementation of visualization data module for object application.

Škreňo, Peter: Design and implementation of SAN (Storage Area Network) network in a company environment.

Beneš, Peter: Design and realization of application to view manufacturing plan in firm Pastorkalt a.s.

Máliš, Miroslav: Suggestion and realization of registration system for E-shop.

Škrípcák, Tomáš: Design and implementation of helpdes (C#, ASP.NET).

Mikuš, Andrej: Design and realization of an interactive multimedia application for education support of Mathematics I, part "Linear algebra".

Lenický, Luboš: Design and realization of interactive multimedia application for the support of teaching subject of Mathematics I, part "Indefinite integral".

Kováčik, Michal: Design and realization of interactive multimedia application for the support of teaching subject of Mathematics I, part "Character of real function and its limit".

Hajdin, Martin: The suggestion and the realisation of model IS with UML usage.

Gajarský, Marek: Suggestion and realization of the model house heating control in "Matlab".

Motúž, Peter: The suggestion and realization of information system for needs of evidence of protected specimen.

Keselyová, Andrea: Design and creation of interactive application Object-oriented programming.

Dubravec, Miroslav: Projection and creation of multimedia application for the interactive instruction of MS Visual C#.

Drinka, Boris: Designing and creation of multimedia application for interactive education of Computer architecture.

Koničková, Gabriela: Database system of a car bazaar.

Štetiarová, Katarína: The System of Truck Transport in UML Notation.

Fedorová, Erika: Proposal of Database system of firm.

Kozák, Michal: Design of IS for hypermarket.

Lackovič, Miroslav: Design of computer network and its security.

Panák, Branislav: Design of computer network and its security features based on open source systems.

Krško, Roman: Project manager design and his implementation in.NET CF C#.

Einšpigl, Jozef: Application web side for analytic geometry.

Šimončič, Roman: Creating a web page for Solid geometry.

Pavelék, Marek: Proposal of web set of interactive mathematics tasks operating with tests and a chosen part realization.

Štofan, Milan: Network design of company with MPLS technology.

Korytár, Marek: Object security fire-fighting device.

Végh, Ondrej: Examination of stability dynamic systems of the 2nd
degree with constant coefficients depending upon the system's parameters supported by computer.

Zambor, Ľuboš: Comparison and testing of compression algorithms.

Moravčík, Juraj: Methodical manual of programmable controller KRGN 90 in english language.

Olah, Miroslav: Product manual for controller UDC 3300 in english language.

Porádek, Martin: Problematic of helpdesk files production.

Slabý, Peter: Programming of database application in PHP.

Toma, Martin: Realisation presentation multimedia application as final product of KEGA.

Plevjak, Jozef: Controlling of step motor with program language Assembler.

Kázmérová, Xénia: The solution of security of chosen modules of internet shop.

Zámpory, René: Signals GbE and Fibre channel.

Krovina, Jozef: Signals SDH and OTU.

Jancula, Marek: Simulation of two position control of surface level in Matlab - Simulink.


Bendiňová, Renáta: The System for the Support of the Tuition with the Possibility of the Assignment Generation.

Sedláčková, Darina: System for electronic documents administration in corporations.

Tóth, Peter: Transformation of the video Hi8 record into digital format for archivation.

Výborčík, Boris: Creating an interactive multimedial application.

Heteš, Marek: Vectorisation of growing plan component.

Melka, Matúš: Visualisation of volume of data reconstructed from CT frame.

Popelka, Dominik: The influence of compression of graphic formats images from the point of view of their position on web pages.

Opálek, Andrej: Setting up a new computer network in an institute of the Slovak Academy of Sciences, configuration and security.

Zich, Pavol: Creating of electronic materials with the topic "Infinite series numerical".


Blišťák, Peter: Software application development for optimal solution transportation problem.

Dlhý, Adrián: Utilization of WinAPI in the OS Windows application programming.

Farkašová, Mária: Web presentation of DW in Komárno.

**Masters theses**

Chynoranský, Dušan: An Analogue model of Junction Exchange Station

Panyik, Ladislav: Analysis of system operation sensibility of production assembly hall

Laufer, Peter: Analysis, design and implementation of information system for lending and selling multimedia titles

Pavlinová, Darja: Controller system analysis with a regulator based on neural network

Darfáš, Miroslav: Application of algorithm for distance measurement in graphs

Sobinovský, Lubomír: Application for human productivity counting on the production lines, work rating, statistic and bonuses counting

Kopček, Mário: Marking of products automatic process

Steinecker, Peter: Automation of Statistic Process Control

Štrbíková, Mária: Activities of informations management

Kešáň, Martin: Sectional solution of design assigning quality of process by evolution of software systems

Bruch, Andrej: The partial solution of the draft of the quality guarantee of the process of the software systems development

Valuch, Vladimír: Numerical model of power system

Štrba, Jaroslav: Data mining - exploration of knowledge from databases

Pavlíková, Martina: Data mining on medical data

Kováč, Boris: Database application for mobile devices on base of Oracle

Chmelík, Martin: The diagnostic temperature monitoring system based on the microcontroller PIC

Voznická, Mária: Electronic data collection for annual account of health insurance by means of intelligent electronic form (IEF) with the technology XML

Valanec, Štefan: The Whole-life dose evidence for external employees of Nuclear power plant

Šimun, Štefan: Generation of 3D model for revolved part using form reconstruction from technical drawing

Pelikán, Vladimír: Generating 3D model of translation object by reconstruction from 2D technical drawing
Mesiarik, Peter: Genetic algorithm with the possibility runoff input parameters and execution genetic operation

Suran: Evaluation of the reliability of the methods and their application into energetics

Svatá Michalková: Implementation of ERP system DIALOG 3000S in industry company OMS, s.r.o.

Deák, Tomáš: Implementation of module for mathematical records in system Moodle

Minarovič, Matej: Inference engine for knowledge represented by rules

Blažej, Juraj: Information database system for evidence documents

Matulová, Katarína: Information system for mototechna based on C#

Tvrdoň, Martin: Information system for management of electronic company documents

Dudáš, Miroslav: Information system for system of transport

Tranžíková, Eva: Stocks information system

Futroš, Pavol: Design of information system in UML notation with comparative analysis WEB vs. MDI

Vadkerti, Pavol: Information system in IBM Lotus Notes environment for a middle size corporation

Malinkovič, Martin: Integration of Systems by Integrating Broker

Žálec, Miroslav: Interactive VRML scene in ambient of internet browser

Štiavnický, Matej: Internet application for creating, processing and evaluation of questionnaires

Sedláček, Peter: Internet interface for GPIB bus

Glemba, Tomáš: The control, registration and valuation information system of monitoring persons who work in environment of ionization radiation

Tarkošová, Alena: Methodic of selection and utilization of industrial cameras of any production systems

Horváth, Peter: Business processes modelling with UML tools

Daniš, Miroslav: Monitoring of OS GNU/Linux

Závacký, Alena: Connection of real proceses to the system of virtual PLC

Vidlička, Kamila: The tool for data conversion from the different types of databases

Spišáková, Lucia: Project and implementation of information system for collection of specific data in field for eustream, a.s.

Katona, Marián: Design and implement plugin of administration for contacts

Čízmár, Marián: Design and realization of numerical controller for universal use

Satina, Juraj: Application and realisation database system bearing on sale hardware components (PHP, HTML, MySQL server)

Čomaj, Andrej: Proposition and realization of didactic software with testing program

Nízl, Miroslav: Design and realization of reconstruction cutting and stripping machine control system

Nagy, István: The development and creation of functional relation between a virtual control device and a technological process

Göndör, Pavol: Proposal and realization system control of stepper motors SIMOSTEP by software SIMATIC

Gabera, Rastislav: Projection and realization of controlling system of servomotors by means of resources SIMATIC

Filiač, Marián: Application design for Helpdesk data analysis in MS Access environment

Lacher, Tomáš: Design of authentification module for OpenBSD & Linux (PAM)

Zelenák, Ivan: Project of automatized testing system for laboratorial purposes

Kopera, Radoslav: Design of a Safety Camera Operated trough the Internet

Chupík, Richard: Design of database application for education assistance in C#

Matusák, Marcel: Information system design with modeling CASE tool support

Benechová, Jana: Design of information system to support industrial control of outside mirror assembly on production lines in MAGNA DONNELLY SLOVTECA s.r.o.

Kozár, Tomáš: Design of information system in UML notation (MS Visual C#, ASP.Net)

Vajdečka, Marián: The proposal of the Internet application for the needs of the accounting of the transfer company by utilization AJAX technology and data obtained by Google API

Nižníková, Jana: Suggestion on IS in notation UML for registering operations performed in production

Hurban, Ján: Proposal of complex design IT infrastructure in middle sized company with international connection

Gabriška, Martin: Proposal of a model and a simulation of a mechatronic system in "Matlab" environment

Fitos, Kristián: Developing of model integration of information systems with integration tool ACE Enterprise Integrator
Brožek, Viliam: Project of procedure to automated choosing an available ERP system

Kaščáková, Lubomíra: The design of procedure of lot size determination by simulation optimization

Ďurček, Adrián: Application program module for visualization fractals pictures

Machovič, Branislav: Proposed regulation of the condenser level in a thermal power plant


Valent, Peter: Design of Control system in Traffic based on Fuzzy systems

Boor, Dušan: Design and Implementation of production monitoring system in company HANIL E-HWA Automotive Slovakia s.r.o.

Fridrich, Vladimír: The information system partial proposal for the inspection stand of burned out nuclear fuel

Moravčík, Jaroslav: GPS support for microcomputer’s applications

Barlík, Jozef: Comparison of relational DB management systems MS SQL 2005, ORACLE 10g, SYBASE ASE 15

Mrva, Martin: Confrontation Choice Algorithm of Simulation Optimization

Sojak, Andrej: Real remote experiment as an inherent part of the Integrated e-Learning

Žák, Michal: Redesign of calendaring functions in a bank sales application

Bogdan, Pavol: Redesign of calendaring functions in a bank sales application and functional migration design from mainframe to J2EE

Blažej, Juraj: The control of sale management and stock supplies in chain of retail stores - software tool design and description

Kubiček, Martin: Control of heat change station by controller ELESTA RCO 720 D-M

Malina, Michal: Data Processing of automat testing system by the form of CPK analysis

Polakovič, Peter: Suitability of using real-time Java in air traffic control system

Ulik, Róber: XY Plotter controlled with Microcontroller

Puškáš, Peter: Network-based intrusion detection system. Design of the Solution and Implementation of NIDS Snort

Federič, Peter: System for generating pages of redaction system in www environment

Binčík, Pavol: Content Management System (CMS)

Soboslai, Tomáš: Utilization of Web 2.0 intranet and industry applications

Dudáš, Jaroslav: Utilization of Visual basic for Application in MS Office 2003 applications

Bondarava, Alena: Software development with use of Case tool Rational Software Architect

Tranžík, Martin: Remote control PC via MS Outlook from arbitrary transfer facility through E-mail

Chrenko, Peter: Fieldbus PROFIBUS in SIEMENS SIMATIC systems

Ardon, Peter: Improving assembly process cooler by simulation

Kováčik, Marek: Improvement of sales management and stock supplies in chain of retail stores

Visits of Staff Members to Foreign Institutions

prof. Dr. Ing. Oliver Moravčík, Germany TU Ilmenau, FH Nordhausen; Austria TU Viedeň; Belgium by BEKAERT, Zwevegem; Austria TU Viedeň; Russia ITU Iževsk; Czech Republic Mendelova univerzita, Brno; Germany IFW Dresden; Austria TU Viedeň; Austria TU Viedeň; Israel TU Technion Haifa; Germany FZD Rossendorf; Czech Republic VŠB TU Ostrava; Cuba TU Magdeburg; Germany IFW Dresden; Japan Tokyo

Ing. Maximilián Strémy Belgium ECUMICT 2008; Czech Republic TU Liberec

Ing. Andrej Eliáš Belgium ECUMICT 2008

PaedDr. Janette Kotianová, PhD. Poland Univerzita Bielsko-Biala

RNDr. Renáta Masárová, PhD. Poland Univerzita Bielsko-Biala

Mgr. Zuzana Červeňanská Poland Univerzita Bielsko-Biala

RNDr. Marcel Abas, PhD. Czech Republic Zadov

doc. Ing. Pavel Važan, PhD. Czech Republic VUT Brno; Croatia TU Varaždin

prof. Ing. Dušan Mudrončík, PhD. Czech Republic Kouty nad Desnou

Ing. Michal Eliáš Czech Republic VUT Brno

doc. Ing. Pavol Tanuška, PhD. Belgium KAHO Gent

doc. Ing. Peter Schreiber, CSc. Belgium KAHO Gent; Croatia TU Varaždin; Czech Republic VŠB TU Ostrava; Japan Tokyo

Memberships in International Professional Organisations

International union of machine builders
Doc. Ing. German Michalčonok, CSc.


Bezák, Tomáš - Eliáš, Andrej - Kopček, Michal - Strémy, Maximilián: Renovation of control system of contour cutter for cutting of expanded poVol. 8, Nr. 8 (2008)


Božek, Pavol - Moravčík, Oliver - Sakál, Peter: Virtual technology workstation. In: Vedecké práce MIF STU v Bratislave so sídlom v Trnave. - ISSN 1336-1589. - Nr. 24 (2008), pp. 9-14

Eliáš, Michal - Šturči, Martin - Palaj, Ján: Simple lines vectorisation. In: Vedecké práce MIF STU v Bratislave so sídlom v Trnave. - ISSN 1336-1589. - Č. 24 (2008), s. 41-46

Eliáš, Michal - Šturči, Martin - Palaj, Ján: Vectorisation by the ODR method. In: Vedecké práce MIF STU v Bratislave so sídlom v Trnave. - ISSN 1336-1589. - Nr. 25 (2008)

Eliáš, Michal - Palaj, Ján - Šturči, Martin: Graphs using to determine outline from the vector record for 3D rotational parts model generation. In: Materials Science and Technology [online]. - ISSN 1335-9053. - Vol. 8, Nr. 3 (2008)


Kebísek, Michal - Tanuška, Pavol - Eliáš, Michal: Design and implementation of data warehouse for FMT SUT Trnava. - Vega 1/4078/07. In: Materials Science and Technology [online]. - ISSN 1335-9053. - Vol. 8, Nr. 7 (2008)


Kunik, Stanislav - Mudrončík, Dušan - Kopček, Michal: Overview of the most commonly used facts controllers in SVC of a power system. In: Materials Science and Technology [online]. - ISSN 1335-9053. - Vol. 8, No. 7 (2008)


Moravčík, Oliver - Božek, Pavol: Angular robot in a virtual environment. In: Vedecké práce MF STU v Bratislave so sídlom v Trnave. - ISSN 1336-1589. - Nr. 24 (2008), pp. 119-123

Moravčík, Oliver - Božek, Pavol - Barborák, Oto - Naščák, Lubomír - Štollmann, Vladimír: Generation of a virtual program into a specific technological workplace. In: Vedecké práce MF STU v Bratislave so sídlom v Trnave. - ISSN 1336-1589. - Nr. 25 (2008)


Božek, Pavol - Šuriansky, Jozef: Robotisation of a virtual program into a real technological system. In: Strojárstvo - Strojírenství. - ISSN 1335-2938. - Vol. 12, Nr. 7-8 (2008), pp. 103-104

Božek, Pavol: Virtual technology – more than a pure economical category. In: Strojárstvo - Strojírenství. - ISSN 1335-2938. - Vol. 12, No. 3 (2008), pp. 66-67

Božek, Pavol: Training workplaces controlled on virtual scene. In: Strojárstvo - Strojírenství. - ISSN 1335-2938. - Vol. 12, No. 5 (2008), 173/7


Štollmann, Vladimír - Božek, Pavol: Robotisation of forestry activities. In: Strojárstvo - Strojírenství. - ISSN 1335-2938. - Vol. 12, No. 6 (2008), pp. 90/4-91/5


CONFERENCES


INSTITUTE OF ENGINEERING PEDAGOGY AND HUMANITIES

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Institute Departments
• Department of Engineering Pedagogy and Psychology
• Department of Humanities
• Department of Professional Language Communication
• Department of Physical Education and Sports

Staff
• Professors: 3
• Assoc. Professors: 6
• Senior Lecturers: 30
• Research Fellows: 2
• PhD Students: 11

Study programmes
• Personnel Work in Industrial Plant
• Teaching Practical Subjects within Engineering Majors
• Teaching Specific Engineering Subjects
• Didactics of Engineering Professional Subjects

Research targets
• engineering pedagogy and psychology
• key competencies of students
• complementary teacher training and its experimental verification in educational practice
• humane science in technology
• foreign language curriculum improvement based on the needs analysis of the faculty graduates and undergraduates in the field of international professional communication
• investigating of methodological aspects of foreign language teaching and implementation of the research results into educational processes
• physical culture and fitness
The expert aim of research activities of the Institute of Engineering Pedagogy and Humanities at MTF STU stems from the profile of the Institute and faculty in the area of pedagogy, and it is in accord with the long-term aim of the development of the Slovak University of Technology in Bratislava and it covers a full range of the Institute’s educational activities. The content of the Institute’s research activities is directed mainly at research in the area of humanities and social sciences with an emphasis on the development and innovation of methods and forms of education under the conditions of technical intelligence preparation. The specialty of the Institute’s research lies in its division into two research areas: Research Area No. 1: “Pedagogy”. This area includes the research assignments concerned with engineering pedagogy, preparation of high school teachers, advancement of personality, history of technical educational system, body culture and language skills development.

Research Area No. 14: “Engineering”. This area includes the research assignments concerned with personnel work and preparation of e-learning courses for personnel officers. The Institute’s research activities take the form of Scientific and scientific-pedagogical projects solved within the scope of selection and subsequent support by the grant agencies VEGA and KEGA. Projects solved within the scope of selection and subsequent support by the grant agency APVV. Projects solved within the scope of international programs. The transfer of the outcomes of the Institute’s research into practice can be accomplished by the special and expertise activities. Members of the Institute work out a practical training in the enterprises (e.g. Bohunice Nuclear Power Plant, VUJE Trnava and ŽOS Trnava) to the extent of their expertise. The regular organizing of scientific and expert colloquiums is an important part of the Institute’s research and its outcome presentation. The Institute organizes the international scientific conference SCHOLA on a regular basis which takes place under the auspices of the International Society for Engineering Education – IIGP. The student scholarly activities and the student scientific conference are a stable part of the Institute’s care for talented and gifted students. The Institute regularly organizes the conference in the section of humanities and foreign languages.

**NATIONAL PROJECTS**

Ing. Krípková Katerína, PhD.
Application of the subject "Guide to the enterprise" to the study program teaching of technical professions subjects, Master degree at MTF in Trnava
The European Union stakes out the spirit of enterprise development in all schools types and grades as one of the main goals in the education sphere. Education is a new idea to the enterprise and its contents are not stabilized yet. The submitted project deals with this problem and develops the curriculum of the subject "Guide to the enterprise".

Ing. Milan Petroš, CSc.
The greatest of the great, the correspondence of Prof. Ing. Aurel Boleslav Stodola /1859-1942/. The project is aimed at translating, editing and publishing all the available letters of A. Stodola to his brothers and A. Einstein. There is a grand collection of 130 letters of the years 1876-1943 available so far. Stodola’s letters (saved from being lost by the project leader) to his brothers were partially used by Ivan Stodola, the playwright, in Náš strýko Aurel (Our Uncle Aurel, Bratislava, 1968). The intended publication will contain an introductory study and iconographical material and will provide new (hidden so far) aspects of this famous scientist, professor, constructor and philosopher’s biography.

doc. Ing. Hrmo Roman, PhD.
Innovation study program teaching of technical professions subjects in MTF STU
The goal of the research team is the evaluation and innovation of the study programme Teaching of technical professions subjects, which was accredited at MTF STU. The researchers intend to introduce the following innovation into practice: optimization profile of a graduate in study programme and placement of a graduate on the labour market, optimization of proportions between lectures and exercises in the study programme, improvement of the study materials and innovation of teaching methods.

**KEGA 1/3640/06 (01.01.2006-31.12.2008)**
Silvestr Sawicki, Mgr., PhD.
Psychological, pedagogical and psychospiritual methods of diagnosis of psychospiritual crisis and ways of impact on it
Our project is focused on the diagnosis of psycho-spiritual crisis (frequently confused with mental diseases) and possibilities of its psychological, educational, social and spiritual impact. This phenomenon appears in the phase of spiritual maturation and transformation of personality. It is manifested by temporary mental and social disorders with some signs of a mental disease. The American Psychiatrists Association (APA) has labelled it as a spiritual emergency (DSM IV), as non-psychotic diagnosis. They recommend non-psychiatric treatment. APA advises to treat it with psychological, social, educational and spiritual methods. At present, we still do not have relevant diagnostic methods and techniques for its distinction from mental diseases. Most of the psychologists and psychiatrists do not differentiate psycho-spiritual crisis from psychotic diseases, mainly schizophrenia, because of prejudices towards spiritual experiences.

**KEGA 1/4547/07 (01.01.2007-31.12.2008)**
Bernát Libor, PhDr., ThMgr., CSc.
Mikuláš Drábik – a prophet, mystifier and chiliasm
The main concern of the project focuses on the person of clergyman Mikulas Drabik (+1671) and the analysis of his writings. As a clergyman, he worked as a co-worker with Jan Amos Comenius (up to 1628) in Lednica. The project tries to reconstruct his curriculum vitae, based on Drabik’s own biography. There is also the ambition to analyse his writings - especially Lux ex tenebris, Mikulase Drabiku Zjeveni (1617-1671), a heritage of Rottal in the Morava Regional Archives in Brno. The main emphasis is on Drabik’s ideas development and his millenaristic, eschatological and apocalyptic claims. Comenius polemics with his fellows will be included as well.

**KEGA 1/0185/08 (01.01.2008-31.12.2010)**
doc. PaedDr. Marián Merica, PhD.
Optimisation of motor programs as the basis for health improvement and the development of fitness and sports performance capacity.
Solving the way of how to stop the increase of occurence of some kinds of illnesses and health defects. Finding the possibilities of hypokinetics remotion of the pre-school, school and university population on the basis of characteristics of their health condition, evaluation of their attitude to movement and to individual specific motor activities,
and on the basis of their body and motor development analysis in the
following sports: swimming, tennis, athletics, football, body building,
baseball and softball. Searching of motor programs optimisation with
the aim of increasing the fitness and sport performance of our programs.

LIST OF SUBJECTS GUARANTEED
WITH THE INSTITUTE

Bachelor Project
Bachelor Thesis
Biological Fundamentals of Evolution
Biology of Teenagers
Current Trends in Education
Didactics of Engineering Subjects
Didactics of Professional Training
Diploma Project
Diploma Thesis
Dissertation project
Dissertation project - methodology of pedagogical research
Dissertation thesis
Engineering Pedagogy
English for Specific Purposes
English Language
Ethics
French for Specific Purposes
French Language
Fundamentals of Communication
Fundamentals of Ethics
Fundamentals of Law Education
Fundamentals of Law Education Recovery
Fundamentals of Law for Technologists
Fundamentals of Law for Technologists and Managers
Fundamentals of Philosophy, Methodology and Logics
General Economic Theory
German for Specific Purposes
German Language
Handling Labour Conflicts
Handling Work Problems
History of Economic Theories
History of Science and Technology
History of Technology and Vocational Education
Human Ecology
ICT in Education
Industrial Psychology
Industrial Sociology
International Economic Relations
Introduction to Research Methodology
Introduction to Scientific Work
Introduction to University Study
Management of Secondary School
Master Thesis
Material Didactics Resources
Mental Hygiene
Outstanding Personalities of Slovak Science
Pedagogical Practice
Pedagogy
Philosophy of Technology
Physical Education and Sports - optional
Physical Education and Training
Politology
Practice
Production Practice
Prognostics
Psychology
Psychology in Managerial Jobs
Psychology of Health
Psychology of Occupational Safety
Recreational Physical Education and Sports
Research
Rhetoric
Russian for Specific Purposes
Russian Language
Selected Chapters of Andragogics
Selected Chapters of Evolutionary and General Psychology
Selected Chapters of General and Evolutionary Psychology
Selected Chapters of Labour Psychology
Selected Chapters of Pedagogical Psychology
Selected Chapters of Pedagogy
Selected Chapters of Social Psychology
Semester Project
Seminar on Pedagogical Practice
Slovak Language
Social and Personal Counselling
Social Communication
Social Policy
Sociology
Sociology of Education
Sociology of Management
Sociology of Work
Synergetics
Theory of Education
Total Quality Management
Winter training camp for students

GRADUATE THESSES

Bachelor theses

Danková, Petra: The analysis and development of human resources in
the enterprise Home Credit Slovakia.

Selep, Lukáš: The analysis of employment quality and its influence on
economic result of company Whirlpool Slovakia, Ltd.

Mikula, Andrej: Ethics principles of management in KMOV BUS Ltd.

Mihaličková, Martina: Ethics and the law in business.

Gonová, Viera: Appreciation working environment such as a member
corporate culture in ZOS Trnava, a.s.

Šebeňová, Silvia: Collective contract in industrial company Slovenské
elektrárne, a.s., factory AE Mochovice.

Trpková, Gabriela: The criteria for selection of employees at ZF SACHS
Slovakia, a.s. Trnava.

Štetka, Ivan: Human resources management focused on recruiting and
selection of employees in Teaching hospital and policlinic Nové Zámky.

Štúr, Milan: Students’ motivation in technical subjects at secondary
vocational schools.
Dávidová, Katarína: Motivation incentives of employees in Enseco, a.s., Trnava.

Heldová, Lenka: Improvement suggestion employee appraisal and remuneration employees on the premise MEDIAN SK, spol. s r.o. Bratislava.

Kollárová, Veronika: Draft of arrangements for improving the system of education and development of the employees in a bank.

Brath, Vladimír: Proposal for development of education system employees in PCA Slovakia, s.r.o., Trnava.

Svetlíková, Zuzana: Application measure for support development creative potential of managers in business Johns Manville Slovakia a.s.

Babiaková, Lenka: Arrangement suggestion of the employees support in creativity in the company education area for company Samsung Electronics Slovakia, s.r.o.

Poláčková, Michaela: The proposal system of education of employees in firm KABELSCHLEPP SYSTEMTECHNIK spol. s r.o. Nové Zámky.

Potočárová, Veronika: System design for selection of employees in company AVC, a.s. Čadca.

Višňová, Anna: The moves of measures for enhancement of the motivation system of employees in SES Timače a.s.


Branišová, Michaela: Proposal of improving of personnel placement in VUJE Trnava, a.s.

Capková, Ľubica: Non verbal behavior of personnel administration in a company Mária Stančíková - MAJA.

Kemáčová, Michaela: Leader’s personality and positions in the company Interiors Colina, s.r.o.

Urblíková, Andrea: Individuality of Personnel Manager in Industrial Plant.

Kamencová, Zuzana: Job interview.

Kubíková, Zuzana: Etiquette of the profession and general etiquette.

Ondrusová, Andrea: The Professional career of women - mothers in occupation for Slovak Lines Ltd.

Veselovská, Stanislava: Solution of recruitment and selection of company staff.

Babničová, Mária: Personnel placement in Techklima spol. s r.o. Nové Mesto nad Váhom.

Vaňová, Jana: Development of human resources in the controlled business.

Capek, Peter: Disturbing factors during a job interview.

Rumanová, Noémi: Improve the quality of firm culture.

Podařil, Martin: Cooperation between family and school.

Horváthová, Jana: Improvement of system effectivity and organisation of human resources in VÚJE Trnava, a.s.

Chocholáček, Jaroslav: Company Educational System for Employees in DELPHI Slovensko, s.r.o. Senica.

Zezula, Marek: High school youth’s free time.

Baranovičová, Zuzana: Selection of staff.

Kollárová, Michaela: Creating a corporate identity in Slovenské liečebné kúpele Piešťany, a.s.

Bokorová, Lenka: Personnel education then component personal job in business STAKOTRA MANUFACTURING spol. s r.o. Piešťany.

Salczerová, Kristína: Load situations and the ways of its solution of students in secondary school.

Gorošová, Simona: Recruitment and selection of the employees.

Dissertations

Kavecký, Martin: Developing information competencies via e-learning

Krištofiaková, Lucia: Increasing the quality in teaching the subject of Economics via TQM implementation

FOREIGN VISITORS TO THE INSTITUTE

prof. Adolf Melezinek Austria Universität Klagenfurt

VISITS OF STAFF MEMBERS TO FOREIGN INSTITUTIONS

Mgr. Gabriela Waleková Czech Republic Česká a slovenská asociácia učitelov jazykových centier na VŠ

doc. Ing. Roman Hrmo, PhD. Czech Republic Univerzita Hradec Králové; Czech Republic Univerzita Palackého Olomouc; Czech Republic ČZU Praha; Russia IGIP Moskva; Austria IBASP Graz

Mgr. Silvester Sawicki, PhD. Czech Republic Vzdělávací a tréninkový institut SPAS Praha; Czech Republic Týnec nad Sázavou; Czech Republic UJEP Ústí nad Labem; Czech Republic SPAS Praha; Czech Republic SPAS Praha

Mgr. Dagmar Cagáňová, PhD. Slovenia TU Portorož; Germany IFW Dresden; Czech Republic Masarykova univerzita Brno; Czech Republic Masarykova univerzita Brno; Ing. Katarina Krpáková Krellová, PhD. Russia IGIP Moskva

Mgr. PhDr. Libor Bernáth, CSc. Czech Republic Národní museum Praha, Památník národního písemnictví PaedDr. Sofia Novotná, PhD. Czech Republic Fakulta sportovních studií MU Brno
MEMBERSHIPS IN INTERNATIONAL PROFESSIONAL ORGANISATIONS

Internationale Gesellschaft fur Ingenierpädagogik – IGIP
doc. Ing. Roman Hrmo, PhD
Ing. Katarína Tináková, PhD.
Ing. Katarína Krpálková Krelová, PhD.
Ing. Eva Tóblová

Verband Österreichischer Volkshochschulen
prof. PhDr. Milan Kips, CSc

Information Society for Education
Ing. Katarína Tináková, PhD.
Ing. Katarína Krelová, PhD.
prof. Ing. Dušan Driensky, CSc.
doc. PhDr. Ing. Jan Kostelník, PhD.
Ing. Lubica Vašková, PhD.
doc. Ing. Roman Hrmo, PhD.
Ing. Eva Tóblová

Editorial Board of Studia Sportiva, the scientific journal of the Faculty of Social Studies, Masaryk University in Brno
doc. PaedDr. Marián Merica, PhD.
PaedDr. Soňa Novotná, PhD.

Comenius Union
prof. PhDr. Milan Kips, CSc

Information Society for Education
Mgr. Jozef Krajčovič, PhD.
Ing. Katarína Tináková, PhD.
Ing. Katarína Krelová, PhD.
prof. Ing. Dušan Driensky, CSc.
doc. PhDr. Ing. Jan Kostelník, PhD.
Ing. Lubica Vašková, PhD.
doc. Ing. Roman Hrmo, PhD.
Ing. Eva Tóblová

Association of Russian Teachers in Slovakia
PaedDr. Dagmar Rusková

SUNG-Association of German Teachers in Slovakia
PaedDr. Anna Reháková
Mgr. Dušan Fedič

Association International of Sport Kinetics
Mgr. Silvester Sawicki, PhD.

Association of Process-oriented Psychotherapy
Mgr. Silvester Sawicki, PhD.

Association of School Psychologists
Mgr. Silvester Sawicki, PhD.

Commission for Defending Postgraduate Theses in the Major of Sports Kinantropology
doc. PaedDr. Marián Merica, PhD.

National Consortium for the European Network of Reference and Expertise in Vocational Education and Training, Slovakia-CEDEFOP
Mgr. Silvester Sawicki, PhD.
doc. Ing. Roman Hrmo, PhD.
Ing. Katarína Krelová, PhD.

CASAJC-Czech and Slovak Association of Foreign Language University Teachers
Mgr. Jana Green
Mgr. Gabriela Waleková
Mgr. Dušan Fedič
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Mgr. Dagmar Cagáňová, PhD.
PaedDr. Dagmar Rusková
PhDr. Emília Mironovová
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Slovak Sociology Society
Mgr. Martin Hric
Mgr. Marek Mocker

Club of Young Sociologists
Mgr. Martin Hric

MEMBERSHIPS IN SLOVAK PROFESSIONAL ORGANISATIONS

Slovak Pedagogy Society at SAV
prof. PhDr. Milan Kips, CSc
doc. Ing. Roman Hrmo, PhD.
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PaedDr. Lubomír Holkovič, PhD.
doc. PhDr. Viliam Končal, PhD.

Slovak Swimming Federation
Mgr. Rastislav Hlavatý, PhD.

Physical Education Union STU Trnava
Mgr. Rastislav Hlavatý, PhD.
doc. PaedDr. Marián Merica, PhD

Swimming Club STU Trnava
Mgr. Rastislav Hlavatý, PhD.

Association for History of Science and Technology
doc. Ing. Roman Hrmo, PhD.
Ing. Katarína Tináková, PhD.
prof. Ing. Dušan Driensky, CSc.

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prof. PhDr. Milan Kips, CSc
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Slovak Sociology Society
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Departments  
Department of Personnel and Social Affairs  
Department of Work Economy  
Dean’s Secretariat  
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Division of Personnel and Administration is responsible for:  
All administration and service activities regarding the employment and Remuneration of the Faculty employees and their social and health insurance  
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Filing research, project and grant activities  
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**Departments**
Academic Library
Publishing House
Department of Public Relations

**Division of Knowledge Management is responsible for:**
Efficient performance of the Academic Library
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Filing and keeping bibliography records of the theses
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Processing and providing access to information funds regarding the Faculty profile,
providing librarian and information services to various categories of users
Administering librarian and information data bases concerning the academic activity of the Faculty,
participating in catalogues production
Serving as a specialised library of Materials Science.

**Running the Faculty publishing office responsible for:**
The Faculty publishing activity
The Faculty PR regarding Alumni

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**DIVISION OF ECONOMICAL AND ESTATE ACTIVITIES**

**Head of the Department**
Ing. Dušan Knap
e-mail: dusan.knap@stuba.sk
tel: ++421905930242

**Address**
Paulínska 16, 917 24 Trnava, Slovak Republic
tel/++421335511032 fax/ ++42133551758

**Departments**
Department of Economy
Department of Operation and Maintenance
Department of Estate Management

**Division of Economic and Estate Activity is responsible for the:**
Economic and administration performance of the Faculty
Logistic and controlling functions of the Faculty
Keeping to the Faculty proceedings and regulations
Preparation and delegation of the tasks of the Faculty plan and budget
DIVISION OF COMMUNICATION AND INFORMATION SYSTEMS

Head of the Department
Ing. Milan Hančin
e-mail: milan.hancin@stuba.sk
tel: ++421905357624

Address
Paulínska 16, 917 24 Trnava, Slovak Republic
tel/++421335511032 fax/ ++421335511758

Departments
Department of Information Systems Operation
Department of System and Technical Services

Division of Communication and Information Systems is responsible for the:
Performance and administration of the Faculty computer systems
Consultation services regarding the system and selected application program equipment
Building, developing, innovating and enhancing the Faculty web and its links to the STU one
Administration of the Faculty servers and parts of the information system
Maintenance and purchase of computational technology for the Faculty workplaces

CENTRE FOR TECHNOLOGIES TRANSFER

Head of the Centre
Ing. Peter Halada
e-mail: peter.halada@stuba.sk
tel: ++421907283987

Address
Paulínska 16, 917 24 Trnava, Slovak Republic
tel/++421918646057 fax/ ++4213355220265

Centre of Technology Transfer is responsible for the:
Transfer of the Faculty research results into the entrepreneurial practice
Market research of the public demands for the specialised entrepreneurial research
Co-ordination of the educational projects and the Faculty events
Conferencing service

STUDENT HOSTEL AND CANTEEN

Head of the Department
PaedDr. Rudolf Rehák, PhD.
e-mail: rudolf.rehak@stuba.sk
tel: ++421918646017

Address
Bottova 25, 917 24 Trnava, Slovak Republic
tel/++421335511032 fax/ ++421335511758

Departments
Facility: Student Hostel
Facility: Student Canteen

Student hostel and canteen are responsible for:
Providing full-time students with accommodation, catering and other related services
Providing favourable conditions for the study, social life and leisure-time activities of the students.
PHOTO GALLERY
OF ACTIVITY IN YEAR 2008
Ceremony for granting the Slovak National Quality Award 2008 in Category C3 – other organisations of public sector, by Ivan Gašparovič, the President of the Slovak Republic.

STU MTF – co-organiser of DAAAM - Danube Adria Association for Automation and Manufacturing.

International Doctoral Seminar 2008

“Lecture series on the Ion Beam Research in Materials Science”, a project of the STU MTF Institute of Materials in co-operation with the Slovak Physical Society a Forschungszentrum, Rossendorf, Germany – prof. Dr. rer. nat. habil. Dr. h. c. mult. Klaus Wetzig.

A visit of Dr. Ir. Peter Backx and Freddy Aps, representatives of BE-KAERT, Belgium.

Sun Ray 2 Platform at STU MTF – piloting operation launched.

Open-Door Day in STU MTF in Trnava.

Graduation ceremony in Trnava.
MTF participates in GAUDEAMUS 2008 Fair

Dies iovis occursus – a Thursday afternoon session

New-year’s meeting of the MTF staff and friends

TEACHER’S CUP 2008 - 8th year of the Slovak and Czech tennis tournament of the university teaching and administration staff

A company of Mühlbauer, Germany, visits STU MTF

STU MTF Delegation in the Republic of Korea and Japan

Botanic Garden - opening ceremony

STU MTF negotiations with BEKAERT/Belgium
NEW PROFESSORS AND ASSOCIATE PROFESSORS AT THE FACULTY

Ivan Gašparovič, President of the Slovak Republic, appoints new professors:

Jozef Janovec
in the major of Materials

Ivan Baránek
in the major of Machine Technologies and Materials

His Magnificence Vladimír Báleš, STU Rector, appoints Mária Kapustová, Viliam Cibulka and Mária Dománková associate professors of MTF

Mária Kapustová

Viliam Cibulka

Mária Dománková

Dr.h.c. Prof. Ing. Anton Čižmár, CSc., Rector of Technical University of Košice, appoints

Peter Košťal an associate professor.

Dr. rer. nat. Andreas Kolitsch, director of the Ion Centre of the Research Institute, Dresden-Rossendorf, a visiting professor of STU MTF
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