FACULTY OF MATERIALS SCIENCE AND TECHNOLOGY
Ladies and gentlemen,

To begin with, let me wish you all sound health, lots of personal and professional achievements, and peace for your families and at your working places as well.

I would also like to take this opportunity, in hindsight, to summarize the last year. And, I wish to present a rough outline at least of what my vision of the faculty for this year is and what necessities are needed in order to fulfil it.

Since the 1st of October 2010, the faculty has not only been directed by new management, but also by some new positions of chief managerial staff in the system that have been opened, these being at the Institutes of Professional Pedagogy and in Administration Divisions. All the controlling positions at the faculty have been finally occupied after the challenging and complex selection procedures. I wish to believe, and I will gladly allow myself to be convinced, the fact that the keen and independent selection committees chose properly. I am delighted to say that our faculty management team has been extended to include two ladies – vice-dean Mrs. Vidova and the manager of the economic and administrative division – Mgr. Nemetzova. There are not yet any women scientific workers in the position of institute director. However, the faculty’s Scientific Board has changed positively towards gender diversity. Personally, I am convinced that these are more than good steps concerning the gender equality at the Faculty of technology, and we want to benefit from its positive aspects in the future.

The review of 2010, from my point of view, is connected with extraordinary satisfaction. The qualification structure of the faculty has markedly improved. Besides the two or three exceptions that are still being tolerated for different reasons, a team consisting of more than two hundred teachers operates at the faculty, all with the minimum qualification of a Ph.D. All of this assures me that, along with the planned reduced number of matriculated students within the first year of bachelor’s study – fewer than 1000 – we will meet the last criterion without any difficulty. My delight is even greater due to a lack of concerns about studying at the Faculty last year.
The first degree is characterised by 2.6 applicants for one study place; the second degree has 1.7 applicants per study place; and the third degree has 2.5 aspirants for one study place. Within this context, let me congratulate our two new professors at the Faculty – Professor Milan Maršinek and Professor Peter Šugár, who will be given the letters of appointment by the president at a near date. The appointment is even more pleasant due to the fact that both professors are in the "young, active" academic age. Presently, six guest professors are working at the Faculty, two of them from abroad, and there are another 15 professors from Slovakia and Germany working part-time, from 10 to 50 percent.

Our strength is definitely our fruitfulness in grant resource fundraising from the structural funds. Along this line, I can say without exaggeration that we are the most successful school and research institution in Slovakia. The Faculty, first of all, completed successfully the excellence centre project within one year in Slovakia. After nearly two decades, using European funds and the distinctive financial contribution of the University, as well as our own resources, we put into operation a new building – the building of the 5-axial machining excellence centre which was built in the extremely short time of less than three months.

Additionally, following the medium-term plan – to concentrate all the activities of the Faculty in the campus on Bottova Street – we have completely renovated the energy and media distribution networks (electric power, heat, water, canalisation, etc.) If we begin to build in the campus again, and I believe this will happen soon, the problem of connecting the new objects to the media will be already solved. Interestingly enough, during the last year we invested approximately 2.2 million EUR from all sources - university, faculty and structural ones – into the buildings and repairs.

It is not possible to sit on two chairs at the same time. If we have already decided to create, modernize, and reconstruct our scientific and research base at the Faculty, there is now not much time left for more active participation in the scientific and research projects through the agencies like VEGA, APVV, etc. We hold an opinion that if we optimally use the European structural funds (and we are successful in obtaining the projects, as we have been so far), then, with the new equipment, we cannot have any difficulties with participating in the European research area by way of joining FP7, FP8 or EUROATOM in the future. To do so, we are now creating new scientific and research workplaces and solving the qualification concerns of our scientific and research workers. According to our calculations, we need to create approximately 50 new positions for scientific and research workers by the end of the structural fund drawing period. It is also necessary to occupy these positions by taking employees with a high qualification structure, similar to that of the teaching staff.

In connection to this, let me point out one more thing. Administrative and organisational division employees were also able to gain and solve successfully the projects at this Faculty. Two projects from structural funds are being completed by the Division of Knowledge Management. Employees of the Division of Academic Activities, Division of Communication and Information Systems, and Centre of Technologies Transfer are actively participating in project solution teams as well as in the project FP7.

It is an honour to thank the managers of all administrative divisions of the Faculty as well as their teams for meeting the challenge of the Faculty's management to professionalize and implement internationally comparable standards of their work within everyday practice. Certainly, the mobility and constant education of our administrative managers present a great contribution to all this. The student and staff service offered by the Faculty is nowadays comparable to other highly-developed institutions.

Doctoral study at the Faculty (300 Ph.D. students at present) is becoming one of the attributes important for joining the rest of the world. We present a workplace where even more foreign students meet. It is a pity that we could not enrol more aspirants for full-time doctoral study due to the assigned number of places. During the last academic year, 62 students were enrolled for the first year of study, mostly internal graduates from our Faculty – these are results from which not only our Faculty presently benefits, but also our whole Alma Mater.

In 2010, our Faculty held the world conference of IGIP-SEFI, the two world professional organisations dealing with engineering education quality. More than 400 participants from all continents voiced great satisfaction with the quality of organisation and professional standard. We are convinced that the conference participants will spread the reputation of our institution, our town and region far beyond the borders of Slovakia.

Ladies and gentlemen,

We could not imagine our successful activities without our partners from the state, public and the private sectors. The cooperation is certainly beneficial for all parties. Let me name at least the institutions from Slovakia and abroad that we consider to be our crucial partners: the region and town of Trnava, JAWYS, VLJUE, Beakert, DELCAM, FZD, IPW, TU Ilmenau, TU Dresden, University of Miskolc, University of Zagreb-Varazdin University of Applied Sciences Koethen, University in Kecskemét, Izhevsk State Technical University, University of Martha Abreu Santa Clara in Cuba and also many other partners of the University from Germany, Austria, Poland, Croatia, Serbia and the Czech Republic.

During the last year, we made a determining step together with German and Hungarian partners from the University in Magdeburg and the University of Miskolc in terms of establishing cooperation with our Cuban partners and friends from Las Villas University in Santa Clara. We also started to communicate with Iranian partners.

Of course, there is much more to say about this place. However, it is more important to remind briefly of what will come and what we want to improve or achieve to our benefit within the Faculty in the coming year.

- to continue in the development activities, mainly in keeping with the ambitious plan of the campus building in Bottova Street
- to set conditions and to increase the pressure for the purpose of a quantitative and qualitative development of scientific and research activities, to involve all the students at the third level into the grant research within the common European research area
- to support and develop a system of quality at the Faculty with priority and emphasis on the quality improvement of the pedagogical process, to gradually rebuild the relationship of “student-teacher” towards a partnership
- to evaluate the accreditation criteria for fulfilling and corresponding with the passed evaluative period and to make all the necessary corrections in such a way that in the next accreditation in 2013, our Faculty will be above standard within the Slovak University of Technology
- we already know today that the successful faculties and universities of the future need to participate in science and research projects within the common European research area – this is the principal challenge for all our institutes, to participate in the project preparation FP8 with foreign partners within the given time span – the structural funds will be exhausted in two years.

To sum up, ladies and gentlemen, it is my pleasure to thank all the sponsors of the Faculty who, within the last year, donated more than 100 000 EUR for the benefit of the Faculty's activities, and so contributed to the excellent course of the world conference IGIP-SEFI. Moreover, they contributed to the teachers’ and researchers’ mobility, and last but not least, they enabled the purchase of technology equipment.

Ladies and gentlemen,

We thank our sponsors, curators, advisory council members and all partners for the constructive collaboration in the year 2010 and we are happy to fulfill new tasks, challenges and tackle future projects together. I would like to wish you all the best in 2011 again concerning your work and also your personal life.

Oliver Moravčík, Professor, PhD Dean of the 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

**Helena Vidová, Assoc. 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

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

DETACHED WORKPLACES

Nitra Detached Workplace
Brezno Detached Workplace
Komárno Detached Workplace
Dubnica Detached Workplace

DIVISIONS OF THE FACULTY

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
Student Hostel and Canteen

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
Department of Work Economy
Department Wages and Salaries
Department of Safety and Health Protection at Work, Civilian Protection, Fire Safety
Department of Security System

Centre for Technologies Transfer
CHAIR
Moravčík Oliver, Professor, PhD.

VICE-CHAIR
Grgač Peter, Professor, PhD.
Members:
Balog Karol, Professor, PhD.
Behúlová Mária, Assoc. Prof. PhD.
Cyrus Pavel, Professor, PhD.
Čambálo Miloš, Assoc. Prof. PhD.
Čaš Alexander, Professor, DrSc.
Hornáková Františka, Assoc. Prof. PhD.
Jahnátek Lubomír, Professor, PhD.
Janovec Jozef, Professor, DrSc.
Kalúžný Ján, Professor, PhD.
Košturiak Ján, Professor, PhD.
Kapustová Mária, Assoc. Prof. PhD.
Paulová Iveta, Assoc. Prof. PhD.
Peterka Jozef, Professor, PhD.
Sablík Jozef, Professor, PhD.
Sakál Peter, Professor, PhD.
Schreiber Peter, Assoc. Prof. PhD.
Soldán Maroš, Assoc. Prof. PhD.
Tanuška Pavol, Assoc. Prof. PhD.
Tureková Ivana, Assoc. Prof. PhD.
Ulrich Koloman, Professor, PhD.
Važan Peter, Assoc. Prof. PhD.
Veľšek Karol, Professor, PhD.

EXTERNAL MEMBERS:
Fodrek Peter, PhD., visiting prof.
Gregar Aleš, Assoc. Prof. PhD.
Husár Peter, prof. Dr.-Ing. habil.
Korec Matej, PhD.
Kupča Ludovít, PhD., visiting prof.
Lapin Juraj, DrSc.
Lumnitzer Ervín, Professor, PhD.
Oravec Milan, Professor, PhD.
Sága Milan, Professor, PhD.
Simančík František, Dr.
Švrček Daniel, PhD., visiting prof.
Zajac Jozef, Professor, PhD

The first welding association, a.s. Bratislava
Faculty of management and economy UTB Zlín, ČR
Institute for Biomedicine Technology and Informatics, Bionikgebäude TU Ilmenau, SRN
VÚJE a.s. Tmava, Okružná 5, 918 64
VÚJE a.s. Tmava
ÚMMS SAV, Bratislava
Faculty of machining, TU Košice
Faculty of machining, TUKošice
Faculty of machining ŽU, Žilina
ÚMMS SAV Bratislava
Agrolet s.r.o. Bratislava
FVT TU Prešov

CHAIR:
Miloš Čambálo, Assoc. Prof. PhD.

Chair of Academic Staff Chamber:
Peter Schreiber, Assoc. Prof. PhD.

Chair of Student Staff Chamber:
Michal Ondruška, Bc.

Academic Staff Chamber

EMPLOYEES:
Karlo Balog, Professor, PhD.
Miloš Čambálo, Assoc. Prof. PhD.
Lubomír Čaplovič, Assoc. Prof. PhD.
Roman Hrmo, Assoc. Prof. PhD.
Jozef Sablík, Professor, PhD.
Iveta Paulová, Assoc. Prof. PhD.
Milan Naď, Assoc. Prof. PhD.
Róbert Riedlmajer, Assoc. Prof. PhD.
Peter Schreiber, Assoc. Prof. PhD.
Pavol Tanuška, Assoc. Prof. PhD.
Koloman Ulrich, Professor, PhD.
Marta Kučerová, PhD.
Alexander Bilčík, PhD.
Róbert Vrábel, Assoc. Prof. PhD.

STUDENTS:
Jana Brienišková, MSc. Eng.
Michal Ondruška, Bc.
Michal Sroka, Bc.
Branislav Martančík, MSc. Eng.
Kristína Kašníková
Ondrej Kimlíčka
Marián Pluhár
DEVELOPMENT
AND FINANCIAL
MANAGEMENT
DEVELOPMENT OF THE FACULTY IN YEAR 2010

FMST SUT develops, protects and spreads knowledge via research, artistic and other creative activity. The faculty prepares experts with the highest education in technical, technological, information, technical-economic fields. It enables actualisation and acquisition of knowledge throughout the lifespan, and it supports development and improvement of society as a unit. The main task of the FMST SUT regarding long-term intentions is to collect, improve, save and spread of knowledge in areas of science, technology, art and culture, and it is based on university traditions and reactions on the last international inputs in science, art and education. The long-term intention of FMST SUT is to characterise the faculty as a modern research part of the university, which follows the main tasks of European universities based on knowledge production via research, knowledge distribution via teaching, information and communication technologies and application of knowledge in innovations. The aim should be technological innovations, sustainable economical growth and social stability.

Special attention in the long-term intention of development of the FMST SUT is the creation of synergy as a basis for application of integrated capacities of the FMST SUT which present a sufficient critical mass of research and pedagogical potential for its competitiveness in the European and world research and academic areas. The FMST SUT, as one of the European universities, wants to play an important role in the next development of Europe into the form of a Europe of knowledge and knowledge-based economics and society. This aim is supported by an internal intensification into the faculty structure as well as an external one in accordance with the Bologna process and the aims of the Lisbon strategy.

EDUCATION
To rationalize the teaching process.
To create suitable conditions to keep and as well as to increase interest of students to study at the faculty.
To prepare material for accreditation of study programmes in range of a complex accreditation. To make an efficient evaluation system of teaching quality.

INTERNATIONAL RELATIONS
To define, fulfill and develop priorities of area and content orientation of international relations of the MTF SUT.

INFORMATION TECHNOLOGIES
To use in an active way the implementation project of Academic Information System (AIS) at the FMST SUT. To create special computer labs in faculty pavilions. To focus on other ways of e/learning education.

ASSURANCE OF QUALITY
To provide observation and evaluation of teaching quality with the aim of keeping student interest in study at the FMST SUT as an offered quality preparation for successful professional activity of faculty graduates.

PUBLIC RELATIONS
To present regularly the important activities of faculty in the university journal (Spektrum), regional press, MTT and in own E-medias of the faculty.
To keep a high standard of cooperation of the faculty with town organs by organisation of events of town or regional importance.
To prepare the faculty strategy for recruitment at secondary schools.
To intensify and spread the activity of ALUMNI.

FINANCES, MANAGEMENT, STRUCTURE
To respect and implement internal university legislation.

SOURCEs
To search systematically for an optimal composition of multi-sources finances in connection with particular conditions and requirements for their attainment.

QUALITY MANAGEMENT
To implement and keep a system of quality at the faculty.

SERVICES
To create an offer for practice in Slovak and English and inform on the web page. To develop cooperation especially with industrial plants in Trnava and in the Trnava self-government region.

HUMAN RESOURCES
To use in an effective way human resources to be successful in competition and to gain sufficient financial sources via research and other projects. To study, evaluate and optimize a structure of work positions, qualification structure and productivity of work.

PRIORITIES IN INVESTMENT AREA
A strategic intention of building use of FMST SUT. Modernization of lecture halls and classrooms. Renovation of social facilities in the buildings of FMST SUT. To support the modernization and development of existing innovative high-tech laboratories of FMST SUT and to analyze possibilities for new labs.

Connection to the Long-term Intention of State Research and Technical Policy to the year 2015
Solving of the projects relates directly with the Long-term Intention of the State Research and Technical Policy to the year 2015. The category 6.1.4 Knowledge technologies with support of information and communication technologies defines clearly that the development of technologies which help to supply, classify, interpret and implement information, is a needed condition of successful progress of knowledge society. A higher attention should be paid to the development of knowledge technologies with application of automated complex. The actual projects reflect in their aims basic challenges of the long-term intention, they are complete solutions for creation of knowledge organisation. One of the most important aims of the long-term intention, except for provision of sufficient source for support of science and technology, is determination of priorities of research where development of knowledge society is one of the crosscutting objectives. The projects correspond to the area of 4.2 Area of technical infrastructure of research which underlines building and operation of a virtual net to support elementary services for community research. They define ways and mechanisms of knowledge transfer and they solve the question of support of research in organization on base of verification of outputs.

FMST SUT has invested in the area of Information communication technologies (ICT): Creation of LAN FMST SUT net– National node, modernization of PC classes and PC pools, creation of technology of future „thin client”, creation of modern printing system, implementation of ICT to classes.

Discussion with Minister of Education on development of the faculty
The main pillars of the long-term intentions of development of FMST SUT are characterised by the line of its mission as follows:

SCIENCE, TECHNOLOGY, ART
To define and develop the main directions of research at the faculty.

PC pools for students
Portfolios or outputs for development of the faculty creates activities which were a part of the following projects in the last period:
<table>
<thead>
<tr>
<th>List of approved applications for NFD (OPVaV - 2008/2.1/01-SORO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Center for development and application of progressive diagnostic methods in the processing of metal and non-metal materials</td>
</tr>
<tr>
<td>2. Center of Excellence of 5-axis machining</td>
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</table>

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<tr>
<th>List of approved applications for NFD (OPVaV - 2008/5.1/02-SORO)</th>
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</thead>
<tbody>
<tr>
<td>3. Improvement and modernising of teaching technical and information-communication infrastructure of workplaces at SUT</td>
</tr>
</tbody>
</table>

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<tr>
<th>List of approved applications for NFD (OPVaV - 2008/2.2/01-SORO)</th>
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</thead>
<tbody>
<tr>
<td>4. Center of knowledge organisation of intellectual property</td>
</tr>
<tr>
<td>5. Laboratory of flexible production systems with robotized maintenance for area of non-design production</td>
</tr>
<tr>
<td>6. Hybrid electrical source for technical-advisory laboratory of application and propagation of renewable energy sources</td>
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</tbody>
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<th>List of approved applications for NFD (OPVaV - 2009/2.1/02-SORO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Center of excellence for development and application of progressive diagnostic methods in the processing of metal and non-metal materials</td>
</tr>
<tr>
<td>8. Center of excellence for 5- axis machining – experimental base for high-tech research</td>
</tr>
</tbody>
</table>

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<tr>
<th>List of approved applications for NFD (OPV - 2009/1.2/01-SORO)</th>
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<tbody>
<tr>
<td>9. Knowledge regulated tool system of graduate career observation in integration process to the EU</td>
</tr>
<tr>
<td>10. Development of pedagogical skills of PhD students at FMST SUT</td>
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<tr>
<th>List of approved applications for NFD (OPVaV - 2009/2.2/03-SORO)</th>
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<tr>
<td>11. VÚJE, a.s. Increase of energy safety of the Slovak Republic</td>
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<tr>
<th>List of approved applications for NFP (OPVaV - 2009/2.2/05-SORO)</th>
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</thead>
<tbody>
<tr>
<td>12. MIKON, s.r.o. Industrial research silentblocks for overloading by extreme temperatures in area of industrial application</td>
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</table>

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<tr>
<th>List of approved applications for NFP (OPVaV - 2009/5.1/03-SORO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. II. stage of complex modernising of education and information-communication infrastructure of workplaces of SUT</td>
</tr>
</tbody>
</table>
FINANCIAL MANAGEMENT OF THE FACULTY IN YEAR 2010

FMST SUT spent resources for its main activities in accordance with the rules of economy and efficiency for budget decisions. Resources in the year 2010 were as follows (except for resources from the structural funds of the EU):

- **Additional financial resources together** (€) **10 513 185,14**
  - Pedagogy 7 780 727
  - Scholarships of PhD students 882 127
  - Scholarships of students from abroad 1 725
  - Social scholarships 160 243
  - Motivation scholarships 200 326
  - Catering of students 44 553
  - Research 560 251
  - Projects VEGA 164 519
  - Projects KEGA 51 801
  - Projects APVV 163 944,14
  - Projects DAAD 1 320

- **Non-grant resources** (gifts, profits,...) (€) **1 526 790,40**

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Development and Financial Management

**Sign of the Centres of Excellence**

**Opening of the hall of the Centre of Excellence 5-axis machining**

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- Additional financial resources
- Non-grant resources
ACCREDITATIONS
The Faculty of Materials Science and Technology is accredited as a university type of institution. In 2010, through the complex accreditation, the faculty gained the right to give the academic title "bachelor" to the graduates of 10 study programmes, the academic title "engineer" (corresponding to the master degree) to the graduates of 13 study programmes, and the academic title "philosophiae doctor" to the graduates of 9 study programmes in both study formats, full-time and part-time.

ACCREDITED STUDY PROGRAMMES AT THE FACULTY

Accredited study programmes – Bc.

- Applied Informatics and Automation in Industry
- Material Engineering
- Production Devices and Systems
- Computer-Aided Production Technologies
- Production Technologies
- Industrial Management
- Personnel Work in Industrial Plant
- Quality of Production
- Occupational Health and Safety
- Teaching Practical Subjects in Engineering Majors

Accredited study programmes – Ing.

- Applied Informatics and Automation in Industry
- Materials Engineering
- Processing and Application of Non-metals
- Production Appliances and Systems
- Machining and Assembly
- Computer-aided design and production
- Forming
- Welding
- Industrial and Art Folding
- Industrial Management
- Integrated Safety
- Teaching Specific Engineering Subjects
- Engineering of Production Quality

Accredited study programmes – PhD.

- Process Automation and Informatization
- Materials Engineering
- Processing and Application of non-metals
- Production Devices and Systems
- Industrial Engineering
- Integrated Safety
- Machining Technology and Materials
- Didactics of Technical Professional Subjects
- Engineering of Production Quality

STUDY SYSTEM AND ORGANISATION

The credit system introduced in SUT has been implemented in all three degrees of university education at FMST SUT, in compliance with the law and accreditation within the defined standard length of study for 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 to study in degree 2, or leave the Faculty.

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

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” – PhD.

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

INTEREST IN STUDY

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

Graph No. 1.
Number of the bachelor degree candidates (applicants, admitted, enrolled) within the last four years

Admission procedure varies according to the degree.

The admission procedure for the bachelor degree is comprised of the entrance examination consisting of an English language test and a discourse regarding the chosen topic of the doctorate thesis.

Graph No. 2.
Number of master degree candidates (applicants, admitted, enrolled) within the last four years

The number of full-time PhD students (Tab. No. 2) 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).
Study and teaching are guaranteed by particular institutes of the faculty. Every institute provides all three degrees of education. Numbers of students at particular institutes are illustrated in Graph 4.

**Abbreviations used:**
- **UMAT** - Institute of Materials
- **UBEI** - Institute of Safety and Environmental Engineering
- **UIAM** - Institute of Applied Informatics, Automation and Mathematics
- **UIPH** - Institute of Engineering Pedagogy and Humanities
- **UVSM** - Institute of Production Systems and Applied Mechanics
- **UPMK** - Institute of Industrial Engineering, Management and Quality
- **UVTE** - Institute of Production Technologies

**STUDY CONDITIONS**

Regarding the premises and administration, the study conditions in the Faculty are favourable.

We managed to improve 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 year of bachelor and master studies) is quite significant.

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 their 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 PhD students of foreign universities and research institutes.

Besides the students of Slovak citizenship, there are also foreign students studying at FMST SUT. Unfortunately, the Faculty is failing to attract a higher number of foreign students, so their percentage is quite low so far.

**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 SUT is among the universities with the lowest unemployment rate is justified by the educational quality and interest of social practice in the SUT faculties' graduates.

**SOCIAL MATTERS**

Accommodation and board are provided for students in the Student Hostel of M. Uher and the adjacent cafeteria and snack bars. Students mainly appreciate 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 motivation, study loans and consultancy in the Career centre. All of 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.

**Graph No.4: Number of students in individual Faculty institutes by 31/10/2010**

<table>
<thead>
<tr>
<th>Year</th>
<th>Bc.</th>
<th>MSc.</th>
<th>PhD.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006/2007</td>
<td>695</td>
<td>412</td>
<td>20</td>
<td>1127</td>
</tr>
<tr>
<td>2007/2008</td>
<td>687</td>
<td>547</td>
<td>32</td>
<td>1266</td>
</tr>
<tr>
<td>2008/2009</td>
<td>636</td>
<td>1343</td>
<td>33</td>
<td>2012</td>
</tr>
<tr>
<td>2009/2010</td>
<td>817</td>
<td>834</td>
<td>87</td>
<td>1738</td>
</tr>
</tbody>
</table>

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 of the students' opinions regarding the study contents, activities of the educational process implementation, study environment and teaching strategies. Besides this tool of educational quality improvement, the Faculty carries out a survey regarding the students' satisfaction with the aim to identify weaknesses in the educational process, teaching strategies, as well as administration and organisation.

The students of FMST SUT have a chance (in accordance with the law on Universities No. 131/2002 statute) to participate in a survey via a questionnaire which was on the webpage of the faculty. The students of all study degrees could participate.

Together 324 students of all degrees, methods and study forms participated in the electronic student questionnaire of FMST SUT, what is 6.9% from all students. These areas were in the questionnaire: process and organisation of the study, quality and professional behaviour of teachers, quality of teaching process, accomodation and others.
GRADUATE PROFILE

BACHELOR PROGRAMMES (B.c.)

Applied Informatics and Automation in Industry

The graduate will obtain the first level university education in the interdisciplinary field of study in Automation and Applied Informatics. The interdisciplinary study allows application of skills in industry and also in the service sphere.

The graduate will understand the information systems of an industrial enterprise and control systems of technological and production processes. He will know the processes and the methods of implementation and operating of information technologies and automation.

The graduate of this major will have basic knowledge of automation and informatics and will be able to implement it in computer-aided systems. He will have 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 experience in programming, computer modeling and simulation. Operation of automatic measuring, control and information systems contribute to the graduate’s ability to solve problems regarding the implementation and utilisation of computational and automation technology. He will gain knowledge of natural science within the first degree of university study, mathematical and physical basics of automation and computer science.

The graduation will be able to implement and operate IT systems. He can work alone or also as a member of a team. He has good skills to analyse automation and information technology requirements as well as implement and operate automation equipment and information technologies in control systems. He will be aware of social, moral, legal and economic contexts of his profession and the consequences of automation and information technologies application.

He will be ready to perform in the field of industry and services as well as to study the second degree in automation and applied informatics.

The graduate will successfully operate in 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.

Occupational Health and Safety

The graduate has received knowledge and skills of technical and technological sciences with specialization for the safety assurance in the field of production technologies, working environment and safe handling of dangerous substances and objects. The graduate is qualified for problem analysis in the field of Occupational Safety and Health, is able to design, implement and manage Occupational Safety and Health management system, and is able to apply knowledge to other systems. The graduate is able to analyze risks and to design suitable precautionary measures for acceptable Occupational Safety and Health level. The graduate may work in industry and services, in the field of work inspection or relevant professions within regional municipality and state bureaucracy, and in Occupational Safety and Health document processing in particular organisations. The graduate would be helpful in creation of the process of a safe and health-friendly working and living environment in the productive and also in non-productive sphere.

Production Quality

The graduate understands 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 gains 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 staff in economic organisations. He achieves ISO standards skills mainly in quality management. He is 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 an industrial plant, or an expert in quality management.

Materials Engineering

The graduate
• will gain complete bachelor’s degree education in the field of Materials focused on main kinds of technical materials,
• will understand production, testing, technological processing, selection, exploitation and degradation of properties of main kinds of technical materials,
• will have knowledge of notions, principles and theory regarding technical materials, production technology, processing technology, application and recycling of materials, as well as fundamentals of electrical engineering, construction, informatics and management of industrial company,
• will be able to specify mechanical properties of materials and work with equipment used in mechanical and defectoscopics tests of materials, evaluate the structure of materials by standard procedures with the use of corresponding equipment machinery,
• will be conscious of social, moral, legal and economic impact of his profession,
• will be prepared either for the master’s degree study in the field of Materials and related study fields and after graduating also in doctoral degree study, or for entering the job market immediately,
• will successfully operate in industrial companies in the field of technical materials, their technological processing to semi-products and products, as well as in the field of control of their quality, purchasing and selling materials, service and maintenance.

Personnel Policy in Industrial Plant

The graduate understands the strategy of personnel management and its connection with theory and practice of market mechanics. The knowledge and skills gained, including computer literacy, will allow him/her to manage human resources successfully. S/he will be able to solve complex personnel problems regarding the requirements of entrepreneurial subjects and their economical, legal and moral limits. The graduate will successfully perform as a personnel or finance manager on various levels of management in larger, medium-sized and smaller companies, in agencies and in both governmental/non-governmental and profit/non-profit organisations. S/he is well prepared to become a highly competent member of management in lower organisational structures, including the field of financial management.

Computer-Aided Production Technologies

The graduate is able to perform the job of a production technologist able to operate computational technology CAx systems and Cax technologies used in the production preparation and control. The graduate is 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.

Industrial Management

The graduate understands social and technical systems integrating human resources, information, materials, devices and processes within the complex life cycle of products and services. He has 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 aforementioned knowledge. He is able to apply gained knowl-
edge 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.

Teaching Practical Subjects in Engineering Majors
The graduate is familiar with the organisational characteristics of educational system and institutional rules of school as well as the basic structure of technology and material science, principles of design, implementation and evaluation of teaching process in vocational schools. S/he is able to teach practical professional and vocational subjects aimed mostly at developing the skills in technical subjects at secondary technical and vocational schools, or work as a manager providing practical training in professional education, or a trainer in the field of extra-curricular activities. The graduate is prepared either to continue his/her study in the master degree within the programme "Teacher Training of Technical Vocational Subjects", or to enter the job market.

Production Technologies
The graduate understands theoretical and practical issues in production technologies and systems. He is 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 is prepared either to continue his study within 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.

Production Devices and Systems
The graduate will gain complete bachelor degree education in the field of manufacturing engineering focused on engineering production including the maintenance and means of mechanisation and automation. The graduate understands machine technologies and applied tools. He has knowledge in fundamentals of management, environmental engineering, work safety and health protection. He is able to solve the problems in the field of technical materials and their properties, as well as machine mechanics. He is prepared either for the Master degree study programme in production devices and systems or for immediate entry to the job market. The graduate will find engagement as a designer of automated production systems and devices, as a technologist, self-employed in engineering services or as a specialist in various production sections.

MASTER PROGRAMMES (M.sc/ ENG.)
Applied Informatics and Automation in Industry
The graduate will obtain extensive knowledge of theoretical and applied scientific disciplines necessary to understand patterns during the physical, technological, informatics, automation and control processes in industrial companies and organizations, even at the description level of abstract models. The graduate will master basic technological processes of industrial production and the structure of manufacturing. This knowledge will allow him to design systems and ways of their automated control and information support. His designs will regard environmental and ecological aspects. The graduate will also know the systems of data collection, data processes and data transmissions from the process level to the business level. He will have deep knowledge of the theory of systems, process automation, automation equipment, algorithms, information technologies, programming, data processing and data transmission, information systems, real-time systems, visualisation systems of processes, systems for decision support in business activities, systems integration, etc.

The graduate will be able to analyze, design and maintain a huge amount of information technology systems and specific types of information systems for control processes and decision support regarding specific requirements of the enterprise, organization or institution. He will be aware of social, moral, legal and economic contexts of his profession in accordance with professional, ethical and legal frameworks applicable to the area of applied information technologies and automation. The graduate will be ready for an immediate entry into the labour market as well as for the third study degree. He will be prepared to develop his scientific potential in information technologies and automation.

The graduate will successfully perform not only in design and operation of information and control systems in industrial plants, but also in design or consultancy offices for institutions, information, management and telecommunications systems, software engineering, as well as in schools in educational institutions.

Engineering of Production Quality
The graduate understands 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 has 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 is able to develop and implement quality management systems. The graduate may be employed in several areas: industrial companies, services, state administration and at all positions where synergy of management, technical knowledge and skills is needed.

Integrated Safety
The graduate is able independently analyze problems and figure out possibilities in different fields of industry. He/she is qualified to implement and manage Occupational Safety and Health management systems. He/she has skills to design and realize the conditions for application of integrated management systems in the companies and to integrate this system into other ones. The graduate is able to manage risk on the basis of extended study of sciences, to apply knowledge in the process of risk assessment and analysis via the information technologies. The graduate may work within Occupational Safety and Health management systems, in the field of risk assessment and analyses. He/she is able to design systemic measures, to create the conditions for implementation of domestic and foreign legislation into the Occupational Safety and Health management systems and is able to prepare the documentation for prevention activities within the Occupational Safety and Health management systems.

Graduation Ceremony
Materials Engineering
The graduate
• will gain complete master’s degree education in the field of Materials focused on technical materials,
• will understand development and production of technical materials, their technological processing to semi-products and products, as well as control of their quality and operating diagnostics, connections within chemical composition, structure and technically important properties of materials,
• will have knowledge of production, processing, quality control, application and recycling of materials, methods, techniques and means of property analysis, selection and implementation of materials,
• will be able to specify and propose extensive material solutions in different technical fields, apply a wide spectrum of experimental methods of structure study and properties of materials in solving tasks in engineering practice, analyse and understand technological and other processes in terms of their impact on structure and properties of materials, gauge the influence of production and processing technologies on the working environment and in the case of a need to recommend alternative solutions,
• will be conscious of social, moral, legal and economic impacts of his profession,
• will be prepared either to continue his study in post-graduate degree, gain scientific perspective in a whole scale of fields of materials engineering, or to enter the job market immediately,
Machining and Assembly
The graduate has gained 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 understands the subject, from the material origin up to the change of its properties after machining up to the phase of its assembly into larger units. He has 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 can 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 master the complex field of CA systems and CA technologies used in production preparation and control. He is 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 of computational technology and CA system implementation in production support.

Industrial Management
The graduate gains complete university education focused on planning, designing, implementing and managing production systems and also creativity development in engineering projects or processes. He has deep knowledge of natural sciences, technical, technological disciplines and humanities with expertise in industrial management, company management, production management, plant economy, theoretical knowledge of operation and system analysis, logistics, personnel, investment, finance, innovation, information management, etc. The graduate is ready either to continue his study in a postgraduate degree and develop his research career in industrial management, 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.

Industrial and Art Foundry
The graduate has gained 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 has theoretical knowledge of metallurgy of casting materials, processes, design of castings’ mould, moulds manufacturing, and apertures of castings. He is able to work with computational technology, software for simulation of casting processes, computer-aided design of the casting shape, and prediction of casting properties in the phase of production preparation. He can autonomously design technological procedures and control production in a foundry. He can successfully perform in public and private sectors, research, as well as in construction and project workplaces.

Processing and application of non-metals
The graduate gains university education in the study field of Materials with specialisation in non-metallic materials. He understands the production, technical treatment, testing, exploitation and degradation of non-metallic materials such as plastic, ceramics, glass, rubber and some special kinds of materials, the correlations between structure and properties of the mentioned materials, as well as control of their quality and processes of diagnosis. The graduate has knowledge from production, treatment, quality control, application, recycling and secondary treatment of the mentioned materials, methods, technologies and appliances of properties analysis, selection and application of non-metallic materials. The graduates can work as a manager or team member (research, development, production or application of non-metallic materials), independently as a project manager, a manager of own company or a manager in industrial production with this specialisation.

Forming
The graduate has gained complete university education in the major of Production Technologies, primarily in Technology of Forming and its implementation in practice. He understands fundamentals of production technologies, processes of metallic material deformation, functions of forming machines and tools, as well as application of mechanisation and automation. He is be able to design technological procedures and forming tools, solve work safety, provide calculations of force and energetic strain parameters and control calculations for the construction of individual parts of tools, implement the knowledge of properties of forming machines and solve automation in forming.

He can successfully perform as a production manager in the fields of technology development and manufacturing practice in various sectors of industry, mainly of automotive industry, as well as in the private sector.

Teaching Specific Engineering Subjects
The graduate is well familiar with job profiles and activities in the related field, is able to participate in the development of teaching methodology manuals and is aware of social, moral, legal, economic and environmental aspects of his/her profession. S/he is prepared to design the stages of life-long education of adults and to implement them in practice, to adapt educational programmes for a particular type of educational institution and particular groups of students, and to communicate pedagogical and professional knowledge effectively to a wider professional and lay communities. The graduate is ready to perform as a teacher of vocational subjects, a teacher-trainee in the field, or an instructor in the governmental administration and the institutions of further education and education of adults.

Production Devices and Systems
The graduate will gain a complete university (Master degree) education in the field of manufacturing engineering and materials, production processes and production systems. He understands the function of machines and constructions of production equipment. He has knowledge in the field of production machines and materials used in the processes of manufacturing. He is able to solve the tasks of machine mechanics, mechanism and automation. He can recognize social, moral, legal and economic impacts of his profession. He is prepared to either continue his study in a post-graduate degree programme, 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.

Welding
The graduate is able to evaluate the selection of materials, technology feasibility and modern progressive concepts of products that will be manufactured by welding, other joining technologies and cutting. S/he has simultaneously gained the knowledge of the computational technology utilisation and computer simulations in the field of thermal processes in order to minimise degradations of the chosen materials. S/he is able to justify safety risks and provide solid outcome for the economic assessment of a product. The graduate can successfully perform in the top industrial production, university research, both domestic and abroad, as well as in the managerial positions requiring the knowledge in the field of materials and their further progressive technological processing.
POSTGRADUATE PROGRAMMES (PhD.)

Process Automation and Informatization
• 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 on the level of a scientist and a researcher. Depending on the choice of elective subjects, he can specialize in the areas of complex systems by utilising information technologies, in the field of modern flexible manufacturing systems or intelligent management techniques with artificial intelligence.
• The graduate will master mathematical principles, theory and cybernetics methodology combined with advanced methods, theories of management and automation. He will know the principles and methods for designing the complex systems and complex systems of information technologies.
• The graduate will be able to analyze and define the problems of scientific research, implement projects by using the latest formal tools and experimental procedures in accordance with the EU legislation.
• The graduate will understand the background of automation, control and related sciences as well as the physical fundamentals of the originally implemented solutions for automated and automatic control, information technology, preparation and management of experiments, modelling and simulation.
• He will be aware of the social, moral, legal and economic aspects of his profession as a scientist or a researcher.
• The graduate will be ready for scientific or research work in the field of research and development of new methods for the management of complex systems based on the latest information about control algorithms, etc. He will also be ready to articulate the problem and lead the research team professionally.
• He can successfully perform as a top development researcher in the top scientific, research and academic institutions in both domestic and foreign labour markets.

Didactics of Technical Professional Subjects
The graduate is able to identify, analyse and solve the demanding issues of an empirical and conceptual character, as well as to plan, organise and evaluate the research in the related field. The graduate can either lecture didactics of professional subjects at teacher-training faculties preparing the teachers for secondary technical schools, or work for research and development and methodology centres requiring ISCED 7 (level in international classification of education), as well as for governmental administration and educational institutions as an expert in the fields of methodology, research and development and programme concepts.

Integrated Safety
The graduate is familiar with methods of research and experiments within the Occupational Safety and Health management systems. The graduate is qualified to conduct independently scientific research as well as work in the inventive teams, he/she yields the own solutions of complicated problems in the field of Occupational Safety and Health theory and practice, risk management, safety of working and living environment and fire safety, as well as other related branches. The graduate is able to scientifically formulate and elaborate a problem, introduce his/her own results from research work with the possibility of their application in the study branch, including the presentation of results into the scientific journals and proceedings. In the practice he/she may work in the research departments or production companies, in the high manager position in the field of risk management and safety assurance, working environment, and at the faculties of technical universities with the specialization in the field of safety.

Engineering of Production Quality
The graduate achieves the complex PhD education in Production Quality focusing on quality management skills. He knows the scientific methods of research and development to acquire knowledge. He is able to develop creative methods in quality management, integrated and complex quality management, to design and operate social-technical and management systems in different types of organisations, to innovate processes and to improve the quality management. He is able to analyse the market, to analyse customers, to design and evaluate projects for an organisation. The graduate will be mainly employed as a top manager in different organisations, as a consultant for consulting companies and at universities in scientific research works and education work.

Materials Engineering
The graduate
• will master the rules of scientific work in the field of Materials,
• will be prepared to discover and bring his own new solutions of problems,
• will learn to formulate problems scientifically and present his own results,
• will be able to gauge legal and environmental aspects, ethical and social aspects of scientific work,
• will gain doctoral degree education in the field of Materials,
• is familiar with scientific methods of research and development as well as processes leading to his own solving problems in the field of technical materials,
• will master the rules of individual and team scientific work, scientific formulation of problems, ethical and social aspects of scientific work, the rules of presentation of research results,
• will understand the relations of research – development – production – implementation – recycling, aspects of research and development of new materials, legal and environmental aspects of new products,
• will be conscious of social, moral, legal and economic impacts of his profession,
• will be prepared to gain scientific perspective in a large scale of material research fields, for a creative development and widening knowledge in the field, or to enter the job market immediately,
• will successfully perform as a researcher in research institutes, at universities or a highly-qualified specialist in big industrial companies focused on production of materials or technological processing of materials to semi-products and products.

Industrial Management
The graduate gains complex university education in Industrial Management oriented on the knowledge development in the field of managerial activities, tools and methods applied in various types of companies. He has mastered research and development methods of 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. The graduate will be successful in top managerial positions in various types of organisations, consulting companies and universities, in both research and teaching careers.

Processing and application of non-metals
The graduate knows the principles of scientific individual and team work as well as the procedures leading to individual problem solving in the field of non-metallic materials. The graduate is ready to discover and bring new independent solutions of problems, scientifically formulate the problem and present his/her own results and will be able to assess the legal and environmental aspects, ethical and social aspects of scientific work. The graduate understands the connections between research – development – production – use – recycling, aspects of research and development of new materials (especially based on glass, plastics and ceramics). He may work as a scientific/research worker in research institutes, at universities or in large industrial enterprises aimed to the production of materials or technological processing of materials into semi-finished products and products.

Machine Technologies and Materials
The graduate gains 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. The graduate masters scientific methods of research and development in production processes, particularly in technologies of machining, welding, forming, foundry, machine
Production Devices and Systems
The graduate will gain high proficiency in the field of processing control, the development of new control methods and algorithms at the level of scientific, and be a research worker. He can apply the scientific methods of research and development in the area of manufacturing engineering, focused on the development of machining, forming, welding and casting machines, robotic equipment, machines for woodworking, solid waste, etc. He acquires the principles of scientific work, of the relationships among research – development – production – application – recycling. He understands connections between automation, automated and automatic control of manufacturing processes, preparation and control of experiments, modelling, simulation and prognostics. He can recognize social, moral, legal and economic impacts of his profession. He is prepared to formulate and solve the topical problems of specialization, and to lead a research team. The graduate can find engagement in the research, scientific or educational establishments and also in industry as a R&D worker.

Students’ awards 2010

2.2.2010
The awarded PhD students at the meeting of the Scientific Board of the Faculty of Materials Science and Technology Peter Gogola and Marián Vach were awarded in the research area of Metallurgical and assembly sciences; the Student Research Conference in the Section: Production technologies – machining and assembly 1 – Martin Beluský, Katarína Drieniková, Katarína Bachratá

8.4.2010
The first certificate holders of the UNIcert system
The first certificates in the UNIcert III system were awarded to eleven students during the Student Research Conference in the Section: Production technologies – machining and assembly 2 – Roman Zelník, Tibor Horváth, Ludovít Tóth

Section: Production technologies – welding and forming – Gábor Lőrincz, Andrej Ďuračka, Ivan Michalec

Section: Industrial engineering, management and quality 1 – Martin Beluský, Katarína Drieniková, Katarína Bachratá

Section: Industrial engineering, management and quality 2 – Tomáš Naňo, Matej Pecháček, Miriama Špaleková, Tomáš Kollár

Section: Occupational safety and health protection – Hana Vengrínová, Michal Belčík

Section: Environmental engineering - Katarína Fabianová, Zuzana Dragulová, Tatiana Černeková

Section: Applied informatics and automation in industry – Nadežda Kocáková, Dominika Jurovatá, Marek Hetěš

Section: Engineering pedagogy - Lukáš Miklošovič, Veronika Horňáková, Lenka Bokorová

Section: Foreign languages – English language - Alim Imambakiev, Tomáš Schottert, Michaela Tokárová, Lubomír Šmida

15.4.2010
Alim Imambakiev and Tomáš Schottert won the 2. place at the Slovak Student Research Conference which was organised by the Faculty of Natural Sciences of the University of St. Cyril and Methodius in Trnava in the major Applied natural sciences.

18.5.2010
Success of the students at the Student research conference at the University of St. Cyril and Methodius in Trnava

15.-17.6.2010
Awarded final thesis of the students of FMST SUT
The TOP prize in the category student thesis was awarded to Tatiana Štibrányiová, MSc. and Lukáš Kubica, MSc.

28.6.2010
The award of dean for excellent results in the engineering degree in academic year 2009/2010 was given to the students of FMST SUT Katarína Drieniková, Bc., Martina Merava, Bc. and Lubica Švantnerova, Bc.

23.7.2010
The award of dean for excellent results in bachelor degree in academic year 2009/2010

BACHELOR STUDY – full time study

Bachelor study – full time study Number Name with titles
1 Baťková Marianna, Bc.
2 Cibík Daniel, Bc.
3 Dvorská Monika, Bc.
4 Hegedőšová Natália, Bc.
5 Horvátová Zuzana, Bc.
6 Jurk Juraj, Bc.
7 Knizner Miroslav, Bc.
8 Kolarovič Ján, Bc.
9 Kovačík Vlastimil, Bc.
10 Longauer Ján, Bc.
11 Rakús Lukáš, Bc.
12 Sroka Michal, Bc.
13 Svitekoviča Lucia, Bc.
14 Škulibová Jana, Bc.
15 Šmida Lubomír, Bc.

Bachelor study – full time study, combined form
Andel Luboš, Bc.

Bachelor study – part time study
1 Báto Róbert, Bc.
2 Bíró Róbert, Bc.

23.7.2010
Honourable mention for the final thesis in bachelor degree in the academic year 2009/2010

1 Ambrusová Alena, Bc.
2 Bartovičová Lucia, Bc.
3 Bittnerová Monika, Bc.
4 Cuninka Tomáš, Bc.
Bachelor study – part time study

1. Fišerová Monika, Bc.
   Production of gear wheels in the company ZF SACHS Slovakia, a.s.

2. Harárová Anna, Bc.
   Design and production of simplified model of bicycle

   Influence of cobalt component on microstructure of compacts from tool steel

4. Lukáč Miloš, Bc.
   Design for implementation of new concepts of maintenance management in the company ECCO Slovakia, a.s.

5. Porubský Peter, Bc.
   Study of profile modification of workpiece after centreless grinding

6. Schanz Tomáš, Bc.
   Influence of separation emulsions on welding spraying

7. Sójčiaková Miroslava, Bc.
   Design of system of supplier selection

8. Šperka Lubomír, Bc.
   Optimization of wide metropolitan computer net (active part)

   Design and implementation of management of production equipment for forming of plastic foils

28.9.2010
The committee of the Section for research literature and computer programmes of Literary fund gave after proposal of the faculty dean bonus for the best works of the Student research conference in the academic year 2009/2010 to the students of FMST SUT: Hana Vengrínova, Bc. and Katarína Fabiánova, Bc.

10. 12. 2010
The 2. year of Inter-Universities student research and art conference (SVÚaUK) at UCM in Trnava. The following students of supervisors prof. Sakáš and Ing. Hrdinova were successful:

Tomáš Cuninka, Bc. in the section Marketing communication I. (3. place)
Janka Janičková, Bc. in the section Marketing communication II. (special award)

17.11.2010
In occasion of the 17. November the rector SUT Vladimir Báleš, DrSc. awarded the best students of FMST SUT: Dušanka Libor, the best student of Bc. study
Pobiecky Jakub, Bc.
The best student of MSc. study
Zvončan Marek, MSc.
The best student of PhD. study

2. 12. 2010
The PhD student of the study programme Didactics of technical professional subjects Jozef Kadnár, MSc., supervisor: Roman Hrmo, Assoc. Prof. PhD was awarded for the most innovative thesis with title The Implementation of ICT in Engineering Pedagogy in the capital of Latvia during the 6. th International conference of young scientists.

2.12.2010
The Slovak society for quality declared the results of the 6. year of competition Award for the best student work in area of quality management 2010 †, which was awarded to Ing. Jana URZDŽIKOVÁ in the category of dissertation thesis with topic: A proposal of methodology to improve a claim management level in the Slovak organizations.

On 20. 1. 2011 during the New-year meeting of employees and friends of the faculty the dean Oliver Moravčík, Professor, PhD. awarded these dissertation thesis in research 2010:

Major
Machining technology and materials

Student
Jozef Báťa, PhD.
- Welding of special modified thin steel sheets

Major
Industrial management
Student
Juraj Drahňovský, PhD. - A proposal of TPM implementation and application with focus on the production sustainability in industrial plants in SR

Major
Engineering of production quality

Student
Jana Urdziková, PhD. - A proposal of methodology for improvement of claim management level in organisation in Slovakia

Major
Automation and operation

Student
Michal Kebísek, PhD.- Application of data reaching in production processes operation

Major
Applied Mechanics

Student
Rastislav Ďuriš, PhD.- Solving of non-linear tasks with complete matrices of solidity.

Sport success of the students of FMST SUT

World championship - Powerlifting
(Trnava 21. - 25.9. 2010)
Matúš Sobota, Bc.: 1.place

ACADEMIC world championship - Shooting
(Poland 15. - 16.9. 2010)
Monika Zemková: 7.Place

World championship - Long-Distance Swimming
(Canada 15. - 23.7. 2010)
Tomáš Vachan: 29.place

ACADEMIC slovak championship - Athletics
(Banská Bystrica 23.5. 2010)
Tomáš Benko, Bc.: 2.place - 100m; 3.place - 200m
Richard Horváth: 3.place – long-jump
Juraj Svinčák, Bc.: 3.place - 400m
Marek Šajbidor, Bc.: 4.place - 100m a 200m
RESEARCH
The Faculty of Materials Science and Technology was evaluated in five areas of research in the complex accreditation of activities. Five areas related to the faculty study programmes: 

<table>
<thead>
<tr>
<th>Research area</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machining</td>
<td>A</td>
</tr>
<tr>
<td>Metallurgical and assembly sciences</td>
<td>A</td>
</tr>
<tr>
<td>Information sciences, automation and telecommunication</td>
<td>B</td>
</tr>
<tr>
<td>Engineering and technology</td>
<td>B+</td>
</tr>
<tr>
<td>Pedagogical sciences</td>
<td>B−</td>
</tr>
</tbody>
</table>

**Research activities**

In year 2010 the research projects VEGA, KEGA, APW and others were worked out and solved at the faculty. The number of projects in year 2010 from particular agencies and grant schemes are as follows:

<table>
<thead>
<tr>
<th>Projects VEGA (Research grant agency)</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects KEGA (Cultural and education agency)</td>
<td>35</td>
</tr>
<tr>
<td>APVV (Agency for support of research and development)</td>
<td>12</td>
</tr>
<tr>
<td>6. framework programme</td>
<td>9</td>
</tr>
<tr>
<td>7. framework programme</td>
<td>2</td>
</tr>
<tr>
<td>Projects MSVvAS SR</td>
<td>2</td>
</tr>
<tr>
<td>Other foreign projects</td>
<td>4</td>
</tr>
</tbody>
</table>

**Foreign relations**

FMST SUT forms cooperation on the base of good partnership relations which are typical with mutual cooperation, profit in the area of research activities or experience change or education. Active cooperation of our organisation reflected in closed agreements with foreign partners is proof of the necessity of searching for new partnerships and cooperations according to this base.

Institutes which signed the contracts on cooperation with the faculty:

- National Institute of R and D for Materials Physics
  - Bucharest (Romania)
- Faculty of Physics University of Bucharest
  - Bucharest (Romania)
- Pohang University of Science and Technology
  - Pohang (South Korea)
- Fakulty of Organization and Informatics
  - University of Zagreb
  - Zagreb (Croatia)
- Bekaert
  - Zwevegem (Belgium)
- Faculty of Machine Building Technical University of Cluj-Napoca
  - Cluj-Napoca (Romania)
- Instytut technologii eksploatacji
  - Radom (Poland)
- Innovation Center of Materials Diagnostics and Application at ČVUT
  - Prague (Czech Republic)
- University of Miskolc
  - Miskolc (Hungary)
- Forschungszentrum Dresden - Rossendorf
  - Dresden (Germany)
Institute for Systematic Coaching and Organisation Advisory
Berlin (Germany)

Exchanges
The students of FMST SUT participate in exchange programs of short-term and also long-term scholarships. In 2010 the faculty had 28 agreements in the programme Erasmus. The dominant Erasmus partners are institutes in the Czech Republic (5 agreements), Poland (6 agreements), Germany (4 agreements), and Hungary (3 agreements).

Business travels and foreign guests
Development of positive relations with international partners is reflected in the number of foreign guests and business travels of our employees to foreign institutes. The following diagram shows a positive trend in this area:

Foreign visitors to the faculty

Sobrino Daynier Rolando Delg Cuba
Bielař Róbert Austria
Schumi Thomas Austria
Lied Gerhard Austria
Matysiak Waldemar Poland
Melezník Adolf Austria
Vrba Igor Serbia
Strbac Branko Serbia
Baczkowski Andrzej Poland
Berce Petru Romania
Gyenge Csaba Romania
Aleksandrov Aleksandar Bulgaria
Hajkowksi Jakub Poland
Nyers József Serbia
Nemedi Imre Serbia
Santa Robert Serbia
Sošík Bogdan Serbia
Ungureanu Nicolae Romania
Cotetiu Radu Romania
Ros Olimpia Romania
Alic Carmen Romania
Ratiu Sorin Aurel Romania
Alexa Vasile Romania
Kiss Imre Romania
Ros Victor Romania
Dobovicek Sandor Croatia
Wetzig Klaus Germany
Boesman Peter Belgium
Belina Károly Hungary
Tóth Ákos Hungary
Georgieva Julian Bulgaria
Sýkorová Libuše Czech Republic
Danyi József Hungary
Hegedüs Zoltán Hungary
Kocsis Andrasz Hungary
Ašman David Czech Republic
Pinter István Hungary
Bikic Sinisa Serbia
Bukurov Masa Serbia
Hodorčík Janko Serbia
Piotrowski Andrzej Poland
Boral Piotr Poland
Kukielka Leon Poland
Kiedrowicz Marek Poland
Oancea Gheorghe Romania
Kroupa Aleš Czech Republic
Hřímalík David Czech Republic
Petrkovská Lenka Czech Republic
Machado Norgelisa Coelho Cuba
Rodríguez Angel Silvio Machado Cuba
Glistau Elke Germany
Illés Béla Hungary
Telek Peter Hungary
Osterwalder Konrad Japan
Poljakova Tatjana St. Helen
Smith Karl USA
Quadrado Carlos Jose Portugal and Azures
Dowd Peter Australia
Stern Elsbeth Switzerland
Atman Cynthya J. USA
Taylor Kevin UK
Karapetrovič Stanislav Canada
Wächter Bernd Belgium
Bielař Róbert Austria
Pospichal Robert Austria
Schumi Thomas Austria
Kostka Peter Czech Republic
Iovu Mihail Moldavia
Procházková Olga Czech Republic
Zavadil Jiří Czech Republic
Pedliková Jitka Czech Republic
Jirková Hana Czech Republic
Malina Jiří Czech Republic
Ališman David Czech Republic
Kučerová Ludmila Czech Republic
Lukovics Imrich Czech Republic
Bilek Ondrej Czech Republic

Lied Gerhard Austria
Schumi Thomas Austria
Bielař Róbert, PhD. Austria
Samardžić Ivan Croatia
Stoici Antun Croatia
Kozak Dražen Croatia
Ivandić Željko Croatia
Varga Gyulo Hungary

Opening of the Technological Museum

Membership in international organisations
The faculty cooperated on the international level in significant scientific and technical organisations in the last year. The FMST SUT is an institutional member in five international specific institutions. Specific members of the faculty (55 individual memberships) are active in different international or world organisations in different positions, from members to chairs, vice-chairs and members of councils.

Membership in international professional organisations
Association for thermal processing of metals
International Society for Engineering Pedagogy - IGIP
European Platform of Women Scientists
European Network Education and Training in Occupational Safety and Health (ENETOSH)
Europalliance for innovations

Joint International IGIP-SEFI Annual Conference 2010

Memberships in the Slovak professional organisations
Slovak Natural Gas and Crude Oil Union
Association of Industrial Ecology in Slovakia
Slovak Chamber of Commerce and Industry
Slovak Society for Quality
Slovak Society of Ergonomics
Slovak Society of Maintenance
Automobile Cluster

Approved rights to provide the habilitation process

FMST SUT has the right to habilitate (approve the title "associate profesor") and inaugurate (approve the title "profesor") in the study majors:

5.2.7. Machining Technology and Materials
5.2.14. Automation
5.2.26. Materials
5.2.50. Production technology
5.2.52. Industrial Engineering
8.3.5. Occupational Health and Safety
5.2.57. Quality of Production

New Professors and Associate Professors in year 2010

Professor of Emeritus

On the 15.2.2010 the rector of SUT Magnificencia Prof. Ing. Vladimír Báleš, DrSc. awarded the title of professor of emeritus to Alexander Janáč, Professor, PhD.

Visiting professor

On the 21.4.2010 visiting professor Daniel Švrček, PhD. was awarded by the decree.

On the 21.4.2010 visiting professor Peter Fodrek, PhD was awarded by the decree.

Associate Professor

The rector of the University of Žilina named new associate professor after accomplishment of the habilitation process Milan Naď, PhD.

On the 09.11.2010 visiting professor Dr. Andreas Kolitsch from Forschungszenter Dresden-Rossendorf (Research Center) was awarded by the decree.
INTERNAL RELATIONS

Social Programmes for Staff of the Faculty of Materials Science and Technology

The FMST SUT creates the following conditions of social policy for employees according to its rights defined in legislation:

- it forms appropriate working conditions to improve the culture of work and the working environment
- it provides catering for employees and contributes to catering in the amount of 55% of the price
- it provides catering for former employees (retired) according to the defined rules and it organises annual meetings with former employees
- it takes care of further qualifications of employees
- it creates conditions to employ disabled people and it cooperates with protected workshops.
- It provides occupational safety and health protection
- it solves the question of compensation money by finishing of working contract according to the defined rules
- it pays employees to the 13th or 14th income in regards to the state of financial sources
- it pays to employees special revenue by life jubilee of 50 years age in regards to the time of employment at SUT.
- It enables employees to work in flexible working hours
- It provides to mothers and single employees who take care of children to 15 years one day of paid time off each three months.
- It contributes to retirement savings of employees
- it provides in certain cases a contribution from the social fund.

The management of FMST SUT is interested in employee opinions. Every year the survey is made, it can present feedback as a tool to decide about future changes. The faculty management discusses the results of the survey (which are available for the public) and new measurements are created on the basis of the survey of satisfaction.

Security system

Status in the area of work accident risks, illnesses caused by work, dangerous events and dangerous industrial accidents.

- Work injuries: 1
- School injuries: 0
- Number of claims for recourse: 0
- Illnesses caused by work: 0
- Analysis of causes of dangerous situations and dangerous industrial accidents: 0

Status of working conditions (following the rules):

- creation of a new directive by the dean No. 8/2008 on „Work and workplaces which are forbidden to pregnant women and mothers to the end of the ninth month after giving birth and breastfeeding women,”
- the categories of work from the perspective of health risks.

Personnel and protection of working appliances:

- the list of working activities,
- the report on State of technical equipment and control, revision and repair

Areas of the training of Work Safety and Health Protection employees and creation of rules:

- admission training - 43 employees
- periodical training of employees - 259 employees
- training of management - 20 employees
- the first instructions for students
- training of employees to provide first aid – 21 employees.

Status of areas at fire risk: 0

Financial amount used for repairs and revisions of PHP, hydrants, EPS and fire closures: 21 520 €

Number of fire prevention controls in every building of the Faculty of Materials Science and Technology: 24

Activity in the area of education and creating of rules:

- Area of fire control education:
  - admission training: 43 employees
  - Periodical training: 246 employees
  - Training of employees providing fire protection in extra-work time: 25 employees
  - Specific preparation of fire patrols: 28 employees

Public Relations

Contents of the faculty activities in the area of PR are:

- professional care of all important relations,
- active presentation, implementation and harmonizing of all important interests,
- creation of a positive image of the faculty.

The task of public relations is:

- to communicate regularly with all important target groups so that their position and their understanding of the faculty is stronger
- to increase prestige, provision of information, positive attitudes and presentation of successful results in all important areas of faculty activity.

List of the most important events at the faculty in year 2010

JANUARY 2010

- 21.1.2010 New-year meeting of employees of FMST SUT
- 25.1.2010 Television channel BBC visited FMST SUT
- 28.1.2010 Campuswide open house at FMST SUT

FEBRUARY 2010

- 8.-9.2.2010 The first Slovak competition Skills Slovakia – Young Mechatronic under the auspices of the company Festo spol, s. r. o. and ŠIOV
- 17.2.2010 Opening of the Technological museum
- 27.2.2010 students‘ ball 2010

MARCH 2010

- 3.-5.3.2010 FMST SUT as a participant of trade fair IndustryExpo
- 11.3.2010 Presentation of the simulation programme Moldflow at the Institute of Production Technologies
- 13.-14.3.2010 the 36th year of the International swimming competition

APRIL 2010

- 7.-9.4.2010 Annual Joint Working Group Meeting Cost
- 8.4.2010 Student Research Conference 2010
- 15.4.2010 Presentation of simulation programme CADMould at the Institute of Production Technologies
- 19.4.2010 2nd conference of pedagogues of FMST SUT
- 19.4.2010 Meeting with the management of AS FMST SUT
- 21.4.2010 Day of FMST SUT
- 21.4.2010 Awarding of Golden plaque of SUT in memory to František Heger, Professor
- 22.4.2010 Festival of experiments at the Institute of Safety and Environmental Engineering
29.4.2010
International conference Environmental and safety aspects of fires and accidents

**MAY 2010**

12.5.2010
Oliver Moravčík, Professor, PhD. elected for the dean of FMST SUT

14.5.2010
Lecture of Dr.Dr.h.c. Peter Joehnk, Professor from Forschungszentrum - Dresden

16.-19.5.2010
International Doctoral Seminar 2010

27.5.2010
Specific seminar PRAMET 2010

31.5.-4.6.2010
The lecture "Ion Beam Research in Materials Science" of Klaus Wetzig, Professor from IFW Dresden

**JUNE 2010**

1.6.2010
Reconstruction of building Z of FMST SUT

9.6.2010
Building groundbreaking for the Centre of Excellence

18.6.2010
TEACHER’S CUP 2010

21.6.2010
Implementation of the system TelePresence

25.6.2010
Awarding of appointment letters to faculty management

**JULY 2010**

13.7.2010
Ceremonial opening of hall construction of CE

**AUGUST 2010**

12.8.2010
Reconstruction in the academic library

**SEPTEMBER 2010**

7.9.2010
Students of secondary schools at FMST SUT - LUS 2010

8.9.2010
Technical workshop „High-top technology and their application in practice”

8.-11.9.2010
17. International research conference FORM-ING

19.-22.9.2010
Joint International IGIP-SEFI Annual Conference 2010

20.9.2010
Inauguration of the dean of FMST SUT

**OCTOBER 2010**

5.-7.10.2010
FMST SUT on trade fair Academy VAPAC 2010

6.-7.10.2010
Election to the AS FMST SUT for 2010-2014

20.10.2010
the lecture of Alexander Cimbaľák with topic Integration of Information systems

21.10.2010
Meeting of members of Dean’s collegium with former employees of FMST

25.10.2010
Ceremonial matriculation of the first year students in the academic year 2010/2011 in Trnava

27.10.2010
Ceremonial matriculation of the first year students in the academic year 2010/2011 in Komárno

28.10.2010
Opening of hall of the Centre of Excellence 5-axis machining

29.10.2010
Partnership of the Faculty of Materials Science and Technology and the European Alliance for innovations

**DECEMBER 2010**

3.12.2010
Dies Iovis Occurrus: Andrej Černák, Professor, DrSc. “Ophthalmology – an attractive medicine major”

8.12.2010
Signing of memorandum on cooperation between universities „Charter of Foundation“ (University of Miskolc, Otto-von-Guericke-University Magdeburg, Budapest University of Technology and Economics, Technical University of Kosice, University of Security Management in Kosice, Szent István University in Gödöllő, Częstochowa University of Technology, College of Nyiregyháza, Graz University of Technology, Technical University of Cluj-Napoca and the Faculty of Materials Science and technology, Slovak University of Technology), who agreed to support together mutual research, improvement of curricula and knowledge transfer between universities in area of logistics.
Awards in year 2010

21. 1. 2010
awarding of memorial medals of Aurel Stodola

Ján Valko, MSc. Eng.
JAVYS a.s.
Matej Korec, MSC., PhD.
VÚE a.s.
Slávka Jánošíková, PhD.
Transpetrol
Jozef Mikloň, Professor, PhD.
DM group Trencín
Štefan Chudoba, PhD.
Automobile cluster TT
Štefan Boštánek, MSc. Eng.

Town hall, Trnava
Tibor Mikuš, MSc. Eng.
TTSK Trnava
Lubomír Jahnátek, Professor, PhD.
MH Bratislava
Dušan Cišlovič
Government of SR
Bystrík Stanko, MSc. Eng.
KZ PR SR Trnava
Drh.c.Dipl.-Finw.Rolf Pfengle
IFW Dresden
Dr.h.c.prof.Dr. Peter Joezhk
Forschungszentrum Dres.
Ludovít Dobrovský, Professor, PhD.
FMFI VŠB Ostrava
Volkmur Richter, Professor, PhD.
FH Köthen
Peter Husrá, Professor, PhD.
FIA TU Ilmenau
Thihorn Hunják, Professor, PhD.
FIO Varazdin
Jozef Danyi, Professor, PhD.
Főiskola Kecskemét
Bella Illes, Professor, PhD.
FMFI Miskolc
Anthony Hall
Delcam PLC Birmingham

12.3.2010
Milan Turňa, Professor, PhD. IWE was awarded with the GOLD MEDAL FOR SLOVAKIA in 2009. It was awarded by American Biographical Institute, Inc. in the North Carolina, USA.

22.-25.4.2010
The award „Main machining engineer in area of navigation“ was given to Koloman Vincze, Assoc. Prof. PhD.

4.6.2010
Mayor of town Dubnica nad Váhom awarded the Faculty of Materials Science and Technology SUT with the prize „Cenou mesta Dubnica nad Váhom“ in occasion of the 50th anniversary of town rights receiving. The award was for development and cooperation in university education in the region.

13.6. 2010
Award of memorial medal of Aurel Stodola

Jana Štefánková, MSc. Eng.
FMST SUT
Kvetoslava Rešetová, PhD.
FMST SUT
Rudolf Rehák, PhD.
FMST SUT
Milan Hančín, MSc. Eng.
FMST SUT
Jaroslava Dušišová, MSc. Eng.
FMST SUT
Peter Halada, MSc. Eng.
FMST SUT
Dušan Knap, MSc. Eng.
FMST SUT
Bartolomej Hajník, Assoc. Prof. PhD.
FMST SUT
Koloman Vincze, Assoc. Prof. PhD.
FMST SUT
Milan Kovalčík, MSc. Eng.
FMST SUT
Mária Mišúťová, Assoc. Prof. PhD.
FMST SUT
Peter Grgač, Professor, PhD.
FMST SUT
Jozef Peterka, Professor, PhD.
FMST SUT
Jozef Sablik, Professor, PhD.
FMST SUT
František Hornák, Assoc. Prof. PhD.
FMST SUT
Koloman Ulrich, Professor, PhD.
FMST SUT
Jozef Janovec, Professor , DrSc.
FMST SUT
Karol Velišek, Professor , PhD.
FMST SUT
Karol Balog, Professor , PhD.
FMST SUT
Miloš Čambal, Assoc. Prof. PhD.
FMST SUT
Peter Schreiber, Assoc. Prof. PhD.
FMST SUT
Roman Hrmó, Assoc. Prof. PhD.
FMST SUT
Milan Petráš, PhD.
FMST SUT
André Dobrotka, PhD.
FMST SUT

The best habilitation thesis

Milan Nad: Structural modification of vibrating mechanical systems

The best project team

Team – Centre of excellence:

1. Jozef Peterka, Professor, PhD.
2. Peter Pokorný, Assoc. Professor, PhD.
3. Ladislav Morovič, PhD.
4. Ivan Buranský, PhD.
5. Eva Kuchárková, PhD.
6. Matúš Beňo (student PhD.)
7. Marek Zvončan (student PhD.)
8. Martin Kováč (student PhD.)

The best publication at FMST SUT

Miroslav Urban, Professor, DrSc.

During the New-year meeting of employees and friends of the faculty, the dean of the faculty Oliver Moravčík, Professor, PhD. was awarded with:

- the Leibnitz-Medail of IFW Dresden

- memorial medal issued on the occasion of the 160th anniversary of the establishment of the University of mining- University of Technology in Ostrava „ For contributions and long-term development of university with industry“, which was awarded by the rector of the University of Mining in Ostrava TU Ostrava.

Publishing activities

The aim of edition activity of FMST SUT is to secure the fast transfer of results of research knowledge development and education into syllabi via publications and to enable access of students to new knowledge and improve the teaching process.

Edition activity at FMST SUT was made in 2010 with:
• publication activity of Publisher SUT Bratislava,
• edition plan of FMST SUT in Trnava for 2010 approved by Scientific Board,
• additional activity of publisher Alumnipress of FMST SUT in Trnava, scientific monographs of the FMST SUT approved by the dean of the faculty,
• processing of conference periodical publications to the events at the FMST SUT,
• editorial activity of the both journals of FMST SUT: Research papers of FMST SUT with the seat in Trnava; and Materials Science and Technology.

Editorial activity has an important role especially from the perspective of publication activities of faculty authors and it has a strong presentation importance of the faculty.
Number of published publications at FMST SUT in year 2010

<table>
<thead>
<tr>
<th>Type</th>
<th>Monographs</th>
<th>Textbooks</th>
<th>Scripts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>15</td>
<td>4</td>
<td>9</td>
</tr>
</tbody>
</table>

Periodical publications of FMST SUT in year 2010

<table>
<thead>
<tr>
<th>Title of journal</th>
<th>Number of volumes</th>
<th>Number of contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journal Research papers</td>
<td>2</td>
<td>33</td>
</tr>
<tr>
<td>Journal Materials science and Technology</td>
<td>6</td>
<td>41</td>
</tr>
</tbody>
</table>

In 2010 the contract with the company Versita was signed, where the basis is that the journals of FMST SUT can be published by service MetaPress.

Alumni

From year 2007 there is the project Knowledge regulated system of observation tools of graduates career in the integration process to the EU, led by PhDr. Kvetoslava Rešetová, PhD., which was approved in the frame of the call of the Agency Ministry of Education Slovak Republic MŠ SR - SORO for Operation program Education.

The strategic aim of the project is focused on support of quality improvement and flexibility of tool creation for observation of student careers as an output of the adjustment of the education system to the needs of the knowledge society.

In year 1937 the founders of the first Slovak University of Technology did not expect that it would be the best university institution in technical disciplines of our country. Graduates of FMST SUT belong to a numerous community of those who were successful in technical university study. The identity of our faculty, developing feedback between industrial and education and research institution, has and will have an extraordinary importance for next quality improvement of preparation of specialists who are needed with industry of the Slovak Republic as a part of the European Union – the most renowned forming an international world complex.

These are challenges brought by globalisation and we want to react with creation of a graduate society under the title Bank of quality – Alumni. The Bank of quality of graduates will create conditions for feedback in accordance with acquisition of relevant information on career possibilities of graduates of FMST SUT, for identification of requirements of graduates in practice, measurement for rationalization and flexibility of changes in study programmes from the perspective of real needs. The Bank of quality will be a space for experience exchange and acquisition of knowledge, not only from the academic life, but also experiences from industrial practice. Its aim will be to discover conditions and possibilities of graduate careers, map needs and barriers of employment of graduate labour force, design a profile of graduates through models of employer needs, to find out problems with development of competence skills and to bring information which could innovate the study programmes so that they would consider development at labour market.
Research subjects

- Complex metallic alloys and other structurally complex materials
- Advanced alloy steels for energy industries
- Lead-free solders
- Materials with condensed non-crystalline structures
- Nano-structured material
- Computational chemistry in materials science
- Thermodynamic modeling and prediction of phase equilibria
- Coatings and surface treatment

Institute Departments

- Department of Materials Engineering
- Department of Physics

Staff

- Professors: 8
- Emeritus Professors: 3
- Visiting Professors: 2
- Associate Professor: 12
- Senior Lecturers: 14
- Research Fellows: 8
- PhD Students: 20

Study programmes

- Materials Engineering
- Processing and Application of Non-Metals
Institute of Materials Science was established on the 1st of January, 2007, joining former departments into a larger unit thereby 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 FMST. For the bachelor degree, the Institute guarantees the study program Materials Engineering; for the engineering and doctoral degrees it guarantees the study programs Materials Engineering, Processing and Application of Non-metals as well as Surface Engineering of Advanced Materials.

The research and expertise activities of the Institute are aimed at crystalization 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 seven 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 of research and education, the Institute has 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. The most prestigious academic institutes which could be mentioned are the Leibnitz Institute of Solid State and Materials Research Dresden (Germany), the Institute Jozef Stefan, Ljubljana (Slovenia), VUW University of Technology (Austria), the Research Center Dresden-Rossendorf (Germany), the Institute of Physics of Materials, the Academy of Sciences of the Czech Republic, Brno (Czech Republic), the Faculty of Mechanical Engineering, University of Ljubljana (Slovenia), University of Rennes (France), Faculty of Physics, University of Bucharest (Romania) 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), Böhler - Edelstahl and Branson div. Emerson.

The Institute has a long term tradition of cooperation with regional industrial partners such as: INASKALICA, Ltd., SKALICA, VJUCE corp., Jaslovske Bohunice, ZF Sachs Slovakia, corp., Tnmava, Zlievar, corp., Tnmava, HKS Forge Ltd. Tmava; MANZ, corp. Nové Mesto nad Váhom; SONY Slovakia, Nitra; Samsung Electronics Slovakia, Galanta, Voderady; Faurecia Tmava; PSA Peugeot Citroen, Tmava; Noble International Ltd. Senica; TRW Steering System Slovakia Ltd., Nové Mesto nad Váhom; Hella Lighting Slovakia, Kočovce; Kinex-KLF, corp., Kysucké Nové Mesto; PSL, corp. Považska Bystrica; EMO, corp. Močovce; Johns Manville, corp. Tmava; Sauer Danfoss, corp., Považska Bystrica; ŽOS corp., Tmava; PFS, corp., Brezová pod Bradlom; Kompozitum Topoľčany, Fremach, Tmava; Slovalco, corp. Žiar nad Hronom; I. M. Kupa, corp. Nováky, VIVO Partizánske.

The main focus of the project is the establishment of a centre of excellence with emphasis on the development and application of advanced diagnostic methods in processing the metal and non-metal material. This is within the framework of item number 2.1 of the operation program oriented on research and development entitled “Increasing the quality of the workplace and support of excellent research, with a focus on the strategic areas important for next developments of economy and society”. Therefore the main aim of the project, which has been approved, is to build a research infrastructure in accordance with the Innovation policy of the second generation, meaning at the regional level and in accordance with priority No1 of the Innovation strategy of the Slovak Republic: “Infrastructure with a high quality and an effective system for innovation development”. In this way the proposed centre of excellence will support realization of the strategy of competitiveness in the Slovak Republic into 2010, which is an important transfer into innovation policy of the third generation, with the task of integrating innovations into all policies.

We plan to create a modern dynamic centre of excellence. The centre will focus on analytical methods for applying the most contemporary knowledge on the interaction of electron and laser energies with masses of various types. It will also focus on advanced detection systems with high sensitivity, modern mechanical processes, and observation of electrical and non-electrical variables oriented to the evaluation of specific properties, especially progressive metal and non-metal materials prepared by the most modern technological processes. We expect that the project will help to improve the research infrastructure in the Tmava region, and provide a direct connection to the rest of Slovakia (the Faculty of Materials Science and Technology co-operates with dozens of production companies throughout all of Slovakia and with other education and research institutes). The project will also connect the Faculty to other European and Asian research bodies (we cooperate with POSTECH - Pohang University of Science and Technology, South Korea, IFW and FZDI Dresden, Germany, Bekaert in Zwegem, Belgium). Finally, the project will improve the quality of education and popularisation science and technology among unspecialized people.

The content of the project has the aim of supporting a concentration of the best faculty employees in a monothematic centre based on the application of the most modern experimental processes associated with specific material properties, consistent with the objectives of the Materials study program and the study field of Physical Metallurgy. Activities are focused on the attraction of secondary school students who will potentially study fields of technical materials. The project will also provide access for all interested specialists to modern technical equipment in the centre, as well as the organisation of seminars and summer schools and expansion of materials research and its successful representation in the media.

The centre will be equipped with the following modern technical equipment:
- High Resolution Scanning Electron Microscope operating with a thermal FEG cathode and equipped with compatible detection systems EDS, WDS and EBSD along with particular equipment for preparation of samples by ion milling.
- Laser Confocal Microscope with two independent beams for wavelengths 400 and 600 nm.
- Testing equipment for the observation of dynamic failure processes.
- Equipment for measurement of direct and alternating conductivity of non-metal materials at high temperatures.
- Spectral analyzer for measurement of direct and alternating impedance and modular spectra of non-metal materials and composites.
- Rotation Viscosimeter.
- Vulcanization Measurement Equipment.

International Projects

COST MP0602 (COST) (05.08.2008-15.05.2011)
Jozef Janovec, Professor, 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.

IFW FMST SUT
Jozef Janovec, Professor, DrSc.
Investigation of fine structures in metallic materials using TEM
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.

DAAD 1 (01.01.2009 - 31.12.2010)
Jozef Janovec, Professor, DrSc.
Metal matrix composites reinforced with complex metallic alloys
Complex metallic alloys display several interesting properties, such as good corrosion resistance and high-temperature strength,
however, they are brittle at room temperature in the single-phase form, which limits their use in engineering applications. A way to improve the room temperature ductility is the development of a heterogeneous microstructure combining a soft metallic matrix with second-phase CMA particles. The CMA particles act as a strength-bearing component, while the metallic matrix supplies ductility. The project is focused on the production, the structure character and the mechanical testing of high-strength metal matrix composites reinforced with complex metallic alloys.

**EFDA- European Fusion Development Agreement - Research programme in the field of thermonuclear fusion (01.01.2010 - 31.12.2012)**
Miroslav Urban, Professor, DrSc.

Chemical sputtering: Computational modelling of interactions in the carbon-containing films exposed to molecular ions and hydrogen. **EUROATOM CU**
The project aim is to know processes via methods of computer modelling which can be by interaction of products of low-temperature plasma with walls of a reactor by nuclear fusion (plasma – wall interactions). There is the most frequent expectation in construction of fusion reactor walls (particularly in a divertor) that a construction material will be wolfram covered with layer of amorphous hydrocarbon films (a-CH). One of the project aims is to study the stability and the reactivity of various ions which can occur during interaction of plasma particles with divertor walls, also their capture and release into an area of the reactor. Layers of poisonous BeO are alternative materials which are considered in processes of plasma products interaction. We take into account in our project also other alternatives, e.g. based on compositions of BxCyNz, - the content determines if they can create firm layers with properties which are necessary in the material to provide an interaction of the plasma components with reactor walls.

Bekaert, Zwevegem, Belgium (26.05.2008-25.05.2010)
Martin Kusý, Assoc. Prof. PhD.

**Progressive materials, processing and automation**
The subject of the project will be research on advanced materials, processing and automation technologies for direct manufacturing and application. The aim of the project is to bridge basic and applied research in the field of advanced materials with application and manufacturing leading to competitiveness and sustainable growth of both partners. A valuable and unique aspect of the research project is broad involvement of students of master and doctoral degree in up-to-date research activities.

**National Projects**

Svetozár Demian, Msc. Eng.

Metallurgical preparation and research of new intermetallic materials for extreme stress conditions
The project is focused on the development of an optimal metallurgical preparation of high-reactive and heavy melting intermetallic based alloys (TiAl, TiB2 and others) and the research of new systems appropriate for extreme conditions characterised especially by a high temperature, an aggressive environment, a high mechanical and thermal load. The required chemical composition and lower price of new generation of polyphase intermetallic alloys on the base of TiAl can be reached with precursors prepared by an original way from output material isostatic compacting reaction that will follow in remelting or plasma arc furnance. This approach will provide significant improvements in their chemical homogeneity, high flexibility in the alloy necessary ingredients to minimize impurities, thereby obtaining the desired properties for use in extreme conditions.

**VEGA 1/001/10**
(01.01.2010 - 31.12.2010)
Jozef Janovský, Professor, DrSc.

Characterization of structurally complex materials to improve their application possibilities.
The project is focused on research of complex metal alloys and nanostructure of materials. Alloys of type Al-Mn-Ti and Al-Pd-Ti in annealed state (TM = transition metal) and Al-CMA composites (CMA = complex metal alloy) are characterised with x-ray diffraction, TEM (HRTEM), DTA, HR SEM, EDX, WDX and EBSD, as well as thermodynamic modelling. Experiments results and theoretical knowledge will help to calculate basic thermodynamic parameters of studied systems and identified phases. Application of progressive experimental methods creates prepositions for innovations in methodology area. Solving of the project will enlarge basic research knowledge with possible transfer into praxis.

**VEGA 1/0126/08**
(01.01.2008- 31.12.2010)
Mária Dománkó, Assoc. Prof. PhD.

Improvement of microstructural stability of new 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 stainless steels. The main goal of this project is characterisation of the influence of selected 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)
Viera Trnovcová, PhD.

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, superconics and dosimetry. To determine relations between properties, composition, defect structure and preparation technique.

**VEGA 1/0148/08**
(01.01.2008- 31.12.2010)
Roman Morávkov, Assoc. Prof. PhD.

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

**VEGA 1/0840/08**
Andrej Antus, 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 of NMR properties of molecules. We will explore trends of all important contributions such as electron correlation 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.

**VEGA 1/0648/10**
(01.01.2010 - 31.12.2011)
Filip Holka, PhD.

Accurate ab-initio calculation of the potential energy hypersurface of ozone for the theoretical molecular
The project is focused on ab-initio calculation
of global potential energetic hyperarea of basic electronic state of ozone with a sufficient accuracy for next application in theoretical rotation-vibration spectroscopy. To gain this aim we will study into details a convergence of hyperarea to a limit of complete base, relativistic effects and contribution of internal electrons correlation. One important part of project is the calculation of adiabatic correction and analysis of its influence on a shape of hyperarea. According to this analysis we will design an optimal methodological access which is appropriate for a construction of global energetic hyperarea and we will make a calculation.

VEGA 1/0645/10
(01.01.2010 - 31.12.2011)
Stanislav Minárik, Assoc. Prof. PhD.

**Analysis of irreversible changes in condensed non-crystalline structures**

The project is focused on a study of causes of permanent (irreversible) changes in selected condensed non-crystalline structures. The main attention will be on processes of polymerisation and photodegradation of plastics, vulcanization of rubber compound as well as irreversible changes in glass structure. Structure modifications are usually typical by creation of free spaces, new parts and phases which can be observed by different way. In case of the mentioned non-crystalline substances the structure modifications can not be reflected in a visible destroying of structure symmetry. Methods of their identification and evaluation are therefore more complicated than crystallic substances. We will study the examination possibilities of process character via different experimental methods based on IR and UV-VIS spectroscopy, dielectric spectroscopy and thermical analysis. The project aim is a search of possible correlations between mentioned methods and proposing of models for description of irreversible processes in non-crystalline structures. The project will support also a cooperation with French partner who cooperates with both workplaces.

**LIST OF SUBJECTS GUARANTEED BY THE INSTITUTE**

- Advanced materials and technologies
- Applications of statistical and physical methods in technical experiments
- Applied electrotechnics and electronics
- Bachelor project
- Bachelor thesis
- Composites
- Corrosion and surface treatment
- Data processing and simulation
- Degradation processes and prediction of lifetime
- Design of plastics products
- Diploma project
- Diploma thesis
- Dissertation project
- Economic of non-metallic materials production
- Electronics
- Electrotechnics and electrical drives
- Electrotechnics and electronics
- Engineering materials
- Experimental exercises from physics
- Experimental methods of materials investigation
- Fractography
- Fundamentals of economics of plastics processing
- Fundamentals of mechanical testing and defectoscopy of materials
- Fundamentals of plastics processing
- Heat treatment of materials
- Heat treatment technology
- Chemical heat treatment
- Machine tools for plastic processing
- Machinery and devices for plastics processing
- Material and structural databases
- Materials science
- Materials for energy
- Mechanical testing and defectoscopy of materials
- Metallic materials science
- Metallography
- Methodology of the technical experiment
- Methods for analysis of structure and properties of materials
- Methods for structure analysis of materials
- Methods of materials investigation
- Metrology and testing
- Metrology and testing of non-metallic materials
- Modeling of phase equilibria
- Non-metallic materials
- Non-metallic materials processing
- Non-standard processing of plastics
- Novel materials and technologies
- Pedagogical activity
- Physical properties of materials
- Physical modeling
- Physical attributes of materials
- Physical chemistry
- Physical measurement methods of non-metallic materials
- Physical metallurgy
- Physical projection and modelling
- Physics for engineers
- Physics
- 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
- Selected topics of solid state physics
- Selected topics of modeling and optimization of properties of non-metals
- Selected topics of electro-static and optical properties of non-metals
- Selected topics of ceramic and glassy materials
- Selected topics of materials based on polymer substances
- Selected topics of mechanical and thermal properties of non-metals
- Selected topics of surface engineering
- Selected topics of advanced technologies of non-metals
- Semiconductor materials and technologies
- Structural materials of nuclear power plants
- Structure and properties of polymers
- Sturcture and properties of non-metallic materials
- Technical 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 glass 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

**KEGA 327-010STU-4/2010**
(01.01.2010 - 31.12.2011)
Marián Kubliha, Assoc. Prof. PhD.

**Promotion of new responsibilities for IT application in materials research and education**

The project is focused on an improvement of intellectual skills of graduates of the II. and III. grade of university study in area of preparation and management of technical experiment supported with IT technology, especially correct selection, application of communication systems of measurement appliances, technological equipment, sensors, etc. The aim of project is to prepare and implement a subject processed in a specialised laboratory into syllabus. Students can gain new competencies which will increase their ability to be successful at labour market and workplaces which are using a top technology. We expect an increase of research potential and the growth of flexibility of graduates.

APVV SK-CZ-0143-09
(23.03.2010 - 31.12.2011)
Co-researcher Vladimír Labaš, Assoc. Prof. PhD.

**Addressing the technology of special glasses using physical methods**

The project is focused on a support of cooperation between Slovak and Czech partner in area of preparation and testing of physical properties of special glass. It is the study of causes of permanent (irreversible) changes in structure of glass. Structure modifications are usually typical by creation of free spaces, new parts and phases which can be observed by different way. In case of the mentioned non-crystallic substancies the structure modifications can not be reflected in a visible destroying of structure symmetry. Methods of their identification and evaluation are therefore more complicated than crystallic substancies. We will study the examination possibilities of process character via different experimental methods based on IR and UV-VIS spectroscopy, dielectric spectroscopy and thermical analysis. The aim of project is a search of possible correlations between mentioned methods and proposing of models for description of irreversible processes in non-crystalline structures. The project will support also a cooperation with French partner who cooperates with both workplaces.
GRADUATE THESIS

Bachelor Theses

Ambrusová, A.: Characterization of phases in selected complex metallic alloy based on Al-Pd-Co system
Balážik, P.: Metallographic preparation of lead free solders
Bašnák, T.: Determination of light absorption coefficient depending on the different of transparent substances on the wavelength
Beták, M.: The calculation of the phase balance for steel classes AISI 316

Biro, R.: Application of polyurethane in the praxis
Bogár, P.: Evaluation of properties of recycled plastics
Bucha, M.: Evaluation of attributes of a welded joint

Cisár, J.: A description of the uses of spectrometric methods for the analysis of materials
Čavojský, P.: Effect of heat treatment on the resulting mechanical properties of Al alloy produced by powder metallurgy route
Fridel, M.: Eddy currents as means of determining the level of degradation of centrifugally cast tubes
Grejták, E.: Measuring of elastic modulus of solid materials using pendulum methods
Hlavčíková, G.: Modelling of phase equilibrium in lead-free solder type SAC
Hlavna, M.: Methods of creating thin films
Holota, L.: Effect of Foreign Shards on the Quality of Glass
Horecká, I.: Analysis of a broken driving shaft used in construction machine
Hutár, M.: Thermal expansion of stainless steels
Indrišková, P.: Influence of parameters sintering on electrical conductivity ferrites ceramic materials
Ježovič, J.: Microscopic analysis of the compact of K390 Microclean tool steel
Ježovičová, J.: Influence of cobalt content on the microstructure of tool steel compacts
Jozefák, M.: The temperature effect and rate of foambale precursor on resultant structure of aluminium foam
Jurčíková, A.: Boronizing of tool steel type Vanadis 23
Kocian, M.: The material aspects of the hot cracking of welded joints of austenitic steels
Kollár, P.: Description microstructure of a highly reactive and high melting alloys based on titanium
Kolláróvá, B.: The influence of fillers on reology compound properties

Kövér, M.: First-principles calculations of the properties of ionic crystals
Kozánek, P.: Effect of isothermal annealing on the grain size of austenitic Stainless steel AISI 316
Krátká, M.: Boriding of tool steel K 190
Kuba, V.: The analysis of the surface layers of instrumental steels
Kubica, V.: The Influence of Geometry of a Soldered Joint on its Mechanical Properties
Lacko, M.: Characteristics and properties of unlead solders
Mólnár, B.: Measurement of thermal dependence selected dielectric parameters of rubber blends
Mólnár, T.: Identification of hard materials elastic modulus in the shear pendulum motion method
Nichta, R.: Extrusion of magnesium chips
Novák, B.: Characteristic distribution of deformation field in studied sample by optical interferometry
Novák, M.: Microstructural evaluation of deformation level of grain after two-step drawing of tube from steel STN 411523
Ondruška, M.: The Influence of the Plasticizer Addition on the Ferrite Ceramic’s Structure
Peller, P.: Preparation technology of high reaction titanium-based intermetallic alloys
Škultéty, P.: Investigation of the structural stability of Ti-C particles in aluminium matrix
Sobota, J.: Measuring the basalt ceramic electrical characteristcs
Šimonič, J.: Evaluation of the microstructure of cast intermetallic alloys based on titanium
Škultéty, P.: Investigating of Optical Features for Chalcopyrite Glasses
Šmahovský, L.: Effect of formulation on selected properties of rapidly solidified powders NiCrSIB
Takáč, G.: Diffuse boronizing steel K110
Takáč, L.: An overview of hot isostatic pressing
Tomčík, M.: Boriding of M 390 tool steel
Tóthová, A.: Summary of heat treating of titanium and titanium alloys
Turanský, M.: Analysis of the microstructure of leaded and lead-free solders
Varga, Z.: Influence of the plastic deformation at various temperatures on the density of dislocations in selected steels
Volner, P.: Isothermal annealing influence on a measurement of grain microstructure of steel AISI L 316

Masters Theses

Abelovič, T.: Increasing the operating reliability and durability of rail welding
Bakuš, T.: Microstructure and properties of Basaltic ceramics
Baranyai, S.: Structure and properties of oxide eutectic composites
Benovič, J.: Analysis saturation of boron layers on tool steel M390
Bezuch, L.: Modeling of flow and cooling processes of metallic materials in semi-solid state
Bohovičová, J.: Laser scribing of wires
Borsuk, D.: Characterization of secondary phase precipitation in 17Cr-10Mn-3Mo-0.5N austenitic steel
Czibor, P.: Metallographic and fractographic analysis of coated cutting tools
Čermý, R.: The use of Kalman filter in measuring the Young modulus of elasticity holographic interferometry
Čietek, J.: Interaction of dolders with selected types of materials
Daxner, P.: Study of the influence of plastic deformation and thermal exposure on the precipitation of secondary phases in austenitic stainless steel
Grundeiová, J.: Boride layer analysis of tool steel K 190
Haramia, J.: Analysis of a Damaged Staple Tool for Small Holes
Horváth, V.: The characteristic of property changes in the HAZ of WELDOX 700 high-strength steel welded joints
Chrenčík, F.: Microstructural analysis of three-axis deformation of steel STN 411353
Janotová, I.: Structure and selected properties of rapidly quenched nanocrystalline Fe-B based magnetic systems
Javorčík, J.: Effect of welding parameters on microstructure development in different zones of weld joint S35C steel welded by friction stir spot welding
Kalvasterová, D.: Analysis of the solder joints
Kamocsai, I.: Analyzing the modeling of phase equilibrium in multicomponent heterogeneous systems
Kapíčák, A.: Diffusion boronizing of the steel Vanadis 6 for cold work
Kolínek, M.: Anticorrosive protection of the iron structures with the aid of the paint systems
Kolkušová, I.: Investigation of optical properties of polymer structures
Konopka, P.: Design and technology of X-ray beam conditioners
Kozánek, O.: Microscopic analysis of compacts prepared from tool steels 5590 Microclean and S790 Microclean
Krajčičková, Z.: Analysis of selected properties of solders
Longa, P.: Valuation the degree of deformation in volume forming alloys
Majerníková, M.: Diffuse boronizing steel K245 for cold work
Margorínová, S.: The effect of the temperature operation on the development of microstructure centrifugally casted of the reforming sti - pipe types 24Cr35Ni
Messing, M.: The use of plastics in the logistics on the base of injected molding products
Mičková, M.: Observation of stresses present in high strength steels weld joints
Mičuda, M.: Reparation of cutting tool by hard surfacing
Miškove, M.: The characteristic of property changes in the HAZ of P460 high-strength steel welded joints
Nagy, T.: Analysis of the microstructure and properties of solder joints
Nagyová, E.: Study of recrystallization process in Ti6Al4V alloy
Nógy, R.: Transformation in rapid cooling metal alloys with changes selected physical properties
Olláry, A.: Analysis of damaged membrane springs
Ostrožlík, P.: Comparison of different glow lay on basalt paint coats
Papp, M.: Logistic application of plastic packaging films
Patzelt, M.: Determining the Young modulus of elasticity of thin rods of the bending deformation
Rakšányi, A.: Relation between the structure of ferromagnetic cover on borders of superconducting tape and the tape performance
Rau, V.: Influence of orientation of short carbon fibres on thermal expansion of metal matrix composite
Repíská, M.: Thermal expansion of magnesium composites reinforced high module carbon fibers
Sahul, M.: Influence of deposition parameters on the structure and stress characteristics of thin layers
Sandtner, J.: Transformations in rapid-cooling metallic alloys Fe(95-x)Sn5Bx (x = 15, 17, 20) through DSC and DTA
Skvrtek, I.: Effect of post-weld heat-treatment on operational cracking of weld produced from material 800H
Slobodová, Z.: Analysis of fracture characteristics of heat treated 50CrMo4 steel
Ševčík, M.: Study of weld properties of martensitic steel VM12-SHC
Škoriková, I.: Hygienic standpoints of plastics packaging films

Štepanovský, O.: Influence of Parameters of Thermal Processing and Hardening Medium on Content of Residual Austenite
Švántner, T.: Temperature dependent evolution of secondary phases in Cr-Mn-N austenitic steel
Uhrinec, B.: Analyzing the modeling of phase equilibrium in multicomponent heterogeneous systems
Vacho, J.: Quality Impact of developing technology to physical characteristics of the optical fibre
Vigh, T.: Analysis of the properties of pipes from the new 9 – 12Cr steels after induction bending
Žilinský, A.: Development of Zn-alloy magnetron sputter targets

PhD. Thesis

Gebura, Marek:
Microstructure evolution and degradation of nickel based single crystal superalloy during heat treatment and creep. Trawa : Slovak University of Technology in Bratislava Faculty of Materials Science and Technology in Trawa, 2010. - 150 p. - Study programme: Materials science. - Field of the study: 5.2.26 Materials.
Oslanec, Peter:

Visits of Staff Members to Foreign Institutions

Čaplovič Ľubomír, Assoc. Prof. PhD. Czech Republic
Kusý Martin, Assoc. Prof. PhD. Germany
Antušek Andrej, PhD. Austria
Čaplovič Ľubomír, Assoc. Prof. PhD. Czech Republic
Janovec Jozef, Professor, DrSc. Slovakia
Čaplovič Ľubomír, Assoc. Prof. PhD. Czech Republic
Sahul Martin, Bc. Czech Republic
Čaplovič Ľubomír, Assoc. Prof. PhD. Czech Republic
Kublíha Marian, Assoc. Prof. PhD. Belgium
Čaplovič Ľubomír, Assoc. Prof. PhD. Czech Republic
Labaš Vladimír, Assoc. Prof. PhD. China
Čaplovič Ľubomír, Assoc. Prof. PhD. Czech Republic
Trnovcová Viera, PhD. Slovakia
Čaplovič Ľubomír, Assoc. Prof. PhD. Czech Republic
Michenka Václav, MSc. Eng. Germany
Čaplovič Ľubomír, Assoc. Prof. PhD. Czech Republic
Bošák Ondrej, Mgr., PhD. Austria
Čaplovič Ľubomír, Assoc. Prof. PhD. Czech Republic
Kublíha Marian, Assoc. Prof. PhD. Belgium
Čaplovič Ľubomír, Assoc. Prof. PhD. Czech Republic
Kublíha Marian, Assoc. Prof. PhD. Belgium
Čaplovič Ľubomír, Assoc. Prof. PhD. Czech Republic
Oslanec, Peter:


czech republic

austria
Special Interest Group of Chemistry and Physics of Solid
Lubomír Čaplovič, Assoc. Prof. PhD.

Slovak Astronomical Society
Andrzej Dobrotka, MSc.

MEMBERSHIP IN INTERNATIONAL PROFESSIONAL ORGANISATIONS

Minerals, Metals and Materials Society
Jozef Janovec, Professor, DrSc.

IUCr International Union of Crystallography
Lubomír Čaplovič, Assoc. Prof. PhD.
Jozef Janovec, Professor, DrSc.
Viera Trnovcová, PhD.

European Physical Society
Róbert Riedlmajer, Assoc. Prof. PhD.
Marián Kubiš, Assoc. Prof. PhD.
Ondrej Bošák, PhD.
Viera Trnovcová, PhD.

International Society for Solid State Ionics
Viera Trnovcová, PhD.

Czech and Slovak Crystallographic Association
Martin Kušy, Assoc. Prof. PhD.
Lubomír Čaplovič, Assoc. Prof. PhD.

Regional Committee of the IUCr
Lubomír Čaplovič, Assoc. Prof. PhD.

CVC Working Group Integral
Andrzej Dobrotka, PhD.

Association for the Heat Treatment of Metals
Peter Grcač, Professor, PhD.

North-Atlantic Consortium on Non-Oxide Glasses (NACNOG)
Ján Kuľužňš, Professor, PhD.
Stanislav Minář, Assoc. Prof. PhD.
Mária Hudáková, Assoc. Prof. PhD.
Vladimír Labaš, Assoc. Prof. PhD.

Slovak Academy of Science / Metal Science Society
Jozef Janovec, Professor, DrSc.
Lubomír Čaplovič, Assoc. Prof. PhD.
Lydia Trnková, PhD.
Mária Hudáková, Assoc. Prof. PhD.
Viktória Sedlická, PhD.
Martin Kušy, Assoc. Prof. PhD.

Information Society of Education
Jozef Krajčovič, PhD.

Slovak Association of Physicists
Viera Kaššáková, PhD.

Books


Chapter of Books

Journals


Dobrotka, Andrej - Ness, Jan-Uwe: Multifrequency nature of the 0.75 mHz feature in the X-ray light curves of the nova V4743 Sgr. In:


Institute Departments

- Department of Welding
- Department of Machining and Assembly
- Department of Foundry
- Department of Forming

Staff

- Professors: 6
- Emeritus Professors: 3
- Assoc. Professors: 12
- Senior Lecturers: 7
- Research Fellows: 7
- PhD Students: 58

Study programmes

- Computer-Aided Production Technologies
- Production Technologies
- Master Degree:
  - Machining and Assembly
  - Computer-Aided Design and Production
  - Welding
- Industrial and Art Casting
- Machine Technologies and Materials

Research targets

- theory of machine parts manufacturing, creatics, measurement and assembly
- CIM, CAD/CAM, CAPP, CAQ, CAA, RE
- quality of measurement
- computer simulation
- 3D art engraving
- formalibity of new materials
- high parametrical forming
- manufacturing of dies
- experimental methods of forming
- soldering and brazing
- explosion welding
- weldability of steels
- welding of dissimilar materials
- surfacing and tribology
- adhesive bonding
- foundry technology – preparation of molten metal
- preparation of moulding materials
- powder metallurgy – technology of powder processing
- art foundry
- development of new foundry alloys
- plasma-electrolytic technology – surface treatment of metals
- surface layer hardening
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 at the Institute of production technologies are: machining, forming, foundry and welding.

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

The scientific directions of our main workstations are determined for the long term and cover the production and technological aspects of exploitation of all resources and solutions of actual questions in given branches. The layout of projects is oriented mostly to the production technologies in co-operation with industrial practices on the basis of actual global problems.

The central spheres of our scientific research are:

- Production and control of components with complex forms and strict surface
- Numerical simulation and optimization of production in surface and volume forming of metallic materials - prediction of formability
- Modification of surfaces of stainless steel with plasma discharge in electrolytes
- Art casting
- Classical and special methods of joining and cutting metallic and non-metallic materials
- Tribology and surface engineering

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

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

The ambition of the project is to help mould the technical and practical orientation (guidance) in skilled senior engineers to mostly find theoretical and practical orientation (guidance) in this difficult cutting process of five-axis machining.

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VEGA 1/0354/08  
(01.01.2008 - 31.12.2010)  
Stefan Podhorský, PhD.  
The technological and the environmental aspects of the plasma-electrolytic process used for stainless steel polishing  
The subject of the project is a new, unconventional method for polishing and surface finishing of stainless steel products - the technology of plasma polishing. The technology utilizes the physical effect of the electric discharges onto the metal surface sunken in an electrolyte.  

VEGA 1/0130/08  
(01.01.2008 - 31.12.2010)  
Peter Pokorný, Assoc. Prof. 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 the influence of CAM strategies on 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)  
Jozef Blik, Assoc. Prof. PhD.  
Numerical simulation and experimental verification of laser welded tailored blanks formability for the automotive industry  
The project submits 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)  
Roman Koleňák, Assoc. Prof. PhD.  
Study of the 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.  

VEGA 1/0842/09  
(01.01.2009 - 31.12.2011)  
Milan Turňa, Professor, PhD. EWE  
Special methods for metallurgical bonding of hard-to-weld materials and their application in manufacture of new materials with high technical parameters.  
Design, experimental approval, and scientific reasoning of progressive metallurgical bonding of special and combined materials. A selection of special technologies of welding, soldering, etc. or hard-to-weld materials and materials sensitive to degradation in the process of technological processing. An application of new technologies of metallurgical bonding for manufacture of special materials with high technical parameters. Here can be mentioned for example the technologies of solid state welding (explosion, diffusion, MPW: FSW), welding and soldering with concentrated power sources (LB, EB, IB), RS and WS soldering. Engineering of special surfaces. Simulation of technological processes. Diagnosing the structural stability of fabricated joints by thermodynamical calculations with utilisation of CALPHAD program and databases for elucidation of mechanisms of joint formation. Design of workplace for explosion welding and building the laboratory for diffusion bonding and soldering with induction heating.  

VEGA 1/0111/10  
(01.01.2010 - 31.12.2011)  
Erika Hodúlová, PhD.  
Research of the creation and growth of the reaction products in the area of interface solder joints produced by the environmentally suitable alloys in consideration of lifetime and reliability  
The study of the interface of solder joints made by lead-free solders and the identifying of reaction products which are created in soldering process for low and high temperatures. Acquisition of knowledge on creation and growth of the reaction products in formed lead-free solder joints. Calculation of diffusion coefficient and activation energy in soldering process and activation energy in the diffusion process which brings a complex picture on the mechanism in the process of soldering. It is important to describe the mechanism of solder joint formation with a possibility of influence on joint quality to understand better reactions by soldering. Calculation steps of calculation of reaction products rate defines the lifetime and reliability of solder joints.  

VEGA 1/0383/10  
(01.01.2010 - 31.12.2011)  
Matej Beznák, Assoc. Prof. PhD.  
The determination of suitable parameters for precision casting production by centrifugal spin casting into silicon moulds.  
The project subject is a method of centrifugal spin casting of low-melting alloys into silicon moulds with Teckast method. The priority aim is to determine a technological process and appropriate parameters by production of moulds and to provide the highest possible productivity, exactness and quality of castings.  

KEGA 3/6370/08  
Peter Sugár, Assoc. Prof. PhD.  
Innovations in teaching of production technologies and materials on base of e-learning.  
The project which is in cooperation with KVTM FEVT TU Zvolen, is focused on problem solution by implementation of electronic information tools to the education process in the first and second degree of technical university study. It solves the question of intensification of teaching process with the aim to remove the problem of knowledge volume increase which is needed for study programme in specific time. The project output is a practical example of bilingual multimedia web application which presents an evaluation problematic of mechanical and technological properties of metal and non-metal technical materials.  

LIST OF SUBJECTS GUARANTEED WITH THE INSTITUTE  
- Assembly Technology  
- Assembly Technology and CAA systems  
- Assembly Theory  
- Atelier of Modeling and Production of 3D Products  
- Bachelor project  
- Bachelor thesis  
- Basis of Assembly  
- CA systems and computer simulation processes  
- CAD/CAM Systems  
- CAPP systems of Process Planning  
- CAX technologies  
- Computer Aided Productions Technologies  
- Design and manufacturing of welding constructions  
- Dissertate Project  
- 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  
- Geometrical Product Specification  
- Graduate project  
- Graduate thesis  
- Computer Aided Technology in Welding  
- Inspection in welding  
- Machine Tools and Fixtures  
- Machines and Tools for Forming  
- Machining and Forming Theory  
- Machining Technology and Assembly  
- Machining Theory  
- Maintenance and renovation  
- Measuring and Control Parameters of Products  
- Mechanization and Automation in Machining  
- Metrology  
- Metrology and CAQ systems  
- Opening Computer aided of production technologies  
- Optimization of Forming Processes  
- Optimization of Forming Processes for Small-Lot Production  
- Paedetical Activity  
- Performance of production systems  
- Planning of welding manufacture  
- Practice  
- Production Process Planning  
- Programming NC machines  
- Progressive Machining Methods  
- Progressive Methods of Assembly  
- Projecting of Forming Tools by Computer  
- Projecting of production processes and systems  
- Projecting of production systems  
- Quality control and casting defects  
- Quality control of weld joints  
- Research Work  
- Selected Clauses from Theory and technologies casting  
- Selected Clauses from Theory and
Bachelor Theses

Allina, M.: Possibilities of utilization of PowerShape and PowerMill programs at creation of design and manufacturing of shaped surfaces
Babicz, D.: Cutting conditions and tools for machining composite materials
Babis, P.: Cutting conditions and tools for precise hole drilling in composite materials
Babulik, A.: Design and manufacture of an eject lift device
Bočko, T.: Impact of cooling medium on deformation of thin-walled part
Bogár, D.: Environmental and human aspects of technology when producing components by machining
Brtňač, R.: Design and Manufacture of hobber for the shackle of a disc brake
Bučko, A.: New materials used in automotive industry
Bučko, M.: Production and modification of pressing tools by mechanical working
Bukovič, L.: Influence of technology of pulling tubes on mechanical characteristics of tubes
Bunček, V.: Arc Welding of duplex stainless steels
Čibik, D.: Proposition of the assembly modeling railway wagon
Cintávý, J.: Analysis of forming processes in unstable setting
Čapkovič, J.: Design of gating system for figural sculpture
Černý, M.: Design of assembly turbocharger
Čieť, M.: Machining driving sections of railway wheelsets
Doboš, D.: Garage installation system scheme
Drienik, J.: Theoretical patterns of the high speed milling
Drička, R.: Welding of selected non-ferrous metals and alloys by laser beam
Drôbný, M.: Parametric modeling sheet metals and assemblies
Duriš, J.: Exploiting laser and laser technics in metrology
Dvorák, M.: Machines and devices used for wire production
Fišerová, M.: Manufacture of gear wheels in the firm ZF SACHS Slovakia, joint stock company
Frankovič, J.: Production of shank type tools by grinding
Füri, V.: Delamination vs. tool wear at drilling composite materials
Gajdošič, M.: Cutting forces in milling
Gašpárek, J.: Rationalization of turning of ball grooves for a double-row bearing in conditions of PSL a.s.
Gazarek, V.: 3D evaluation of surface roughness
Gergely, M.: Theoretical analysis of deep drawing process
Glásnák, M.: Compressibility of steel sheets with high strength properties
Gombár, R.: Selection of CAM strategies in component surface’s milling process
Gregor, P.: Application of electro-erosion cutting for an extrusion device
Harárová, A.: Design and manufacturing of a simplified bicycle model
Hetešová, A.: Audiovisual tools for teaching of software DELCAM ArtCAM Pro
Hevier, J.: Modeling selected machine
Holásek, J.: Evaluation of selected parameters of roughness on the surfaces after roughing operations
Horváth, M.: Unconventional methods of extrusion
Horváth, T.: Design and manufacturing of a hockey helmet
Hovančák, D.: Tension reducing in welded joints of constructions
Hožváková, Z.: Modern trends in construction of CNC machine tools
Hrbatý, L.: The eligibility of the wire processing when pulling under cold
Hrebiková, M.: Design and manufacture of a screw tap for central bicycle assembly
Husár, A.: Design of the assembly hand pump
Chudý, J.: The analysis of abrasive wear mechanisms
Jáček, J.: 3D animation for teaching
Jagerčík, M.: The use of computer technology in centrifugal casting simulation
Jamrich, K.: A draft replica of an antique commode and the design and manufacture using CAD/CAM software
Janka, M.: Bonding components of solar collectors
Jókay, J.: Effect of control on life of cutting fluids
Juriga, J.: Comparison of components produced by casting and forming
Kálný, L.: Assembly process of a clutch for a pass car
Katrušák, R.: High performance arc welding technologies and their application in practice
Kissová, T.: Decreasing carcinogenic gas emissions in a foundry by using ecological binders
Klenko, M.: Design and assembly of a battery drill
Klus, M.: Electron Beam Welding of High-alloy Steel to Copper
Knizner, M.: Machine tools for high speed milling
Kolenič, A.: Renovation of pressing forms for production of building components
Komáromy, E.: Ultrasonic machining
Kopáčík, P.: Brazing Al and its alloys
Kósegi, T.: Utilisation of TRITOP system in Thin walled part deformation monitoring
Kostelanský, F.: Rationalization of holding hole drilling of bearing rings in PSL conditions, Inc Považská Bystrica
Kostelný, M.: Comparison of manufacturable shape products with different production Technologies
Kováčová, V.: Materials of electrodes for resistance welding
Kováčič, L.: The classification methods of grinding
Kováčič, M.: Overview methods of the final finishing castings
Kovařík, V.: Planning and production of a single-stage gearbox
Krajčí, M.: Use of hand and automated assembly stations
Krajčovič, J.: Computer aided process planning
Krajčovič, T.: Explosion Welding
Králíčková, P.: Influence of CAM Strategies on Mill Surface Roughness
Králíčkovičová, K.: Draft model of an artificial hip joint
Kršková, L.: Roughness comparison of machined surfaces after water jet and laser cutting

Kršteník, J.: System Banc de Paralléisme – polyvalent like the final part of car assembly in PSA Peugeot Citroen Trnava

Kubošek, M.: Combined methods of machining

Kudlej, M.: The Evaluation of formality of some metals by means of help of the computer

Kuruc, M.: Cutting tools and materials for high speed cutting

Leškaníč, M.: Study of intermetallic phases creation on lead-free solder – substrate interface

Longauer, J.: Overview of forming technologies, their development and application

Madro, I.: Tribological equipments for wear testing

Martinka, D.: Rationalization of large diameter bearings assembly in PSL a.s., Považská Bystrica

Matula, P.: Technologies of the finishing of revolution surfaces

Matušík, J.: Computer aided design and manufacturing of dental reparations

Mečiar, E.: The repair of the pressure unit failures of the steam boiler in the conditions of power plant Nováky

Mihalík, P.: Exploiting software about machining component

Michálekovič, V.: Software equipment of Coordinate Measuring Machines and 3D optical measuring devices

Michalík, J.: The roundness deviation measuring – video

Miklovič, V.: Measurement methods of circular profile and their evaluation

Miklušákovič, J.: Advanced measurement methods in engineering metrology

Mitričová, L.: The actual development of plastics and plastics processing technology

Mucská, D.: CAM software comparison through manufacturing of contoured surface

Orihel, M.: Design in term of assembly (DFA method)

Pankúch, P.: The use of magnetic materials produced by the methods PM

Pauer, A.: Steel machining with high solidity and hardness

Paulinyová, Z.: More eco-efficient foundry production

Pavelka, T.: Effect of lubricant on the process of cold wire drawing

Pňka, D.: Gasket manufacturing with using of computer support

Počarovský, L.: Technological possibilities of CNC turning centers in the company IMC Slovakia

Polakovič, R.: Welding of aluminum and his alloys in the manufacturing process

Poliaš, J.: Machining with the support of ultrasound

Porubský, P.: Tracking changes in the profile of the work-piece after centerless grinding

Prach, M.: Lead-free soldering with additive of rare earth elements

Práznovský, E.: Modeling of circular profiled workpiece

Plenkó, M.: Coordination of measuring machines

Púchly, M.: Tolerance and matching database

Pukanec, J.: Recency of bevel gear production using precise forging

Rácz, P.: Indirect methods of measuring external angles

Radošický, B.: Tool wear of cutting tools at drilling composite materials

Ragula, M.: Design and selection of cutting parameters for the production of mould

Rehák, M.: Design of Medals for FMST with applying Delcam ArtCAM software

Rusnáková, M.: Testing of grinding tools

Sadovský, G.: Spark machining processes

Sebíň, M.: Evaluation of the surface buckling in 2D

Sekera, J.: Strategies of introduction of information system from the company’s contribution point of view

Schanz, T.: Effect of separation emulsions for welding spatters

Schmidt, R.: Computer aided monitoring of cutting fluids

Schottert, T.: Adaptive control of CNC machines

Sobota, V.: Testing mechanical properties of steel wire

Stožka, R.: Application of resistance welding in automotive industry

Strečanský, L.: Software for learning to read-out spiral microscope

Struška, B.: The suggestion for checking of connecting material in the company Würth International Trading Ltd.

Suchý, M.: Suggestion for special methods of joining Al to CrNi austenitic steel

Surový, R.: Comparison of CNC lathe components and the lathe with for spindle

Šanťavy, D.: Tailored Blanks technology and its applications in the automotive industry

Šarkoži, M.: Electrical contact materials

Šimonič, D.: Measured deviation of straightness of a two-point bridge

Šipkovský, M.: Qualification and certification of NDT in the welding process

Škojec, M.: Working with the basic measure - the video

Šoka, M.: Dry wire drawing

Takács, A.: New resources in microscoping for measuring surfaces

Tejbus, M.: Measurement of deformation of thin-walled parts

Tomaniček, V.: Modification of post-processors for PowerMill program

Tóth, L.: Design and production of models turning blades as teaching aids

Tužinská, M.: Casting restrictions manufacturable persisted in mould casting

Urban, P.: Selection of Technology for Surfacing Working Surfaces of Agricultural Machines

Určič, M.: Renovation of Castings Made of Mg Alloy type AZ

Vacovský, J.: Effect of cutting material for the quality of machined surface

Varga, E.: The classification of superfinishing methods

Varga, R.: Design of technologic plan for machining supported by ultrasound

Váry, G.: Development engineering in ZF SACHS Slovakia, a. s. Trnava Company

Venény, P.: Workability examination of materials

Vičíková, D.: Testing of the cutting tools with geometrically defined cutting wedge

Volek, J.: Lathe work with a round cutting plate

Vopáň, T.: Complex turned parts

Vozár, P.: Opportunities of a low-cost 3D scanner

Závodný, M.: Parametric modeling and associativity

Zelínska, I.: Strategy of milling

Zígo, J.: Mould production by high-speed machining HSM

Žázo, M.: Usage of the simulation programs MSC.SuperForge

Masters Theses

Bachratý, M.: Production Proposal of Dental Mirror Shell

Bajkai, P.: Explosion welding of malleable cast iron to chosen type of bronze

Barč, M.: 3D animation of chosen progressive methods of machining

Bartoš, R.: The comparison of two-factor classical and planned experiments
Beták, M.: Latest trends in lubricating and surface treatments for wire drawing
Bodišová, P.: Proposal for the use of CAD/CAM system for machining technology
Bolečková, M.: Using of the Delta Spot for resistance welding of aluminium and high-strength steels
Borza, B.: The geometrical cross-sectional shape changes in the sphere of tubes bending in cold conditions
Božík, S.: Problem of weldability of high strength structural steels S690QL and S960QL by productive methods of fusion welding
Brečko, T.: Suitability of milling strategies for various types of surfaces
Buday, M.: I shaped iron welding by MIG/MAG method with four torches together
Bugár, K.: Repair and Optimization by Welding Process of the reactor and regenerator
Buchanec, L.: Lathe-turning of a metric thread by using side feed
Bulant, P.: Analysis of the impact of thermal cycling on the growth of intermetallic phases in the solder joints
Čibulková, S.: Detecting the development of the surface roughness in relation to the cutting velocity in turning
Černáková, K.: Reduction of end thin-walled tubes
Čižmárik, R.: The design assembly of the pressing container by the company UT Umwelt und Transporttechnik s.r.o.
Daniš, J.: Rationalization of production parts machining in the ZF SACHS Levice
Danko, D.: Research of plasticity and bulk formability of the aluminium alloy under higher temperatures
Demian, P.: The proposal of technology forging die forging pieces in the shape of fork, using computer simulation
Drozdá, M.: Using of generative approach of computer-aided process planning
Duračka, A.: Problems with application of lead-free solders in company Delipro Piešťany
Dvórková, L.: Influence of lubricant and copper powder addition to ferrous powder on its compressibility
Fabuš, M.: Effect of additive components on the structure and properties of zinc alloys cast with method TEKCAST
Farkaš, P.: Welding of TRIP Steel by Pulsed Nd:YAG Laser
Fischer, T.: Exploitation of 3D Laser scanning for the purpose of commisioning
Forro, R.: Rationalization for any chosen technological operations at INA SKALICA ltd
Freňák, P.: Editing the cutting parameters for milling copiers
Gálovič, R.: The impact of wire straightening and its mechanical qualities
Gálovska, M.: Contribution to the Theory of copying milling
Gejdôš, K.: Rationalization of coupling towbars utilizing material cutting by laser beam
Gubrianský, E.: 3D animations for chosen cutting geometries
Gudabová, P.: Study of relation between decrease rate of surface roughness and value of material decrease during metal polishing by plasma discharge in electrolyte
Guldan, P.: Welding of aluminium alloy by laser beam at AUDI Q7 automobile bodywork, an influence of welding gap for quality of welding joints
Haršányi, O.: Design and manufacture of electric guitar
Hasíček, S.: Welding of nitrooxidation treated sheet steels by solid state laser
Hagedus, K.: Gauges database
Hrčka, M.: The strengthening of components and instruments by surface plastic deformation
Hrušovská, D.: Experimental analysis of surface properties of moldings made by metal spinning technology
Hudec, J.: The use of power ultrasound in the soldering of ceramic and metal materials
Hulej, M.: Deformation conditions of material after metal spinning operations
Chacula, M.: Valuation to the structure Solders BiAg11
Chocholáček, J.: Determination of cutting temperature by a planned experiment in turning
Chovanec, M.: Options production for a bottle using multi-axis machining
Jadrný, R.: Finishing methods of machining based on the pressure plastics deformation
Jakubička, P.: Theoretical-technological analysis of production processes of extract with flange
Jančár, J.: Effect of thermal cycling on shear strength of joints made with lead-free solders
Jasenský, M.: Expert systems for planning technological documentation of rotating components
Keresteš, M.: Rationalization of the assembling workplace
Kiripolská, M.: Pulsed laser realisation of Aluminium butt weld
Klimo, M.: Investigation of microstructure and mechanical properties of cast iron with spherical graphite after forming with technology of forward hydrodynamical extrusion
Kočíteř, M.: Possibilities of parametrical programming application for production of Port plate component at Sauer-Danfoss a. s. site
Kolník, M.: Using theory of group technology for process planning of processing of products made from metal plates
Kolníková, L.: Proposal of a manufacturing technology of a casted machinery part for sorting of wine grapes
Kosnáčová, L.: Draft assembly of the ceiling cooling in the company Thermotech Ltd.
Koštial, R.: The possible methods of the second reduction of powders sprayed with a gaseous medium and its effect on the structure of powder
Kozák, M.: Preparing for the semi-hot galvanizing thin wires
Kraľča, T.: Economy of machining
Kreuzinger, T.: Tube Expanding and making joints of materials elastic and plastic metals deformation
Krutý, I.: The Placing of Robotics Welding Points on a Handheld Point Welder at Volkswagen Slovakia, a.s.
Kubek, A.: Design and manufacturing of anatomically shaped computer mouse utilising Reverse Engineering and Rapid Prototyping
Kučera, T.: Streamline the production process
Kupec, T.: The Influence of production technology and stamp casting parameters by Tekcast technology to Zn alloy cast properties and structure
Laczó, P.: Operation assembly of sizing preparation
Láný, Š.: Shaping of the Sn foil used for soldering of the high power modules
Lorincz, G.: Production of container roof panels with drawing
Lukačovič, R.: Computer analysis of cut coat cross-section for turning cutting trapezoidal threads
Lupták, D.: The shape of the path in water jet cutting
Lüttermörding, M.: The creation of CAD surfaces from scanned STL file
Lužák, J.: Cutting of thin rods in temperatures lower than 600 °C
Madaj, M.: Utilization of computer simulation in closed die forging process
Magula, J.: Corrosion resistance of welded joints nitrooxidation treated steel plates
Martinovič, L.: Welding of Hadfield steel with malleable cast iron
Martinus, M.:
Forming of a Fusion Layer Resistant to Abrasion Erosion with the Help of a Laser Beam

Masny, J.:
The lifetime of forming tools and the possibilities for its extension

Melicher, P.:
Strategies machining for 5-axis machining centers

Meezey, P.:
Optimization of Technological Welding Process for Horizontal Heat Exchanger with Sloped Transverse Support Plates Connection Tube to Stationary Tubesheet

Michalec, I.:
CMT Technology Exploitation for Welding of Steel Sheets Treated by Nitrooxidation

Mikyska, T.:
Physical and metallurgical aspects of lead-free solders in microelectronics

Miškov, M.:
Using of ecological protein based binder and its influence on properties of mould sands

Mokoš, M.:
Narrow gap welding

Molnár, I.:
Induction brazing of metallic materials

Monteček, M.:
Design of fixture for location and bonding of aluminium strips on the window of a car

Mošat, M.:
Optimization of Roller Bearing Cage Production

Mrva, R.:
Rationalization of production facilities model of the company Zlievaren Trnava s.r.o.

Mužila, E.:
Proposal of simulation model generated by the lead-free solders

Nagyová, M.:
Orbital welding of Cor-Ten steel pipes

Nidel, T.:
Comparison of laboratory measurements and simulation of extrusion process

Ondrašik, M.:
Digital model of car part

Ondrejička, R.:
Influence of fixative on deviation of circularity while turning intrinsic areas

Oravec, M.:
Aluminium tubes circumferential welding mechanisation

Orovčik, Ľ.:
Investigation of metalurgical treatment influence on aluminium alloys

Ostrolucky, L.:
Design and manufacture of parts for milling stations

Packo, M.:
Solid state welding of cast iron with austenitic CrNi steel

Patínak, V.:
Impacts of electrode leakage in electric resistance spot welding on the welded joint quality

Pauliny, P.:
Mechanized submerged arc welding of circumferential welds

Pavelka, P.:
Application of system catia in construction and verification press tools

Pátoprstý, R.:
Security system installation guide

Plika, M.:
The draft circular cross-section of the production end of conical towers

Podskalka, M.:
The machining optimization of Waspaloy in Honeywell Aerospace Olomouc

Pompurová, A.:
Analysis of axial deformation in the steel tube pulled STN 411523

Popluhár, J.:
Using the principle of similarity in multicriterial optimization of cutting fluid selection

Puchaľ, V.:
The Proposal on improvement of disassembling and assembling of railway carriage in ZOS Trnava a. s.

Rábek, M.:
Cutting thin sheet unstable environment

Raček, R.:
Precision components in view of the machine tool structure

Sékely, A.:
Temperature brazing of ceramics and metal materials

Sekyra, I.:
Use of the theory fuzzy sets to solve the selected optimization tasks of the technical production

Servátka, S.:
Production rationalization in conditions of ZF SACHS Slovakia, a.s.

Slovák, M.:
The mathematical formulation of the curve of the material common ratio with the use of a polynomial

Sojak, I.:
Development of unconventional sliding material by hot isostatic pressing of metal powders and analysis of its properties

Soviš, V.:
Kinematics of Machine Finishing Methods

Stemmer, R.:
Solid state welding of dual-phase steel with Al alloy

Ševčik, M.:
Expert systems in process planning of prismatic parts

Šimek, Š.:
Theoretical analysis of the technological processes of bending

Šimná, V.:
Parts classification from view of CNC machining

Škantár, M.:
The manufacturing of the component by CNC milling machine in conditions of Šmeral Brno inc.

Šoucová, L.:
The inventions and patents in metalworking

Šúrová, J.:
Proposal of Classification of technological forming processes

Tarločaková, M.:
Present and current trends of energy saving in die forging

Tašká, M.:
The study of Tekcast method casting parametrs influence on properties of Zn alloys castings

Tkáč, J.:
Welding of special treated thin steel sheets

Benák, M.:
Physicometallurgical aspects of explosion bonding of dissimilar metals

Buranský, I.:
Machining thin-walled parts

Eleková, L.:
Mathematical expression of the material ratio curve of the profile

Kucháriková, E.:
Monitoring of cutting fluids

Liška, J.:
Machining of Composite Materials

Lišková, J.:
Research on technological parameters effect the production of cold drawing wires

Ridzoň, M.:
Research on technological parameters affecting the production and properties of steel pipes

Siketová, K.:
Influence of CAM strategies on the dimension and shape accuracy of shaped surfaces

Šimek, M.:
Study of properties of selected welding joints and clads created by laser with welding material in the form of wire

Tóth, L.:
The influence of technological parameters at the quality of frame spurt

Trnková, Ľ.:
Investigation of influence of current density to the value of decrease of material under the metal polishing by plasma discharge in electrolyte

Vajda, M.:
Monitoring the qualities of cutting fluids

Vajová, K.:
Analyses of the working environment negative factors in the die forges

Valent, P.:
Effect of Change of Density of Powders Sprayed with Water on Strength of Stamped Pieces against Sintering

Vaňa, D.:
Decision modifications for the shoot density and density after tap by reduction powder modification of their granulometric structure

Vendlík, M.:
The use of lasers in engineering technology

Viselka, A.:
Inventions and patents in the assembly

Voznický, M.:
Rationalization of manufactured process of establishing and fitting the boards of printed circuits in JMT SK, s.r.o. Hlohovec

Zelnierzová, I.:
A proposal for humanization of the production process in MATEP BA, spol. s r.o.

PhD Thesis

Bažičšák, M.:
The study of Tekcast method casting parameters influence on properties of Zn alloys castings

Bárta, J.:
Welding of special treated thin steel sheets

Benák, M.:
Physicometallurgical aspects of explosion bonding of dissimilar metals

Buranský, I.:
Machining thin-walled parts

Eleková, L.:
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Study of properties of selected welding joints and clads created by laser with welding material in the form of wire
VISITS OF STAFF MEMBERS TO FOREIGN INSTITUTIONS

Görög Augustín, Assoc. Prof. PhD.
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Czech republic
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Čaus Alexander, Professor, DrSc.
Brazil
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Görög Augustín, Assoc. Prof. PhD.
Czech republic
Šugár Peter, Assoc. Prof. PhD.
France
Tittel Viktor, Assoc. Prof. PhD.
Austria

MEMBERSHIP IN SLOVAK PROFESSIONAL ORGANISATIONS

Slovak Welding Society
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Erika Hodúlová, PhD.
Pavel Kovač Žočky, PhD.
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Vladimír Púčik, MSc. Eng.
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DAAAM Slovakia
Jozef Peterka, Professor, PhD.

Section of Production Machines and Equipment
Ivan Baránek, Professor, PhD.

Association of Universities of the Third Age
Ivan Baránek, Professor, PhD.

Slovak Chamber of Commerce and Industry
Ivan Baránek, Professor, PhD.

Machining of the SR
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Scientific Society of Metal Study SAV
Alexander Caus, Professor, DrSc.

Scientific Society of Metal Study doc. Ing. Viktor Tittel, Assoc. Prof. PhD.

Slovak Maintenance Society
Svätopluk Mečiar, PhD.

Slovak Metrology Society
Augustín Görög, Assoc. Prof. PhD.

Technical Standard Committee
Koloman Ulrich, Professor, PhD.

1st Welding Company, Inc.
Koloman Ulrich, Professor, PhD.

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Erika Hodúlová, PhD.


**Research objectives**

- intelligent workpiece clamping
- intelligent assembly
- thematic network on manufacturing technologies
- new concept of integrated multifunction manufacturing system
- modeling, 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
- research and development in the field of theoretical and applied mechanics
RESEARCH CHARACTERISTICS

The research projects at the Institute of Production Systems and Applied Mechanics are focused on the support and development of education in the study programmes of Production Devices and Systems for bachelor, master and PhD. degrees. The research activities of the institute are aimed at the solution of up-to-date problems and tasks from the field of production systems and devices, applied mechanics, thermodynamics, heat transfer and numerical modeling of technological processes.

Main topics of research activities:

- Flexible manufacturing systems,
- Intelligent assembly 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 principle 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.

At the Institute, the following laboratories are established at this time: 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 thermodynamics and mechanics of fluids, Laboratory of numerical analyses, Laboratory of modeling, Laboratory for vibration and acoustics research and also Mechanical workshop.

In the framework of cooperation between research and praxis, the institute cooperates with several industrial enterprises and research centers (FESTO spol. s r.o. Bratislava; SMC Priemyselne automatizacia spol. s r.o. Bratislava; ZF Sachs Slovakia, a.s. Tmavá; TOMA INDUSTRIES spol. s r.o. Tmavá; ŽOS, a.s. Tmavá; INA Skalica, spol. s r.o. Skalica; VUE, a.s. Tmavá; EBO Slovenské elekttramé, a.s. Jaslovske Bohunice; JAVYS, a.s. Jaslovske Bohunice; AllDeco, spol. s r.o. Jaslovske Bohunice) and with institutes of the Slovak Academy of Sciences.

An important part of the research activities of the institute is represented by cooperation with universities abroad. The most important partners are TU Vienna, TU Miskolc, TU Cluj-Napoca, TU Poznań, VUT Brno, UTB Zlín, VSB Ostrava, TU Brašov, TU Chemnitz, ZČU Píšťan, TU Ľubovna, and many others.

The results of research activities are published in domestic and international journals and presented at scientific conferences and symposia. The obtained results are applied in education as well.

PROJECT OF TECHNOLOGY TRANSFER

Laboratory of flexible manufacturing systems with robotized manipulation supported by no- drawing production

The aim of the project is to create an elastic production system with robotic regulation which will enable design-free production. The product will be modeled with a PC in an appropriate 3D CAD program, then the regulation program will be generated and it will be started in an elastic production system which will produce a component. It will provide the possibility to produce the necessary components for a concrete product. All produced components will be controlled during production, so the likelihood of failure of finished products will be decreased. This prototype device will help to observe the influence of different production strategies on production costs, time, which is necessary to produce a certain product amount, and other important efficiency parameters of the production. The advantages of design-free production and influence on efficiency of the whole process will be observed and presented in pre-production and production phases.

INTERNATIONAL PROJECT

SK-HU-0011-08
(29.05.2009-31.12.2010)
Peter Koštíř, Assoc. Prof. PhD.
Implementation of Production Logistics into Learning System

The field of production logistics, with many reserved, presents a great opportunity for making the production logistics more effective. Logistic optimization in production implies a real global task. To solve this task, there is a great worldwide effort mainly on the part of large-scale industrial concerns. This really means a matter of dedication. Solution of this problem needs specialists with professional competence in a broad extent concerning this field. Such specialists can manage the principles of production technology, production engineering, as well as production logistics within the sufficient range. Besides the management of the mentioned principles, they also need to be capable of useful exploitation within the design and creation of production systems, as well as already existing systems of operation.

SK-CZ-0180-09
(01.01.2010-31.12.2011)
Mária Behulová, Assoc. Prof. PhD.
Development of models for numerical simulation and optimization of processes of unconventional material processing in semi-solid state

The project is focused on the design, analysis and optimization of material processing in semi-solid state with the aim to obtain final products with very fine microstructures and unique material properties. The main aim of the project covers the attainment of experimental, model and simulation support for the design and optimization of forming processes in semi-solid state and their application for the production of small products from high-alloyed tool steels. The solution methodology will be based on the close coupling of up-to-date experimental and diagnostic methods with the advanced methods of mathematic modeling and numerical simulation of material behavior in semi-solid state. For this purpose, a unique technical, laboratory and software equipment of both workplaces will be exploited.

AU-SK 2009-10-150001
(01.01.2010-31.12.2010)
Mária Behulová, Assoc. Prof. PhD.
Computer Aided Design and Optimisation of Production Technologies

The main object of the project covers a very close coupling between advanced high-tech experimental measurements and computer-aided design, numerical simulation and optimization of unconventional laser production technologies in the direct relationship to the practice. The principal effort will be focused on the introduction of efficient cooperation of academic institutions and small and medium enterprises in the regions of Tmava and Vienana. The final aim is the establishment of a wide platform for the permanent communication of industrial companies with researchers, teachers and students in order to increase their competitiveness through the solution of technological problems and dissemination of up-to-date scientific knowledge to practice.

NATIONAL PROJECTS

VEGA 1/0206/09
(01.01.2009-31.12.2012)
Karol Velišek, Professor, PhD.
Intelligent Assembly Cell

A flexible and intelligent assembly cell concept includes a new solution for how to create structures of assembly systems. No external industrial robot is used for manipulation or for assembly. Intelligent behaviour of the system will rely on monitoring of important parameters of the system and there will also be monitored information about the system’s interaction with its surroundings. Surrounding interaction information will be taken with many advantages, such as bringing flexible reactions of the system to manufacturing changes, building up the area of saving, lowering building costs, and higher use effects of the whole device.

VEGA 1/0163/10
Peter Koštíř, Assoc. Prof. PhD.
Clamping fixtures in intelligent production systems

A new generation of clamping fixtures presents systems of clamping fixtures that are ap-
Welding technology, heat transfer and exothermic processes require experience and special knowledge of materials or structural changes of phases in the field of welding processes, such as residual stress gradients. The stress gradient is high in the heat affected zone (HAZ) because of its thickness. Measurement of parameters obtained from experiments are used for verification of results achieved by FEM. The engineering-scientific software ANSYS is suitable for solving thermo-mechanical analysis of the welding process by FEM. Structural changes in HAZ could be satisfactorily solved by the software SYSWELD.

VEGA 1/0009/08 (01.01.2008-31.12.2010)
František Pecháček, Assoc. Prof. PhD.
Optimized Systems and Processes of Performance Ultrasound

The project is based on research oriented to ultrasonic tool resonators for technology applications of ultrasound. Amplitude and frequency parameters of ultrasonic piezoelectric converters, wave conductors, concentrators and tools are being analysed.

VEGA 1/0837/08 (01.01.2008-31.12.2010)
Mária Behúlová, Assoc. Prof. PhD.
Design and Optimisation of Innovative Forming and Heat Treatment Technologies Supported by FEM Simulation

The project is focused on the application of advanced approaches to the design, analysis and optimisation of chosen innovative 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 an advance in knowledge in the field of material behavior 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 objective of the project also creates the development, verification and application of new simulation models, material models and computing procedures for numerical simulation of forming and heat treatment processes.

VEGA 1/0256/09 (01.01.2009-31.12.2011)
Milan Nad', Assoc. Prof. PhD.
Experimental and Simulation Methods of Dynamical Analysis of Mechatronic Subsystems of Technological Equipment

A mechatronical approach to modelling, analysis, and design of effective modern technological equipment is forced by the inevitable mutual integration of mechanical, electrical, electronic and control subsystems, as well as by their integration with the terminal technological process. This type of integration calls for development of methods for analysis and synthesis of energetic and information flow among subsystems with regard to efficient satisfaction of the functional objectives of the complete technological system.

LIST OF SUBJECTS GUARANTEED BY THE INSTITUTE

- Applied Mechanics
- Bachelor Thesis
- Design of Production Systems
- Diploma Project
- Diploma Thesis
- Elasticity, Strength and Plasticity
- Experimental methods and technical diagnostics
- Finite Element Method
- Fundamentals of Engineering Design and Technical Documentation
- Fundamentals of Mechatronics
- Introduction to finite element method
- Introduction to Production Automation
- Industrial Robots and Manipulators
- Logistics of Production Systems
- Machine Parts and Mechanisms
- Machine Tools
- Machines for special Technologies
- Maintenance of production systems
- Mechanics of Fluids and Thermomechanics
- Mechanics of Materials I
- Mechanics of Production Machines
- Mechanics I
- Mechanisation and Automation
- Mechatronics
- Modeling and Simulation of Technological Processes
- Modelling of thermal processes
- Noise and Vibration
- Operation and Maintenance of Production Technique/Devices
- Performance of Production Systems
- Practice
- Production Devices
- Production Process Planning I, II
- Production Systems I, II
- Programming of Production and Manipulating Devices
- Reliability and Safety of Technical Systems
- Solid Mechanics
- Technological Equipment of Production Machines
- Technological Process Modelling and Simulation
- Theory of Automatic Machines
- Vibration of mechanical systems

GRADUATE THESSES

Bachelor Theses

Babiak, M.:
Changing and getting effective command program for tools

Baránek, J.:
Draft e-learning module for the classification of turns

Baumgartner, M.:
Controlling a pneumatic circuit of the production equipment

Belai, R.:
The Selection of Solutions for Distribution and Assembly of Engines in PSA Peugeot Citroen, Trnava
Boris, M.: Modernization of gauge strain apparatus M2000
Bučeková, K.: Schemes of e-learning module for tolerance of dimensional accuracy
Fitoš, P.: The project of compressed air production in an e-learning module
Gašparovič, P.: Analysis of the influence of bearings parameters on the dynamic motor characteristics
Hlavka, S.: The front suspension sector assembly implementation to the Vehicle front-end assembly line in the Peugeot Citroën Automobiles Slovakia, Trnava plant
Hrebíček, P.: Modern concepts of establishing the effective operation of productive systems
Hrebík, M.: Virtual model of a humanoid robot Bioloid
Hyroš, M.: Proposal of utilization PPS systems on assembling operation in electrotechnical industry
Chlapečka, R.: Methodical approach of creation connecting pneumatic circumference
Krejči, P.: Proposal of a production system dispositional solution by means of material flow analysis
Kšinantová, T.: The Design of an E-learning Module for Classification of screws
Kubaša, I.: Suggestion about pneumatic control for selected manipulator
Lančarič, A.: Ideological device of handling equipment for the production of controllers
Melovič, F.: An idea for a proposal of jaws of clamp caps for non-rotated parts
Miklošovič, L.: Stochastic modeling of reliability of manufacturing systems using the Monte Carlo method
Mišovič, P.: Proposal for an e-learning module to characterize surface roughness
Nádaský, D.: PPS systems use proposal at chosen packing facility of chemical industry
Novák, S.: Valves and distributors in technical practice
Popovič, I.: Design of an E-Learning Module for Classification of Nuts
Rakús, P.: Database of transport systems in production process
Rolič, L.: Designing the deformation element of a sensor for multiaxial measuring
Šlamka, Š.: The proposal of an e-learning module for classification of technical materials
Sokol, J.: An algorithm for recognition of obstacles to movement of a humanoid robot
Šafraňek, M.: Proposal of gripper jaws for gripping complex shaped components
Šimunová, M.: Methods for reduction of unwanted vibrations of elements of production systems
Švoš, J.: Vibrating Conveyors in Technical Practice
Topolský, L.: The project on the e-learning module for the classifying of pins, plugs, wedges and springs
Vilím, A.: The meaning of total productive maintenance regarding lifetime and performance of production machinery in PSA Peugeot Citroën Slovakia
Vittek, D.: Solution selection of distribution and wheel assembly in Peugeot Citroën Automobiles Slovakia, Trnava
Viček, P.: Controlling the electro-pneumatic circuit of the production equipment
Žák, K.: The Implementation of a New Seats Supplier into an Existing Line
Masters Theses
Bačo, M.: Methodological procedure of making robotised assembly workstations
Braniš, M.: Welding robotization
Cintuša, Š.: Backup systems in the reliability of technical systems
Cintulová, M.: The time proposal of the material flow in the production line depending on the production time of a particular product
Daniš, J.: Design of Triaxial Pneumatic "Pick and Place" Manipulator Workplace Dismantling Automation
Dávidová, K.: Equipment design orientation entered parts
Drška, P.: The computational model of flexible production line reliability
Figura, L.: Planning and projection warehouse system in the mechanical production
Gyárfsás, P.: Rationalization of manufacturing system design through CA systems
Hamar, B.: Positioner for welding of mast section steel structure
Horváth, M.: Rationalization of production of plastic parts - optimizing of production equipments layout
Kollár, A.: Independent automatic machines set performance and reliability evaluation
Kolláróvá, V.: Algorithms for material flow in flexible production cell
Kopka, R.: Proposal of a production facility for manufacturing of specified component
Krajčová, K.: Methods of planning, optimization and running of material flow
Lančarič, I.: A motion product base for the flexible manufacturing system
Mikula, A.: Algorithms for proposing a model production system
Nguyenová, D.: The submission of equipment for the assembly of reward component
Omelka, T.: A proposal of logistics flow of material in flexible production cell from warehouse system point of view
Peško, M.: Design of technological exhaust system in manufacturing hall
Petráš, M.: Choice of suitable equipment for writing Cartesian robot activity principle in a flexible production at UVSM
Pleva, P.: Rationalization of the production of plastic components - optimization of material reserves in production
Podmajerský, I.: Creation of technical documentation for a specific part of managing the flexible manufacturing cell line
Pomopura, M.: Model design of production system
Prochážka, P.: Proposal of the production line for synchronous bearings in terms of INA SKALICA
Szabo, Z.: Shape design of the die cavity for material forming in semi-solid state
Šebenňová, S.: The equipment design for material flow in manufacturing entered element
Špetta, I.: Application of system KAIZEN on optimize of assembly line combined radially and axial bearings in INA Skalica
Špettová, R.: Proposal for a sensor system for identification of single objects in the work area of intelligent production-assembly cell on UVSM
Šuhajda, P.: The design of evaluation methodology and rationalization of workplaces
Tuchyná, V.: Physical data for mathematical modeling and simulation of pneumatic systems
Tulala, D.: Design of automatization of three-axial pneumatic Pick&Place manipulator assembly Workstation
Vittek, M.: The option of suitable means for writing the principle of activity of the storage system in an intelligent manufacturing and assembly cell on UVSM
Zilinska, Š.: Equipment design for automated assembly
Zilinsky, B.: Complete system design of the electropneumatic control of main tractive circuits and brakes in cooperation with the system ARR of two-system railway engine
Zilinsky, D.: Equipment design for automated disassembly
PhD Thesis

Ďuriš, Rastislav: Solving Non-linear problems with full-matrix stiffness

VISITS OF STAFF MEMBERS TO FOREIGN INSTITUTIONS

Behúlová Mária, Assoc. Prof. PhD. Czech Republic
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Technical Commission 81 SÚTN Bratislava
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Technical Commission 57 SÚTN Bratislava
Bohumil Taraba, Assoc. Prof. PhD.

Technical Commission 58 SÚTN Bratislava
Bohumil Taraba, Assoc. Prof. PhD.

MEMBERSHIP IN INTERNATIONAL PROFESSIONAL ORGANISATIONS

Society of Machining and Machine Tools
Karol Velíšek, Professor, PhD.
Peter Košťál, Assoc. Prof. PhD.
František Pecháček, Assoc. Prof. PhD.
Marcela Charbulová, PhD.

OIAV - ÖSTERREICHISCHER INGENIEUR- UND ARCHITEKTEN- VEREIN
Karol Velíšek, Professor, PhD.

The Czechoslovak Association for Crystal Growth
Mária Behúlová, Assoc. Prof. PhD.

European Acoustical Association
Tibor Nánasi, PhD.

IACMST - International Association of Computer Science and Information Technology
Peter Košťál, Assoc. Prof. PhD.
Andrea Mudriková, PhD.
Mária Behúlová, Assoc. Prof. PhD.

IIIIS The International Institute of Informatics and Systemics
Nina Danišová, PhD.

WASET - World Academy of Science, Engineering and Technology, Scientific and Technical Committees
Peter Košťál, Assoc. Prof. PhD.

PUBLICATIONS

Books


Journals


Adamčíková, Andrea - Taraba, Bohumil - Kováčik, J.: A Study of Porosity Influence on...


Ružárovský, Roman - Horváth, Štefan - Velšák, Karol: Utilization of design method for model proposition of automated assembly device in IAC. In: CEURSIS 2010: The Interna

Košťál, Peter - Kiss, Imre - Kerak, Peter: The Intell...
INSTITUTE OF INDUSTRIAL ENGINEERING, MANAGEMENT AND QUALITY
Research targets

- Progressive approaches in the area of the organization management
- Corporate Culture
- Knowledge management
- Logistics and production management
- Quality management
- Product and processes certification
- Marketing
- Human resources management
- Development of managerial competencies
- Project management
- Ergonomics
RESEARCH CHARACTERISTICS

Concept and focus of the research activities: Research and pedagogical projects within VEGA & KEQA grant agencies; International programmes and projects; Internally 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, Operations research, Corporate Social Responsibility.

INTERNATIONAL PROJECTS

ERDC (01.06.2008-30.05.2010)
Renata Nováková, Assoc. Prof. 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.

South East Europe Transnational Co-operation Programme: "The international cooperation network of educational and research institution with subcontractors and other bodies active in Automotive Industry" (1.12.2009-28.2.2012)
Project team: Miloš Cambál, Assoc. Prof. PhD., Dagmar Cašáňová, PhD., Miriam Šefčíková, PhD., Zdenka Gyurák-Bábeľová, PhD., Zuzana Lenhardtová, PhD., Jana Šujanová, Assoc. Prof. PhD.
The Project brings together Universities, R&D institutions, SME support facilities from EU-15, NMS as well as IPA to prepare and create the first automotive network in South-East Europe. The second level clustering activities proposed by the project are strictly oriented on the activities which are improving the innovation capacities in the region and improve technology and know-how transfer - improving the innovation circle. The project in the first stage analyses the cluster’s development and best practices across the regions as well as creating the connection with other existing European activities in the automotive clustering. The project focuses highly towards producing concrete results and addresses the main challenges that are particularly specific for the SEE region, particularly the same across the whole EU territory.

During the project, activities which should promote the automotive industry and increase the cooperation between universities and SME’s will be realized as well - one permanent exchange program will be carried out. The project will summarize the earned experience and know-how on the Common Methodology which will be elaborated close to the project closure to help in other regions and different industries in second level clustering focused on innovation.

The following activities were organised in 2010 as a part of the project No. SEE/A/594/1.2/X with the name „International net of education and research organisations with suppliers and other organisations which are active in the automobile industry,” with the acronym AUTOCLUSTERS:

1. Members of project team organised an educational seminar on the “Future of the automobile industry” during International doctoral seminar 2010 which was prepared by the Faculty of Materials Science and Technology from the 16th to the 19th of May 2010. The educational seminar provided space for presentation of project contributions, analysis of the contemporary situation in the automobile industry, as well as future expectations.

2. On the 23.8.2010 the Faculty of Materials Science and Technology organised the next educational seminar called “Innovative trends and main challenges of automobile industry in the South-East Europe.” During this seminar speeches with the topics: “Strategy of company cooperation in the time of globalisation”, “Global trends in the automobile industry”, and “Innovative trends and main challenges of automobile industry in South-East Europe” were presented.

3. In August 2010 the partners of the project Autoclusters presented at the meetings in Albena on the Bulgarian coast of the Black Sea. The results of the third project period were analysed. Proposals of 11 small projects were discussed and considered. Project partners selected three from them and they considered their future process. The participants visited the company ZMDI – Varna during the summit. This company develops special chips for automobile electronics. Some new Bulgarian electric automobiles were presented; they were developed with the companies Kaproni - Kazanlak and Belchev Motors - Stara Zagora.
4. On the 19th through 22nd of September 2010 the International Conference IGIP-SEFI 2010 "Diversity unifies - Diversity in Engineering Education" took place in Trnava. Part of the international conference was also an exhibition with more than 300 participants and an educational seminar on the project AUTOCLUSTERS „Innovative trends and challenges in the South-East Europe”, which took place on 21.09.2010.

5. Team members of the project AUTOCLUSTERS visited the 5th meeting of project partners in Iasi (Romania) on 29–30.11.2010. The aim of the meeting was to form and support the creation of the first cooperative and innovative net for automobile industry in the region of South-East Europe. The project results on the contemporary status of the tasks and plans for 2011 were presented during the meeting. The team members presented a so-called "small innovative pilot project". The mentioned "small project" (or sub-project) is focused on analysis of infrastructure for electric vehicles in the region of South-East Europe with the aim to map and identify the potential of countries/regions of the project partners from the view of technical and physical infrastructure for electrical vehicles and from the research infrastructure perspective also for electric vehicles.

6. At the end of 2010 three seminars on the future of electric vehicles, batteries, problems with charging and infrastructure for electric vehicles were organised. The University of Technology-Gabrovo prepared an exhibition on the same theme with more than 300 participants. In December the Romanian partners from Iasi organised a regular meeting of partners of the project AUTOCLUSTERS, where the results of the fourth period, together with small projects and possibilities to be a part of the 7th frame programme, were analysed.

7th Framework Programme
(01.01.2009 - 31.12.2011)

DIVERSITY. Improving the gender diversity of management in materials research institutions.

The project's objective is to identify policies and implementation activities to improve gender diversity of management in materials research institutions by: Strengthening the role of women scientists in decision making processes, Supporting and implementing a more transparent career appraisal system and stimulating the research environment in the spirit of the European Charter for Researchers and the Code of Conduct for Recruitment Enhancing solidarity and involvement of (male) decision-makers in promoting gender equality in scientific decision-making, Raising the awareness within the scientific community, in the general public and among policy-makers about gender and research. The DIVERSITY project is an international consortium of 14 partners from 11 European countries: Germany, Austria, Belgium, France, Spain, Italy, Sweden, Slovenia, UK, Slovakia, and Greece. Project "DIVERSITY" is a 36 month project funded by the European Union within the 7th Framework Programme

National Projects

LPP-0384-09 (03.09.2009-31.08.2012)
Peter Sakl, Professor, PhD.
The concept of the HCS model 3E vs. the concept of the Corporate Social Responsibility (CSR)
The aim of the mentioned project is to enlarge the results of the research project Number 019/2001: "Transforming Industry in Slovakia through Participatory Ergonomics" (financially supported by a common Slovak-American fund for research cooperation) and also of the project KEGA MŠ SR Number 3-3111-05. In these days the research continues in cooperation with the company CHIRANA PROGRESS, s.r.o. Priešťany in the area of permanent development (TUR) and Corporate Social Responsibility (CSR). The aim of this research is to contribute to the vision implementation of Agenda 21 and the Lisbon strategy, in particular the strategy for the parts TUR in conditions of research and pedagogical processes on the workplaces of FMST SUT Trnava.
KEGA 144-039STU-4/2010
Rudolf Rybanský, Assoc. Prof. PhD.

Creation of teaching material of the secondary school subject “Security technology” with using of interactivity MM of education software and e-learning.
The project is focused on creation of interactive multimedia teaching applications to increase the level of the pedagogical process with necessary video sequences, pictures and other multimedia aspects of the subject Security technology. It is for students of the secondary schools with an identical specialisation. One more intensive, more efficient and rational perception of information in specific subjects enables presentation of multimedia in many forms (text, schemes, photographs, speech, animation, video, tests). Today it is very important to find the main idea and aim of a studied subject in a flow of information. Interactive multimedia and hyper-text where students can enter are the correct tools to support studied information, easy search, testing and easy orientation in them.

VEGA 1/0229/08
(01.01.2008- 31.12.2010)
Iveta Paulová, Assoc. Prof. PhD.
Perspectives of quality management development in accordance with requirements of the Slovak Republic’s market
The project is aimed to 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 the results of the evaluation for the explored market will be discussed on the basis of the analysis. The evaluation of market application is related to quality management in the explored branches of industrial practice, in comparison with requirements of individual models of the quality management system (ISO 9001:2000, TS 16 949, AQAP). Elaboration of proposals for process improvement in the areas where the biggest failures will discovered will also be completed. The output will be the elaboration of a 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)
Andrea Holková, Assoc. Prof. PhD.
Key manager competence in the range of specific functional management areas and their applicable development concept.
The merit of the project is to justify 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 manager competency definitions. Identification and development of manager competencies is necessarily needed for key managerial high performance. The project is also focused on methods and techniques of manager competence evaluation, creation of competency models and selection of applicable methods for key manager competence development.
Management is one of the most dynamically developing business disciplines. One of the outputs of this development is the growing number of international standards, along with methodologies and project management tools. Business practice has to face the problem of the effective implementation of those standards in their internal project management processes and more in the project quality control that should lead to the achievement of a higher project maturity level. A higher project management maturity level in business practice means achievement of the project goals with less resources, lower costs and shorter time. All this could not be accomplished without the proper tools. Therefore the objective of this project is to prepare a widely applicable reference manual and tool for the project management processes maturity control in Slovak mechanical engineering enterprises, with the aim of increasing their effectiveness and sustainable competitiveness.

**LIST OF SUBJECTS GUARANTEED WITH THE INSTITUTE**

- Accounting
- Bachelor Project
- Bachelor Thesis
- Basics of Ergonomy
- Basics of Quality Management
- Business Economy Basics
- Business Economy I, II
- Business Finances
- Business Strategies for Small and Medium-sized Enterprises
- Calculation and Prices
- Computer Aided Quality Management
- Controlling
- Customer Protection and Complaint Management
- Designing and Management of Manufacturing Processes
- Diploma Project
- Diploma Thesis
- Dissertation Thesis I, II, III, IV, V, VI
- Economy
- Economy of Non-metallic Materials
- Production
- Ergonomics
- Exact Methods in Managerial Decision making
- Financial and Investment Management
- Financial Management
- Human Resource Management
- Change Management
- Industrial and Intellectual Property of the Firm
- Information Management
- Information Technologies II
- Innovation Management
- Integrated Management
- Intercultural Management
- Labour Rationalization Basics
- Logistics
- Management
- Management Basics
- Management Information Systems
- Management of Investment Progresses
- Management of Projects
- Managerial Ethics
- Marketing
- Marketing Management
- Market Research and Monitoring of Customer Satisfaction
- Marketing Strategies
- Monitoring of Customer Satisfaction
- New Methods in Complex Quality Management
- Operation and Maintenance of Machines
- Operational Research
- Pedagogical Activity I, II, III, IV, V, VI
- Personnel Management
- Practice
- Production Management I, II
- Project Management
- Project of Conformity Assessment
- Project and Process Management in Quality Management
- Quality Audits
- Quality Management Systems
- Quality Management Case Studies
- Research Thesis I, II, III
- Semester Project III
- Standardization, Certification, Conformity Assessment
- Statistical Methods
- Statistical Methods of Quality Control
- Statistical Methods in Process Improvement
- Strategic Management
- Supply and Distribution Based Logistics
- Tax Management
- Tools and Techniques of Quality Management
- Total Quality Management

**GRADUATE THESES**

**Bachelor Theses**

- **Andel, L.:** Draft proposal for improvement of software support utilization in the management of the Matador Automotive, a.s. company in Dubnica nad Váhom
- **Aulitssová, G.:** Scheme of Measures to Improve Marketing Mix Management in the Company AGADOS Slovakia, s.r.o.
- **Bachrát, K.:** Project arrangements of using environmental marking of products by ISO 14 020 in ZF SACHS Slovakia a. s. Trnava in context with strategy of CSR
- **Bachrátová, M.:** A review of the use of statistical control in business practice
- **Bako, R.:** The suggestion of precautions to improve supplying in the Semeck, s. r. o. Vráble company
- **Baláž, I.:** Drafting staff motivation in a quality management company POSS - SLPC Ltd., Voderady
- **Balážová, E.:** The concept of solutions for improvement of using economic and non-economic motivation as a tool for increasing the labour productivity in GEFCO SLOVAKIA s.r.o.
- **Balco, M.:** The analysis of actual status of quality assurance in the automobile assembly process in Volkswagen Slovakia, a.s
- **Bartaš, M.:** Proposals for development of personal assumptions of the managers in industrial corporations in SR

**Bartek, T.:** Proposal for rationalization of the production process
**Bartovičová, L.:** Analysis of Current State of the Measurement and Monitoring Process in the Company Streit
**Bat’ková, M.:** Draft of measures for improvement of inventory management and warehouse management in the company ŽELOS, Ltd.
**Báto, R.:** Measure of proposal for improvement of work motivation in production process in SUBTL Slovakia, s.r.o.
**Bednáriková, L.:** Proposal of measures to optimize the layout of assembly work in the company Schnellecke Slovakia s.r.o., Lozorno
**Belavá, M.:** A Proposal of Work Motivation Improvement Measures in the Production Process of ŽOS Trnava, a.s.
**Beňová, N.:** Recommendation of a proposal for exerting of teaching principles and organization in the management of industrial companies in Slovak republic
**Binková, M.:** Proposal to streamline material handling company in Delta Electronics Slovakia, s.r.o. company Dubnica nad Váhom
**Birsa, A.:** Methodical, organizational and educational safety from applications of analysis of variance in management of quality of a machine company
**Bittnerová, M.:** A proposal for steps of ergonomic rationalization in a selected operation of company ISOVER, s.r.o. Trnava
**Bobulová, L.:** Proposals for measures to improve financial stability Elektrokarbon, j.s.c. Topoľčany
**Bognár, P.:** Proposed measures for the implementation of process management and establishment of programs to improve quality management system at the enterprise HYDRAULIKA DS, Ltd. Dunajská Streda
**Boldiš, R.:** The research of the applications of marketing purchasing in companies which are based on quality management
**Brachová, D.:** The proposal of measures to improve Supply Chain Management in the company Unilever Slovensko spol. s r. o.
**Brandiburová, J.:** The system of education in the company improves the performance of employees in the company Sauer-Danfoss a.s. Bystrica
**Brehovská, M.:** The proposal of a measure for better usage of marketing communication in Continental Matador Rubber s.r.o.
**Brinzová, E.:** The concept of measures for ergonomic rationalization in selected business operations in Žápoloslovenská energetika, a. s. Bratislava
**Břuňová, A.:** Survey of application of statistical process control in selected organizations
**Bubáňová, A.:** The development of a proposal for application of some statistical methods in the
management of process quality in LCD TV production
Bulut, I.: Draft measures to enhance work motivation in the production process in the company Slovink, Inc.
Čisarová, P.: Suggestion of processes to improve usage of the marketing mix in RENSTAV spol. s r. o.
Cuninka, T.: Analysis and design options for the introduction of a system of corporate social responsibility in Swedom Majchiov
Čerenčanová, B.: The research of training in the application of quality management system and evaluating its effectiveness in selected organizations in Slovakia
Čoriiová, M.: The proposal of measures to improve the skill development of staff in terms of farucia Slovakia s.r.o.
Čulem, P.: A review of the application of the partnership forms with suppliers in the selected organizations
Ďaková, I.: Proposals for improving the use of intranet services in management of the company Klaufe Slovakia, Ltd. Dolný Kubín
Ďaxner, J.: The proposal of measures to streamline the management inventories of the company PIPECO SLOVAKIA, s. r. o., Brezno
Dobrovodský, M.: The application of the system improvement for motivation of employees in ZF SACHS Slovakia, a. s.
Ďočkal, J.: The Proposal of Measures to Improve Process Management in HES – COMGEO spol. s r. o., Banská Bystrica
Driénovská, E.: Application of customer satisfaction index in business practice
Ďurajka, Ľ.: Draft measures to improve the system of further education of employees at PSL, a.s. Považská Bystrica
Ďuriš, R.: A proposal to improve the use of marketing communication tools for a specific product of the company I.D.C. Holding, a.s.
Dvorská, J.: Analysis of the transformation process in the block of cylinder of Sauer-Danfoss, Inc. Dubnica nad Vahom
Fiála, Ľ.: The proposal of improvements in logistics processes in the company Zentiva, a.s.
Filip, P.: Analysis of current state of quality assurance in the bearings production process in company INA Skalica, Ltd.
Fuleková, S.: The creation, especially the improvement of organizational structures of management of industrial enterprises
Gábrisová, V.: Proposal of measures to streamline processes of inventory management and stock control in the HYKEMONT Ltd. Company, Nové Zámky
Gajárský, P.: Analysis of the current quality assurance in the production process in the company POSS - SLPČ, s.r.o. Voderady
Galbíčková, D.: Elaboration of system approach for improvement of the process of survey by management in the organization “Chladacie veže Bohunice, s.r.o.”
Gálová, A.: A proposal for measures to improve efficiency of supply and stock control management processes at enterprise Duslo, a.s. Saňa
Galovičová, P.: Proposition of measures and suggestions for better use of marketing mix in corporation CELOX
Gašparovič, R.: Draft of measures to improve the current method of allocating and adaptability of employees to work positions in the company 3&T REAL ESTATE, Inc.
Gazdarčíková, Z.: The Suggestions for System Improvement for Motivations of Kia Motors Slovakia, Ltd. Employees
Gaži, M.: Proposal of measures to streamline logistics in the company Leoní Autokabel Slovakia s.r.o., Trenčín
Geregová, Z.: Draft measures to stabilize the staff
Gerek, R.: Proposal of arrangements on improvement of utilization of motivators as the tools for raising labour productivity in the organizations with Quality management system
Grznár, M.: Proposal of measures to improve the use of marketing mix in the enterprise ELEKTRKARBON a.s., Topoľčany
Hanuliaková, S.: Proposal of Measurement Package for Increasing Efficiency of In-House Bookkeeping Directives in ASAS, Joint-Stock Company
Havel, M.: Developing project management application complaints in the company LAMDA-MODRA, s.r.o.
Heltová, A.: Proposal to improve system recruitment and selection of employees in the company PALMA Group, Inc.
Herdics, D.: Proposal model to evaluation of the costs and use costs in the management of industrial enterprises
Hermánsky, J.: The survey of market research tools and their employment according to the principles of Quality management
Hodosárová, R.: Measurements proposal for production logistics in the company Franke Slovakia, s. r. o., Žilina
Horváthová, Z.: Improvement of educational system for employees of company DOKA Drevos, Ltd. Banská Bystrica
Hrčková, D.: Projection of arrangements to upgrading motivational system of employers in a production
Hrebušová, V.: A blueprint for efficiency of material flow process measures in the company ZF Boge Elastmetal Slovakia, a. s. Trnava
Hrušková, N.: Using tools of marketing mix in selected industrial companies
Hruškovský, R.: The draft measures to ensure the key managerial skills in selected management positions in the analyzed company
Hucáková, M.: Survey of application of the principle of focusing on the customer and protect its rights by organizations in Slovakia
Hudák, J.: The proposal of measures to improve work motivation of employees in the company VAVAL – Ing. Pavel Vranký
Ivaničová, M.: Suggestion of measures to improve the education system in the enterprise to improve employee performance in the company HRONSTAV 01, s. r. o. Brezno
Izakováčová, P.: The suggestion of methods for assessment of competitive organisations with intergraded system of quality management
Jakábová, Ľ.: Research of process approach use of quality management in the chosen Slovak companies
Jakubička, J.: Measures for the use of marketing personnel in PSL, a.s.
Jamrichová, Ľ.: Proposal of measures to increase efficiency of the logistics stocks procurement for the company Klimek metallurgical material Ltd., Trenčín
Janíčková, J.: Proposal of procedural precaution to increase efficiency of the start-up environmental appropriate products (EAP) by plant FESTAP Ltd Bratislava
Jozefovičová, G.: The proposal of improvement of the education system of employees in the company INA SKALICA, spol. s r. o. Skalica
Jurík, J.: Proposal of measures for sustainable development of small and medium-sized enterprises in Slovakia
Jusková, L.: Research of application methods of improving quality management in chosen organizations
Karloková, V.: Application of stability measures of employees in the company INA SKALICA spol. s r.o.
Kleiner, B.: Proposed measures to improve the educational system, improve employees performance in the company PRAKON, Ltd. Právce
Klementis, V.: Proposal of measures developing management competences in the business environment of PHOENIX Zdravotnické záštitovanie, a.s.

Klocháňová, E.: The proposal of actions to improve the system of employees motivation in Liboť, a. s.

Kocian, T.: Proposal of measures to improve material flow in the company ŽOS Trnava, a.s.

Kočanová, Z.: Critical analysis of utilizing BSC (Balanced Score Card) and HCS model 3E in the industrial enterprises in Slovak Republic conclusion and recommendation

Kolarovči, J.: Proposals for elimination of impacts of financial crisis to the logistics of industrial enterprises in Slovak republic

Kolínek, T.: Draft measures to improve the organizational structure of corporate governance GRAFOBAL, a. p., Skalica

Kollárová, A.: The system proposal of mentor education focused in adaptation of new recruits in the company ŽOS Trnava, a. s. Trnava

Kollárová, T.: Suggestions of measures for improving the remuneration system in terms of the company ŽOS Trnava, a. s.

Korčeková, K.: The survey of application of management complaints in economic organizations in the Slovak Republic

Kostolný, I.: Conclusions and recommendations from a critical analysis of corporate social responsibility in the industrial enterprises of the Slovak and Czech republic

Kotlánová, P.: A proposal of steps for improvement of internal directives for account keeping in company I.D.C. Holding, a.s.

Kováč, M.: Monitoring and measurement of research of customer satisfaction in chosen Slovak organizations.

Kováčová, L.: Proposal of the actions for improving of the employees adaptation proces in INA Skalica, spol. s r.o.

Kozák, J.: Analysis of the current condition of internal communication to improve quality of the management system in the company IMC Slovakia, s.r.o. Považská Bystrica

Krotochvíl, V.: Proposal of measures for effective marking of input material and better storage function of material of the metallurgical company ŽOS Trnava, a.s.

Kresová, K.: Proposal of measures to improve work motivation in the company Continental Automotive Systems Slovakia s.r.o.

Kupcová, E.: Analysis of the current state and possibility of utilizing the CSR strategy in small and middle companies in Slovakia

Kureková, E.: A proposal of measures for effective use of financial resources in the firm of Železiarne Podbrezová a.s.

Lábsky, A.: Options to improve lean production in the automotive industry in terms of SR

Lackovič, M.: Application of traditional and lateral marketing in industrial concerns

Lašťutová, M.: Survey of monitoring and measuring the customer satisfaction in non manufacturing organizations

Lattová, V.: Proposal of measures for the application of Six Sigma in the company Slovak shipyard Komárno, Plc.

Lavriničková, D.: The improvement of proposals to optimize work motivation in the production process of the Volkswagen company

Lukáč, M.: Proposals of measures for the improvement of the use of intranet services in the company VÝVOJ Martin, a.s.


Lukáč, S.: Proposals for measures to improve the use of the intranet services in corporate Heineken Slovensko, a.s. Hubranovo

Lukačovič, B.: Proposal of measures for improvement of inventory management and warehousing economy of company HOLCIM (Slovakia) a.s.

Lužáková, M.: Analysis of the current measurement and monitoring of products in corporation with I.D.C Holding, a.s., branched company Figaro Trnava

Mahúrová, A.: Proposals for the improvement of the intranet services in the ZF Boge Elastmetall Slovakia, a.s. Trnava

Markušová, I.: Draft Measures to Enhance the Current State of Outsourcing as a Tool for Enhancing the Competitiveness of Industries in Slovakia.

Masaryková, Š.: The proposal of remedies for improvement of the motivation of employees in company PROTHERM PRODUCTION, Ltd

Mateička, M.: Proposals to improve the organizational structure of a company AGROFARMA Červený Kameň, Ltd.

Medvedová, J.: Assessment of the resource funding of fixed assets in the company TECHNOS a.s., Hronec

Megová, B.: Proposal of Measures to Improve Information and Communication Technologies in Industrial Enterprises

Merceková, A.: Proposal of measures to improve work incentives in the company Slovil, s.r.o. Trenčín

Mihalcsaková, M.: Survey of statistical regulation usage within economic organizations

Michalíková, Z.: Proposal of measures for improving the system of remuneration of IMC Slovakia, s.r.o.

Mikluščaková, M.: Proposals of proceeding usage of financial leasing in acquisition of fixed assets in ESA LOGISTIKA, s. r. o. Senec

Minarovič, M.: The suggestion of measures to improve the system of education for increasing the production of employees in ŽOS Trnava, a.s.

Mišš, P.: Proposal of measurements for improvement of supplying logistics system in the industrial company Miba Sinter Slovakia s.r.o.

Mitčík, T.: Suggestions for improvement of Supply Chain Management in company Sauer-Danfoss, inc.

Muráň, M.: The proposal of actions for the improvement of distributive logistics system in company HANSOL LCD Slovakia, s.r.o.

Muráňová, I.: Proposal for adaptation of new recruits PCA Slovakia Ltd.

Musil, M.: The survey of applying the process of management review in chosen organizations in Slovak Republic

Novotný, J.: Survey of excitation methodics suppliers selection in the chosen organisations

Ohrablo, L.: Survey of excitation of partnership forms with suppliers in selected organizations

Onďrová, L.: Draft measures in order to stabilize workers employment by Zentiva, a.s. Hlohovec

Orsavová, S.: Proposal of measurement for reengineering the supply chain management processes in company Hella Slovakia Front Lighting s.r.o. Kočovce

Palíková, J.: Analysis of the European and Slovak legislation in terms of ensuring consumer protection against poor quality

Pálinkásová, M.: Measures proposal to improve the adaptation plan for new engaged employees in Bekaert Hlohovec, Inc.

Pálka, R.: Draft measures to improve the use of economic and non-economic motivators as tools to increase labour productivity in INA Skalica, Ltd.

Pálová, E.: Proposal of measures for improvement of organizational structure of management in Gemanřáň, a.s. Rimavská Sobota
Papernik, M.: The application of the system improvement for motivation of employees in Trellis join stock company Trenčín
Papp, A.: Proposal for improvement of the current production logistic at SAMSUNG Electronics Slovakia s.r.o., Galanta
Pášek, P.: The measure to implement ergonomics programs based on research and analysis in selected companies in Slovakia.
Pavlík, P.: Research of employee satisfaction in selected companies in SR
Pavlovič, L.: Proposed measures to streamline the material flow in the enterprise Magna Sloveta, s.r.o., Nové Mesto nad Váhom
Pekara, M.: Proposal for improvement store logistics in the company VÝVOJ Martin, a.s., Martin
Petrušek, M.: Concept of solutions for improvement utilizations of intranet in company Duslo, a.s., Šaľa
Pitoňák, M.: Application of the statistical survey of regulations in business practice
Pokorná, E.: The proposal of steps for improving the use of marketing mix in the company KOVO-DRUŽSTVO
Poláček, P.: The research of application methods examinations function of quality management system in chosen organisations of the automotive industries.
Polková, M.: The proposal of measures to implement ergonomic programs based on the research and analysis in selected companies in Slovakia
Potkánová, S.: Concept of actions for improvement of usage of intranet in „ŽP Informatika s.r.o., Podbrezová“ company
Princzová, F.: Proposal to improve the production process in the Slovak shipyard company, Komárno Plc.
Púčková, Z.: Proposal of actions to improve system of purchasing logistics in transformer and electronic production line in ZVS holding, a. s. company.
Púchy, A.: Analysis of actual satisfaction state of employees as a part of quality management system improvement in Slovenské elektrárne a.s.- Atomové elektrárne Bohunice plant
Račák, M.: Proposal of measures to improve the system of training employees enterprise Brezno industry, s.r.o.
Rákoczyová, J.: Proposal of the actions for improvement of production process in the factory PAPIERNIK, s.r.o., Brezno
Rakús, L.: Proposals for application of modern approaches in production logistics control in company SWEDWOOD Slovakia, s.r.o., o.z. Spartan
Remenár, J.: Proposal for the application of market research in differentiated market environment
Ridžišová, L.: Suggestions of measures for improvement of working motivation in VONSCH, s.r.o. Brezno
Róka, J.: Concept of measures to improve the personal marketing for the company Západoslovenská energetika, a. s.
Rosypalová, A.: Draft measures leading to an improvement in logistics in the transformation process of the company Duslo, a. s., Sala
Roštecká, Z.: The measures submission to improve the learning process of employees in the company
Rothová, V.: Proposal Arrangements for Increase of Efficiency in the Present State of Production Logistics in Management of Company ZF SACHS Slovakia, corporation, Trnava
Rovná, R.: An analysis of the current status of the management review process application in the company VUJE, Inc.
Rychtářik, M.: Proposal of measures for stabilization of the employees in company, PSL ltd.
Sekera, A.: Proposal of the actions for effective material flow in company Hansol LCD Slovakia s.r.o. Voderady
Schejbal, B.: Proposal of measures to improve the financial stability of company Martsus s.r.o.
Schultzová, D.: Identification and proposal of key competencies of managers in middle management in industrial corporation in Slovakia
Sitárová, Z.: The Option For The Reengineering Of The Supplying Logistic In The Industrial Company Trim Leader, a.s.
Sojčiaková, M.: Proposal for the improvement of monitoring and Selection of Employees in the Company IKEA Components, s. r. o., Malacky
Sollár, M.: Proposal to streamline inventory management and warehouse management in the company Faurecia Slovakia, Hlohovec
Spíšiak, J.: Project proposals of system improvement of internal communication in the selected company.
Srb, M.: The draft measures to improve production management and logistics processes for machines in Raster company INA SKALICA Ltd.
Stančoková, K.: Proposal of measures for the improvement of the Recruitment and Selection of Employees in the company IKEA Components, s. r. o., Malacky
Štěpniak, J.: Proposal for improvement of EMS application in the company FREMACH TRNAVA, s.r.o., Trnava
Strážňáková, J.: Research of the level of motivation employees in system of quality management in chosen companies
Strečanská, K.: Proposal for improving financial stability in KOAM ltd. company, Dubnica nad Váhom
Strečenský, M.: The proposition of the measures for improvement of the monitoring and controlling assets
Strieženčová, Z.: Proposal for ergonomic rationalization measures when establishing a new ring production line in the PSL, Inc. Považská Bystrica
Sviteková, L.: Proposal of actions for educational system improvement in OKE Plastic Sk, s.r.o. Trebatice
Sviteková, M.: Survey on application of improvement forms in quality management in enterprise routine
Szymová, A.: The proposal of promotional communication of the industrial company as a part of improving the quality management
Szilvá, I.: The proposal of promotional communication of the industrial company as a part of improving the quality management.
Sžokeová, H.: Proposals to improve the recruitment and selection of employees in the conditions of Slovak industry
Ščibranová, K.: Proposal of solutions to reduce the fluctuation of employees in JOHNSON CONTROLS INTERNATIONAL Ltd.
Šefčík, D.: An analysis of the current state of the application of measurement and monitoring of the business practice
Šefčovic, E.: Propositions for measures to improve the application of methods to detect the capability of machines and processes in the chosen enterprise
Šimková, B.: Proposal of actions to improve the system of recruitment and selection of employees in ZF Boge Elastmetall Slovakia, a.s. Tmava
Šimončičová, H.: Suggestion of measures for improving external economic relations of the enterprise of ZF Sachs Slovakia, Inc with its surrounding elements.
Škojec, J.: Proposal of measures in order to increase effectiveness of logistic activities functioning in industrial enterprises of Slovakia through philosophy of lean logistics.
Škvarková, A.: The survey of supplier selection methods in the selected organizations in terms of quality management
Šlamborová, T.: Proposal measures in order to improve work motivation in the manufacturing process in the company INA SKALICA Ltd.
Šmida, L.: Proposal of measures of effective customer relationship management in company Pipesco Slovakia s.r.o., Brezno
Šotníková, M.: Proposal furnished on improvement of exploitation tools of marketing mix in ETI ELB

Štefánik, I.: Proposal of measures to streamline the process of Draft of the measures for introduction of the strategies of a socially responsible business (CSR) in OSRAM Slovakia a.s.

Nový Zámky

Štefániková, J.: Proposal of measures to improve the functioning of the enterprise organizational structure DOPRAS.TAV, a.s.

Štiurajtérková, D.: Analysis of the application of methodologies for selection of suppliers in the enterprise PSA Slovakia, s.r.o. Trnava

Švečová, M.: Proposal of recommendations for the implementation of ergonomics programs in industrial organizations in Slovakia

Tančár, J.: Application of new conceptions of production management in industrial company

Tarkošová, J.: Enquiry into supplying quality at the process of buying in selected organizations

Teplan, T.: Analysis of financial sources of company PACT Technologies Manufacturing Ltd. and suggestion for improvement its financial structure

Tokárová, M.: The proposal of measures for improvement the management and development of utilize marketing tools in the company VONSCH, Ltd.

Tokošová, V.: Measure Proposal for Improvement of Personnel Education/Training in Company Delphi Slovakia, Ltd. in Senica

Tonhauserová, S.: Purpose of measures to improve the transition process in the company Strojarme PKH a.s. Prievidza

Tóth, J.: The proposal of personal, organisational and educational assurance of application measurement’s capability in machine companies

Trubač, I.: Proposal of Measures to Alleviate Fluctuation of Employees in the Company Chladiace Spol. s r.o., Big Krňa


Valašek, J.: Draft measures to improve the adaptability of workers in company A&Z, RIŠNOVSKÝ-HALÁSZ, Ltd., Veľké Úľany

Valentovičová, D.: The survey of quality assurance in the process of production in chosen organizations.


Vargová, B.: Proposal for improvements in logistics processes in the Swedwood Slovakia s.r.o.

Vašik, J.: Analysis of the current status assurance of quality in the process

Vavák, A.: Survey on application of methods for monitoring and measuring of customer satisfaction in production organisations

Vavrík, T.: Proposal of measures to improve selected business activities of the transformation process in the company ZTS-KABEL, s.r.o. Dubnica nad Váhom

Viden, R.: Recommendations to improve the use of marketing communication in Elastik, Ltd.

Volek, V.: Proposal of measures for improvement of usage of marketing mix in ALDY, Trnava, a. s.

Voleková, E.: Proposal of measures for improving tools of marketing mix in company KOMANDOR Slovensko, a.s.

Vraniaková, Z.: The Draft of Measures to Eliminate the Causes and Origin of Damaged Parts for Assembly in the company PCA Slovakia, ltd.


Vrlová, L.: Suggestions of measures for improvement of debt management in SES Timace company (Baccaulareate work)

Vyskočová, B.: Proposal of Measures to Improve Information and Communication Technologies in Industrial Enterprises

Záhorec, P.: Reference methods for the evaluation of the competitiveness of organizations with an established quality management system

Záhorská, E.: Survey of assurance processes directly related to customer organizations in Slovakia

Zapletalová, Z.: Methodology for deciding on the way of financing vehicles in the Remax Courier Service, Ltd.

Zaťko, M.: Proposal of measures to improve the transition process in the company AGRO - Movin spol. with r. o., Big Krňa

Záviš, R.: Proposal of environmental impact assessment in the implementation of ergonomic industrial enterprises in Slovakia

Masters Theses

Ágg, L.: Suggestion of a system of personnel audit and controlling in personnel management in organization LOKO TRANS Slovakia, s.r.o., Šurany

Babiaková, L.: Application of investment efficiency indicators to determine business strategy

Babničová, M.: The proposal for the use of benchmarking in innovation processes in Železiarne Podbrezová a.s.


Bahnov, J.: Proposal of methodology for personal planning in company VETROPACK s.r.o. Nemečová

Bakóvá, R.: Development of methodology of implementation of process management at the Faculty of Materials Science and Technology

Balážová, E.: The design of application of new approaches in Production logistics management in the ZF SACHS Slovakia, a. s., Trnava

Balážová, J.: The proposal of implementation of selected tools and methods for assessment of functionality and performance of quality management system

Balážová, J.: Proposal of the system of inventory management and storage company in MP – PLAST, Co., Trenčianske Stankovce

Baňáková, Z.: The proposal of an application for sustaining improvement methods in production processes of precision parts in factory CHIRANA Medical, a. s., Stará Turá.

Banaš, D.: The suggestion of using the chosen methods and instruments of improving of quality managing by solution of disagreements determined by the customer

Baninec, A.: The Proposal for Improving the System of Maintenance in the Corporation Gold-Pack spol. s r.o., Beluša

Barboríková, E.: Proposal for improving the evaluation system of employees in the company AGROPARTNER, Ltd. Plavecké Podhradie

Bausová, S.: Proposal of method application for capability monitoring of pressing process in PCA Slovakia s.r.o. Trnava

Bejdzjaková, M.: Proposals for effectiveness and smooth functioning of strategy of corporate social responsibility in Slovak industrial companies

Belesová, D.: The suggestion of the employee benefits provision system with use of a Cafeteria system in the company GE Inspection Technologies, s.r.o.


Bezáková, P.: A proposal for self evaluation according to iso 9004:2000 methods in Vulkan company

Birová, I.: Proposition of system monitoring and management of receivables in an industrial plant FREMACH Trnava, s.r.o. Trnava

Blaniá, M.: Proposal of a system of additional education for the staff in ZOS Trnava, a.s. company

Boleček, A.: The proposal on using tools and methods for improving employee efficiency and limpidity of material flow in ARGUSS, s.r.o.

Boledovičová, Z.: An improvement proposal for marketing communication utilization in the company GLYN-WED, Ltd.
Branišová, M.: A proposal for the improvement of the current state of intranet services in company VUJE Trnava.
Brath, V.: Proposal for personnel management in the process of transformation as a consequence of economic crisis in PCA Slovakia, s.r.o., Trnava.
Bučeková, D.: Suggestion of rationalization material flow in the company KOAM, s.r.o. Dubnica nad Váhom
Bugyiková, K.: Proposal to improve the education system of workers in firm MONTV, s.r.o., Tvrdošovce
Čavrčka, M.: Methodology suggestion to monitor and evaluate costs related to quality and the application in ETI ELB, s.r.o., Bánov.
Dadíková, J.: A proposal for streamlining inventory management processes in the company TRW Steering Systems Slovakia Ltd., Nové Mesto nad Váhom
Dedíková, J.: A proposal for a monitoring system and management of receivables in the industrial company, Elster s.r.o.
Doboš, M.: A proposal for improvement of the employee evaluation system in ENERGOLIMA spol. s r.o. Piešťany
Dobrovsodský, L.: The draft methodology for planning individual career employees in the company JAVYS, a.s.
Dóczy, B.: Proposal of a model for process quality costs for monitoring and scoring in Magna Slovotca, s.r.o., Nové Mesto nad Váhom
Drieniková, K.: The Project of Stakeholders´ Strategic Goals within the suggested CSR strategy in the Company KONSTRUKTA-Industry, a.s.
Drozdová, I.: Project elaboration for application of the tools of marketing mix in Henkel Slovensko, s.r.o.
Ďuriška, V.: Proposed methods and tools to improve selected production processes in KLIIMA KONZULT, spol. s r.o.
Ferk, J.: The improvement of the monitoring of the process ability in sheet metal pretreatment in Company Protherm Production,Ltd.,Skalica.
Fítosová, A.: Proposal to make better use of marketing mix in the company DUNATEX Inc.
Fojtín, P.: Proposal of a method of application for capability of measuring equipment and analysis of measuring system in INÁ Skalica s.r.o.
Gábelová, D.: Action for adaptation and improvement behavior of storage management in the company HBP, Inc.
Gajdošiková, S.: Suggestion for improving of maintenance and repair in the enterprise Matador Automotive, a.s. Dubnica nad Váhom
Galková, D.: Design the usability of marketing mix in EVPÚ – ZVS a.s. Dubnica nad Váhom
Gallová, N.: Proposal of the adaptation program for new recruits in the company LOMBARDINI SLOVAKIA, s.r.o. Martin
Gloncová, E.: Proposal of improvement of the system of personnel planning in the company EKOTHERMA TRNAVA, s.r.o.
Gonová, V.: Draft of personnel audit process of selected job positions in the company ŽOS Trnava, a.p.
Gorošová, S.: Proposal of rationalization of supply logistics processes in company ZF SACHS Slovakia, a.s. Trnava
Gubrická, P.: The system of assessment and evaluation of the effectiveness of training for the company ŽOS Trnava, a.s.
Habálová, K.: Working out suggestions for applying statistical methods for decreasing non-conformity in welding process
Hečková, Z.: Proposal of rationalization of manipulation with material in Sony Slovakia, Nitra
Hedervári, T.: Draft application of statistical methods in the manufacture of printed circuit boards in NEWAYS SLOVAKIA, a.s.
Hodulič, O.: The development proposal for the application of statistical methods in the output control products
Hozza, K.: Proposal of methodology for utilizing Assessment centre and Development centre as a method of identification and development of managerial competencies
Hrčka, J.: Proposal of implementation of ethical in marketing communication in industrial enterprises
Hrkelová, L.: Proposition of methodology on application the controlling in the sphere of provision and raising qualities in FIRES, s.r.o. Batizovce.
Hureková, A.: Adapting program proposal for newcomers in Amylum Slovakia, s.r.o.
Huttová, L.: Proposal for the improvement of employee appraisal system in the company Delphi Slovensko, spol. s r.o., Senica.
Chabreček, P.: Proposal of the improvements in organisational culture for Slovak Nuclear Power Station, ltd.
Chromčíková, K.: Proposal for R-Tool company Ltd. price making improvement
Chvílová, M.: Proposal for improvement of the system of gaining and choosing employees in company Coop Jednota Trnava, Consumer Cooperative
Ivanovič, J.: The proposition for improvement of the recruitment and the selection of employees for leadership positions in the company Cesty Nitra a.s., Nitra
Ivanovič, P.: Design application to digitize paperwork of selected activities of personnel work in the company Slovenské elektrárne, a.s. Bratislava
Jacková, J.: Suggestion for utilisation of the marketing mix in conditions of ZLH Plus, a.s. Bratislava
Jančula, R.: Design of utilisation choices tools and methods for quality process in Slovenske elektrarne, a.s. company EBO Bohunice
Jankovič, V.: Proposal for improvement processes of stock management in the company CHEMOLAK a.s. Smolenice
Kačák, R.: Concept of application of DMAIC methodologies for technology process improvement in SEMEC s.r.o. company
Kamencová, Z.: The proposal of use of the competency model in managing human resources in the company Swedspin Slovakia, Ltd Malacky.
Karásková, V.: Proposal of the use of managerial competence in specific areas of business management in companies in Slovakia
Kasprzaková, M.: Proposal of further education system of employees in I.D.C. Holding, Inc.
Kernáčová, M.: Proposal to enhance the system of personal marketing in the company Nares s.r.o., Nitra
Kinčevová, M.: Proposal for improvement of the motivation system at SONY Slovakia spol. s r.o. Nitra
Kissová, E.: Proposal for improving the adaptation process in the Slovak Shipyard in Komárno
Kňázková, E.: The suggestion of personnel rationality in the company Sauer- Danfoss, a. s.
Koban, L.: Proposal for more effective system of supplies, stock control and production BLU in company HANSOL LCD Slovakia s.r.o.
Kolečňáková, J.: Proposal of corporate culture in international company SEMMELROCK STEIN + DESIGN Dlážov s.r.o.
Komačka, M.: Proposal for pricing a particular product because of its quality in the company MTS, s.r.o., Krivá
Kostrejová, Z.: Proposal of motivational system of employ in a company WERTHEIM, s.r.o., Dunajská Streda
Košťalová, M.: Systems design of further education of employees in the corporation ŽP, Inc.
Kotásková, D.: Proposal for a career development plan for employees in COOP Jednota Trnava, consumer cooperative
Kováč, M.: Proposal of motivating program in order to improve labour productivity and prosperity of company KOVMECH, s.r.o. Vráble
Kováčik, V.: Suggestions for rationalization of acquisition logistics processes in the company Welding, s.r.o. Topoľčany
Kovačová, S.: Proposal for improving logistics company Západoslovenská energetika, a.s., Bratislava
Kročková, V.: Proposal for improvement system of project management in organization INA SKALICA s.r.o.
Kričan, D.: Suggestion for effectivity increase of chosen processes in company Slovak Telekom, a.s.
Krišanová, Z.: Proposal of possibilities application of corporate culture as the implementation of personnel management in company ŽOS Trnava, a.s.
Krišan, D.: Suggestion for improving the use of knowledge management in organization Slovenský plynárenský priemysel, Inel.
Mancová, K.: The suggestion for improvement of the company culture in ŽOS Trnava, Ltd.
Marko, P.: Proposal for improvements of project management in a joint stock company, ŽOS Trnava.
Maťošová, K.: Suggestion of methodology for analysis and selection of employees in the company ŽSR, s.p.
Matoničková, M.: Proposal for improvement of usage CRM in company RM tes, s.r.o. Trnava
Mikšová, L.: Project of strategy conception in company VOJE, Ltd. by means of CSR strategy
Mishošová, M.: Opportunities of utilization of internal accounting audit with purpose to achieve prosperity of small and medium sized industrial business
Mittáková, E.: Proposal for improving the system acquisition, selection and adaptation of employees in Elster, s.r.o. Stará Turá
Moleková, V.: Proposal of a system improvement for remuneration of employees
Moravcová, B.: The proposal for application of progressive trends in corporate culture area within the SR industry enterprises
Mrkvoňová, A.: Proposal of methodology for analysis and dept management in company Slovenské ložnice Komárno, a. s.
Murgáš, F.: Suggestion for the capability improvement to the measurement of a notch depth in EM- BRACO Slovakia, p.r.o. Spišská Nová Ves
Nadašský, B.: The proposition for more effective utilization and exploitation in ŽOS Trnava a.s.
Naňo, T.: Utilization of AHP (Analytic Hierarchy Process) method in decision making
Novákovič, J.: The proposal of utilization of selected methods and tools for improving management quality in the solution of product waster „dash board"
Omelková, H.: Proposal of the internal benchmarking application for Saargummi Slovakia
Ondrejčíková, L.: Methodics project for the self-assessment according to ISO 9004:2000 in ZF BOGE Elastmetall Slovakia Inc. in Trnava
Ondriš, M.: The proposal for increasing effectiveness of maintenance management system in Estamp Slovakia s.r.o., Zlaté Moravce
Ondrušková, M.: The conduct of the project of measuring and monitoring the quality in the selected processes in the company ZKW Slovakia, s.r.o.
Pašková, L.: Improvement design of employee’s remuneration system in Hansol LCD Slovakia s.r.o.
Paulovčák, P.: Proposal for improving the implementation of leadership in industrial enterprises in the Slovak Republic
Plankó, Ľ.: Suggestions to Increase the Effectivity of Marketing Communication at Mediterranean Slovakia Ltd.
Pluhárová, M.: Proposal Procedure for the implementation of 5S methods as part of the management of the working environment to work in the production of clutches in the organization ZF Sachs Slovakia, a. s., Trnava
Pokrovský, E.: Termomont Dolna Krupa Ltd. Company’s Motivation System Proposal for Improvement
Poláková, M.: The proposal of application methods for continuous improvement processes in company Toma Industries, s.r.o., Trnava
Potúčková, M.: Proposal of possibilities application of corporate culture as the implementation of personnel management in Delphi Slovensko, s.r.o.
Prelovská, M.: Proposal for an adaptation program of newly received employees in STRABAG Property and Facility Services s.r.o. Ltd.
Prokopová, J.: Proposal for development of marketing strategy at SLOVRIA SLOVAKIA, a.s.

Puvák, L.: Proposal for rationalization of ergonomic solutions in selected business establishments ELSTER Ltd. Stara Tura

Račková, M.: The proposal of the project of the reduction customer order's realisation time through the continuous improvement method "Lean production" for the purchasing process in the company Power-One s.r.o. Dubnica nad Váhom

Ráčková, M.: The ways of effectivity improvement in using the free method in INA Skalica

Raguľa, P.: The application of the tracking capability of the manufacturing processes in the company DOR, Ltd., Považské Podhradie.

Remišiová, A.: The suggestion for application of statistical methods to solve measurement of body engine NJ

Repíková, D.: Proposal for the use of personnel marketing in Slovenské elektráre, a.s. Jaslovske Bohunice

Rozenbergová, M.: Analysis of the possibilities and the rationalization of the ergonomic proposal for the introduction of selected business establishments ENERGOMONT s.r.o. Trnava

Rumanová, N.: Proposal for use of marketing mix in S&S SUCHORDA, s. r. o.

Sabolová, V.: Proposal of reward system improvement in BC Tontion, Ltd.

Sadloňová, D.: Draft application of lean production management in business Emerson, Inc. Nové Mesto nad Váhom

Sekereová, S.: The proposal of supply logistics in REKU Slovakia, spol. s r.o., Trnava

Selenský, L.: The proposal of extending the adaptive program for newly hired employees in Whirlpool Slovakia LLC, provision Poprad

Schmidt, J.: Proposal for improving of organization of supplying logistics in company ZF SACHS SLOVAKIA, s. c. ZÁVOD LEVICE

Slanícky, D.: Systems Design of Company Staff Transportation Rationalization in SAMSUNG Electronics Slovakia, Ltd

Slezáková, V.: The improvement proposal of utilizing internet services in Company OP-TIM, spol s r.o.

Šopková, A.: Treplášťiková, S.: Design of image improvement in the company AGC Tatry JSC

Stanko, T.: Proposal for ways to rationalize the application of market research methodologies in Euro SITEX, s.r.o., Příbram

Štúgelová, K.: Draft rationalization inventory control system and stock

Sučáňová, A.: The development proposal for the application of statistical methods to monitor customer satisfaction

Svetliková, Z.: Project offering employees benefits with using Cafeteria system for company TOMA INDUS-TRIES s.r.o., Trnava

Šýkorová, D.: The proposal of motivational system of employees in AG FOIL Slovakia, s. r. o. Velesie

Šamudovský, J.: Proposal of implementation of Integrated Management System in context with strategy of Corporate Social Responsibility in the SE, a.s., power station Vojany


Ščasná, J.: A proposal of stock rationalization and stock control in company JUTEK SLOVAKIA, s. r. o., Bratislava

Ščasnovičová, I.: A proposal of JAVYS, a.s. personal marketing system improvement

Šerjenik, T.: A proposal for improving the incentive program in the company Form Steel, Ltd.

Šimášek, M.: A proposal of methods and tools of continuous improvement process of connecting points of supply to gas distribution network of company SPP-distribúcia, a.s.

Šmalinská, V.: The proposal to unify the process management system (quality, environment, security) into an integrated management system

Šoková, I.: Proposal for the use of internal benchmarking as a tool for improving quality management

Štanfoňová, E.: Development of a self-evaluation report on selected criteria of EQFM Model Excellence in organization Plastic Omnium Auto Exteriors, s.r.o.

Štefíková, Z.: Procurations for improvement of corporate communications with regard to brand in the company Uniteam, a.s

Štefenová, E.: The proposal of system providing employee work with the use of information systems at GEBAUER and Griller Kabeltéchnic, spol. s r.o.

Ščasná, J.: The rationalisation proposal for the stock management system in the companyprosedia, s.r.o., Sála

Ščasný, R.: Developing of self-evaluation report of selected criteria in the EQFM excellence model in company Uniteam, a.s

Turanská, I.: A Proposal for Assessment of Managerial Competencies of Middle Management in Industrial Companies

Uhříčik, P.: Analysis of the possibilities and the rationalization of the ergonomic proposal for the introduction of selected business establishments KNOTT spol. s r. o. Modra


Urbíková, A.: A proposal of ergonomics rationalization solution in selected operations of Vino Matysak ltd. Pezinok

Valšík, M.: A proposal for rationalization of personnel work with the use of information systems at Gebauer and Griller Kabeltéchnic, spol. s r.o.

Vanek, D.: A system design of acquisition and selection of employees

Vaverková, H.: Concept of rationalization customer relationship management in PFS, a.s.

Voleková, I.: The proposal of system providing employee benefits using the cafeteria system in VUE, a.s. Trnava

Vráblová, K.: The application of system implementation of project management in OMS, s.r.o.

Vyskupová, M.: A proposal for a method and tools for improvement of the process of siliconing in the firm SEMIKRON, s.r.o.

Widerman, A.: Suggestions for improvement of the logistics processes in pac – tra Slovakia, s.r.o.

Zat'ko, I.: A suggestion of advances in the system of acquisition and selection of staff in the condition of selected company

Zemanová, D.: Lean logistics application proposal on selected logistics section in the company Elster s.r.o., Stará Turá


Dissertations

Babčánová, D.: Proposal of Brand Building and Brand Management Methodology of Industrial Plants

Bollo, P.: The proposal of production process management improvement by the process approach application

Dolný, R.: Possibilities for employee motivation increase by business ethics.
Soboň, T.: Draft of the methodology of employee career management in middle and big companies

Šťavnický, P.: Proposal of a new generation of organization systems modeling concept

Tomášik, Š.: Design and utilisation of controlling principles for investment and enterprise development management

Urdziková, J.: Methodology Proposal for Improvement of Complaint Management Level in Organizations in Slovakia

**VISITS OF STAFF MEMBERS TO FOREIGN INSTITUTIONS**

**Employee**

**State**

Sakál Peter, Professor, PhD. - Russia

Hrdinová Gabriela, MSc. Eng. - Russia

Cagáňová Dagmar, Mgr., PhD. - Hungary

Vičková Jaroslava, MSc. Eng. - Romania

Horňák František, Assoc. Prof. PhD. - Germany

Cagáňová Dagmar, PhD. - Germany

Linczényi Alexander, Professor, PhD. - Bulgaria

Nováková Renata, Assoc. Prof. PhD. - Bulgaria

Cagáňová Dagmar, PhD. - Serbia

Lestánszka Škůrková Katarína, PhD. - Poland

Sablík Jozef, Professor, PhD. - Czech Republic

Cagáňová Dagmar, PhD. - Lithuaniuan

Paulová Iveta, Assoc. Prof. PhD. - Czech Republic

Hrdinová Gabriela, MSc. Eng. - Norway

Cagáňová Dagmar, PhD. - Bulgaria

Cagáňová Dagmar, PhD. - Portugal and The Azures

Čambál Miloš, Assoc. Prof. PhD. - Portugal and The Azures

Vančová Viera, MSc. Eng. - Bulgaria

Gyurák Babeľová Zdenka, PhD. - Portugal and The Azures

Arendajová Alexandra, PhD. - Czech Republic

Drienková Katarína, Bc. - Hungary

Naňo Tomáš, Bc. - Hungary

Gyurák Babeľová Zdenka, PhD. - Belgium

Cagáňová Dagmar, PhD. - Belgium

Jakábová Marta, PhD. - Czech Republic

Mlko Chovanová Henrieta, PhD. - Czech Republic

Vidová Helena, Assoc. Prof. PhD. - Czech Republic

Urdziková Jana, PhD. - Czech Republic

Šujanová Jana, Assoc. Prof. PhD. - Poland

Naňo Tomáš, Bc. - Czech Republic

Školárová, Z.: The Role of Municipal Authorities in Support of Increased Competitive Edge of Small and Medium - Sized Companies

**PROFESSIONAL ORGANISATIONS**

**Slovak Academy of Management**

Miloš Čambál, Assoc. Prof. PhD. - Iveta Paulová, Assoc. Prof. PhD. - Marta Kúčerová, PhD. - Miroslava Míkva, PhD. - Jaromíra Vaňová, PhD.

**Project Management Society**


**Slovak Ergonomics Society**

Jozef Sablik, Professor, PhD. - Andrea Holková, Assoc. Prof. PhD.

**Association of Management Training and Development**

Miloš Čambál, Assoc. Prof. PhD. - Andrea Holková, Assoc. Prof. PhD.

**District Council for Professional Education and Preparation TTSK**

František Horňák, Assoc. Prof. PhD.

**Committee for Scientific Management ZSVTS**

Miloš Čambál, Assoc. Prof. PhD. - Marta Kúčerová, PhD.

**Association of Institutes for Adult Education (AIVD)**

Zuzana Lenhardtová, PhD.
ISSN 1392-1215. - No. 6(102) (2010), pp. 59-62


Hrdinová, Gabriela: Experiences from implementation of corporate social responsibility (CSR, KSO) in the world, in the Slovak and Russian industrial companies. In: Fórum Manažéra. - ISSN 1336-7773. - No. 2 (2010), pp. 27-30


Foitiková, Alexandra: Corporate social responsibility in industrial companies. In: Fórum Manažéra. - ISSN 1336-7773. - No. 1 (2010), pp. 68-71

Marková, Petra - Hatiar, Karol: Proposal of modification of the general ergonomic model ”HCS 3E” for an application in industrial companies in the Slovak Republic. In: Produktivita a inovácie. - ISSN 1335-5961. - Vol. 11, No. 6 (2010), pp. 6-8

Marton, Michal - Paulová, Iveta: Applying the theory of constraints in the course of process improvement. In: Research papers Faculty of Materials Science and Technology Slovak University of Technology in Trnava. - ISSN 1336-1589. - Vol. 18, No. 29 (2010), pp. 71-76


Stankovský, Peter - Cibulka, Vilam: RFID technology as a tool of integrated logistics. In: Fórum Manažéra. - ISSN 1336-7773. - No. 2 (2010), pp. 8-11

Šmíd, Jaroslav - Sakáč, Peter: Hypothesis that the attainment is the result of the personal factors. In: Fórum Manažéra. - ISSN 1336-7773. - No. 1 (2010), pp. 9-12


Šmíd, Jaroslav - Hrdinová, Gabriela - Szabó, Peter: The knowledge management accelerating the society development. In: Research papers Faculty of Materials Science and Technology Slovak University of Technology in Trnava. - ISSN 1336-1589. - Vol. 18, No. 29 (2010), pp. 77-82

Štavinický, Peter - Sakáč, Peter: Dreaft methodology for object-oriented system management organizations. In: Fórum Manažéra. - ISSN 1336-7773. - No. 2 (2010), pp. 31-34


Košturiak, Ján: Just normal (Czech) company. - ISSN 1335-6771. – Vol. 20, No. 5 (2010), pp. 66-73


Šurinová, Yulia - Paulová, Iveta: Globalization effects on specific requirements in automotive production. In: Research papers Faculty of Materials Science and Technology Slovak University of Technology in Trnava. - ISSN 1336-1589. – Vol. 18, No. 28 (2010), pp. 101-106


Šuková, Jana: Application aspects of leadership principle in quality management in the Slovak companies. In: Kvalita. - ISSN 1335-9231. - Vol. 18, No. 3 (2010), pp. 6-13


Šnírová, Jana - Homoková, Mária: Analysis of tax reform impact in Slovak Republic on


INSTITUTE OF SAFETY AND ENVIRONMENTAL ENGINEERING
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 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:

- 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 for 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 industry,
- Implementation of occupational health and safety assessment series (OHSAS), (internal audits, preparation for certification audits).

Research studies:

- Study of limiting conditions of the initiation of burning process of powder materials,
- Impact of fires and its liquidation to the environment,
- Environmental cost of the usage of foam extinguishing agents, appraisal of biological degradability of selected foaming agents,
- Fire danger of PVC cables and their protection,
- Creation of a knowledge database and expert system for the risk appraisal of dangerous substances, products, wastes and technologies and other dangerous processes,
- Modelling of impacts of industrial accidents to the environment,
- Usage of PC models of material escape modelling, comparison of different types of modelling 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 of technical-consulting laboratory for utilizing and consequent 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 the machine industry,
- Research and development of the utilization of phytomass technologies for liquid fuel production from renewable resources,
- Botanical garden as an instrument for escalation of environmental consciousness of citizens.

Consulting, training and courses:

- Training and courses focused on the health and safety at work, safety education on international standards, research coordination for specific 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.

Project of technology transfer:

Hybrid power supply for technical consultancy laboratory for the use and promotion of renewable sources and energy

Prototype of a hybrid source-based RES construction (hydro-potential, solar, biogas and bioethanol) for long term testing and promotion. Through the proposed interventions the prestige of research will be increased, which will also lead to increased interest in the quest for talent and higher employment in this field. The benefit will be new creative ideas and flexible responses to the needs of small enterprises and their closer cooperation. The resulting effect will be more competitive research teams within the national research, more interest in small and medium enterprises to conduct research focused on innovation in public research institutions, universities and other research centers. Slovak research teams will also compete at the international level, bringing the Slovak research development greater cooperation with the international environment and higher success of Slovak applicants in the 7th Framework Program of EU and other EU initiatives.

International projects:

EUREKA E13266/STU/08 (01.01.2008-31.12.2011)
Ivana Tureková, Assoc. Prof. 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 modelling of dispersion of emissions of dangerous substances during major industrial accidents. The FMST SUT Department of safety Engineering is a partner - candidate for EUREKA! 3266-EUROENVIRON VEAIR 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 modelling the dangerous states.

National projects:

LPP-0171-07 (01.04.2008-31.03.2011)
Anna Michalíková, MSc. Eng.
Natural phenomenon for small and big issues in experiments
A communication portal will be created that will be oriented to the pilot ideas: environmental education and health, physics in common life, astronomy, alternative sources of energy, wastes and recycling ... (Realize after consultations - investigation - with teacher from basic and secondary schools). It will facilitate communication with the public and students of basic and secondary schools. E-materials and recorded experiments will be published on the created web page (it could be used in pedagogical process, also in preparation of talented students to some competition). During the preparation of materials, from teacher’s requirements for experiments will be determined which are not able to be realized due to dangerous chemicals, absence of tools and instruments).

Karol Balog, Professor, PhD.
Follows the aging process of fire resistance coating on testing samples deposited in the operations environment of nuclear power plants at Bohunice. Tests the function of the intumescent fire resistance coat by use of thermal analysis, high temperature stressing in air condition, and measurement of intumescent ability.

Černecký Jozef, Assoc. Prof. PhD.
Determination of emission quantification and indicators of atmosphere quality in European legislation conditions
The project is focused specifically on the results of research on the subject of state detection and emission production to air in acceptance of changed conditions by European legislation. The research results are missing in actual educational materials. Within the frame of finding a solution, the project will be prepared to complete educational materials for education on subjects such as "Techniques of air protection" and "Technical devices of measurement and monitoring" which will focus on measurement, scoring and optimization of particulate and gaseous emissions. After completion, the proposed project will be explored and documented by research on the practical application of theoretical knowledge.

KEGA 3/6431/08
Maroš Soldán, Assoc. Prof. PhD.
Determination of emission quantities and quality indicators of air in conditions of the European legislation
The project is focused on concrete results of research when state and production of emissions to air are observed. The conditions modified with European legislative are accepted. The research results are still missing in the study materials. One complete study material for teaching of the subject "Technology of air protection" and "Technical tools of measurement and monitoring" will be prepared and it
Definition of fire characteristics of combustible materials from aspect of inflammability, rate of flame spread, heat creation by fire and toxic gases of combustion. The methods of parameter determination of material combustibility regarding to particular stages of fire in closed area. Application of fire and life safety characteristics of substances in practice.

EGA 1/048/08
(01.01.2008- 31.12.2010)
Ivana Tureková, Assoc. Prof. PhD.
Environmental impacts of fire-fighting foams from extinguishing fires in nature
If fires in nature are not extinguished early they can seriously endanger nature. Fire-fighting foams used in fire-interventions present insertion of these substances into the natural environment and they can cause contamination of the environment. Therefore knowledge of the foam in terms of fire-fighting properties is important, and also of the environmental effect. Because of the actual absence of information about eco-toxicological properties and biological degradation of fire-fighting foams the research focuses on the physical and chemical properties and also the effect of external conditions on the efficiency and stability of foam. An evaluation system of parameters and process for screening the selection of foams will also be designed. This information is necessary for each fire-intervention to reduce the negative impact on the environment.

EGA 1/0798/08
(01.01.2008- 31.12.2010)
Kristína Gerulová, PhD.
Development and utilization of a small hydro-energetic power source combined with solar systems in machine Technologies
A small hydro-energetic power source with rolling fluid machine represents a unique, patent protected device working on a yet unknown hydro-dynamic principal. The rolling fluid machine device is of a simple construction. It is able to convert hitherto unutilized, low hydropotential into mechanic or electric energy through the function of the rolling fluid machine. On the basis of this finding, together with methods of hydraulics similar to machines, various types of hydroenergetic sources will be modelled. Also designed and tested will be a small hydro-energetic power source combined with solar equipment to utilize in machine Technologies, for example to produce electrical energy for power supply measurement and regulation systems, for pumping, transport, heating or cooling liquids, etc.

EGA 1/0352/09
(01.01.2009- 31.12.2011)
Maroš Soldán, Assoc. Prof. PhD.
The exploitation of advanced oxidation processes in removal of organic pollutants from machine industry wastewaters by the use of wastes from production and treatment of metals as catalysts
The research focuses on innovation of degradation processes of organic pollutants in wastewaters by the use of oxidation in the presence of catalysts. Some wastes from treatment and production of metals will be used, such as red mud, black nickel mud, etc. The new possibilities for reduction of environmental impact from cutting and surface processes will be tested.

LIST OF SUBJECTS GUARANTEED WITH THE INSTITUTE
- Assessment of Environmental Effects
- Bachelor Project
- Bachelor Work
- Basics of Environmental Studies
- Basics of Safety Engineering
- Blast and Fire Protection
- Blast Protection and Industrial Safety
- Connoisseurship of Commodity
- Dangerous Activities Management
- Dangerous Activities Psychology
- Danger Effects and Processes Simulation
- Dangerous Materials
- Disposal of Waste
- Dissertation Project
- Ecological Disposal of Materials and Waste
- Educational Activity
- Emergency Preparedness for Accidents and Dangerous Situations
- Engineering Work Environment
- Environmental and Safety Information Science
- Environmental Engineering
- Environmental Chemistry
- Evaluation of Indoor Environment Aspects of OSH
- Fire Dynamics
- Fire Engineering
- Fire and Accident Modelling
- Fire-Fighting Safety for Buildings
- Fundamentals of Environmental and Safety Information Science
- Hazardous Materials
- Human Reliability in Technical Systems
- Selected Chapters of WSHP Control in Companies
- Technological and Natural Emergencies
- Industrial Toxicology
- Informative Techniques in Risk Analysis
- Information Sources in the Field of Integrated Safety
- Inorganic and Organic Chemistry
- Integrated Management of Systems
- Law and Technical Directions of WSHP
- Major Industrial Accidents
- Management of Risk
- Management of Hazardous Operations
- Management Systems of the OSH
- Monitoring of Risk Factors in Environment
- Occupation Safety and Health
- Practice
- Processes of Environmental Technologies
- Project of Environmental Protection
- Progressive Methods of Integrated Protection of the Environment
- Quality Control and Normalization in WSHP Domains
- Remediation Technologies
- Renewal of Damaged Ecosystems
- Research Work
- Risk Analysis Methods
- Risk Control Methods
- Risk Evaluation in the Environment
- Risk Theory and Casual Processes
- Safety and Reliability of Systems
- Safety Engineering
- Safety Management
- Safety of Industrial Technology
- Safety of Technical Systems
- 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 Diagnostics, Maintenance and Repairs
- Thesis / Diploma Work
- Thesis Project / Diploma Project
- Work Safety and Health Protection
- Work Safety of Man

GRADUATE THESIS
Bachelor Theses
Adamčíková, I.: Industrial water - source, processing and use of nuclear power
Andelková, V.: Consideration of actual state of dangerous industrial accidents prevention in the company Chemolak a.s. Smolenice
Beľianská, V.: Comprehensive assessment of indoor environment
Beňová, Z.: Evaluating microclimatic conditions at the selected workplace
Birčák, B.: Monitoring of radiation characteristics in the process of radioactive waste treatment
Blejštil, V.: Radiation safety as a part of Safety and Health at Work in nuclear energetic
Bobušová, M.: Utilization of biogas in Slovakia
Bočková, K.: Basic methods of measuring and assessing the factors of thermal-humidity microclimate
Bučková, A.: Security at a shooting range and adjacent surroundings
Bučková, Š.: The study of ozonization influence to selected metal working fluids bio-degradation.
Caletka, R.: Analysis of the risk of fire in the selected premises in the company INA Skalica
Černeková, T.: Possibilities of selected metalworking fluids ecotoxicity assessment
Čurila, M.: The impact of the introduction of alternative transport fuels to reduce greenhouse gas emissions.
Dovičič, M.: Biogas production from biomass to produce electrical energy by fuel
Dragulová, Z.: Biogas plant as a technological unit of biomass processing
Durechová, D.: Assessment of noise nuisance in the workplace
Ďurica, A.: Biogas utilization in fuel cells
Fabianová, K.: Possibilities of nitrate removal from the water by Lemna minor
Fančovičová, K.: Breakdown of selected waste composting
Frajka, B.: Duty operators containing fluorinated greenhouse gases
Fraňová, A.: Studying the size of dust particles
Galbička, I.: Monitoring of radioactive outfalls from nuclear energetic as a part of human health protection
Golej, M.: The requirements for the storage of flammable substances in the enterprises
Hesko, M.: Shipments of spent nuclear fuel by rail
Hilka, M.: Health and safety during rail welding on the rail superstructure in ŽSR environment
Horváth, J.: Lighting effect on safety at work
Hrdá, A.: Transportation and Safety
Hrebiček, M.: Production of gas emissions in grain drying operations
Hubinská, T.: Utilization of non-conventional biosorbents for removing hexavalent chromium from water
Husarčík, M.: The release of fouling from the burning of chosen kinds of plastics
Iľko, I.: Emission monitoring of selected parameters at Slovenské elektrárne a.s., thermal power plant in Novák
Janečková, G.: Improving the system of municipal waste separation
Juhás, B.: Disposal accident acid bases
Káloši, Š.: Working at heights analysis in term of Health & Safety in an industrial concern
Kocis, A.: The analysis of fire fighting methods with large atmospheric storage tanks
Kubíková, D.: Assessment of biomass for bioethanol production
Kubovičová, B.: The analysis of the risks on the particular office of the STSZ COMPANY
Kučerková, M.: The significance of nuclear reactors in modern society and their environmental aspects
Lacko, T.: Study of the basic characteristics of the selected hydraulic motor Setur
Laczó, M.: Emergency scenarios for release of hazardous substances
Lehotová, K.: Studying the use of selected types of biomass for bioethanol production
Lukačovičová, R.: Car wrecks as a source of materials and raw materials in company ŽP EKO QLET a.s. Martin
Lunáková, Z.: Analysis of the industrial accidents in the ZSSK Slovak rail
Mahúť, M.: The evaluation of using sediments of sewage in Slovakia
Malovcová, M.: Dealing with selected types of waste in PSA Peugeot Citroën Slovakia
Marinescu, M.: The assessment of lighting in teaching rooms
Mašková, I.: Monitoring of ground water quality in the selected location
Matejová, M.: The analytical methods of polycyclic aromatic hydrocarbons determination
Melichcová, J.: Electrolytic preparation and use of hydrogen
Mokošová, M.: An analysis of plastics recovery options in the SR
Mydlar, K.: Initiatory sources and effects on flammability of flammable liquids
Nikel, P.: Requirements for safe of lifting equipments
Orgoň, P.: Waste management analysis of JIT plant Johnson Controls
Peričková, K.: The draft measures to the application of ergonomics in the company I.D.C. HOLDING, SpA, o.z. Trnava
Pietriková, D.: Recovery of the used tyres in an environmentally friendly product
Požgay, I.: Analysis of risks at work during electrical installation jobs at building site
Prechtlová, M.: Rating working conditions in term of sight charge in the bank sector
Ridzoňová, J.: Treatment of water for industrial purposes in the company Amylum Slovakia s.r.o. in Boleraz
Salay, V.: Safety of rail transport Slovakia
Samolej, D.: Safe work with pesticides
Siebenstich, D.: Operation of a new system of aeration on waste water treatment plant Slovnaft (joint stock company)
Šarvaic, P.: Objectiveview of lighting in manufacturing corporation Samsung Voderady
Šclipa, M.: Requirements for safety maintenance and revision of the electric fire signalization
Škrhová, H.: Environmental safety and food labelling as a means of informing consumers
Škvarková, D.: Fighting fires in high rise buildings
Šoltésová, A.: Possibilities for recovery and disposal sealants of a paint shop
Štefko, T.: Passive houses
Šuran, J.: Rules for the safety and protection of health in the environment of the controlled zone of the nuclear power plant.
Tkačová, M.: FMEA and its role in analysis and risk management
Tureková, B.: Reviewing the work safety and health protection in heights and above free depths
Tušš, A.: Evaluation of safety and health at work and operation at ŽSR under the influence of illegal junk yards
Urban, J.: Evaluation of possible risk factors of electromagnetic emission
Valentová, V.: Product Safety and Risk Assessment
Vargová, O.: Evaluation of drinking water disinfection methods in The West Slovaktank company
Vengrinová, H.: Appraisal and prediction of the noise on the working place in terms of security and prevention of health at the work
Vicianová, I.: Analysis and safety management process while transporting dangerous materials with a chosen train loading dock within the Slovak Republic Railways
Vighaš, L.: Evaluation of pressure effects of vapour cloud explosion of selected dangerous substance in SLOVNAFT, Plc.
Víček, V.: Evaluation of sediment purified by physical-chemical sewage tank Vretenanová, O.: Risks of chemicals and their elimination
Vyskoč, M.: Hazards of asbestos dust
Zigo, J.: Analysis of sources and causes of work injuries and their prevention

Masters Theses
Adamusová, D.: Possibilities of combined electric and thermal energy production from bioethanol
Amcha, P.: Ecotoxicity assessment of cutting fluids by a respiration inhibition test of the activated sludge
Antal, J.: Safety requirements for the installation, operation and maintenance of heating equipment
Baranovičová, Z.: Disposal with electronic equipment and waste electrical and electronic equipment in the aspect of new legislation on waste management
Bartášová, Š.: The effect of fire on selected soil properties
Bartovčiová, M.: Stocktaking and the advancement for handling with fluorinated gases
Benedíkovíc, I.: Safety listed equipment - electric business in Swedwood Slovakia, sro Trnava
Bišková, E.: Proposal to improve the civil protection in the selected entity
Bucha, M.: Studying the impact of sample size distribution for the process of burning industrial dust
Bukový, F.: Reviewing the possibility of biogas production for energy purposes
Cabadaiová, Z.: Emissions evaluation in the company ZF SACHS Slovakia, a.s. Trnava
Cerovsky, M.: Analysis of risk in carpentry workshop
Čapková, J.: Economic aspects of realization of the project on „Hybrid electrical source"
Danielová, M.: Protection of persons in the occasion of an incident in the territory of a nuclear device
Dostálková, M.: Evaluation of production and waste management in a selected enterprise of the food industry
Dubovan, M.: Influence of temperature on the propagation of natural flax combustion
Duda, M.: Technical, environmental and economic an assessment of utilization possibilities of selected alternative energy sources
Dučiansky, M.: Impact of heat straining sample to parameters of inflame industrial dust
Dušek, J.: Effect of the temperature on the self-ignition of the porous materials contaminated by flammable liquids
Dušek, L.: Internal analysis of labour protection in Execution of imprisonment Institute and Execution of confinement Institute in Ilava
Fuljatár, M.: Technical intervention in underwater salvage operations in the Fire and Rescue Service
Gajdoš, P.: Risk analysis during maintenance of forklifts
Gálová, M.: Project of selected waste type evaluation in ZF Sachs Slovakiaa.s., Trnava
Gergelová, F.: Qualitative evaluation of surface water in the village Horné Orešany
Gielášová, T.: The possibility of using renewable resources of energy
Halászová, T.: Safety requests during building inspection
Horňáček, M.: The impact of external conditions to the promotion of the established process of burning of the combustible dust
Horváth, M.: The influence of temperature on burning of lignocellulosic materials
Hrdličková, E.: Quantification of emissions in atmosphere in Holcim Slovakia a.s.
Hrubšová, J.: Production of biogas from biomass for generating electricity using fuel cells
Hudáková, D.: Qualitative and quantitative evaluation of wastewater production in Slovenské Elektráre, a.s., Elektráre vojany, závod
Chodoušková, Z.: Quality assurance of the water wells in the locality Sucha nad Parnou
Chvalová, T.: Reclamation of a landfill of inactive sludge
Janovčík, M.: Environmental policy of LINDSTRÖM, s.r.o. Trnava
Kaličík, T.: Safe work instructions as a tool of risk prevention
Kardosová, J.: Integrated safety in Continental Matador Truck Tires
Kiriôsková, V.: Environmental safety of the incineration of hazardous waste
Klenovičová, D.: Analysis of selected stimulating drugs by gas chromatography and their effect on consumers
Kollárová, M.: Analysis of waste water in Lindsbom Ltd., Trnava
Kováčová, L.: Study extension temperatures on a layer of industrial dust
Korec, K.: Use of software resources for the modelling of selected parameters of energy production facilities
Korecká, I.: Application of tools in managing their business-oriented environment
Kotárová, M.: Restoration of areas devastated by inappropriate landfill and their subsequent use
Košťálová, E.: Valuation of efficiency of chosen wastewater treatment plants in selected entity
Krédy, M.: Monitoring of the safety level and risk analysis of selected parameters of pollution of water flow in the Parná in the village Horné Orešany
Kulaj´tár, M.: Study of industrial dust ignition
Kurecka, I.: Risk assessment of a cooling system by selected method
Kulcová, J.: The Analysis of adsorptive characteristics of selected fall-out types
Kukayová, Š.: The exploitation of unconventional sorbents for the stabilization of selected pollutants from pore water of soils and bottom sediments
Kurovská, D.: Analysis of risks in office work
Kurovska, K.: The use of biomass for energy purposes in the region Puchovska
Kyrolová, M.: Safety work on rail siding
Pospíšil, M.: Application of FMEA method in reconstruction pumps
Rádožová, E.: Hazard analysis of industrial dusts in terms of the possibility of ignition
Saba, P.: Risk assessment of construction projects in selected region
Segényová, L.: The Analysis of adsorptive characteristics of selected waste management
Sleziaková, O.: The exploitation of unconventional sorbents for the stabilization of selected pollutants from pore water of soils and bottom sediments
Slobodová, D.: Analysis of risks in office work
Srogončíková, K.: The use of biomass for energy purposes in the region Puchovska
Stoiaróvá, M.: Safety work on rail siding
Stúra, M.: The analysis of work related risk at the workplace in Euromilk company
Štíbraná, L.: Analysis of selected parameters of pollution of water flow in the Parná in the village Horné Orešany
Štíbraná, M.: Assessment of air quality in terms of pollution sources in selected region

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VISITS OF STAFF MEMBERS TO FOREIGN INSTITUTIONS

Employee State
Balog Karol, Professor, PhD. Czech Republic

Visits

PUBLICATIONS

Journals
Rusko, Miroslav - Tureková, Ivana - Štimrova, Dominika: Integrated prevention and pollution control as an important tool of environmental policy in Slovak Republic. In: Research papers Faculty of Materials Science and Technology Slovak University of Technology in Trnava. - ISSN 1336-1589. - Vol. 18, No. 28 (2010), pp. 141-148


Conferences


INSTITUTE OF APPLIED INFORMATICS, AUTOMATION AND MATHEMATICS

Institute Departments

- Department of Mathematics
- Department of Applied Informatics and Industrial Automation

Staff

- Professors: 5
- Assoc. Professors: 10
- Senior Lecturers: 21
- Research Fellows: 5
- PhD Students: 18

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
- computer graphics – geometry problems
- 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

Director
Peter Schreiber, Assoc. Professor, PhD.
e-mail: peter.schreiber@stuba.sk
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tel.: ++421 918 646 021
tel./fax: ++421/33/544 7736
RESEARCH CHARACTERISTICS

The Institute’s research is oriented to the process of 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 storage, obtaining and using multimedia and graphic systems, process visualization field, etc.). With the orientation on production processes we reach close co-operation with other FMST institutes. Actually we increase part of the 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, sensitivity 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, teaching rationalization methods, E-learning.

Institute AIM provides math, information and automation support.

Besides scientific-research projects, the institute focuses also on education projects, which are of interest from several views as e.g. research applications, rapprochement contacts, material and financial contributions.

INTERNATIONAL PROJECTS

Diversity (01.01.2009 - 31.12.2011)
Oliver Moravčík, Professor, PhD.
Improving gender diversity management in materials research institutions
The DIVERSITY project is an international consortium of 14 partners from 11 European countries: Germany, Austria, Belgium, France, Spain, Italy, Sweden, Slovenia, UK, Slovakia, and Greece. Project “DIVERSITY” is a 36 month project funded by the European Union within the 7th Framework Programme.

NATIONAL PROJECTS

APVV-0308-07 (02.09.2008-30.06.2010)
Peter Schreiber, Assoc. Prof. PhD.
Nuclear and radiation safety demonstration methodology for spent fuel container transportation based on experimentally acquired data
It is impossible to perform direct measurement of spent fuel residual output in the container. In the case that the container is presented as a mathematical model of a specific thermal system, we would be able to derive residual output based on power proportions, or on the basis of known or measurable physical values (heat capacity, surface, the container and surrounding temperature, heat transfer 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.

Pavol Božek, Assoc. Prof. PhD.
Content Integration and Design of University Textbook “Specialized Robotic Systems” in Print and Interactive Modules for University of Technology in Zvolen, Trenčín University and Slovak University of Technology in Bratislava.
The project aims to develop an undergraduate textbook writing and interactive multimedia form. Movies made on robototechnic specialist departments will complement each chapter and the aforementioned written university textbooks.

KEGA 1/0282/08 (01.01.2008- 31.12.2010)
Jozef Vaský, Assoc. Prof. PhD.
A 3D model generated by means of reconstruction from partial engineering drawing orthogonal views
Engineering drawing is the 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 visual and technological operations. It would be therefore effective to transform paper drawings of parts right into 3D representation.

KEGA 1/0068/08 (01.01.2008- 31.12.2010)
Róbert Vrábel, Assoc. Prof. PhD.
Analysis of the boundary layers for three and four point boundary value problems of singularly perturbed second-order ordinary differential equations
We provide geometric and quantitative analysis of the dynamics of three and four point boundary value problems for singularly perturbed second-order ordinary differential equations \( \epsilon p(y) = f(x,y,y') \) near to the critical manifold (hyberbolic and non-hyperbolic).

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

KEGA 1/0582/08 (01.01.2008- 31.12.2010)
Renáta Masárová, PhD.
Extension types of convergence in fuzzy spaces
Analysis of various types of convergence in fuzzy spaces, fuzzy metrics and types of convergence in these metrics, problem analysis according to commonplace axioms and selection optimal application and numerical time-consuming algorithm.

VEGA 1/0368/08 (01.01.2008- 31.12.2010)
Peter Schreiber, Assoc. Prof. PhD.
Artificial intelligence in flexible manufacturing systems control
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.

LIST OF SUBJECTS GUARANTEED WITH THE INSTITUTE

- Applied Mathematics
- Automation of Data Acquisition and Processing
- Bachelor Thesis
- Bachelor Project
- Graduation Thesis
- Diploma Project
- Dissertation Project
- Graphical and Multimedia Systems
- Information systems
- Real-Time Information Systems
- Information Technologies
- Integration of Production Control Systems
- Intelligent Control Methods
- Internet Technologies
- Communication Technologies
- Mathematical Methods of Experiment Planning and Evaluation
- Mathematics I
- Mathematics II
- Mathematics III
- Modeling and Simulation of Systems
- Neural Networks and Genetic Algorithms
- Object Oriented Programming
- Practice
- Pedagogic Activities
- CIM (Computer Integrated Manufacturing)
- Computer Architecture and Operating Systems
- Computer Graphics and Digital Image Processing
- Computer Networks
- Advanced Internet Technologies
- Programming Languages
- Programming of Industrial Controllers
- Programmable Logic Controllers
- Control System Design
- Knowledge Representation and Inference Mechanisms
- Control of Flexible Manufacturing Systems
- Software Project Management
- Software Systems Control
- Simulation Optimization in Production Systems Control
- Software Engineering
- Decision Support Systems
- Technical means of automating control
- Automatic Control Theory
- Systems Theory
- Complex Systems Theory
- Information Systems Development
- Basics of Automated control
Hajka, T.: Graphics formats of photographs in terms of placements on web pages
Hanzel, M.: Making of Interactive Multimedia textbook for technical Subject
Haruštiaš, P.: Projection and control of biogas station
Holička, P.: The Proposal and Realisation of Interactive Multimedia Application to Support Teaching of Mathematics III., the part: „Laplace Transformation“
Holík, J.: Design and implementation of physical object of control and related control program for Simatic S7-300 station
Horka, M.: The issue of security of computer networks using IP protocol filtering
Horňák, M.: Interactive multimedia application for electrotechnical measurement.
Horváth, A.: Technical equipment for increasing building security (access control systems)
Horváth, P.: Computer application form teaching ČRS
Hrašna, P.: Proposal and realization small IS in the scene of Web with using UML
Hříbal, J.: Proposal and realization of small IS in Web environment using UML
Hýroš, M.: Web system for automatic registration of new user into LAN (GNU/LINUX)
Chobot, T.: Technical equipment which increase the security of objects (camera systems)
Imanbakiev, A.: Portal for Study Materials Exchange
Jamrich, M.: Creation of border line for statement and configuration of DHCP server
Jančarek, D.: The use of WinAPI in network monitoring
Janíš, M.: Proposal of MM application for technical subject
Jonáš, P.: Design and realization of small IS in Web environment using UML
Juroš, M.: Design and realization of interactive multimedia application
Kaprinay, A.: The system of publishers in UML notation
Karak, J.: Design and creation of an application for the registration of fire extinguishers
Kelescényi, Z.: Design and creation of multimedia application for interactive teaching of Computer Architecture
Kessel, S.: Design and implementation of Interactive Multimedia Handbook for Specialized Subject
Khrčňák, T.: A partial plan of IS for the service management of the Samsung company
Krajčírová, M.: The control of stepping motors using assembler
Krajčovič, L.: Cutting of multichannel audio tracks
Královský, R.: The issue of creation of help files from the web environment
Kočišová, J.: Design and implementation of home finance base
Koňuch, R.: Proposal and realization of small IS in Web environment using SSL technology
Kubica, M.: Support management system of work tasks in an IT company
Kudlík, M.: Technical equipment for increasing the security of properties
Kulich, M.: Technical hardware increasing object’s security (camera systems based to IP cameras)
Ladányi, J.: Control Web driver for virtual appliances
Lečko, J.: Implementation of the virtualization of the servers in the small business environment
Lehotský, M.: Proposal and realization of multimedia application for interactive education of the subject Communication Technologies
Lehotský, S.: Uploading data from EOL testers to SQL database
Libošvár, K.: Algorithms for searching of strings in text files
Lipnický, M.: Design and physical model junctions and related control program for the station Simatic S7-300
Macuľa, J.: Possibilities of securing wireless networks
Maček, P.: Design and creation of Interactive application for industrial robot operating
Martinkovič, J.: Options for providing wireless communication in data networks

GRADUATE THESES
Bachelor Theses
Andris, F.: Interactive multimedia application for teaching work with computer
Babiarová, D.: The compression of graphic formats of photographs
Bánovský, P.: The graphic video formats on web pages
Blažiček, L.: Proposal for Management of a House with Renewable Power Sources
Bobák, I.: Design and creation of application for supporting evidence in Personnel
Bohačík, M.: Proposal of wireless network for residents or company
Brázdovič, M.: Control of alternative source of energy by controller ELESTA
Brzobohatý, P.: Computer support for a qualitative assessment of the atomic emission spectra spectroscopy
Bugár, D.: Modernisation of network infrastructure in a medium-sized company
Buchálik, A.: Electronic management of SMD feeders
Cadleti, C.: Design and implementation of my own online store
Čepko, I.: Production management Efficiency improvement of diode tape fabrication in Semikron s.r.o. company
Csörgő, B.: Exploitation and security of a Wi-Fi network at planning home and company networks
Čačík, P.: Influence of compression formats for the optimal situation of video on the web
Čelko, A.: Problem of development help files
Čuvala, P.: Design and partial implementation of information system for caterers
Daniš, L.: Management of software equipment by MS for middle size company
Daniš, M.: Use WiFi and safety in building domestic and corporate networks
Dobšovič, M.: BEAM robots
Ďuriš, R.: PLC and their practical applications
Farkaš, J.: The choice of convenient sensors, useful in the realization of the robot for UIAM
Furko, M.: Technical resources to increasing safety of objects (camera systems)
Grambička, M.: The Imaging devices of computer graphics
Grman, P.: Digitalizing of analogue audio record
Hajka, L.: Compression of graphical video formats
Matúš, M.: Ordering material in the firm via intranet
Mečir, T.: Suggestion and realization of interactive application Matrices and determinants
Ment, P.: Application and implementation of control and visualization testing of high-pressure pumping devices
Mihálik, R.: Design and implementation screen printing manufacturing line control with PLC-S7 300 and operator panel OP25
Mihóčka, M.: Propose local area network and its security
Michaličková, K.: Web portal for generating HTML mails with attachments

Minarovič, J.: Creation of practical examples and multimedia presentation for an interactive teaching

Neštícký, M.: Animation of inertial navigation system

Ondrejčka, M.: Cryptographic Hash Algorithms

Ondruška, J.: Management systems and their use in industry

Oravec, L.: WebFileManager by AJAX technology

Pagáč, I.: Designing and realization of moderate information system using UML

Pekar, R.: Universal File Manager for Web interface

Peky, L.: Design of e-shop for computer store

Pisarovič, A.: Instructions for exercises for the controller

Podkoniccký, B.: Realization of the program for teaching of combinatorial

Predný, M.: Proposition and securing of wireless computer network

Púchly, F.: Creating an application for registration of IT assets

Putnok, M.: Parametric tests of the statistical hypothesis

Rášo, O.: Analysis of Automated Systems of Measuring the Length in the Space

Rosinský, M.: Lossy audio compression

Royanský, J.: Braientenberg vehicles

Ségíň, E.: Possibilities and perspectives of the use of RFID technology

Schavel, F.: Design and creation of multimedia application for interactive learning MS Visual C#

Simon, P.: The issue of security of computer networks using IP protocol filtering

Sklápala, M.: Using intranet to manage company

Sláma, M.: Design and implementation of small IS using UML

Sobotá, M.: Design and realization of interactive multimedia application for the support of teaching subject of Mathematics II, part "Differential equations"

Socha, T.: Nonparametric methods for hypothesis testing

Sroka, M.: Artificial intelligence in games

Šimůnek, P.: Internet application for institution

Šlauka, M.: Design of floor electric heating in accommodation unit with regulation

Šlauka, R.: Visual Studio 2010

Šporka, L.: Wide area metropolitan network optimization (active part)

Šternocký, M.: Multimedia application - raster algorithms in an environment of FLASH

Štulajter, J.: The design and implementation of document management module and associated process flows in the existing system of a company

Švec, O.: Web application for generating HTML emails with the attachments

Táčovský, M.: Wireless network proposal for multi-family house or firm

Taranova, O.: Design and realization of small information system using UML

Tarr, P.: Display devices of computer graphics

Tibenský, M.: Design and implementation of small information system using UML

Tóth, D.: Proposal and implementation of a data administrator with integrated FTP client via .Net platform support

Turčík, M.: Design and implementation of manufacturing control equipment for molding plastic sheeting

Turzik, P.: The analysis and design of a system for managing supplies in the production process

Valach, L.: Web application to monitor electricity consumption

Vávrová, L.: The Guard of Students in FMST

Vereš, J.: Design of portal for teaching of aging supplies in the production process

Virtuálky, Z.: Design and implementation of small IS with use BPMN and UML

Vonk, P.: Control of CCTV camera via internet

Vondro, J.: Proposal and implementation of web sites

Vonkova, L.: Design and implementation of multimedia applications and interactive learning object Object Oriented Programming

Vorgartnerová, K.: Comparison of the supporting management system for companies in view of the product

Masters Theses

Ágh, D.: The sensitivity of the closed control circuit for the controller parameters

Arpáš, P.: Control of CCTV camera via internet

Baboczák, A.: Replication of PostgreSQL database

Bali, P.: Dynamic routing and its implementation in wireless networks

Baráth, J.: Design and creation of control system for robot with electric gear

Bartík, M.: Design for computer security E-learning portal

Belávy, L.: Colour pattern finish with 3D preview

Belian, M.: Gnome applet pre driver FT1000

Belko, S.: Producing process improvement of windows with simulation assistance

Bendíková, R.: A Proposal of Information System for Stock-holding

Berner, T.: Information system design for company dealing with fabrication and sale of fire-places

Blaho, P.: Improving the process of manufacturing plastics parts

Blanka, P.: Draft commercial warehouse information system

Blšták, P.: Design of information system for commercial company

Bočkay, A.: Crossroad system simulation

Bohnický, T.: Comparison of frameworks for PHP and their use in developing applications

Cerina, M.: Creation of an electronic teaching portal on topic of „Selected Chapters in Graph Theory”

Cisár, V.: Module of heating for building control system for eurohouse, s.r.o. company

Čeč, T.: Design of portal for teaching mathematics

Čul, M.: Interactive presentation of graphics algorithms in Java

Díhy, A.: Implementation and integration of new modules and features into CRM system SugarCRM

Drinka, B.: Simplification of Creation of Information Systems in Developmental Lazarus Environment

Dubravec, M.: High-speed networks and their application in praxis

Dúrkovičová, J.: Implementation of ITIL in ŽP Informatika Ltd.

Eimšígl, J.: Design and implementation of small IS with use BPHN and UM

Ergan, R.: Proposal and implementation of web sites using SSL and IPsec technology
Fedorová, E.: The analysis and use of the metrics usability for the testing of software

Gajarský, M.: Virtual Object for Virtual PLC

Gono, M.: Data capturing and analyzing of the system logs in the critical network infrastructure (Internet, DMZ)

Gottfried, T.: Draft management of heating system

Graňák, B.: Transmitting IP services over HFC net CATV

Hajdin, M.: The proposal of database system for the doctor’s ambulance in notation UML

Hlášek, L.: Generating of one-time authorization sequences for Linux server

Határ, I.: Possibilities of securing wireless broadcast and its impact on transmission attributes

Házuchová, K.: Creation of learning portal

Herceg, J.: Module for recording travel orders in the CRM system

Heteš, M.: Simulation of technological processes

Hiblík, M.: Simulation of production of plastic moldings in an environment of Witness

Hnojčík, P.: Interactive visualization of sorting algorithms

Horský, M.: Analysis and design of data warehouse facility

Hrozný, T.: Design of a databases system for hotel in UML notation

Hucík, V.: Proposal and implementation of a small information system using BPMN and UML

Hustý, P.: Proposal and implementation of the terminal network on the basis of the protocol LTSP

Ivanovičová, E.: Automatic generation of model assemblies using the VBA interface

Jančula, M.: Identification of proportional oscillatory systems with transport delay using Matlab

Jurováta, D.: Performance evaluation of the production line for the trunk panel production by simulation

Kalanka, F.: Proposition and creation of education portal

Karabová, L.: Partial proposal solution of assurance of quality process of the software systems evolution

Keleši, A.: The analysis of Just in Sequence components delivery system into a production plant

Keselyová, A.: The Proposal of information system for the primary school and kindergarten

Kičin, M.: Implementation of Travelling Salesman Problem Solver

Kido, P.: The design of an information system for building company

Kić, J.: Automatic generating assembly model in Inventor VBA

Klimo, T.: Virtual 3D scene characters

Klokner, L.: Developing a system for managing access to wireless network

Kobetič, J.: Web portal of frisbee team

Kocákávová, N.: Performance evaluation of the door panel production line by simulation

Koníčková, G.: Design of an information system for computer shop

Korytár, M.: The proposal for an integrated security system using LAN

Kováčik, M.: Framework of the outline of the room created by the set of photographs

Kovačová, M.: The utilization of geomarketing by optimization’s design of network location services

Kozák, D.: Design of Information system for administration and practice of tests functionality of company systems.

Kožáková, A.: Design of database system for insurance company in UML notation

Kožma, M.: Suggestion of database system for car sale in UML notation

Krajčír, L.: Design of an information system for software company in the UML notation

Královič, T.: Projection of control loops with digital controller DC1020

Križan, R.: Project of modifications process and services for acquisition certificate ITIL

Kroko, R.: Design and implementation of a virtual “marketplace” with a link to the ERP system

Kubina, M.: Creation of an E-Learning portal for mathematical analysis

Kuna, I.: Implementation of selected industrial busses to microchip PIC

Lackovič, M.: Improving of the PCB manufacturing process using simulation

Lenický, Ľ.: Simulation of conveyor technology in the automobile industry

Lukáč, M.: Database application on the web (for a Ldt. company)

Lukáč, M.: Electronic Shop

Luptovský, L.: Monitoring system of process level control

Macháč, A.: Design and implementation of an information web portal using BPMN and UML

Malík, L.: Analysis of wireless network, their security, risks and options of security

Máliš, M.: Verification of junctions throughput by using simulation

Marko, B.: Information system of Stetson company, Ltd.

Melíška, M.: Proposal of information system for registering people for a personal agency

Michač, Z.: Electronical guiding of a solar panel according to the position of the sun

Mikuš, A.: Design of a database system in UML notation

Mikušik, M.: Internet telephony, and its implementation

Mišťana, F.: Comparison of model predictive algorithms for a distillation column

Moravčík, J.: GAMP Guide - forms processing and presentation

Motúz, P.: Application of database system for hospital in UML notation

Mráz, J.: Concept and implementation of the system, which controls experimental aspect of solar panels in the Control Web environment

Nemeškal, A.: An Interactive Model Of the Robot In Module SketchyPhysics

Olah, M.: Automatic passage control of underground road communications

Opálek, A.: Proposal, installation and configuration of devices for the economic information system and data backup at the institute of SAS

Orlický, M.: Design of an information system for the Hospital of St. Lukáša in Glanta

Ormandy, T.: Partial suggestion directive for testing of big software systems.

Panáč, B.: Controlling and visualization of technological devices in open source environment

Paraj, L.: Developing Enterprise Services for SAP IS-UCCS

Partel, P.: Design and implementation of information system dealing with the sale of plastic Windows

Pavelka, M.: Utilization of simulating optimizing in order to define the optimal size of production amount.

Pavelka, M.: The comparison of numeric methods for calculation of definite integral

Piaček, M.: Creating an electronic portal on the topic of teaching Infinite Number Council

Pintér, T.: Testing of fire unit software

Plevjak, J.: Sauna control by computer

Plocek, M.: Problem solving of operation scheduling by simulation methods.

Polakovič, P.: Process managing using Siemens Simatic

Pompuura, T.: Utilize usability metrics of testing SW

Popelka, D.: Proposal of information system for company dealing with the sale of building materials

Porádek, M.: Decision of utilization of identification cards

Potuček, P.: Application for performance testing of processors

Rakús, M.: Motions based on dynamic infrastructure IBM and VMware components
Repta, J.:  
Design and implementation of Information System Didaktík’s company using UML and UP.

Ronce, L.:  
Design of the information system for the KNOTT company

Sedláček, L.:  
Influence of priority rules for schedule of operations in manufacturing system

Sedláčková, D.:  
Design of an information system for the founder of gastronomic establishments

Seitler, P.:  
Interactive visualization of 3D scenes in real time

Skrčpáč, T.:  
Generation of medical knowledge out of data

Sládek, R.:  
Electronic learning portal for applied mathematics

Slaninka, P.:  
The possibilities reduction of charges in production by simulated optimisation

Slobodník, T.:  
Testing model of technological process

Sokol, J.:  
Adobe Flex application for managing network services

Sopušek, A.:  
Evaluation of material flow production system using the method of VSM

Štachovič, M.:  
Optimization of production process adjustment of cutting area in company Delphi Slovensko s.r.o.

Sučan, M.:  
Compare PLC Siemens and Schneider

Szábo, O.:  
Design of a smart refrigerator information system

Šzőke, K.:  
Visualization of simple objects using OpenGL

Šádík, P.:  
Comparison of determining the size of the batch simulation optimization method with traditional procedures

Šimonič, R.:  
Information system design for microtunneling company

Škroň, P.:  
Design and optimization of infrastructure services with use of virtualization Technologies

Škavecena, M.:  
Projection of information system for tennis academy

Šmelcer, P.:  
Detection of edges in a digitalized technical drawing

Štefák, M.:  
Building a portal to enforce the competitive online environment

Štetiárová, K.:  
The Information System Design of Advertising Agency

Štiga, P.:  
Design of interactive physical simulations on the Java platform with data output

Šupolá, L.:  
This thesis is an implementation of Web based portal for sales database

Švihorík, J.:  
Creating an electronic teaching portal on “Systems of linear algebraic equations”

Terek, A.:  
Creating an electronic authoring portal referring to mathematic analysis

Toma, M.:  
Turbocompressor control algorithm draught and implementation of management scheme in the information network

Tomeček, J.:  
Technical trade analysis

Tomšík, P.:  
Implementation of module “Dealings” into IS Asset Manager

Tóth, P.:  
Security of identification cards

Trnka, K.:  
The design of the welding manufacture line in the automotive industry

Turányi, M.:  
Design and analysis of technical preparation of production for IS production planning and control

Uhlik, M.:  
Database applications in a web environment - module production schedules

Uhrík, R.:  
Evaluation of an influence of chosen priority rules for appraisal of operations Schedule

Ungerová, S.:  
Partial design solution to ensure software systems development quality

Vanáková, M.:  
Document management integrated in a company information system

Vaňhara, R.:  
Optimizing the costs of transportation and holding stocks

Vdovec, J.:  
Proposition and implementation of portal system for company

Vlachovič, B.:  
A proposal of controlling a traffic junction through traffic signals (CSS), the automation of operation and solution simulation in a program

Výborčík, B.:  
Visualization method for morphology of workspace

Vyskoč, M.:  
Development of preliminary university ontology and mapping

Záhořec, L.:  
Design and implementation of an web portal about software Adobe Flash

Zámpory, R.:  
Design of method of production lot size determination by simulation optimization

Zemánek, M.:  
Development of applications based on Java Web Start

Zich, P.:  
Design of Electronic Educational Portal

Zvonár, R.:  
Partial draft of the information management system documentation

PhD Thesis

Iríngová, M.:  
The evaluation of the impact of the priority rules in scheduling operations for the production goals

Nemlaha, E.:  
Risk Analysis of Safety Critical Systems

Eliáš, M.:  
Automation of 3D model reconstruction from 2D orthogonal vector record

Palaj, J.:  
Generation of 3D models from 2D vector record with usage of graph theory

Juhássová, B.:  
Control quality of mechatronics system with flexibility

Bezák, T.:  
Methodology for application of IEC 61131 and IEC 61499 international standards in the development of distributed control systems

Križanová, G.:  
Alternative method for determining the size of the lot

Eliáš, A.:  
Virtual process communication design

Jedlička, M.:  
New Approach to Reliability Assessment of Control Systems Software

Juhás, M.:  
Influence of variable parameters of flexible mechatronics system on control quality

Trnka, A.:  
Using of the datawarehouses in the control process

Kebísek, M.:  
The utilization possibility of data mining in industrial process control

Bezák, P.:  
Using genetic algorithms in industrial systems

Halenár, I.:  
Using a neural networks to securing communications management systems
MEMBERSHIP IN SLOVAK PROFESSIONAL ORGANISATIONS

Association of Slovak Scientific and Technological Societies
Mária Mišútová, Assoc.Prof. PhD.

Mensa Slovakia
Marcel Abas, PhD.

Slovak Association for Geometry and Graphics
Mária Mišútová, Assoc.Prof. PhD.

SSKI – Slovak Society for Cybernetics and Informatics of Slovak Academy of Sciences (member of IFAC)
Mária Mišútová, Assoc.Prof. PhD.
Peter Schreiber, Assoc.Prof. PhD.
Pavol Tanuška, Assoc.Prof. PhD.
Pavel Važan, Assoc.Prof. PhD.
Oliver Moravčík, Professor, PhD.
Hana Stúpalová, MSc.
Zuzana Červeňanská, MSc.
Michal Eliáš, MSc. Eng.
Pavol Tanuška, Assoc. Prof. PhD.

MEMBERSHIP IN INTERNATIONAL PROFESSIONAL ORGANISATIONS

IIA - International Informatization Academy
Oliver Moravčík, Professor, PhD.
Anton Urban, Professor, PhD.

International Society for Geometry and Graphics
Mária Mišútová, Assoc. Prof. PhD.

IUMB - International Union of Machine Builders
German Michalčonok, Assoc. Prof. PhD.
Peter Schreiber, Assoc. Prof. PhD.
Pavol Tanuška, Assoc. Prof. PhD.
Pavel Važan, Assoc. Prof. PhD.

IACSIT – International Association of Computer Science and Information Technology
Oliver Moravčík, Professor, PhD.
Peter Schreiber, Assoc. Prof. PhD.
Pavol Tanuška, Assoc. Prof. PhD.
Pavel Važan, Assoc. Prof. PhD.

European Platform of Women Scientists (IAENG), Hong Kong
Pavol Tanuška, Assoc. Prof. PhD.

International Association of Engineers
Igor Halenár, PhD.
Pavol Závacký, MSc. Eng.

Publications

Books


Abas, Marcel: Comparison of solutions to the second order linear differential equations with constant coefficients. In: Research papers Faculty of Materials Science and Technology Slovak University of Technology in Trnava. - ISSN 1336-1589. - Vol. 18, No. 28 (2010), pp. 151-156

Journals

In: Materials Science and Technology [online]. - ISSN 1335-9053. - Vol. 10, Nr. 3 (2010), pp. 115-119

In: Electronics and electrical engineering. - ISSN 1336-1589. - Vol. 18, Nr. 28 (2010), pp. 1-11


**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
- investigation of methodological aspects of foreign language teaching and implementation of the research results into educational processes
- physical culture and fitness

**Institute Departments**

- Department of Engineering Pedagogy and Psychology
- Department of Humanities
- Department of Professional Language Communication
- Department of Physical Education and Sports

**Staff**

- Professors: 4
- Assoc. Professors: 7
- Senior Lecturers: 26
- Research Fellows: 4
- PhD Students: 16

**Study programmes**

- Personnel Work in Industrial Plants
- Teaching Practical Subjects within Engineering Majors
- Teaching Specific Engineering Subjects
- Didactics of Engineering Professional Subjects
Research Characteristics

The expertise goal of research activities of the Institute of Engineering Pedagogy and Humanities at FMST SUT stems from the profile of the Institute and faculty in the area of pedagogy, and it is in accordance 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 research assignments concerned with engineering pedagogy, preparation of high school teachers, advancement of personality, history of the technical educational system, body culture and language skill development.

Research Area No. 14: “Engineering”.
This area includes 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, and projects solved within the scope of international programs. The transfer of the outcomes of the Institute’s research into practice can be accomplished by special and expert activities. Members of the Institute work out practical training at enterprises such as the Bohunice Nuclear Power Plant, VUJE Trnava, and ŽOS Trnava to the extent of their expertise.

The regular organization 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 – IGIP. 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

Hrmo Roman, Assoc. Prof. PhD.

Innovation study program teaching for technical profession subjects at FMST SUT

The goal of the research team is evaluation and innovation in the study program “Teaching of technical professions subjects,” which was accredited at FMST SUT. After three years in practice of the study program the researchers will put into practice the following innovation: an optimization profile of graduates in study program and application of the graduate on the labour market, optimization of proportions between lectures and exercises in the study program, reworking of the study materials and innovation of teaching methods.

Kpálová Krelová Katarína, PhD.

Application of the subject “Guide to enterprise” in the study program “Teaching of technical profession subjects, II. Level” at FMST in Trnava

The European Union stimulates the spirit of enterprise development at all school types and grades as one of the main goals in the education sphere. Education for enterprise is a new idea, the contents of which still are not stabilized. The suggested project solves this problem. The basis of the project is in the curriculum design of the subject “Guide to enterprise”.

Milan Petráš, PhD.

Aurel B. Stodola: The best among the greatest - Translation of correspondence

The aim of the project is to prepare translation and written comments, and publish all available letters of A. Stodola (to his brothers and A. Einstein). Today there are 130 letters (1876-1943) available. We do not expect that this number will be increased. The letters to his brothers were kept. Some of them were published by Ivan Stodola in the book Náš strýko Aurel (Our uncle Aurel, Bratislava, 1968). The letters will be translated and published with commentaries. The publication will include an introduction and it will be completed with iconographic material. It will provide a new perspective on the biography of this scientist, professor, technical designer, and thinker. They were not available till now.

KEGA 035STU-4/2010
Katarina Tinkáková, PhD.

Models of project education at secondary vocational schools (ŠOS)

The concept of education development in the Slovak Republic in the next 15-20 years highlights a need for school orientation modification from traditional provision of knowledge to methods of absorption and application of knowledge by students. Project education is based on solving of complex theoretical or practical problems with activity of students. The main aim of the project is to scan the contemporary state in project education at SOŠ in the Slovak Republic and form a structured educational text as a methodological material for teachers of technical subjects.

VEGA 1/0185/08 (01.01.2008- 31.12.2010)
Marián Merica, Assoc. Prof. PhD.

Optimization of motor programs as the basis for health improvement and the development of fitness and sport performance capacity.

The research is on the ways to stop the increasing occurrence of some kinds of illnesses and health defects that top the health condition statistics of a wide population spectrum. Finding the possibilities for hypo-kinetic motion of the pre-school, school and university population on the basis of learned 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 realisation of selected sports: swimming, tennis, athletics, football, body building, baseball and softball, searching for motor program optimisation with the aim of increasing the fitness and sport performance of our programs and with the constant attentiveness on the each individual’s health.

Project of Technology Transfer

The agency of the Ministry of Education of the Slovak Republic, administering the Structural Funds of the EU in the frame of the Operational Programme for Education, accepted a project led by Roman Hrmo, Assoc. Professor, PhD. called Teaching Skills Development of PhD Students at The Faculty of Materials Science and Technology in Trnava. The goals of the project are to develop teaching skills and to support academic growth of PhD students.
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
- European integration processes
- 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 Logic
- General Economic Theory
- German for Specific Purposes
- Handling Labour Conflicts
- Handling Work Problems
- History of Economic Theories
- History of Science and Technology
- History of Technology and Vocational Education
- ICT in Education
- Industrial Psychology
- Industrial Sociology
- 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
- Practice
- Production Practice
- Prognostics
- Psychology
- Psychology in Managerial Jobs
- Psychology of Health
- Psychology of Occupational Safety
- Recreational Physical Education and Sports
- Research
- 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 for foreigners
- Social and Personal Counselling
- Social Ecology
- Social Communication
- Social Policy
- Sociology
- Sociology of Education
- Sociology of Management
- Sociology of Work
- Synergetic
- Theory of Education
- Total Quality Management
- Winter training camp for students
- Leading to entrepreneurship

GRADUATE THESES

Bachelor Theses

Adamkovičová, M.:
Realizing the selection of employees in the firm Envirál, a.s., Leopoldov

Ághová, J.:
Evaluation of lighting conditions in PLASTED, s.r.o.

Blášková, Z.:
Evaluation of the labour environment and corporate culture

Blážková, D.:
Placement and adaptation of company employees

Bohíňákóvá, V.:
Improvement of motivation

Bordáč, P.:
Education of the staff in a company

Bráčiková, M.:
The evaluation of employees in a company

Bubáková, M.:
Analysis of communication in a company

Bučková, I.:
Motivational incentives to employees

Bulková, Ľ.:
The relationship of corporate training and corporate culture

Csongrádyová, G.:
The motivation incentives of employees

Čapeková, M.:
Motivation stimuli of the employees of the firm Power-One, Ltd.

Čelárová, E.:
The education of employees in a company as part of personal work

Červenka, Ž.:
The sense of motivation of students in special training

Danišovičová, Z.:
Analysis of communication at the workplace

Dobrovičová, P.:
Education of employees in the company as a part of personnel policy

Dorušincová, A.:
Anti-drug and profilex education

Dulanská, Š.:
The social security system and keeping people in a company

Durec, P.:
Prosociality in teaching on the secondary school

Dúricová, K.:
Training of employees

Dvorská, M.:
The system of evaluation and compensation of employees in the company Duslo Inc. Sala

Dzimková, M.:
Improving the system of motivation in the company MPC CESSI, a. s.

Endresová, P.:
The significance of education for the human resources management

Franková, Z.:
The suggestion of a system of recruiting in the company ZF Boge Elastmetall Slovakia, a. s.

Gašparíková, P.:
Interview in Samsung Elektronics Slovakia, s.r.o.

Gőndörövó, K.:
The job interview

Grosmanová, V.:
Analysis of communication in the Delta Electronics (Slovakia) Ltd.

Guzmická, M.:
The Relation Between Staff Development and Corporate Culture

Habalová, V.:
Corporate education and creativity

Hegedűšová, N.:
Proposing a System of Recruitment at the Company FREMACH TRNAVA, s.r.o.

Hlavatá, M.:
Draft measures to improve the system of education in PSA Peugeot Citroën Slovakia

Hodálová, J.:
Design of an acquisition and selection system for the company Sloveca, LLC, in Bratislava

Holásková, M.:
The proposal of arrangements for improving the system to attract and broaden the field of prospective employees in Trans-Motocentrum, s.r.o., Boleráz

Hupková, A.:
Education and development of employees in BVS, p. l. c., in Bratislava

Hurtová, I.:
Motivational incentives to employees in the business education on the premi

Chrenková, K.:
Training of employees in the company

Ivanová, H.:
Ethics and law in business practice

Jakubiecová, S.:
Proposal for Improvement of Employee Education and Development System in MANDAT CONSULTING, k.s., Bratislava

Janková, M.:
Addressing the selection of employees in the company

Jánska, S.:
Advertising, choice and undertaking of employees in Považská cement factory

Jurča, M.:
Application of teaching aids in vocational training of SOŠ strojnícka in Skalica

Jurigová, B.:
SOLUTION recruitment, selection and recruitment in ZTS CABLE COMPANY, Ltd. In Dubnica

Jurkovič, D.:
Design of teaching aid

Kurkovičová, V.:
Recruitment, selection of employees and admission to occupation in the company Slokov, Inc.

Kirinovíčová, M.:
The system of the personnel work in a selected business enterprise

Klimová, D.:
Educational problems of solution pupils on vocational training
Urbanová, L.: Corporate identity as a part of corporate culture
Vajdová, K.: System and organization of human resources in food factory
Valachovičová, S.: A Proposal of a more effective system of recruitment and shortlisting of employees in a company
Vicanová, S.: Staff Training and Development in Manz Automation Slovakia, s. r. o. Nové Mesto nad Váhom
Zacková, P.: Analysis of development of human resources in company
Zadubanová, L.: System of employee motivation enhancement in ETI ELB, s.r.o. Báhoň
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Zadubanová, L.: System of employee motiva...
Kranc, T.: Problem of bullying in schools
Krasková, R.: Moving activity as a way of optimizing mental and psycal functions in ageing process
Krnáč, L.: Youth crime versus youth bullying in schools
Krupová, L.: Motion visual teaching aids
Krušina, M.: Suggestion and making a teaching aid
Kukůčková, I.: Healthy balance diet, drinking regime and mental hygiene of students
Kundrátková, A.: Working in professional education courses at a vocational training school
Kvitková, A.: Forms of bullying and maltreatment of pupils at schools
Kvitková, I.: Enterprise school-boy on SOŠ
Kyjač, M.: Family as a primary factor in the education of a pupil
Lakušová, V.: The family as a primary factor in the education of students of the secondary school
Lališová, D.: The education of seniors and its evaluation
Lehocký, A.: Making a Guide for Civil Protection of Teachers in secondary Schools
Lenková, S.: The lifestyle of secondary school youths
Luptovčiaková, E.: Free-time activities of students in secondary Schools
Maločová, I.: Specification of the educational influence and education of convicted men at the prison care
Marek, P.: Prevention of drugs depend of high school students
Margaš, D.: Project of Literary Teaching Aid
Matučková, J.: Communication in school practice
Miklošovič, L.: A Personality of a Specialised Subjects Teacher
Malovcová, I.: Specification of the educational influence and education of convicted men at the prison care
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Margaš, D.: Project of Literary Teaching Aid
Matučková, J.: Communication in school practice
Miklošovič, L.: A Personality of a Specialised Subjects Teacher
Mikšíček, P.: Identification of cross-curricular activities
Mokrá, E.: Healthy lifestyle of students at secondary schools
Namčoková, D.: Lifestyle adolescents
Nepišinská, M.: The cooperation of family and school to high school
Nestarécková, S.: Interdisciplinary relations in the teaching of special subjects and subject Special training
Neupauer, P.: Motion visual teaching aids
Nováková, A.: Students’ terms to own health in the question of the correct nutrition
Ondrejčková, R.: Graduate Job Market: Opportunities and employment
Pačagová, M.: Assertiveness in communication of students at secondary school
Pagáčová, A.: Development of vocational school system in Slovakia: The History of the Forestry school in Liptovský Hrádok
Patková, T.: Possibility of developing spiritual intelligence
Paulíková, M.: Free-time activities of school students
Paulovič, T.: Education for the conservation and development environment for professional schools
Pavelková, L.: Evaluation of Slovak Railway Company /ŽSR/ Staff Education (in international comparison to Czech Railway Company /ČD/)
Pavlík, P.: Vocational guidance as a value-added school
Pavlíček, A.: Cooperation between families and schools on high school
Pavlíčková, J.: Model of a lesson on the subject „Machine technology“ using Microsoft PowerPoint
Perestený, J.: Application of graduates in the labour market
Petráš, S.: Environmental education and its implementation within secondary schools
Podařil, M.: Creative students on upper secondary school from the teachers perspective
Polák, E.: Crime and its causes in secondary schools
Polčíková, M.: Upbringing and education of handicapped and psychosocially disabled pupils
Potočárová, V.: Creation and assessment of didactic tests in the subject of Mechanics
Rošetzký, M.: Verbal aggression high school students in the learning process
Rozenbergerová, Z.: Motivation of students at Secondary school in specialized subjects
Rybáriková, M.: Tools supporting performance of graduates in the labour market
Salcerová, K.: Examination and evaluation in secondary vocational schools
Sáraž, P.: Atmosphere of the school and class
Sedláková, M.: Influence of Class Climate to the Motivation of Pupils at Secondary Schools
Schwarz, R.: The issue of drug use among high school youth
Sill, A.: The use of material resources for teaching secondary vocational schools
Siemenský D.: Assertiveness of teachers in the classroom.
Soltysová, S.: The family as a primary factor in the education of a pupil
Strapatá, Z.: Attitudes of high school students to affected individuals and their integration
Sücky, R.: The modern methods of teaching
Sysel, Š.: School quality
Szalatnay, G.: The comparison of school system in Slovak Republic and Hungary with attention to Secondary Technical Schools
Šebj, P.: Use of ICT in education in vocational technical courses at professional schools
Šedývý, P.: Social pathology manifestations among elementary school students
Šimák, V.: Conflicts in relationship between vocational education teacher/student and their solution
Šmatlákova, R.: The phenomenon of tyranny and neglect of children in school surroundings
Štulrjáterová, M.: Human rights education and multicultural education
Štúr, M.: Keeping students in secondary schools to entrepreneurship
Tiro, L.: Application of an educational widget as a tool on improvement of learning process
Títošová, H.: Manifestations of aggression in secondary school students
Tretinárová, T.: The environment, its protection and formation
Trpková, G.: Evaluation of the use of motivation by students in secondary vocational school
Vandráy, S.: Rational diet, drinking schedule and students psychohygiene.
Vančová, J.: Application of didactic principles in the teaching of general and vocational subjects
Višňová, A.: An electronic presentation in teaching and student’s observation
Vitek, M.: Appreciation scholar of the SOŠ
Voštáková, N.: The lifestyle of university students
Zajac, P.: Information and communication technologies in Secondary Vocational School Timaže
Zezula, M.: Freetime activities of students of Universities

PhD Thesis
Balažových, M.: Development of pedagogic-didactical competence of teachers of professional subjects through microeducational analysis
Gergelová, E.: Lifelong learning and learning organization
Koňušíková, M.: Creation and effectiveness of educational texts for directed self learning on secondary technical school
Prachal, J.: Effectiveness of teaching physics project
Fehér, T.: Didactic modification of a text on the subject Theory of machining
Richtáriková, D.: Supporting education at the Faculty of Machining SUT in Bratislava in the subject of mathematics
Čížová, M.: Efficiency of cooperative education in the subject Technology of assembly and repairs

Lúbiča Mrnová: Design of evaluation methods of economic efficiency of environmental investments in activity of EMS in MSP SR.

VISITS OF STAFF MEMBERS TO FOREIGN INSTITUTIONS

<table>
<thead>
<tr>
<th>Employee</th>
<th>Country of visit</th>
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<tbody>
<tr>
<td>Tkáč Lukáš, Msc.</td>
<td>Ireland</td>
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<tr>
<td>Strakoš Jozef, PhD.</td>
<td>Norway</td>
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<tr>
<td>Kováč Karol, Msc.</td>
<td>Norway</td>
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<tr>
<td>Kvasnica Ondrej, MSC. Eng.</td>
<td>Italy</td>
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<tr>
<td>Sablík Jozef, Professor, PhD.</td>
<td>Czech Republic</td>
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<tr>
<td>Mironovová Emilia, MSc.</td>
<td>USA</td>
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<tr>
<td>Kpápková-Krelová Katarína, PhD.</td>
<td>USA</td>
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<tr>
<td>Fedič Dušan, PhD.</td>
<td>USA</td>
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<tr>
<td>Chmelíková Gabriela, PhD.</td>
<td>USA</td>
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<td>Hrmo Roman, Assoc. Prof. PhD.</td>
<td>Estonia</td>
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<td>Bilčík Alexander, PhD.</td>
<td>Estónsko</td>
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<td>Oderlová Eva, Assoc. Prof. PhD.</td>
<td>Russia</td>
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<tr>
<td>Krštofišková Lucia, PhD.</td>
<td>Russia</td>
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<tr>
<td>Kadnár Jozef, MSC. Eng.</td>
<td>Latvia</td>
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<tr>
<td>Hrmo Roman, Assoc. Prof. PhD.</td>
<td>Austria</td>
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<td>Lederleitner Drahomír</td>
<td>Austria</td>
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MEMBERSHIP IN SLOVAK PROFESSIONAL ORGANISATIONS

Slovak Pedagogy Society at Slovak Academy of Sciences
Katarína Krpálková Krelová, PhD.
Katarína Tináková, PhD.
Lubomír Holkočiv, PhD.
Roman Hrmo, Assoc. Prof. PhD.
Viliam Končal, Assoc. Prof. PhD.
Ing. Jan Kostelník, Assoc. Prof. PhD.

Slovak Swimming Federation
Rastislav Hlavatý, PhD.

Physical Education Union SUT Trnava
Rastislav Hlavatý, PhD.
Marián Merica, Assoc. Prof. PhD.

Swimming Club SUT Trnava
Rastislav Hlavatý, PhD.

Association for History of Science and Technology
Katarína Tináková, PhD.
Roman Hrmo, Assoc. Prof. PhD.

Slovak Scientific Society for Physical Education and Sport
Soňa Novotná, PhD.
Rastislav Hlavatý, PhD.
Marián Merica, Assoc. Prof. PhD.

Information Society for Education ZSVTS
Katarína Tináková, PhD.
Katarína Krpálková Krelová, PhD.
Roman Hrmo, Assoc. Prof. PhD.
Jan Kostelník, Assoc. Prof. PhD.
Eva Tóbllová, PhD.

ASR Association of Russian Teachers in Slovakia
Dagmar Rusková, PhD.

SUNG – Association of German Teachers in Slovakia
Anna Reháková, PhD.
Dušan Fedič, PhD.

Territorial Board of Education TTSK
Roman Hrmo, Assoc. Prof. PhD.

Association of Process Oriented Psychotherapy
Silvester Sawicki, PhD.

Association of School Psychologists
Silvester Sawicki, PhD.

MEMBERSHIP IN INTERNATIONAL PROFESSIONAL ORGANISATIONS

Internationale Gesellschaft für Inge-nierpädagogik – IGIP(International Society of Engineering Pedagogy)
Roman Hrmo, Assoc. Prof. PhD.
Katarína Tináková, PhD.
Katarína Krpálková Krelová, PhD.
Lucia Krštofišková, PhD.
Eva Tóbllová, PhD.

CASAC – Czech and Slovak Association of Foreign Language University Teachers
Dagmar Rusková, PhD.
Emilia Mironovová, Msc.
Dušan Fedič, PhD.
Gabriela Chmelíková, PhD.
Anna Reháková, PhD.
Jana Green, MSc.

National consortium for the European network of reference and expertise in vocational education and training, Slo-vakia-CEDEFOP
Roman Hrmo, Assoc. Prof. PhD.
Katarína Krpálková Krelová, PhD.
Silvester Sawicki, PhD.

International of Sport kinetics
Mariana Merica, Assoc. Prof. PhD.

The Editorial Board of Research Journal Studia Sportiva of the Faculty of Sports Studies Masaryk University in Brno
Mariana Merica, Assoc. Prof. PhD.

PUBLICATIONS

Books


Journals


Babčanová, Dagmar - Babčan, Miroslav - Oderlová, Eva: Image of employer’s brand - the source of an industrial plant’s competitiveness. In: Vedecké práce FMST v Bratislave so sídlom v Trnave. Research papers Faculty of Materials Science and Technology Slovak University of Technology in Bratislava. - ISSN 1336-1589. - Vol. 18, Nr. 29 (2010), pp. 55-62
Štefková, Petra: Communication in the teacher - student interaction at the Slovak University of Technology in Bratislava, Faculty of Materials Sciences and Technology in Trnava.


DIVISIONS
The Spheres of Influence of the Division of Academic Affairs

1. The Division of Academic Affairs is the administrative-service division of the faculty which provides administrative and service activities connected with the study and research activities of the faculty, the foreign relations of the faculty and the system of quality in the pedagogical process.

2. The Division of Academic Affairs has its own spheres of influence:
   a) recording of the student life cycle and related activities for all three study grades,
   b) processing and administration of admission procedures in all three study grades,
   c) publicity of materials directed to applicants for study,
   d) processing of a complex agenda for motivation and social scholarships,
   e) recording of research projects and grant activities,
   f) organizing of business and study travel for the faculty employees and students abroad,
   g) organization of development support for the international contacts of faculty employees and students with universities and other foreign institutions, and support of their participation in international programs,
   h) organization of growth in the complex scientific academic qualification of the faculty employees – including habilitation and inauguration procedures,
   i) organizing and administration of agendas related to activity of commissions for defense of dissertation work, habilitation and inauguration commissions,
   j) provision of a complex agenda for meetings of the Scientific Board,
   k) organization and administration of the accreditation process and implementation of a system of quality,
   l) administration of agendas connected with awards for faculty and memberships in scientific communities,
   m) organization of faculty academic ceremonies.
PROJECTS OF THE DIVISION OF ACADEMIC AFFAIRS:

Head of the Division Jana Štefánková, MSc. Eng. contributes to the project solution: Faculty of Materials Science and Technology Slovak University of Technology in Diversity: Improving Gender Diversity Management in Materials Research Institutions.

Head of the Division Jana Štefánková, MSc. Eng. contributes on the project Knowledge regulated system of observation tools of graduates’ careers in the integration process to the EU.

ACTIVITIES OF THE DIVISION OF ACADEMIC AFFAIRS IN YEAR 2010:

• Organisation of the International Doctoral Seminar 2010
• Organising of the Joint International IGIP-SEFI Annual Conference 2010
• Organisation of the Opening Day at FMST SUT
• Organisation of presentation events and materials of study
• Participation at the trade fair of education
• Organisation of the survey/polls of satisfaction
• Organisation of the New-year’s meeting of employees
• Year-long care of the web page- information for faculty and students
• Care of the academic information system AIS

PUBLICATIONS:


Spheres of Influence of the Division of Knowledge Management

1. The Division of Knowledge Management is the technical-administrative and service unit of the faculty which provides faculty activities and functions in the field of the academic library, publishing and public relations.

2. The Division of Knowledge Management is responsible for:
   a) processing and functions of the academic library which:
      - is the research-information, bibliographic, coordination and advisory workplace of the faculty,
      - stores and registers qualification theses,
      - is a workplace for central evidence of faculty publications and their references,
      - provides and processes information funds according to the faculty profile and offers bibliographic-information services on the basis of user categorization,
      - administrates bibliographic- information databases related to the academic activity of the faculty and participates by creating and accessing file catalogues,
      - fulfills the function of a specialized research library for the specific fields of the faculty,
   b) operating the faculty publisher according to the accepted articles which provide editorial activity of the faculty,
   c) public relations of the faculty,
   d) contacts of the faculty to the foundation Alumni.

Departments
- Academic Library
- Publishing House
- Department of Public Relations

Staff
- Academic Library: 7
- Publishing House: 2
- Department of Public Relations: 2
PROJECTS OF THE DIVISION OF KNOWLEDGE MANAGEMENT IN YEAR 2010:

The project Center of knowledge organisation of intellectual property, led by Kvetoslava Rešetová, PhD., was approved in the frame of the call of the agency Ministry of Education Slovak Republic - for Operation program Research. The aims of the project is the creation of a center with the functions of a virtual library and digital archive, complex care of rights of intellectual properties, expert research and education workplace for intellectual property. The project will be the result of globalisation trends for knowledge faculty as a knowledge society center. It will be a model of knowledge management which is defined on the basis of information surveys, information behaviour, knowledge organisation, interaction and access to information.

ACTIVITIES OF THE DIVISION OF KNOWLEDGE MANAGEMENT IN YEAR 2010:

- organising the new-year meeting of employees
- opening the Technological museum
- organising of the Day of the Faculty of Materials Science and Technology
- all year long exposition of posters and gallery of the faculty
- all year long management of web page of the faculty
- organising of participation on trade fair Industry Expo Bratislava
- organising of hall opening of The Centre of Excellence
- general reconstruction of rentals in the Academic library
- organising of the Joint International IGIP-SEFI Annual Conference 2010
- cooperation in organising the IDS 2010
- organising the Thursday afternoon sessions Dies ioviss occursus
- preparation of activities (Annual Report, propagation materials on the faculty – Welcome, yearbooks, journals, ...)
- library system OLIB

PUBLICATIONS:


Rešetová, Kvetoslava: Creation of academic library infrastructure by support of the EU project. In: Forum of Managers. - ISSN 1336-7773. - No. 2 (2010), pp. 48-49


DIVISION OF PERSONNEL AND ORGANISATIONAL ACTIVITIES

1. Spheres of Influence of the Division of Personnel and Organisational Activities

2. The Division of Personnel and Organisational Activities is the administration-service unit of the faculty which secures all administrative and service activities connected with hiring and rewarding of the faculty employees, social and health insurance of employees, recording and processing of income issues, activities of the dean’s secretary office and the security system of the faculty.

3. The Division of Personnel and Administration Activities is responsible for:
   a) the personnel records of the faculty employees,
   b) preparing a list and the structure of obligatory documentation which is processed by the central Division of Personnel and Organisational Activities and particular divisions and workplaces of the faculty it has a right to control,
   c) operation of an information system for personnel work including administration and keeping of a system of the workplaces at the faculty,
   d) processing a system for remuneration of employees including preparation of documents for the wage policy of the faculty,
   e) preparation and organization of interviews for the work positions of leading employees at the faculty and pedagogical employees at institutes,
   f) activities according to the law on protection of personal data, operation of the dean’s office,
   g) Organization of Safety and Health Protection at Work, Civilian Protection, Fire Safety

Activities of the Division of Personnel and Administration in year 2010:
   • Meeting of former faculty members with faculty management
   • Cooperation during International Conference IGIP-SEFI 2010
   • Management of the attendance system ESED

**Departments**
- Department of Personnel
- Department of Work Economy
- Department Wages and Salaries
- Department of Safety and Health Protection at Work, Civilian Protection, Fire Safety
- Department of Security System

**Staff**
- Dean’s secretariat: 3
- Department of Personnel: 2
- Department of Work Economy: 2
- Department Wages and Salaries: 2
- Department of Safety and Health Protection at Work, Civilian Protection, Fire Safety: 1
- Department of Security System: 1
Spheres of Influence of the Division of Economic and Estate Activities

1. The Division of Economic and Estate Activities is the economic-administration unit of the faculty which provides economic, operative, administrative, and other services related to the proper faculty and division operation.

2. The Division of Economic and Estate Activities is responsible especially for:
   a) preparation, securing and implementation of economic, administrative and operative faculty logistics,
   b) logistical and controlling functions of the faculty,
   c) maintenance of the registry system of the Slovak University of Technology at the faculty,
   d) organization of the implementation of civil defense, fire protection and safety and health protection at work.

Activities of the Division of Economic and Estate Activities in year 2010:
- reconstruction of the canteen in the pavilion Z
- care of the economic system Magion
Spheres of Influence of the Division of Communication and Information Systems

1. The Division of Communication and Information Systems is a technical-administrative and service faculty unit which provides procedural, consultative and informational services in the area of communication and information technology to other organizational units of the faculty. This division prepares documents for acquisition, maintenance and repairs of the faculty information technology.

2. The Division of Communication and Information systems is responsible for:
   a) processing and administration of faculty computer systems,
   b) provision of casual maintenance and repairs of devices of the faculty information technology and infrastructure,
   c) provision of consultation services for the system and selected application program equipment,
   d) development, innovation and implementation of technical and program means for the faculty's information technology,
   e) organization of training and short-time courses for users of information technology, training of application program equipment and operation of the computer network,
   f) creation, development, innovation and distribution of the faculty’s computer network and its connection to the university network,
   g) provision of IT devices to the faculty workplaces in cooperation with directors of institutes and heads of divisions,
   h) casual repairs of technical devices reached with the Division of Communication and Information Systems,
   i) support for cooperation with the Center of Information Technology SUT and other information workplaces at SUT,
   j) suggestions for short-term and long-term plans of implementation of information technology and preparation of documents for decisions made by the management of the faculty,
   k) entrepreneurship activity,
   l) issuance of permissions for connection of devices to the faculty computer network,
   m) administration of faculty servers and components of the faculty information system.
PROJECTS OF THE DIVISION OF COMMUNICATION AND INFORMATION SYSTEMS IN YEAR 2010

Division of communication and information systems contributes to the project of the call of the agency Ministry of Education Slovak Republic for Operation program Research 5.1.2 and 5.1.3: Support of university infrastructure to improve the conditions of education. The aim of project is to create the university infrastructure and modernisation of their internal equipment to improve the conditions of education process. The project results will be modernisation of computer nets, datacenter building on the Bottova and Botanicka streets, improvement of the printing system, and modernisation of classes. In the classrooms there will be data projectors and other modern education tools. In the faculty buildings there will be added Internet places for the students. Next, multimedia classrooms will be created and the number of connection points to Internet WiFi will be increased. The next important step is creation of information faculty security, especially by net monitoring, firewall solutions for all LAN FMST, and provision of computers for students also in the dormitory.

Head of the Division Jaroslav Otčenáš, MSc. Eng. contributes on the project Knowledge regulated system of observation tools of graduates’ careers in the integration process to the EU.

ACTIVITIES OF THE DIVISION OF COMMUNICATION AND INFORMATION SYSTEMS IN YEAR 2010:

• technical support during the International Conference IGIP-SEFI 2010
• active help in organising SANET – connection of secondary and elementary schools to the central node of Internet which is located at the faculty
• implementation of videoconference room which was created according to the technology Telepresence of the company CISCO
• reconstruction organisation of information communication technologies at the faculty
Spheres of Influence of the Center of Technology Transfer

1. The Center of Technology Transfer is a technical-administrative, service workplace for preparation and management of projects and technology transfer in the direction to praxis.

2. The tasks of the Center of Technology Transfer are especially:
   a) preparation of projects and administration of projects,
   b) transfer of the results of the faculty’s research into entrepreneurship activities,
   c) marketing research of praxis requirements for solution of research tasks,
   d) mediation and coordination of research and scientific events of the faculty,
   e) conference services,
   f) certification and patent support and service to the faculty institutes,
   g) records and entrepreneurship activity of the faculty on the basis of commercial agreements.

Projects of the Center of Technology Transfer:

Head of the Centre, Peter Halada, MSc. Eng. contributes to the project solution: Faculty of Materials Science and Technology Slovak University of Technology in Diversity: Improving Gender Diversity Management in Materials Research Institutions.

Activities of the Center of Technology Transfer in year 2010:

• cooperation in opening of the Centre of Excellence hall
• coordination of public procurement projects
• organisation of participation at the trade fair Industry Expo Bratislava
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