

DEPARTMENT OF MECHATRONICS AND ELECTRONICS

1 General Information

Department of Mechatronics and Electronics (KME) was founded in January 2005 as a result of the restructuring process of the Faculty of Electrical Engineering of the University of Žilina, which was driven by dynamic changes in the nature of industrial production in Slovakia. The development of automotive and electronic industries, including their supporting companies was significant. Some industry firms, such as, Power-One Ltd. in Dubnica nad Vahom, began with the creation of research teams and departments, causing significant need for human resources - highly skilled professionals in mechatronics and electronics, including power and automotive applications. Their training in bachelor, master, and doctorate PhD level of university studies has become the main task of Department of Mechatronics and Electronics, which in December 2009 completed the fifth year of its existence.

Like the previous years, the last year could be considered as a very successful one. Within the year the finalization of laboratory equipment in the building AB was completed. The Department has received assistance from the sponsoring companies Panasonic Ltd., Power-One Ltd., Freescale (digital signal processors), Rockwell (industrial machines) and Fairchild (samples of semiconductor components).

In the past year the research activity of the Department has achieved a significant increase, implemented by means of grant projects. Its staff participated in two international and ten domestic projects. The Department managed to get two new projects funded by APVV, one of which (LWP 366/09) is fully organized by the Department, while in the second (VMSP-P-0085-09) the Department has the status of cooperator. The Department staff also participated in building of Centers of Excellence for research in three projects, two of which (CEEX1 and CEEX2) are solved directly at the workplace and one (CEKR) in collaboration with the Jesenius Faculty of Medicine in Martin. These projects represent a very significant support to research done in our Department. Positively can be evaluated the doctorate PhD study course in which three internal and one external PhD students have handover their dissertation works and were successful in the defense examinations.

In the year 2009 the Department involves twelve members of educational staff, six research workers, twelve internal PhD students and thirteen external PhD students. From the point of view of internal structure it has been divided into two divisions. The first one is focused on power- and applied electronics, the second one is operating in the field of mechatronics and industry automation.

The Department provides educational process at all three levels of the university study. The bachelor degree is covered by the accredited course of study for Electrical Engineering (specialization in Mechatronic Systems). Master degree includes the accredited course of study for Power Electronic Systems (in Power Electronics specialization and Mechatronic and Automotive Systems specialization). In doctorate PhD study the department staff participated in providing training courses in Powerline Electronics, Automation and Telecommunications.

Within the frame of educational pedagogical operation the Department has been providing education of electronics, mechatronics, micro-computer systems involving industrial controllers and power electronics at the Faculty of Electrical Engineering, and also at further faculties of the University of Žilina. Such education has been dedicated for different study branches and specializations in the bachelor, magisterial and PhD doctoral studies, both in internal and external ones. Besides the Department is providing and guaranteeing study branch of Electro-technical systems in mechatronics in bachelor and magisterial stage of the study, and specialization of Power semiconductor systems on magisterial stage of the branch of energetic and electrical engineering (ESI).

The Department also has organized and provided research and development, expertizing and contracts, and develops publication activity in the field of electronics, control systems, mechatronics and power electronics mainly. Further education is provided by the Department in the field of power electronic systems, microcomputer control systems, industrial controllers and programmable logic systems.

Professional activities of the Department have been applied and disseminated on creation and operation of quality and reliable electronic devices and systems, application of programmable logic areas in design of electronic systems, reconfigurable circuits study as well as diagnostics and analysing of the failures using image analysis. Topology optimising for power semiconductor converters and their electro-magnetic compatibility belongs to main activities of the Department.

In present time the Department operates with six laboratories dedicated for pedagogical operation, including final projects, final and master thesis providing. Rather great attention has been devoted to improving of laboratory equipment and modern educational methods, which lead to higher effectiveness of pedagogical process in the last year. Beside above mentioned labs the Department offers for utilizing three high-tech workplaces dedicated for research and development activities and to experimental part of PhD study providing. It deals with the laboratory of power electronics, the laboratory of digital image processing and laboratories of digital signal processors and industrial programmable logic controllers.

Within the CEEX project the Department began building of laboratory for electromagnetic compatibility of power semiconductor systems last year. In the near future the laboratory should belong to the top research centers in the area.

2 Staff of the Department

Head of the Department	: Pavol Špánik
Vice-head of the Department	: Branislav Dobrucký
Secretary for Education	: Anna Kondelová
Administrative Support	: Andrea Prandová

2.1 Sections of the Department

2.1.1 Section of Electronics and Control Systems

Head of the Section	: Jozef Čuntala
Professors	: Branislav Dobrucký, Pavol Špánik
Visiting Professors	: Alfio Consoli
Associate Professors	: Jozef Čuntala, Miroslav Hrianka
Research Fellows	: Róbert Šul, Viktor Bobek, Peter Drgoňa, Michal Frivaldský, Dušan Koniar
Senior Lecturers (with PhD)	: Libor Hargaš
Senior Lecturers (without PhD)	: Ivan Kožehuba, Jozef Lakatoš, Peter Šindler, Anna Kondelová, Rastislav Pavlanin

2.1.2 Section of Mechatronic Systems and Industry Automation

Head of the Section	: Fedor Kállay
Associate Professors	: Fedor Kállay, Pavel Pavlásek,
Research Fellows	: Marek Paškala
Senior Lecturers (with PhD)	: Anna Príkopová

2.1.3 Postgraduate Students

- Internal (full-time) : Michal Frivaldský (to 30st September 2009), Peter Fibich, Peter Drgoňa (to 23rd October 2009), Dušan Koniar (to 30st September 2009), Ján Kašša (from 1st September 2009), Michal Praženica (from 1st September 2009), Martin Priečinský (from 1st September 2009), Peter Hurtuk (from 1st September 2009), Jozef Kandráč (from 1st September 2009), Stanislav Štofán (from 1st September 2009), Miloslav Kolpach (from 1st September 2009),
- External (part-time) : Peter Šindler, Anna Kondelová, Marek Paškala, Branislav Zigmund, Rastislav Pavlanin, Marián Pčola, Roman Filka, Ján Duda, Peter Čerňan, Vlastimil Baculák, Peter Jeck, Erika Polčanová, Anna Holásková

3 Teaching

3.1 Courses in Bachelor and Master Degree Programmes

3.1.1 Bachelor Degree Programmes

Code Title	Lessons-Seminars-Exercises		
	Semester	hours/week	Teachers
<i>Courses at the Faculty of Electrical Engineering</i>			
31317 Analogue Electronic Systems	3	2-0-3	Čuntala
31302 Electronics I	3	2-0-3	Čuntala
32300 Distributed Systems in Industry Automation	3	2-0-2	Kállay
3B401 Microprocessor Technology	4	3-0-2	Čuntala
3B402 Digital Electronic Systems	4	2-0-3	Hrianka
3B403 Measurement of Non-Electric Parameters	4	2-0-2	Kállay
3B409 Electronics II	4	2-0-3	Hrianka
3B415 Measurement and Data Processing	4	2-0-2	Kállay
3B416 Power Electronics	4	3-1-2	Špánik
3B421 Electric Light and Heat	4	2-1-1	Pavlásek
3B422 Logical Systems and Microprocessors	4	2-0-2	Hrianka
3B433 Logical Circuits	4	3-0-2	Hrianka
31524 Logical Circuits	5	3-0-2	Hrianka
31528 Multimedia Technology	5	2-0-1	Pavlásek
31542 Image Processing and Analysis	5	2-0-2	Hrianka
31552 Computer and Office Technique	5	2-0-1	Pavlásek
31556 Mechatronics	5	2-0-2	Pavlásek
31557 Automatic Regulation	5	2-2-0	Príkopová
31561 Automatic Control	5	2-0-1	Pavlásek
31563 Design of Electrical Equipments	5	1-1-3	Čuntala
31565 Electromagnetic Compatibility	5	2-2-0	Špánik
3B602 Computing and Office Technology	6	2-0-1	Pavlásek
3B619 Bachelor Project	6	0-0-6	Špánik
3B625 Power Semiconductor Systems	6	3-1-1	Špánik

External Study

3B409 Electronics II 4 10-0-12 Čuntala

3.1.2 Master Degree Programmes

Code	Title	Lessons-Seminars-Exercises		
		Semester	hours/week	Teachers

Courses at the Faculty of Electrical Engineering

32107	Electromagnetic Compatibility in Electr.	1	2-2-0	Špánik
32111	Information and Industrial Networks	1	2-0-2	Kállay
32117	Design of ASIC	1	1-3-0	Čuntala
32119	Computers in Industrial Automation	1	2-0-2	Kállay
32126	Control of Electric actuators	1	3-1-1	Dobrucký
32129	Theory of Automatic Control 1	1	2-1-1	Príkopová
32136	Power Semiconductor Converters	1	3-0-3	Špánik
3I200	Theory of Automatic Control 2	2	2-1-1	Príkopová
3I201	Microproc. and Microcomputer Systems	2	2-1-1	Dobrucký
3I206	Analysis and Synthesis of PE Circuits	2	2-2-0	Špánik
31316	Seminar Project	3	0-4-0	Špánik
32300	Power Electronics Applications in ET & EE	3	3-0-1	Dobrucký
32324	Design and Construction of PE Systems	3	2-2-0	Špánik
32330	Semiconductor Sensors	3	2-2-0	Kožehuba Lakatoš
31313	Diploma Seminar	10	0-8-0	Špánik

Courses at the Faculty of Mechanical Engineering

2N125	Electronic Control Elements	1	2-2-0	Špánik
2N244	Exploitation of Computer Network	1	2-0-2	Kállay
2N246	Microcomputer Technics	1	2-0-2	Čuntala
21N20	Information and Industry Networks	2	2-0-2	Kállay
2N197	Electronic Control Elements	2	2-2-0	Špánik
2N141	Control Microcomputers	3	2-2-0	Dobrucký
21218	Systems Theory	10	2-2-0	Príkopová
21287	Application of Automation Technics	10	2-0-2	Kállay
21289	Diploma seminar	10	0-0-6	Kállay

Courses for Foreign Students – Socrates/Erasmus Program

3I141	Automatic Control 2	Pavlásek	student of Universidade do Porto, PT
3I110	Programmable Logic Controllers	Dobrucký	student of Universidade do Porto, PT
31302	Electronics I	Čuntala	student of University of Cantabria, ESP
31415	Electronics II	Hrianka	student of University of Cantabria, ESP
31561	Automatic Control	Pavlásek	student of University of Cantabria, ESP
31563	Design of Electrical Equipments	Čuntala	student of Lublin Univ. of Technology, PL

4 Educational, Research and Scientific Projects

4.1 Internal Research Projects

Title: Sophistic-, electronic and mechatronic systems

Coordinator: Pavol ŠPÁNIK

Co-operators: Branislav Dobrucký, Pavel Pavlásek, Fedor Kállay, Anna Príkopová, Róbert Šul, Viktor Bobek, Michal Frivaldský, Peter Drgoňa, Rastislav Pavlanin, Marek Paškala, Roman Radvan, Jozef Čuntala, Anna Kondelová, Ivan Kožehuba, Peter Šindler, Jozef Lakatoš, Libor Hargaš, Dušan Koniar

4.2 National Projects

4.2.1 Research Projects Funded by the Scientific Grant Agency of the Slovak Republic (VEGA)

Title: Research and Modeling of Temperature Areas in Power Electronic Systems (VEGA 1/0704/08)

Coordinator: Miroslav Hrianka

Co-operators: Čuntala Jozef, Špánik Pavol, Príkopová Anna, Pavlásek Pavel, Kondelová Anna, Šindler Peter, Hargaš Libor, Kožehuba Ivan, Lakatoš Jozef, Paškala Marek, Pavlanin Rastislav, Šul Róbert, Fibich Peter, Koniar Dušan, Frivaldský Michal, Drgoňa Peter,

Title: Research of Topology and Control of Power Electronic Supply System with Single-Phase HF Input and Two-Phase Orthogonal Output for Two-Phase SM/IM Electrical Motors (VEGA 1/0474/09)

Coordinator: Branislav Dobrucký

Co-operators: Špánik Pavol, Kállay Fedor, Pavlásek Pavel, Príkopová Anna, Šindler Peter, Paškala Marek, Pavlanin Rastislav, Bobek Viktor, Šul Róbert, Kašša Ján, Praženica Michal

Title: Theoretical apparatus for analysis and evaluation of hazards of telematic systems at transport (VEGA 1/0023/08)

Coordinator: Juraj Spalek

Co-operators: Fedor Kállay, Anna Príkopová, Branislav Dobrucký

4.2.2 Research Projects Funded by the Slovak Research and Development Agency (APVV)

Title: Development of a High-Voltage Modul Assigned for Traction Applications (APVV-0535-07)

Coordinator: Michalík Ján

Co-operators: Pavol Špánik, Branislav Dobrucký, Jozef Čuntala, Róbert Šul, Libor Hargaš, Marek Paškala, Rastislav Pavlanin, Michal Frivaldský, Peter Drgoňa, Dušan Koniar

Title: Galvanotechnological System with Synchronous Rectifier (APVV VMSP-P-0085-09)

Coordinator: Jozef Čuntala

Co-operators: Miroslav Hrianka, Pavel Pavlásek, Róbert Šul, Marek Paškala, Libor Hargaš, Viktor Bobek

Title: High Frequency Power Electronic Converters (APVV LPP-0366-09)

Coordinator: Pavol Špánik

Co-operators: Jozef Kandráč, Martin Priečinský

Title: Device with internal intelligence for gigacycle fatigue test of construction materials working ultrasonic frequency area (APVV-20-051705)

Coordinator: Pavol Špánik

Co-operators: Branislav Dobrucký, Fedor Kállay, Jozef Čuntala, Miroslav Hrianka, Pavel Pavlásek, Rastislav Pavlanin, Róbert Šul, Libor Hargaš, Jozef Lakatoš, Ivan Kožehuba, Peter Šindler, Anna Príkopová, Michal Frivaldský, Marek Paškala, Peter Drgoňa, Viktor Bobek, Ján Davidík, Dušan Koniar, Peter Fibich

Title: Popularisation of university study in electronics, mechatronics and IT on secondary schools (APVV LPP -0237-06)

Coordinator: Pavol Špánik

Co-operators: Branislav Dobrucký, Róbert Šul, Marek Paškala, Miroslav Hrianka, Fedor Kállay, Pavel Pavlásek, Jozef Čuntala

4.2.3 State Government Projects

Title: CEEEX1 (ITMS 26220120003) Centre of Power Electronic Systems and Materials for their Components, Operational Program Research and Development

Coordinator: Pavol Špánik, Branislav Dobrucký

Co-operators: Jozef Čuntala, Róbert Šul, Miroslav Hrianka, Peter Šindler, Peter Drgoňa, Rastislav Pavlanin, Viktor Bobek, Anna Príkopová, Marek Paškala, Libor Hargaš, Michal Frivaldský

Title: CEKR1 (ITMS 2622010030) Centre of Experimental and Clinical Respiration 1

Coordinator: Miroslav Hrianka

Co-operator: Libor Hargaš, Dušan Koniar

Title: MKC (ITMS 26220220019) Kinematics measurement of the cilia respiratory tract

Coordinator: Miroslav Hrianka

Co-operator: Libor Hargaš, Dušan Koniar

4.3 International Projects

4.3.1 Socrates/Erasmus Projects

Title: Teachers and students mobilities within the frame of Socrates/Erasmus programmes

Coordinator: Marián DZIMKO University of Žilina

Co-operators: Branislav Dobrucký (UNICT Catania, IT), Libor Hargaš (UNICT Catania, IT), Miroslav Hrianka (RWTH Aachen, DE), Wojciech Jarzyna (Politechnika Lubelska, PL), Maciel Barbosa (Universidade do Porto, PT), João Archer (Universidade do Porto, PT), Cristian San Miguel Martin (University of Cantabria, ESP), Marcin Gospodarczyk (Politechnika Lubelska, PL), Anna Kondelová, Pavel Pavlásek, Jozef Čuntala

4.3.2 LLP Grundvig Projects

Title: Technological Parks for Innovation and Trans-European Cooperation (TPI-TEC), (135741-2007-RO-KA3-KA3MP)

Coordinator: Branislav Dobrucký, Pavel Pavlásek

5 Co-operation

5.1 Co-operation Partners in Slovakia

EVPÚ a.s Nová Dubnica
ABB Slovakia, Bratislava
DataTherm, s.r.o. Žilina
Power-One, Dubnica nad Váhom
Robotec s.r.o. Sučany
CONTINENTAL MATADOR s.r.o. Púchov
HAGARD: HALL a.s. Nitra, Žilina
IPESOFT s.r.o. Žilina
Považská cementáreň a.s., Ladce
Energoc controls s.r.o. Žilina
ControlTech, s.r.o. Trnava
Schneider Electric Slovakia, s.r.o., Bratislava, Žilina
ELTECO, a.s. Žilina
VUVT Engineering, a.s. Žilina
MACRO, s.r.o., Žilina
SSE, a.s. Žilina
EMERSON a.s. Nové Mesto n. Váhom
Súkromná zväračská škola, Žilina
Department of el. engineering, mechatronics and industrial engineering, FEI TU Košice
Department of mechatronic systems, FM TUAD, Trenčín
Department of automation and regulation, FEI STU, Bratislava
Department of electric machines and apparatus, FEI STU, Bratislava
LJF Martin, UK Bratislava
INA Kysuce, a.s. Kysucké Nové Mesto
KIA Motors, s.r.o. Žilina
GRANIT, s.r.o. Žilina
AAUTO, s.r.o. Žilina
VIP AUTO, s.r.o. Žilina
Siemens s.r.o., Bratislava, Žilina
TEAM DC, Bratislava
GS1 Slovakia, Žilina
Vedeckotechnologický park, Žilina
Htest Slovakia, Banská Bystrica
Panasonic Electronic Devices Slovakia, s.r.o., Trstená

5.2 International Co-operation Partners

Università degli studi di Catania, IT, DIEES, prof. Alfio Consoli
Politecnico di Bari, IT, DEE, prof. Francesco Cupertino
Technische Universität Graz, AT, FE, IEL, Dr. Manfred Sakulin
University of Nottingham, UK, prof. Greg ASHER, prof. Pat Wheeler
University of Picardie – Jules Verne, Amiens, FR, prof. Gérard-André Capolino
National University of Ireland, Dublin, IRL, prof. Annroi de Paor
Freescale (Motorola), CZ, Ing. Ivan Skalka
University of Porto, PT, prof. Maciel Barbosa
Technische universität Dresden, DE, Dr. Peter Büchner
Technische universität Darmstadt, DE, prof. Andreas Binder

Technikum Wien, AT, prof. Felix Himmelstoss
 Technische universität Bochum, DE, prof. Andreas Steimel
 National Instruments Czech Republic, s.r.o., CZ, Ing. Roman Vala
 Technical Univesity RWTH Aachen, DE, prof. Blazek Vladimir
 Politechnika Radomska, PL, prof. Miroslav Luft, doc. Elzbieta Szychta
 XILINX USA, University program
 Laboratory Imaging, s.r.o. Praha, CZ
 Humusoft s.r.o. Praha, CZ, Karel Bittner
 TU – VŠB Ostrava, CZ, prof. Pavel Brandstetter, prof. Petr Chlebiš
 FAIRCHILD Semiconductor - Power Franchise, EU
 FreeScale s.r.o., Rožňov pod Radhoštěm, CZ
 B&R Automatizace, Brno, CZ
 Rockwell Automotion s.r.o., Praha, CZ
 Technological & Cultural Park of Lavrion, GR
 TIM Science Park, Timisoara, RO
 University Ioan Slavici, Timisoara, RO
 The University of Strathclyde, Glasgow, UK
 Panasonic Electronic Devices Europe GmbH, Lüneburg, DE
 Panasonic Electronic Devices Co., Ltd., Kadoma, JPN

5.3 Visitors to the Department

<i>Name</i>	<i>Institution</i>	<i>Length of stay</i>
Assimakis CHADOUMELLIS	Tech. & Cultural Park of Lavrion, GR	2 days
Andreas DIVANIS	Tech. & Cultural Park of Lavrion, GR	3 days
Vassilis PROTONOTARIOS	Tech. & Cultural Park of Lavrion, GR	2 days
Titus SLAVICI	TIM Science Park, Timisoara, RO	2 days
Dumitru TUCU	TIM Science Park, Timisoara, RO	3 days
Dumitru MERIE	TIM Science Park, Timisoara, RO	3 days
Wojciech JARZYNA	Lublin University of Technology, PL	1 week
Maciel BARBOSA	University of Porto, PT	1 week
Elzbieta SZYCHTA	University of Radom, Poland	3 days
Miroslav LUFT	University of Radom, Poland	3 days
Toshiaki KOBAYASHI	Panasonic, Kobe, Japan	1 day
Shin-ichi KASHIWAYA	Panasonic, Germany	3 days
Norbert GLAPA	Panasonic, Germany	6 days
Nobuharu KATSUKI	Panasonic, Germany	2 days
Miho NISHIGUCHI	Panasonic, Japan	6 days
Yoshikazu SUEHIRO	Panasonic, Japan	5 days
Nicky NAKAJIMA	Panasonic, Germany	3 days
Koichi KUBOYA	Panasonic, Germany	2 days

5.4 Visits to Foreign Institutions

<i>Name</i>	<i>Institution</i>	<i>Length of stay</i>
Miroslav HRIANKA	RWTH – Aachen, DE	7 days
Pavel PAVLÁSEK	STP–TIM, Timisoara, RO	2 days
	The University of Strathclyde, Glasgow, UK	4 days
Branislav DOBRUCKÝ	UNICT Catania, IT	5 days
Libor HARGAŠ	UNICT Catania, IT	5 days
Branislav DOBRUCKÝ	Tech. & Cultural Park of Lavrion, GR	10 days
Róbert ŠUL	Tech. & Cultural Park of Lavrion, GR	5 days
Peter ŠINDLER	Hochschule Mittweida, DE	5 days

Participation in Foreign conferences:

Pavel PAVLÁSEK	10th International Workshop on Research and Education in Mechatronics, Glasgow, UK	3 days
Pavel PAVLÁSEK	EDULEARN 09, Barcelona, ESP	3 days
Pavel PAVLÁSEK	XIV Conference Computer Applications in Electrical Engineering, Poznan, PL	3 days
Róbert ŠINDLER	MIC IASTED, Innsbruck, AT	5 days
Branislav DOBRUCKÝ	MIC IASTED, Innsbruck, AT	5 days
Branislav DOBRUCKÝ	IEEE, IE CON, Orlando, USA	3 days
Rastislav PAVLANIN	IEEE, IE CON, Orlando, USA	3 days
Rastislav PAVLANIN	PES IASTED, Palma de Malorca, ES	5 days
Branislav DOBRUCKÝ	TRANSCOMP, Politechnika Radomska, Zakopané, PL	1 day
Pavol ŠPÁNIK	TRANSCOMP, Politechnika Radomska, Zakopané, PL	1 day
Libor HARGAŠ	Applied Electronics, ZČU, Plzeň	2 days
Dušan KONIAR	Applied Electronics, ZČU, Plzeň	2 days
Peter ŠINDLER	IWKM 2009, Mittweida, DE	5 days
Viktor BOBEK	PDES 2009, Rožňov p. Radhoštem, CZ	3 days
Viktor BOBEK	EDPE 2009, Dubrovnik, CRO	3 days
Róbert ŠINDLER	EDPE 2009, Dubrovnik, CRO	3 days
Michal FRÍVALDSKÝ	EDPE 2009, Dubrovnik, CRO	3 days
Peter DRGOŇA	EDPE 2009, Dubrovnik, CRO	3 days
Michal PRAĚNICA	EDPE 2009, Dubrovnik, CRO	3 days

5.5 Contracts

Number of Contract: P-103-0007/08

Customer: Panasonic Electronic Devices Europe GmbH

Coordinator: Jozef Čuntala

Co-operators: Pavol Špánik, Branislav Dobrucký, Jozef Lakatoš, Libor Hargaš, Michal Frivaldský, Peter Drgoňa, Peter Fibich, Roman Radvan

6 Other Activities**6.1 Specialized Lectures, Courses Organized by the Department**

Title of Lecture/Course: Presentation Techniques at pedagogical process

Customer: Secondary school teachers

Lecturer: Pavol Špánik, Marián Kika, Milan Trunkvalter

Date: 25th June 2009

Title of Lecture/Course: Strategy and Methodology of Presentation Making

Customer: Secondary school teachers

Lecturer: Pavol Špánik, Marián Kika, Róbert Šul

Date: 7th October 2009

Title of Lecture/Course: New Trends in Microcontrollers and their Programming

Customer: Secondary school teachers

Lecturer: Jozef Čuntala, Peter Drgoňa

Date: 15th October 2009

Title of Lecture/Course: Experimental Measurement of Electronic Devices

Customer: Secondary school students
 Lecturer: Pavol Špánik, Róbert Šul, Milan Trunkvalter
 Date: 27th May 2009

Title of Lecture/Course: Technology as the field of perspective application for profession

Customer: Secondary school students
 Lecturer: Pavol Špánik, Jozef Čuntala, Marián Kika, Róbert Šul
 Date: 6th to 7th October 2009

Title of Lecture/Course: New Trends in Physics and its Influence on Informatics, Technology, and Sciences

Customer: Secondary school students
 Lecturer: Pavol Špánik, Dušan Pudiš, Dušan Koniar
 Date: 27th October 2009

Title of Lecture/Course: RFID Identifiers

Customer: GS1 SLOVAKIA, Department of Mechatronics and Electronics, University of Žilina
 Lecturer: Pavel Pavlásek
 Date: 30th November to 4th December 2009

Title of Lecture/Course: Identification of Goods and Services by RFID

Customer: GS1 SLOVAKIA, Department of Mechatronics and Electronics, University of Žilina
 Lecturer: Miroslav Štaffen, Pavel Pavlásek
 Date: 5nd November 2009

Title of Lecture/Course: Automatic Assembly Technologies, KIA Slovakia

Customer: Department of Mechatronics and Electronics, University of Žilina
 Lecturer: Jozef Bačé, Pavel Pavlásek
 Date: 1th December 2009

Competition: The Technical Idea of the Year

Participants: Secondary school students
 Organizers: Róbert Šul, Pavol Špánik, Jozef Čuntala, Jozef Lakatoš, Peter Šindler, Viktor Bobek
 Date: 7th April 2009

6.2 Membership in International Institutions/Committees

Branislav Dobrucký -Member of International Association for Science and Technological Development (IASTED), CA
 -Reviewer for Publishing Company Elsevier, NL
 -Steering Programme Committee of International MIC IASTED 2007-2010 Conference
 -Steering Programme Committee of International EuroPES 2008-2009 Conference
 - Steering Programme Committee of International IASTED CA 2009 Conference, Banff, Kanada
 -Member of IEEE Society

Pavel Pavlásek -Member of the Editorial Board of the Strojárstvo (Machinery) Journal
 -Member of Brandon Hall Excellence in Learning Technology Awards

	-Expert of FP7 Programme NMP – 2007 – 3.4 – 1
	-Expert of Romanian Ministry of Education, Research and Youth, Romania, (Program SOPIEC-A2-O2.2.1-2007-1+Capacities-I-2007-2)
Pavol Špánik	-Member of IEEE Society
Michal Frivaldský	-Student member of IEEE Society
Peter Drgoňa	-Student member of IEEE Society
Peter Fibich	-Student member of IEEE Society
Dušan Koniar	-Student member of IEEE Society

6.3 Membership in National Institutions/Committees

Branislav Dobrucký	-Member of Working Group No. 1 for Technical Science of Slovak Research and Development Agency -Member of the Common Committee for Electrical Engineering -Steering Programme Committee of ALER 2009 Conf.
Pavel Pavlásek	-Member of the Commission of Transport and Road Administration port (The Žilina Self-governing region) -Member of the Grant Commission for Education and Culture No.2 of the Ministry of Education of Slovak Republic -Member of the Commission of the Ministry of Education of Slovak Republic for Selection of the Aid of Candidates from Developing Countries and Compatriots -Representative of Regional Assembly of Žilina Self-governing Region
Pavol Špánik	-Member of the Common Committee for Mechatronics

6.4 Membership in University Boards

Branislav Dobrucký	-Member of the Editorial Board of ZU Scientific Journal – Communication – Scientific Letters -Editorial Board of Publication Committee of ZU -Member of the Scientific Board of FEE ZU -Member of the Electrical Engineering Committee, FEE ZU -Member of the Automation and Control Committee – Process Control, FEE ZU
Pavol Špánik	-Member of the Senate ZU -Member of the Academic Senate of FEE ZU -Member of the Scientific Board of FEE ZU -Member of the Electrical Engineering Committee, FEI STU Bratislava -Member of the Automation and Control Committee – Process Control, FEE ZU -Member of the Measurement Technique Committee, FEI TU Košice
Miroslav Hrianka	-Member of the Scientific Board of FEE ZU
Libor Hargaš	-Member of the Academic Senate of FEE ZU

6.5 Awards

Winners of Freescale Technology Day 2009 competition, students at Department of Mechatronics and Electronics: Marek Čenščák, student of the first year of master degree program: Authorization system – Absolute winner; Ivan Lovás, student of the first year of master degree program: Intelligent reservoir system – The most interesting project; Vladimír Kseňák, student of the second year of master degree program: Controlled shift of turning lathe carriage – The greatest contribution to practice.

Winners of Middle-Europe Freescale Race Challenge 2009 competition: Martin Zahradník - Serhij Zabejda (1st), Andrej Rybovič - Jaroslav Bednar (2nd), students of the second year of master degree program at Department of Mechatronics and Electronics.

7 Publications

Books and Textbooks

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- [2] HRIANKA, M., MASLÁK, A., HARGAŠ, L.: *Electronics – interactive textbook with animations and quizzes*, EDIS Žilina, December 2009, ISBN 978-80-554-0130-0, pp.257 (in Slovak)

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- [10] HARGAŠ, L., HRIANKA, M., LAKATOŠ, J., KONIAR, D.: *Heat Fields Modelling and Verification of Electronic Parts of Mechatronics Systems*. In: Metalurgija, Vol. 49/2010, pp. 268 – 272, ISSN 0543-5846
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