

***FACULTY OF MANAGEMENT SCIENCE  
AND INFORMATICS***

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***ANNUAL REPORT 2015***

***UNIVERSITY OF ŽILINA***



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University of Žilina  
SLOVAKIA

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## **FACULTY OF MANAGEMENT SCIENCE AND INFORMATICS**



### ***Foreword***

**Faculty of Management Science and Informatics, University of Žilina** was founded on July 17<sup>th</sup>, 1990 by approval of University Senate. The main idea of foundation was integration of developing knowledge from IT in the Faculty Programmes of study. That was above all students and staff from Department of Technical Cybernetics existing from 1972 on the University (in that time University of Transport and Communication, Faculty of Mechanical-Electrical Engineering). From this time University and Faculty were going through many changes and development connected by evolution, as well events, caused by society changes and corresponding legislative.

This year we have celebrated the **25th anniversary** of the **Faculty of Management Science and Informatics**. It is the age of 25 years existence of the Faculty lot or a little? I'll try to express a ratio.

Let's start by comparing the age of humanity to the age of our planet. If we pressed the age of the Earth, which it is about 4,5 billion years, to one day, the first man on the Earth would appear one second before midnight.

Similarly, if we compare the age of the Faculty and the length of the existence of higher education on Earth, the launch of which can be dated somewhere around the year 800, when Charlemagne established the requirement for clergy to be educated, to learn and to teach, and pressed this time to one day, the age of the Faculty could be 30 minutes. When we realized what human managed to do in this 1 second of its existence, notional 30 minutes existence of the Faculty is sufficient reason for a little balance. In these imaginary 30 minutes the Faculty has produced nearly 3,400 engineers and more than 150 PhD graduates.

Of course History of informatics and control at the University of Žilina is much older and dates back to 1972, when the Department of Technical Cybernetics was established.

**Faculty of Management Science and Informatics** is one of the seven Faculties at University of Žilina, where are:

- **Faculty of Operation and Economy in Transport**
- **Faculty of Electrical Engineering**

- **Faculty of Mechanical Engineering**
- **Faculty of Civil Engineering**
- **Faculty of Security Engineering**
- **Faculty of Humanities**

At the present there are more than **9000** students at the University of Žilina, including **1 550** students at the **Faculty of Management Science and Informatics** in the year 2015.

Activities of the Faculty are determined by new trends of information and communication technology development, where the high priority task is to insure the continual interconnection between research, education and acceptance of postgraduates in the praxis. The main education and professional activities lie with fields as design and realization of technical tools for information and control systems, analysis, synthesis and design of integrated information and control systems, management, marketing, logistics, entrepreneurship, activity of transportation and communication systems, control and optimization of goods and passenger transport, control and optimization of databases design and their transmission and data processing, problematic of multimedia information systems and graphic information systems, simulation mediums for communication networks and systems and mathematical modelling.

**Faculty of Management Science and Informatics** offers the study in all three levels programmes of study (**Bachelor, Master and Doctoral**). All programmes are officially approved by the Accreditation Commission of the Slovak Republic. The programmes are interdisciplinary; they were conceived and created based on many years of the Faculty's successful research and educational tradition. Detailed descriptions of these programmes is performed in following text

During its existence, the **Faculty of Management Science and Informatics**, as both a research and teaching institution, became a worthy equal partner to similar faculties not just in Slovakia, but in other countries as well. Earning this reputation was a long and strenuous process; but now the scientific and academic staff of the Faculty, as well as their graduates, have achieved a well-deserved position in the world-wide academic community of informatics and management.

**For a long time, our graduates have experienced great interest from employers. According to an official study in 2015, our Faculty ranked 3<sup>rd</sup> place among the top 20 faculties whose graduates were most in demand and it was the 1<sup>st</sup> place among faculties outside of Bratislava.**

In conclusion I would like to stress that the main task of the technical-oriented faculties is to conduct continual education and research so that the knowledge obtained permits the graduates to contribute to society. I believe our Faculty's activities are helping our present and future students to be fully valuable individuals, capable by using their knowledge, skills and experiences in the conditions of the millennium.

Assoc.Prof.Ing. Emil **K r š á k**, PhD.  
Dean

**Presidium of the Faculty:**

**Dean:** Assoc.Prof.Ing. Emil **K r š á k** , PhD  
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Assoc.Prof.Ing. Peter **M á r t o n** , PhD..  
Vice-Dean for Science and International Affairs  
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**Faculty Registrar:** Ing. Marta **Rešetková**, PhD..  
Tel.: +421-41-513 40 75  
e-mail: marta.resetkova@fri.uniza.sk

### **Departments of the Faculty:**

Organisational structure of the Faculty creates Dean's Office, seven Departments, three special workplaces and one Sub-Campus:

- **Department of Mathematical Methods and Operational Research**
- **Department of Macro and Microeconomics**
- **Department of Informatics**
- **Department of Technical Cybernetics**
- **Department of Information Networks**
- **Department of Management Theories**
- **Department of Software Technologies**
  
- **Information Centre**
- **Project's Centre**
- **Centre of Information Technologies**
  
- **Sub-Campus in the town Prievidza**

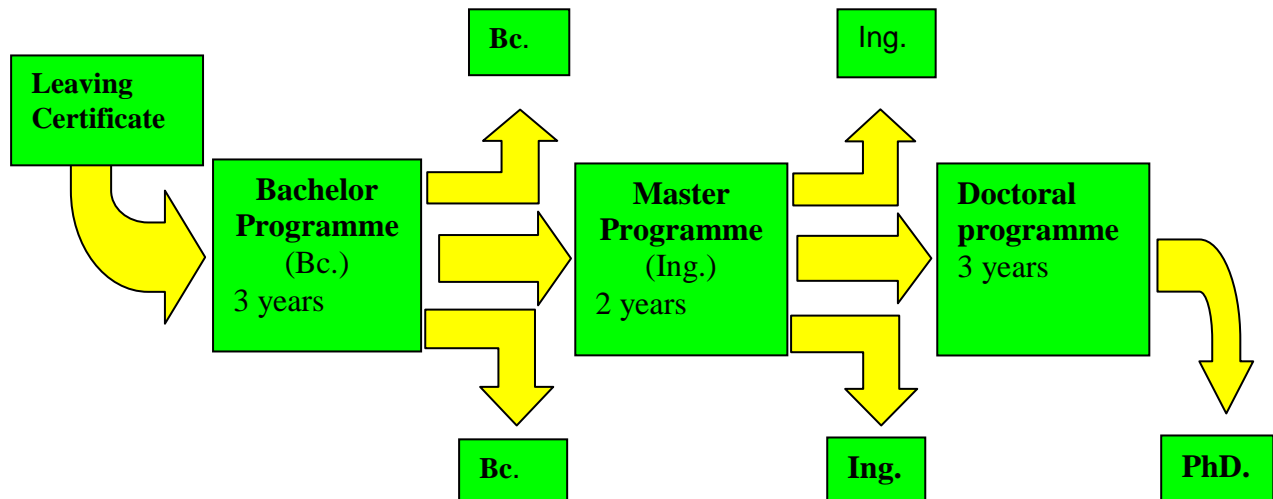
### **Educational Activities**

Educational activities consist of:

- Design and realization of technical means for information and management systems
- Analysis and synthesis of regulation and automation systems
- Control and optimisation methods
- Data transmission and data processing
- Issues concerning multimedia information systems, graphic systems and simulation of components for communication networks, systems and mathematical modelling
- Management, marketing, logistics, entrepreneurial skills, creation of transport and communication systems



### Study Programmes



In the frame of **Bachelor Programme** there are three accredited programmes provided for study at the Faculty:

- *Informatics*
- *Computer Engineering*
- *Management*

The programme is a well-rounded higher education in the 1<sup>st</sup> degree.

Aim of the **Bachelor level** consists in preparation of graduates with acquired knowledge to their professional life and at the same time to be able for the study in the higher levels (MSc., PhD).

In the frame of **Master Programme** there are five accredited programmes provided to study at the Faculty:

- *Information Systems*
- *Management*
- *Computer Engineering*
- *Information Tools for Decision-Making Support*
- *Applied Network Engineering*

In the Programme *Information Systems* there are possibilities for the students to make choice in following Professional Orientations:

- **Applied Informatics**
- **Business Informatics**
- **Distributed and Parallel Systems**

In the Programme *Applied Network Engineering* there are possibilities for the students to make choice in following Professional Orientations:

- **Embedded Systems**
- **Network Infrastructure**

Aims of the **Master level** consist in preparation of graduates for commanding places in the area of application of acquired knowledge in the praxis, in the research and science and at the same time to be able for study on the doctoral level

In the frame of **Doctoral Programme** there are three accredited programmes provided for study at the Faculty:

- *Applied Informatics*
- *Management*
- *Intelligent Information Systems*

Doctoral Programme is the highest level of higher education. The aim of the Doctoral Programme is to prepare the graduate student for independent, creative scientific-research work by giving the student comprehensive theoretical knowledge and mastery of the methods of scientific work as demonstrated in a given scientific project. The programme lasts three years (full time) or five years (part time). The Doctoral Programme requires 3 semesters of advanced study, satisfactory completion of a comprehensive examination, then, after 3<sup>rd</sup> semesters, submission of a written dissertation, based on independent original research that must be a significant contribution to the field of study. Oral examination consists of a defence of the dissertation. The graduate is granted the scientific academic title „**Philosophiae Doctor** (abbr. **PhD.**)“, which is written in abbreviation after the candidate's name.

**Scientific and Professional Orientation of the Faculty:**

Ambitious of the Faculty's activities is to connect high quality education with scientific research results and development.

Faculty's orientation in the scientific area is connected not only to traditions in the field of information and communication systems theory, applied informatics, mathematical methods, automation and management, but as well to the possibility of large-scale interdisciplinary interaction, based on the broad-spectral erudition of teachers and scientific workers of the Faculty. Therefore there is possibility to specify, as a priority, following perspective directions:

- **Information sciences and knowledge systems**
- **Intelligent transportation systems**
- **Mathematical modelling in the ICT, communication systems and management**
- **Management (information / communication)**
- **Information technologies and information techniques.**

The Faculty is involved in the following scientific fields:

- **Mathematical modelling, simulation and optimization of:**
  - databases,
  - information and transportation communication networks,
  - transport of goods and passengers
- **Information and technical security of:**
  - analysis and design of databases systems
  - analysis and design of multimedia systems
  - next generation communication networks
  - embedded and multi-agent systems
- **Management of human and technical resources:**
  - management, marketing, logistics and entrepreneurship
  - regulation automation systems

There are following long term research topics which should be developed in the future activities:

- **Applied mathematics**
- **Multimedia technologies**
- **Management and logistics**
- **Economic management**
- **Modern educational techniques and technologies**
- **Information and communication technologies for society development**

- **Simulation tools and simulation of technologic activities**
- **Modelling of database, distributed data processing and data mining**
- **Management. diagnostic, decision-making in complex systems by use of methods in applied mathematics and cybernetics with application in industry management and in management of complex systems**
- **Digital signal processing**

The scientific orientations of the Faculty's Professors are in following areas:

**1. Prof.Ing Karol M a t i a š k o , PhD.**

Prof. Karol **Matiaško** is a lecturer, author, researcher and consultant, specializing in the areas of database systems and data processing. He started his career in informatics as a researcher at the Research Institute of Transport where he participated in the development of the database system core for the railway information system. His work at the University involved his participation in the design and/or development of many information systems for both industry and academia. Currently his research interests include *Data modelling and processing* and also the area of *Intelligent transport systems*. His teaching covers the areas of *Database systems, Data processing and Programming languages*. He has an extensive list of publications including textbooks on database systems and programming languages

**2. Prof.RNDR. Jaroslav J a n á č e k , PhD.**

Prof. Jaroslav **Janáček** deals mostly with operations research and related disciplines as mathematical programming and transportation science. During the last decade, he focused on design of private and public service systems, where mathematical and informatics approach to the optimal system structure determination is based on solving discrete location problems. This research was continued with various generalizations of the approach to a many-to-many distribution system and a distribution system, where capacity limit and demand on compactness were imposed on the served areas. This part of research was performed on his own software. Recently he focused on so-called *Public service system design* and also on service systems, which provide fair access to a service. This research follows two streams, where the first one employs the above-mentioned developed software with the goal to adjust it so that it would be able to solve a public system design problem to exact optimum. The second stream makes use of *commercial software* (Xpress-IVE) and focuses on *design of an approximate method*, which would be able to solve very large instances of the p-median problem as a core of public service system design.

**3. Prof.Ing. Juraj M i č e k , PhD.**

Prof. Juraj **Miček**'s research interests include mainly control and information systems, practical system design and digital signal processing with particular emphasis on noise reduction. His work has resulted in the development of many unique systems and devices for both domestic and overseas applications; this has also resulted in more than forty scientific publications. Practical aspects of the design of systems based on thirty-two bit microcontrollers were dealt with in his textbook *Monolithic Microcomputers with*

*ARM7Core, Architecture, Programming and Applications*. The problems of noise and interference were analysed in his scientific monograph *Noise in Signal Processing Systems*. Presently he is working on the solution of problems and the development of applications in the field of wireless sensory networks and multi-robotic systems. His teaching interests cover a wide range of subjects including signal processing, automatic control and information technology.

#### **4. Prof. Ing. Martin Klimo, PhD.**

Prof. Martin **Klimo** received his diploma in telecommunication engineering from the University of Transport and Communication (UTC) Zilina in 1973. From 1973 to 1990 he was an Assistant Professor on Technical Cybernetics Department at UTC. Since 1990 he held position as an Associated Professor and in 1993 he was appointed head of the Department of Information Networks. From 1990 to 1993, and since 1997 he is a member of University Scientific Board. He is presently a Professor at the Department of Information Networks and a national delegate in ICT Committee of the 7Frame Programme. His professional interests include *Communication theory, Queuing theory and Fuzzy logic implementation by memristors*. He is author of 3 monographs, 4 textbooks, 28 articles and 52 conference contributions

#### **5. Prof. Ing. Matilda Drozdová, PhD.**

Prof. Matilda **Drozdová** has been working in the area of information and communication services and information systems architecture since 1990. Currently, her research work is oriented to the implementation of ICT services to the real life, using of the principle *Model Driven Engineering* by the Architectures of the system creation.

In the past she promotes *e-education* as one of the ICT services at the university level by means of various national and international projects. She was as the team member in four national projects of State program of research and development, project manager of five projects of Slovak ministry for education research agency. In the international projects she was the team member two Leonadro da Vinci projects, three Tempus projects, one 5. Frame project and one 6. Frame project. She is authors of two books co-author 3 books and author and co-author more than 70 papers in the journals and contributions in the conference proceedings.

#### **6. Prof. Ing. Štefan Hittmár, PhD.**

Prof. Štefan **Hittmár** is a lecturer, author, researcher and consultant, specializing in the areas of management systems and information in decision making. He started his career in transport management as a researcher at the Research Institute of Transport where he participated in the development organizational, information and managerial processes in transport systems. There he was a member of team, head and contractor a lot of many scientific and practical projects, studies and research tasks.

His work at the University has involved his participation in the preparing and development of *Management theory* and in the application it for both industry and educational process. Currently his research interest includes *decision-making processes* and also the area of *modelling managerial activities*. His teaching covers the areas problematic of the basic *Management, Strategy management, Projecting of management system, Methodology of teaching process*. He has an extensive list of publications including textbooks and monographs on management area.

#### 7. Prof. Ing. Tatiana **K o v á ě i k o v á**, PhD.

Activities of Prof. Tatiana **Kováčiková** are focused to converged telecommunication network architectures, services and protocols. She participated in a number of international research projects such as COST, EURESCOM and EC funded projects. Since 2002, she has been actively involved in standardization in the area of Next Generation Networks, Cloud Computing and Intelligent Transport Systems at ETSI (European Telecommunication Standardization Institute) located in Sophia Antipolis, France.

#### 8. Prof Ing. Josef **V o d á k**, PhD.

Prof. Josef **Vodák** is working as a lecturer, researcher and consultant in the field of performance management with a particular interest in small and medium enterprises. Within the area of performance management, he focuses on the strategic perspective of a company, its market and value delivery, collaborations with other companies and, as one of the key areas, its human capital. For the future, he will continue to develop more advanced systems for company development and for increasing company value using concepts of performance management. He strongly believes that human capital is a key factor necessary for a success in company's performance management. He is also confident that performance management is a fruitful area for scientific as well as educational activities of a university, with potentially considerable impact on the business landscape

#### 9. Prof. Ing. Vitaly **L e v a s h e n k o**, PhD.

Prof. Vitaly **Levashenko** finished Belarusian State University Informatics and Radio-electronics. He started career in Belarusian State Economic University. Since 2003 he works as Associated Professor at the University of Žilina, Faculty of Management Science and Informatics. His research interests include mainly creating of decision support systems based on fuzzy data and its practical application, reliability of databases.

His teaching interest covers a wide range of subjects including knowledge discovery in databases and fuzzy logic. He has participated at different scientific and education projects, such as FP7, TEMPUS, APVV, VEGA, MVTS and etc.

#### 10. Prof Ing. Ludmila **J á n o š í k o v á**, PhD.

Research interests include strategic planning, transportation planning, and travel behaviour. She focuses on the development of mathematical models and application of operations research methods

#### 11. Prof Ing. Elena **Z a i t s e v a**, PhD.

The preferred areas of investigation are Reliability Analysis of Multi-State System and Importance Analysis. She has experience in Multiple-Valued Logic, Algebra Logic and Logic Design

### **Scientific activities of the Faculty:**

In the following list there are some of research projects realized in 2015 at the Faculty:

#### **Projects supported by EU Foundations**

FP7-ICT-2013-10: *Regional Anaesthesia Simulator and Assistant*  
Prof. Ing. **Zaitseva** Elena, PhD.

FP7 300712: *ETNA Plus (European Transport Network Alliance)*  
Assoc. Prof. Ing. **Fabián** Peter, PhD.

FP7-PEOPLE-2011-CIG-303580: *Modelling and Optimization of Micro fluidic Devices for Biomedical Applications*  
Assoc. Prof. Mgr. **Cimrák** Ivan, Dr.

Z-14-109/0001-08: *Risk Analysis of Infrastructure Networks in response to extreme weather*  
Ing. **Lusková** Mária, PhD. et al.

#### **Projects supported by Agency for Science and Research**

APVV-14-0658: *Optimisation of urban and regional public personal transport*  
Assoc. Prof. RNDr. **Palúch** Stanislav, PhD. et al.

APVV-14-0560: *Resistive switching structures for pattern recognition*  
Ing. **Frohlich** Karol., Dr.Sc. et al.

SK-PL-0023-12: *Support systems for medical decision making*  
Prof. Ing. **Zaitseva** Elena, PhD.

#### **Science and Education Grant Agency – Ministry of Education in Slovak Republic**

035ŽU-4/2013: *Master degree study program: Operations Management and Logistics*  
Assoc. Prof. Ing. **Kubina** Milan, PhD.

011ŽU-4/2014: *Experimental Mathematics - how to see invisible*  
RNDr. **Blaško** Rudolf, PhD.

1/0363/14: *Innovation management - processes, strategies and efficiency*  
Prof. Ing. **Hittmár** Štefan, PhD.

1/0518/15: *Reliable save systems with uncertain achievable service*  
Prof. RNDr. **Janáček** Jaroslav, PhD.

1/0942/14: *Dynamic modelling and soft techniques in economic values prediction*  
Ing. **Pančíková** Lucia, PhD.

1/0621/14: *Marketing management in cooperative environment - Proposal of strategic cooperation management implementation model*

Assoc.Prof.Mgr. **Soviar** Jakub, PhD.

1/0498/14: *New methods and algorithms of analysis of functions and reliability in complex systems*

Prof.Ing. **Zaitseva** Elena, PhD.

1/0890/14: *Stochastic modelling of decision-making processes in motivating human potential*

Assoc.Prof.Ing. **Blašková** Martina, PhD. et al.

1/0421/13: *Efficiency Attribute and Human Capital*

Assoc.Prof.Ing. **Kucharčíková** Alžbeta, PhD.

1/0526/13: *Modelling of Multilateral Relations of Economic Subjects and Quality Enhancement in Decision - Making Processes with IOCT Support*

Ing. **Tokarčíková** Emese, PhD.

1/0188/13: *Quality factors of integrated transport system in the effective provision of public transport services in the context of globalisation*

Assoc.Prof.Ing. **Gašparík** Jozef, PhD.

1/0339/13: *Use of Complex Data Recourses in Design and Solution of Microscopic System Models Providing Public Services in Wide - Spread Area*

Assoc.Prof.Ing. **Buzna** Ľuboš, PhD.

1/1159B/12: *Numerical modelling of multiphase flow and transport in porous medium*

Prof. Ing. **Kovářík** Karel, PhD. et al.

1/0916/15: *Business Excellence status assessment in relation to the corporate social responsibility concept*

Assoc.Prof.Ing. **Jankalová** Miriam, PhD. et al.

### **Foreign scientific projects**

Standart grant of International Visegrad Fund – 21510230: *International Conference on Information and Digital Technologies*

Prof.Ing. **Zaitseva** Elena, PhD., Prof.Ing. **Levashenko**, PhD

12/2015/FRI/R/190: *Construction, debugging and delivery of addressable SW GTNv5.0 to individual controlled domains*

Assoc.Prof.Ing. **Kršák** Emil, PhD. et al

11/2015/FRI/R/190: *Software for transportation technology development*

Assoc.Prof.Ing. **Kršák** Emil, PhD.

COST IC1401: Memristor - Devices, Models, Circuits and Applications

Prof.Ing. **Klím**o Martin PhD. et al.



2/2014/FRI/R/190: Ensuring development of IS KANGO financed by the EU Fund  
Assoc.Prof.Ing. **Kršák** Emil, PhD. et al.

### **Applied Research Projects**

13/2015/FRI/R/150: *Coin-magazine texting equipment*  
Prof. Ing. **Miček** Juraj, PhD.

KIA15\_013: *Programme the robot – Yrobot Cup*  
Ing. **Hodoň** Michal, PhD.

KIA15\_017: *Artificial intelligence with a playful way*  
Assoc.Prof. Ing. **Kapitulík** Ján, PhD., et al.

S 99/2015-O16: *Analysis, design and implementation of modifications in system IS Kango modules for implementation of new pictogram “Children's Theater”*  
Ing. **Gábor** M., PhD., et al.

5/2015/FRI/R/190: *Construction, debugging and delivery of addressable SW GTNv 4.9 to individual controlled domains*  
Assoc.Prof.Ing. **Kršák** Emil, PhD., et al.

3/2015/FRI/R/190: *Dvelopment and implementation of Rout book tabs*  
Assoc.Prof.Ing. **Kršák** Emil, PhD.

2014et003: *Wireless sensory network for following of state waterways*  
Assoc.Prof.Ing. **Ševčík** Peter, PhD.

### **Another Projects**

545750-EM-1-2013-1-FR-ERA MUNDUS EMA-21: *iBRASIL – Innovative and inclusive Brazil*  
Assoc.Prof.Ing. **Fabián** Peter et al.

EACEA-44/2012: EU-Korea SMILES - **Student Motilities in Intercultural, Language and ECVET Skills**  
Assoc.Prof.Ing. **Fabián** Peter et al.

543889-TEMPUS-1-2013-1-SE-TEMPUS-JPHES: *Advanced Training and life Long learning Program in Applied Health Sciences*  
Prof.Ing. **Zaitseva** Elena, PhD.

### **Centre of Excellence**

544137-TEMPUS-1-2013-1-SK-TEMPUS-JPHES: *Centres of Excellence for young REsearchers (CERES)*  
Prof.Ing. **Matiaško** Karol, PhD

### Scientific Board:

**Chairman:** Assoc.Prof.Ing. Emil **K r š á k** , PhD.

#### **Members:**

Assoc.Prof.Ing. Martina **Blašková**, PhD.

Prof.Ing. Pavel **Čičák**,

Prof.Ing. Milan **Dado**, PhD.

Assoc.Prof.Ing. Mária **Ďurišová**, PhD.

Assoc.Proff.Ing. Karol **Gronďák**, PhD.

Assoc.Prof. Zdeněk **Havlice**, PhD.

Prof. Ing. Štefan **Hittmár**, PhD.

Assoc.Prof.Ing. Miroslav **Hrnčiar**, PhD.

Prof. RNDr. Jaroslav **Janáček**, PhD.

Prof.Ing. Ľudmila **Jánošíková**, PhD..

Assoc.Prof.Ing. Ondrej **Karpiš**, PhD

Prof. Ing. Martin **Klimo**, PhD.

Prof.Ing. Peter **Závodný**, PhD.

Assoc.Prof.Ing. Viliam **Lendel**, PhD.

Prof.Ing. Vitaly **Levashenko**, PhD.

Prof.Ing Karol **Matiaško**, PhD

Assoc.Prof.Ing. Peter. **Márton**, PhD.

Prof. Ing. Juraj **Miček**, PhD.

Assoc. Prof. RNDr. Stanislav **Palúch**, PhD.

Prof. Ing. Karel **Skokan**, PhD.

Prof. Ing. Ladislav **Šimák**, PhD

Prof. Ing. Karel **Šotek**, PhD.

Prof. Ing. Josef **Vodák**, PhD.

Prof.Ing. Liberios **Vokorokos**, PhD.

Assoc.Prof. .Ing. Michal **Zábovský**, PhD.

Assoc.Prof. Ing. Jaroslav **Zendulka**, PhD.



In the procedure to be appointed as a **Professor** in 2015 was successful

<i>Name of candidate</i>	<i>Title of Inauguration work</i>
Assoc.Prof.Ing. Elena <b>Zaitseva</b> , PhD	The use of many valued logic in reliability analysis
Assoc.Prof.Ing. Pavol <b>Čičák</b> , PhD.	Networks of control systems

Scientific Board of the Faculty, after successful defence of **Dissertation Thesis**, has appointed in **2015** with title **PhD.** following graduates of Doctoral Programme:

<i>Name</i>	<i>Theme of Dissertation Thesis</i>	<i>Supervisor</i>
Ing. Lukáš <b>Falát</b>	Forecasting of time series with hybrid artificial neuron networks and advanced statistical methods	Prof. Ing. Dušan <b>Marček</b> , PhD.
Mgr. Iveta <b>Jančígová</b>	Modelling elastic objects in fluid flow with biomedical applications	Assoc.Prof.Mgr. Ivan <b>Cimrák</b> , Dr.
Ing. Michal <b>Kvet</b>	Searching and indexing in temporal databases	Prof. Ing. Karol <b>Matiaško</b> , PhD.
Ing. Miroslav <b>Kvaššay</b>	Reliability Analysis based on Logical Differential Calculus and Minimal Cut Set Methods	Assoc.Prof.Ing. Elena <b>Zaitseva</b> , PhD.
Ing. Jozef <b>Papán</b>	IP Fast Reroute	Assoc.Prof.Ing. Pavel <b>Segeč</b> , PhD.
Ing. Matej <b>Cebecauer</b>	Design of extensive space critical operating systems in the networks	Assoc.Prof.Ing. Ľuboš <b>Buzna</b> , PhD.

### **Publication Activities:**

Members of the Faculty of Management Science and Informatics have published in the year **2015** results of research activity in 198 publications. Some of the more significant titles there are in the following list.

#### **Scientific monographs published in foreign editors**

LEVAŠENKO, V., ZAJCEVA, E., KOVALIK, Š.: *Decision-making based on the fuzzy data*  
Saarbrücken : LAP LAMBERT Academic Publishing, pp. 2014. - 369 - ISBN 978-3-659-49971

JANKAL, R., HITTMÁR, Š., LŐRINCZY, M., SROKA, W., SZÁNTÓ, R.: *Trends of business ethics and corporate social responsibility*  
In Central Europe: 1<sup>st</sup> edition, - Aachen : Shaker Verlag GmbH, 2015. – pp. 146 - ISBN 978-3-8440-3072-3

#### **Chapters in scientific monographs published in foreign editors**

LENDEL, V.: *Application of cooperative management in enterprises: management approach, problems and recommendations.*

In: Management of network organizations: Theoretical problems and the dilemmas in practice. - Cham: Springer International Publishing, 2015. - ISBN 978-3-319-17346-7. - pp. 51-65

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**Academic Senate of the Faculty:**

**Chairman:** Assoc.Prof.Ing. Norbert **A d a m k o** , PhD.

**Senate Secretary:** Mgr. Lýdia **Gábrišová**, PhD.

**Chamber of Employees:**

Assoc.Prof.Ing. Norbert **Adamko**, PhD.

Ing. Juraj **Dubovec**, PhD.

Assoc.Prof.Ing. Peter **Ševčík**, PhD

Mgr. Lýdia **Gábrišová**, PhD.

Assoc.Prof. Ing. Martina **Blašková**, PhD.

Ing., Ján **Ružbarský** PhD

RNDr. Hynek **Bachratý**, PhD.

Ing. Michal **Koháni**, PhD.

Ing. Jana **Milanová**, PhD.

Ing. Lucia **Pančíková**, PhD.

Ing. Peter **Palúch**, PhD.

Ing. Michal **Varga**, PhD,

Ing. Matúš **Chochlík**, PhD.

Ing. Monika **Vajsová**

**Chamber of Students:**

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Oľga **Chovancová**

Bc, Jakub **Kordiak**

Lukáš **Sekyra**

Bc, Lukáš **Konštiak**

Michal **Janešík**

Bc. Jaroslav **Szabo**

### **Human resource management**

As far as the required qualification structure of the pedagogical staff at the Faculty is concerned, the situation seen within the University's context is shown in following table. It shows current number of employees at the Faculty and its development in according to categories within the period 2011- 2015.

<b>CATEGORY/YEAR</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>Professors</b>	9	8	8	9	12
<b>Guest Professors</b>	-	-	-	-	-
<b>Assoc. Prof.</b>	17	18	22	31	28
<b>Senior Lecturers PhD.</b>	52	58	57	53	55
<b>Senior Lecturers</b>	9	7	6	1	2
<b>Assistants</b>	-	-	-	-	-
<b>Lectors</b>	4	3	2	5	3
<b>Research staff</b>	6	5	4	4	3
<b>Tech. Admin. Staff</b>	44	44	36	42	23
<b>Total</b>	<b>141</b>	<b>143</b>	<b>135</b>	<b>146</b>	<b>125</b>

### **Turnover of staff in 2015**

Within the space of year **2015** the Faculty has accepted into pedagogical and scientific staff following members:

**Staff:**

Assoc.Prof.Mgr. Ondrej **Šuch**, PhD.  
Ing. Jana **Makyšová**, PhD.  
Ing. Ľuboš **Falát**, PhD.  
Mgr. Iveta **Jančígová**, PhD.  
Ing. Jozef **Papán**, PhD.  
Ing. Miroslav **Kvaššay**, PhD.  
Ing. Michal **Kvet**, PhD.  
Ing. Michal **Kochláš**

In the same period following members left the Faculty:

Ing. Oldřich **Kovář**, PhD.  
JuDr. Margita **Beháňová**  
RNDr. Miroslav **Benedikovič**  
RNDr. Štefan **Kovalík**, PhD.  
Ing. Iveta **Nedeljaková**, PhD.

## Anniversaries in 2015

### 25 years of the Faculty

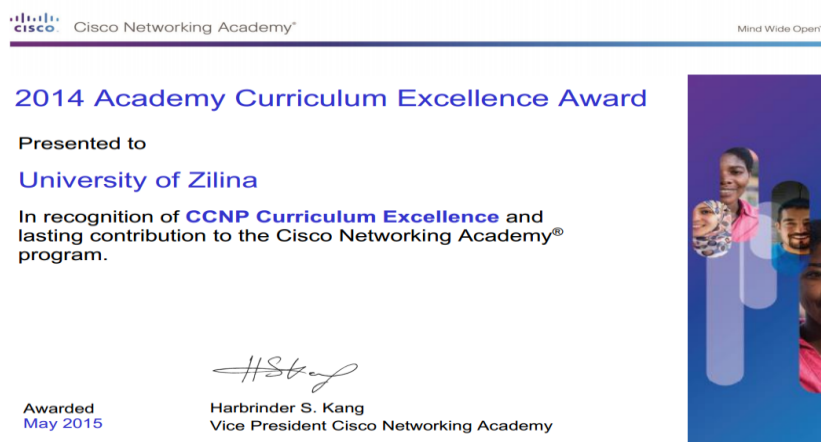
Faculty of Management Science and Informatics celebrated its **25<sup>th</sup> jubilee** of its establishment in 1990. On this occasion management of the Faculty prepared numerous events for employees, students and partners. Official celebration took place on September 16<sup>th</sup>, 2015 in the area of student canteen. Opening ceremonial was made by Dean of the Faculty **Assoc.Prof.Ing. Emil Kršák, PhD.**



In his short intersection Mr. Dean expressed thanks for activities to all members of the Faculty, as well to partners for cooperation. The most important part of ceremonial was awards to the significant persons, as ex-deans, ex vice-deans, heads of departments, employees, etc.

### 15 years of the Cisco Networking Academy

Our **Cisco Networking Academy** at the **Department of Information Networks** started with its activities 15 years ago. This year Academy was awarded as the best Academy, which provides CCNP courses Central Europe Region (Europe-Central/Russia/CIS Recipients). Award is based upon the feed-backs from students, as well upon the results of tests CCNP.



**Programmes of Study:**

**Bachelor Degree Programme: *INFORMATICS***

**1<sup>st</sup> year of study**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	<b>COMPULSORY</b>				
	5BF001	Algebra	2-2-0	6	DMMOR
	5BI037	Informatics 1	2-2-2	8	DI
	5BF015	Mathematics for Informatics	2-2-0	8	DMMOR
	5BL033	Introduction to studies	2-0-2	3	DIN
	5BE001	Basics of Economic Theory	2-2-0	6	DMME
	<b>OPTIONAL</b>				
	5BM021	Presentation Techniques	0-2-0	3	DMT
	5BI011	Practice of Programming 1	0-0-2	1	DI
	5BL015	Foreign Language	0-2-0	3	FHSc_DL
5BL009	Physical Education	0-0-2	1	IPE	

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
2	<b>COMPULSORY</b>				
	5BA026	Algorithmic Graphs Theory	2-2-0	6	DMMOR
	5BA024	Discrete Probability	2-2-1	6	DMMOR
	5BI038	Informatics 2	2-2-2	7	DI
	5BN010	Communication Technologies	2-0-2	5	DIN
	5BE002	Microeconomics	2-2-0	6	DMME
	<b>OPTIONAL</b>				
	5BF016	Practice of Mathematics	0-2-0	1	DMMOR
	5BI036	Practice of Programming 2	0-0-2	1	DI
	5BL016	Foreign Language	0-2-0	3	FHSc_DL
5BL010	Physical Education	0-0-2	1	IPE	
5BL044	Physical Education Training Camp 1	0-1-0	2	IPE	

**Recommended number of credits in the 1<sup>st</sup> year of study: 60**

2<sup>nd</sup> year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	<b>COMPULSORY</b>				
	5BI039	Informatics 3	2-1-2	5	DI
	5BH001	Logical Systems	2-0-2	6	DTC
	5BF017	Mathematical Analysis 1	2-2-1	6	DMMOR
	5BI025	Assemblers	2-0-2	5	DMMOR
	<b>OPTIONAL</b>				
	5BE009	Economy of Enterprise	2-1-0	5	DMME
	5BI045	Graphics in Computers Applications	1-0-3	4	DIN
	5BI033	Spreadsheets	2-0-2	3	DI
	5BE021	Profession: Entrepreneur 1	1-2-0	2	DMME
	5BN013	Basics of Network Theory 1	2-0-2	6	DIN
	5BS011	UNIX - Development Environment	1-0-3	4	DMMOR
	5BL017	Foreign Language	0-2-0	3	FHSc_DL
	5BL011	Physical Education 3	0-0-2	1	IPE
5BL037	Physical Education Training Camp 2	0-1-0	2	IPE	

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
4	<b>COMPULSORY</b>				
	5UI024	Data Structures 1	2-0-2	6	DMMOR
	5BA022	Discrete Optimisation	2-0-2	6	DMMOR
	5BH018	Digital Computers	3-0-1	6	DTC
	5BI006	Basics of Database Systems	2-0-2	6	DI
	<b>OPTIONAL</b>				
	5BI044	Animation in Computers Applications	1-0-3	4	DIN
	5UI026	Electronic Processing and Documents Presentation	2-0-2	4	DMMOR
	5BE008	Macroeconomics	2-2-0	5	DMME
	5BE014	Small and Medium Entrepreneurship	2-2-0	6	DMME
	5BI052	Metaprogramming	2-0-2	5	DST
	5BA008	Numerical Methods	2-0-2	3	DMMOR
	5BE022	Profession: Entrepreneur 2	1-2-0	3	DMME
	5BA030	Probability and Statistics	2-2-0	6	DMMOR
	5BL042	Sociology	1-2-0	5	DMT
	5BI048	Techniques of Programming 1	0-0-4	4	DI
5BL018	Foreign Language 4	0-2-0	3	FHSc_DL	
5BL012	Physical Education 4	0-0-2	1	IPE	

Recommended number of credits in the 2<sup>nd</sup> year of study: 120

3<sup>rd</sup> year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
5	<b>COMPULSORY</b>				
	5UA013	Modelling and Simulation	2-0-2	6	DMMOR
	5BS001	Operational Systems	2-0-2	6	DI
	5US003	Software Engineering	2-0-4	6	DI
	<b>OPTIONAL</b>				
	5BI031	Database System - Access	2-0-2	4	DI
	5BA017	Data, Information, Knowledge	2-0-2	5	DMME
	5BS005	Identification of Systems	2-0-2	6	DTC
	5UM023	Communication Management	2-2-0	5	DMT
	5BF019	Mathematical Analysis 3	2-1-1	6	DMMOR
	5BH023	Microprocessors	2-0-2	6	DTC
	5US007	Multimedia Information Systems	2-0-2	6	DMMOR
	5UA005	Petri Nets	2-0-2	6	DMMOR
	5BL003	Law 1	2-2-0	6	DMME
	5BL039	Psychology	2-1-0	4	G
	5BH021	Technical Equipment of PC	0-0-2	3	DTC
5UA017	Queuing Theory	2-0-2	5	DMMOR	
5BI029	Basics of Programming in WINDOWS	2-0-2	4	DST	
5BN015	Basics of Network Theory 2	2-0-2	6	DIN	
5BL013	Physical Education 5	0-0-2	1	IPE	

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
6	<b>COMPULSORY</b>				
	5BZ001	Bachelor Project	0-0-8	12	G
	5BL040	English Language 1	0-0-0	3	FHSc_DL
	<b>OPTIONAL</b>				
	5IUE022	Taxes and Budget	2-1-0	5	DMME
	5BS012	Implementation of UNIX-LINUX	2-0-2	6	DMMOR
	5BS004	Information and Control Systems in Transport	2-0-1	3	DST
	5BI032	Compilers	2-0-2	6	DI
	5BA020	Modern Approximate Methods	2-0-2	4	DMMOR
	5UI014	Computers Graphics	2-0-2	6	DMMOR
	5BL004	Law 2	2-2-0	5	DMME
	5BI022	Open Source Software	1-0-3	4	DMMOR
	5BI050	Techniques of Programming 2	0-0-4	4	DI
	5UA002	Game Theory	2-2-0	6	DMMOR
	5BA010	Scheduling Theory	2-2-0	6	DMMOR
	5UI002	Reliability Theory	2-0-2	5	DI
5BI054	Development of Applications for Mobile Equipment	1-0-3	5	DST	
5BL14	Physical Education 6	0-0-2	1	IPE	

Minimum number of credits to conclude the Bachelors Programme of study: 180

### **Compulsory Optional Courses**

From the groups of Compulsory Optional Courses student is to choose one group of following courses groups which correspond to his future professional orientation in the Masters Degree Programme. These groups of Compulsory optional course are connected with the Programmes of study in MSc. Degree level according to professional orientation.

#### *Information Systems -Business Informatics, Informatics Tools for Decision Support Systems*

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Autumn	<b>COMPULSORY OPTIONAL</b>				
	5BE007	Finance of Enterprise	2-0-2	6	DMME
	<b>COMPULSORY OPTIONAL</b>				
Spring	5BA006	Modelling and Optimisation	2-0-2	6	DMMOR
	5BI046	Software Modelling	2-0-2	6	DST

#### *Information Systems – Applied Informatics*

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Autumn	<b>COMPULSORY OPTIONAL</b>				
	5US009	Internet and Intranet Application Development	2-0-2	4	DST
	<b>COMPULSORY OPTIONAL</b>				
Spring	5BI010	JAVA – Language and Development Applications	2-0-2	6	DI
	5BA006	Modelling and Optimisation	2-0-2	6	DMMOR
	5BI046	Software Modelling	2-0-2	6	DST

#### *Applied Network Engineering*

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Autumn	<b>COMPULSORY OPTIONAL</b>				
	5BN003	Computer Networks 1	2-0-4	6	DIN
	5BN011	Computer Networks 3	2-0-2	6	DIN
	<b>COMPULSORY OPTIONAL</b>				
Spring	5US004	Analysis of Processes	2-0-2	5	DIN
	5BN004	Computer Networks 2	2-0-4	6	DIN

### **Optional Courses**

Following courses are recommended for the students intending to study in Masters Degree Programme

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Autumn	<b>OPTIONAL</b>				
	5BF019	Mathematical Analysis 3	2-2-1	6	DMMOR
	<b>COMPULSORY OPTIONAL</b>				
Spring	5BA030	Probability and Statistics	2-2-0	6	DMMOR

**Bachelor Degree Programme: COMPUTER ENGINEERING**

**1<sup>st</sup> year**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	<b>COMPULSORY</b>				
	5BF001	Algebra	2-2-0	6	DMMOR
	5BI037	Informatics 1	2-2-2	8	DI
	5BF017	Mathematical Analysis 1	2-2-1	6	DMMOR
	5BE001	Basics of Economic Theory	2-2-0	6	DMME
	5BF005	Basics of Physics	3-1-1	6	FEE
	<b>OPTIONAL</b>				
	5BF009	Practice of Mathematics	0-2-0	1	DMMOR
	5BM021	Presentation Techniques	0-2-0	3	DMT
	5BI011	Practice of Programming 1	0-0-2	1	DI
	5BL015	Foreign Language 1	0-2-0	3	FHSc-DL
	5BL009	Physical Education 1	0-0-2	1	IPE

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
2	<b>COMPULSORY</b>				
	5BF004	Electrical Circuits	2-2-0	5	DTC
	5BI038	Informatics 2	2-2-2	7	DI
	5BN010	Communication Technologies	2-0-2	5	DIN
	5BF014	Mathematical Analysis 2	2-2-1	6	DMMOR
	5BH008	Theory of Automatic Control 1	2-1-1	6	DTC
	<b>OPTIONAL</b>				
	5BL016	Foreign Language 2	0-2-0	3	FHSc-DL
	5BI036	Practice of Programming 2	0-0-2	1	DI
	5BL010	Physical Education 2	0-0-2	1	IPE
	5BL044	Physical Education Training Camp 1	0-1-0	2	IPE

**Recommended number of credits in the 1<sup>st</sup> year of study: 60**



2<sup>nd</sup> year

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	<b>COMPULSORY</b>				
	5BF007	Electronics	2-0-2	6	DTC
	5BI039	Informatics 3	2-1-2	5	DST
	5BH001	Logical Systems	2-0-2	6	DTC
	<b>COMPULSORY OPTIONAL</b>				
	5BF019	Mathematical Analysis 3	2-2-1	6	DMMOR
	5BN003	Computer Networks 1	2-0-4	6	DIN
	5BH009	Theory of Automatic Control 2	2-0-3	6	DTC
	5BS011	UNIX – Development Environment	1-0-3	4	DMMOR
	<b>OPTIONAL</b>				
	5BI045	Graphics in Computers Applications	1-0-3	4	DIN
	5BI025	Assemblers	2-0-2	5	DMMOR
	5BE021	Profession: Entrepreneur 1	1-2-0	2	DMME
	5BN013	Basics of Network Theory 1	2-0-2	6	DIN
	5BL017	Foreign Language 3	0-2-0	3	FHSc-DL
	5BL011	Physical Education 3	0-0-2	1	IPE
	5BL037	Physical Education Training Camp 2	0-1-0	2	IPE

From the group of Compulsory optional courses student has to choose min one course

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
4	<b>COMPULSORY</b>				
	5BA024	Discrete Probability	2-2-1	6	DMMOR
	5BH002	Measurements	2-0-2	6	DTC
	5BL004	Law 2	2-2-0	5	DMME
	5BH018	Digital Computers	3-0-1	6	DTC
	5BH004	Digital Systems	2-0-2	6	DTC
	<b>COMPULSORY OPTIONAL</b>				
	5BN004	Computer Networks 2	2-0-4	6	DIN
	5BH022	Elements of Automatic Systems	2-0-2	6	DTC
	5BI006	Basics of Database Systems	2-0-2	6	DI
	<b>OPTIONAL</b>				
	5BI044	Animation in Computers Applications	1-0-3	4	DIN
	5UI026	Electronic Processing and Documents Presentation	2-0-2	4	DMMOR
	5BF010	Complex Variable and Integral Transformation	2-1-1	4	DMMOR
	5BA008	Numerical Methods	2-0-2	3	DMMOR
	5BE022	Profession: Entrepreneur 2	1-2-0	3	DMME
	5BL042	Sociology	1-2-0	5	DMT
5BL018	Foreign Language 4	0-2-0	3	FHSc-DL	
5BL012	Physical Education 4	0-0-2	1	IPE	

Recommended number of credits in the 2<sup>nd</sup> year of study: 120

3<sup>rd</sup> year

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
5	<b>COMPULSORY</b>				
	5BH005	Electronic Systems	2-0-2	6	DTC
	5BH019	Construction and Technology of Electronic System Production	1-0-3	4	DTC
	5BS001	Operational Systems	2-0-2	6	DI
	<b>COMPULSORY OPTIONAL</b>				
	5BH013	Microcomputers and their Applications	1-0-3	6	DTC
	5BH023	Microprocessors	2-0-2	6	DTC
	5BI029	Basics of Programming in Windows	2-0-2	4	DST
	<b>OPTIONAL</b>				
	5BI007	Algorithms and Computational Complexity	2-0-0	3	DI
	5BI031	Database Systems – Access	2-0-2	4	DI
	5BS005	Identification of Systems	2-0-2	6	DTC
	5UM023	Communication Management	2-2-0	5	DMT
	5US007	Multimedia Information Systems	2-0-2	6	DMMOR
	5UA005	Petri Nets	2-0-2	6	DMMOR
	5BN011	Computers Networks 3	2-0-2	6	DIN
	5BL003	Law 1	2-2-0	6	DMME
	5BL0039	Psychology	2-1-0	4	G
	5BH021	Technical Equipments of PC	0-0-2	3	DTC
	5US009	Internet and Intranet Application Development	2-0-2	4	DST
5BN015	Basics of Network Theory 2	2-0-2	6	DIN	
5BL013	Physical Education 5	0-0-2	1	IPE	

From the group of Compulsory optional courses student has to choose min one course

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
6	<b>COMPULSORY</b>				
	5BH0020	Computer Engineering	2-0-4	6	DTC
	5BZ001	Bachelors Project	0-0-8	12	G
	5BL040	English Language	0-0-0	3	FHSc-DL
	<b>COMPULSORY OPTIONAL</b>				
	5BI010	Java – Language and Development Applications	2-0-2	6	DI
	5BH014	Computer Process Control	2-0-3	7	DTC
	<b>OPTIONAL</b>				
	5BS012	Implementation of UNIX - LINUX	2-0-2	6	DMMOR
	5BS004	Information and Control Systems in Transport	2-0-1	3	DST
	5BI032	Compilers	2-0-2	6	DI
	5BE014	Small and Medium Entrepreneurships	2-2-0	6	DMT
	5UI002	Reliability Theory	2-0-2	5	DI
	5BI054	Development of Applications for Mobile Equipment	1-0-3	5	DST
5BL014	Physical Education 6	0-0-2	1	IPE	

From the group of Compulsory optional courses student has to choose courses to obtain 15 credits

**Bachelor Degree Programme: MANAGEMENT**

**1<sup>st</sup> year of study**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	<b>COMPULSORY</b>				
	5BF001	Algebra	2-2-0	6	DMMOR
	5BI047	Informatics for Managers 1	2-1-1	6	DI
	5BF017	Mathematical Analysis 1	2-2-1	6	DMMOR
	5BL003	Law 1	2-2-0	6	DMME
	5BE001	Basics of Economic Theory	2-2-0	6	DMME
	<b>OPTIONAL</b>				
	5BF009	Practice of Mathematics	0-2-0	1	DMMOR
	5BI011	Practice of Programming 1	0-0-2	1	DI
	5BM021	Presentation Techniques	0-2-0	3	DMT
	5BL015	Foreign Language 1	0-2-0	3	FHSc-DL
5BL009	Physical Education	0-0-2	1	IPE	

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
2	<b>COMPULSORY</b>				
	5BI040	Informatics for Managers 2	2-1-1	6	DI
	5BE014	Small and Medium Entrepreneurship	2-2-0	6	DMT
	5BM010	Management 1	2-2-0	6	DMT
	5BE002	Microeconomics	2-2-0	6	DMME
	5BE016	Business Economy	3-2-0	6	DMT
	<b>OPTIONAL</b>				
	5BL016	Foreign Language 2	0-2-0	3	FHSc-DL
	5BI0136	Practice of Programming 2	0-0-2	1	DI
	5BL010	Physical Education 2	0-0-2	1	IPE
	5BL044	Physical Education Training Camp 1	0-1-0	2	IPE

**Recommended number of credits in the 1<sup>st</sup> year of study: 60**

**2<sup>nd</sup> year of study**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	<b>COMPULSORY</b>				
	5BA015	Economical Statistics	2-1-1	6	DMMOR
	5BE005	Financial Accounting	2-2-0	6	DMME
	5BS013	Information Systems of Enterprise	2-0-2	6	DMT
	5UM011	Project Management	2-1-1	6	DMT
	<b>OPTIONAL</b>				
	5BI045	Graphics in Computers Applications	1-0-3	4	DIN
	5BI033	Spreadsheets	2-0-2	3	DI
	5BL17	Foreign Language 3	0-2-0	3	FHSc-DL
	5BL11	Physical Education 3	0-0-2	1	IPE
	5BL037	Physical Education Training Camp 2	0-1-0	2	IPE

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
4	<b>COMPULSORY</b>				
	5BE018	Marketing	2-2-0	6	DMT
	5BM016	Operational Management	3-1-0	6	DMT
	5BM014	Human Resource Management	2-2-0	6	DMT
	<b>OPTIONAL</b>				
	5BI044	Animation in Computers Applications	1-0-3	4	DIN
	5UI026	Electronic Processing and Documents Presentation	2-0-2	4	DMMOR
	5BA008	Numerical Methods	2-0-2	3	DMMOR
	5BI046	Software Modelling	2-0-2	6	DST
	5BL018	Foreign Language 4	0-2-0	3	FHSc-DL
5BL012	Physical Education 4	0-0-2	1	IPE	

3<sup>rd</sup> year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
5	<b>COMPULSORY</b>				
	5BM013	Quality Management	2-2-0	6	DST
	5BE007	Finance of Enterprise	2-2-0	6	DMME
	<b>OPTIONAL</b>				
	5BI031	Database Systems – MS Access	2-0-2	4	DI
	5BM017	Management 2	1-2-0	4	DMT
	5BS007	Multimedia Information Systems	2-0-2	6	DMMOR
	5BH021	Technical Equipments of PC	0-0-2	3	DTC
	5BN019	Basics of Research	0-2-0	3	DMT
	5BL013	Physical Education 5	0-0-2	1	IPE

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
6	<b>COMPULSORY</b>				
	5BZ001	Bachelors Project	0-0-8	12	G
	5BL002	Foreign Language 1	0-0-0	3	FHSc-DL
	<b>OPTIONAL</b>				
	5BS004	Information and Control Systems in Transport	2-0-1	3	DST
	5II014	Computers Graphics	2-0-2	6	DMMOR
5BL014	Physical Education 6	0-0-2	1	IPE	

Minimum number of credits to conclude the Bachelors Programme of study: 180

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
<b>COMPULSORY OPTIONAL</b>					
Autumn	5UE013	Controlling	2-1-0	4	DMME
	5BM023	Marketing Communication	2-2-0	5	DMT
	5BA013	Modelling and Simulation	2-0-2	6	DMMOR

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
<b>COMPULSORY OPTIONAL</b>					
Spring	5UE022	Taxes and Budget	2-0-1	5	DMME
	5BL036	Business Ethics	2-1-0	4	DMT
	5BE020	Financial-Economical Analysis	2-1-1	4	DMME
	5BM018	Quality in Services	2-1-0	4	DM
	5BE008	Macroeconomics	2-2-0	5	DMME
	5BF014	Mathematical Analysis 2	2-2-1	6	DMMOR
	5BL038	Politology	2-2-0	4	DMT
	5BL004	Law 2	2-2-0	5	DMME
	5BL006	Psychology	1-2-0	4	G
5BL042	Sociology	1-2-0	5	DMT	

From the group of Compulsory optional courses student has to choose courses, so that to obtain 15 credits in Bachelors Programme of study.

**Abbreviations:** DMMOR - Department of Mathematical Methods and Operations Research  
 DI - Department of Informatics  
 DTC - Department of Technical Cybernetics  
 DIN - Department of Information Network  
 DMT - Department of Management Theories  
 DMME - Department of Macro and Microeconomics  
 DST - Department of Software Technology  
 G - Guarantor for Programme of Study  
 FEE - Faculty of Electrical Engineering  
 FHSc-DL - Faculty of Human Science – Department of Languages  
 IPE - Institute of Physical Education

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**Master Degree Programme: *INFORMATION SYSTEMS***

**1<sup>st</sup> year of study**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	<b>COMPULSORY</b>				
	5II015	Data Structures 2	2-0-2	5	DMMOR
	5II007	Database Systems 2	2-0-2	5	DI
	5IN025	Communication Technologies 2	2-0-2	6	DIN
	5IN009	Optimisation of Networks	2-0-2	5	DMMOR
	<b>COMPULSORY (according to Professional Orientation)</b>				
	5IP001	Project 1	0-2-4	6	G

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
2	<b>COMPULSORY</b>				
	5IS008	Architectures of Information systems	2-0-2	5	DIN
	5II008	Discrete Simulation	2-0-2	5	DMMOR
	5IA002	Theory of Information	2-0-2	5	DMMOR
	<b>COMPULSORY (according to Professional Orientation)</b>				
	5IP002	Project 2	0-2-4	6	G

Recommended number of credits in the 1<sup>st</sup> year of study: 60

**2<sup>nd</sup> year of study**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	<b>COMPULSORY</b>				
	5II017	Cryptography and Safety	2-0-2	5	DMMOR
	5IP005	Internship	0-0-0	0	G
	<b>COMPULSORY (according to Professional Orientation)</b>				
	5IP003	Project 3	0-2-4	6	G

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
4	<b>COMPULSORY</b>				
	5IZ001	Diploma Thesis	0-0-20	30	G
	5IL004	English Language 2	0-0-0	3	DL

Minimum number of credits to conclude the form of study: 120

## Groups of Compulsory Optional courses

### Applied Informatics

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
<b>COMPULSORY OPTIONAL</b>					
Autumn	5II013	Advanced Object Technologies	2-0-2	5	DTS
	5IE001	Theory of Enterprise	2-0-2	5	DMME
<b>COMPULSORY OPTIONAL</b>					
Spring	5II028	Database Languages	2-0-2	5	DI
	5II012	Data Mining	2-0-2	5	DI
	5IS006	Geographic Information Systems	2-0-2	5	DMMOR

### Business Informatics

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
<b>COMPULSORY OPTIONAL</b>					
Autumn	5IE017	Econometrics	2-0-2	6	DMME
	5IE015	Finance	2-2-0	6	DMME
	5II001	Fuzzy Sets and Neural Networks	2-0-2	5	DMMOR
<b>COMPULSORY OPTIONAL</b>					
Spring	5IE010	Accounting and Analysis	3-2-0	5	DMME
	5II024	Artificial Neural Networks and Soft Computing	2-0-2	5	DMME

### Distributed and Parallel Systems

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
<b>COMPULSORY OPTIONAL</b>					
Autumn	5IS007	Distributed Systems	2-0-2	5	DTC
	5IS011	HPC and Grid computing	2-0-2	5	DTC
	5IS013	Developing Standards Open MP and MPI	2-0-2	5	DTC
<b>COMPULSORY OPTIONAL</b>					
Spring	5IA006	Mathematical Programming	2-0-2	5	DMMOR
	5II026	Complexity of Distributed and Parallel Algorithms	2-0-2	5	DTC

From the group of Compulsory optional courses student has to choose courses, so that to obtain min 15 credits.

**Groups of Optional courses**

**Applied Informatics**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
<b>OPTIONAL</b>					
<b>Autumn</b>	5IS009	Expert Systems	2-0-2	6	DMMOR
	5IS011	HPC and Grid computing	2-0-2	5	DTC
	5II032	Design Patterns	2-0-2	5	DI
	5UA017	Queuing Theory	2-0-2	5	DMMOR

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
<b>OPTIONAL</b>					
<b>Spring</b>	5US004	Analysis of Processes	2-0-2	5	DIN
	5UI026	Electronic Processing and documents Presentation	2-0-2	4	DMMOR
	5IA010	Implementation of Optimization Algorithms	2-0-2	5	DMMOR
	5IM014	Complex Quality Management - TQM Methods	2-1-0	5	DMT
	5IA008	Metaheuristics	2-0-2	5	DMMOR
	5IE012	Prognostics	2-0-2	6	DMME
	5IS010	Real Time Systems Programming	2-0-2	5	DI
	5II030	Techniques of Programming 3	0-0-4	4	DI
	5UA02	Game Theory	2-2-0	6	DMMOR
	5BA010	Scheduling Theory	2-2-0	6	DMMOR
	5UI002	Reliability Theory	2-0-2	5	DI

**Business Informatics**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
<b>OPTIONAL</b>					
<b>Autumn</b>	5IE005	Managerial Accounting	2-0-2	6	DMME
	5II032	Design Patterns	2-0-2	5	DI
	5II013	Advanced Object Oriented Technologies	2-0-2	5	DI
	5II023	Artificial Intelligence	2-0-2	5	DMMOR

Semester	<b>OPTIONAL</b>				
<b>Spring</b>	5II003	Database Languages	2-0-2	5	DI
	5UI026	Electronic Processing and Documents Presentation	2-0-2	4	DMMOR
	5IA010	Implementation of Optimal Algorithms	2-0-2	5	DMMOR
	5IM012	Quantitative Methods of Logistics	2-0-2	5	DMMOR
	5IA008	Metaheuristics	2-0-2	5	DMMOR
	5IE012	Prognostics	2-0-2	6	DMME
	5BA010	Scheduling Theory	2-2-0	6	DMMOR

Minimum number of credits to conclude the form of study: 120



**Distributed and Parallel Systems**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Autumn	<b>OPTIONAL</b>				
	5IS009	Expert Systems	2-0-2	6	DMMOR
	5IN025	Communication Technologies 2	2-0-2	6	DIN
	5IA009	Mathematical Aspects of Efficient Counting	2-0-2	5	DTC
	5II032	Design Patterns	2-0-2	5	DI

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Spring	<b>OPTIONAL</b>				
	5US004	Analysis of Processes	2-0-2	5	DIN
	5IS006	Geographical Information Systems	2-0-2	5	DMMOR
	5IM014	Complex Quality Management - TQM Methods	2-1-0	5	DMT
	5IE012	Prognostics	2-0-2	6	DMME
	5IS010	Real Time Systems Programming	2-0-2	5	DI
	5BA010	Scheduling Theory	2-2-0	6	DMMOR
	5UI002	Reliability Theory	2-0-2	5	DI

**Master Degree Programme: COMPUTER ENGINEERING**

**1<sup>st</sup> year of study**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	<b>COMPULSORY OPTIONAL</b>				
	5IPOP1	Project 1	0-2-4	6	G
	5IH009	Digital Signal Processing 1	2-0-2	5	DTC
	5IH013	Technical Means of Control and Information Systems	2-0-2	5	DTC
	5IH011	Introduction to the Theory of Discrete Systems	2-2-0	5	DTC

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
2	<b>COMPULSORY</b>				
	5IH002	Design of the Customer Integrated Circuits	2-0-2	5	DTC
	5IH006	Digital Data Transmission	2-0-2	5	DTC
	5IPOP2	Project 2	0-2-4	6	G

Recommended number of credits in the 1<sup>st</sup> year of study: 60

**2<sup>nd</sup> year of study**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	<b>COMPULSORY</b>				
	5IN025	Communication Technologies 2	2-0-2	6	DIN
	5IP005	Internship	0-0-0	0	DMT
	5IPOP3	Project 3	0-2-4	6	G

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
4	<b>COMPULSORY</b>				
	5IL004	English Language 2	0-0-0	3	DL
	5IZ001	Diploma Work	0-0-20	30	G

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Autumn	<b>COMPULSORY OPTIONAL</b>				
	5IH007	Adaptive Systems of Automatic Control	2-0-2	5	DTC
	5IS007	Distributed Systems	2-0-2	5	DTCT
	5II017	Cryptography and Safety	2-0-2	5	DMMOR
	5II013	Advanced Object Oriented Technologies	2-0-2	5	DI
5II021	Basics of Programming in the Kernel of an Operational System	2-0-2	5	DI	

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Spring	<b>COMPULSORY OPTIONAL</b>				
	5II012	Data Mining	2-0-2	5	DI
	5IH008	Digital Signal Processing 2	2-0-2	5	DTC
	5IA002	Theory of Information	2-2-0	5	DMMOR

From the group of Compulsory Optional Courses student must choose courses to fulfil minimum number of credits 15

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Autumn	<b>OPTIONAL</b>				
	5IH015	Applications of the Microprocessors Implemented into the FPGA Circuits	2-0-2	6	DTC
	5II019	Computer Speech Recognition	2-0-2	6	DTC

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Spring	<b>OPTIONAL</b>				
	5UI026	Electronic Processing and Presentation of Documents	2-0-2	6	DTC
	5BA010	Scheduling Theory	2-2-0	6	DMMOR
	5IH010	Selected Methods of Signal Compression	2-0-2	6	DTC

Minimum number of credits to conclude the form of study: 120

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**Master Degree Programme: MANAGEMENT**

**1<sup>st</sup> year of study**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	<b>COMPULSORY</b>				
	5IE017	Econometrics	2-0-2	6	DMT
	5IE005	Management Accounting	2-2-0	6	DMME
	5IM021	Marketing Control	2-2-0	6	DMT
	5US003	Software Engineering	2-0-4	6	DI
	5IP0M1	Project 1	0-2-4	6	G

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
2	<b>COMPULSORY</b>				
	5IM026	International Management and Marketing	2-2-0	6	DMT
	5IM022	Systems for Support of Decision-Making	2-0-2	6	DMT
	5IP0M2	Project 2	0-2-4	6	G

Recommended number of credits in the 1<sup>st</sup> year of study: 60

**2<sup>nd</sup> year of study**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	<b>COMPULSORY</b>				
	5IM027	Logistics	3-1-0	6	DMT
	5IM017	Organizational Behaviour	2-2-0	6	DMT
	5IP009	Design of Management Systems	0-4-1	6	DMT
	5IM009	Strategic Management	2-0-2	6	DMT
	5IP005	Internship	0-0-0	0	G
	5IP0M3	Project 3	0-2-4	6	G

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
4	<b>COMPULSORY</b>				
	5IL006	Foreign Language 2	0-0-0	3	DL
	5IZ001	Diploma Work	0-0-20	30	G

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Autumn	<b>COMPULSORY OPTIONAL</b>				
	5UM023	Managerial Communication	2-2-0	5	DMT
	5IM011	Management Games and Simulations	1-0-2	5	DMT
	5IM025	Marketing Tools and Applications	2-0-2	5	DMT
	5IM029	Research in Management	2-1-1	5	DMT

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Spring	<b>COMPULSORY OPTIONAL</b>				
	5IM014	Complex Quality Management - TQM Methods	2-1-0	5	DMT
	5IM024	Marketing of Services	2-2-0	5	DMT
	5IE012	Prognostic	2-2-0	6	DMME

From the group of Compulsory Optional Courses student must choose courses to fulfil minimum number of credits 15

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Autumn	<b>OPTIONAL</b>				
	5IS009	Expert Systems	2-0-2	6	DMMOR
	5IE015	Finance	2-2-0	6	DMME
	5US009	Internet and Intranet Application Development	2-0-2	4	DST

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Spring	<b>COMPULSORY</b>				
	5IS008	Architecture of Information Systems	2-0-2	5	DIN
	5UI026	Electronic Processing and Documents Presentation	2-0-2	4	DMMOR
	5IS006	Geographical Information Systems	2-0-2	5	DMMOR
	5IE006	Capital and Investment Theories	2-2-0	6	DMME
	5IM012	Quantitative Methods of Logistics	2-0-2	5	DMMOR
5IM018	Management of Processes	2-2-0	4	DST	

Minimum number of credits to conclude the form of study: 120

[www.fri.uniza.sk](http://www.fri.uniza.sk) link: Study – Master study

**Master Degree Programme: Applied Network Engineering**

**1<sup>st</sup> year of study**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	<b>COMPULSORY</b>				
	5IN025	Communication Technologies 2	2-0-2	6	DIN
	5IH017	Interconnected Embedded Systems	3-0-1	6	DTC
	5IH009	Digital Signal Processing 1	2-0-2	5	DTC
	5II021	Basics of Programming in the Kernel of an Operational System	2-0-2	5	DI
	5IP001	Project 1	0-2-4	6	G
	5IPOS1	Project 1	0-2-4	6	G

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
2	<b>COMPULSORY</b>				
	5IN018	Theory of Communication	2-0-2	6	DIN
	5IP002	Project 2	0-2-4	6	G
	5IPOS2	Project 2	0-2-4	6	G
	<b>OPTIONAL</b>				
	5IN020	Advanced Switching in Information-Communication Networks	2-0-5	6	DIN

**Embedded Systems**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
2	<b>COMPULSORY</b>				
	5IH002	Design of the Customer Integrated Circuits	2-0-2	5	DTC
	5IH014	Digital Control	3-1-0	6	DTC
	5IH012	Techniques of Network Communication	2-0-2	6	DTC

**Network Infrastructure**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
2	<b>COMPULSORY</b>				
	5IN014	Network Integration	2-0-2	5	DIN
	5IN016	Design of Networks 1	2-0-6	6	DIN
	5IN010	Theory of Information Networks	2-0-2	5	DIN

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	<b>COMPULSORY</b>				
	5IP005	Internship	0-0-0	0	G
	5IP003	Project 3	0-2-4	6	G
	5IPOS3	Project 3	0-2-4	6	G
	<b>OPTIONAL</b>				
5IN033	Advanced Routing in Information-Communication Networks	2-0-5	6	DIN	

### Embedded Systems

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	<b>COMPULSORY</b>				
	5IH019	Applied Electronics	2-0-2	6	DTC
	5IH023	Programming of Embedded Systems	2-0-2	6	DTC
	5IH021	Sensors of Non-Electrical Quantum	3-0-1	6	DTC

### Network Infrastructure

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	<b>COMPULSORY</b>				
	5IN027	Algorithms in Networks	2-0-2	6	DIN
	5IN031	Optimization of Converged Networks	2-0-4	6	DIN
	5IP011	Design of Networks 2	2-0-2	6	DIN

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
4	<b>COMPULSORY</b>				
	5IZ001	Diploma Thesis	0-0-20	30	G
	5IL006	English Language 2	0-0-0	3	DL

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Autumn	<b>OPTIONAL</b>				
	5UA017	Queuing Theory	2-0-2	4	DMMOR

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Spring	<b>OPTIONAL</b>				
	5UI026	Electronic Processing and Documents Presentation	2-0-2	4	DMMOR

Minimum number of credits to conclude the form of study: 120



**Master Degree Programme: INFORMATION TOOLS FOR DECISION-MAKING  
SUPPORT SYSTEMS**

**1<sup>st</sup> year of study**

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	<b>COMPULSORY</b>				
	5II015	Data Structures 2	2-0-2	5	DMMOR
	5II007	Database Systems 2	2-0-2	5	DI
	5IN009	Optimisation of Networks	2-0-2	5	DMMOR
	5IPOR1	Project 1	0-2-4	6	G

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
2	<b>COMPULSORY</b>				
	5IS008	Architecture of Information Systems	2-0-2	5	DIN
	5II008	Discreet Simulation	2-0-2	5	DMMOR
	5IS006	Geographic Information Systems	2-0-2	5	DMMOR
	5IA006	Mathematical Programming	2-0-2	5	DMMOR
	5IA008	Metaheuristics	2-0-2	5	DMMOR
	5IPOR2	Project 2	0-2-4	6	G

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	<b>COMPULSORY</b>				
	5II001	Fuzzy Stets and Neural Networks	2-0-2	5	DMMOR
	5II017	Cryptography and Safety	2-0-2	5	DMMOR
	5IP005	Internship	0-0-0	0	G
	5IP003	Project 3	0-2-4	6	G

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
4	<b>COMPULSORY</b>				
	5IL004	English Language 2	0-0-0	3	FHSc-DL
	5IM012	Quantitative Methods in Logistics	2-0-2	5	DMMOR
	5IZ001	Diploma Work	0-0-20	30	G

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Autumn	<b>COMPULSORY OPTIONAL</b>				
	5IA005	Petri Nets	2-0-2	6	DMMOR
	5IE001	Theory of Enterprise	2-0-2	5	DMME

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Spring	<b>COMPULSORY OPTIONAL</b>				
	5IA010	Implementation of Optimization Algorithms	2-0-2	5	DMMOR
	5IN008	Communication Systems	2-0-2	5	DMMOR

From the group of Compulsory Optional Courses student must choose at least one course in each semester

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Autumn	<b>OPTIONAL</b>				
	5IS009	Expert Systems	2-0-2	6	DMMOR
	5IN025	Communication Technologies 2	2-0-2	6	DIN
	5BI025	Assemblers	2-0-2	6	DMMOR

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Spring	<b>OPTIONAL</b>				
	5II028	Database Languages	2-0-2	5	DT
	5UI026	Electronic Processing and Presentation of Documents	2-0-2	4	DMMOR
	5IE012	Prognostics	2-0-2	6	DMME
	5BI050	Techniques of Programming 2	0-0-4	4	DI
	5UA002	Game Theory	2-2-0	6	DMMOR
5BA10	Scheduling Theory	2-2-0	6	DMMOR	

Minimum number of credits to conclude the form of study: 120

[www.fri.uniza.sk](http://www.fri.uniza.sk) link: Study – Master study

**Students with excellent results in Bachelor Degree Study**

<b>Student</b>	<b>Title of Thesis</b>	<b>Supervisor</b>
Michal Váňa	Teaching tool for simplex method and Brach-and-Bound method	Ing. M. Koháni, PhD.
Tomáš Kuric	Web page for administration of programming contests	Ing. P. Tarábek, PhD
Marek Drevenák	Video-based ego lane reconstruction	Ing. P. Tarábek, PhD.
Júlia Tomášiková	Impact of the triangulation for modelling of formation the red blood cells in ESPResSo software	Assoc.Prof. RNDr. K. Bachratá, PhD.
Patrik Rusnák	Tool for analysis of dynamic properties of logic functions	Ing. M. Kvaššay
František Kajánek	Computationally efficient HOG descriptor implementation using GPU	Ing. P. Tarábek, PhD.
Dávid Vrtaňa	Processes improvement in human potential management and motivating in selected companies	Assoc.Prof. Ing. M. Blašková, PhD.
Martina Remková	Key Performance Indicators in environment of selected firm	Ing. R. Jankal, PhD.
Barbora Košická	Feasibility study of the start-up project	Assoc.Prof. Ing. V. Lendel, PhD.
Matej Jakab	Inertial navigation system (INS)	Ing. M. Hodoň, PhD.
Lukáš Hulata	Capacitated p-median problem for large-scale network	Assoc.Prof. RNDr. Š. Peško, PhD.
Peter Reguli	Application for decision making about the effective transport mode within the city	Ing. M. Koháni, PhD
Matej Mahút	Mobile application for internet portal (web magazine) "cesta+"	RNDr. M. Benedikovič
Rastislav Brandobur	Driving School Information System	RNDr. Š. Kovalík, PhD.
Juraj Čerňanský	Proposals for appropriate marketing communications to support of the school " Stredná odborná škola elektrotechnická" in Žilina.	Assoc.Prof. Ing. M. Kubina, PhD.
Katarína Ďugelová	Possibilities of using cloud applications to support educational activities in selected educational institutions.	Assoc.Prof. Ing. M. Kubina, PhD.
Kristína Milčevová	Warehousing of company	Assoc.Prof.. Ing. M. Ďurišová, PhD
Roman Tišliar	Data Mining Algorithms for Diagnosis of Heart Failure Patients	Ing. J. Boháčik, PhD.
Lukáš Mandák	Determining the position of permanent magnet in the plane	Ing. M. Chovanec

**Students with excellent results in Master Degree Study:**

<i>Student Name</i>	<i>Title of Thesis</i>	<i>Supervisor</i>
Jakub Hrabovský	The netFPGA technology and its real network utilization.	Assoc.Prof. Ing. P. Segeč, PhD.
Daniel Rajčan	Software Defined Networks and network virtualisation within Clouds	Assoc.Prof. Ing. P. Segeč, PhD.
Marek Pecho	Modelling of service point queues in pedestrian movement simulation model PedSim.	Assoc.Prof. Ing. N. Adamko, PhD.
Miroslav Louma	UML profiles for the UML .FRI CASE tool	Assoc.Prof. Ing. J. Janech, PhD.
Michal Haviar	UML profiles for the UML .FRI CASE tool	Assoc.Prof. Ing. J. Janech, PhD.
Matej Košťal	Information retrieval in documents	Prof. Ing. K. Matiaško, PhD.
Michal Čadecký	Creation of mesoscopic model of entities movement in pedestrian movement simulation tool	Ing. M. Varga, PhD.
Samuel Žák	Handheld wireless narrowband communicator	Prof.. Ing. J. Miček, PhD.
Martin Kopkáš	Wireless controlled mobile robot	Prof.. Ing. J. Miček, PhD.
Irina Ďaďová	Corporate culture management in a business company	Assoc.Prof. Mgr. J. Soviar, PhD.
Martin Holubčík	System of cooperation management in a business company	Assoc.Prof. Mgr. J. Soviar, PhD.
Jozef Štaffen	Planning of visit of garage in the journeys of public municipal transport.	Ing. T. Majer, PhD.
Martin Kuzma	Video Recognition by Humanoid Robot NAO	Prof. Ing. M. Klimo, PhD.
Juraj Dančík	The SIP protocol and issues of its usability within smart home solutions.	Assoc.Prof. Ing. P. Segeč, PhD.
Marek Moravčík	The development and extendibility of existing KIS VoIP infrastructure close to Unified Communication.	Assoc.Prof. Ing. P. Segeč, PhD.
Martin Krška	Software-defined networks	Assoc.Prof. Ing. P. Segeč, PhD.
Monika Motyčáková	Use of Big Data technologies for enterprise marketing	Assoc.Prof. Ing. M. Kubina, PhD.
Ján Poliak	The Rationalization of Business Processes in Selected Company	Assoc.Prof. Ing. V. Lendel, PhD.
Martina Ukušová	Monitoring System of Car Driver in Automobile	Ing. A. Jaroš, PhD.

Student Name	Title of Thesis	Supervisor
Martek Šarlák	Information providing of selected business innovation processes	Assoc.Prof. Ing. V. Lendel, PhD.
Tatiana Šildeková	Design of the system of planning for selected agricultural cooperative	Ing. E. Tokarčíková, PhD.
Renáta Obžerová	Optimization of selected process of hospital using lean management methods.	Ing. L. Richter, PhD

### Students' participation at the Professional Competitions

On May 15<sup>th</sup> 2015, in the announcement of competition results of the best final work from subject **Java – Language and Application Development**, organized by DAVINCI Company were successful following students:

- Marek **Drevenák**, Marek **Korenčiak** - Bank Information Systems
- Dominik **Petho** – Weather
- Martin **Čuka** - The Adventure of Javatar
- Ivana **Drábiková** - ELEMENTS

The main award – voucher to Certified examination **Oracle Certified Java Programmer**  
Received the work:

Radovan **Račák** – SNOW

In the competition **The best student project 2015** was successful the graduate of Faculty

Ing. Andrea **Kochanová**

with the final work:

#### ***Optimization of selected process of hospital using lean management methods.***

The work of doctors at the II. Children's Clinic and II. Clinic paediatric anaesthesiology and intensive care



Ing. Andrea **Kochanová**

## Students

In November 2015, there were at the Faculty in Bachelors degree programme **1070** students, in Masters Degree programme **423** students and **37** doctoral students.

### Number of Bachelor students

Study programme	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year
Informatics	288	223	229
Computer Engineering	65	26	41
Management	92	39	67
<b>Total</b>	<b>445</b>	<b>288</b>	<b>337</b>
<b>Total</b>	<b>1070</b>		

### Number of Master students

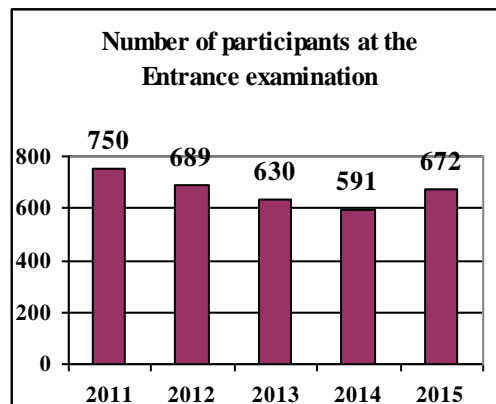
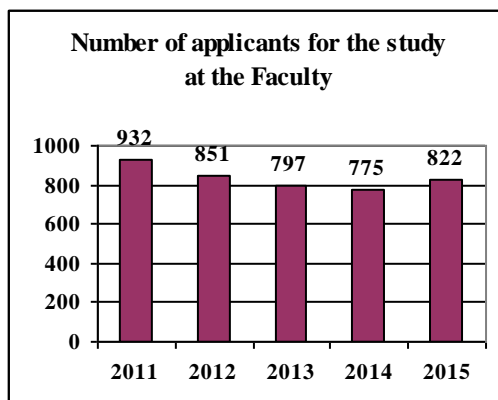
Study programme	1 <sup>st</sup> year	2 <sup>nd</sup> year
Information Systems	82	98
Management	63	80
Computer Engineering	26	38
Information Tools for Decision-Making Support	-	-
Applied Network Engineering	17	21
<b>Total</b>	<b>186</b>	<b>237</b>
<b>Total</b>	<b>423</b>	

### Number of Doctoral full-time students

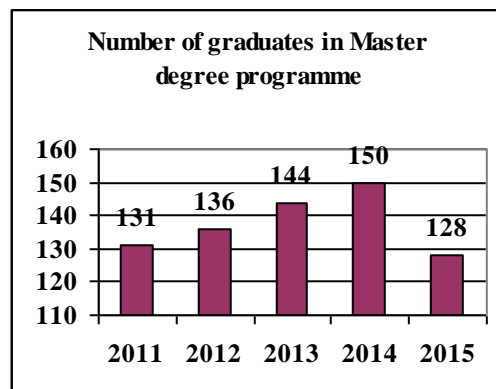
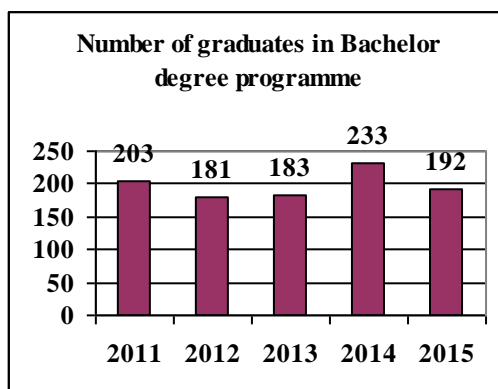
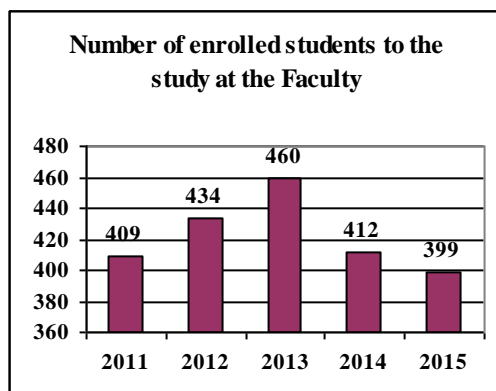
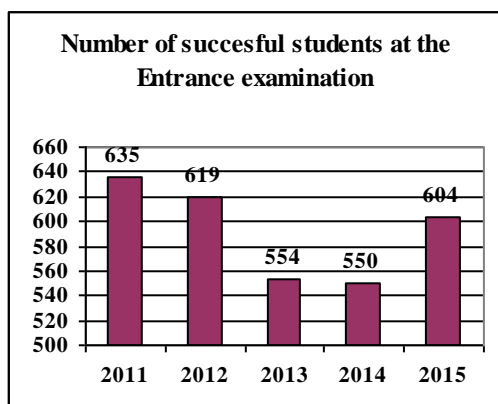
Study programme	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year
Applied Informatics	6	3	1
Management	4	2	0
<b>Total</b>	<b>10</b>	<b>5</b>	<b>1</b>
<b>Total</b>	<b>16</b>		

Further there are at the present **9 part-time doctoral students** and **4 students with above standard time** at the Faculty and **8 students began to study in 2015**. Total: **37 students**.

An overview of the candidates for the study, students and graduates at the Faculty in the last five years is illustrated in following graphs:



:



	2011	2012	2013	2014	2015
<b>Bc.</b>	996	1011	1038	1040	1070
<b>MSc.</b>	351	380	372	369	423
<b>PhD.</b>	66	55	49	39	37
<b>Total</b>	<b>1413</b>	<b>1438</b>	<b>1459</b>	<b>1448</b>	<b>1530</b>

**Programme ERASMUS and other international activities of the Faculty**

**Bilateral Agreements - ERASMUS**

University of Vaasa	FIN
University of Applied Sciences Jyväskylä,	FIN
Seinäjoki University of Applied Sciences	FIN
Universidad Politecnica do Valencia	E
Universitat de les Illes Balears	E
University of Porto, Faculty of Engineering	P
Molde University College - Specialized University in Logistics	N
University of Lille, Science and Technology, Telecom Lille	F
Telecom SudParis, Ecole de Management, Evry	F
Technische Universität Dresden	D
Hochschule für Telekommunikation Leipzig	D
University of Zagreb, Faculty of Organization and Informatics	CR
University of Zagreb, Faculty of Electrical Engineering and Computing	CR
University of Maribor, Faculty of Criminal Justice and Security	CR
Hellenic Open University, Patras	GR
University of Debrecen, Faculty of Informatics	H
University "Dunarea de Jos" of Galati	RO
Transylvania University of Brasov	RO
Technical University of Sofia	BG
College of Telecommunications and Posts	BG
Mykolas Romeris University Vilnius	LT
Istanbul Kemerburgaz University	TR
University of Hradec Králové, Faculty of Informatics and Management	CZ
University of Pardubice	CZ
Charles University in Prague Faculty of Mathematics and Physics,	CZ
University of Technology, Ostrava, Faculty of Economics	CZ
College of Technology and Economic, České Budejovice	CZ
Kielce University of Technology	PL
University of Technology and Humanities in Radom	PL



West Pomeranian University of Technology, Szczecin PL

State Higher School of Vocational Education, Ciechanow PL

### **Students Participating on the Study Stay at Partner Universities**

In the year **2015** followed at the partner's foreigner Universities and Institutions the programme of study **29** students in the frame of the programme ERASMUS and others exchange programmes,.

### **Foreign Students at the Faculty in 2015**

In the frame of the programmes ERASMUS 1 student from University of Porto, PORTUGAL, 1 student from University of Zagreb, CHROATIA, 1 student from Mykolas Romeris University Vilnius, LATVIA. 1 student from the West Pomeranian University of Technology, Szczecin, POLAND and 3 students from BRASIL .

### **Information Centre**

At the Faculty of Management Science and Informatics was created **Information Centre**, which provides service for the study and acquiring of information. Centre is furnished with professional literature and with few efficient computers connected on the Internet.

Information Centre provides:

- counselling service for students in composition of Programmes of study
- coordination of students mobility and counselling service about possibility of study on the other universities abroad
- presentation and propagation of the Faculty in its various activities
- library service and coordination of editorial activity
- registration of in tray and out tray (letters, journals, package of books and parcels , ...

### **Intranet of the Faculty**

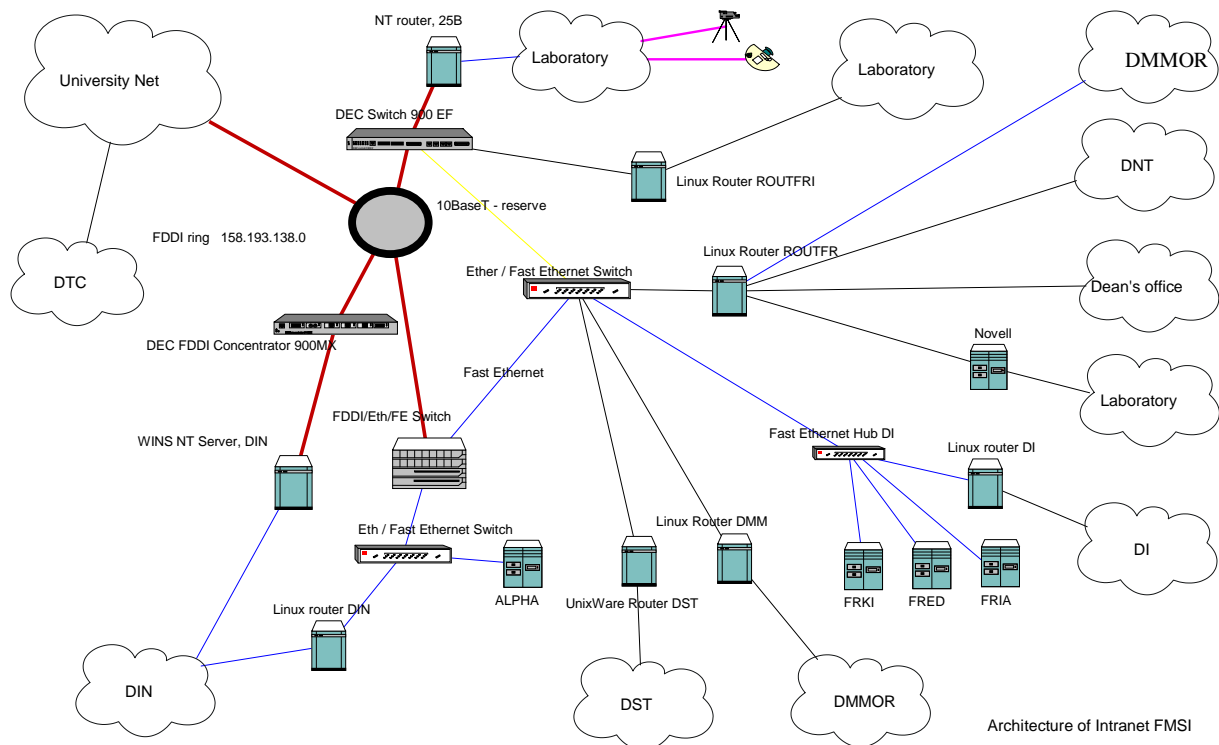
It was in 1992 when the Intranet of Faculty was created and in the meantime was continuously improving. It came into existence from the needs to process and to make accessible lot of information to students and to pedagogical staff, as well. The intranet of Faculty is a part of University Intranet, which allows access to SANET (Slovak Academic Network).

Conception of Intranet Faculty is based on the fact, that every Department is in possession of the own network, which is connected through ETERNET (10BaseT, 100BaseT or Gigabit Ethernet) to the faculty network. Apart from there are a special segments of this network - research laboratories for multimedia, parallel distributed systems, clusters, database systems, operating systems, e-business, e-learning etc.

There are following information systems at the Intranet of FMSI in service:

- **Information about study at the Faculty,**
- **News, messages,**
- **Events,**
- **Economics,**
- **Personal data, research data and information**
- **E-learning and distant learning subsystems,**
- **Study results and**
- **Assessments**

**Architecture of INTRANET:**



**Abbreviations of Departments:**

Department of Mathematical Methods and Operations Research	-	DMMOR
Department of Informatics	-	DI
Department of Macro and Micro economy	-	DMME
Department of Technical Cybernetics	-	DTC
Department of Info Communication Networks	-	DIN
Department of Management Theories	-	DMT
Department of Software Technologies	-	DST

**Department of Mathematical Methods and Operations Research**

**Head of Department:** Prof. Ing. Ľudmila J á n o š í k o v á , PhD.

Tel.: +421-41-513 42 00

Fax: +421-41-565 10 15

e-mail: ludmila.janosikova@fri.uniza.sk

**Teaching Staff:**

Prof. RNDr. Jaroslav **Janáček**, PhD.

Assoc. Prof. Ing. Ľuboš **Buzna**, PhD.

Assoc. Prof. Ing. Peter **Fabián**, PhD.

Assoc. Prof. Ing. Norbert **Adamko**, PhD.

Assoc.Prof.RNDr. Stanislav **Palúch**, PhD.

Assoc.Prof. RNDr. Štefan **Peško**, PhD.

Assoc.Prof.Ing. Peter **Márton**, PhD.

RNDr. Ida **Stankovianska**, PhD.

RNDr. Rudolf **Blaško**, PhD.

Mgr. Peter **Czimmermann**, PhD.

Mgr. Lýdia **Gábrišová**, PhD

RNDr. Alžbeta **Szendreyová**, PhD.

Mgr. Michal **Kaukič**, PhD.

Ing. Michal **Žarnay**, PhD.

Ing. Michal **Koháni**, PhD.

Ing. Peter **Tarábek**, PhD.

Ing. Peter **Jankovič**, PhD

RNDr. Zuzana **Borčinová**

Ing. Michal **Lekýr**, PhD

RNDr. Aleš **Kozubík**, PhD

Ing. Tomáš **Majer**, PhD.

RNDr. Július **Rebo**, PhD.

RNDr. Alžbeta **Klaudinyová**

Mgr. Iveta **Jančígová**, PhD.

**Administrative Department:** Ing. Ľubica **Michalková**

**Doctoral full-time students:** Mgr. Miloš **Herda**

Ing. Ján **Bendík**

Mgr. Rastislav **Briestenský**

**Doctoral part-time students:** Ing. Jaroslav **Szabo**

Ing. Roman. **Hajtmanek**

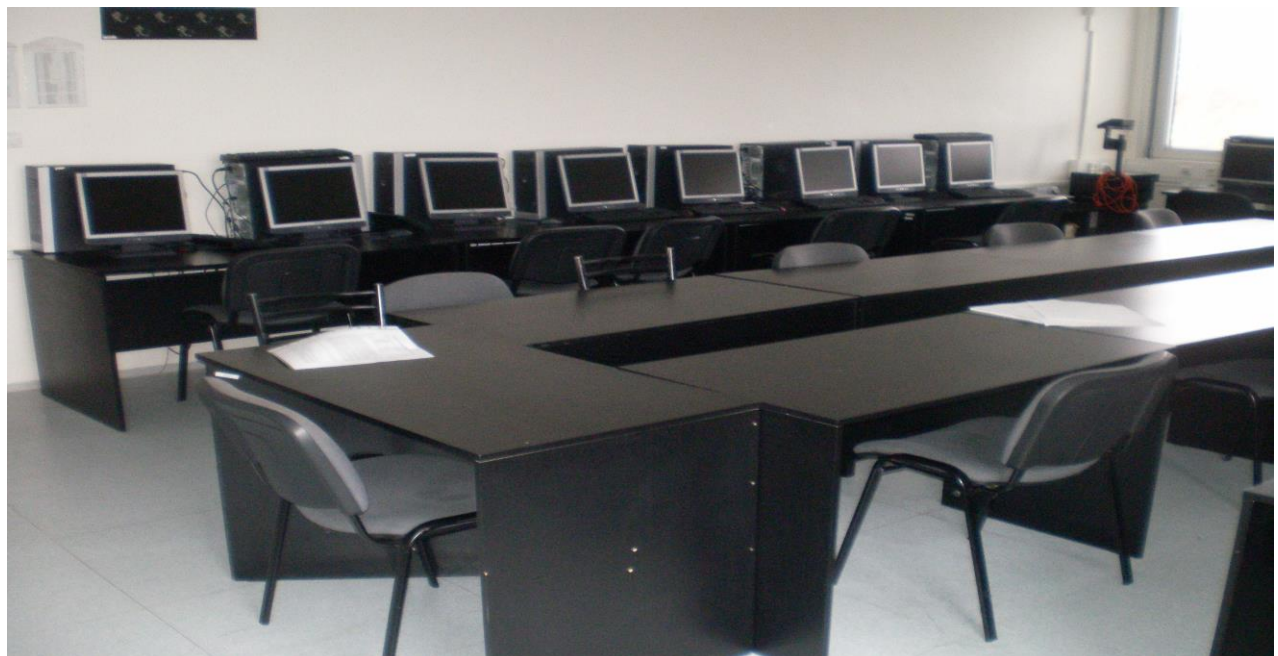
RNDr. Zuzana **Borčinová**

**PhD. - Programme**

<i>Theme</i>	<i>Student</i>	<i>Supervisor</i>
1. Design of Public Service Systems with Exact Optimization Core	Ing. J. <b>Bendík</b>	Prof. RNDr. J. <b>Janáček</b> , PhD.
2. Metaheuristic in Schedule Problematic	Ing. J. <b>Szabo</b>	Assoc.Prof.RNDr. S. <b>Palúch</b> , PhD.
3. Modelling of Uniform Schedules in Conditions of Uncertainty	Ing. R. <b>Hajtmanek</b>	Assoc.Prof.RNDr. Š. <b>Peško</b> , PhD.
4. Use of Game Theory in Managerial Decision-Making	Mgr. R. <b>Briestenský</b>	Assoc.Prof.Ing. P. <b>Fabián</b> , PhD.
5. Parallel Metaheuristic for Capacitated Location Problems	Mgr. M. <b>Herda</b>	Prof.Ing. Ľ. <b>Jánošíková</b> , PhD.
6. Robust Models in Distribution Problems	RNDr. Z. <b>Borčinová</b>	Assoc.Prof.RNDr. Š. <b>Peško</b> , PhD.

**Equipment**

- Laboratory of GIS
- Laboratory of Discrete Simulation Methods
- Laboratory of Multimedia Information Systems



### **Scientific orientation of the Assoc. Professors at the Department**

1. Assoc.Prof.Ing. Ľuboš **B u z n a** , PhD.

Application of optimization methods to transportation systems, distribution logistics and complex systems. Projects addressing the civil protection against natural disaster, and protection of critical infrastructures.

2. Assoc.Prof.Ing. Peter **F a b i á n** , PhD.

Applied informatics oriented to Multimedia information systems, Geographic information systems, Applied artificial intelligent in transport. Participation in many international projects EU as researcher and coordinator.

3. Assoc.Prof.Ing. Norbert **A d a m k o** , PhD.

Scientific activities are focused on computer simulation of transportation logistic systems and agent based simulation architectures. Design and development of simulation tools for microscopic modelling of transportation terminals (e.g. railway yards, production facilities, container terminals, etc.).

4. Assoc.Prof.RNDr. Stanislav **P a l ú c h** , PhD.

Applied mathematics, Graph theory, Discrete optimizations and their application in transport, Cryptography, Theory of information, Scheduling theory

5. Assoc.Prof.Ing. Peter **M á r t o n** , PhD.

Operation of freight railways, co-author of a simulation tool of transportation terminals operation, simulation studies in Slovakia, Germany, Switzerland and China. Member of Transport Section of Slovak Scientific and Technological Society.

6. Assoc.Prof.Ing. Štefan **P e š k o** , PhD.

Applied mathematics, Graph theory, Discrete optimizations and their application in transport, Scheduling theory

**BACHELOR THESIS**

<b>No.</b>	<b>Student</b>	<b>Theme</b>	<b>Supervisor</b>
1.	J. Múčka	Application for the analysis of passenger flow data in public transport	Ing. M. Koháni, PhD.
2.	P. Reguli	Application for decision making about the effective transport mode within the city	Ing. M. Koháni, PhD
3.	R. Joštiak	Application for improving the orientation in the terrain - Hikers' app	Ing. M. Koháni, PhD
4.	P. Novotka	Database scheme design for IN.PRO tool	Assoc.Prof. Ing. Ľ. Buzna, PhD.
5.	M. Korenčiak	Imperialist competitive algorithm for the capacitated p-median problem	Prof. Ing. Ľ. Jánošíková, PhD.
6.	R. Varga	Import of Open Street Map infrastructure data for the pedestrian movement and behaviour simulation model.	Assoc.Prof. Ing. Ā N. Adamko, PhD.
7.	A. Bronček	Interactive tool for timetable displaying	Ing. M. Koháni, PhD
8.	L. Hulata	Capacitated p-median problem for large-scale network	Assoc.Prof. RNDr. Š. Peško, PhD.
9.	M. Hrašna	Open Source Content management system	RNDr. R. Blaško, PhD.
10.	Š. Hudek	Computer simulation of ticket sale	Ing. P. Jankovič, PhD.
11.	M. Sluka	Graph theory algorithms visualisation program	Ing. T. Majer, PhD.
12.	M. Drevenák	Video-based ego lane reconstruction	Ing. P. Tarábek, PhD.
13.	M. Herbrík	Simulation model of a car park using simulation tool Villon.	Assoc.Prof. Ing. N. Adamko, PhD.
14.	M. Novák	Simulation model of operation on open line between two stations in Arena simulation tool	Ing. P. Márton, PhD.
15.	J. Blaško	Statistical analysis, evaluation and application of information in motivating employees	RNDr. Aleš Kozubík, PhD.
17.	T. Hojný	Web-based system for exam agenda administration	Mgr. M. Kaukič, PhD..
18.	M. Papík	Object tracking with a moving camera	Ing. P. Tarábek, PhD.
19.	M. Váňa	Teaching tool for simplex method and Brach-and-Bound method	Ing. M. Koháni, PhD.
20.	F. Kajánek	Computationally efficient HOG descriptor implementation using GPU	Ing. P. Tarábek, PhD.
21.	T. Kuric	Web page for administration of programming contests	Ing. P. Tarábek, PhD

**MASTER THESIS**

<i>No.</i>	<i>Student</i>	<i>Theme</i>	<i>Supervisor</i>
1.	<b>T. Hakel</b>	CASE tool for simulation library ABAsim	Ing. P. <b>Jankovič</b> , PhD.
2.	<b>Ľ. Teniak</b>	Support for input data definition and visualisation of optimal solutions in the decision support tool IN.PRO	Assoc.Prof. Ing. <b>Ľ. Buzna</b> , PhD.
3.	<b>M. Haviar</b>	Evolutionary metaheuristics for the capacitated p-median problem	Prof. Ing. <b>Ľ. Jánošíková</b> , PhD.
4.	<b>T. Páchnik</b>	Coordination to depart on flights on urban transport	Ing. T. <b>Majer</b> , PhD.
5.	<b>M. Pecho</b>	Modelling of service point queues in pedestrian movement simulation model PedSim.	Assoc.Prof. Ing. <b>N. Adamko</b> , PhD.
6.	<b>P. Haspra</b>	Tool supporting preparation of transportation networks in the education process	Assoc.Prof. Ing. <b>Ľ. Buzna</b> , PhD.
7.	<b>E. Nemergutová</b>	Proposal of line system in public urban transport	Ing. T. <b>Majer</b> , PhD.
8.	<b>Z. Takáč</b>	On-line simulation of parking system	Ing. P. <b>Jankovič</b> , PhD.
9.	<b>J. Štaffen</b>	Planning of visit of garage in the journeys of public municipal transport.	Ing. T. <b>Majer</b> , PhD.
10.	<b>Š. Molnár</b>	Primary school timetable.	Ing. T. <b>Majer</b> , PhD.
11.	<b>J. Majsniar</b>	Simulation model of emergency medical service	Ing. P. <b>Jankovič</b> , PhD.
12.	<b>J. Slivka</b>	Data structures and algorithms suitable for collision detection	Ing. P. <b>Jankovič</b> , PhD.
13.	<b>L. Chudoba</b>	Emergency medical service station location as a capacitated p-median problem	Prof. Ing. <b>Ľ. Jánošíková</b> , PhD.
14.	<b>M. Špánik</b>	Winning strategies for modified four in a row game	Assoc.Prof. RNDr. <b>Š. Peško</b> , PhD.
15.	<b>J. Olos</b>	Web graph editor using JavaScript	Mgr. M. <b>Kaukič</b> , PhD.

### **Membership in Slovak Organizations and Societies**

#### **Prof. Ing. Ľudmila J á n o š í k o v á , PhD.**

- Member of Editorial Board, Journal of Information, Management and Control Systems, FMSI, University of Žilina
- Member of Scientific Board of Faculty of Management Science and Informatics, ŽU
- Member of Board for Doctoral Study for Informatics tools for decision support at the Faculty of Management Science and Informatics, ŽU

#### **Prof. RNDr. Jaroslav J a n á č e k , PhD:**

- Member of committee SSOV (Slovak Society for Operations Research)
- Member of Scientific Board of the University of Žilina
- Member of Scientific Board of the Faculty of Management Science and Informatics, ŽU
- Member of Board for Doctoral Study for Applied Informatics at the Faculty
- Member of Board for Doctoral Study for Informatics tools for decision support at the Faculty

#### **Assoc. Prof. Ing. Peter F a b i á n , PhD.**

- Member of Scientific Board of Faculty, University of Žilina
- Member of Scientific Board, University of Zilina
- Member of Board of Advisors, Virtual University Conference, STU Bratislava

#### **Assoc.Prof.RNDr. Stanislav Palúch, PhD.:**

- Member of Scientific Board of Faculty of Management Science and Informatics, University of Žilina
- Member of Editorial Board "Tatramountains" (Mathematical Journal)
- Member of Editorial Board "Studies of the University of Žilina, Mathematical Series"

#### **Assoc.Prof.RNDr. Štefan Peško, PhD.**

- Founder member of the Society for Open Source Information Technologies (SLOVAKIA)

#### **RNDr. Rudolf Blaško, PhD.:**

- Member of Editorial Staff "Studies of the University of Žilina, Mathematical Series"



**Mgr. Michal Kaukič PhD.:**

- Founder members of the Society for Open Source Information Technologies (SLOVAKIA)

**Membership in International Organizations and Societies**

- **JANÁČEK, J.:** Reviewer of Zentralblatt für Mathematik, D; Member of Board for Doctoral Study for Transport technique and technology, VSB-TU Ostrava, CZ
- **FABIÁN, P.:** Member of Executive Committee of GISIG, Genoa, I
- **JÁNOŠÍKOVÁ, Ľ.:** Member of Scientific Board and member of Board for Doctoral Study for Electrical Engineering and Informatics at the Faculty of Electrical Engineering and Informatics, University of Pardubice, CZ
- **ADAMKO, N.:** Member of European Simulation Society
- **MÁRTON, P.:** Member of International Association of Railway Operation Research
- **PALÚCH, S.:** Member of Scientific Board of Faculty of Management, Jindřichuv Hradec, University of Economics, Prague
- **PALÚCH, S.:** Member of Editorial Board "Central European Journal of Operations research – CEJOR"
- **PEŠKO, Š.:** Transaction on Transportation Sciences (CZECH REPUBLIC)

**Cooperation with Foreign Institutions and Enterprises**

University of Pardubice, Czech Republic

VŠB-TU Ostrava, Czech Republic

TU Dresden, Germany

TU Berlin, Germany

TU Braunschweig, Germany

HTW Dresden, Germany

Molde University College, Norway

TU Wien, Austria

Univerzitet u Beogradu, Republic of Serbia

ETH Zurich, Switzerland

GISIG, Genova, Italy

JRC Ispira, Italy

Queen Mary University of London, Great Britain

University of Economics - Prague, CZ

University of Economics, Prague, CZ,

Faculty of Management, Jindřichuv Hradec, CZ

Mykolas Romeris University, Vilnius, Faculty of Public Administration, LITHUANIA

Czestochowa University of Technology, Faculty of Management, PL

#### Cooperation with Institutions and Enterprises in Slovakia

University of Matej Bel, Banská Bystrica

University of Pavel Jozef Šafárik, Košice

Railways of Slovak Republic

Railway Society Cargo Slovakia, join stock company.

Slovak Environment Agency

Slovak Post, join stock company.

CORAGEO, Ltd..

Transportation Enterprise of Žilina, Ltd..

#### Sojourns of Pedagogical Staff at Foreign Institutions in 2015 (save for Czech Republic)

Name	Institute	Country	Date
Ing. M. Cebecauer,	INSTICC, Lisboa	PT	09. 01. – 13. 01. 2015
Prof.Ing. J. Janáček, PhD.	University of Pécs	H	26. 03. – 28. 03. 2015
Prof.Ing. Ľ. Jánošíková, PhD.	University of Pécs	H	26. 03. – 28. 03. 2015
Assoc.Prof.Ing. N. Adamko, PhD.	Amman, AL-Hournai Learning centre	JORD	19. 04. 24. 04. 2015
Assoc.Prof.Ing. P. Márton, PhD.	HTW Dresden	D	03. 05. – 08. 05. 2015
RNDr. R. Blaško, PhD.	Mykolo Romierio universitetas Vilnius	LT	24. 05. 28. 05. 23015
RNDr. A. Kozubík, PhD	Mykolo Romierio universitetas Vilnius	LT	24. 05. 28. 05. 23015
Assoc.Prof.Ing. Ľ. Buzna, PhD.	University of Durham	GB	24. 05. – 31. 05. 2015
Ing. P. Jankovič, PhD.	Reykjavík University	ISL	28. 05. – 5. 06. 2015
Prof.Ing. J. Janáček, PhD.	Reykjavík University	ISL	28. 05. – 5. 06. 2015

Ing., J. <b>Bendík</b>	HELORS, Chania	GR	03. 06. – 08. 06. 2015
Prof.Ing. J. <b>Janáček</b> , PhD.	University of Molde	N	16. 06. – 20. 06. 2015
Ing. M. <b>Kohani</b> , PhD	University of Molde	N	16. 06. – 20. 06. 2015
Assoc.Prof.RNDr. Š. <b>Peško</b> , PhD.	Silesian Univ..of Technol. Katowice	PL	24. 06. – 26. 06. 2015
Assoc.Prof.RNDr. S. <b>Palúch</b> , PhD	Silesian Univ..of Technol. Katowice	PL	24. 06. – 26. 06. 2015
Ing. T. <b>Majer</b> , Pjhd.	Silesian Univ..of Technol. Katowice	PL	24. 06. – 26. 06. 2015
Assoc.Prof.Ing. Ľ. <b>Buzna</b> , PhD.	Conference GOR, University of Viena	A	01. 09. – 04. 09. 2015
Ing. M. <b>Koháni</b> , PhD	Conference GOR, University of Viena	A	01. 09. – 04. 09. 2015
Prof.Ing. J. <b>Janáček</b> , PhD.	University of Maribor	SL	22. 09. – 27. 09. 2015
Ing. M. <b>Koháni</b> , PhD	University of Maribor	SL	22. 09. – 27. 09. 2015
Prof.Ing. Ľ. <b>Jánošíková</b> , PhD	University of Maribor	SL	22. 09. – 27. 09. 2015
Ing. J. <b>Bendík</b>	University of Maribor	SL	22. 09. – 27. 09. 2015
Assoc.Prof.Ing. P. <b>Fabián</b> , PhD.	Univerzita PUCR, Curitiba	BRAZ	02. 10. – 12. 10. 2015
Assoc.Prof.Ing. P. <b>Márton</b> , PhD	DB Netz, Munich	D	15. 10. – 16. 10. 2015
Assoc.Prof.Ing. P. <b>Márton</b> , PhD	European Commission, Brussels	B	04. 11. - 06. 11. 2015
Ing. M. <b>Koháni</b> , PhD	Conference OTENG 2015, Roma	I	06. 11. – 09. 11. 2015
Ing. M. <b>Kvet</b> , PhD	Conference OTENG 2015, Roma	I	06. 11. – 09. 11. 2015
Prof.Ing. J. <b>Janáček</b> , PhD.	Conference OTENG 2015, Roma	I	06. 11. – 09. 11. 2015
Ing. M. <b>Koháni</b> , PhD	CroatianComp.Scienc.Assoc.Zagreb	CR	13. 11 – 16. 11. 2015
Ing. P. <b>Tarábek</b> , PhD.	CroatianComp.Scienc.Assoc.Zagreb	CR	13. 11 – 16. 11. 2015
Assoc.Prof.Ing. P. <b>Márton</b> , PhD	University Yjavaskylä	FIN	18. 11. – 21. 11. 2015
Mgr. M. <b>Herda</b> ,	Budapest-Keleti-CINTI	H	18. 11. – 21. 11. 2015

## Department of Informatics

**Head of Department:** Assoc. Prof. Ing. Karol **G r o n d ž á k**, PhD.

Tel.: +421-41-513 41 50

Fax: +421-41-513 40 55

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### **Teaching Staff:**

Prof. Ing. Karol **Matiaško**, PhD

Ing. Matúš **Chochlík**, PhD.

Prof. Ing. Vitaly **Levashenko**, PhD

Ing. Monika **Václavková**, PhD.

Prof. Ing. Elena **Zaitseva**, PhD.

Ing. Michal **Kvet**, PhD.

Assoc. Prof. Ing. Michal **Zábovský**, PhD.

Ing. Ján **Boháčik**, PhD.

Assoc. Prof. Ing., Penka **Martincová** PhD.

Ing. Michal **Varga**, PhD.

RNDr. Peter **Varša**, PhD.

Ing. Miroslav **Kvaššay**, PhD

**Researchers:** Ing. Jozef **Kostolný**, PhD

**Administrative Department:** Anna **Ilovská**

### **Doctoral full-time students:**

Ing. Slavomír **Kavecký**

Ing. Marián **Švalec**

### **Doctoral part-time students:**

Ing. Michal **Joštiak**

Ing. Monika **Vajsová**

Ing. Vladimír **Smataník**

Ing. Juraj **Branický**

Ing. Vladimír **Hanušniak**

Ing. Igor **Mäsiar**

Ing. Eduard **Vesel**

## **EQUIPMENT**

### **Laboratories:**

<b>Laboratory</b>	<b>Capacity</b>	<b>HW</b>
<b>FRA 201</b>	20 places	21 OPSYS Celeron 2.8 GHz, HDD 80GB

<b>Server</b>	<b>Purpose</b>
<b>frdb1</b>	Linux – teaching
<b>frdb2</b>	Linux – databases, teaching
<b>fra208d</b>	Linux - databases, teaching
<b>frios</b>	Linux – operating systems, teaching
<b>e-learning</b>	Linux – e-learning applications
<b>elearn</b>	Linux – e-learning applications



### PhD. - Programme

Theme	Student	Supervisor
1. Effective Processing of Database Inquiries	Ing. M. Vajsová	Prof. Ing. K. Matiaško, PhD
2. Ontology for Data Integration	Ing. M. Švalec	Assoc. Prof. Ing. M. Zábovský, PhD.
3. Ontology for Data Integration	Ing. M. Joštiak	Assoc. Prof. Ing. M. Zábovský, PhD.
4. Management of Grid's Facilities	Ing. S. Kavecký	Assoc. Prof. Ing. P. Martincová, PhD.
5. Analytic Processing of Expensing Medical Data	Ing. I. Masiar	Assoc. Prof. Ing. M. Zábovský, PhD.
6. Searching and Indexing in Text Oriented Databases	Ing. V. Smataník	Prof. Ing. K. Matiaško, PhD.
7. Parallel Algorithm for Stochastic Optimization	Ing. J. Branický	Assoc. Prof. Ing. K. Grondžák, PhD.
8. Analytic Processing of Widespread Data Sets	Ing. V. Hanušniak	Assoc. Prof. Ing. M. Zábovský, PhD
9. Dynamic Distribution of Loading in Distributed Systems	Ing. E. Vesel	Assoc. Prof. Ing. J. Škrinárová, PhD.

### Scientific orientation of the Assoc. Professors at the Department

1 Assoc. Prof. Ing. Karol **G r o n d ž á k** , PhD.

Tools and architectures for parallel and distributed computing. Special interest in parallel combinatorial algorithms and parallel algorithms on graphs. Principles of operating systems.

2. . Assoc. Prof. Ing. Penka **M a r t i n c o v á** , PhD.

Research interests belong to the area of grid computing, grid infrastructure, scheduling in distributed systems and in a grid, grid resource management, parallel programming models. Principles of operating systems.

3. Assoc. Prof. Ing. Michal **Z á b o v s k ý** , PhD.

Database systems and distributed databases, knowledge discovery in database systems, information systems development. R&D in intelligent systems, knowledge discovery and health informatics (translational medicine).

## BACHELOR THESIS

No.	Student	Theme	Supervisor
1.	R. Tišliar	Data Mining Algorithms for Diagnosis of Heart Failure Patients	Ing. J. Boháčik, PhD.
2.	M. Benčo	Android Application for Personal Decision Support	Ing. J. Boháčik, PhD.
3.	R. Kasala	Movie database - Web application	RNDr. M. Benedikovič
4.	P. Gdovin	Databases for Big Data application	Ing. M. Hanušniak
5.	M. Mikuláš	Dynamic web application for simple questionnaires creation and analysis	Ing. M. Kvet. PhD.
6.	M. Ďurčanský	Experimental performance comparison of entity-relationship database and document database	Assoc.Prof. Ing. P. Martincová, PhD.
7.	M. Calík	Searching for prime implicates using logic derivatives	Ing. M. Kvaššay, PhD.
8.	M. Kubíček	Music player for Android	RNDr. P. Varša, PhD.
9.	R.Brandobur	Driving School Information System	RNDr. Š. Kovalík, PhD.
10.	R. Račák	Bug tracking system	RNDr. P. Varša, PhD.
11.	L. Machút	Information system for transport companies	RNDr. M. Benedikovič
12.	J. Mikula	Human Resources Management Information System (HRMIS)	RNDr. T. Bartoš, PhD.
13.	J. Bedlek	Information system for Warehouses and Shops	RNDr. P. Varša, PhD.
14.	M. Korec	Information system for social settlement	Ing. M. Kvet PhD.
15.	A. Andrejčík	Service management system	Ing. J. Kostolný, PhD.
16.	T. Brňák	Information system for Volleyball League	RNDr. P. Varša, PhD.
17.	M. Mahút	Mobile application for internet portal (web magazine) "cesta+"	RNDr. M. Benedikovič
18.	M. Mrázik	Usage of multiprocessor/multicore HW platforms for parallel computing	Assoc.Prof.. Ing. P. Martincová, PhD.
19.	P. Rusnák	Tool for analysis of dynamic properties of logic functions	Ing. M. Kvaššay, PhD.
20.	T. Bandík	Scheduler of training and diet for sportsmen under Android OS	Assoc.Prof.. Ing. P. Martincová, PhD.

<b>No.</b>	<b>Student</b>	<b>Theme</b>	<b>Supervisor</b>
21.	I. Domanický	Working diary of technical staff	RNDr. M. Benedikovič
22.	M. Varga	Software for creation of binary decision diagrams	Ing. M. Kvaššay, PhD.
23.	T. Šípoš	Reservation system for accommodation facilities	Ing. M. Kvet, PhD.
24.	T. Gruchala	Extending syntax of Select statement in temporal approach	Ing. M. Kvet, PhD.
25.	M. Jesenský	Processing of results in karate competition .	RNDr. M. Benedikovič
26.	L. Huňár	System for the support of medical consultation	Prof. Ing. E. Zaitseva, PhD.
27.	P. Mišudík	Transaction manager	Ing. M. Kvet, PhD.
28.	M. Dragula	Computation of logic derivatives in a Karnaugh map	Ing. M. Kvaššay, PhD
29.	P. Šenšel	Using Monte Carlo method in network reliability analysis	Ing. J. Kostolný, PhD.
30.	M. Janošík	Use of artificial intelligence in the game for mobile	Ing. J. Kostolný, PhD.
31.	P.Kvasňovský	Utilization of the computational power of graphic cards to accelerate chosen algorithms in the pedestrian movement simulation tool	Ing. M. Varga, PhD.
32.	P. Kruželák	Web Application for Experimentation with Prediction	Ing. J. Boháčik, PhD.



**MASTER THESIS**

<i>No.</i>	<i>Student</i>	<i>Theme</i>	<i>Supervisor</i>
1.	<b>M. Auješký</b>	Sensitivity analysis of algorithm SVM focusing on the medical environment.	Prof. Ing. V. Levashenko, PhD.
2.	<b>T. Ivan</b>	eDiaMonitor: Mobile application for monitoring of diabetes mellitus	Ing. P. Krkoška
3.	<b>P. Adámek</b>	Communication of Android applications with REST API	Assoc.Prof. Ing. P. Martincová, PhD.
4.	<b>L. Čaniga</b>	Pharmacy information system	Prof. Ing. K. Matiaško, PhD.
5.	<b>J. Olosová</b>	Module for communication with distribution companies in the Slovak republic region	Ing. M. Zafka
6.	<b>M. Bunčák</b>	Design and implementation of SW for collecting energy and operating data from diesel and electric locomotives	Ing. P. Stopka
7.	<b>R. Holetschke</b>	Parallel algorithms of numerical solution of partial differential equations by the Monte-Carlo methods.	RNDr. P. Varša, PhD.
8.	<b>M. Bruchánik</b>	User-level ERP system customization	Ing. P. Troják
9.	<b>P. Motyčák</b>	Business case item interconnection in ERP system.	Ing. P. Troják
10.	<b>M. Klátik</b>	Riddlify- Android chat application	Assoc. Prof. Ing. M. Záborský, PhD.
11.	<b>P. Hodás</b>	The system for the decomposition of logic function (Boolean Function and Multiple-Valued Logic Function)	Prof. Ing. E. Zaitseva, PhD.
12.	<b>J. Remenec</b>	Server management system	Assoc.Prof. Ing. K. Grondžák, PhD.
13.	<b>V. Židek</b>	The system for the development and optimization of the decision diagrams (BDD and MDD) of logic functions	Assoc.Prof. Ing. E. Zaitseva, PhD.
14.	<b>J. Snovák</b>	Visualization of Medical Data for Knowledge Discovery	Ing. J. Boháčík, PhD.
15.	<b>M. Košťál</b>	Information retrieval in documents	Prof. Ing. K. Matiaško, PhD.
16.	<b>M. Čadecký</b>	Creation of mesoscopic model of entities movement in pedestrian movement simulation tool	Ing. M. Varga, PhD.

<i>No.</i>	<i>Student</i>	<i>Theme</i>	<i>Supervisor</i>
17.	<b>J. Putala</b>	Usage of programmable hand-held barcode scanner in inventory process in information system.	Ing. V. Pšenák, PhD.
18.	<b>M. Lörinc</b>	Web Application for Expert Data Pre-processing	Ing. J. Boháčik, PhD.
19.	<b>J. Bušfy</b>	Web support of communication with customers	Ing. T. Šabík
20.	<b>M. Kurilla</b>	Discount portal	RNDr. P. Varša, PhD.

### **COOPERATION**

#### **Cooperation with Institutes and Enterprises in Slovakia**

- Slovak Technical University, Faculty of Electrical Engineering and Informatics, Bratislava
- Technical University, Faculty of Electrical Engineering and Informatics, Košice
- Slovak Telecom
- Slovak Railways
- Ipesoft Žilina
- Elanor Žilina
- S&T Žilina
- University Matej Bell, Banská Bystrica
- DAVINCI Slovakia

#### **Cooperation with Foreign Institutes and Enterprises**

- State Economic University, Minsk, BLR
- University of Pardubice, Faculty of Transport, Pardubice, CZ
- University of Ostrava, Faculty of Natural Sciences, Ostrava, CZ
- Scheidt und Bachman, Ltd. D
- Siemens Österreich, A
- Technical University of Sofia, BG
- Trakia university, Yambol, Bulgaria
- United Institute of Informatics Problems of the National Academy of Sciences of Belarus Minsk, BLR

**Sojourns of Pedagogical Staff at Foreign Institutions in 2014**  
**(Save for Czech Republic)**

<i>Name</i>	<i>Institute</i>	<i>Country</i>	<i>Date</i>
Assoc. Prof.Ing. M. <b>Zábovský</b> , PhD.	PWSZ Mlawa	PL	08. 01. – 10. 01. 2015
Assoc. Prof.Ing. M. <b>Zábovský</b> , PhD.	Tampere Helsinki	FIN	14. 01. – 16. 01. 2015
Assoc. Prof.Ing. M. <b>Zábovský</b> , PhD.	PWSZ Mlawa	PL	21. 01. – 24. 01. 2015
Prof. Ing. E. <b>Zaitseva</b> , PhD.	Commission premises in Brussels	B	15. 01. - 17. 01. 2015
Prof. Ing. V. <b>Levashenko</b> , PhD.	National aerospace University, Yaremcha	UA	15.02. – 21. 02. 2015
Prof. Ing. E. <b>Zaitseva</b> , PhD	National aerospace University, Yaremcha	UA	15.02. – 21. 02. 2015
Ing. M. <b>Kvet</b> , PhD	Austria Trend Hotel Ananas,org.Inase, Viena	A	14. 03. – 18. 03. 2015
Prof. Ing. V. <b>Levashenko</b> , PhD.	Belarusian St.University, Minsk	BLR	21. 03. – 26. 03. 2015
Prof. Ing. E. <b>Zaitseva</b> , PhD	Belarusian St.University, Minsk	BLR	21. 03. – 26. 03. 2015
Prof. Ing. K. <b>Matiaško</b> , PhD.	Belarusian St.University, Minsk	BLR	22. 03. – 25. 03. 2015
Ing. J. <b>Kostolný</b> , PhD.	Belarusian St.University, Minsk	BLR	22. 03. – 25. 03. 2015
Prof. Ing. V. <b>Levashenko</b> , PhD.	University of Ioannina	GR	07. 05. – 10. 05. 2015
Prof. Ing. E. <b>Zaitseva</b> , PhD	National University Ľvov	UA	12. 05. - 16. 05. 2015
Prof. Ing. V. <b>Levashenko</b> , PhD.	National University Ľvov	UA	12. 05. - 16. 05. 2015
Prof. Ing. K. <b>Matiaško</b> , PhD.	IEEE International LLC. Siena	I	14.05. – 18. 05. 2015
Ing. M. <b>Kvet</b> , PhD.	IEEE International LLC. Siena	I	14.05. – 18. 05. 2015
Prof.Ing. E. <b>Zaitseva</b> , PhD.	University of Linnaeus, Vaxjo	S	18. 05. – 22. 05. 2015
Prof. Ing. V. <b>Levashenko</b> , PhD.	University of Linnaeus, Vaxjo	S	18. 05. – 22. 05. 2015
Assoc. Prof.Ing. M. <b>Zábovský</b> , PhD.	Wisla	PL	21. 05. – 22.. 05. 2015
Ing. M. <b>Kvaššay</b> , PhD	Alexandria University	EG	26. 05. – 31. 05. 2015
Ing. M. <b>Kvet</b> , PhD.	G.M.de Jovellanos-Universitat, Palma	E	26. 05. – 31. 05. 2015
RNDr. M. <b>Benedikovič</b> ,	Gdynia Maritime University	PL	23. 06. – 27. 06. 2015
Prof.Ing. E. <b>Zaitseva</b> , PhD.	Wroclaw University of Technology	PL	29. 06. – 03. 07. 2015

Prof. Ing. V. Levashenko, PhD.	Wroclaw University of Technology	PL	29. 06. – 03. 07. 2015
Prof. Ing. V. Levashenko, PhD.	ETH Zurich	CH	06. 09.- 10. 09. 2015
Prof. Ing. E. Zaitseva, PhD.	ETH Zurich	CH	06. 09.- 10. 09. 2015
Ing. J. Kostolný, PhD	Palacio de Congresses, Salamanca	E	06. 09. – 14. 09. 2015
Ing. M. Kvaššay, PhD	Palacio de Congresses, Salamanca	E	06. 09. – 14. 09. 2015
Prof. Ing. V. Levashenko, PhD.	Technical University Lodz	PL	12. 09. – 17. 09. 2015
Prof. Ing. E. Zaitseva, PhD.	Technical University Lodz	PL	12. 09. – 17. 09. 2015
Ing. J. Kostolný, PhD	Bangor University	GB	14. 09. – 19. 09. 2015
Ing. M. Kvaššay, PhD.	Bangor University	GB	14. 09. – 19. 09. 2015
Ing. J. Boháčik, PhD.	TU Warsaw, IDAACS 2015	PL	23. 09. – 27. 09. 2015
Prof. Ing. V. Levashenko, PhD.	NTU Kyev	UA	10. 10. - 15. 10. 2015
Prof. Ing. E. Zaitseva, PhD.	NTU Kyev	UA	10. 10. - 15. 10. 2015
Prof. Ing. K. Matiaško, PhD.	NTU Kyev	UA	10. 10. - 14. 10. 2015
Ing. M. Kvaššay, PhD	Belarusian state university, Minsk	BLR	29. 11. - 05. 12. 2015
Prof. Ing. V. Levashenko, PhD.	Belarusian state university, Minsk	BLR	29. 11. - 10. 12. 2015
Prof. Ing. E. Zaitseva, PhD.	Belarusian state university, Minsk	BLR	29. 11. - 05. 12. 2015

### Membership in International Organizations and Societies

- Prof. Ing. Karol Matiaško, PhD.
  - National Evaluation and Foresight Agency, SPAIN
  - Czech Society for System Integration
  - IEEE
  - ACM
  -
- Prof. Ing. Vitaly Levashenko, PhD. - Member of International Association for Pattern recognition (IAPR),
- Assoc. Prof. Ing. Karol Grondžák, PhD.
  - IEEE
  - ACM

- Assoc. Prof. Ing. Penka **Martincová**, PhD
  - Member of Editorial board in Journal Information Technologies and Security. BULGARIA
  - Member of steering committee of International conference InfoTech, Bulgaria, member of editorial board “Information technologies and Security” journal
- Assoc. Prof. Ing. Michal **Záborský**, PhD. - Czech Society for System Integration
- Prof. Ing. Elena Zaitseva, PhD.
  - Member of International Association for Pattern recognition (IAPR)
  - Member of Technical Committee of European Safety and Reliability Association
  - Member of Advisory Board of the Journal of Reliability and Statistical Studies (JRSS) (<http://www.jrss.in/> )
  - Member of Editorial Board of the Journal “Computer Science and Engineering” (Scientific & Academic Publishing (SAP)) (<http://www.sapub.org/journal/editorialboard.aspx?journalid=1081> )
  - Member of Editorial Board of the Journal “Automatic Control and Information Sciences” (Science and Education Publishing (ACIS)) (<http://www.sciepub.com/journal/ACIS> )
  - Member of Editorial Board of World Journal of Computer Application and Technology (Horizon Research Publishing, USA, [http://www.hrpub.org/jour\\_info.php?id=37](http://www.hrpub.org/jour_info.php?id=37) )
  - Member of Editorial Board of Science Journal of Applied Mathematics and Statistics (Science Publishing Group, USA, <http://www.sciencepublishinggroup.com/j/SJAMS>)
  - Member of Editorial Board of Research Journal of Computation and Mathematics, ISSN: 2329-2261 (SCIKNOW Publications Ltd, USA, <http://www.sciknow.org/journals/editor/id/rjcm>)
- Prof. Ing. Vitaly **Levashenko**, PhD. –
  - Member of International Association for Pattern recognition (IAPR)

### **Other activities**

Members of the Department took part in the project **FP7 ICT -2013.5.2, No 610425 Regional Anaesthesia Simulator and Assistant (RASimAs)** as participants of consortium compound 10 countries (BE, F, D, GR, IR, N, SK, E, S, GB). The goal of the Project is a quality enhancement in welfare of patients together with present reduction of expenses in medical system.

**Department of Macro and Microeconomics**

**Head of Department:** Assoc. Prof. Ing. **Mária Ďurišová, PhD.**

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**Teaching Staff:**

Assoc. Prof. Ing. Alžbeta **Kucharčíková,**

Ing. Lucia **Pančíková, PhD.**

Assoc.Prof.Ing. Anna **Jacková, PhD.**

Ing. Zuzana **Staníková, PhD.**

Ing. Beata **Holková, PhD.**

Ing. Zuzana **Kozubíková, PhD**

Ing. Emese **Tokarčíková, PhD.**

Ing. Katarína **Zábovská, PhD..**

Ing. Lukáš Falát, PhD.

**Administrative Department:** Eva **Mat'ková**

**Doctoral full-time students:** Ing. Eva **Malichová**

Ing. Tatiana **Potkanová**

**PhD.-Programme**

<i>Theme</i>	<i>Student</i>	<i>Supervisor</i>
1. Systems Design of Value Management in Enterprise	Ing, T. <b>Potkanová</b>	Assoc.Prof.Ing. M. <b>Ďurišová, PhD.</b>
2.Managerial Decision-Making of Investment Decision in Enterprise	Ing. E. <b>Malichová</b>	Assoc.Prof.Ing. M. <b>Ďurišová, PhD.</b>

### **BACHELOR THESIS**

<b>No.</b>	<b>Student</b>	<b>Theme</b>	<b>Supervisor</b>
1.	<b>V. Martoníková</b>	Analysis and design of development of small farm	Ing. E. Tokarčíková, PhD.
2.	<b>V. Tomová</b>	Analysis of financial health in company through selected financial indicators	Assoc.Prof.. Ing. A. Jacková, PhD.
3.	<b>I. Drábíková</b>	Distributed computing and data analyse with Apache Hadoop	Ing. K. Záborská, PhD.
4.	<b>S. Reháková</b>	The factors affecting consumers buying decision	Ing. Z. Staníková, PhD.
5.	<b>T. Kocúrová</b>	Households and their consumption	Assoc.Prof.. Ing. A. Kucharčíková, PhD.
6.	<b>M. Hároník</b>	Financial and economic analysis of the business entity.	Ing. Z. Kozubíková, PhD.
7.	<b>A. Caránková</b>	Financial and economic analysis of the business entity.	Ing. Z. Kozubíková, PhD.
8.	<b>V. Letovanec</b>	Financial and economic analysis of the company.	Ing. Z. Kozubíková, PhD.
9.	<b>M. Jánošíková</b>	Financing of the company investment .	Ing. Z. Kozubíková, PhD.
10.	<b>Z. Čížová</b>	Financing of investments with the support of EU funds.	Ing. Z. Kozubíková, PhD.
11.	<b>P. Dobroňová</b>	Evaluation of the financial situation of selected enterprise	Ing. E. Tokarčíková, PhD.
12.	<b>Z. Stencláková</b>	Evaluation of the financial and economic situation of agricultural cooperative Terchová	Ing. E. Tokarčíková, PhD.
13.	<b>O. Bublíný</b>	Evaluation of utilization and commitment of tangible fixed assets.	Assoc.Prof.. Ing. M. Ďurišová, PhD
14.	<b>Z. Smutniaková</b>	Evaluation of utilization and commitment of production factor - labour.	Assoc.Prof.. Ing. M. Ďurišová, PhD.
15.	<b>N. Majchráková</b>	Options for increasing of employment in districts of upper Orava region	Assoc.Prof.. Ing. A. Kucharčíková, PhD.
16.	<b>Z. Hôrečná</b>	Support for employment of disabled people in the district Žilina	Assoc.Prof.. Ing. A. Kucharčíková, PhD.
17.	<b>M. Divinská</b>	Assessment of the impact of FDI on the economic performance of Trenčín region	Assoc.Prof.. Ing. A. Kucharčíková, PhD..
18.	<b>K. Milčevová</b>	Warehousing of company	Assoc.Prof.. Ing. M. Ďurišová, PhD
19.	<b>D. Šušlíková</b>	Use of telework in the employment of graduates of schools in the Žilina region in the context of the ongoing information of public sector	Assoc.Prof.. Ing. A. Kucharčíková, PhD.

No.	Student	Theme	Supervisor
20.	J. Žiak	Trend of financial and economic indicators of selected manufacturing company	Ing. L. Pančíková, PhD.
21.	D. Latko	Ensure the collection of VAT following the Slovak republic to the EU	Ing. B. Holková, PhD.
22.	N. Bačová	Increase the supply of products selected company according to market needs	Ing. Z. Staníková, PhD.
23.	D. Knapcová	Increase the employment of women in the Žilina Region	Assoc.Prof.. Ing. A. Kucharčíková, PhD.
24.	G. Tongelová	Increasing the value of human capital through education in the chosen company	Assoc.Prof.. Ing. A. Kucharčíková, PhD.

### MASTER THESIS

No.	Student	Theme	Supervisor
1.	V. Sekerášová	Alternative forms of taxation on the business activities of natural persons income tax	Ing. B. Holková, PhD.
2.	S. Vrabcová	Application of financial analysis methods in selected company management	Assoc.Prof. Ing. A. Jacková, PhD.
3.	M. Žabčíková	Assessment of effectiveness capital project	Assoc.Prof. Ing. M. Ďurišová, PhD.
4.	M. Duláková	Monitoring of using and commitment factors of production in selected enterprise	Ing. E. Tokarčíková, PhD.
5.	S. Fratriková	Cost controlling in conditions of selected firm	Assoc.Prof. Ing. M. Ďurišová, PhD.
6.	T. Šildeková	Design of the system of planning for selected agricultural cooperative	Ing. E. Tokarčíková, PhD.
7.	J. Brisuda	Proposal for reporting and evaluation of socially responsible activities in a selected company	Ing. E. Tokarčíková, PhD.
8.	J. Rautner	OLAP solution for the selected domain	Ing. K. Záborská, PhD.
9.	M. Hlinková	Predicting of economic and financial quantities using statistical (econometric) and SC methods	Prof. Ing. D. Marček, CSc.
10.	M. Slavík	Financial data forecasting in investment decision	Ing. L. Pančíková, PhD.
11.	M. Krajčíková	The impact of foreign direct investment on the efficient use of production factors in the selected region	Assoc.Prof. Ing. A. Kucharčíková, PhD.
12.	I. Mariják	Evaluate the effectiveness of human capital in the chosen company	Assoc.Prof. Ing. A. Kucharčíková, PhD.



No.	Student	Theme	Supervisor
13.	J. Brablec	Proposal reporting based on data warehousing	Ing. K. Záborská, PhD.
14.	E. Oravec	Fractal Structure of the Production Plan N	Ing. J. Dubovec, PhD.
15.	L. Chudziaková	Project of Creating Job Positions for Unqualified Workers	Ing. J. Dubovec, PhD.
16.	L. Juríková	Decision-Making when Creating an Offer in a Fashion Goods Market	Ing. J. Dubovec, PhD.
17.	L. Lehota	Road tracking - Module corporate fleet on SAP	Ing. K. Záborská, PhD.
18.	L. Majchrák	Automation of Java Web Application's Lifecycle Management	Ing. Martin Černák
19.	M. Kňazko	Support for the selected BI (Business Intelligence) application for processing of different information sources	Ing. P. Troják
20.	M. Čuláková	Support of Employment in Selected Region	Ing. Z. Staníková, PhD.

### Scientific orientation of the Assoc. Professors at the Department

1. Assoc.Prof.Ing. Mária **Ďurišová**, PhD.

Enterprise theory, Management theory of transformation process in enterprise leading to application research of efficiency measuring in enterprise, as well to influence of management to its achievement in enterprise conditions.

2. Assoc.Prof.Ing. Alžbeta **Kucharčíková**, PhD.

Establishment and improvement of human capital as a one from the factors of the economic growth. Determination of evaluation possibilities in efficiency of investments to the human capital realized about all in the form of company education.

3. Assoc.Prof.Ing. Anna **Jacková**, PhD..

The main activity is the issue of accounting and economic analysis from the finance and management point of view. Financial stability and the optimization of the financial structure of the enterprise are the most important tasks of corporate financial management. It is because the volume and structure of used capital affect the opportunities of enterprise's dynamic expansion, growth of the turn-out, but mainly the value of capital cost's and the amount of trading income.

## **Cooperation**

### **Co-operation with Institutes and Enterprises in Slovakia**

- Faculty of Economy UMB, Banská Bystrica,
- University of Economics, Bratislava
- Slovak University of Technology, Bratislava
- Office of Industrial Property, Banská Bystrica
- Adviser of Entrepreneur, Žilina
- Slovak Chamber of Commerce, Žilina
- Information Centre of Entrepreneurs, Žilina
- Slovak Statistic Office
- Institute of Transport Research Žilina
- SAEF - Slovak American Enterprise Fund
- Science and Technology Park Žilina
- Science Park Žilina

### **Co-operation with Foreign Institutes and Enterprises**

- VŠB-TU Ostrava, Institute of Computer Science Opava, CZ
- VŠE Praha, CZ
- Institute of Computer Science Opava, CZ
- ČVUT Praha, CZ
- Academy of Sciences, CZ
- Silesian University in Opava, School of Business Administration in Karviná, CZ
- University of Pardubice, CZ
- VŠTE České Budejovice, CZ
- Ural State Economic University in Jekaterinburg, RSFR
- HTW Dresden

### ***Membership in Slovak Organisations and Societies***

- Assoc. Prof. Ing. Alžbeta **Kucharčíková**, PhD.:
  - Member of The Management Trainers Association
  - Member of Council for Higher Education
- :
- Ing. Katarína **Zábovská**, PhD.: Slovak Association for System Integration

**Sojourns of Pedagogical Staff at Foreign Institutions in 2015**  
**(Save for Czech Republic)**

<i>Name</i>	<i>Institute</i>	<i>Country</i>	<i>Date</i>
Assoc.Prof.Ing. A. <b>Kucharčíková</b> , PhD.	Politechnika Opolska	PL	20. 05. – 20. 05. 2014
Assoc.Prof.Ing. M. <b>Đurišová</b> , PhD.	Politechnika Opolska	PL	20. 05. – 20. 05. 2014
Ing. E. <b>Tokarčíková</b> , PhD	Politechnika Opolska	PL	20. 05. – 20. 05. 2014
Assoc.Prof.Ing. M. <b>Đurišová</b> , PhD.	Sakarya University, Paris	F	24. 06. – 28. 06. 2014
Assoc.Prof.Ing. A. <b>Kucharčíková</b> , PhD.	Sakarya University, Paris	F	24. 06. – 28. 06. 2014
Ing. E. <b>Tokarčíková</b> , PhD	Sakarya University, Paris	F	24. 06. – 28. 06. 2014
Assoc.Prof.Ing. A. <b>Kucharčíková</b> , PhD.	CICE Toronto	CAN	21. 06. – 29. 06. 2015
Assoc.Prof.Ing. M. <b>Đurišová</b> , PhD.	CICE Toronto	CAN	21. 06. – 29. 06. 2015
Ing. E. <b>Tokarčíková</b> , PhD	CICE Toronto	CAN	21. 06. – 29. 06. 2015
Assoc.Prof.Ing. A. <b>Kucharčíková</b> , PhD.	IISES London	GB	25. 08. – 29. 08. 2015
Assoc.Prof.Ing. M. <b>Đurišová</b> , PhD.	IISES London	GB	25. 08. – 29. 08. 2015
Ing. E. <b>Tokarčíková</b> , PhD	IISES London	GB	25. 08. – 29. 08. 2015
Assoc.Prof.Ing. A. <b>Kucharčíková</b> , PhD.	TASET, St. Peteburg	RUS	01. 09. – 05. 09. 2015
Assoc.Prof.Ing. M. <b>Đurišová</b> , PhD.	TASET, St. Peteburg	RUS	01. 09. – 05. 09. 2015
Ing. E. <b>Tokarčíková</b> , PhD	TASET, St. Peteburg	RUS	01. 09. – 05. 09. 2015

### **Other Activities**

#### **Members of the Department are involved in these projects:**

Innovation and internationalization of education - an instrument for increasing the quality of the University of Žilina in the European educational space, ITMS: 26110230079

Quality education with the support of innovative forms, high-quality research and international cooperation-the successful graduate for practice. ITMS: 26110230090

Broker centre of air transport for technology transfer and knowledge in transport and transport infrastructure, ITMS: 26220220156

Interactive logistics planning system based on virtual reality technologies, ITMS: 26220220100

Creating a new diagnostic algorithm for selected cancers, ITMS: 26220220022

Centre of excellence for systems and services of intelligent transport II., ITMS: 26220120050

VEGA 1/0348/14 Dynamic Modelling and Soft Techniques in Predicting Economic Variables

**Department of Technical Cybernetics**

**Head of department:** Assoc.Prof.Ing. Peter **Š e v č í k**, PhD.

Tel.: +421- 41-513 43 50  
Fax: +421-41- 565 52 80  
e-mail: peter.sevcik@fri.uniza.sk

**Teaching Staff:**

Prof. Ing. Juraj **Miček**, PhD.

Ing. Adam **Jaroš**, PhD.

Prof.Ing. Ivan **Hanuliak**, PhD.

Ing. Lukáš **Čechovič**, PhD.

Assoc.Prof.Ing. Ján **Kapitulík**, PhD.

Ing. Jozef **Juríček**, PhD.

Assoc.Prof.Ing. Ondrej **Karpiš**, PhD.

Ing. Matúš **Jurečka**, PhD.

Ing. Michal **Hodoň**, PhD

Ing. Martin **Húdik**, PhD

Ing. Jana **Púchyová**, PhD.

Ing. Andrej **Holúbek**, PhD.

**Researcher:** Ivana **Hodasová**

**Administrative Department:** Mgr. Viera **Černeková**

**PhD Students:**

Ing. Michal **Kochláš**

Ing. Veronika **Olešnaníková**

Ing. Michal **Chovanec**

Ing. Róbert **Žalman**

Ing. Peter **Šarafín**

### **PhD.-Programme**

<i>Theme</i>	<i>Student</i>	<i>Supervisor</i>
1. Design of Methods for Collaborate Information Processing in WSN Networks	Ing. M.Chovanec	Prof.Ing. J. Miček, PhD.
2. Event's Driven Dynamic Systems	Ing. M. Kochláš	Prof.Ing. J. Miček, PhD.
3. Shaping Control Signals	Ing. P. Šarafin	Assoc.Prof.Ing. P. Ševčík PhD.
4. Wireless Sensory Networks – Communication Subsystem	Ing. V. Olešnaníková	Assoc.Prof.Ing. O. Karpiš, PhD.
5. Analysis and Synthesis of Acoustic Signals in the Area of Intelligent Transport Systems with Application Use in Wireless Sensory Network	Ing. R. Žalman	Assoc.Prof.Ing. J. Kapitulík, PhD.

### **EQUIPMENT**

#### **Teaching and Research Laboratories.**

- Laboratory of Digital Signal Processing
- Laboratory of Electronics
- Laboratory of Design of the Customers Integrated Circuits (XILINX)
- Laboratory of Digital Computer
- Laboratory of Automatic Control
- Laboratory of HPC and Grid computing
- Laboratory of Embedded systems

#### **Special Measuring Instruments and Computers.**

- Analogy models for real time simulation experiments of digital control algorithms.
- Models SISO (Single input and single output).
  - Models MIMO (Multiple input, multiple output- 2 input and output)

The model can be use as a MIMO plant or SISO plant first to sixth - order. The gain of the plants (step response) can be continuously or by step change (0.1, 1, 2, 5).

There is also possibility to change magnitude of disturbance and step switch of output disturbance.

- Models SISO with non-linear gain, transport delay and no minimal phase.  
8x workstation on the base of the PC, A/D and D/A converters, starter kit TMS 320x54,  
evolution kit MSP 430xxx, 8x evolution development kit ATMEL AVR  
10x evolution kit ARM7TDI  
10x evolution kit STM32F2  
Programming board FPGA SPARTAN 3  
ML 403 VIRTEX-4 FX Evaluation Platform  
7x Measurement System (Digital Oscilloscope, Logical Analyst, Waveform Generator)  
3x Oscilloscope Tektronix TPS2024B  
3x Oscilloscope Tektronix AVG3021B  
Spectral analyser Rhode&Schwarz FSH8 (9kHz – 8GHz)  
Circuit board plotter for in-house rapid PCB prototyping



## **BACHELOR THESIS**

<b>No.</b>	<b>Student</b>	<b>Theme</b>	<b>Supervisor</b>
1.	<b>P. Drozd</b>	The acoustic module of yellow robot.	Prof. Ing. J. Miček, PhD.
2.	<b>M. Štanga</b>	Application to support the assembly of components on printed circuit board	Assoc.Prof. Ing. O. Karpiš, PhD.
3.	<b>M. Bielak</b>	Wireless control effects of LED light source.	Ing. O. Kovář, PhD.
4.	<b>T. Kúšik</b>	Wireless thermometer based on the Bluetooth standard	Ing. M. Hodoň, PhD.
5.	<b>A. Pňáček</b>	Electronic wine guide for Android mobile platform	Ing. M. Húdík, PhD.
6.	<b>V. Šimjak</b>	Implementation of Embedded Systems to House and its Environment	Ing. A. Jaroš, PhD.
7.	<b>M. Jakab</b>	Inertial navigation system (INS)	Ing. M. Hodoň, PhD.
8.	<b>M. Giblák</b>	Information board to display announcements in the waiting room at the doctor.	Ing. L. Čechovič, PhD.
9.	<b>M. Mušák</b>	Information System of a Teacher	Ing. A. Jaroš, PhD.
10.	<b>D. Hudek</b>	Intelligent remote control switch	Ing. M. Hodoň, PhD.
11.	<b>M. Fedor</b>	Configuration utility for WSN nodes.	Ing. M. Chovanec
12.	<b>A. Kováčik</b>	Propeller clock	Ing. M. Hodoň, PhD.
13.	<b>T. Kendereš</b>	Weather station realised on single board computer with Linux operating system.	Ing. L. Čechovič, PhD.
14.	<b>M. Bobrovčan</b>	Mobile application for the promotion of festivals	Ing. M. Húdík, PhD.
15.	<b>P. Fačko</b>	Remote Controlled Robotic Mini-Arm	Ing. M. Kochláš
16.	<b>M. Šimurka</b>	Design and implementation of measuring system for sensing selected parameters of intelligent building	Prof. Ing. J. Miček, PhD.
17.	<b>J. Pilátik</b>	Porting Suzuha operating system for NXP Cortex M0+	Ing. M. Chovanec
18.	<b>P. Ondrejmiška</b>	Control system of the fluid boiler - Design of the basic sequence and regulation circuits and examination of the regulation quality	Ing. Milan Čurný
19.	<b>P. Polaček</b>	SL Systems Device v2.0: Controlling of Audio and Light Devices	Ing. M. Kochláš
20.	<b>T. Podmaník</b>	Remote control based on Bluetooth communication	Prof. Ing. J. Miček, PhD.



<i>No.</i>	<i>Student</i>	<i>Theme</i>	<i>Supervisor</i>
21.	<b>R. Podskuba</b>	The light intensity sensing system	Prof. Ing. <b>J. Miček</b> , PhD.
22.	<b>L. Mandák</b>	Determining the position of permanent magnet in the plane	Ing. <b>M. Chovanec</b>
23.	<b>J. Belis</b>	Application for multipoint temperature measurement	Assoc.Prof. Ing. <b>O. Karpiš</b> , PhD.
24.	<b>M. Balala</b>	Impact of AGPS (Assisted GPS) on the localization accuracy	Ing. <b>M. Hodoň</b> , PhD.
25.	<b>P. Lúdík</b>	Arcade type game development for the Android mobile platform	Ing. <b>M. Húdík</b> , PhD.
26.	<b>A. Jagelka</b>	Lock door system using NFC (near field communication) technology.	Ing. <b>L. Čechovič</b> , PhD.
27.	<b>M. Kudjak</b>	Apparatus for collecting and managing energy from the environment.	Ing. <b>O. Kovář</b> , PhD.

### **MASTER THESIS**

<b>No.</b>	<b>Student</b>	<b>Theme</b>	<b>Supervisor</b>
1.	J. Košíková	Wireless sensor network - Sensor	Prof.. Ing. J. Miček, PhD.
2.	S. Žák	Handheld wireless narrowband communicator	Prof.. Ing. J. Miček, PhD.
3.	M. Kopkáš	Wireless controlled mobile robot	Prof.. Ing. J. Miček, PhD.
4.	M. Hujo	Intelligent lock	Ing. M. Jurečka, PhD.
5.	M. Revák	Communication protocol MODBUS TCP	Assoc.Prof.. Ing. J. Kapitulík, PhD.
6.	J. Pojezdala	Raspberry Pi based monitoring system	Ing. M. Jurečka, PhD.
7.	J. Kuba	Visual tool for finite state machine design	Ing. A. Jaroš, PhD.
8.	M. Brezoňák	Design and implementation of hardware and software means providing control and data collection.	Ing. O. Kovář, PhD.
9.	P. Getler	Design and implementation of hardware and software means providing control and data collection.	Ing. O. Kovář, PhD.
10.	J. Szabo	Program code optimization from speed of processing standpoint	Assoc.Prof.. Ing. J. Kapitulík, PhD.
11.	P. Lehotský	System for Measuring the Characteristics of the Traffic Flow	Ing. J. Juríček, PhD.
12.	M. Ukušová	Monitoring System of Car Driver in Automobile	Ing. A. Jaroš, PhD.
13.	J. Lovás	Scanning equipment selected physiological variables	Prof.. Ing. J. Miček, PhD.

**Sojourns of Pedagogical Staff at Foreign Institutions in 2015**  
**(Save for Czech Republic)**

<i>Name</i>	<i>Institute</i>	<i>Country</i>	<i>Date</i>
Ing. V. Olešániková,	HTW Dresden	D	26. 01.- 17. 02. 2015
Ing. P. Šarafín	HTW Dresden	D	26. 01.- 17. 02. 2015
Ing. R. Žalman	HTW Dresden	D	26. 01.- 17. 02. 2015
Ing. M. Hodoň, PhD.	Sofia, Spring AGM	BG	09. 03.- 12. 03. 2015
Ing. M. Hodoň, PhD.	IEEE-ISCC, Larnaca	CY	05. 07. – 10. 07. 2015
Ing. M. Kochláš,	IEEE-ISCC, Larnaca	CY	05. 07. – 10. 07. 2015
Ing. R. Žalman	Conference FedCSIS 2015, Lodz	PL	12. 09. – 16. 09. 2015
Ing. M. Hodoň, PhD.	Conference FedCSIS 2015, Lodz	PL	12. 09. – 16. 09. 2015
Ing. M. Kochláš	Conference FedCSIS 2015, Lodz	PL	12. 09. – 16. 09. 2015
Ing. P. Šarafín	Conference FedCSIS 2015, Lodz	PL	12. 09. – 16. 09. 2015
Ing. V. Olešániková,	Conference FedCSIS 2015, Lodz	PL	12. 09. – 16. 09. 2015

**Other activities of the Department**

- Department of Technical Cybernetics has signed the **European Road Safety Charter** and thereby commits to share the responsibility for road safety in Europe.
- Co-organizer part of the IEEE conference FedCSIS 2015 called WSN 2015. The FedCSIS Events provide a platform for bringing together researchers, practitioners, and academia to present and discuss ideas, challenges and potential solutions on established or emerging topics related to research and practice in computer science and information systems.

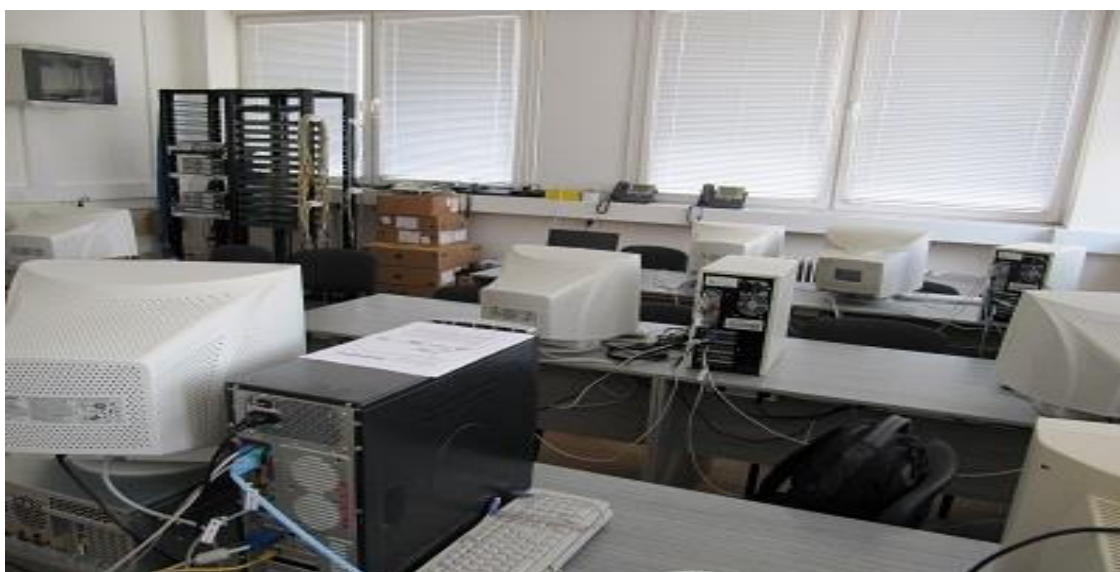


### ***PhD.-Programme***

<b><i>Theme</i></b>	<b><i>Student</i></b>	<b><i>Supervisor</i></b>
1. Model Driven Architecture and Ontology	Ing. Boris <b>Bučko</b>	Prof. Ing. M. <b>Drozdová</b> , PhD.
2. Safety in High Speed Networks and Detection Problems of Attacks in Real Time	Ing. Jakub <b>Hrabovský</b>	Assoc.Prof.Ing. Pavol <b>Segeč</b> , PhD.
3. Safety Problematic of Multimedia Communication trough Internet Protocol	Ing. Marek <b>Moravčík</b>	Assoc.Prof.Ing. Pavol <b>Segeč</b> , PhD.

### **EQUIPMENT**

#### **B301 Laboratory of Networking**



#### ***Teaching and Research Laboratories.***

- B 03 Laboratory of Communication Technology
- B 301 Laboratory of advanced networking
- B302 Laboratory of Applications Development
- B303 Cisco Networking Academy Laboratory
- B356 ECDL lab

**B303 Cisco Networking Academy Laboratory**



**COOPERATION**

**Cooperation with Institutes and Enterprises in Slovakia**

- Cisco Slovakia
- Siemens Programs and Systems Engineering
- Slovak Telecom

**Cooperation with Foreign Institutes and Enterprises**

- Telecom SudParis Evry, FRANCE
- ENST Paris, FRANCE
- University of Technology Dresden, GERMANY
- ETSI Sophia Antipolis, FRANCE
- INNO, Sophia Antipolis, FRANCE
- University of Zagreb, CROATIA

### **BACHELOR THESIS**

<b>No.</b>	<b>Student</b>	<b>Theme</b>	<b>Supervisor</b>
1.	<b>M. Prílepok</b>	The Web GUI analysis of the FreeSwitch PBX	Assoc.Prof.. Ing. <b>P. Segeč, PhD.</b>
2.	<b>P. Ferčák</b>	Security of SIP end points	Assoc.Prof.. Ing. <b>P. Segeč, PhD.</b>
3.	<b>S. Rusnák</b>	Cloud computing security solutions	Prof. Ing. <b>M. Drozdová, PhD.</b>
4.	<b>P. Trník</b>	Security in IP networks - analysis of the existing state of research	Prof. Ing. <b>M. Drozdová, PhD.</b>
5.	<b>O. Kaššovic</b>	Web information look-up	Ing. <b>Š. Baďura, PhD.</b>
6.	<b>T. Pikna</b>	DoS attacks on multimedia services	Ing. L. <b>Mikuš, PhD.</b>
7.	<b>M. Dočár</b>	LISP Protocol Deployment at FMSI UNIZA	Ing. <b>P. Palúch, PhD.</b>
8.	<b>A. Záh</b>	Distributed Hash Table Mechanisms and Protocols	Ing. <b>P. Palúch, PhD.</b>
9.	<b>J. Suroviak</b>	Migration Mechanisms between IPv4 and IPv6	Ing. <b>P. Palúch, PhD.</b>
10.	<b>M. Buček</b>	IPv4 to IPv6 migration techniques	Assoc.Prof.. Ing. <b>P. Segeč, PhD.</b>
11.	<b>T. Tupý</b>	Network traffic monitoring using NetFlow v9 software feature on Cisco routers	Ing. <b>O. Škvarek, PhD.</b>
12.	<b>A. Kováč</b>	Multi Path Transmission Control Protocol	Ing. <b>P. Palúch, PhD.</b>
13.	<b>T. Čavojský</b>	Design and implementation of the IDS/IPS Snort attack protection against SIP based attacks.	Assoc.Prof.. Ing. <b>P. Segeč, PhD.</b>
14.	<b>P. Hadač</b>	NetFlow tools for collecting, analysis and presenting of packet streams statistics in packet networks	Ing. <b>O. Škvarek, PhD.</b>
15.	<b>P. Tuka</b>	Online support	Ing. <b>Š. Baďura, PhD.</b>
16.	<b>M. Hrabovský</b>	Realisation of WiFi services on a Cisco WLC controller.	Assoc.Prof.. Ing. <b>P. Segeč, PhD.</b>
17.	<b>P. Šaradin</b>	Simulation of CHORD algorithm in Go language	Assoc.Prof.. Mgr. <b>O. Šuch, PhD.</b>
18.	<b>V. Jančich</b>	Computer network simulators - the analysis	Assoc.Prof.. Ing. <b>P. Segeč, PhD.</b>
19.	<b>B. Juriš</b>	Contemporary trends in migration mechanisms between IPv4 and IPv6	Ing. <b>P. Palúch, PhD..</b>

<i>No.</i>	<i>Student</i>	<i>Theme</i>	<i>Supervisor</i>
20.	<b>K. Pauchly</b>	Current Trends in IP Fast Reroute Technologies	Ing. <b>P. Palúch, PhD.</b>
21.	<b>V. Kysela</b>	TCP/IP - WBT course	Ing. <b>P. Ivaniga, PhD.</b>
22.	<b>M. Drozdík</b>	Testing SIP server resistance against DoS Slow Loris like attacks.	Assoc.Prof.. Ing. <b>P. Segeč, PhD.</b>
23.	<b>M. Michalina</b>	Topology and network access methods MAN – WBT course	Ing. <b>P. Ivaniga, PhD.</b>
24.	<b>M. Kostelanský</b>	SIP video conferencing	Assoc.Prof.. Ing. <b>P. Segeč, PhD.</b>
25.	<b>M. Keměň</b>	Virtual TV studio	Ing. <b>Ľ. Mikuš, PhD.</b>
26.	<b>P. Salaj</b>	Selected Aspects of IP Multicast Technology	Ing. <b>P. Palúch, PhD.</b>



**MASTER THESIS**

No.	Student	Theme	Supervisor
1.	J. Kordiak	Intelligent building automation	Ing. T. Kováč
2.	P. Pacák	The Second Development Phase of Internal SQAP Management and FCS Management Support Tool at Scheidt und Bachmann – Department of Fare Collection Systems	Ing. P. Kubík
3.	M. Perina	EIGRP Routing Protocol Implementation in the Quagga Suite, DUAL Part	Ing. P. Palúch, PhD.
4.	P. Orság	EIGRP Routing Protocol Implementation in the Quagga Suite, Management Part	Ing. P. Palúch, PhD.
5.	J. Janovic	EIGRP Routing Protocol Implementation in the Quagga Suite, Transport Part	Ing. P. Palúch, PhD.
6.	P. Mäsiar	Mathematic model for DOS server attack	Mgr. J. Smieško, PhD.
7.	M. Oelschläger	Deployment of the Microsoft Lync system within the KIS infrastructure	Assoc.Prof. Ing. P. Segeč, PhD.
8.	M. Klotton	Protecting the Communication Network using Firewalls	Ing. P. Palúch, PhD.
9.	S. Hopko	The cloud computing and its usability following the KIS department requirements	Assoc.Prof. Ing. P. Segeč, PhD.
10.	J. Dančík	The SIP protocol and issues of its usability within smart home solutions.	Assoc.Prof. Ing. P. Segeč, PhD.
11.	V. Bartošík	Command Recognition by Humanoid Robot NAO	Prof. Ing. M. Klimo, PhD.
12.	M. Kuzma	Video Recognition by Humanoid Robot NAO	Prof. Ing. M. Klimo, PhD.
13.	M. Moravčík	The development and extendibility of existing KIS VoIP infrastructure close to Unified Communication.	Assoc.Prof. Ing. P. Segeč, PhD.
14.	P. Sitár	The simulation and development of network support processes for multicast "IP fast reroute" mechanism.	Assoc.Prof. Ing. P. Segeč, PhD.
15.	M. Krška	Software-defined networks	Assoc.Prof. Ing. P. Segeč, PhD.
16.	D. Rajčan	Software Defined Networks and network virtualisation within Clouds	Assoc.Prof. Ing. P. Segeč, PhD.

No.	Student	Theme	Supervisor
17.	M. Líner	The probe for the LAN security testing	Ing. M. Ludvík, PhD.
18.	P. Brigant	Current Trends in BGP Routing Protocol	Ing. P. Palúch, PhD.
19.	J. Hrabovský	The netFPGA technology and its real network utilization.	Assoc.Prof. Ing. P. Segeč, PhD.
20.	P. Handlovský	High Performance Distributed Network Load Generator	Ing. P. Palúch, PhD.
21.	T. Kozoň	Using Side Channels for Communication Tunnelling	Ing. P. Palúch, PhD.

### Membership in International Organizations and Societies

Prof. Ing. Martin **Klím**:

- IEEE, ACM,
- ICTC European Commission

Prof. Ing. Tatiana **Kováčiková**

- ETSI, EC – FP7 ICT projects reviewer
- Cost - Head of Science Operations

**Sojourns of Pedagogical Staff at Foreign Institutions in 2015**  
**(Save for Czech Republic)**

<i>Name</i>	<i>Institute</i>	<i>Country</i>	<i>Date</i>
Prof. Ing. Martin <b>Klím</b> , PhD	Steigenberger Airport Hotel Amsterdam	NL	18. 01. – 22. 01. 2015
Ing. Peter <b>Palúch</b> , PhD.	Cisco, Brussels	B	18. 01. – 24. 01. 2015
Assoc.Prof.Ing. Pavel <b>Segeč</b> , PhD	CISCO Global Centre Services, Krakow	PL	22. 01. – 21. 01. 2015
Ing. Peter <b>Palúch</b> , PhD.:	CISCO Milano	I	22. 01. – 31. 01. 2015
Prof. Ing. Martin <b>Klím</b> , PhD	European Commission , Brussels	B	04. 03. – 05. 03. 2015
Prof. Ing. Martin <b>Klím</b> , PhD	Technische Universität Ilmenau	D	29. 03. – 31. 03. 2015
Prof. Ing. Martin <b>Klím</b> , PhD	European Commission , Brussels	B	19. 05. – 20. 05. 2015
Prof. Ing. Martin <b>Klím</b> , PhD	COST, Lisboa	PT	27. 05. – 30. 05. 2015
Ing. Peter <b>Palúch</b> , PhD.:	San Jose	USA	18. 07. – 27. 07. 2015
Prof. Ing. Martin <b>Klím</b> , PhD	European Commission , Brussels	B	22. 07. – 24. 07. 2015
Prof.Ing. M. <b>Drozdová</b> , PhD.	Conference Information Systems, Karpacz	PL	20. 09 – 22. 09. 2015
Assoc.Prof.Mgr. O. <b>Šuch</b> , PhD.	RWTH Aachen	D	02. 11. – 05. 11. 2015
Assoc.Prof.Mgr. O. <b>Šuch</b> , PhD.	University of Cyprus	CY	08. 11. – 11. 11. 2015

## *Department of Management Theories*

**Head of Department:** Assoc. Prof. Ing. Milan **K u b i n a**, PhD

Tel.: +421-41-513 44 50  
e-mail: milan.kubina@fri.uniza.sk

### **Teaching Staff:**

Prof. Ing. Josef **Vodák**, PhD.

Prof. Ing. Štefan **Hittmár**, PhD.

Assoc.Prof.Ing. Viliam **Lendel**, PhD.

Assoc. Prof. Ing. Martina **Blašková**, PhD

Assoc. Prof. Mgr. Jakub **Soviar**, PhD.

Ing. Radoslav **Jankal**, PhD.

Ing. Michal **Varmus**, PhD.

Ing. Jana **Magdolenová**, PhD.

Ing. Juraj **Dubovec**, PhD..

Ing. Jana **Makyšová**, PhD.

**Administrative Department:** Oľga **Doricová**

### **Doctoral full-time students:**

Ing. Zuzana **Škutchanová**

Ing. Gabriel **Koman**

Ing. Jana **Kundriková**

Ing. Eva **Siantová**

Ing. Martin **Latka**

Ing. Martin **Holubčík**

Ing. Kristína **Tršková**

### **Doctoral part-time students:**

Ing. Jozef **Šarlay**

Ing. Tatiana **Šajtlavová**

Ing. Katarína **Púčková**

Ing. Lenka **Tarábková**

**PhD.-Program**

<i>Theme</i>	<i>Student</i>	<i>Supervisor</i>
1. Application of Knowledge Management Elements in Strategic Management	Ing. K. Púčková	Prof. Ing Š. Hittmár, PhD.
2. Influence of investments to human capital (in educational form) focused to efficiency, profitability and competitiveness of company	Ing. Lenka Tarábková	Prof.Ing. J. Vodák, PhD.
3. Cooperation organizational structures and their strategic control	Ing. Tatiana Šajtlavová	Assoc.Prof.Ing. J. Soviar, PhD
2. Products Innovation and Processes in Service Sector	Ing. Z.Škutchanová	Prof. Ing Š. Hittmár, PhD.
3. Using of Scenario in Enterprise Planning	Ing. J. Šarlay	Prof. Ing Š. Hittmár, PhD.
4. Use of IS/KT in Company's Sphere to Decision-Making Support	Ing. G. Koman	Assoc.Prof.Ing. M. Kubina, PhD
5. Cooperation Organization Structures and their Strategic Management	Ing. J. Kundříková	Assoc.Prof.Ing. J. Soviar, PhD.
6. Measuring of Innovation Efficiency in Enterprise	Ing. E. Siantová	Prof. Ing Š. Hittmár, PhD.
7. Managerial Decision-Making in Motivation	Ing. K. Tršková	Assoc.Prof.Ing. M. Blašková, PhD
8. Creating and Management of Innovation Processes in Company	Ing. M. Latka	Assoc.Prof.Ing. V. Lendel, PhD.
9. Strategic Control Influence of Enterprises Groups to Formation of Required Synergic Effects	Ing. M. Holubčík	Prof.Ing. J. Vodák, PhD.



Management laboratory

### **BACHELOR THESIS**

<b>No.</b>	<b>Student</b>	<b>Theme</b>	<b>Supervisor</b>
1.	<b>M. Rehtorik</b>	Market analysis for founding of exclusive poker social club	Assoc.Prof. Mgr. <b>J. Soviar</b> , PhD.
2.	<b>M. Remková</b>	Key Performance Indicators in environment of selected firm	Ing. <b>R. Jankal</b> , PhD.
3.	<b>M. Poliačik</b>	Communication Mix for an Organization	Ing. <b>M. Varmus</b> , PhD.
4.	<b>P. Línek</b>	Controlling information system for selected segment of companies	Assoc.Prof. Ing. <b>V. Lendel</b> , PhD.
5.	<b>J. Hošťák</b>	Marketing communication for selected business	Assoc.Prof. Ing. <b>V. Lendel</b> , PhD..
6.	<b>I. Kubík</b>	Marketing communication in conditions of selected firm	Ing. <b>R. Jankal</b> , PhD.
7.	<b>P. Bagin</b>	Marketing communication in conditions of selected firm	Ing. <b>R. Jankal</b> , PhD.
8.	<b>V. Nováková</b>	Marketing communication in conditions of selected firm	Ing. <b>R. Jankal</b> , PhD.
9.	<b>M. Hanusová</b>	Marketing on social networks	Ing. <b>K. Púčková</b>
10.	<b>P. Štomfai</b>	Motivation and Evaluation of Employees in Education Organization	Ing. <b>J. Magdolenová</b> , PhD.
11.	<b>L. Marková</b>	Motivation and development of employees in chosen company	Assoc.Prof. Ing. <b>M. Blašková</b> , PhD.
12.	<b>K. Ďugelová</b>	Possibilities of using cloud applications to support educational activities in selected educational institutions.	Assoc.Prof. Ing. <b>M. Kubina</b> , PhD.
13.	<b>J. Majkút</b>	Proposal of activities for increasing the competitiveness of the selected company	Ing. <b>R. Jankal</b> , PhD.
14.	<b>J. Štílec</b>	Proposal of Communication Mix for an Organization	Ing. <b>M. Varmus</b> , PhD.
15.	<b>P. Mičian</b>	Proposal of Communication Mix for an Enterprise	Ing. <b>M. Varmus</b> , PhD.
16.	<b>J. Čerňanský</b>	Proposals for appropriate marketing communications to support of the school “ Stredná odborná škola elektrotechnická” in Žilina.	Assoc.Prof. Ing. <b>M. Kubina</b> , PhD.
17.	<b>E. Bučová</b>	Proposal of motivation program for chosen production company	Assoc.Prof. Ing. <b>M. Blašková</b> , PhD.
18.	<b>L. Jakušová</b>	Proposal of motivation program for chosen production company	Assoc.Prof. Ing. <b>M. Blašková</b> , PhD.

<i>No.</i>	<i>Student</i>	<i>Theme</i>	<i>Supervisor</i>
19.	<b>M. Mikunda</b>	Proposal of Appropriate Marketing Communication Tools for e-shop	Ing. <b>M. Varmus</b> , PhD.
20.	<b>T. Sagan</b>	Optimization of selected processes of company	Ing. <b>L. Richter</b> , PhD.
21.	<b>M. Macháčková</b>	The process of education of employees in selected company	Ing. <b>T. Tarábková</b>
22.	<b>Z. Ištoková</b>	Human resources acquisition process in selected company	Ing. <b>T. Tarábková</b>
23.	<b>R. Brežný</b>	Corporate social responsibility in conditions of selected firm	Ing. <b>R. Jankal</b> , PhD.
24.	<b>B. Kašická</b>	Feasibility study of the start-up project	Assoc.Prof. Ing. <b>V. Lendel</b> , PhD.
25.	<b>I. Oboňová</b>	Creation of value business strategy using Blue Ocean Strategy methodology in company.	Prof. Ing. <b>J. Vodák</b> , PhD.
26.	<b>N. Bírošová</b>	Creation of value business strategy using Blue Ocean Strategy methodology in restaurant.	Prof. Ing. <b>J. Vodák</b> , PhD.
27.	<b>L. Mikoláš</b>	Creation of concurrency strategy using Blue Ocean Strategy methodology.	Prof. Ing. <b>J. Vodák</b> , PhD.
28.	<b>M. Bodoríková</b>	Creating a system of evaluation of the employees	Prof. Ing. <b>J. Vodák</b> , PhD.
29.	<b>P. Putyrová</b>	Loyalty Programme for a business company	Assoc.Prof. Mgr. <b>J. Soviar</b> , PhD.
30.	<b>T. Sedláček</b>	Production information system for selected company	Assoc.Prof. Ing. <b>V. Lendel</b> , PhD.
31.	<b>D. Holešová</b>	Use of IS / ICT tools for managing teamwork in an educational institution.	Assoc.Prof. Ing. <b>M. Kubina</b> , PhD.
32.	<b>D. Vrtaňa</b>	Processes improvement in human potential management and motivating in selected companies	Assoc.Prof. Ing. <b>M. Blašková</b> , PhD.
33.	<b>M. Barančinová</b>	Recruitment of human resources in order to achieve strategic goals in selected company	Ing. <b>T. Tarábková</b>

### MASTER THESIS

<i>No.</i>	<i>Student</i>	<i>Theme</i>	<i>Supervisor</i>
1.	<b>L. Valek</b>	Cloud solutions of human resource management	Assoc.Prof. Ing. <b>M. Kubina</b> , PhD.
2.	<b>M. Štrocholec</b>	Evaluation of innovation performance of selected company	Assoc.Prof. Ing. <b>V. Lendel</b> , PhD.
3.	<b>M. Šarlák</b>	Information providing of selected business innovation processes	Assoc.Prof. Ing. <b>V. Lendel</b> , PhD.
4.	<b>A. Krajčovič</b>	Innovation marketing strategy of selected company	Assoc.Prof. Ing. <b>V. Lendel</b> , PhD.
5.	<b>D. Filip</b>	Cooperation strategy for selected organization	Assoc.Prof. Mgr. <b>J. Soviar</b> , PhD.
6.	<b>M. Kavalčíková</b>	Cooperation strategy for selected company	Assoc.Prof. Mgr. <b>J. Soviar</b> , PhD.
7.	<b>R. Kristín</b>	Proposal of value strategy for company	Prof. Ing. <b>J. Vodák</b> , PhD.
8.	<b>J. Vasilovský</b>	Proposal to extend information system Flowii	Assoc.Prof. Ing. <b>M. Kubina</b> , PhD.
9.	<b>L. Kacová</b>	Proposal for the use of Theory of Constraints in the manufacturing plant	Prof. Ing. <b>J. Vodák</b> , PhD.
10.	<b>V. Ondrůšková</b>	Proposal for the use of Theory of Constraints in the company	Prof. Ing. <b>J. Vodák</b> , PhD.
11.	<b>L. Pekárová</b>	Optimization of Transformation Process of Company Aeroplane	Ing. <b>J. Dubovec</b> , PhD.
12.	<b>A. Kochanová</b>	Optimization of selected process of hospital using lean management methods. The work of doctors at the II. Children's Clinic and II. Clinic paediatric anaesthesiology and intensive care	Ing. <b>L. Richter</b> , PhD.
13.	<b>R. Obžerová</b>	Optimization of selected process of hospital using lean management methods. The work of doctors at the Clinic Paediatric Surgery and Clinic paediatric oncology and haematology	Ing. <b>L. Richter</b> , PhD.
14.	<b>M. Garčeková</b>	Optimization of selected process of hospital using lean management methods. The work of doctors at the II. Children's Clinic and II. Clinic paediatric anaesthesiology and intensive care	Ing. <b>L. Richter</b> , PhD.



No.	Student	Theme	Supervisor
15.	T. Hudec	Optimization of selected process of hospital using lean management methods. The work of doctors at the Clinic Paediatric Surgery and Clinic paediatric oncology and haematology	Ing. L. Richter, PhD.
16.	I. Ďaďová	Corporate culture management in a business company	Assoc.Prof. Mgr. J. Soviar, PhD.
17.	T. Michálek	Comparison of creation process of motivation program in difference companies	Assoc.Prof. Ing. M. Blašková, PhD.
18.	M. Latka	The Project of Marketing Communications for a Sports Club	Ing. M. Varmus, PhD.
19.	A. Kmotorka	The Project of Marketing Communications for a Town	Ing. M. Varmus, PhD
20.	V. Ďurkech	The Project of Marketing Communications for an Organization	Ing. M. Varmus, PhD
21.	D. Hulín	The Project of Marketing Communications for a Pension	Ing. M. Varmus, PhD
22.	J. Poliak	The Rationalization of Business Processes in Selected Company	Assoc.Prof. Ing. V. Lendel, PhD.
23.	M. Pagáčová	Rationalization of selected processes of company	Ing. R. Jankal, PhD.
24.	L. Blašková	Rationalization of selected processes of company	Ing. R. Jankal, PhD.
25.	Z. Kopáčová	Rationalization of production processes of company	Ing. R. Jankal, PhD.
26.	J. Hodoň	Suppliers' relationship management in the COBA Automotive Ltd. company	Ing. L. Richter, PhD.
27.	J. Kuzma	Monitoring and evaluation of employee satisfaction	Ing. R. Jankal, PhD.
28.	M. Holubčík	System of cooperation management in a business company	Assoc.Prof. Mgr. J. Soviar, PhD.
29.	D. Stencláková	Selection and implementation of an information system to manage the enterprise marketing activities	Assoc.Prof. Ing. M. Kubina, PhD.
30.	M. Motyčáková	Use of Big Data technologies for enterprise marketing	Assoc.Prof. Ing. M. Kubina, PhD.
31.	R. Ďurec	Information flow tracking design of mechanical parts in ELTECO company	Assoc.Prof. Ing. M. Kubina, PhD.

### **Other activities of department**

Prof. Ing. **Štefan HITTMÁR**, PhD.

- Member of Scientific Board of Faculty of Management Sciences and Informatics, University of Zilina
- Member of Scientific Board of Faculty of Special Engineering, University of Zilina, Zilina
- Member of Scientific Board of University of Trencin AD, Trencin
- Member of Scientific Board of Faculty of Economics and Administration, University of Pardubice, Pardubice, Czech Republic
- Member of Scientific Board of Faculty of economics, Matej Bel University of Banská Bystrica, Banská Bystrica
- Member of Editorial Board EDIS University of Zilina
- Member of work unit No 8 of Accreditation Committee
- Member of Institute of Management by University of Zilina
- Member of Scientific technical society in the University of Žilina
- Member of Committees for Preparing Conferences (EU - opportunities for develop.of transport)

Prof. Ing. **Josef VODÁK**, PhD.

- Member of Scientific Board of Faculty of Management Sciences and Informatics, University of Zilina
- Member of Board for Doctoral Study for Management and Economics, Žilina university - Faculty PEDaS
- Member of Editorial Board of Scientific Journal “Nierównosci społeczne a wzrost gospodarczy”, Poland

Assoc. Prof. Ing. **Martina BLAŠKOVÁ**, PhD.

- Co-founder, the first vice-president and coordinator for Slovak Republic of International Academic Network HPD CEEUS – Human Potential Development in Central and Eastern EU States
- Co-founder, Editor-in-chief and Member of Scientific Committee of the Scientific Journal Human Resources Management & Ergonomics
- Member of Editorial Board of Scientific Journal “Public Administration Research”, Canada
- Member of Editorial Board of Scientific Journal “Social Sciences”, USA
- Member of Editorial Board of Scientific Journal “Asian Social Science” (Canadian Center of Science and Education)
- Member of Editorial Board of Scientific Journal “Public Security and Public Order”, Lithuania
- Member of Editorial Board of Scientific Journal “Production Engineering Archives”, Poland
- Member of Editorial Board of Scientific Journal “Journal of Information, Controls and Management Systems”, University of Zilina
- Scientific guarantee of International Scientific Conference Human Potential Development (held in Klaipeda, Lithuania, May 27th-28th)

- Member of Scientific Committee of “4th Biannual CER Comparative European Research Conference 2015”, October 26th-30th, London
- Member of Scientific Committee of the International Scientific Conference “Toyotarity in the Context of European Culture” (Ustroń Jaszowiec, Poland, December 4th-6th)
- Member of Scientific Committee of the International Scientific Conference “TRANSCOM” (Žilina, June 22th-24<sup>th</sup>, 2015)
- Invited lectures granted by Erasmus+ at Mykolas Romeris University in Vilnius (Lithuania)
- Member of Academic Senate Faculty of Management Sciences and Informatics
- Member of Scientific Council of Faculty of Management Sciences and Informatics

Assoc. Prof. **Viliam LENDEL**, PhD.

- Member of Scientific Board of Faculty of Management Sciences and Informatics, University of Žilina
- Member of Advisory Board of Faculty of Management Sciences and Informatics, University of Žilina
- Member of Scientific Board of Slovak Journal Management Science
- Member of Scientific Board of Education Journal Horizons of Railway Transport
- Member of Editorial Board of Theory of Management
- Member of Editorial Board of Young Scientists Revue
- Member of Institute of Management by University of Žilina

Assoc. Prof. **Milan KUBINA**, PhD.

- Member of Advisory Board of Faculty of Management Sciences and Informatics, University of Žilina,
- Member of Editorial Board of Scientific Journal Computer Science and Information Technology, USA
- Member of Institute of Management by University of Žilina
- Member of Scientific technical society in the University of Žilina
- Executive committee member of the civic association ALUMNI FRI at Faculty of Management Sciences and Informatics, University of Žilina

Assoc. Prof. **Jakub SOVIAR**, PhD.

- Member of Slovak marketing association
- Member of Editorial Board of international journal Advances in Economics and Business
- Member of the jury of Žilina self-government region competition “The Business plan”
- Member of Institute of Management by University of Žilina

**Ing. Radoslav JANKAL, PhD.**

- Member of editorial board of Scientific Journal “International Business Research” (Canadian Centre of Science and Education), Canada,
- Member of editorial board of Scientific Journal “International Journal of Business and Management” (Canadian Centre of Science and Education), Canada,
- Member of editorial board of Scientific Journal “Business and Management Research” (Sciedu Press), Canada,
- Member of Editorial Board of Scientific Journal “The GSTF Journal on Business Review” (The Global Science and Technology Forum), Singapore,
- Member of editorial board of Scientific Journal “ Financial and credit activity: problems of theory and practice ” (
- Member of Scientific Committee of the 12th International Scientific Conference Human Potential Development (held in Klaipėda, Lithuania 27th-28th May),
- Member of Programm Committee of the 5th Annual International Conference on Business Strategy and Asian Economic Transformation, (held in Singapore 27th-28th July).
- Member of Institute of Management by University of Zilina

**Ing. Michal VARMUS, PhD.**

- Member of Editorial Board: Slovak Scientific Journal management: science and education (Assistant of the Editorial Office)
- Member of Conference Organizing Committee: Horizons of railway transport 2015
- Member of Executive Board of Slovak Tennis Association (Výkonný výbor Slovenského tenisového zväzu)
- Member of Committee of Youth and Sport in town Čadca (Komisia mládeže a športu mesta Čadca)
- Member of ESEA | European Sport Economics Association
- Member of Scientific technical society in the University of Žilina
- Member of Alumni of Faculty Management Science and Informatics, University of Zilina

**Sojourns of Pedagogical Staff at Foreign Institutions in 2015**

**(Save for Czech Republic)**

<i>Name</i>	<i>Institute</i>	<i>Country</i>	<i>Date</i>
Prof. Ing. Š. <b>Hittmár</b> , PhD.	WSB Dabrowa Gornica	PL	26. 01. – 26. 01. 2015
Prof. Ing. Š. <b>Hittmár</b> , PhD	WSB Dabrowa Gornica	PL	04. 03. – 06. 03. 2015
Assoc.Prof. M. <b>Kubina</b> , PhD.	WSB Dabrowa Gornica	PL	09. 04. - 09. 04. 2015
Prof. Ing. Š. <b>Hittmár</b> , PhD.	WSB Dabrowa Gornica	PL	09. 04. - 09. 04. 2015
Prof. Ing. Š. <b>Hittmár</b> , PhD.	WSB Dabrowa Gornica	PL	13. 05. – 15. 05. 2015
Ing.E. <b>Siantová</b> ,	WSB Dabrowa Gornica	PL	14. 05. – 15. 05. 2015
Ing.J. <b>Kundříková</b> ,	WSB Dabrowa Gornica	PL	14. 05. – 15. 05. 2015
Ing. M. <b>Varmus</b> , PhD.	WSB Dabrowa Gornica	PL	14. 05. – 15. 05. 2015
Assoc.Prof.Ing. M. <b>Blašková</b> , PhD	Mykolo Romerio universitetas Vilnius	LT	24. 05. – 28. 05. 2015
Prof. Ing. Š. <b>Hittmár</b> , PhD.	WSB Dabrowa Gornica	PL	25. 05. – 27. 05. 2015
Ing. E. <b>Siantová</b>	Conference KMO 2015 University of Maribor	SL	24. 08. – 27. 08. 2015
Ing. L. <b>Tarábková</b>	Conference KMO 2015 University of Maribor	SL	24. 08. – 27. 08. 2015
Ing. K. <b>Půčková</b>	Conference KMO 2015 University of Maribor	SL	24. 08. – 27. 08. 2015

**Department of Software Technologies**

**Head of Department:**      **Ing. Viliam T a v a č , PhD.**

**Tel.: + 421- 41- 513 41 00**  
e-mail: viliam.tavac@fri.uniza.sk

**Teaching Staff:**

Assoc. Prof. Ing. Emil **Kršák**, PhD.

Ing. Ján **Ružbarský**, PhD.

Assoc.Prof.Ing. Katarína **Bachratá**, PhD.

Ing. Patrik **Hrkút**, PhD.

Assoc.Prof.Ing. Ján **Janech**, PhD

Ing. Marek **Tavač**, PhD

Ing. Štefan **Toth**, PhD

Ing. Matej **Meško**, PhD.

**Researchers:**

Assoc. Prof. Ing. Miroslav **Hrnčiar**, PhD.

RNDr. Hynek **Bachratý**, PhD.

Assoc. Prof. Mgr. Ivan **Cimrák**, Dr.

Ing. Miroslav **Gábor**, PhD.

**Administrative Department:** Mgr. Iveta **Belošovičová**

**Doctoral full-time students:**

Ing. Renáta **Tóthová**,

Mgr. Martin **Bušík**

Ing. Martin **Slavík**

**Doctoral part-time students:**

Ing. Marek **Kotus**

### PhD-Programme

<i>Theme</i>	<i>Student</i>	<i>Supervisor</i>
1. Development and Implementation of Biomedicine Models Suitable to Modelling of Micro-Fluidic Equipments	Mgr.R. <b>Tóthová</b>	Assoc. Prof.Ing. <b>K.Bachratá</b> , PhD.
2. Modelling of Elastic Objects Motion in Fluid Flow	Ing. M. <b>Slavík</b>	Assoc. Prof.Ing. <b>K.Bachratá</b> , PhD.
3. Design and Development of Computational Models for Extensive Computer Experiments with Applications in Biomedicine	Mgr. M. <b>Bušík</b>	Assoc. Prof.Mgr. <b>I. Cimrák</b> , Dr..
4. Development of Computer Models and Parallel Simulations for better Understanding of Processes in the Microfluid Equipments	Ing. M. <b>Kotus</b>	Assoc. Prof.Mgr. <b>I. Cimrák</b> , Dr..

### EQUIPMENT

#### Teaching and Research Laboratories

Laboratory of Object Technologies

Laboratory of Control Process Developing

#### Servers:

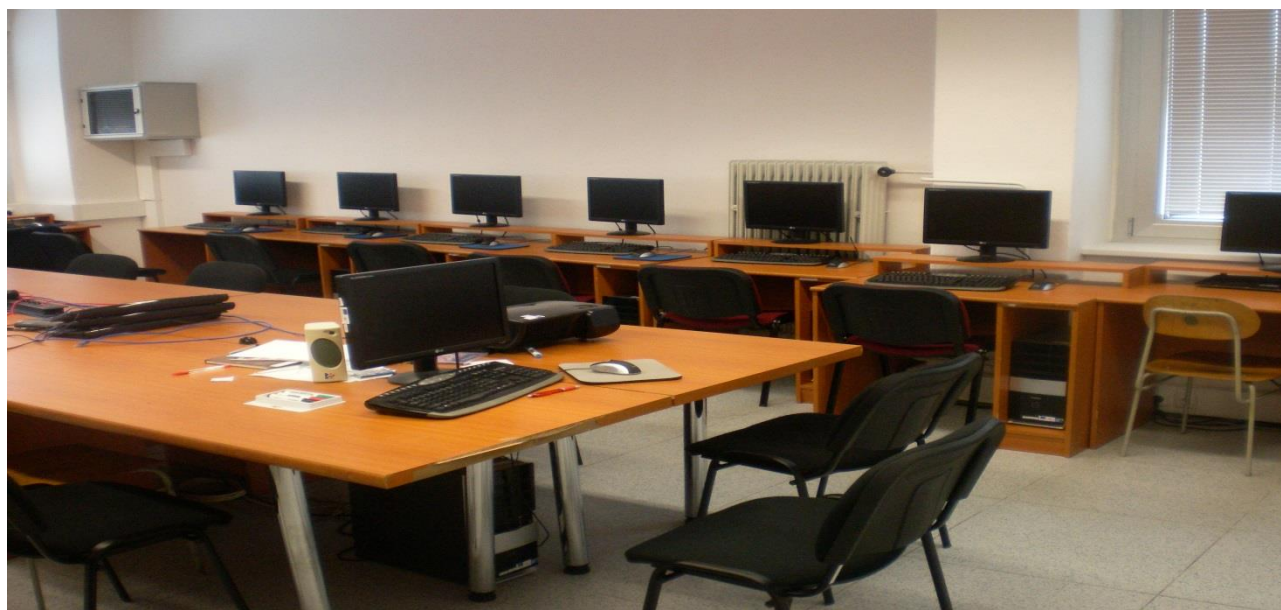
ZEUS Fedora Core, VAII Gentoo, HERMES Gentoo. ATLAS Gentoo

TITAN MS Windows 2008 Server

JASON MS Windows 2003 Server

PERSEUS MS Windows 2003 Server

POSEIDON MS Windows 2003 Server



### ***Scientific orientation of the Assoc. Professors at the Department***

1. Assoc.Prof.Ing. Emil **K r š á k**, PhD.

Research and development in information-communication systems, intelligent transport systems, information systems for basic and dispatching control of transport, distributed information systems, security of information systems, object-oriented programming, advanced object technology

2. Assoc.Prof.Ing. Miroslav **H r n ě i a r**, PhD.

Specific areas of management science. Principal research domains are services, in which is focus to research of Service Quality, Process Management, Project Management and using standardised managerial approaches supported by information and communication technology

3. Assoc.Prof.Mgr. Ivan **C i m r á k**, Dr.

Developing of models for elastic objects immersed in fluids. Analysis of developed models with respect to scalability, accuracy, efficiency. Implementation of models into scientific software and running large-scale simulations. Application of results in the design and development of micro-fluidic devices used in biomedicine.



## **BACHELOR THESIS**

<b>No.</b>	<b>Student</b>	<b>Theme</b>	<b>Supervisor</b>
1.	<b>M. Frniak</b>	3D model of FRI building in WebGL	Ing. P. Hrkút, PhD.
2.	<b>D. Suroviak</b>	Android application for Zoo visitors	Ing. Š. Toth, PhD.
3.	<b>M. Karpíš</b>	Automated web application testing	Ing. P. Hrkút, PhD.
4.	<b>L. Grieger</b>	Manageable discussion forum with supporting Android application	Ing. P. Hrkút, PhD.
5.	<b>J. Kerekeš</b>	Informatics in questionnaire survey and its utilization for improving teaching	Assoc.Prof. RNDr. K. Bachratá, PhD.
6.	<b>M. Antoška</b>	Client/server application for car repair management	Ing. P. Hrkút, PhD.
7.	<b>L. Durnek</b>	Mobile application for geography learning in elementary schools	Ing. Š. Toth, PhD.
8.	<b>D. Tothová</b>	Mobile application for information retrieval from website FRI	Ing. P. Hrkút, PhD.
9.	<b>M. Popper</b>	Mobile application for conference and event participants	Ing. Š. Toth, PhD.
10.	<b>L. Konkol'</b>	Mobile application for public transport connection searching	Ing. M. Meško, PhD.
11.	<b>T. Valach</b>	Mobile lecture timetables at University of Žilina	Assoc.Prof. Mgr. I. Cimrák, Dr.
12.	<b>S. Vráblová</b>	Non-profit organizations from the perspective of quality management	Ing. Z. Škutchanová
13.	<b>V. Iždinský</b>	Augmented reality using Face Detection	Ing. Mgr. M. Fučila
14.	<b>M. Gajdoš</b>	Process map of science and research in tertiary educational institution	Ing. Z. Škutchanová
15.	<b>T. Jurigová</b>	Symmetry game system	Ing. M. Tavač, PhD.
16.	<b>Š. Sedliak</b>	Symmetry game system for mobile platform	Ing. M. Tavač, PhD.
17.	<b>Ľ. Hrtánek</b>	Process Capability Measurement System in selected organization	Assoc.Prof. Ing. M. Hrnčiar, PhD.
18.	<b>R. Popper</b>	System for displaying announcements and multimedia information on multiple screens	Ing. Š. Toth, PhD.
19.	<b>S. Kontriš</b>	Turn-based RPG - player-enemy interaction	Assoc.Prof. Ing. J. Janech, PhD.
20.	<b>F. Mučka</b>	Triangulation for modelling a movement of three-dimensional elastic objects in fluid using software Espresso	Assoc.Prof. RNDr. K. Bachratá, PhD.
21.	<b>J. Kristek</b>	Design of dynamic Word press templates	Ing. P. Hrkút, PhD.

No.	Student	Theme	Supervisor
22.	O. Chovancová	Data visualization acquired by SCADA systems using HTML 5 standards	Ing. J. Veverka
23.	J. Tomášiková	Impact of the triangulation for modelling of formation the red blood cells in ESPResSo software	Assoc.Prof. RNDr. K. Bachratá, PhD.
24.	L. Lihocký	Selection of patterns in red blood cell triangulation for modelling of sickle cell anaemia using software ESPResSo.	Assoc.Prof. RNDr. K. Bachratá, PhD.
25.	D. Pethő	2D Game development for Android	Ing. M. Meško, PhD.
26.	M. Sleziak	Fitness Assistant mobile application	Ing. M. Meško, PhD.
27.	J. Ondreják	Development of framework for responsive web-site	Ing. M. Meško, PhD.
28.	M. Novák	Using of low energy Bluetooth devices in mobile application for platform iOS	Ing. D. Dragula
29.	M. Záh	Plug-in Development and Usage	Ing. J. Ružbarský, PhD.
30.	J. Hodoň	Mobile app development for server simulations managing	Assoc.Prof. Mgr. I. Cimrák, Dr.
31.	J. Škorvánek	Mobile application for driver support	Ing. P. Hrkút, PhD.
32.	R. Droppa	Mobile app development for sleep cycles monitoring	Assoc.Prof. Mgr. I. Cimrák, Dr.
33.	S. Kurnas	Cross-platform game development using Unity engine	Ing. Š. Toth, PhD.
34.	M. Durný	Web application for employees time tracking of small and medium enterprises	Ing. D. Dragula
35.	D. Bartoš	Web-based information system for running competition organizers	Ing. J. Ružbarský, PhD.
36.	M. Jahelka	Web site for children activity in summer camps	Ing. P. Hrkút, PhD.

## **MASTER THESIS**

<b>No.</b>	<b>Student</b>	<b>Theme</b>	<b>Supervisor</b>
1.	<b>T. Kuba</b>	Preparing technology upgrade for PHP based business platform with legacy code and external libraries	Ing. J. Stančok
2.	<b>D. Vnenk</b>	E-processing of business trip documents	Ing. D. Jakešová
3.	<b>M. Jančura</b>	UML .FRI met model editor	Assoc.Prof. Ing. J. Janech, PhD.
4.	<b>M. Louma</b>	UML profiles for the UML .FRI CASE tool	Assoc.Prof. Ing. J. Janech, PhD.
5.	<b>D. Barborík</b>	Implementation of quality management systems in small and medium-sized enterprises	Assoc.Prof. Ing. M. Hrnčiar, PhD.
6.	<b>M. Vnučáková</b>	Educational Services Innovation	Assoc.Prof. Ing. M. Hrnčiar, PhD
7.	<b>M. Stašáková</b>	Innovation in Public Transport Services in Žilina Region	Assoc.Prof. Ing. M. Hrnčiar, PhD.
8.	<b>M. Potkan</b>	Integration of Cloud Based Accounting with Business Platform	Ing. J. Stančok
9.	<b>M. Špalek</b>	Localization system using Bluetooth Low Energy	Ing. D. Dragula
10.	<b>E. Kmetík</b>	Modular Development and SCADA System Replacement in Company	Ing. V. Tavač, PhD.
11.	<b>R. Píš</b>	Support system for simulation package ESPResSo	Assoc.Prof. Mgr. I. Cimrák, Dr.
12.	<b>T. Čaniga</b>	Portal to support the teaching of mathematics and its improvement based on statistical results of children's solutions.	Assoc.Prof. RNDr. K. Bachratá, PhD.
13.	<b>L. Jankura</b>	Extending the RE-Flexible standard and its integration to the other SAP ERP modules	Ing. E. Baraniak
14.	<b>Š. Ďaďo</b>	Software module for creating graphical layouts on HTML pages	Ing. V. Pšenák, PhD.

## **COOPERATION**

### **Cooperation with Institutes and Enterprises in Slovakia**

- University of Matej Bel, Banská Bystrica
- Railways of Slovak Republic
- Slovak Society for Quality
- Slovak Post

- Hewlett Packard Slovakia, Ltd.
- Scheidt & Bachmann
- Transport Research Institute
- Slovak Telekom
- Ministry of Education, Science, Research and Sport

#### **Cooperation with Foreign Institutes and Enterprises**

- University of Pardubice, The Jan Perner Transport Faculty, Department of Informatics in Transport, Czech Republic
- TUD - University of Technology Dresden, Germany
- Czech Railways
- AŽD Prague, Czech Republic
- Administration of Railways Transportation Roads, Czech Republic
- Dep. of Industrial Simulation, Fachhochschule St. Poelten, Austria
- Institute of Computational Physics, University of Stuttgart, Germany
- Institute of Chemical Biology, Imperial College, London

#### **Membership in Slovak Organizations and Societies**

##### **Assoc.Prof.Ing. E. Kršák, PhD.:**

- SANET – Slovak Academic Network

##### **Assoc.Prof.Ing. M. Hrnčiar, PhD.:**

- Slovak Society for Quality

##### **Ing. M. Gábor, PhD.**

- Intelligent Transport Systems Association Slovakia

##### **RNDr. H. Bachratý, PhD.:**

- Union of Slovak Mathematicians and Physicists

#### **Membership in International Organizations and Societies**

##### **Assoc.Prof.Ing. M. Hrnčiar, PhD.:**

- Austrian Society for Process Management

##### **Assoc.Prof.Ing. Ján Janech, PhD.**

- IEEE: Advancing Technology for Humanity

### **Contracts with Slovak and Foreign Institutions**

- Railways of Slovak Republic
- Czech Railways
- Slovak Post
- Slovak Society for Quality
- Hewlett Packard
- AŽD Prague, Ltd. (Automation of Czech Railways)
- Union Insurance
- Research Executive Agency, FP7 framework
- SUDOP Prague, Czech Republic

### **Other activities:**

#### **Assoc.Prof.Ing. E. Kršák, PhD.:**

- Administrator of Certificate Authority Faculty of Management Science and Informatics
- Registrar of internet domains TLD sk
- IEEE member

#### **Assoc.Prof.Ing. M. Hrnčiar, PhD.:**

- President of Slovak Society for Quality
- Member of the Slovak Technical Committee TK22 – Quality
- Member of the Workgroup CAF and Education (EIPA – European Institute for Public Administration)
- Member of the EQAVET – European Quality Assurance in Vocational Education
- Member of the Accreditation Committee for Vocational Education of the Slovak Republic

#### **RNDr. H. Bachratý, PhD.:**

- Governor of foundation “Ingenium”
- Member of the regional committee of Union of Slovak Mathematicians and Physicists
- Activities in mathematical talents education

#### **Ing. J. Ružbarský, PhD.:**

- Coordinator of Partnership among University of Applied Sciences Dresden, and Faculty of Management Science and Informatics, University of Žilina
- LBMS Graduation Certificate: Object Analyse and Design in UML

**Ing. M. Tavač, PhD.:**

- Oracle Database: SQL Certified Expert

**Ing. V. Tavač, PhD.:**

- IEEE member

**Ing. J. Janech, PhD.:**

- IEEE member
- IEEE Computer Society member
- IEEE Intelligent Transportation Systems Society member
- ACM member

**Assoc.Prof Mgr. I. Cimrák, Dr.:**

- Slovak Committee for Mathematical Olympiad member
- Head of Regional Committee for Mathematical Olympiad

**Sojourns of Pedagogical Staff at Foreign Institutions in 2015**  
**(Save for Czech Republic)**

<i>Name</i>	<i>Institute</i>	<i>Country</i>	<i>Date</i>
Ing. J. Ružbarský, PhD.	HTW Dresden	D	10. 02. – 13. 02. 2015
Assoc.Prof.Mgr. I. Cimrák, Dr.	Krems University	A	16. 02. – 17. 02. 2015
Mgr. R. Tóthová	Krems University	A	16. 02. – 17. 02. 2015
Assoc.Prof. Ing. K. Bachratá, PhD.	Puttererschlossl, Aigen im Ennstal	A	30. 04. – 03. 05. 2015
Ing. H. Bachratý, PhD.	Puttererschlossl, Aigen im Ennstal	A	30. 04. – 03. 05. 2015
Ngr. M. Bušík	DSFD 2015 Edinburg	GB	12. 07. – 19. 07. 2015
Mgr. I. Jančígová	DSFD 2015 Edinburg	GB	12. 07. – 19. 07. 2015
Mgr. R. Tóthová	ICCB 2015 Barcelona	ES	13. 07. – 17. 07. 2015
Assoc.Prof.Mgr. I. Cimrák, Dr.	ICCB 2015 Barcelona	ES	13. 07. – 17. 07. 2015
Mgr. R. Tóthová	BIOMS/EMBL Conference 2015 Heilderberg	D	29. 09 – 03. 10. 2015
Assoc.Prof.Mgr. I. Cimrák, Dr.	Digital agenda for Europe, Lisboan	P	19. 10. – 23. 10. 2015



**Photo-Galerie of the Faculty**



**Faculty of Management Science and Informatics**



**Entrance hall of the Faculty**





**Permanent photo exhibition in the corridor of the Faculty**



**WiFi in the corridors**





**Dining-Room at the Faculty**



**First LEGO League Competition at the Faculty**





**Presentations of companies in atrium of Faculty**



**Students party at courtyard of the Faculty**