

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

ANNUAL REPORT 2014

UNIVERSITY OF ŽILINA



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FACULTY OF MANAGEMENT SCIENCE AND INFORMATICS



Foreword

Faculty of Management Science and Informatics, University of Žilina was founded on July 17th, 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.

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 Safety Engineering**
- **Faculty of Human Sciences**

There are more than **13 000** students on the University of Žilina, including **1 448** students at the **Faculty of Management Science and Informatics** in the year 2014. .

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 2013, our Faculty ranked 3rd place among the top 20 faculties whose graduates were most in demand (in 2010 we were in first place; in 2011 and 2012 we ranked second one.)**

In the frame of competition **National Prize of Slovak Republic for Quality** the Faculty has obtained 4 appreciations:

1. **Awarded finalist** in the Competition, Category **C3** – Others organizations in public sector
2. **Top manager of quality** in the year 2014 – Assoc.Prof. Ing. Miroslav **Hrnčiar**, PhD.
3. **The best dissertation work** in the area quality – Ing. Peter **Mádzik**
4. **The best diploma work** in the area quality – Ing. Tomáš **Paukovčiak**



Awarded members of the Faculty in the ceremony of **National Prize of Slovak Republic for Quality**

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
Tel.: +421-41-513 40 51
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Vice-Deans: Assoc.Prof.Ing. Viliam **L e n d e l** , PhD.,
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Ing. Peter **M á r t o n** , PhD..
Vice-Dean for Science and International Affairs
Tel.: +421- 41- 513 41 00
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Faculty Registrar: Ing. Marta **R e š e t k o v á** , 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 two Sub-Campuses:

- **Department of Mathematical Methods and Operations 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**

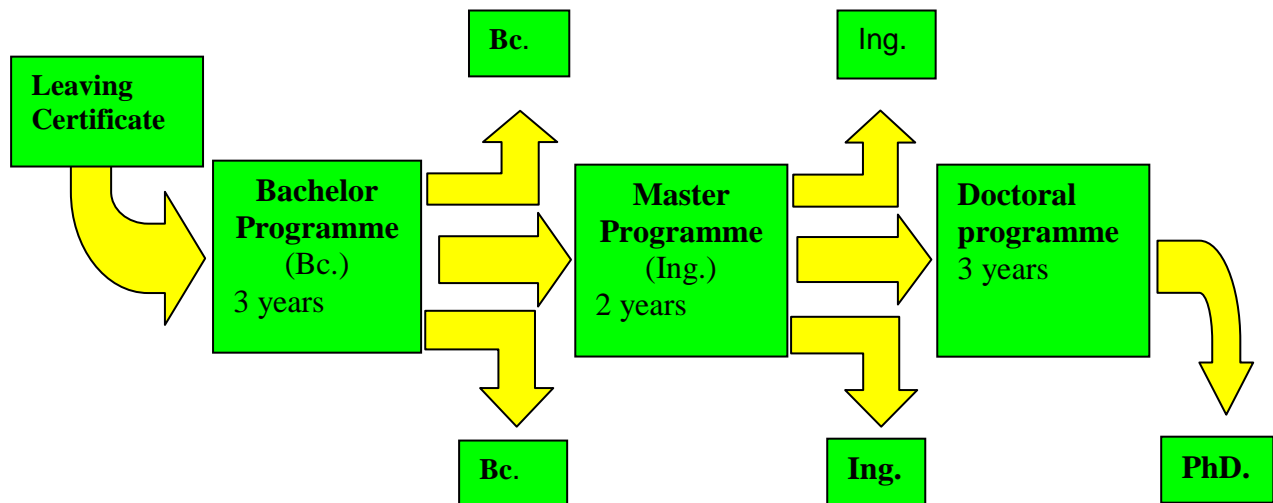
- **Sub-Campus in the town Prievidza**
- **Sub-Campus in the town Ružomberok**

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 1st 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*
- *Applied Network Engineering*
- *Information Tools for Decision-Making Support*
- *Computer Engineering*
- *Management*

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

- **Data Processing**
- **Information-Communication Networks**
- **Business Informatics**
- **Distributed and Parallel Systems**

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*
- *Informatics Tools for Decision- Making Support Systems*
- *Management*

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 3rd 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 Matiaško, 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 Janáček, 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 Miček, 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) Žilina 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 Leonardo 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 Kováčiková, 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 interests 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, MVTIS and etc

Scientific activities of the Faculty:

In the following list there are some of research projects realized in 2014 at the Faculty:

Projects supported by EU Foundations

1. LoE STF 448/01 ETSI STF 448/01 *Local Dynamic Map (LDM) Standardization for Vehicle ITS Station*
Prof.Ing. Tatiana **Kováčiková**, PhD.
2. LoE STF 440/02 ETSI STF 440/02 *Cable Network Transition to IPv6*
Prof.Ing. Tatiana **Kováčiková**, PhD.
3. 2013-03.15-03 *Micro-fluidic Simulations with Biomedical Applications*
Dr. Ivan **Cimrák**
4. FP7-PEOPLE-2011-CIG-303580 *Biomed-Micro-fluidics*
Dr. Ivan **Cimrák**

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

1. 1/1116/11 *Adaptive Data Distribution in Mobile Ad-hoc Networks*
Prof.Ing. Karol **Matiaško**, PhD.
2. 1/0296/12 *Public Service Systems with Fair Access to Service*
Prof. RNDr. Jaroslav **Janáček**, PhD.
3. 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. Ľuboš **Buzna**, PhD.
4. 1/0421/13 *Efficiency Attribute and Human Capital*
Assoc.Prof.Ing. Alžbeta **Kucharčíková**, PhD.
5. 1/0526/13 *Modelling of Multilateral Relations of Economic Subjects and Quality Enhancement in Decision-Making Processes with IOCT Support*
Ing. Emese **Tokarčíková**, PhD.
6. 035ŽU-4/20/13 *Study Programme of 2nd Level: Operations Management and Logistics*
Assoc.Prof.Ing. Jaroslav **Král**, PhD.
7. 1/0502/14 *Design of Algorithms to Decision-Making Support on the Base of Fuzzy Data*
Prof.Ing. Vitaly **Levashenko**, PhD.
8. 1/0498/14 *New Methods and Algorithms of Analysis of Functions and Reliability in Complex Systems*
Assoc.Prof.Ing. Elena **Zaitseva**? PhD.

9. 1/0617/14 *Memristor's Implementation of Cognitive Systems*
Prof. Ing. Martin **Klím**, PhD.
10. 1/0836/14 *Modification of Adaptive and Intelligent Algorithms in Automatic Control for Embedded Systems*
Prof. Ing. Mikuláš **Alexík**, PhD.
11. 1/0764/14 *Development of Methods on Parallel Data Processing for Monitoring Use and Control of Transportation Processes*
Prof. Ing. Juraj **Miček**, PhD.
12. 1/0879/14 *Knowledge Integration of Medical Data*
Assoc. Prof. Ing. Michal **Zábovský**, PhD.
13. 1/0363/14 *Innovation Management – Processes, Strategies and Efficiency*
Prof. Ing. Štefan **Hittmár**, PhD.
14. 1/0621/14 *Marketing Management in Cooperation Environment – Design of Implementation for Model of Strategic Management in Cooperation Connections*
Assoc. Prof. Mgr. Jakub **Soviar**, PhD.
16. 1/0890/14 *Stochastic Decision-Making Modelling in Human Potential Motivation*
Assoc. Prof. Ing. Martina **Blašková**, PhD.
17. 1/0942/14 *Dynamic Modelling and Soft Techniques in Economic Values Prediction*
Ing. Lucia **Pančíková**, PhD.
18. 060ŽU-4/2014 *Attractive Educational Portal with Intelligent Analysis of Results Components*
Prof. Ing. Vitaly **Levashenko**, PhD.
19. 040ŽU-4/2014 *Financial Literacy of Engineers in 21st Century*
Ing. Zuzana **Kozubíková**, PhD.
20. 059ŽU-4/2014 *E-Manual of Thermal Treatment of Ferrous and Non-Ferrous Metals*
Assoc. Prof. Ing. Peter **Fabián**, PhD.
21. 058ŽU-4/2014 *Access Improvement of Acquisition of Target Skills in Managerial Oriented Study Programmes*
Assoc. Prof. Ing. Miroslav **Hrnčiar**, PhD.
22. 011ŽU-4/2014 *Experimental Mathematics – Visibility of Invisible*
RNDr. Rudolf **Blaško**, PhD.
23. 021ŽU-4/2014 *Intelligent Transport Systems – New Study Programme*
Prof. Ing. Karol **Matiaško**, PhD.

Applied Research Projects

1. 16/2013/FRI/R/150 *Development and Realization of Address Software to Control of Railway Corridors*
Assoc.Prof.Ing. Emil **Kršák**, PhD.

Projects supported by Agency for Science and Research

1. SK-SRB-0050-11 *Reconstruction and Revitalisation of Railway Infrastructure in Conformity with Regional Development*
Ing. Peter **Márton**, PhD.
2. 0441-11 *Optimization of Micro-fluidic Equipment for Biomedical Applications*
Dr. Ivan **Cimrák**
3. 0760-11 *Design of Fair Service Systems on the Transportation Networks*
Prof. Ing. Jaroslav **Janáček**

Another Projects

1. SK-PL-0023-12 *Support Systems for Medical Decision-Making*
Assoc.Prof.Ing. Elena **Zaitseva**, PhD.
2. 1/2014 *Agreement of Financial Providing for Optical Network Infrastructure*
Asasoc.Prof.Ing. Emil **Kršák**, PhD.
3. 0310/2008/SMS *Measurement-Preciseness - Test and Verification of Position Algorithms*
Assoc.Prof.Ing. Peter **Šefčík**, PhD.

Centre of Excellence

26220120050 *Centre of Excellence for Systems and Services of Intelligent Traffic IDS2*
Faculty is a University Coordinator
Leader of project: Prof.Ing. Karol **Matiaško**, 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.

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

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

Prof. Ing. Martin **Klím**, PhD.

Prof.Ing. Peter **Závodný**, PhD.

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

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

Prof.Ing Karol **Matiaško**, PhD

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 2014 was successful

<i>Name of candidate</i>	<i>Title of Inauguration work</i>
Assoc.Prof.Ing. Ludmila Jánošíková , PhD	Mathematical models in multicriteria decision making
Assoc.Prof.Ing.. Pavol Čičák , PhD.	Control systems networks

In the procedure to be appointed as *Associated Professor* were successful

<i>Name of candidate</i>	<i>Title of Habilitation work</i>
Ing. Viliam Lendel , PhD.	Management of innovation processes in enterprise
Ing. Ján Janech , PhD.	Information systems with asynchronous data actualization
Ing. Anna Jacková , PhD.	Use of managerial accounting in the enterprise

Scientific Board of the Faculty, after successful defence of **Dissertation Thesis**, has appointed in **2014** with title **PhD.** following graduates of Doctoral Programme:

<i>Name</i>	<i>Theme of Dissertation Thesis</i>	<i>Supervisor</i>
Ing. Michal Varga	Obtaining information modelling and their use in intelligent decision-making in agent oriented simulation processes	Assoc.Prof. Ing. Norbert Adamko , PhD.
Ing. Michal Kocifaj	Modelling of autonomous mobile agents in complex stochastic environment of transportation terminals	Assoc.Prof. Ing. Norbert Adamko , PhD
Ing. Michal Srnec	Autonomous network management and context oriented routing	Prof. Ing. Tatiana Kováčiková , PhD.
RNDr. Mgr. Marian Kováč	Using possibilities of parallel calculations by problems solving of discreet optimization	Assoc.Prof. RNDr. Stanislav Palúch , PhD.
Ing. Tomasz Kanik	Decision-making models by diagnosis in medicine	Assoc.Prof. RNDr. Štefan Peško , PhD..
Ing. Matej Meško	Identification and monitoring of mobile objects	Assoc.Prof. Ing. Emil Kršák , PhD.
Ing. Anna Vargová .	Hybrid simulation movement models and behaviour of pedestrians with no-homogeneous granulation	Assoc.Prof. Ing. Norbert Adamko , PhD.

Ing. Miroslav Mintál	Platform of support using in graphic cards computing power in multiagent simulation models	Assoc.Prof. Ing. Norbert Adamko , PhD.
Ing. Jozef Kostolný	Reliability systems analysis	Assoc.Prof. Ing. Elena Zaitseva , PhD.
Ing. Miroslav Pet'ó	Information-communication aspects of logistic operations and their signification in decision-making management and establishment processes	Assoc.Prof. Ing. Jaroslav Král , PhD.
Ing. Michal Bízik	Knowledge in strategic decision-making	Prof. Ing. Štefan Hittmár , PhD.
Mgr. Peter Madzik	Design and control of relations between praxis and education	Assoc.Prof. Ing. Miroslav Hrnčiar , PhD.
Ing. Lukáš Čechovič	Signal classification using artificial neural network	Prof. Ing. Juraj Miček , PhD.
Ing. Martin Hyben	Speech recognition with low computational complexity	Prof. Ing. Juraj Miček , PhD.
Ing. Milan Frátrik	Modelling of massive memristive networks	Prof. Ing. Martin Klím , PhD.

Publication Activities:

Members of the Faculty of Management Science and Informatics have published in the year **2014** results of research activity in **196** publications. Some of the more significant titles there are in the following list.

Scientific monographs published in foreigner 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

Scientific monographs published in domestic editors

SOVIAR, J., LENDEL, V., KOCIFAJ, M., ČAVOŠOVÁ, E.: *Cooperation Management*
1st Edition, University of Žilina, pp. 2014. – 215, ISBN 978-80-554-0813-2

University textbooks published in inland editors

JANECH, J.: *Metaprogramming: Basics of Metaprogramming in Python language*
Žilina : University of Žilina, pp.2014. –117 - ISBN 978-80-554-0830-9

DROZDOVÁ, M., MIKUŠ, E., PALÚCH, P.: *Communication technologies 1*
Žilina : University of Žilina, pp. 2014. – 279, ISBN 978-80-554-0835-4

Scientific Works in Foreign Prestigious Journals

BUZNA, Ľ., KOHÁNI, M., JANÁČEK, J.: *An approximation algorithm for the facility location problem with lexicographic minimax objective*

In: Journal of applied mathematics. - ISSN 1110-757X. - ID 562373 (2014), pp.12

JÁNOŠÍKOVÁ, Ľ., KAVIČKA, A., BAŽANT, M.: *Optimal operation scheduling and platform track assignment in a passenger railway station*

In: Journal of rail and rapid transit: Proceedings of the institution of mechanical engineers Part F. - ISSN 0954-4097. - Vol. 228, No. 3 (2014), pp. 271-284.

CIMRÁK, I., GUSENBAUER, M., JANČIGOVÁ I.: *An ESPResSo implementation of elastic objects immersed in a fluid*

In: Computer physics communications. - ISSN 0010-4655. - Vol. 185, No. 3 (2014), pp. 900-907.

MARTIN KLIMO, ŠUCH, O., ŠKVAREK, O., FRÁTRIK, M.: *Memristor - based pattern matching*

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Academic Senate of the Faculty:

Chairman: RNDr. Štefan **K o v a l í k**, PhD.

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

Chamber of Employees:

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Assoc.Prof.Ing. Peter **Ševčík**, PhD

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

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

Ing. Alžbeta **Kucharčíková**, PhD

RNDr. Hynek **Bachratý**, PhD.

. Ing. Peter **Palúch**, PhD.

Ing. Juraj **Dubovec**, PhD.

Mgr. Lýdia **Gábrišová**, PhD.

Ing. Miroslav **Gábor**, PhD

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

RNDr. Štefan **Kovalík**, PhD.

Ing. Iveta **Nedeljaková**, PhD.

Ing. Ján **Ružbarský**, PhD,

Chamber of Students:

Ing. Zuzana **Škutchanová**

Bc, Lukáš **Konštiak**

Bc. Jaroslav **Szabo**

Michal **Janešík**

Lukáš **Sekyra**

Bc, Jakub **Kordiak**

Oľga **Chovancová**

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 2010- 2014.

Category / Year	2010	2011	2012	2013	2014
Professors	9	9	8	8	9
Guest Professors	-	-	-	-	1
Assoc. Prof.	16	17	18	22	31
Senior Lecturers PhD.	56	52	58	57	53
Senior Lecturers	9	9	7	6	1
Assistants	-	-	-	-	-
Lectors	4	4	3	2	5
Research staff	8	6	5	4	4
Tech. Admin. Staff	44	44	44	36	42
Total	146	141	143	135	146

Turnover of staff in 2014

Within the space of year **2014** the Faculty has accepted into pedagogical and scientific staff following members:

Ing. Matej **Meško**, PhD. - Senior Lecturers PhD.,
Ing. Michal **Varga**, PhD. – Senior Lecturers PhD.,
Ing. Jozef **Kostolný**, PhD. – Research Staff

In the same period following members left the Faculty:

January 2014

Ing. Jozef **Gajdošík** – Senior Lecturers
Ing. Josef **Kopecký** – Senior Lecturers

July 2014

Ing. Štefan **Baďura**, PhD. – Senior Lecturers PhD.,
Ing. Anton **Lieskovský**, PhD. – Senior Lecturers PhD.,
Ing. Oldřich **Kovář**, PhD. – Senior Lecturers PhD.

August 2014

Ing. Jana **Dicová**, PhD. – Senior Lecturers PhD.
Ing. Zuzana **Kurillová**, PhD. - Senior Lecturers PhD.

Programmes of Study:

Bachelor Degree Programme: *INFORMATICS*

1st year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	COMPULSORY				
	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	5	DMME
	OPTIONAL				
	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	COMPULSORY				
	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
	OPTIONAL				
	5BF016	Practice of Mathematics	0-2-0	1	DMMOR
	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 1st year of study: 60

2nd year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	COMPULSORY				
	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
	OPTIONAL				
	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	COMPULSORY				
	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
	OPTIONAL				
	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 2nd year of study: 120

3rd year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
5	COMPULSORY				
	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
	OPTIONAL				
	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
	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	COMPULSORY				
	5BZ001	Bachelor Project	0-0-8	12	G
	5BL040	English Language 1	0-0-0	3	FHSc_DL
	OPTIONAL				
	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
	5BL06	Psychology	2-1-0	4	G
	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
COMPULSORY OPTIONAL					
Autumn	5BE007	Finance of Enterprise	2-0-2	6	DMME
	COMPULSORY OPTIONAL				
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
COMPULSORY OPTIONAL					
Autumn	5US009	Internet and Intranet Application Development	2-0-2	4	DST
	COMPULSORY OPTIONAL				
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
COMPULSORY OPTIONAL					
Autumn	5BN003	Computer Networks 1	2-0-4	6	DIN
	5BN011	Computer Networks 3	2-0-2	6	DIN
	COMPULSORY OPTIONAL				
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
OPTIONAL					
Autumn	5BF019	Mathematical Analysis 3	2-2-1	6	DMMOR
	COMPULSORY OPTIONAL				
Spring	5BA030	Probability and Statistics	2-2-0	6	DMMOR

Bachelors Degree Programme: COMPUTER ENGINEERING

1st year

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	COMPULSORY				
	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
	OPTIONAL				
	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	COMPULSORY				
	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
	OPTIONAL				
	5BL016	Foreign Language 2	0-2-0	3	FHSc-DL
	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 1st year of study: 60

2nd year

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	COMPULSORY				
	5BF007	Electronics	2-0-2	6	DTC
	5BI039	Informatics 3	2-1-2	5	DST
	5BH001	Logical Systems	2-0-2	6	DTC
	COMPULSORY OPTIONAL				
	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
	OPTIONAL				
	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	COMPULSORY				
	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
	COMPULSORY OPTIONAL				
	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
	OPTIONAL				
	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 2nd year of study: 120

3rd year

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
5	COMPULSORY				
	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
	COMPULSORY OPTIONAL				
	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
	OPTIONAL				
	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
	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	COMPULSORY				
	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
	COMPULSORY OPTIONAL				
	5BI010	Java – Language and Development Applications	2-0-2	6	DI
	5BH014	Computer Process Control	2-0-3	7	DTC
	OPTIONAL				
	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
	5BL006	Psychology	2-1-0	4	G
	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

1st year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	COMPULSORY				
	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
	OPTIONAL				
	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	COMPULSORY				
	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
	OPTIONAL				
	5BL016	Foreign Language 2	0-2-0	3	FHSc-DL
	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 1st year of study: 60

2nd year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	COMPULSORY				
	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
	OPTIONAL				
	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	

Recommended number of credits in the 2nd year of study: 120

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
4	COMPULSORY				
	5BE018	Marketing	2-2-0	6	DMT
	5BM016	Operational Management	3-1-0	6	DMT
	5BM014	Human Resource Management	2-2-0	6	DMT
	OPTIONAL				
	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	

3rd year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
5	COMPULSORY				
	5BM013	Quality Management	2-2-0	6	DST
	5BE007	Finance of Enterprise	2-2-0	6	DMME
	OPTIONAL				
	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	COMPULSORY				
	5BZ001	Bachelors Project	0-0-8	12	G
	5BL002	Foreign Language 1	0-0-0	3	FHSc-DL
	OPTIONAL				
	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
Autumn	COMPULSORY OPTIONAL				
	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
Spring	COMPULSORY OPTIONAL				
	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

www.fri.uniza.sk link: Study - Bachelor study

Master Degree Programme: **INFORMATION SYSTEMS**

1st year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	COMPULSORY				
	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
	COMPULSORY (according to Professional Orientation)				
	5IP001	Project 1	0-2-4	6	G

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
2	COMPULSORY				
	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
	COMPULSORY (according to Professional Orientation)				
	5IP002	Project 2	0-2-4	6	G

Recommended number of credits in the 1st year of study: 60

2nd year of study

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

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
4	COMPULSORY				
	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
COMPULSORY OPTIONAL					
Autumn	5II013	Advanced Object Technologies	2-0-2	5	DTS
	5IE001	Theory of Enterprise	2-0-2	5	DMME
COMPULSORY OPTIONAL					
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
COMPULSORY OPTIONAL					
Autumn	5IE017	Econometrics	2-0-2	5	DMME
	5IE015	Finance	2-2-0	5	DMME
	5II001	Fuzzy Sets and Neural Networks	2-0-2	5	DMMOR
COMPULSORY OPTIONAL					
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
COMPULSORY OPTIONAL					
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
COMPULSORY OPTIONAL					
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
	OPTIONAL				
Autumn	5IS009	Expert Systems	2-0-2	6	DMMOR
	5IS011	HPC and Grid computing	2-0-2	5	DTC
	5IN025	Communication Technologies 2	2-0-2	6	DIN
	5II032	Design Patterns	2-0-2	5	DI
	5UA017	Queuing Theory	2-0-2	5	DMMOR

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
	OPTIONAL				
Spring	5US004	Analysis of Processes	2-0-2	5	DIN
	5UI026	Electronic Processing and documents Presentation	2-0-2	5	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
	OPTIONAL				
Autumn	5IN025	Communication Technologies 2	2-0-2	6	DIN
	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	OPTIONAL				
Spring	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	OPTIONAL				
	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	OPTIONAL				
	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

1st year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	COMPULSORY OPTIONAL				
	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	6	DTC

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
2	COMPULSORY				
	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 1st year of study: 60

2nd year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	COMPULSORY				
	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	COMPULSORY				
	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	COMPULSORY OPTIONAL				
	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	COMPULSORY OPTIONAL				
	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	OPTIONAL				
	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	OPTIONAL				
	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

1st year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	COMPULSORY				
	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	COMPULSORY				
	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 1st year of study: 60

2nd year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	COMPULSORY				
	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	COMPULSORY				
	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	COMPULSORY OPTIONAL				
	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	COMPULSORY OPTIONAL				
	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	OPTIONAL				
	5IS009	Expert Systems	2-0-2	4	DMMOR
	5IE015	Finance	2-2-0	5	DMME
	5US009	Internet and Intranet Application Development	2-0-2	4	DST

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
Spring	COMPULSORY				
	5IS008	Architecture of Information Systems	2-0-2	5	DIN
	5UI026	Electronic Processing a 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

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Master Degree Programme: Applied Network Engineering

1st year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	COMPULSORY				
	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

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

Embedded Systems

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
2	COMPULSORY				
	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	COMPULSORY				
	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
	5IPOS2	Project 2	0-2-4	6	DIN

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	COMPULSORY				
	5IP005	Internship	0-0-0	0	G
	5IN027	Algorithms in Networks	2-0-2	6	DIN
	5IN031	Optimisation of Convergent Networks	2-0-6	6	DIN
	5IN011	Design of Networks 2	2-0-2	6	DIN
	5IP003	Project32	0-2-4	6	G
	OPTIONAL				
5IN033	Advanced Routing in Information-Communication Networks	2-0-5	6	DIN	

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

Embedded Systems

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
2	OPTIONAL				
	5UI026	Electronic Processing and Presentation of Documents	2-0-2	4	DMMOR

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	COMPULSORY				
	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

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
3	COMPULSORY				
	5IP005	Internship	0-0-0	0	G
	5IP005	Project 3	0-2-4	6	G

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

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

1st year of study

Semester	Code	COURSE	HOURS PER WEEK	ECTS	Department
1	COMPULSORY				
	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	COMPULSORY				
	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	COMPULSORY				
	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	COMPULSORY				
	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	COMPULSORY OPTIONAL				
	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	COMPULSORY OPTIONAL				
	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	OPTIONAL				
	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	OPTIONAL				
	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 link: Study – Master study

Students with excellent results in Bachelor Degree Study:

Student	Title of Thesis	Supervisor
Adam. Stromček	Car insurance event processing	Prof. Ing. K. Matiaško , PhD.
Róbert Mažgut	Analysis of algorithms for solving sudoku	Ing. M. Antal
Anna Púchyová	802.1X authentication and authorisation	Assoc.Prof. Ing. P. Segeč , PhD.
Martin Kontšek	Realisation of a VoIP SIP GSM gateway.	Assoc.Prof. Ing. P. Segeč , PhD.
František Gažo	Creation website application for creating and managing lists of students	RNDr. R. Blaško , PhD.
Peter Matejko	Comparison of algorithms „Gamma Heuristic“ with an exchange heuristic for the p-median problem.	Ing. M. Kohány , PhD
Štefan Mrázik	System for data collection for analysis of signature	Assoc.Prof. Ing. E. Zaitseva , PhD
Michal Ďuračík	Universal tool for creation of basic text operations	Ing. K. Zábovská , PhD.
Marek Hvolka	SEO tool	Ing. J. Ružbarský , PhD.
Štefan Mrázik	Sign language recognition	Assoc.Prof.. Ing. E. Kršák , PhD.
Eva Jamečná	Android application: e-Cookbook	Ing. M. Húdik , PhD.
Michal Špánik	LED information panel with Ethernet connectivity.	Ing. M. Húdik , PhD.
Martin Bednár	Simulation of motion of robot on wheels	Mgr. M. Kaukič , PhD.
Méria Straská	The estimation of the financial management progress of an enterprise through financial analysis	Ing. A. Jacková , PhD.
Juliána Mičechová	Analysis of financial statements and utilize its results in financial control	Ing. A. Jacková , PhD.
Salim Sirieh	Strategy to Increase DOXXbet Brand Awareness	Ing. M. Varmus , PhD.
Mária Štaffenová	Statistical evaluation and comparing economic literacy with other subjects of education	RNDr. H. Bachratý , PhD.
Dominika Moravčíková	Online customer zone of Stredoslovenská energetika, Ltd.	Assoc.Prof.. Ing. V. Lendel , PhD.
Renáta Babišová	Electronic banking services	Assoc.Prof.. Ing. A. Kucharčíková , PhD.
Katarína Bačinská	The impact of monetary policy on investment in the selected region	Assoc.Prof.. Ing. A. Kucharčíková , PhD..
Miroslav Priekala	Implementation of control information system for power plant.	Assoc.Prof.. Ing. M. Kubina , PhD.
Stanislava Líšková	The impact of costs and revenues on the profit on the basis of the analysis of the financial statements	Ing. A. Jacková , PhD.
Andrea Sládková	Information system for selected business	Assoc.Prof.. Ing. V. Lendel , PhD.

Students with excellent results in Master Degree Study:

Student	Title of Thesis	Supervisor
Marián Polt'ák	Digitally controlled CNC machine	Assoc.Prof. Ing. J. Kapitulík, PhD.
Peter Šarafín	Module for acoustic signal digitalization and pre-processing	Assoc.Prof. Ing. P. Ševčík, PhD.
Róbert Žalman	Control system for room lighting	Assoc.Prof. Ing. O. Karpiš, PhD.
Radim Bajak	Control unit of petrol engine	Assoc.Prof. Ing. J. Kapitulík, PhD.
Michal Kormoš	Comprehensive IPv6 Implementation at FMSI	Ing. P. Palúch, PhD.
Patrik Formánek	The WebRTC technology with implementation for an SIP environment.	Assoc.Prof. Ing. P. Segeč, PhD.
Eva Malichová	The Evaluation and design of key performance indicators in the company Cobra Automotive Ltd.	Ing. E. Tokarčíková, PhD.
Ludmila Závodská	Kanban Application in the Scheidt & Bachmann business conditions	Assoc.Prof. Ing. J. Král, PhD.
Martin Mičiak	Application of TQM tools in HIGA Ltd. company	Assoc.Prof. Ing. J. Král, PhD.
Zuzana. Slobodová	The Rationalization of Selected Processes of Production Company	Prof. Ing. Š. Hittmár, PhD.
Veronika Krasulová	Labour market dynamic modelling	Ing. Z. Staníková, PhD.
Mária Václaviková	Prediction Modelling of Using of the Flexible Working Forms	Ing. Z. Staníková, PhD.
Jana Kundříková	Effective cooperation management between university and business environment	Assoc.Prof. Mgr. J. Soviar, PhD.
Zuzana Kistanová	KINEKUS, Ltd. franchise relationship management	Assoc.Prof. Mgr. J. Soviar, PhD.
Kristína Tršková	The proposal of motivation program of employees and managers of the University of Žilina	Assoc.Prof. Ing. M. Blašková, PhD.
Luboš Šoška	Motivating business partners' employees whose job is of critical importance for an enterprise	Assoc.Prof. Ing. M. Blašková, PhD.
Katarína Matejčeková	Application of performance management methodology in selected enterprise	Prof. Ing. J. Vodák, PhD.
Michaela. Bednáriková	Solving the data mining problem in the selected company	Assoc.Prof. Ing. M. Kubina, PhD.
Petra Dubajová	Searching of motivation climate and the proposal of motivation program of employees of the Metropolitan police in Žilina	Assoc.Prof. Ing. M. Blašková, PhD.
Katarína Slezáková	Marketing strategy in regional tourist industry	Assoc.Prof. Mgr. J. Soviar, PhD.

Students' participation at the Professional Competitions

Honourable Mention on the conference **IT SUMMIT 2014**, Bratislava for the Master Thesis

Ing. Anton **Svetlošák** “**Receipt recognition using mobile device**” and

Ing. Roman **Baďura** “**Image processing - car brand recognition**”

Connect Co-working 2014 Bratislava

Dominika **Moravčíková** “**Internet Customer Zone**”

KIA Innovation Award 2014

Bc. Daniel **Filip**

Bc. Lukáš **Konštiak**

International programming competition “Central Europe Regional Contest 2014”, Krakow,
14th – 16th November 2014

From the Faculty participated three student's teams:

Rudolf **Grigel'**, Tomáš **Isteník**, Martin **Olešnaník**

Tomáš **Kuric**, Matej **Papík**, Marek **Drevenák**

Samuel **Kontriš**, Lukáš **Kormanec**, Matúš **Mrázik**

Students

In November 2014, there were at the Faculty in Bachelors degree programme **1038** students, in Masters Degree programme **372** students and **38** doctoral full-time students and **12** doctoral part-time students. An overview of number of students within last five years is on the following tablet:

Number of Bachelor students

Study programme	1 st year	2 nd year	3 rd year
Informatics	317	186	191
Computer Engineering	58	25	39
Management	85	64	73
Total	460	275	303
Total	1038		

Number of Master students

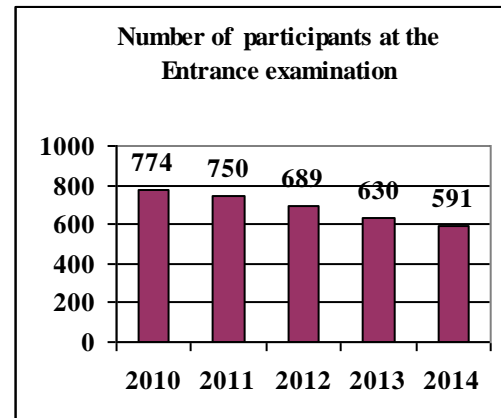
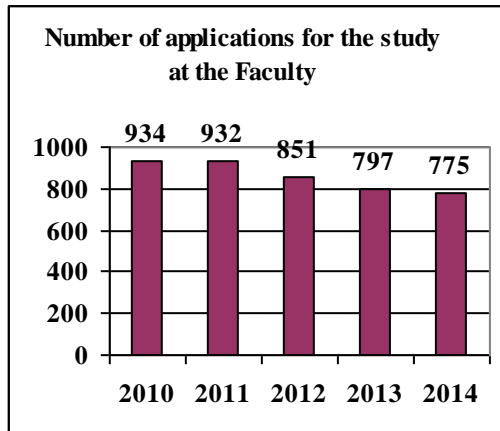
Study programme	1 st year	2 nd year
Information Systems	69	109
Applied Network Engineering	18	17
Computer Engineering	22	29
Management	48	60
Total	157	215
Total	372	

Number of Doctoral full-time students

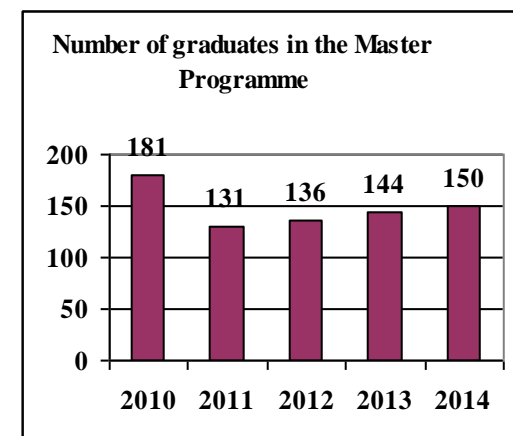
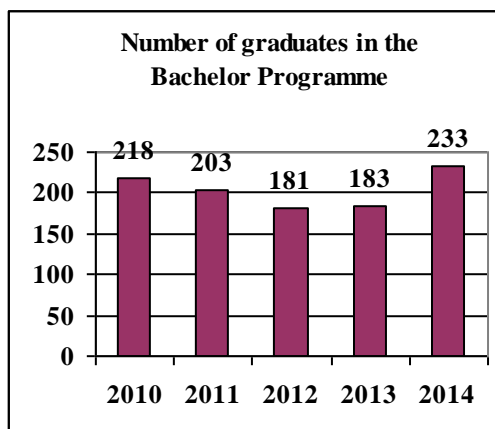
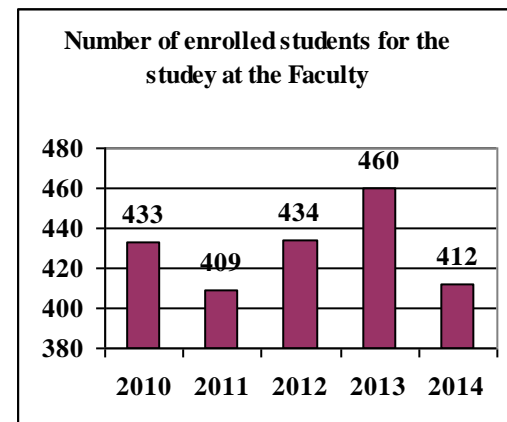
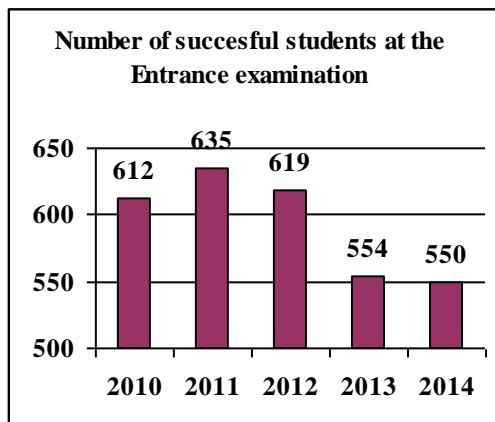
Study programme	1 st year	2 nd year	3 rd year
Applied Informatics	7	3	7
Informatics Tools for Decision Making Support System	0	0	0
Management	4	2	2
Total	11	5	9
Total	25		

Apart this number, there are at the present **12 part-time Doctoral students** and **2 students with above standard time** at the Faculty. Total: **39 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:



:



	2010	2011	2012	2013	2014
Bc.	872	996	1011	1038	1040
MSc.	363	351	380	372	369
PhD.	67	66	55	49	39
Total	1302	1413	1438	1459	1448

Programme ERASMUS and other international activities of the Faculty

Bilateral Agreements - ERASMUS

University of Vaasa	FIN
University of Applied Sciences Jyväskylä, Seinäjäki 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
Transport and Telecommunication Institute, Riga	LT
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 **2014** followed **22** students in the frame of the programme ERASMUS and others exchange programmes, at the partner's foreigner Universities and Institutions of the Faculty the programme of study.

Foreign Students at the Faculty in 2014

In the frame of Student Training Agreement with Telecom SudParis Evry, FRANCE 1 student took part in 2014 of two months internship at the Faculty and in the frame of the programmes ERASMUS 3 students from University of Porto, 1 student from Hellenic Open University Greece, 1 student from Universida de Católica do Parma, Italy and 1 student from University of Pardubice, Czech Republic..

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

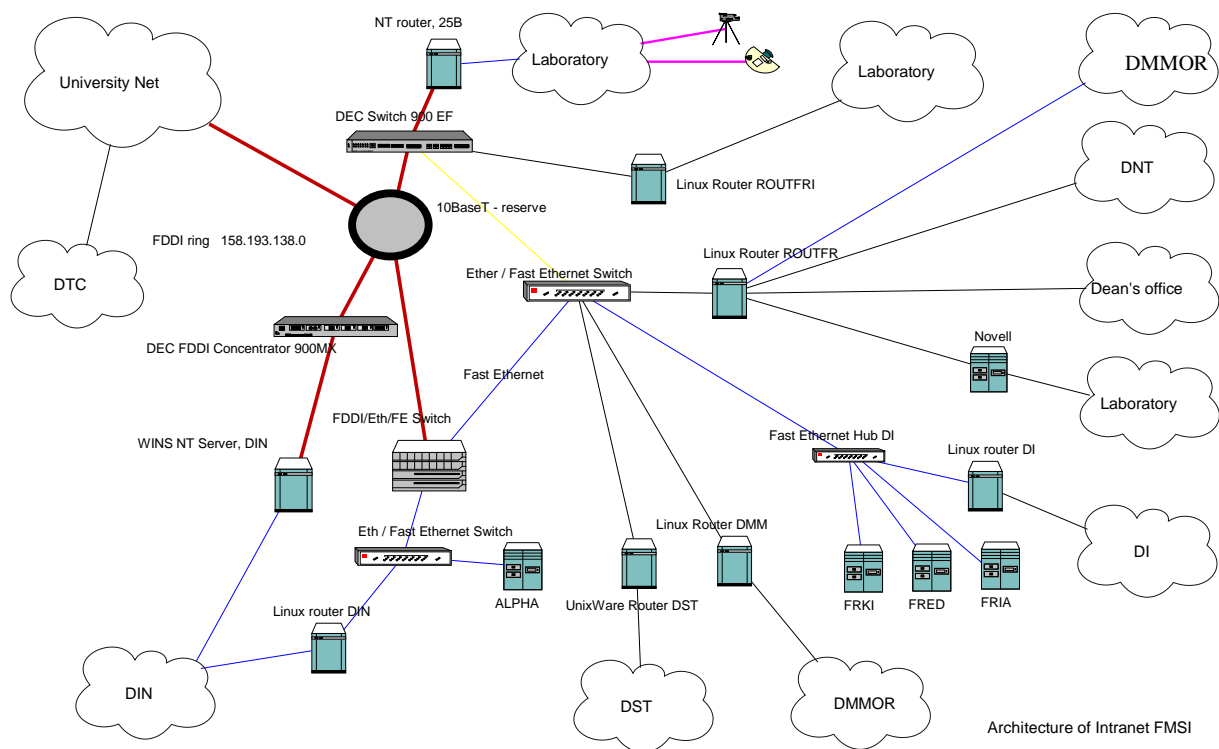
It was in 1992 when the Intranet of Faculty was created and in the meantime was continuously improving. It came into existence from the needs to process and to make accessible lot of information to students and to pedagogical staff, as well. The intranet of Faculty is a part of University Intranet, which 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.
Mgr. Michal Kaukič, PhD.
RNDr. Ida Stankovianska, PhD.
RNDr. Rudolf Blaško, PhD.
Mgr. Peter Czimmermann, PhD.
Mgr. Lýdia Gábrišová, PhD
RNDr. Alžbeta Szendreyová, PhD.

Ing. Peter Márton, 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

Administrative Department: Elena Rohrböcková

PhD students: Ing. Roman. Hajtmanek
Ing. Matej Cebecauer
Mgr. Rastislav Briestenský

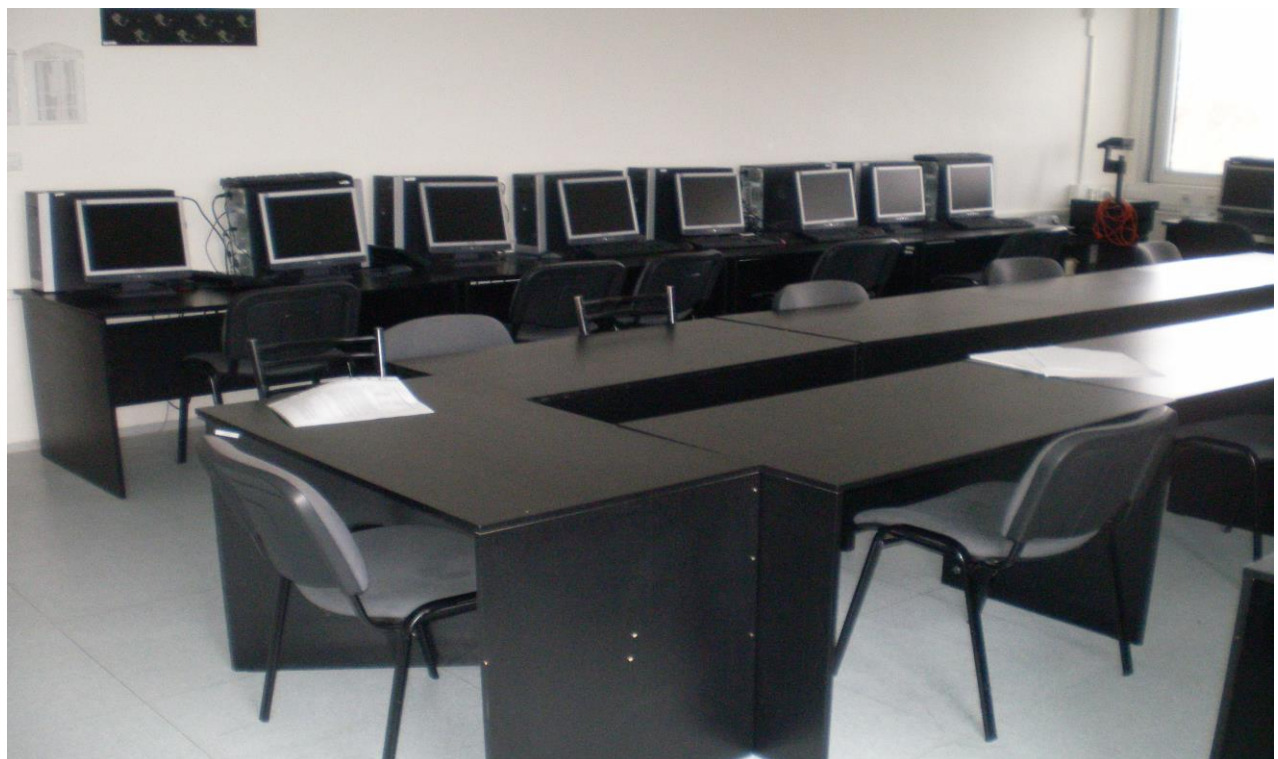
Ing. Ján Bendík
Mgr. Miloš Herda

PhD. - Programme

Theme	Student	Supervisor
1. Design of Public Service Systems with Exact Optimization Core	Ing. J. Bendík	Prof. RNDr. J. Janáček , PhD.
2. Design of Service Systems with fair play Mediums Distribution	Ing. M. Cebecauer	Assoc.Prof. Ing. L. Buzna , PhD.
3. Modelling of Uniform Schedules in Conditions of Uncertainty	Ing. R. Hajtmanek	Assoc.Prof. RNDr. Š. Peško , PhD.
4. Use of Game Theory in Managerial Decision-Making	Mgr. R. Briestenský	Assoc.Prof. Ing. P. Fabián , PhD.
5. Parallel Metaheuristics for Local Tasks with Capacity Limitation of Centres	Mgr. M. Herda	Assoc.Prof. Ing. L. Jánošíková , 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. 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

2. 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.

3. 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.

4. 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.).

5. 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

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

No.	Student	Theme	Supervisor
1.	B. Janošík	Simple simulation model of the voting system	Assoc.Prof. Ing. Ľ. Buzna, PhD
2.	E. Michaličková	Design of a sub-network with limited lengthening of important routes with IP solver	Prof. Ing. Ľ. Jánošíková, PhD.
3.	F. Kadáš	Tool for simple info-graphics	Assoc.Prof. Ing. Ľ. Buzna, PhD.
4.	J. Kompíš	Implementation of sorting algorithms on graphics card	Ing. M. Mintál
5.	J. Strečko	Genetic algorithm for solving a capacitated p- median problem	Prof. Ing. Ľ. Jánošíková, PhD.
6.	J. Svrček	Car manufacturer recognition from still images based on the rear viewpoint	Ing. P. Tarábek, PhD
7.	J. Karas	Teaching aid for Assembly language	Prof. Ing. Ľ. Jánošíková, PhD.
8.	J. Bača	Application for creating and solving monochromatic Paints by Numbers	Ing. A. Kormanová
9.	J. Taračka	Marketing plan of selected firm	Mgr. R. Briestenský.
10.	Ľ. Kardoš	Application for creating a OD matrix of passenger flows carried by public transport	Ing. M. Koháni, PhD.
11.	M. Čičmanec	Composition of rendered image sequences with real video sequences	Ing. M. Lekýr, PhD
12.	M. Charvát	Software for calculation of maximum train weight for specified transport route on railways	Ing. P. Márton, PhD.
13.	M. Molnár	Simulation model of operation on open line between two stations in Analogical simulation tool	Ing. P. Márton, PhD
14.	M. Olešnaník	Creation of real time game using OpenGL library	Ing.P. Tarábek, PhD
15.	M. Vrtík	Simulation model of container terminal in Arena simulation tool	Ing. P. Márton, PhD
17.	M. Petrák	Experimental comparison of data structures R-tree and octree	Ing.P.Jankovič,PhD.
18.	M. Straka	Application for joined timetable creation	Ing.M. Koháni, PhD.
19.	M. Čičmanec	Simulations of special effects in 3D graphics	Ing. M. Lekýr, PhD.
20.	P. Matejko	A comparison of algorithms „Gamma Heuristic“ with an exchange heuristic for the p-median problem.	Ing. M. Koháni, PhD.
21.	R. Kardoš	The use of optimization procedures of IP solver Xpress to solve problems in Java language.	Ing. M. Koháni, PhD
22.	Š. Mikolajčík	Mobile scheduling software	Ing.P.Jankovič,PhD.

No.	Student	Theme	Supervisor
23.	T. Bako	Teaching aid for heuristic methods for solving the vehicle routing problem	RNDr. A.Szendreyová,PhD.
24.	T. Vadovič	Process of acquisition, selection and accepting of employees in a chosen factory	PhDr. R. Briestenský
25.	D. Kloska	Web application for visualization of information on Open Source maps.	Mgr. M. Kaukič, PhD.
26.	F. Gažo	Creation website application for creating and managing lists of students	RNDr. R. Blaško, PhD.
27.	J. Ďuraj	Algorithm for Griddlers solving	RNDr. R. Blaško, PhD.
28.	J. Žabka	Monitoring system for network infrastructure of Faculty of Management Science and Informatics	Mgr. M. Kaukič, PhD.
29.	K Vrábľová	Travelling salesman problem	Ing. T. Majer, PhD.
30.	L. Škuta	Creation website application for creating and editing multi-purpose lists	RNDr. R. Blaško, PhD.
31.	M. Bednár	Simulation of motion of robot on wheels	Mgr. M. Kaukič, PhD.
32.	M. Kvaššay	Bio-objective p-median of graph	Assoc.Prof.RNDr. Š. Peško, PhD.
33.	M. Bod'a	Mobile application for financial reports and analysis access	Ing. T. Kanik
34.	P. Šišmič	Task scheduling with prescribed duration	RNDr. J. Rebo, PhD.
35.	T. Hvorkový	Speed comparison of selected algorithms implemented in Java and C.	Ing. T. Majer, PhD.
36.	T. Rehák	Administrative interface for Etherpad Lite	Mgr. M. Kaukič, PhD.

MASTER THESIS

No.	Student	Theme	Supervisor
1.	D. Václavík	Licence plate character classification using the SVM	Ing. P. Tarábek, PhD.
2	F. Šilhár	Didactic simulation model of a container terminal.	Assoc.Prof.. Ing. N. Adamko, PhD.
3.	J. Ďurana	Statistical results module for pedestrian simulation model.	Assoc.Prof.. Ing. N. Adamko, PhD.
4.	M. Štefanec	Lane detection from moving vehicle in OS Android	Ing. P. Tarábek, PhD.
5.	M. Bencúr	Annotation tool to support solving computer vision tasks	Assoc.Prof.. Ing. Ľ. Buzna, PhD.
6.	M. Majerský	Recognition of transportation infrastructure in satellite imagery	Ing. P. Tarábek, PhD.
7.	M. Skovajsa	Graphical Editor of Resource Allocation System Petri Net	Ing. M. Žarnay, PhD.
8.	M. Tomka	Petri Nets on Mobile Devices	Ing. M. Žarnay, PhD.
9.	P.Kermaschek	Building detection in satellite imagery using a cascade of simple features	Ing. P. Tarábek, PhD.
10.	P. Legěň	Digital Reservation Book	Mgr. R. Kasanický
11.	P. Sokolík	Creation of WCEG framework and its use to create the application for project planning	Ing. M. Koháni, PhD.
12.	T. Skřivánek	Genetic Algorithm with Memetic Elements for Service System Design	Prof.. RNDr. J. Janáček, PhD.
13.	Z, Paráč	Metaheuristic Scatter Search for Public Service System Design	Prof.. RNDr. J. Janáček, PhD.
14.	I. Pavlík	Open source library software for medium sized organizations	Mgr. M. Kaukič, PhD.
15.	I. Šišovský	Recovery System for Discarded Material	Assoc.Prof.. RNDr. S. Palúch, PhD.
16.	J. Hriadel	Design of big data processing tools	Ing. T. Gatíal
17.	J. Kubica	Online reservation system on JBoss platform	Mgr. M. Kaukič, PhD.
18.	L. Veselovský	Minimum Halin Spanning Subgraph	Assoc.Prof.. RNDr. Š. Peško, PhD.
19.	M. Filip	Optimal assignment of students to projects	Assoc.Prof.. RNDr. Š. Peško, PhD.
20.	M. Oravec	Proposal of line system in public urban transport	Ing. T. Majer, PhD.
21.	T. Hrebeň	Location of p-median in transportation network	RNDr. R. Blaško, PhD.
22.	Z. Beharková	Testing of selected k-shortest paths algorithms.	Assoc.Prof.. RNDr. S. Palúch, 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 ě 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 Ispra, 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 2014 (except for Czech Republic)

Name	Institute	Country	Date
Assoc.Prof.Ing. Ľ. Buzna , PhD.	European Commission, Brussel	B	19. 01. – 21. 01. 2014
Assoc.Prof.Ing. Ľ. Buzna , PhD.	ETH Zurich	CH	25. 02. – 28. 02. 2014
Assoc.Prof.Ing. Ľ. Buzna , PhD.	ISPRA	I	20. 03. – 22. 03. 2014
Assoc.Prof.Ing. Ľ. Buzna , PhD.	University of Barcelona, Goldrein-ETH	E	15. 06. – 01. 07. 2014
RNDr. A. Szendreyová , PhD.	BELL Italia, Napoli	I	15. 06. – 21. 06. 2014
Prof. RNDr. J. Janáček , PhD.	BELL Italia, Napoli	I	14. 06. – 01. 07. 2014
Ing. M. Kohani , PhD.	BELL Italia, Napoli	I	14. 06. – 01. 07. 2014
RNDr. R. Blaško , PhD.	Wyżsia Hanzeatycka Szkoła Zaradz, Slups	PL	22. 06. – 28. 06. 2014
Assoc.Prof.RNDr. S. Palúch , PhD	Silesian University of Technology, Katowice.	PL	25. 06. – 26. 06. 2014
Assoc.Prof.RNDr. Š. Peško , PhD.	Silesian University of Technology, Katowice.	PL	25. 06. – 26. 06. 2014
Ing. T. Majer , PhD.	Silesian University of Technology, Katowice.	PL	25. 06. – 26. 06. 2014
Assoc.Prof.Ing. Ľ. Buzna , PhD.	RWTH Aachen University	D	01. 09. – 05. 09. 2014
Ing. M. Žarnay , PhD.	Universidad de Zaragoza,	E	13. 09. – 21. 09. 2014
Prof. RNDr. J. Janáček , PhD.	Croatian Operational Research, Osijek	CR	23. 09. – 26. 09. 2014
Ing. M. Kohani , PhD.	Croatian Operational Research, Osijek	CR	23. 09. – 26. 09. 2014

Ing. P. Márton, PhD.	TU Braunschweig	D	01. 10.- 03. 10. 2014
Ing. P. Márton, PhD	ANYLOGIC, Berlin	D	06. 11. – 08. 11. 2014
Ing. M. Kohani, PhD.	Uniwersytet Jagielloński Krakow	PL	14. 11.- 17. 11. 2014
Ing. P. Tarábek, PhD.	Uniwersytet Jagielloński Krakow	PL	14. 11.- 17. 11. 2014
Ing. P. Márton, PhD	TU Gdansk	PL	06. 11.- 19. 11. 2014
Ing. P. Márton, PhD	TU Beograd, ICTTE	SR	26. 11.- 29. 11 2014
Ing. J. Bendík	TU Beograd, ICTTE	SR	26. 11.- 29. 11 2014



Department of Informatics

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

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Teaching Staff:

Prof. Ing. Karol **Matiaško**, PhD

Ing. Matúš **Chochlík**, PhD.

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

Ing. Iveta **Nedeljaková**, PhD.

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

Ing. Monika **Václavková**, PhD.

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

Ing. Ján **Boháčik**, PhD

RNDr. Peter **Varša**, PhD.

Ing. Michal **Varga**, PhD.

RNDr. Štefan **Kovalík**, PhD.

RNDr. Miroslav **Benedikovič**

Researchers: Assoc. Prof. Ing. Elena **Zaitseva**, PhD.

Ing. Jozef **Kostolný**, PhD

Administrative Department: Anna **Ilovská**

Doctoral full-time students:

Ing. Miroslav **Kvaššay**

Ing. Michal **Kvet**

Ing. Slavomír **Kavecký**

Doctoral part-time students:

Ing. Marián **Švalec**

Ing. Michal **Joštiak**

Ing. Vladimír **Smataník**

Ing. Juraj **Branický**

Ing. Vladimír **Hanuštiak**

Ing. Igor **Masiar**

Ing. Monika **Vajsová**

Ing. Eduard **Vesel**

EQUIPMENT

Laboratories:

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

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



PhD.-Programme

Theme	Student	Supervisor
1. Searching and Indexing in Temporal Databases	Ing. M. Kvet	Prof.Ing. K. Matiaško, PhD.
2. Reliability Analysis of Multi States Systems	Ing. M. Kvaššay	Assoc.Prof.Ing. E. Zaitseva, PhD.
3. Ontology for Data Integration	Ing. M. Švalec	Assoc.Prof.Ing. M. Záborský, PhD.
4. Ontology for Data Integration	Ing. M. Joštiak	Assoc.Prof.Ing. M. Záborský, PhD.
5. Management of Grid's Facilities	Ing. S. Kavecký	Assoc.Prof.Ing. P. Martincová, PhD.
6. Analytic Processing of Expensing Medical Data	Ing. I. Masiar	Assoc.Prof.Ing. M. Záborský, PhD.
7. Effective Processing of Database Inquiries	Ing. M. Vajsová	Prof.Ing. K. Matiaško, PhD
8. Searching and Indexing in Text Oriented Databases	Ing. V. Smataník	Prof.Ing. K. Matiaško, PhD.
9. Parallel Algorithm for Stochastic Optimization	Ing. J. Branický	Assoc.Prof.Ing. K. Grondžák, PhD.
10. Analytic Processing of Widespread Data Sets	Ing. V. Hanušniak	Assoc.Prof.Ing. M. Záborský, PhD
11. Dynamic Distribution of Loading in Distributed Systems	Ing. E. Vesel	Assoc.Prof.Ing. K. Grondžák, 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. Elena **Z a i t s e v a**, PhD.

Reliability Analysis. 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.

4. 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.	A. Stromček	Car insurance event processing	Prof. Ing. K. Matiaško, PhD.
2.	A. Forgáč	Encrypted data communication in a company environment	Assoc.Prof. RNDr. L. Dederá, PhD.
3.	A. Gašpíerik.	Design and implementation of strategic game under OS Android	Assoc.Prof. Ing. P. Martincová, PhD.
4.	B. Píka	System for data collection for analysis of signature	Assoc.Prof. Ing. E. Zaitseva, PhD
5.	E. Dorotík	Application for processing the results of sporting tournaments	Ing. M. Václavková, PhD.
6.	J. Belák	Web application for ice-hockey team	Ing. M. Václavková, PhD.
7.	J. Svancár	Database of recorded media	RNDr. M. Benedikovič
8.	J. Vráb	Multimedia web application	Ing. M. Kvaššay
9.	J. Fekeč	Attendance Information System	RNDr. P. Varša, PhD.
10.	J. Rabčan	Pattern matching in huge text	Ing. M. Antal
11.	J. Lasok	Tactical network game	Assoc.Prof. Ing. P. Martincová, PhD.
12.	Ľ. Kovalčík	Software support for teaching courses using Java language	RNDr. M. Benedikovič
13.	Ľ. Mudrák	Mobile application for searching of cultural events (Android)	Ing. M. Chochlík, PhD.
14.	M. Vozárik	Generate of traffic situation in crossroads	Ing. M. Antal
15.	M. Kráľ	Creation of web-application editor for research team support	Assoc.Prof. Ing. E. Zaitseva, PhD.
16.	M. Svítok	Classification and categorization of text using text analysis	Ing. Ľ. Takáč
17.	M. Zárecký	Management system of the fixture lists for wood building	Ing. E. Lieskovský, PhD.
18.	M. Štefáková	Game ‘ The Minesweeper ‘ on the website	RNDr. P. Varša, PhD.
19.	M. Krupka	Online Management System for Squash League	Ing. M. Korčák
20.	M. Mašír	Attendance system of employees with guarded buildings monitoring	Ing. M. Kvet
21.	M. Šimová	Analysis of Algorithms for Making Boolean Association Rules	Ing. J. Boháčik, PhD.
22.	P. Brňák	Electronic stock control	RNDr. P. Varša, PhD.
23.	P. Hlinka	Game environment designed by user	Assoc.Prof. Ing. K. Grondžák, PhD.

No.	Student	Theme	Supervisor
24.	P. Ballay	Information System - Home Library	RNDr. M. Benedikovič
25.	P. Kapusta	Parallelization of algorithms for minimization of Boolean functions	Ing. M. Kvaššay
26.	P. Šino	Vector circuit analyzer measurement evaluation	Assoc.Prof. Ing. K. Grondžák, PhD.
27.	P. Šulo	Software solution for sport event prognosis	Prof. Ing. V. Levashenko, PhD.
28.	P. Vrtiak	Application for Support of Service Security	Assoc.Prof. Ing. E. Zaitseva, PhD.
29.	R. Mažgut	Analysis of algorithms for solving sudoku	Ing. M. Antal
30.	R. Behúl	Design of distributed protocol for virtual currency transaction systems and implementation of client application	Ing. M. Kvaššay
31.	S. Lieskovský	The synchronic Android application for conferences portal.	Ing. E. Lieskovský, PhD.
32.	Š. Vlček	Tool for design of reliability block diagrams	Ing. M. Kvaššay
33.	T. Fekiač	Student's diary for Android	Ing. M. Kvaššay
34.	T. Gašpar	Grocery database	Prof. Ing. K. Matiaško, PhD.
35.	T. Papp	Interactive application for creation of binary decision diagrams	Ing. M. Kvaššay
36.	T. Šálek	Common reservation system	Prof. Ing. K. Matiaško, PhD.
37.	T. Turzík	Educational games for kids under OS Android	Assoc.Prof. Ing. P. Martincová, PhD.
38.	T. Zdurienčík	Mobile application for retrieval of organic food (iOS)	Ing. M. Václavková, PhD.

MASTER THESIS

No.	Student	Theme	Supervisor
1.	J. Burgel	Application for evaluation of the efficiency and management of integrated security systems.	Ing. M. Václavková, PhD.
2.	J. Kuchárik	WEB Portal for the Hospital information system	Prof.. Ing. K. Matiaško, PhD.
3.	K. Varačková	Automated topic modelling utilization on web portal content	Ing. J. Boháčik, PhD.
4.	E. Szalai	Module for the generation of the structure function of the Multi-State System	Assoc.Prof.. Ing. E. Zaitseva, PhD.
5.	L. Šálková	Mobile application for search of psychological help (Android)	Ing. M. Václavková, PhD.
6.	M. Bajči	The versioning system Scheidt und Bachmann – department of Fare Collection Systems	Ing. Peter Kubík
7.	M. Gonščák	System reliability analysis based on Logic Derivatives and Markov process	Assoc.Prof.. Ing. E. Zaitseva, PhD.
8.	M. Murárik	Visualization of dynamic objects of a car-park, Scheidt und Bachmann – department of Parking and leisure centre systems	Ing. J. Kližan
9.	M. Husák	Development and configuration of modular applications	Ing. M. Černák
10.	M. Rybárik	Graphical manipulation of topological data of buildings	Assoc.Prof.. Ing. P. Martincová, PhD.
11.	M. Ivaniš	Securing communication in D2000 system	Ing. B. Čonto
12.	M. Rábek	Multimedia data management for the Health information system	Prof.. Ing. K. Matiaško, PhD.
13.	R. Pivko	Application for delivered software management	Ing. R. Amrich

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

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 (Except for Czech Republic)

Name	Institute	Country	Date
Assoc.Prof.Ing. M. Zábovský , PhD.	PWSZ Mlawa	PL	23. 01. -26. 01. 2014
Ing. M. Kvet	Emmanuel College, Cambridge	GB	25. 03. – 30. 03. 2014
Assoc.Prof.Ing. E. Zaitseva , PhD.	Taras Schevchenko National Univ. Kyjev.	UA	15. 05. – 19. 05. 2014
Prof.Ing. V. Levashenko , PhD.	Taras Schevchenko National Univ. Kyjev.	UA	15. 05. – 19. 05. 2014
Assoc.Prof.Ing. E. Zaitseva , PhD.	Universität Bremen	D	19. 05. – 22. 05. 2014
Prof.Ing. K. Matiaško , PhD.	Campus La Salle Barcelona	E	17. 06. – 21. 06. 2014
Ing. M. Kvet , PhD.	Campus La Salle Barcelona	E	17. 06. – 21. 06. 2014
Ing. M. Kvaššay	Wroclaw University of Technol. Brunow	PL	30. 06. – 05. 07. 2014
Assoc.Prof.Ing. M. Zábovský , PhD.	Multitel	B	28. 07. – 30. 07. 2014
Ing. M. Kvet	Royal Holloway, University, London	GB	08. 09. – 12. 09. 2014
Ing. M. Vajsová	Royal Holloway, University, London	GB	08. 09. – 12. 09. 2014
Prof.Ing. V. Levashenko , PhD.	Warsaw University of Technol.	PL	07. 09. – 10. 09. 2014
Assoc.Prof.Ing. E. Zaitseva , PhD.	Warsaw University of Technol.	PL	07. 09. – 10. 09. 2014
Ing. J. Kostolný , PhD.	University of Fribourg,	CH	07. 09. – 14. 09. 2014

Ing. M. Kvaššay	University of Fribourg,	CH	07. 09. – 14. 09. 2014
Assoc.Prof.Ing. E. Zaitseva, PhD.	Wroclaw University of Technology	PL	14. 09. – 19. 09. 2014
RNDr. P. Varša, PhD.	UTUI Brussels	B	14. 10. – 18. 10. 2014
Ing. M. Vajsová	Scuola Superiore Sant'Anna Pisa	I	17. 10. – 24. 10. 2014
Prof.Ing. V. Levashenko, PhD.	FORTH Heraclion	GR	22. 10. – 25. 10. 2014
Assoc.Prof.Ing. E. Zaitseva, PhD.	FORTH Heraklion	GR	22. 10. – 25. 10. 2014
Prof.Ing. V. Levashenko, PhD.	Alexandria University	Egypt	08. 11. – 13. 11. 2014
Ing. M. Kvaššay	Alexandria University	Egypt	08. 11. – 13. 11. 2014

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.
 - IEE
 - 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 **Zábovský**, PhD. - Czech Society for System Integration

- Assoc. Prof. Ing. Elena **Zaitseva**, PhD. - Member of International Association for Pattern recognition (IAPR)

- 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

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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.

PhD.JUDr. Margita **Beháňová**

Ing. Katarína **Zábovská**, PhD..

Administrative Department: Eva Mat'ková

PhD Students

Ing. Lukáš **Falát**

Ing. Eva **Malichová**

PhD.-Programme

Theme	Student	Supervisor
Data of Temporal Series : Search of Dependences and Prediction by Means of UNS and Progressive Statistical Methods	Ing. L. Falát	Prof. Ing. D. Marček, PhD.
Managerial Decision-Making of Investment Decision in Enterprise	Ing. E. Malichová	Assoc.Prof.Ing. M. Ďurišová, PhD.

EQUIPMENT



BACHELOR THESIS

No.	Student	Theme	Supervisor
1.	A. Dávidík	Financial and economic analysis of the company.	Ing. Z. Kozubíková, PhD.
2.	A. Kohanová	CBR technology application for decision-making purposes in the choosen area	Ing. K. Zábovská, PhD.
3.	G. Šramková	Implementation of methods for monitoring business costs and revenues in the company	Assoc.Prof.. Ing. M. Ďurišová, PhD.
4.	I. Grivalská	Granting the mortgage credit	Assoc.Prof.. Ing. A. Kucharčíková, PhD.
5.	J. Krištanová	Improving the employment of graduates in the labor market in the selected region	Assoc.Prof.. Ing. A. Kucharčíková, PhD..
6.	J. Mičechová	Analysis of financial statements and atilize its results in financial control	Assoc.Prof. Ing. A. Jacková, PhD.
7.	J. Klajber	Financial and economic analysis of the business entity.	Ing. Z. Kozubíková, PhD.
8.	J. Olejník	Public deficit and debit Euro-zone States	Ing. B. Holková, PhD.
9.	K. Bačinská	The impact of monetary policy on investment in the selected region	Assoc.Prof.. Ing. A. Kucharčíková, PhD..
10.	K. Šuňová	Intellectual Property Management at University	JUDr. M. Beháňová
11.	M. Straská	The estimation of the financial management progress of an enterprise through financial analysis	Assoc.Prof. Ing. A. Jacková, PhD.
12.	M. Bukna	Financial and economic analysis of the company.	Ing. Z. Kozubíková, PhD.
13.	M. Ďuračík	Universal tool for creation of basic text operations	Ing. K. Zábovská, PhD.
14.	M. Dorniaková	Using of traditional methods of performance measurement in business conditions	Assoc.Prof.. Ing. M. Ďurišová, PhD.
15.	M. Lenhartová	Management receivables company	Assoc.Prof. Ing. A. Jacková, PhD.
16.	P. Matis	The tax burden on business in Slovakia	Ing. B. Holková, PhD.
17.	P. Pánisová	Business financial analysis and it is prediction of progress in further financial situation	Assoc.Prof. Ing. A. Jacková, PhD.
18.	R. Babišová	Electronic banking services	Assoc.Prof.. Ing. A. Kucharčíková, PhD.
19.	R. Adámik	Financial and economic analysis in the conditions of mining industry	Ing. Z. Kozubíková, PhD.
20.	S. Kavcová	The possibilities of company's financial analysis in the process of revealing of business risks	Assoc.Prof. Ing. A. Jacková, PhD.
21.	S. Líšková	The impact of costs and revenues on the profit on the basis of the analysis of the financial statements	Assoc.Prof. Ing. A. Jacková, PhD.

No.	Student	Theme	Supervisor
22.	V. Babjaková	Monitoring business costs and income in the company	Assoc.Prof.. Ing. M. Ďurišová, PhD.
23.	V. Juršová	Work opportunities for graduates of secondary school in Žilina municipality	Ing. E. Tokarčíková, PhD.
24.	Z. Kokavcová	Value statement of transformation process of the company	Assoc.Prof.. Ing. M. Ďurišová, PhD.

MASTER THESIS

No.	Student	Theme	Supervisor
1.	A. Abrosimov	Software solution of yield curves dynamic modelling	Ing. L. Pančíková, PhD.
2.	B. Lupták	Fleet evidence - Module corporate fleet on SAP	Ing. K. Záborská, PhD.
3.	D. Skovajsová	Co integration in macroeconomic modelling	Ing. L. Pančíková, PhD.
4.	D. Hlivová	Investment in human capital in the selected enterprise	Assoc.Prof.. Ing. A. Kucharčíková, PhD.
5.	E. Malichová	The Evaluation and design of key performance indicators in the company Cobra Automotive Ltd.	Ing. E. Tokarčíková, PhD.
6.	I. Uhrín	Universal ANN for solving of statistical/econometric tasks	Prof.. Ing. D. Marček, PhD.
7.	J. Majstrík	Volatility modelling and big data forecasting	Prof.. Ing. D. Marček, PhD.
8.	J. Klučková	Creating Rating a Process Map	Ing. J. Dubovec, PhD.
9.	J. Mičietová	Evaluation of the credibility of key customers in the company SSE, Joint Company	Ing. E. Tokarčíková, PhD.
10.	J. Valchářová	Assessment of a company performance with regard to its financial condition	Assoc.Prof.. Ing. M. Ďurišová, PhD.
11.	J. Verníček	Demo-application for the purpose of presenting the benefits of technology SAPUI5 in solutions of SAP	Ing. K. Záborská, PhD.
12.	J. Vaterka	Impact of claims and obligations on financial situation of company	Assoc.Prof. Ing. A. Jacková, PhD.

No.	Student	Theme	Supervisor
13.	J. Brablec	Proposal reporting based on data warehousing	Ing. K. Záborská, PhD.
14.	Ľ. 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 2014
(Except for Czech Republic)

<i>Name</i>	<i>Institute</i>	<i>Country</i>	<i>Date</i>
Assoc.Prof.Ing. A. Kucharčíková, PhD.	Politechnika Opolska	PL	20. 05. – 20. 05. 2014
Assoc.Prof.Ing. M. Ďurišová, PhD.	Politechnika Opolska	PL	20. 05. – 20. 05. 2014
Ing. E. Tokarčíková, PhD	Politechnika Opolska	PL	20. 05. – 20. 05. 2014
Assoc.Prof.Ing. M. Ďurišová, PhD.	Sakarya University, Paris	F	24. 06. – 28. 06. 2014
Assoc.Prof.Ing. A. Kucharčíková, PhD.	Sakarya University, Paris	F	24. 06. – 28. 06. 2014
Ing. E. Tokarčíková, PhD	Sakarya University, Paris	F	24. 06. – 28. 06. 2014

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

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Teaching Staff:

Prof. Ing. Juraj **Miček**, PhD.

Ing. Adam **Jaroš**, PhD.

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

Ing Lukaš **Čechovič**, PhD.

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

Ing. Jozef **Juríček**, PhD.

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

Ing. Oldřich **Kovář**, PhD.

Ing. Matúš **Jurečka**, PhD.

Ing. Michal **Hodoň**, PHd

Ing. Jana **Púchyová**, PhD.

Ing. Martin **Húdík**, 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

Theme	Student	Supervisor
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. Šarařin	Assoc. Prof. Ing. P. Ševčík PhD.
4. Wireless Sensory Networks – Communication Subsystem	Ing. V. Oleřnaníková	Assoc. Prof. Ing. O. Karpiř, PhD.
5. Analysis and Synthesis of Acoustic Signals in the Area of Intelligent Transport Systems with Application Use in Wireless Sensory Network	Ing. R. Źalman	Assoc. Prof. Ing. J. Kapitulík, PhD.

EQUIPMENT

Teaching and Research Laboratories.

- Laboratory of Digital Control.
- 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
- Laboratory of Technical equipments of automatic control

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 used 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
5x workstation on the base of the PC (K6-233 Mhz)
Workstation on the base PC (1,3 GHz, 19" monitor)
Programming board for circuits GAL 16V8, GAL20V8, CPLD 9500, FPGA 4000
Programming board 2S100 fy INSIGHT (FPGA SPARTAN II)
Programming board DIGILAB XLA5 fy DIGILENT (FPGA SPARTAN II)
Programming board V2LC1000 fy INSIGHT (FPGA VIRTEX II)
Programming board ANADIGM (FPAA)
Programming board FPGA SPARTAN 3
ML YO3 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

No.	Student	Theme	Supervisor
1.	V. Jurčišin-Kukľa	Presentation system using HTML5 technologies	Assoc.Prof.. Ing. J. Janech, PhD.
2.	A. Kucharik	Dynamic LED stairs lightning.	Ing. M. Chovanec
3.	A. Chromjak	Design and implementation of pick and place machine printed circuit boards for SMD components.	Ing. O. Kovář, PhD.
4.	E. Jamečná	Android application: e-Cookbook	Ing. M. Húdik, PhD.
5.	J. Fritz	Electronic door lock	Ing. L. Čechovič, PhD.
6.	J. Jablonský	Development of the remote monitoring and control network of the entrance gate using smart-device as the main control unit	Ing. M. Hodoň, PhD.
7.	J. Hikaníková	Design and implementation of file system for SUZUHA OS	Assoc.Prof.. Ing. J. Kapitulík, PhD.
8.	J. Rumančík	Relative humidity logger.	Ing. L. Čechovič, PhD
9.	M. Stenclák	Design and realization of digital clock synchronized by DCF77 signal.	Ing. O. Kovář, PhD.
10.	M. Lednická	Android Program for Robot Control via Bluetooth	Ing. M. Kochláň
11.	M. Olajec	Integrated GPS/GMS module	Prof.. Ing. J. Miček, PhD.
12.	M. Košut	Android application for recording and displaying available WiFi networks.	Ing. M. Húdik, PhD.
13.	M. Madliak	Autonomous mobile robot Line Follower	Prof.. Ing. J. Miček, PhD.
14.	M. Špánik	LED information panel with Ethernet connectivity.	Ing. M. Húdik, PhD.
15.	P. Franek	Monitoring and control of transportation on cross-roads with PLC.	Ing. A. Jaroš, PhD.
16.	P. Rapáč	Architectures of parallel computers	Prof.. Ing. I. Hanuliak, PhD.
17.	P. Turčan	LED lighting system.	Ing. L. Čechovič, PhD
18.	P. Vojvoda	Unit for pressure monitoring.	Ing. L. Čechovič, PhD.
19.	Š. Babinský	Autonomous robot for competition in the category of mini-sumo	Prof.. Ing. J. Miček, PhD.
20.	T. Lovišek	Multirobotic System	Prof.. Ing. J. Miček, PhD.
21.	T. Slížik	Songbook - Application for Android	Assoc.Prof.. Ing. O. Karpíš, PhD.
22.	T. Šimon	Raspberry-Pi Based Smart Grid Cell Control System.	Ing. L. Čechovič, PhD
23.	T. Štefunda	Volume regulation of audio amplifier by Ethernet interface.	Ing. O. Kovář, PhD.
24.	Z Matejová	Design and implementation of electronics system for Tetris game.	Ing. O. Kovář, PhD.

MASTER THESIS

No.	Student	Theme	Supervisor
1.	D. Červenka	Implementation of logic game labyrinth in FPGA	Assoc.Prof. Ing. P. Ševčík, PhD.
2.	I. Piterová	Sensory subsystem of mobile robot	Prof. Ing. J. Miček, PhD.
3.	J. Mazurák	Audio player FPGA implementation	Assoc.Prof. Ing. P. Ševčík, PhD.
4.	M. Bohdan	Communication subsystem of mobile robot	Prof. Ing. J. Miček, PhD.
5.	M. Polt'ák	Digitally controlled CNC machine	Assoc.Prof. Ing. J. Kapitulík, PhD.
6.	M. Hikaník	Electronic security system	Assoc.Prof. Ing. O. Karpiš, PhD.
7.	M. Vrbjar	FPGA implementation of the isolated words recognition system	Assoc.Prof. Ing. P. Ševčík, PhD.
8.	M. Mariňák	Source code generator for control of CNC machines	Assoc.Prof. Ing. J. Kapitulík, PhD.
9.	M. Chudová	Wireless weather station	Assoc.Prof. Ing. O. Karpiš, PhD.
10.	M. Kužmová	Simulation of terrain exploration using Multi-agent system	Assoc.Prof. Ing. J. Kapitulík, PhD.
11.	P. Šarafín	Module for acoustic signal digitalization and pre-processing	Assoc.Prof. Ing. P. Ševčík, PhD.
12.	R. Bajak	Control unit of petrol engine	Assoc.Prof. Ing. J. Kapitulík, PhD.
13.	R. Žalman	Control system for room lighting	Assoc.Prof. Ing. O. Karpiš, PhD.
14.	T Martinek	Communication system Bluetooth for Robo George system	Prof. Ing. J. Miček, PhD.
15.	V. Olešnaníková	Communication and interface module between FPGA and PC	Assoc.Prof. Ing. P. Ševčík, PhD.
16.	Z. Pavlík	Audio applications design using Cortex M processor	Assoc.Prof. Ing. J. Kapitulík, PhD.

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

Name	Institute	Country	Date
Ing. M. Hodoň, PhD.	IFSTTAR, Paris	F	14. 04. - 19. 04. 2014
Ing. M. Hodoň, PhD.	Uni Reims Champagne Ardene	F	02. 06. – 07. 06. 2014
Ing. M. Hodoň, PhD.	Universidade da Madeira, Funchal	E	21. 06. – 28. 06. 2014
Ing. M. Hodoň, PhD.	Enterprise Ireland, Brussels	B	02. 07. – 04. 07. 2014
Ing. M. Hodoň, PhD.	DGON, Dresden	D	07. 07. – 10. 07. 2014
Ing. M. Varmus, PhD.	Universiteit Antwerpen	B	02. 09. – 06. 09. 2014
Ing. M. Hodoň, PhD.	FedCSIS 2014, Warsaw	PL	06. 09. - 10. 09. 2014
Ing. M. Kochláň,	FedCSIS 2014, Warsaw	PL	06. 09. - 10. 09. 2014
Ing. M. Kochláň,	Texas Instruments, Milano	I	10. 09. – 14. 09. 2014
Ing. M. Hodoň, PhD.	Imperial College London	GB	23. 09. – 26. 09. 2014
Ing. M. Hodoň, PhD.	TU Braunschweig	D	29. 10. – 08. 10. 2014
Ing. M. Hodoň, PhD.	H2020 ICT Proposers Day, Firenze	I	29. 10.- 12. 10. 2014
Ing. M. Jurečka, PhD.	University of Patras	GR	30. 11. – 11. 12. 2014
Ing. M. Hodoň, PhD.	Budapest University of Technology and Economics	H	03. 12.- 05. 12. 2014

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.

- **First LEGO League** – education by play and experience

This global competition is one of the biggest for the schoolboys in the age of 10 – 16 years. Participants construct robots from the LEGO-kit, make a programme using the base sensors and standard software. Presentation was made in front of the professional commission and the best teams are proceeding to semi-final and final competitions and the best one to global festival. Competition was organized by the Department of Technical Cybernetics in November 2013 with about 100 participants from many schools of Slovakia.



Department of Information Networks

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Prof. Ing. Tatiana **Kováčiková**, PhD.

Mgr. Jana **Uramová**, PhD.

Ing. Petr. **Ivaniga**, PhD.

Ing. Ľudovít **Mikuš**, PhD.

Ing. Peter **Palúch**, PhD.

Mgr. Juraj **Smieško**, PhD.

Ing. Ondrej **Škvarek**, PhD

Ing. Štefan **Bad'ura**, PhD.

Administrative Department: **Mária Liskayová**

Technical Staff: **Vladimír Frnčo**

PhD students

Ing. Boris **Bučko**

Ing. Jozef **Papán**

PhD.-Programme

Theme	Student	Supervisor
1. Model driven architecture and ontology	Ing. Boris Bučko	Prof. Ing. M. Drozdová , PhD.
2. Formalization of Selected Tasks by Design of Information Systems	Ing. J. Papán	Assoc. Prof. Ing. P. Segeč , 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



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

No.	Student	Theme	Supervisor
1.	A. Hodas	Interoperability Testing of Network Operating Systems	Ing. P. Palúch, PhD.
2.	F. Barta	Information System for Scientific database, data management	Ing. Š. Bad'ura, PhD.
3.	F. Pirchala	The IMS platform of Department of Information Networks interconnected with the network of NGN lab.eu laboratories.	Assoc.Prof.. Ing. P. Segeč, PhD.
4.	F. Nôta	The methodology of SIP services and interoperability testing.	Assoc.Prof.. Ing. P. Segeč, PhD.
5.	G. Majtán	Digital library of Reusable Learning Objects	Ing. L. Mikuš, PhD.
6.	J. Baroš	Aggregating Services on Virtual Machines	Ing. P. Palúch, PhD.
7.	L. Majer	Design and implementation of the VoIP attack protection system based on IDS.	Assoc.Prof.. Ing. P. Segeč, PhD.
8.	M. Kurka	E-study material design using of the Model Driven Engineering	Prof.. Ing. M. Drozdová, PhD.
9.	M. Kéri	Web-Based Application for Web Services Administration	Ing. P. Palúch, PhD.
10.	M. Staňa	Utilizing HP and SUN Server Platforms in Virtualization	Ing. P. Palúch, PhD.
11.	M. Kormoš	Comprehensive IPv6 Implementation at FMSI	Ing. P. Palúch, PhD.
12.	M. Megis	Temporal control of client - server application	Assoc.Prof.. RNDr. K. Bachratá, PhD.
13.	P. Formánek	The Web RTC technology with implementation for an SIP environment.	Assoc.Prof.. Ing. P. Segeč, PhD.
14.	R. Franko	Data Storage Solution for Virtualized Servers	Ing. P. Palúch, PhD.
15.	R. Matisko	The EDUROAM Wireless Network at FMSI	Ing. P. Palúch, PhD.
16.	R. Vajda	New technology for creation and delivery of e-content in education	Prof.. Ing. M. Drozdová, PhD.
17.	R. Badura	Image processing - car brand recognition	Ing. Š. Bad'ura, PhD.
18.	R. Roháček	Cisco onePK Framework	Ing. P. Palúch, PhD.
19.	T. Zorvan	Information System for scientific database, data management.	Ing. Š. Bad'ura, PhD.

MASTER THESIS

No.	Student	Theme	Supervisor
1.	A. Krištof	Web RTC SIP client.	Assoc.Prof. Ing. P. Segeč, PhD.
2.	A. Púchyová	802.1X authentication and authorisation	Assoc.Prof. Ing. P. Segeč, PhD.
3.	B. Uličný	Locator/Identifier Separation Protocol	Ing. P. Palúch, PhD.
4.	E. Sýkorová	IPv6 security aspects	Assoc.Prof. Ing. P. Segeč, PhD.
5.	J. Kizek	Remote Access VPN Solutions	Ing. P. Palúch, PhD.
6.	J. Pobeha	Analysis of human genome sequences using Karhunen Loevojev transformation	Assoc.Prof. RNDr. K. Bachratá, PhD.
7.	J. Poláček	Creating interactive exercises	Ing. Ľ. Mikuš, PhD.
8.	K. Manduchová	Representation of human genome sequences for Fourier transformation	Assoc.Prof. RNDr. K. Bachratá, PhD.
9.	Ľ. Kaplán	Analysis of software tools used to support model driven architecture (MDA).	Ing. B. Bučko
10.	Ľ. Ondříšek	The Fibre Channel over Ethernet Protocol	Ing. P. Palúch, PhD.
11.	Ľ. Hošták	Principles and comparison of routing protocols in WMN (Wireless Mesh Network) networks	Ing. O. Škvarek, PhD.
12.	Ľ. Voška	Virtual LAN Networks	Ing. P. Palúch, PhD.
13.	L. Čepeć	Creating Network Applications using TLS and DTLS	Ing. P. Palúch, PhD.
14.	L. Koribský	Analysis of human genome sequences using Bayes statistics	Assoc.Prof. RNDr. K. Bachratá, PhD.
15.	M. Chovancová	Feature analysis of available open source SIP UAs.	Assoc.Prof. Ing. P. Segeč, PhD.
16.	M. Špaček	Current Trends in Lightweight WiFi Solutions	Ing. P. Palúch, PhD.
17.	M. Dindoffer	Estimation of fundamental frequency in music using Yin algorithm	Ing. O. Škvarek, PhD.
18.	M. Kontšek	Realisation of a VoIP SIP GSM gateway.	Assoc.Prof. Ing. P. Segeč, PhD.
19.	M. Tongel	Statistical evaluation of programming skills of students starting their university education	Mgr. I. Jančígová
20.	M. Vrabec	Web page e--shop	Ing. Ľ. Mikuš, PhD.

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

Name	Institute	Country	Date
Prof.Ing.Martin Klím , PhD.	Conference . ICNAAM 2014, Rhodes	GR	21. 09. - 28. 09. 2014
Prof.Ing.Martin Klím , PhD.	H2020-ICT Committee Meeting, Brussels	B	29. 09. – 01. 10. 2014
Prof.Ing.Martin Klím , PhD.	COST Association Brussels	B	09. 12. – 10. 12. 2014

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

Department of Management Theories

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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..

Administrative Department: Oľga Doricová

PhD Students:

Ing. Katarína **Púčková**

Ing. Lenka **Tarábková**

Ing. Jozef **Šarlay**

Ing. Gabriel **Koman**

Ing. Jana **Kundríková**

Ing. Eva **Siantová**

Ing. Tatiana **Šajtlavová**

PhD.-Programme

Theme	Student	Supervisor
1. Application of Knowledge Management Elements in Strategic Management	Ing. K. Púčková	Prof. Ing. Š. Hittmár, PhD.
2. Investment Influence of Human Capital to Efficiency, Profitability and Competitive Ability of Enterprise	Ing. L. Tarábková	Prof. Ing. J. Vodák, 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. Cooperation Organization Structures and their Strategic Management	Ing. T. Šajtlavová	Assoc.Prof.Ing. J. Soviar, PhD.



Management laboratory

BACHELOR THESIS

No.	Student	Theme	Supervisor
1.	D. Kochová	Motivation and Evaluation of Employees in the Small Enterprise	Ing. J. Magdolenová, PhD.
2.	D. Zraková	Marketing communication in conditions of selected firm	Ing. R. Jankal, PhD.
3.	D. Moravčíková	Online customer zone of Slovak energetic, Ltd.	Assoc.Prof.. Ing. V. Lendel, PhD.
4.	F. Gonšeniča	The use of structural EU financial support in the municipality of M.	Ing. J. Gajdošík
5.	J. Švec	Selection of new technological information system.	Assoc.Prof.. Ing. M. Kubina, PhD.
6.	J. Úskoba	Search engine marketing and its application in practical projects	Assoc.Prof.. Ing. V. Lendel, PhD.
7.	J. Čavojská	Proposal of marketing mix considering current situation on the market	Assoc.Prof.. Mgr. J. Saviar, PhD.
8.	J. Dvorská	Corporate social responsibility in conditions of selected company	Ing. A. Závodská, PhD.
9.	J. Michalová	Effective marketing proposals for Language school in Košice	Assoc.Prof.. Mgr. J. Saviar, PhD.
10.	J. Šimkovičová	Work processes for the preparation of a new product	Prof.. Ing. Š. Hittmár, PhD.
11.	J. Štrenger	Suggestion of the promotion for selected company within the segment of seniors	Ing. M. Bízik
12.	J. Dodok	Ensure production of fuse box BFRH	Prof.. Ing. Š. Hittmár, PhD.
13.	J. Jaroš	Analysis of enterprise information system from the perspective of business management.	Assoc.Prof.. Ing. M. Kubina, PhD.
14.	E. Pílnik	Streamlining of chosen management processes in production enterprise	Ing. V. Šramová, PhD.
15.	L. Jaroščiaková	Proposal for a segmentation customer structure at the Holiday Inn in Žilina	Assoc.Prof.. Mgr. J. Saviar, PhD.
16.	M. Demjanovičová	Communications Mix for Selected Organization	Ing. M. Varmus, PhD.
17.	M. Čertík	Customer satisfaction measurement of selected firm	Ing. R. Jankal, PhD.
18.	M. Juščák	Using of on-line marketing in selected company	Ing. V. Šramová, PhD.
19.	M. Kolesár	Possibilities of using the Internet in marketing communication's e-shop	Ing. V. Šramová, PhD.
20.	M. Vanya	Logistics information system for company PCA Slovakia, Ltd.	Assoc.Prof.. Ing. V. Lendel, PhD.
21.	M. Vidlička	Human resources selection in selected company	Ing. L. Kocifajová

No.	Student	Theme	Supervisor
22.	M. Ježíková	Corporate social responsibility in conditions of selected firm	Ing. R. Jankal, PhD.
23.	M. Dolník	Strategy for Implementation of Project “Tennis into schools”	Ing. M. Varmus, PhD.
24.	M. Martinčeková	Customer satisfaction measurement	Ing. L. Kocifajová
25.	M. Barčák	Marketing communication of selected company	Ing. R. Jankal, PhD.
26.	M. Boris	Manufacturing security revolving door GRA	Prof.. Ing. Š. Hittmár, PhD.
27.	M. Benedikovičová	Motivation of employees and managers as a tool to increase productivity in an IT company	Assoc.Prof.. Ing. M. Blašková, PhD.
28.	M. Priekala	Implementation of control information system for power plant.	Assoc.Prof.. Ing. M. Kubina, PhD.
29.	M. Greschnerová	The use of reporting to support decision in the company.	Assoc.Prof.. Ing. M. Kubina, PhD.
30.	M. Prekopová	Customer segmentation for selected firm	Ing. K. Púčková
31.	M. Uková	Proposal for a segmentation customer structure at Toyota Žilina (AT, Joint Venture Com.) for hybrid cars	Assoc.Prof.. Mgr. J. Soviar, PhD.
32.	P. Ferenc	Online Marketing Communications for Hospital	Ing. M. Varmus, PhD.
33.	R. Cecko	Redesign of website for student organisation Rádio X.	Assoc.Prof.. Ing. M. Kubina, PhD.
34.	R. Novosadová	Marketing communications for company AUTOKOMPONENT-KARDAN, Ltd.	Assoc.Prof.. Ing. V. Lendel, PhD.
35.	R. Králik	Brand's influence on customer behaviour in non-professional sport	Ing. A. Závodská, PhD.
36.	R. Rybanská	Decision Making Model of the Legal Form Selection for Small Enterprise	Ing. J. Magdolenová, PhD.
37.	R. Glasnák	Communications Mix for Business G+K autosúčiastky, s.r.o.	Ing. M. Varmus, PhD.
38.	S. Sirieh	Strategy to Increase DOXXbet Brand Awareness	Ing. M. Varmus, PhD.
39.	S. Kulišová	Motivation and motivating of employees Kaufland,	Assoc.Prof.. Ing. M. Blašková, PhD.
40.	T. Lališová	Customer satisfaction measurement in selected company	Ing. L. Kocifajová
41.	T. Tóth	Business Plan for New Small Enterprise in a Construction Sector	Ing. J. Magdolenová, PhD.
42.	V. Holešová	Corporate social responsibility in conditions of selected firm	Ing. R. Jankal, PhD.
43.	V. Balko	Corporate social responsibility in conditions of elementary school	Ing. R. Jankal, PhD.

No.	Student	Theme	Supervisor
44.	Z. Cyprichová	Marketing communications for company IPC-SLOVAKIA, Ltd.	Assoc.Prof.. Ing. V. Lendel, PhD.
45.	Z. Ďuriančíková	Proposal of marketing communication for selected firm	Ing. K. Púčková
46.	Z. Kopasová	Improvement of motivation program and motivating employees in selected company	Assoc.Prof.. Ing. M. Blašková, PhD.
47.	A. Sládková	Information system for selected business	Assoc.Prof.. Ing. V. Lendel, PhD.

MASTER THESIS

No.	Student	Theme	Supervisor
1.	A. Obertová	Inventory management optimization in trade business	Assoc.Prof. Ing. J. Král, PhD.
2.	A. Lipovská	Rationalization of selected processes of company	Ing. R. Jankal, PhD.
3.	D. Hanzlík	Application of the Blue Ocean Strategy principles in the manufacturing company Nespa.	Prof. Ing. J. Vodák, PhD.
4.	E. Siantová	The Rationalization of Selected Processes of Company	Prof. Ing. Š. Hittmár, PhD.
5.	G. Koman	Improving of the efficiency of the system Business Intelligence in the ZSSK Joint stock comp.	Assoc.Prof. Ing. M. Kubina, PhD.
6.	I. Poliaková	Quality management in conditions of selected firm	Ing. R. Jankal, PhD.
7.	J. Augustín	Information providing of management processes at the Faculty of Informatics and Management	Assoc.Prof. Ing. M. Kubina, PhD.
8.	J. Blažej	Improvement of motivation program at Vetropack Nemšová, Ltd.	Assoc.Prof. Ing. M. Blašková, PhD.
9.	J. Kundříková	Effective cooperation management between university and business environment	Assoc.Prof. Mgr. J. Soviar, PhD.
10.	J. Poláček	Comparison of creation process of motivation program in difference companies	Assoc.Prof. Ing. M. Blašková, PhD.
11.	K. Matejčeková	Application of performance management methodology in selected enterprise	Prof. Ing. J. Vodák, PhD.
12.	K. Slezáková	Marketing strategy in regional tourist industry	Assoc.Prof. Mgr. J. Soviar, PhD.
13.	K. Holbičková	Inventory management optimization in SOR Ltd. trade company	Assoc.Prof. Ing. J. Král, PhD.
14.	K. Tršková	The proposal of motivation program of employees and managers of the University of Žilina	Assoc.Prof. Ing. M. Blašková, PhD.
15.	Ľ. Ivašková	The Importance and Support of Employees in the Total Quality Management	Prof. Ing. J. Vodák, PhD.
16.	Ľ. Šoška	Motivating business partners' employees whose job is of critical importance for an enterprise	Assoc.Prof. Ing. M. Blašková, PhD.

No.	Student	Theme	Supervisor
17.	E. Závodská	Kanban Application in the Scheidt & Bachmann business conditions	Assoc.Prof. Ing. J. Král , PhD.
18.	L. Husár	Design of quality management system in SOLIK Ltd. company	Assoc.Prof. Ing. J. Král , PhD.
19.	M. Mihalčinová	Innovation of information system of IS – Industry Solutions, Joint stoc comp.	Assoc.Prof. Ing. V. Lendel , PhD.
20.	M. Lučivjanský	Application of the Blue Ocean Strategy principles in the company Azet.sk.	Prof. Ing. J. Vodák , PhD.
21.	M. Mičiak	Application of TQM tools in HIGA Ltd. company	Assoc.Prof. Ing. J. Král , PhD.
22.	M. Bednáriková	Solving the data mining problem in the selected company	Assoc.Prof. Ing. M. Kubina , PhD.
23.	M. Belošová	Application Balanced Scorecard methodology with the focus on learning and development perspective in selected enterprise	Prof. Ing. J. Vodák , PhD.
24.	M. Lietavcová	Exploitation of benchmarking to improve product quality	Ing. R. Jankal , PhD.
25.	M. Rizmanová	Evaluation of innovation performance of ORIGINAL MASÍV, Ltd.	Assoc.Prof. Ing. V. Lendel , PhD.
26.	P. Kelčíková	Evaluation of innovation performance of business company	Assoc.Prof. Ing. V. Lendel , PhD.
27.	P. Herčko	Strategy of Marketing Management of Selected Company in B2B Environment.	Ing. M. Varmus , PhD.
28.	P. Dubajová	Searching of motivation climate and the proposal of motivation program of employees of the Metropolitan police in Žilina	Assoc.Prof. Ing. M. Blašková , PhD.
29.	P. Lúčanová	Specifications of product quality Evaluation	Ing. R. Jankal , PhD.
30.	R. Ondáková	Communications Strategy of Business in B2B	Ing. M. Varmus , PhD.
31.	R. Poláček	Evaluation of innovation performance of selected company	Assoc.Prof. Ing. V. Lendel , PhD.
32.	Š. Štancel	Design and implementation of an information system for the organization of sporting events.	Assoc.Prof. Ing. M. Kubina , PhD.
33.	T. Paukovček	Monitoring and Evaluation of customer satisfaction	Ing. R. Jankal , PhD.
34.	T. Siget	Processes of Marketing Management and their Impact on Information System.	Ing. M. Varmus , PhD.
35.	V. Mackovčák	Marketing Strategy on Event DownMall Mirage Žilina	Ing. M. Varmus , PhD.
36.	V. Kanisová	Effective management of communication between MATRIXMOBIL, Ltd. stores	Assoc.Prof. Mgr. J. Soviar , PhD.
37.	Z. Kistanová	KINEKUS, ltd. franchise relationship management	Assoc.Prof. Mgr. J. Soviar , PhD.
38.	Z. Slobodová	The Rationalization of Selected Processes of Production Company	Prof. Ing. Š. Hittmár , 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 Committees for Preparing Conferences (EU - opportunities for develop.of transport).

Prof. Ing. **Josef VODÁK**, PhD.

- 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 “Public Security and Public Order”, Lithuania,
- 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 Žilina 19th-20th June),
- Member of Scientific Committee of the International Scientific Conference Toyotarity in the Context of European Enterprises Improvement (held in Poland, 6th-8th December),
- Member of Scientific Committee of the International Scientific Conference QUAERE (online 20. – 24 May 2013 a held in presentation form in June 2013 at HUB in Prague),
- Member of Scientific Committee of the International Scientific Conference Present and Future Social Policy (held 18th –19th April 2013 in Czestochowa, Poland),
- Member of Academic Senate Faculty of Management Sciences and Informatics,
- Member of Scientific Council of Faculty of Management Sciences and Informatics.

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 Scientific Committee of the International Scientific Conference Human Potential Development (held in Žilina 19th-20th June).

Department of Software Technologies

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

Tel.: + 421- 41- 513 41 00
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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**

PhD Students:

Ing. Zuzana **Škutchanová**

Ing. Iveta **Jančigová**

Ing. Renáta **Tóthová**,

Ing. Jana **Kadlecová**

Mgr. Martin **Bušík**

PhD-Programme

Theme	Student	Supervisor
Optimization of Micro Fluidic Equipments with Application in Medicine	Mgr. I. Jančigová	Assoc. Prof.Mgr. I. Cimrák, Dr..
Development and Implementation of Biomedicine Models Suitable to Modelling of Micro-Fluidic Equipments	Mgr.R. Tóthová	Assoc. Prof.Ing. K.Bachratá, PhD.
Design and Development of Computational Models for Extensive Computer Experiments with Applications in Biomedicine	Mgr. M. Bušík	Assoc. Prof.Mgr. I. Cimrák, Dr..
Use of Stochastic Methods in Biomedical Applications Models	Ing. J. Kadlecorá	Assoc. Prof.Ing. K.Bachratá, PhD
Product and Process Innovation in the Service Sector	Ing. Z. Škutchanová	Assoc.Prof.Ing.M. Hrnčiar, PhD.

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

No.	Student	Theme	Supervisor
1.	D. Dvonč	Web site for a database of games	Ing. P. Hrkút, PhD.
2.	D. Píž	Calendar synchronization for the Android platform	Ing. M. Meško
3.	E. Ištaková	Transport Network Editor for Railway Transport Operational Control Module GTN	Ing. V. Tavač, PhD.
4.	J. Cvenček	Development of Android app for drug dosing	Assoc.Prof.. Mgr. I. Cimrák, PhD.
5.	J. Lúdik	Creation of module of Vychytane-Slovensko.sk website	Ing. P. Vereš
6.	J. Jelenčíková	Analysis of processes in an organization providing services	Assoc.Prof.. Ing. M. Hrnčiar, PhD.
7.	J. Macko	Football club information system.	Ing. M. Tavač, PhD.
8.	M. Hvolka	SEO tool	Ing. J. Ružbarský, PhD.
9.	M. Kando	Quality Function Deployment for Selected Product	Assoc.Prof.. Ing. M. Hrnčiar, PhD.
10.	M. Štaffenová	Statistical evaluation and comparing economic literacy with other subjects of education	RNDr. H. Bachratý, PhD.
11.	M. Kusenda	Calendar and task scheduler for Android	Ing. M. Gábor, PhD.
12.	M. Vrábel	Marketing communication plan for chosen business organization	Ing. Z. Škutchanová
13.	M. Gaňa	HTML 5 web-game development.	Ing. M. Meško
14.	M. Malina	Statistical analysis and evaluation of the behaviour of students in the subject of Economic statistics with connection to other study results	RNDr. H. Bachratý, PhD.
15.	M. Malobický	Interactive Android Vocabulary	Ing. J. Ružbarský, PhD.
16.	M. Podpleský	Management of the Customer-Supplier Interface in Service Delivery	Assoc.Prof.. Ing. M. Hrnčiar, PhD.
17.	M. Ziman	Test application for object detection algorithms	Ing. Š. Toth, PhD.
18.	M. Boškaj	Comparison of client side web programming languages	Ing. P. Hrkút, PhD.
19.	M. Knapik	Marketing communication plan of chosen business organization	Ing. Z. Škutchanová
20.	P. Drozd	3-D maps graphic editor	Ing. J. Ružbarský, PhD.
21.	P. Paule	Value Analysis of Selected Product	Assoc.Prof.. Ing. M. Hrnčiar, PhD.
22.	P. Cápá	Audience response system for lecture	Ing. Š. Toth, PhD.

No.	Student	Theme	Supervisor
23.	P. Poklonová	Development of Android application for carpooling	Assoc.Prof., Mgr. I. Cimrák, PhD.
24.	R. Grešo	Application for encrypting SMS messages	Assoc.Prof., Ing. E. Kršák, PhD.
25.	R. Ďaďo	Web site for LION CREATIVE STUDIO company	Ing. P. Hrkút, PhD.
26.	R. Gešo	Development of Android applicaiton for driving schools	Ing. M. Meško
27.	Š. Mrázik	Sign language recognition	Assoc.Prof., Ing. E. Kršák, PhD.
28.	V. Dušenka	Online Chat Application for Massive Open Online Courses platforms	Ing. P. Hrkút, PhD.

MASTER THESIS

No.	Student	Theme	Supervisor
1.	A. Svetlošák	Receipt recognition using mobile device	Ing. Š. Toth, PhD.
2.	L. Kováčiková	Add-in for Microsoft Word to text processing in Slovak	Ing. Š. Toth, PhD.
3.	L. Olšiak	Production Capacity Dimensioning in the Service Sector	Assoc.Prof., Ing. M. Hrnčiar, PhD.
4.	M. Kotus	Parking lot gate control system	Assoc.Prof., Ing. J. Janech, PhD.
5.	M. Kurtulík	Tool for processing, analyzing and utilization of stochastic characteristics for large-scale texts	RNDr. H. Bachratý, PhD.
6.	M. Hlúbik	Design of unified application and programming interface for intranet application for Faculty of Informatics and Management Science	Ing. P. Hrkút, PhD.
7.	M. Lokaj	Gas trading support system	Assoc.Prof., Ing. J. Janech, PhD.
8.	M. Siman	Mobile Application for Gate Control	Ing. V. Tavač, PhD.
9.	M. Belás	Relational algebra modelling extensions for UML .FRI tool	Assoc.Prof., Ing. J. Janech, PhD.
10.	N. Klauďíný	Design and implementation of type consumption diagram modules for railway companies	Ing. P. Stopka
11.	N. Králik	External Evaluation Methods of Service Providers	Assoc.Prof., Ing. M. Hrnčiar, PhD.
12.	P. Žuffa	KANGO-Kmen Web Service Data Acquisition Source Code Generator	Ing. V. Tavač, PhD.
13.	R. Lajdová	Application supporting work in the "Floor tiling" environment for mathematics education using VOBS method of M. Hejný	RNDr. H. Bachratý, 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

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

<i>Name</i>	<i>Institute</i>	<i>Country</i>	<i>Date</i>
Assoc.Prof.Mgr. I. Cimetrák, Dr.	UAS St.Poelten	A	10. 02. – 11. 02. 2014
Ing. R. Škutchanová	IUVENTA European Comm., Heraclion	GR	25. 03. – 29. 03. 2014
Assoc.Prof.Mgr. I. Cimetrák, Dr.	IUVENTA European Comm., Heraclion	GR	25. 03. – 29. 03. 2014
Assoc.Prof. Ing. K. Bachratá, PhD.	ICNAAM Conference Rhodes	GR	22. 09. – 29. 09. 2014
Ing. H. Bachratý, PhD.	ICNAAM Conference Rhodos	GR	22. 09. – 29. 09. 2014
Assoc.Prof.Mgr. I. Cimetrák, Dr.	ICNAAM Conference Rhodes	GR	22. 09. – 29. 09. 2014
Mgr. I. Jančigová	ICNAAM Conference Rhodes	GR	22. 09. – 29. 09. 2014
Mgr. R. Tóthová	ICNAAM Conference Rhodes	GR	22. 09. – 29. 09. 2014
Asso.Prof.Ing. M. Hrnčiar, PhD.	TU Debrecén	H	01. 10. – 02. 10. 2014
Assoc.Prof.Mgr. I. Cimetrák, Dr.	Brokerage event for nanotechnologies, Brussels	B	12. 11. – 14. 11. 2014

Other activities:

Assoc.Prof.Ing. E. Kršák, PhD.:

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

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. 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

PHOTO GALERY



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



Presentation of companies in atrium of the Faculty



Students party at courtyard of the Faculty