



SLOVAK UNIVERSITY OF  
TECHNOLOGY IN BRATISLAVA  
FACULTY OF CIVIL ENGINEERING

# 2013

# ANNUAL REPORT

of the Faculty of Civil Engineering

Bratislava

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# INTRODUCTION

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The activities of the Faculty are ruled by Act No. 131/2002 Coll., on universities, by the Statute of STU, the Statute of the Faculty of Civil Engineering of STU and other principal documents of the Faculty, including the Long-Term Development Goals of the Faculty. An essential and inherent part of the process of evaluating the Faculty is also reassessing if the Faculty's current administration is meeting the primary tasks and aims which have been incorporated in the document "The Long-Term Development Goals of the Faculty of Civil Engineering of STU in Bratislava from 2011 to 2015" with specified goals for the year 2013.

In accordance with the Bologna Declaration, the studies at the Faculty of Civil Engineering have three levels that implement the credit system for assessment. The instruction was realized in 30 study programs with the following structure: 8 at the bachelor level, 13 at the engineering level and 9 at the doctoral level. In comparison to the academic year 2012/2013 the study program of Environmental Engineering was substituted by the study program of Constructions for Creation and Protection of the Environment. The offer of study programs for the academic year 2013/14 did not change.

In the process of admission of students for bachelor studies in the academic year 2013/14 the entrance examination was omitted. In spite of this fact, we noticed a decline of students enrolled in the first year of bachelor studies and also a slight decline of students enrolled in the first year of engineering studies. The reason for the decline of students who are able to proceed to the second year of studies is that some students cannot cope with the study requirements and tend to give up their studies during the first year. In comparison to the previous period this decline improved from 29 to 22%. The number of graduates in the bachelor and engineering studies remained approximately at the same level. There was a significant increase of the graduates at the doctoral study level. The ratio of students who succeeded in the last year of the bachelor study level improved. A long-term positive trend is the number of students who achieve excellent study scores as well as the number of students of the Faculty of Civil Engineering, who take part in various competitions organized by a commercial sector and receive numerous awards. In the previous period we managed to increase the number of students who went to study abroad, but the number of foreign students at the FCE is constantly low (2.9% of the number of students). One of the Faculty's goals is to increase the number of foreign students as well as the number of students of the Faculty of Civil Engineering who will take advantage of student mobility programs.

The Faculty of Civil Engineering along with the STU provides a social allowance and social services for their students. In the academic year 2012/2013 403 students received a social scholarship; 286 received a motivational scholarship and 273 were paid a special scholarship.

The Faculty of Civil Engineering applies various tools of monitoring of the teaching process. The Faculty regularly organizes an anonymous evaluation

of the teaching process by the students. In the previous semester 40% of students took part in this anonymous survey. We require from the lecturers to consider this information and respond to the students by a common mail. The students appreciated this activity at several meetings. They also appreciated the exhibition of their dissertations and inspections at the classes (340 per an academic year in total).

The Presidium of the Faculty strives to decrease the administration load imposed on the lecturers and researchers. The documents for the evaluation of teaching performance of the departments was centrally processed with minimum claims. Implementation of the data from the accreditation documents of study programs into information sheets of individual subjects into AIS is essential for obtaining ECTS – label. We required only to add the information missing in the accreditation documents.

In compliance with the provisions of the Act on Higher Education, a creative scientific and research work is an integral part of university education activities. Over the long run the strategy of the scientific-research work of FCE, STU in Bratislava is based on the national policy on science as well as the predicted European and world trends in civil engineering and geodesy. The bodies of the Faculty discussed, and the Scientific Board approved, a new principal research orientation, while considering the condition of the experimental bases of the departments, the development of which was a priority for achieving a higher standard of outcomes. In the field of scientific-research activities, the Faculty of Civil Engineering will aim at intelligent construction and transportation systems, modern materials and constructions, modeling of the processes of the internal environments of buildings, protection of the environment and renewable energy sources, automatic control systems in civil engineering, the safety and reliability of constructions, optimizing plans, exploitation of hydraulic structures and their interactions with the environment, and integrated protection from hydrospheric extremes, including the monitoring of global and regional changes to the environment. The Faculty will constantly disseminate information to the practice by the creation and updating of international, European and domestic norms, as well as realizing tasks requested by companies or institutions.

The greater demands for the submitted projects of particular agencies in 2013 and the assessment of achieved results brought most research teams to focus on meticulous preparation of new projects. In spite of the effort to attain as many financed projects as possible, only twenty two new projects were added up in 2013 – out of that number 5 APVV, 15 VEGA, 2 projects of ŠPVaV. Final decision about many projects submitted in 2013 has not been made yet. In total the Faculty worked on 52 projects subsidized from the national budget – out of that number 21 APVV, 52 VEGA, 2 KEPA, 2 from the Ministry of Culture of the SR. Out of the current number of projects 17 were completed in 2013. The total amount of funding from the national budget for these projects was 1.35 million Euros.

In order to increase the number of projects at the Faculty in 2013 the Presidium of the Faculty made strong effort to motivate their employees to submit the projects within the grant scheme of ESF and other. The Faculty devoted much time and effort to prepare several applications for NFP within the framework of OPVaV either for the development of research centers or other projects to disburse the structural funds. In 2013 the Faculty received a financial amount of 450 thousand Euros for international projects and structural funds projects. The participation in on-going projects of excellence centers, competence centers and the university scientific park and work on new applications detracts from scientific capacity of the faculty and also from willingness of the creative employees of faculties to get involved in other calls.

The Faculty has to prepare for possible changes in the structure of the state policy towards science and research. The Presidium of the Faculty, along with the Scientific Board of the Faculty, has recommended diversifying research activities and focusing on themes that are a priority from the point of view of the EU and SR (e.g., environmental, energy, and transportation infrastructure issues and efficiency in the production and operation of constructions). At the same time it is necessary to improve care of the Faculty's young scientific workers. Our Faculty has therefore paid a higher degree of attention to them this year. Fifty three applications were submitted to the Faculty in 2012 in response to a call by STU within its program of supporting young researchers; out of those 18 received a subsidy from the University and the Faculty. The Faculty organized a competition for 25 postdoctoral positions, which were substantially subsidized from central funds.

The results of the scientific-research work of the universities and faculties have been constantly reflected in the allocation of the subsidy from the Ministry of Education, Science, Research and Sport of the SR. Systematic research work substantiated by publications is one of the primary conditions for the success of the Faculty and the professional growth of its employees. Therefore, the Presidium of the Faculty strives at all control levels to ensure favorable conditions for creative work, including publishing work. The absolute number of works published could result in a false sense of self-satisfaction, especially due to the rapid increase in the number of publications. It is important to demonstrate a high number of so-called subsidized publications to guarantee financial resources from the Ministry of Education. It is encouraging that the percentage of subsidized titles is growing steadily every year. The successful accreditation of the Faculty, financial resources for its functioning, and the professional growth of individual employees depend to a great extent upon the quality and amount of publications. The task for the next period of time is to create an atmosphere in which any specialized work at a department will result in publication.

Within the framework of the Operational Program Research and Development the Faculty is involved in a number of university projects aimed at the field of diagnostics of deformations of the earth surface in Slovakia by the application of satellites, gravimetric and troposphere measurements, at the development of the methods of excavation of high-volume energy wells, the development of accumulative vacuum tanks, at the creation and development of environmental technologies in flood protection of settlements in the region of Small Carpathians. It is also aimed at the development of integration systems for simulation of drain processes, applied research of methods for determination of climate and hydrological design variables, development of intelligent technologies for the use of electronics and computation in the systems and services of constructions.

Due to the activities of its employees, FCE, STU is currently participating in all the significant EU programs, including the TEMPUS-Tacis, SOCRATES-ERASMUS, and LEONARDO da VINCI II educational programs, but we also have to mention other international activities, especially the CEEPUS program and bilateral programs based on our employees' contacts with foreign partner universities. A total of twenty one projects within various forms of EU framework programs were submitted in 2013. The number of applications is perceived positively.

The Faculty has to extensively present its activities even within our own country. Year by year the role of Public Relations has become more important in informing the public about the range of study programs at the Faculty, our graduate job prospects and the promotion of the civil engineering professions. In accordance with the Long-Term Goals of the Development of the Faculty of Civil Engineering, the Faculty's Public Relations activities cover the most fundamental areas, including the promotion of studying at STU, student life, representing the Faculty at trade fairs and professional and scientific events, activities of the Industrial Board, competitions, media activities, social events and care of its employees.

In the previous year the Presidium of the Faculty made, besides the teaching process, improving the standard of services provided to the students its priority. An opportunity was thereby provided to renovate the classrooms, the network's infrastructure and equip several classrooms with data projectors. Launching the operation of Plotter and Duplication Center and the replacement of multimedia equipment in the lecture hall B101 belong to these activities as well. Wi-Fi is available in the classrooms in block B, where most classes are held, in the atrium, the Faculty library and lecture halls. The students can connect to the Web in these rooms without using any cables in case they need to use their notebooks. The students can also consult on a daily basis with the professionals from the Center of Information Technologies of the Faculty. The computer classrooms are visited by an average of 1,500 students per week, i.e., more than 40,000 students per year. Twenty PC kiosks located at the main entrance of the Faculty building, the Registrar's Office and the IT Center primarily serve to assist the students with their individual work. The kiosks are available 24 hours a day, seven days a week. There are 30 connections to the Web in the library and a powerful self-service scanner to enable students to work individually on their notebooks.

The arrangement of specialized zones in the library for notebooks to be connected to the Internet has enhanced the capacity of the reading room and the comfort of its users. This has resulted in higher attendance in the Library and Information Center of the FCE, STU with students spending longer periods of time there on average. The modernization of the library and its higher quality services had a positive impact on attendance at the library reading room steadily increasing every year. There was a continuing trend of increased attendance in 2013 as well, and the number of visitors reached almost 72 thousand per year. The increased attendance at the library proves that the realization of the modernization project of the academic library at the Faculty of Civil Engineering STU has been successful and that the library has become a vital center for education and the meaningful use of free time during breaks between classes. However, it must be noted that if the increased rate of attendance and interest from the students continues, it will be necessary to find more room for an extension of the library.

With its greater number of professional online databases and modern information technologies available, The Library and Information Center (LIC) of FCE is trying to actively encourage improvements in the information literacy of its target groups of undergraduates, postgraduates and PhD students through enhancing their ability to achieve excellent results in their educational and scientific outcomes. In the year 2013 the LIC continued providing a series of information seminars for first-year students, as well as the PhD. students on the theme "Obtaining and preserving of scientific information". The LIC is continually providing on-line access into tens of electronic databases including Slovak technical norms.

Many projects of complex reconstruction of the Faculty's buildings have been realized in the previous period. Barrier-free access to the central parts of the Faculty has been achieved as well as the reconstruction of the external cladding of block C of the Faculty of Civil Engineering, reconstruction of the student cafeteria and construction of a new building in Kočovce. In 2013, these positive trends continued.

The trend of successive modernization of classrooms and internal spaces of block B continued. In the period of summer holidays the floor cover in three classrooms was replaced and six classrooms and the corridor on the third and the first floor of block B were newly painted, the door constructions were varnished in compliance with the new design-manual of block B. New data-projectors with a greater distance from the display area and new large screens were installed in the lecture halls B110, B112 and B114 to provide for a sufficiently large reflection. In the lecture hall B101 the original data-projector was replaced by a new high quality and efficient appliance Panasonic PT-DW17KE and teaching aids were supplemented with a new visualizing device and presentation system with the aim of substantial improvement of quality and comfort of presentations. In newly reconstructed classroom BAT (B 316 and B 319) new interior blinds were installed on window constructions, so that it is possible to partially eclipse the room during presentations. In February 2013 a ceremony for opening a Plotter and Duplication Center (PAKS) was held in premises of the Center of Information Technologies (CIT) in block B. It is also a part of long-lasting effort of the Presidium of the Faculty along with the Department of Architecture to make a common concept of creating supportive spaces for students at the Faculty. Before the examination period the Faculty in cooperation with the Student Association adapted a vacant room previously used by ŠTOR and made a new zone for students to work and rest. By doing this the Faculty met the requirements of the students to provide better environments for studying and resting between the classes. The interior designed by the students from the Department of Architecture provides room for working on assignments, studying and relaxing. The Student Association along with the commercial sector will organize lectures, seminars and workshops there. The Library and Information Center was used by the students and employees to a maximum rate and the temperature there was inconveniently high in summer months. Natural ventilation through windows was not sufficient, which resulted in thermal discomfort. Therefore a 1.5 tons heavy external air-conditioning unit was installed on the roof of block B and connected to HVAC systems for cooling the interior of LIC in the summer period.

The above mentioned activities represent just a small part of the measures aimed at a common effort of improving the standard of our laboratories, the rooms where our lecturers have to work and where our students learn. In this

period there are opportunities for using financial resources of a relatively high amount other than government funding. However, this means more work and administrative burdens for many employees of the Faculty.

A stable economic environment is a precondition for the successful realization of the Faculty's future investment goals. From this point of view, it is significant for the Faculty to make a profit either due to the Faculty's core or entrepreneurial activities. In the future it will be possible to continue this trend only through a higher degree of quality, both in the Faculty's pedagogy, but also by focusing on the international cooperation.

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# BODIES OF THE FACULTY

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## 1. THE DEAN OF THE FACULTY

Prof. Ing. Alojz Kopáčik, PhD.

## 2. PRESIDIUM OF THE FACULTY

Prof. Ing. Alojz Kopáčik, PhD.

Prof. Ing. Ján Szolgay, PhD.

Assoc. Prof. Ing. Peter Makýš, PhD.

Prof. Ing. Vladimír Benko, PhD.

Assoc. Prof. Ing. Boris Bielek, PhD.

Ing. Tomáš Šatura

Prof. Ing. Stanislav Unčík, PhD.

Bc. Kristína Vaňová

Ing. Miloslav Štujber

- The Dean
- The First Deputy Dean, Vice-Dean for Science, Research and Foreign Relations
- Vice-Dean for Education
- Vice-Dean for Public Relations
- Vice-Dean for Development of the Faculty
- Financial Manager
- Chairman of the Academic Senate FCE STU
- Chairperson of the Students' Association, FCE STU
- Chairman of the Trade Union Organisation

## 3. THE DEAN'S COUNCIL

Prof. Ing. Alojz Kopáčik, PhD.

Prof. Ing. Ján Szolgay, PhD.

Assoc. Prof. Ing. Peter Makýš, PhD.

Prof. Ing. Vladimír Benko, PhD.

Assoc. Prof. Ing. Boris Bielek, PhD.

Ing. Tomáš Šatura

Prof. Ing. Stanislav Unčík, PhD.

Bc. Kristína Vaňová

Ing. Miloslav Štujber

Prof. Ing. Juraj Bilčík, PhD.

Prof. Ing. Bystrík Bezák, PhD.

- The Dean
- The First Deputy Dean, Vice-Dean for Science, Research and Foreign Relations
- Vice-Dean for Education
- Vice-Dean for Public Relations
- Vice-Dean for Development of the Faculty
- Financial Manager
- Chairman of the Academic Senate FCE STU
- Chairperson of the Students' Association, FCE STU
- Chairman of the Trade Union Organization
- Head of Department of Concrete Construction and Bridges
- Head of Department of Transportation Engineering

Assoc. Prof. Ing. Juraj Janák, PhD.	– Head of Department of Theoretical Geodesy
Ing. Ján Ježko, PhD.	– Head of Department of Surveying
Assoc. Prof. Ing. Ivan Slávik, PhD.	– Head of Department of Geotechnics
Prof. Ing. Viliam Macura, PhD.	– Head of Department of Land and Water Resources Management
Prof. Ing. Peter Dušička, PhD.	– Head of Department of Hydraulic Engineering
Prof. Ing. Anton Puškár, PhD.	– Head of Department of Building Construction
Prof. Ing. Ján Brodniansky, PhD.	– Head of Department of Steel and Timber Structures
Ing. Róbert Fencík, PhD.	– Head of Department of Mapping and Land Consolidation
Prof. RNDr. Radko Mesiar, DrSc.	– Head of Department of Mathematics and Descriptive Geometry
Assoc. Prof. RNDr. Jozefa Lukovičová, PhD.	– Head of Department of Physics
Prof. Ing. Norbert Jendželovský, PhD.	– Head of Department of Structural Mechanics
Prof. Ing. Stanislav Unčík, PhD.	– Head of Department of Material Engineering
Prof. Ing. Jozef Gašparík, PhD.	– Head of Department of Building Technology
Assoc. Prof. Ing. Štefan Stanko, PhD.	– Head of Department of Sanitary and Environmental Engineering
Assoc. Prof. Ing. Oľília Lulkovičová, PhD.	– Head of Department of Building Services
PhDr. Dagmar Špíldová	– Head of Department of Languages
PaedDr. Ján Masarovič	– Head of Department of Physical Education
Ing. Katarína Heretiková, PhD.	– Head of Department of Humanities
Assoc. Prof. Ing. arch. Elena Dohňanská, PhD.	– Head of Department of Architecture
Assoc. Prof. Ing. Milan Nič, PhD.	– Head of Institute of Forensic Engineering
Ing. Vladimír Priechodský, PhD.	– Head of Central Laboratories

## 4. SCIENTIFIC BOARD OF THE FACULTY

### Members of the Scientific Board (full members from the Faculty)

**Chairman:** Prof. Ing. Alojz Kopáčik, PhD.

**Vice-Chairman:** Prof. Ing. Ján Szolgay, PhD.

Prof. Ing. Ján Szolgay, PhD., First Deputy Dean, Vice-Dean for Science, Research and International Relations, Department of Land and Water Resources Management

Prof. Ing. Ivan Baláž, PhD., Department of Steel and Timber Structures

Prof. Ing. Bystrík Bezák, PhD., Department of Transportation Engineering

Prof. Ing. Juraj Bilčík, PhD., Department of Concrete Structures and Bridges

Assoc. Prof. Ing. arch. Elena Dohňanská, PhD., Department of Architecture

Prof. Ing. Jozef Gašparík, PhD., Department of Building Technology

Prof. Ing. Ján Hefty, PhD., Department of Theoretical Geodesy

Prof. Ing. Jozef Hraška, PhD., Department of Building Structures

Prof. Ing. Alojz Kopáčik, PhD., Dean of the Faculty, Department of Surveying  
Prof. Ing. Jozef Kriš, PhD., Department of Sanitary and Environmental Engineering  
Prof. Ing. Viliam Macura, PhD., Department of Land and Water Resources Management  
Assoc. Prof. Ing. Peter Makýš, PhD., Department of Building Technology  
Prof. RNDr. Radko Mesiar, DrSc., Department of Mathematics and Constructive Geometry  
Prof. Ing. Dušan Petráš, PhD., Department of Building Services  
Prof. Ing. Anton Puškár, PhD., Department of Building Structures  
Dr.h.c. Prof. Ing. Ján Ravinger, DrSc., Department of Structural Mechanics  
Prof. Ing. Milan Sokol, PhD., Department of Structural Mechanics  
Prof. Ing. Andrej Šoltész, PhD., Department of Hydraulic Engineering  
Prof. Ing. Peter Turček, PhD., Department of Geotechnics  
Prof. Ing. Stanislav Unčík, PhD., Department of Material Engineering

### **Members of the Scientific Board (full members from external institutions)**

RNDr. Ladislav Brimich, CSc., Geophysical Institute SAS Bratislava  
Assoc. Prof. Ing. Peter Černík, PhD., STRABAG Development Slovakia, Ltd.  
Assoc. Prof. RNDr. Ján Feranec, DrSc., Geographical Institute SAS Bratislava  
Prof. Ing. Ivan Hyben, PhD., Faculty of Civil Engineering, Technical University of Košice  
Ing. Peter Matiašovský, CSc., Institute of Construction and Architecture SAS Bratislava  
Ing. Zoltán SadoVský, DrSc., Institute of Construction and Architecture SAS Bratislava  
Prof. RNDr. Daniel Ševčovič, CSc., Faculty of Mathematics, Physics and Informatics of Comenius University Bratislava

### **Members of the Scientific Board (honorary members)**

Prof. Ing. Alena Kohoutková, CSc., Dean of the Faculty of Civil Engineering, Czech University in Prague  
Prof. Ing. Rostislav Drochytka, CSc., Dean of the Faculty of Civil Engineering, Brno University of Technology  
Prof. Ing. Darja Kubečková, PhD., Dean of the Faculty of Civil Engineering, Technical University Ostrava  
Prof. Ing. Josef Vičan, CSc., Dean of the Faculty of Civil Engineering, University of Žilina  
Assoc. Prof. Ing. Vincent Kvočák, PhD., Dean of the Faculty of Civil Engineering, Technical University of Košice  
Assoc. Prof. Ing. arch. Ľubica Vítková, PhD., Dean of the Faculty of Architecture, STU Bratislava  
Ing. Mária Frindrichová, Chairman, Bureau of Geodesy, Cartography and Cadaster of the SR  
Ing. Zsolt Lukáč, President of the Slovak Association of Construction Entrepreneurs  
Prof. Ing. Vladimír Benko, PhD., Chairman of the Slovak Chamber of Civil Engineers  
Ing. Vladimír Stromček, Chairman of the Directorate of the Chamber of Surveyors and Cartographers  
Ing. arch. Juraj Šujan, President of the Slovak Chamber of Architects,  
from October 11, 2013 Ing. arch. Imrich Pleidel



## 5. THE FACULTY'S ACADEMIC SENATE

Chairman:	Prof. Ing. Stanislav Unčík, PhD.
Vice-Chairman:	Prof. Ing. Viliam Macura, PhD.
Executive Board:	Prof. Ing. Ľudovít Fillo, PhD., Prof. RNDr. Radko Mesiar, DrSc. Ing. Gabriela Szántová, Bc. Vladimír Badura.

### Members of the Academic Senate:

Assoc. Prof. Ing. Rudolf Ároch, PhD., Department of Steel and Timber Structures  
Assoc. Prof. Ing. Katarína Bačová, PhD., Department of Transportation Engineering  
Assoc. Prof. Ing. Michal Božík, PhD., Department of Building Technology  
Mgr. Tatiana Filipoiu, Department of Languages  
Prof. Ing. Ľudovít Fillo, PhD., Department of Concrete Structures and Bridges  
Ing. Marek Fraštia, PhD., Department of Surveying  
Ing. Róbert Geisse, PhD., Department of Mapping and Land Consolidation  
Ing. Silvia Gregušová, PhD., Institute of Forensic Engineering  
Mgr. Zita Herzánová, Department of Physical Education  
Prof. Ing. Jozef Hraška, PhD., Department of Building Structures  
Ing. Ľuboš Hruštinec, PhD., Department of Geotechnics  
Assoc. Prof. Ing. Ladislav Husár, PhD., Department of Theoretical Geodesy  
Assoc. Prof. Ing. arch. Jarmila Húsenicová, Department of Architecture  
Prof. Ing. Juraj Králik, PhD., Department of Structural Mechanics  
Prof. Ing. Viliam Macura, PhD., Department of Land and Water Resources Management  
Prof. RNDr. Radko Mesiar, DrSc., Department of Mathematics and Constructive Geometry  
Assoc. Prof. Ing. Ľudovít Možiešik, PhD., Department of Hydraulic Engineering  
Ing. Gabriela Pavlendová, PhD., Department of Physics  
Assoc. Prof. Ing. Štefan Stanko, PhD., Department of Sanitary and Environmental Engineering  
Ing. Jana Šabíková, PhD., Department of Building Services  
Prof. Ing. Stanislav Unčík, PhD., Department of Material Engineering  
JUDr. Jana Zajacová, Department of Humanities  
Bc. Vladimír Badura, Bc. Zuzana Barnová, Monika Csehová, Ing. Dagmara Čehel'ová, Bc. František Hric, Bc. Beáta Kánová, Bc. Anna Kosíková, Bc. Martin Michalec, Monika Pračková, Ing. Gabriela Szántová, Bc. Kristína Vaňová, Bc. Lukáš Zanovít.

## 6. INDUSTRIAL BOARD

Ing. Daniel Baláž, Managing Director of Saint-Gobain Construction Products, Ltd., Division Weber – Terranova

Prof. Ing. Vladimír Benko, PhD., FCE STU Bratislava, Vice-Dean for Public Relations

Ing. Imrich Béreš, Prvá stavebná sporiteľňa, a. s. Bratislava, Chairman

Ing. Igor Beroun, Managing Director JOHNSON CONTROLS CZ and SK

Ing. Anton Bezák, PhD., Managing Director of Ingsteel Ltd., Bratislava

Assoc. Prof. Ing. Boris Bielek, PhD., FCE STU Bratislava, Vice-Dean for Development of the Faculty

Ing. Mikuláš Bobik, CSc., Director of Applied Precision Ltd., Bratislava

Prof. Ing. Ľudovít Fillo, PhD., FCE STU Bratislava

Ing. Ľuboš Fúsek, Director of Baumit, Ltd.

Ing. Marek Gálik, CSc., Managing Director of the Trnava Water Company, a.s. Piešťany

Ing. Peter Halász, Director of Jaga Group v.o.s. (unlimited liability company), Bratislava

Ing. František Hirner, Statutory and Managing Director of ZIPP, Ltd., Bratislava

Ing. Oto Hornáček, Managing Director of Hornex, a.s. Bratislava

Ing. Marián Kmeť, Director of SOLHYDRO, Ltd., Bratislava

Ing. Tibor Kočvara, Managing Director Skanska SK

Prof. Ing. Alojz Kopáček, PhD., FCE STU Bratislava, the Dean

Ing. Milan Leško, Director of PREMAC, Ltd.

Ing. Zsolt Lukáč, President of ZSPS (The Association of Construction Entrepreneurs of Slovakia)

Ing. Ján Majerský, PhD., Director of Proma, Ltd., Žilina

Assoc. Prof. Ing. Peter Makýš, PhD., FCE STU Bratislava, Vice-Dean for Education

Prof. Ing. František Ohrablo, PhD., Honorary Chairman of the Alumni Club of FCE, STU in Bratislava

Prof. Ing. Dušan Petráš, PhD., FCE STU Bratislava

Ing. Slavomír Podmanický, Managing Director of Reming Consult, Slovakia

Ing. Peter Pochaba, Managing Director of ABC Klíma, Ltd., Bratislava

Ing. Jozef Ružanský, PhD., Managing Director of DREVONA a.s. Bratislava

Prof. Ing. Milan Sokol, PhD., STU Bratislava, Vice Rector for the Development of STU

Assoc. Prof. Ing. Peter Suchánek, PhD., REHAU, Ltd., Bratislava

Prof. Ing. Ján Szolgay, PhD., Vice-Dean for Science, Research and Foreign Relations at FCE STU

Ing. Róbert Šinály, General Director of EUROVIA SK, a.s.

Alan Šišinački, Holcim Slovakia, Chairman

Prof. Ing. Andrej Šoltész, PhD., The Chairman of the Alumni Club of FCE STU

Ing. Vladimír Uhlík, Managing Director of Geodesy a.s. Bratislava

Prof. Ing. Stanislav Unčík, PhD., Chairman of the Academic Senate

Ing. Anton Viazanko, Director of Durisol-Stav, Ltd.

Ing. František Zvrškovec, President of Divident Group Slovakia, Bratislava

# DEPARTMENTS

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# DEPARTMENT OF CONCRETE STRUCTURES AND BRIDGES

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Prof. Ing. Juraj Bilčík, PhD.

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Design of Composite Structures

Design of Concrete Bridges I, II

Design of Concrete Members (Slovak and English)

Design of Concrete and Masonry Members

Design of Concrete Structures I, II

Execution of Concrete Structures

High – Rise and Span Structures

Masonry Structures of Buildings

Prestressed Concrete

Reinforced and Prestressed Members

Repair of Concrete Constructions

Special Problems of Concrete Structures

#### Obligatory elective subjects

Masonry Structures

Design of Environmental Constructions

Experimental Testing of Concrete Structures

Modeling of Civil Engineering Works

#### Optional subjects

Modeling of Concrete Structures

#### Recommended subjects

Modeling of Reinforced Concrete 2D Structures

Modeling of Reinforced Concrete 3D Structures

### 1.2 Postgraduate courses

Modeling of Concrete Structures

Experimental Testing of Concrete Structures

## 2. THESES

### 2.1 Bachelor theses

There were 19 works.

### 2.2 Graduate theses

Birás, M.: Supporting Structure of a High-Rise Building of a Residential Complex  
Supervisor: Gramblička, Š.

Bugáň, D.: Apartment House: RC Skeleton Structure with Stiffening Walls  
Supervisor: Harvan, I.

Gunár, L.: Central Police Office in Bratislava: Multi-Storey RC Skeleton Structure with a Stiffening Core  
Supervisor: Harvan, I.

Hanzel, J.: High-Rise Building of an Office Centre: Cast-in-Situ Reinforced Concrete Structure with Flat Slabs and a Stiffening Core  
Supervisor: Harvan, I.

Hebanová, V.: AT Hotel – Cast-in-Situ Reinforced Concrete Structure  
Supervisor: Gajdošová, K.

Hlinšťák, K.: SEGUM Shopping Centre: Cast-in-Situ Concrete Structure  
Supervisor: Gajdošová, K.

Horváthová, S.: High-Rise Residential Building: Cast-in-Situ Reinforced Concrete Supporting Structure  
Supervisor: Bartók, A.

Hrubý, M.: High-Rise Residential Building: Cast-in-Situ Reinforced Concrete Supporting Structure  
Supervisor: Bartók, A.

Kendický, P.: Multifunctional Building: Hanging RC Structure  
Supervisor: Benko, V.

Křepela, M.: Design of the Bearing System of a Part of Shopping Centre  
Supervisor: Šoltész, J.

Kubalová, Z.: Production Factory: Precast Concrete Hall  
Supervisor: Borzovič, V.

Kúdela, M.: Bottova Centre: Cast-in-Situ Reinforced Concrete Structure  
Supervisor: Gajdošová, K.

Kúška, F.: Design of the Bearing System of a Part of Shopping Centre  
Supervisor: Šoltész, J.

Majtánová, L.: Tatracity: Cast-in-Situ Reinforced Concrete Structure  
Supervisor: Borzovič, V.

Matejka, J.: Dunajská Multifunctional Building: Cast-in-Situ Reinforced Concrete Structure  
Supervisor: Gajdošová, K.

Michlík, M.: Hotel Jasná: Cast-in-Situ Reinforced Concrete Structure  
Supervisor: Gajdošová, K.

Olos, D.: Static and Dynamic Analysis of a High-Rise Building  
Supervisor: Šoltész, J.

Orolín, M.: Apartment House in Poprad: Cast-in-Situ Reinforced Concrete Structure  
Supervisor: Gajdošová, K.

Pavlačka, P.: Blending Silo – Cast-in-Situ RC Structure  
Supervisor: Borzovič, V.

Pavlíková, V.: Multifunctional Building: Cast-in-Situ RC Structure  
Supervisor: Borzovič, V.

Raučina, J.: Office Building: Cast-in-Situ RC Structure  
Supervisor: Borzovič, V.

Rumančík, M.: Hotel: Cast-in-Situ RC Structure  
Supervisor: Borzovič, V.

Selecká, A.: Load-Bearing Structure of a High-Rise Office Building Center  
Supervisor: Gramblička, Š.

Slováková, L.: Chimney of an Incineration Plant  
Supervisor: Šoltész, J.

Struhár, M.: Multifunctional Building: Cast-in-Situ RC Structure  
Supervisor: Borzovič, V.

Šturdík, J.: Hotel \*\*\*-Staré Grunty, Bratislava: Combined Cast-in-Situ RC Structure with a Stiffening Core  
Supervisor: Abrahoim, I.

Tatala, D.: Static and Dynamic Analysis of a High-Rise Building  
Supervisor: Šoltész, J.

Tisovský, M.: Load-Bearing Structure of a High-Rise Office Building Center  
Supervisor: Gramblička, Š.

Tršťan, T.: Hotel A: RC Skeleton Structure with Stiffening Walls  
Supervisor: Harvan, I.

Dovičič, J.: Railway Bridge over the Nosice Retaining Dam  
Supervisor: Paulík, P.

Fedorko, A.: Cast-in-Situ Bridge on the Motorway D1 over the Krpeliánsky Channel  
Supervisor: Halvoník, J.

Halmo, M.: Cast-in-Situ Bridge at Road I/11  
Supervisor: Halvoník, J.

Macko, D.: Bridge over the River Váh on the Motorway D1 Built by a Balanced Cantilever Method  
Supervisor: Halvoník, J.

Ondrejka, M.: Road Bridge over a Highway  
Supervisor: Fillo, L.

Práznovský, M.: Bridge between Čadca and Žilina  
Supervisor: Paulík, P.

Priščák, T.: Bridge Built by a Balanced Cantilever Method Prestressed with Extradosed Tendons  
Supervisor: Halvoník, J.

## 2.3 Doctoral theses

Brondoš, J.: CFRP Materials for Strengthening Concrete Members under an Impact Load  
Supervisor: Bilčík, J.

Čuhák, M.: Nonlinear Analysis of Concrete Structures. Biaxial Bending with Axial Force  
Supervisor: Fillo, L.

Dolnák, J.: Application of High-Performance Concrete in Precast Bridge Structures  
Supervisor: Halvoník, J.

Kovačovic, M.: Shear Resistance between Concrete-Concrete Surfaces  
Supervisor: Halvoník, J.

Lelkes, A.: Theoretical Analysis of the Design of Composite Steel-Concrete Columns  
Supervisor: Gramblička, Š.

Porubský, T.: Nonlinear Analysis of Concrete Columns  
Supervisor: Fillo, L.

Rozložník, P.: Analysis of Reinforced Concrete Beams with Consideration of Redistribution and Plasticity  
Supervisor: Fillo, L.

Veróny, P.: Reinforcing of Concrete Columns – Analysis of the Influence of Transverse Reinforcement  
Supervisor: Gramblička, Š.

## 3. RESEARCH

### 3.1 Research projects

Holistic Design of Concrete Constructions (2012-2014, BILČÍK, J.), VEGA /0784/12

Resistance Analysis of Concrete, Masonry and Composite Steel-Concrete Structures (2011-2013, FILLO, L.), VEGA 1/0857/11

Factors Affecting the Effectiveness of the Utilization of High-Strength Concrete in Load-Bearing Elements and Structures (2011-2013, HUDOBA, I.), VEGA1/0458/11

Historical Experience and Current Requirements for the Design of Concrete Bridges and Knowledge Transfer of Information Acquired in Technical Practice (2013-2016, HALVONÍK, J.), APVV-0442-12

Diagnosis of Oldest Reinforced Concrete Bridges in Slovakia (2013-2015, HALVONÍK, J.), VEGA 1/0690/13

### 3.2 International cooperation

#### Cooperating institutions

Klokner Institute ČVUT Prague, Czech Republic

ETH – Laboratory for Building Materials, ETH Zurich, Switzerland

Baustoffinstitut, TU Munich, Germany

Institut für Baustatik und Konstruktion, ETH Zurich, Switzerland

Department of Civil and Materials Engineering, University of Illinois at Chicago, USA

RIB Bausoftware, Stuttgart, Germany

Betosan, s.r.o., Prague, Czech Republic

European Commission, DG Research, Brussels, Belgium

Imperial College for Science, Technology and Medicine, London, U.K.

St. Paul University, Brussels, Belgium

Fachhochschule Braunschweig – Wolfenbütel, Germany

Institut für Massivbau, TU Darmstadt, Germany

Fachhochschule Coburg, Germany

#### Membership in international professional organizations

Bilčík, J.: American Concrete Institute

Fillo, L.: CEN TC 250 – SC2 Eurocodes Design of Concrete Structures

Fillo, L.: Task Group fib TG 1.1 Design Application

Fillo, L.: Czech Concrete Society, Hradec Králové, Czech Republic,

Halvoník, J.: CEN TC 250 SC1 Eurocodes

Halvoník, J.: CEN TC 250 Eurocodes

## 4. PUBLICATIONS

### Journals

Bellová, M.: Design of Masonry Structures According to EUROCODE 6. EUROSTAV, ISSN 1335-1249, Vol. 19, Nos. 11-12 (2013), pp. 68-71 (in Slovak)

Bilčík, J. – Halaša, I.: Requirements for Watertight Parts of Concrete Buildings Structures. In: Beton: Technologie – Konstrukce – Sanace, ISSN 1213-3116, Vol. 13, No. 1 (2013), pp. 80-83 (in Slovak)

Gajdošová, K. – Bilčík, J.: Full-Scale Testing of CFRP-Strengthened Slender Reinforced Concrete Columns. In: Journal of Composites for Construction, ISSN 1090-0268, Vol. 17, No. 2 (2013), pp. 239-248 (in English)

Gajdošová, K.: Series: The Most Interesting Bridges in Slovakia. 2nd Part: "Krajinský Bridge in Piešťany". In: Inžinierske stavby, ISSN 1335-0846, Vol. 61, No. 3 (2013), pp. 60-61 (in Slovak)

Gramblička, Š.: Errors and Failures of Load-Bearing Structures of Buildings. In: Stavebnictví, ISSN 1802-2030, Vol. 7, No. 5 (2013), pp. 50-54 (in Slovak)

Gramblička, Š.: The 18th Conference of Structural Engineers in Piešťany: Statics of Buildings 2013. In: Stavebnictví, ISSN 1802-2030, Vol. 7, No. 5 (2013), p. 68 (in Slovak)

Gramblička, Š. – Veróny, P.: Transverse Reinforcement in Reinforced Concrete Columns. In: SSP – Journal of Civil Engineering, ISSN 1336-9024, Vol. 8, No. 2 (2013), pp. 41-50 (in English)

Halaša, I. – Bilčík, J.: Concrete for Watertight Concrete Structures. In: Stavebné hmoty, ISSN 1336-6041, Vol. 9, No. 1 (2013), pp. 30-32 (in Slovak)

Hanzel, J. – Gajdošová, K.: Series: The Most Interesting Bridges in Slovakia. 5th Part: Peterský Bridge in Liptovský Hrádok. In: Inžinierske stavby, ISSN 1335-0846, Vol. 61, No. 5 (2013), pp. 46-47 (in Slovak)

Harvan, I.: Shear Resistance of Girderless Concrete Slabs Using Eurocode 2. In: Stavebnictví, ISSN 1802-2030, Vol. 7, Nos. 11-12 (2013), pp. 52-57 (in Slovak)

Hudoba, I. – Mikuš, J. – Dovál, M.: Possibilities of the Utilization of a New Generation of Concrete in Concrete Elements and Structures. In: Stavebné materiály, ISSN 1336-7617, Vol. 9, No. 2 (2013), pp. 24-26 (in Slovak)

Ignáčák, M. – Šoltész, J.: Influence of Hydration Heat on Base Slabs in Early Stages. In: Stavebné materiály, ISSN 1336-7617, Vol. 9, No. 1 (2013), pp. 24-25 (in Slovak)

Majtánová, L. – Borzovič, V.: Uľanka Railway Bridge. In: Inžinierske stavby, ISSN 1335-0846, Vol. 61, No. 5 (2013), pp. 44-45 (in Slovak)

Paulíková, V. – Borzovič, V.: Kopráš Viaduct. In: Inžinierske stavby, ISSN 1335-0846, Vol. 61, No. 4 (2013), pp. 46-47 (in Slovak)

## Conference Proceedings

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- Abrahoim, I.: Verification of the Cracking of Post-Tensioned Concrete Members According to STN EN 1992-1-1. In: Proceedings of 20th Concrete Days 2013 Conference, Hradec Králové, Czech Republic, 27.-28.11.2013, ISBN 978-80-87158-34-0, pp.384-389 (in Slovak)
- Bajza, A. – Bilčík, J.: Urea Granulation Tower at Duslo Šaľa. In: Proceedings of 8th Seminar on Repair of Concrete Structures, Smolenice, Slovakia, 3.-4.12.2013, ISBN 978-80-8076-109-7, pp. 39-44 (in Slovak)
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- Bellová, M.: Design of Fire Walls as Barriers Against a Fire Spreading. In: Proceedings of 8th Seminar on Repair of Concrete Structures, Smolenice, Slovakia, 3.-4.12.2013, ISBN 978-80-8076-109-7, pp. 103-108 (in Slovak)
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- Benko, V. – Vyskoč, A. – Ďuračka, J. – Perla, J.: Rehabilitation and Strengthening of Activation Tanks for Sewage Treatment. In: Proceedings of 18th Conference on Statics of Buildings 2013, Piešťany, Slovak Republic, 14.-15.03.2013, ISBN 978-80-89655-00-7, pp. 291-294 (in Slovak)
- Bilčík, J.: Rehabilitation of a Concrete Granulation Tower. In: Proceedings of 23rd International Symposium on Repair of Concrete Structures 2013, Brno, Czech Republic, 15.-17.5.2013, ISBN 978-80-905471-0-0, pp. 56-59 (in Slovak)
- Bilčík, J. – Gajdošová, K. – Bolha, L.: Analysis of Separating Cracks Development in Concrete Tanks. In: Procedia Engineering, Vol. 65: Concrete and Concrete Structures 2013, Terchová, Slovak Republic, 23.-25.10.2013, ISSN 1877-7058, pp. 75-80 (in English)
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- Bilčík, J. – Hollý, I.: Effect of Reinforcement Corrosion on Bond Behaviour. In: Procedia Engineering, Vol. 65: Concrete and Concrete Structures 2013, Terchová, Slovak Republic, 23.-25.10.2013, ISSN 1877-7058, pp. 248-253 (in English)
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- Fillo, L.: Decreased Reliability of Axially Loaded Columns. In: Proceedings of 20th Concrete Days 2013 Conference, Hradec Králové, Czech Republic, 27.-28.11.2013, ISBN 978-80-87158-34-0, pp. 329-332 (in English)
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- Gajdošová, K. – Brondoš, J.: The Utilization of CFRP Laminates in a Reinforced Concrete Cross-Section. In: Proceedings of 8th Seminar on Repair of Concrete Structures, Smolenice, Slovakia, 3.-4.12.2013, ISBN 978-80-8076-109-7, pp. 131-136 (in Slovak)
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- Gramblička, Š.: Defects of Reinforced Concrete Structures in Design Activity. In: Proceedings of 18th Conference on Statics of Buildings 2013, Slovak Republic, Piešťany, 14.-15.03.2013, ISBN 978-80-89655-00-7, pp. 171-176 (in Slovak)
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- Gramblička, Š. – Lelkes, A.: Slender Composite Steel-Reinforced Concrete Columns. In: Proceedings of 13th International Scientific Conference on VSU' 2013, Volume 2, Sofia, Bulgaria, 6.-7.6.2013, pp. 277-282 (in English)
- Halvoník, J. – Fillo, L.: Punching-The Causes of Failure in a Complex Trinity. In: Proceedings of Scientific Conference on Modelling in Structural Mechanics 2013, Ostrava, Czech Republic, 22.-23.5.2013, ISBN 978-80-248-2985-2 (in Slovak)
- Halvoník, J. – Dolnák, J. – Borzovič, V.: Long-Term Losses of Prestress in Precast Members Cast from HPC. In: Procedia Engineering, Vol. 65: Concrete and Concrete Structures 2013, Terchová, Slovak Republic, 23.-25.10.2013, ISSN 1877-7058, pp. 81-86 (in English)
- Halvoník, J. – Fillo, L.: The Maximum Punching Shear Resistance of Flat Slabs. In: Procedia Engineering, Vol. 65: Concrete and Concrete Structures 2013, Terchová, Slovak Republic, 23.-25.10.2013, ISSN 1877-7058, pp. 376-381 (in English)
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- Hudoba, I. – Mikuš, J.: The Application of UHSC for Load-Bearing Composite Elements and Structures. In: Procedia Engineering, Vol. 65: Concrete and Concrete Structures 2013, Terchová Slovak Republic, 23.-25.10.2013, ISSN 1877-7058, pp. 212-217 (in English)
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- Ignačák, M.: Measuring of the Development of the Temperature of a Base in Early Stages. Proceedings of 15th Technical International PhD Study Conference Juniorstav 2013, Brno, Czech Republic, 7.2.2013, ISBN 978-80-214-4670-0 (in Slovak)
- Ignačák, M. – Sonnenschein, R. – Šoltész, J.: Frequent Causes of "White Tanks" Defects. In: Proceedings of 18th Conference on Statics of Buildings 2013, Piešťany, Slovak Republic, 14.-15.03.2013, ISBN 978-80-89655-00-7, pp. 247-252 (in Slovak)
- Ignačák, M. – Prcúch, I. – Šoltész, J.: Thermal Analysis of Base Slabs in Early Stages. In: Proceedings of 11th Conference on Technology of Concrete 2013, Jihlava, Czech Republic, 18.4.2013, ISBN 978-80-87158-33-3, pp. 116-122 (in Slovak)
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Lelkes, A. – Gramblička, Š.: Theoretical and Experimental Studies on Composite Steel-Concrete Columns. In: Procedia Engineering, Vol. 65: Concrete and Concrete Structures 2013, Terchová, Slovak Republic, 23.-25.10.2013, ISSN 1877-7058, pp. 405-410 (in English)

Mikuš, J.: Possibilities of the Applications of Ultra High-Performance Concrete. Proceedings of 15th Technical International PhD Study Conference Juniorstav 2013, Brno, Czech Republic, 7.2.2013, ISBN 978-80-214-4670-0 (in Slovak)

Paulík, P. – Hudoba, I.: Influence of Aggressive Chemical Environment on Behaviour of HPFRC in Conditions of Long-Term Bending Performance. In: Proceedings of fib Symposium on Engineering a Concrete Future: Technology, Modeling & Construction, Tel-Aviv, Israel, 22.-24.4.2013, ISBN 978-965-92039-0-1, pp. 73-76 (in English)

Paulík, P.: The Effect of Curing Conditions /in Situ vs. Laboratory/ on Compressive Strength Development of High Strength Concrete. In: Procedia Engineering, Vol. 65: Concrete and Concrete Structures 2013, Terchová, Slovak Republic, 23.-25.10.2013, ISSN 1877-7058, pp. 113-119 (in English)

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Prčúch, I. – Ignačák, M. – Šoltész, J.: Temperature Field Analysis of Selected Structures in Their Early Stages. In: Proceedings of Scientific Conference on Modelling in Structural Mechanics 2013, Ostrava, Czech Republic, 22.-23.5.2013, ISBN 978-80-248-2985-2 (in Slovak)

Sonnenschein, R. – Šoltész, J. – Ignačák, M.: Causes of Formation of Separating Cracks. In: Proceedings of 8th Seminar on Repair of Concrete Structures, Smolenice, Slovakia, 3.-4.12.2013, ISBN 978-80-8076-109-7, pp. 21-26 (in Slovak)

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Šoltész, J. – Sedlák, J. – Makovička, D. – Tengler, M.: Upgrade of Seismic Capacity of the Prefabricated Structure of a Fire Station Building. In: Proceedings of 8th Seminar on Repair of Concrete Structures, Smolenice, Slovakia, 3.-4.12.2013, ISBN 978-80-8076-109-7, pp. 149-154 (in Slovak)

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# DEPARTMENT OF TRANSPORTATION ENGINEERING

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Airport Infrastructures

Diagnosis and Reconstruction

Diploma Thesis

The Environment and Transport

Excursions

Modeling and Graphics in Road Construction

Project: Road Constructions

Railways

Roads in Urban Areas

Road Intersections

Design Studio of Urban Planning I

Design Studio of Urban Planning II

Design Studio of Spatial Planning

Predictions and Scenarios for the Development of Transport

Transport Forecasting

#### Optional subjects

Experiments and Testing

Ecology of Urban Settlements and Urban Transportation Planning

Selected Chapters on Roads and Motorways

Pavement Mechanics

Transport Construction

Urban Transportation Planning

Urban Planning I

## 2. THESES

### 2.1 Bachelor theses

There were 22 works.

### 2.2 Graduate theses

Sabo, L.: Diagnostics of the Bearing Capacity of an Asphalt Pavement on the Road Section I/77 Svidník – Zborov

Supervisor: Zuzulová, A.

Mráz, J.: Impact of the Traffic Load and Dimensioning of Roadways

Supervisor: Bačová, K.

Mesiarik, M.: Interchange at Highway D2 and Road III/503010 Intersection

Supervisor: Nemček, M.

Nitriansky, K.: The Design of a Racetrack for F1 Monoposts

Supervisor: Gschwendt, I.

Kubinová, S.: The Reconstruction of Roads in an Area

Supervisor: Bačová, K.

Bachratá, M.: Proposal for Reconstruction of Transportation Facilities in the Area of the Trnava Railway Station

Supervisor: Zuzulová, A.

Popelka, J.: Proposal for the Reconstruction of a Road in Road Section I/50 Chocholná – Mníchova Lehota

Supervisor: Zuzulová, A.

Polakevič, K.: Measures to Increase Road Safety

Supervisor: Kapusta, V.

Píruš, V.: Reconstruction of Road III/50310 Malacky-Rohožník

Supervisor: Nemček, M.

Mikuláško, Š.: The Reconstruction of the Intersection of Roads I/2 and II/503 in Malacky

Supervisor: Ondrovič, M.

Mušuta, D.: Spatial Arrangement of a Crossroad for the Disabled

Supervisor: Bezák, B.

## 3. RESEARCH

### 3.1 Research projects

CENEX subcentre CETIS – Transportation Centre Infrastructure of Settlements (BEZÁK, B., 2011-2013) Project No.: 26240120002

Austria-Slovakia Traffic Model (BEZÁK, B., 2010-2013), Project No.: 00043

BRAWISIMO (BEZÁK, B., 2010-2013), Project No.: 00127

City and Traffic 2013 (ONDROVIČ, M., 2012-2013), Project No.: 11240037

Deformation Characteristics of Warm Mix Asphalt (CÁPAYOVÁ, S., 2013)  
WAM-DEF

Use of Ash in a Road Mix for the Base Layers of Pavements. (SITÁRIK, J., 2013)  
POPOL

VEGA Traffic Areas Structures in Integrated Transport Space (BAČOVÁ, K., 2013-2015), Project No.: 1/0351/13

## 3.2 International cooperation

### Cooperating institutions

Vienna University of Technology, Vienna, Faculty of Civil Engineering, Institute of Transportation, Austria

Cracow University of Technology, Faculty of Civil Engineering, Cracow, Poland  
Széchenyi István University, Department of Transportation Infrastructure and Municipal Engineering, Győr, Hungary

Institute for Transport Studies, Department of Landscape, Spatial and Infrastructure Sciences, BOKU, Vienna, Austria

Bauhaus-University Weimar, Weimar, Germany

Department of Transportation Engineering, Faculty of Civil Engineering, University of Maribor, Smetanova ulica 17, Maribor, Slovenia

Vilnius Gediminas Technical University, Faculty of Transport Engineering, Vilnius, Lithuania

Czech Technical University in Prague, Faculty of Transportation Sciences, Prague, Czech Republic

VŠB-Technical University of Ostrava, Czech Republic

University of Pardubice, Jan Perner Transport Faculty, Pardubice, Czech Republic

Hellenic Institute of Transport, Thessaloniki, Greece

Politechnika Wroclawska, Katedra Dróg I Lotnisk, Poland

Cologne University of Applied Science, Köln, Germany

### Membership in international professional organizations

Bezák, B.: Member of the PIARC – TC 3.2 Design and Operation of Safer Road Infrastructure, Paris, France

Bezák, B.: Member of the Southeast European Transport Research Forum, SETREF, Thessaloniki, Greece

Bezák, B.: Member of the Editorial Board -Transport Review, London, UK

Bezák, B.: Member of the Editorial Board – Acta Technica Jaurinensis, Győr, Hungary

Bezák, B.: CEI Vienna – Central European Initiative – Subgroup for Transport and the Environment, Austrian Federal Ministry of Agriculture, Forestry, the Environment and Water Management, Vienna

Gschwendt, I.: Member of the PIARC – D2 TC 4.2 Road Pavements, Paris, France

Gschwendt, I.: Member of the Editorial Board – Silniční obzor, Prague

Gschwendt, I.: Member of the Editorial Board – Inžinierske stavby, Slovakia

Gschwendt, I.: The American Bibliographical Institute: Research Board of Advisors

Gschwendt, I.: Czech Association for Mechanics, ČSM Prague, Czech Republic

Ondrovič, M.: Member of the PIARC – TC 3.2 Design and Operation of Safer Road Infrastructure, Paris, France

Rakšányi, P.: CEI Vienna – Central European Initiative – Subgroup for Transport and the Environment, Austrian Federal Ministry of Agriculture, Forestry, the Environment and Water Management, Vienna

Rakšányi, P.: DASL (German Academy of Spatial and Landscape Planning, Committee for Transport and the Environment), Landesgruppe Niedersachsen-Bremen, Hannover, Member-Correspondent

Rakšányi, P.: IFHP International Federation for Housing and Planning, The Hague, The Netherlands, Member-delegate

Štefunková, S.: Member of the PIARC – D2 TC 4.2 Road Pavements, Paris, France

## 4. PUBLICATIONS

### Books

Gschwendt, I.: Rehabilitation and Reconstruction of Pavement Materials and Technology, REKMA, JAGA GROUP 2013, ISBN 978-80-8076-106-6, 118 pp. (in Slovak)

Gschwendt, I.: Expressway R1 – Project and Constructions, JAGA GROUP 2013, ISBN 978-80-8076-110-3, 157 pp. (in Slovak)

Bezák, Bystrík – Kapusta, Vladimír: Traffic Systems in the Area. – Bratislava : Nakladateľstvo STU, 2013. – 106 pp. – ISBN 978-80-227-4100-2 (in Slovak)

### Journals

Štefunková, S. – Zuzulová, A.: Energy Consumption During the Construction of Roads. In: *Energó*. – ISSN 1338-8975. – Vol. 2, No. 3 (2013), pp. 15-16 (in Slovak)

Zuzulová, A.: Concrete Pavements from the Point of View of Energy Consumption. In: *Energó*. – ISSN 1338-8975. – Vol. 2, No. 5 (2013), pp. 17-18 (in Slovak)

## Conference Proceedings

Bezák, B. – Emberger, G. – Schumich, M. – Leth, U.: Central European Cross – Border Transport Model (CECBTM). In: WCTR 2013 : 13th World Conference on Transport Research. Rio, 15.-18.7.2013, 2013, (<http://www.wctr2013rio.com>). – unpag. (in English)

Balkó, G.: Methodology of Data Collection for the Evaluation of Public Transport Efficiency, In: Advances in Architectural, Civil and Environmental Engineering : 23rd Annual PhD student conference. Bratislava, SR, 30.10.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4102-6. – pp. 352-357 (In Slovak)

Bezák, B. – Ripka, I.: Scenarios for a Cross – Border Traffic Model, In: Public Transport 2013 : International Conference Proceedings, SR, 24.-25.10. 2013. – Bratislava : Kongres STUDIO, spol. s.r.o., 2013. – pp. 82-87

Bezák, B. – Los, P. – Balkó, G.: Monitoring of Mobility Behavior, In: Quality of Integrated Transport Areas : Proceedings of Scientific Colloquium. Bratislava, SR, 30.10.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4098-2. – pp. 50-62

Bezák, B – Balkó, G.: Occupancy as Parameter of a Public Transport Efficiency, In: Public Transport 2013 : International Conference Proceedings. Bratislava, SR, 24.-25.10.2013. – Bratislava : Kongres STUDIO, spol. s.r.o., 2013. – pp. 137-144

Bezák, B. – Bálint, G.: Influence of Modernization on Efficiency. In: Public Transport 2013 : International Conference Proceedings. Bratislava, SR, 24.-25.10.2013. – Bratislava : Kongres STUDIO, spol. s.r.o., 2013. – pp. 82-86

Kapusta, V.: Safety of Traffic Areas in an Urban Area. In: Quality of Integrated Transport Areas : Proceedings of Scientific Colloquium. SR, 30.10.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4098-2. – pp. 18-22

Rakšányi, P.: Safety and Quality of the Public. In: Quality of Integrated Transport Areas : Proceedings of Scientific Colloquium. Bratislava, SR, 30.10.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4098-2. – pp. 23-29

Sitárik, J.: Energy Consumption in the Fabrication and Realization of Pavements. In: Quality of Integrated Transport Areas : Proceedings of Scientific Colloquium. Bratislava, SR, 30.10.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4098-2. – pp. 42-45

Štefunková, S.: Modern Energy and Ecologically – Friendly Technologies for Asphalt Pavements, In: Quality of Integrated Transport Areas : Proceedings of Scientific Colloquium. Bratislava, SR, 30.10.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4098-2. – pp. 12-17

Bezák, B. – Los, P.: Cross – Border Mobility Survey. In: 14th Traffic Engineering Days. : International Seminar on the Development of Current Road Network from the Point of View of Traffic Engineering. Hustopeče, CZ, 5.-6.6.2013. – Brno : Česká silniční společnost, 2013. – ISBN 978-80-02-02466-8. – [6] pages.

Bezák, B.: Evaluation of a Public Transport System, In: RDIT 2013: Proceedings of Seminar. Vysoké Mýto, CZ, 31.10.-1.11.2013. – Ostrava : VŠB – Technická univerzita Ostrava, 2013. – ISBN 978-80-248-3237-1. – pp. 56-59

Ondrovič, M.: City and Traffic – About the Project. In: City and Traffic : 18th International Students Workshop. Malacky, SR, 14.-20.7.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4021-0. – p. 4 (in English)

Ondrovič, M. – Mesarec, B. – Diesmann, B. – Blažičková, T. – Szántósi, B. – Rankovic, B.: City and Traffic – Group 2: Shared Space on Zámocká Street. In: City and Traffic : 18th International Students Workshop. Malacky, SR, 14.-20.7.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4021-0. – pp. 27-34 (in English)

Ondrovič, M. – Vossnacke, A. – Sadrissen, K. – Wranová, M. – Jovanovic, V. – Szatmári, I.: City and Traffic – Group 3: Traffic Calming on Radlinského Street. In: City and Traffic : 18th International Students Workshop. Malacky, SR, 14.-20.7.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4021-0. – pp. 35-42 (in English)

Ondrovič, M. – Novotný, V. – Fritz, A. – Klopsteche, N. – Rašl, N. – Łakowski, T.: City and Traffic – Group 4: Traffic Calming on Velkomoravská Street. In: City and Traffic : 18th International Students Workshop. Malacky, SR, 14.-20.7.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4021-0. – pp. 43-50 (in English)

Ondrovič, M. – Ivanovic, I. – Grujičić, D. – Rauscher, V. – Schuster, R. – Hummelová, E. – Zemelka, A.: City and Traffic – Group 5: Traffic Calming of Throughroad No. I/2 – Part 1 – Stefanikova. In: City and Traffic : 18th International Students Workshop. Malacky, SR, 14.-20.7.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4021-0. – pp. 51-58 (in English)

Ondrovič, M. – Miletics, D. – Matzka, V. – Koupilová, L. – Lorenz, M. – Dolinšek, R.: City and Traffic – Group 6: Reintegration of Throughroad No. I/2 – Záhorácka. In: City and Traffic : 18th International Students Workshop. Malacky, SR, 14.-20.7.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4021-0. – pp. 59-66 (in English)

Ondrovič, M. – Nemček, M. – Bak, R. – Koller, K. – Jandík, P. – Kreacic, K. – Uroda, W.: City and Traffic – Group 7: Grade-Separated Interchange Redesign. In: City and Traffic : 18th International Students Workshop. Malacky, SR, 14.-20.7.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4021-0. – pp. 67-74 (in English)

Ondrovič, M. – Berger, W. J. – Planer, A. J. – Nešič, M. – Slnková, L. – Lešník, A.: City and Traffic – Group 1: Square of Peace Redesign. In: City and Traffic : 18th International Students Workshop. Malacky, SR, 14.-20.7.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4021-0. – pp. 19-26 (in English)

Ondrovič, Milan: City and Traffic – Organizational Matters. In: City and Traffic : 18th International Students Workshop. Malacky, SR, 14.-20.7.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4021-0. – pp. 11-18 (in English)

- Ondrovič, M. – Bezák, B.: City and Traffic – Shortly about Faculty of Civil Engineering – Department of Transport Engineering. In: City and Traffic : 18th International Students Workshop. Malacky, SR, 14.-20.7.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4021-0. – p. 10 (in English)
- Ondrovič, M. – Janotová, M.: City and Traffic – Shortly about Malacky. In: City and Traffic : 18th International Students Workshop. Malacky, SR, 14.-20.7.2013. – Bratislava : Nakladateľstvo STU, 2013. – ISBN 978-80-227-4021-0. – pp. 5-7 (in English)
- Báčová, K.: Asphalt Pavement Repairs and Reconstructions within the Administration of Regional Roads. In: Reconstruction of Roads : 18th Seminar of Ivan Poliaček with international participation. Bratislava, SR, 21.-22.11.2013. – Bratislava : Kongres STUDIO, spol. s.r.o., 2013. – ISBN 978-80-89565-12-2. – pp. 137-144 (in Slovak)
- Báčová, K. – Sitárik, J.: Pavement Structures on Extremely Loaded Roads in Urban Areas. In: QUAERE 2013. Vol. III : Proceedings of International Scientific Interdisciplinary Conference of Doctoral Students and Fellows. Hradec Králové, CZ, 20.-24.5.2013. – Hradec Králové : Magnanimitas, 2013. – ISBN 978-80-9052-43-7-8. – pp. 2757-2764 (in English)
- Báčová, K.: Repairs and Reconstructions of Asphalt Pavements for Roads in the Maintenance of Regional Road Administrations. In: Asphalt Pavements 2013 : Conference Proceedings. České Budějovice, CZ, 26.-27.11.2013. – Prague : Pragoprojekt, 2013. – ISBN 978-80-903925-3-3. – [8] pp. (in Slovak)
- Gschwendt, I. – Štefunková, S. – Zuzulová, A.: Development of Technologies and Their Influence on Energy Consumption. ([https://is.stuba.sk/vv/pub\\_priloha.pl?id=277952](https://is.stuba.sk/vv/pub_priloha.pl?id=277952)) In: Asphalt Pavements 2013 : Conference Proceedings. České Budějovice, CZ, 26.-27.11.2013. – Prague : Pragoprojekt, 2013. – ISBN 978-80-903925-3-3. – [7] pp. (in Slovak)
- Nemček, M.: Design Speed Versus Traffic Safety. In: Traffic Safety on Roads : international participation, Conference Proceedings, Senec, SR, 18.-20.9.2013. – Bratislava : Kongres STUDIO, spol. s.r.o., 2013. – ISBN 978-80-89565-09-2. – pp. 50-54 (in Slovak)
- Rakšányi, P.: Forecasting or Development Scenarios? In: 14th Traffic Engineering Days : International Seminar on the Development of Current Road Networks from the Point of View of Traffic Engineering. Hustopeče, CZ, 5.-6.6.2013. – Brno : Czech Road Association, 2013. – ISBN 978-80-02-02466-8. – pp. 87-96 (in Slovak)
- Rakšányi, P. – Štefunková, S. – Ondrovič, M.: Public Transport – Traffic Calming Factor. ([https://is.stuba.sk/vv/pub\\_priloha.pl?id=276231](https://is.stuba.sk/vv/pub_priloha.pl?id=276231)) In: Public Transport : International Conference Proceedings. Bratislava, SR, 24.-25.10.2013. – Bratislava : Kongres STUDIO, spol. s.r.o., 2013. – unpag. (in Slovak)
- Sitárik, J.: Technological Options of Pavement Reconstruction. In: Reconstruction of Roads : 18th Seminar of Ivan Poliaček with international participation. Bratislava, SR, 21.-22.11.2013. – Bratislava : Kongres STUDIO, spol. s.r.o., 2013. – ISBN 978-80-89565-12-2. – pp. 157-163 (in Slovak)
- Štefunková, S. – Rakšányi, Peter: Planning, Design and Building of Road Structures. In: Conference NITT SK 2013 : Transfer Technologies in Slovakia and in Foreign Countries. Conference Proceedings. Bratislava, SR, 8.10.2013. – Bratislava : CVTI SR, 2013. – ISBN 978-80-89354-18-4. – p. 30 (in Slovak)
- Štefunková, S.: Recycling Technologies for Rehabilitation and Reconstruction of Roads. In: Reconstruction of Roads : 18th Seminar of Ivan Poliaček with international participation. Bratislava, SR, 21.-22.11.2013. – Bratislava : Kongres STUDIO, spol. s.r.o., 2013. – ISBN 978-80-89565-12-2. – pp. 145-150 (in Slovak)
- Štefunková, S. – Zuzulová, A.: The Possibilities of Energy Saving for Road Construction Materials. In: QUAERE 2013. Vol. III : Proceedings of International Scientific Interdisciplinary Conference of Doctoral Students and Fellows. Hradec Králové, ČR, 20.-24.5.2013. – Hradec Králové : Magnanimitas, 2013. – ISBN 978-80-9052-43-7-8. – pp. 2528-2533 (in English)
- Zuzulová, A. – Gschwendt, I.: Climate Conditions and Their Impact on Road Pavement Design. In: Bearing Capacity of Roads, Railways and Airfields. Vol. 2 : Proceedings of Ninth International Conference. Trondheim, Norway, 15.-27.6.2013. – Trondheim : Academic Publishing, 2013. – ISBN 978-82-3210286-0. – pp. 523-535 (in English)
- Zuzulová, A. – Štefunková, S.: Evaluation of the Current Status of the Road Network in Slovakia. ([https://is.stuba.sk/vv/pub\\_priloha.pl?id=276230](https://is.stuba.sk/vv/pub_priloha.pl?id=276230)) In: RDIT 2013 : Seminar proceedings. Vysoké Mýto, CZ, 31.10.-1.11.2013. – Ostrava : VŠB Ostrava, 2013. – ISBN 978-80-248-3237-1. – pp. 51-55 (in Slovak)
- Zuzulová, A. – Hodáková, D.: Repair and Rehabilitation of Cement Concrete Pavements. In: Reconstruction of Roads : 18th Seminar of Ivan Poliaček with international participation. Bratislava, SR, 21.-22.11.2013. – Bratislava : Kongres STUDIO, spol. s.r.o., 2013. – ISBN 978-80-89565-12-2. – pp. 151-155 (in Slovak)

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# DEPARTMENT OF THEORETICAL GEODESY

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Information Technologies

Processing and Analysis of Measurements 1

Processing and Analysis of Measurements 2

Geoinformatics

Local Geodetic Networks

Global Geodesy 1

Geodesy and Cartography (Institute of Management)

Programming

Physical Geodesy 1

Spherical Astronomy and Space Geodesy

Global Navigation Systems

Field Education in Geodetic Controls

Global Geodesy 2

Space Geodesy

Processing and Analysis of Measurements 3

Physical Geodesy 2

Management of Spatial Data

Satellite Geodesy

Spatial Modelling in GIS

Metrology in Geodesy

Mathematical Models in Geodesy

Specialized Field Education

#### Obligatory elective subjects

Gravimetry

Geodynamics

GIS Design and Implementation

Database Systems in GIS

#### Optional subjects

Quality Analysis of Geodata

Geometry and Relativity in Geodesy

Object-Oriented Programming in C#

Programming Web Pages Using PHP and JavaScript

### 1.2 Postgraduate courses

Processing and Analysis of Measurements

Global Geodesy

Geodynamics

Geoinformation Systems

## 2. THESES

### 2.1 Bachelor theses

There were 12 works.

### 2.2 Graduate theses

Bublavý, J.: Comparative Analysis of Methods for Monitoring Small Positional Changes of High-Frequency Records of GPS Measurements

Supervisor: Hefty, J.

Ďuričková, Z.: Modeling the Effect of Gravity Using a Residual Terrain Model

Supervisor: Janák, J.

Chmatilová, M.: Geometric Comparison of the Revolution and Triaxial Earth Ellipsoids

Supervisor: Husár, L.

Ilkovičová, L.: Analysis of GLONASS Measurements in GNSS Permanent Networks

Supervisor: Gerháťová, L.

Imrišek, M.: Analysis of the Vertical Gravity Gradient in the National Gravimetric Network of Slovakia

Supervisor: Papčo, J.

Kohútová, Z.: Detector Elements of Countries Using Satellite Radar Measurements

Supervisor: Papčo, J.



Pálka, D.: Spatial Databases and Analysis of the Possibilities of Extending Their Processing Uncertainty in GIS

Supervisor: Ďuračiová, R.

Rášová, A.: Visibility Analysis in a Geographical Information System Environment

Supervisor: Lieskovský, T.

Smolík, K.: Monitoring the Quality of the SKPOS Network Solution in Real Time

Supervisor: Hefty, J.

## 2.3 Doctoral theses

Hábel, B.: Analysis of Long-Term Superconducting Gravity Measurements

Supervisor: Janák, J.

Kliment, T.: Discovery of Geospatial Resources on the Internet

Supervisor: Bučko, E.

Mikolaj, M.: Impact of Water Mass Variations on Gravity Measurements

Supervisor: Mojzeš, M.

## 3. RESEARCH

### 3.1 Research projects

National Centre for Diagnosing the Earth's Surface Deformations in Slovakia (2010-2013, Mojzeš, M.), ITMS 26220220108

3D-Geokinematics of Continental Europe Inferred from Combinations of Long-Term Geodetic Satellite Positioning (2013-2015, Hefty, J.) VEGA 1/0642/13

Analysis and Modelling of Relativistic Effects in Global Navigation Satellite Systems for Increasing the Accuracy of Positioning (2011-2013, Husár, L.), VEGA 1/1108/11

Use of the Data of the GOCE European Satellite Mission and Its Effective Combination with Surface Gravity Data (2011-2013, Janák, J.), VEGA 1/1092/11

Detection of Ground Deformations Using the Radar Interferometry Technique (2011-2014, Papčo, J. – Bakoň, M.), ESA Earth Observing Principal Investigator Project, No. 9981

Bouguer New Generation Anomalies and the Gravimetric Model of the Western Carpathians (2011-2014, Papčo, J., principal investigator, Pašteka, R., from Comenius University in Bratislava), APVV-0194-10

Recognition of Objects Based on High Resolution Radar Imagery. TSX-Archive-2012 project ID LAN1583 accepted by Deutschen Zentrum für Luft- und Raumfahrt (DLR) (2012-2015, Papčo, J. – Bakoň, M.)

Solving an Inverse Gradiometric Problem (2012-2013, Pitoňák, M.), Fund of SUT Bratislava: Program for the Support of Young Researchers

Vertical Gravity Gradients in Geodetic Reference Networks (2012-2013, Papčo, J.), Fund of SUT Bratislava: Program for the Support of Young Researchers

Monitoring the Ground Stability of the Bratislava Region Using InSAR Technology (2013-2014, Bakoň, M.), Fund of SUT Bratislava: Program for the Support of Young Researchers

## 3.2 International cooperation

### Cooperating institutions

CEGRN Consortium

Department of Meteorology and Geophysics, University of Vienna, Austria

EPN – EUREF Permanent Network

Freie Universität Berlin – Tell Fecheriye Research Project

Chinese University of Hong Kong, Institute of Space and Earth Information Science, China SAR

Italian National Research Council, Institute for Marine Sciences, Italy

Kiel University, Institute of Geosciences, Germany

Research Institute of Geodesy, Topography and Cartography, Czech Republic

Purdue University, School of Civil Engineering, Indiana, United States of America

Technical University of Ostrava, Institute of Geoinformatics, Czech Republic

UNAVCO

University of New Brunswick, Department of Geodesy and Geomatics Engineering, Canada

University of Stuttgart, Institute of Navigation, Germany

University of Trieste, Department of Earth Sciences, Italy

University of Trieste, Faculty of Science, Department of Mathematics and Geosciences, Italy

University of West Bohemia in Pilsen, Faculty of Applied Sciences, Department of Mathematics, Czech Republic

Warsaw University of Technology, Faculty of Geodesy and Cartography, Poland

University of Environmental and Life Sciences, Institute of Geodesy and Geoinformatics, Wrocław

### Membership in international professional organizations

Haque Igonďová, M.: European Geosciences Union

Hefty, J.: International Astronomical Union

Hefty, J.: International Association of Geodesy

Hefty, J.: European Geosciences Union

Hefty, J.: American Geophysical Union

Janák, J.: European Geosciences Union

Mojzeš, M.: International Association of Geodesy

Mojzeš, M.: European Geosciences Union

Mojzeš, M.: American Geophysical Union  
 Mojzeš, M.: CEGRN Consortium  
 Pitoňák, M.: European Geosciences Union

## 4. PUBLICATIONS

### Books

Papčo, J.: Monitoring of Earth-Crust Deformations in a High Mountain Area. Slovak University of Technology in Bratislava, 2013, ISBN 978-80-227-4039-5, 138 pp. (in Slovak)

### Journals

Bucha, B. – Janák, J.: A MATLAB-Based Graphical User Interface Program for Computing Functionals of the Geopotential Up to Ultra-High Degrees and Orders. In: Computers & Geosciences, ISSN 0098-3004. – Vol. 56 (2013), pp. 186-196 (in English)

Cibulka, D.: Performance Testing of Web Map Services in Three Dimensions – X, Y, Scale. In: Slovak Journal of Civil Engineering, ISSN 1210-3896. – Vol. 21, No. 1 (2013), pp. 31-36 (in English)

Ďuračiová, R.: Querying Uncertain Data in Geospatial Object-Relational Databases Using SQL and Fuzzy Sets. In: Slovak Journal of Civil Engineering, ISSN 1210-3896. – Vol. 21, No. 4 (2013), pp. 1-12 (in English)

Hábel, B.: Proposal for Effective Interpolation Algorithm for Continuous Gravity Observations. In: Geodetický a kartografický obzor, ISSN 0016-7096. – Vol. 59 (101), No. 9 (2013), pp. 221-229 (in Slovak)

Husár, L.: A Comparison Between the Precession-Nutation Variations in Right Ascension Referred to the CIO and the Equinox. In: Celestial Mechanics and Dynamical Astronomy, ISSN 0923-2958. – Vol. 115, No. 1 (2013), pp. 81-89 (in English)

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Mikolaj, M. – Hábel, Branislav: The First Tidal Analysis Based on the CG-5 Autograv Gravity Measurements at Modra Station. In: Contributions to Geophysics and Geodesy, ISSN 1335-2806. – Vol. 43, No. 1 (2013), pp. 59-72 (in English)

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# DEPARTMENT OF SURVEYING

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Engineering Surveying I, II

History of Surveying

Industrial Surveying

Photogrammetry I, II

Special Seminar

Surveying I, II, III

Surveying (branch of study: Building Constructions and Architecture)

Surveying (branch of study: Building Technology and Management)

Surveying (branch of study: Hydraulic Engineering and Water Resources Management)

Surveying in Building Construction (branch of study: Engineering Constructions and Transportation Structures)

Surveying in Civil Engineering (English)

Geodetic Work Legislation

#### Obligatory elective subjects

Applied Close-Range Photogrammetry

Bachelor's Thesis

Diploma Thesis

Surveying in Underground Areas

#### Optional subjects

Measuring Systems in Engineering Surveying

### 1.2 Postgraduate courses

Engineering Surveying

Photogrammetry

## 2. THESES

### 2.1 Bachelor theses

There were 14 works.

### 2.2 Graduate theses

Bittnerová, T.: The Use of Laser Interferometry for Calibration and Test Measurements

Supervisor: Ježko, J.

Dlhý, J.: Detection of Outliers in Processing of Control Networks by Robust Statistical Methods

Supervisor: Lipták, M.

Jánoška, M.: Deformation Monitoring of Bridge Constructions Using TLS

Supervisor: Kopáček, A.

Kajánek, P.: Monitoring of Dynamic Deformation of SNP Bridge over the Danube River in Bratislava

Supervisor: Kyrinovič, P.

Laufík, D.: Testing System of Autolock Universal Measuring Station Trimble S8

Supervisor: Kyrinovič, P.

Sedlák, V.: Geodetic Monitoring of Anti-flood Structures

Supervisor: Ježko, J.

Šimko, J.: Application of Terrestrial Laser Scanning in Engineering Geology

Supervisor: Fraštia, M.

Trhan, O.: Topographical Mapping with Gatewing X100 System

Supervisor: Fraštia, M.

Urbanová, M.: Geodetic Works for the Reconstruction of Railway Tracks

Supervisor: Sokol, Š.

Záthurecký, P.: Testing of Stability Parameters of Universal Measuring Station Trimble S8 DR Plus ROBOTIC

Supervisor: Sokol, Š.

Závodný, J.: Implementation of Coupling Measurements in Underground Spaces Using IMS

Supervisor: Kopáček, A.

Zboja, M.: Geodetic Measurements Points Setting out Network R1 Beladice – Tekovské Nemce  
Supervisor: Sokol, Š.

## 2.3 Doctoral theses

Marčíš, M.: Protection and Restoration of a Cultural Heritage Using Methods of Digital Photogrammetry  
Supervisor: Sokol, Š.

Erdélyi, J.: Determination of Displacements of Bridge Structures Using TLS  
Supervisor: Kopáček, A.

# 3. RESEARCH

## 3.1 Research projects

New Trends and Technologies in Teaching Photogrammetry for Scientific Area Surveying and Geodetic Cartography (2011-2013, SOKOL, Š.), KEGA 008STU-4/2011

Monitoring Bridge Structural Health Via Repeated Dynamic Tests (2013-2017, SOKOL, M. – KOPÁČEK, A. – KYRINOVIČ, P. – ERDÉLYI, J. – LIPTÁK, I.), APVV-0236-12

Indoor Navigation of Equipment (2013-2015, KOPÁČEK, A. – KYRINOVIČ, P. – ERDÉLYI, J. – LIPTÁK, I. – LUKÁČ, Š. – KAJÁNEK, P. – ILKOVIČOVÁ, L.), VEGA 1/0445/13

Excellence in Photogrammetry for Open Cultural Landscape and Heritage Education (2013-2013, KOPÁČEK, A. – ERDÉLYI, J.), 2012-1-GR1-ERA10-10609

Competence Center for SMART Technologies for Electronics and Informatics Systems and Services (2011-2014, KOPÁČEK, A. – KYRINOVIČ, P. – LIPTÁK, I. – ERDÉLYI, J.), ITMS 26240220072

## 3.2 International cooperation

### Cooperating institutions

Department of Special Geodesy, Czech Technical University in Prague, Czech Republic

Institute of Geodesy, Brno University of Technology, Czech Republic

Institute of Geodesy and Mine Surveying, Technical University of Ostrava, Czech Republic

“1 Decembrie 1918” University of Alba Iulia, Romania

University of West Hungary, Hungary

“Politehnica” University of Timisoara, Romania

Prosim pridat' University of Technology Munich, Germany

University of Zagreb, Croatia

Geodetic and Geophysical Institute MTA Sopron, Hungary

Vienna University of Technology, Austria

Kavala Institute of Technology, Greece

## Membership in international professional organizations

FRAŠTIA, M.: International Society for Photogrammetry and Remote Sensing (ISPRS)

KOPÁČEK, A.: Deutsche Geodätische Kommission bei der Bayerischen Akademie der Wissenschaften

KOPÁČEK, A.: National delegate to International Federation of Surveyors (FIG), Commission 2: Professional Education

KOPÁČEK, A.: National delegate to International Federation of Surveyors (FIG), Commission 6: Engineering Surveying

LUKÁČ, Š.: National delegate to International Federation of Surveyors (FIG), Commission 1: Professional Standards & Practice

LUKÁČ, Š.: International Federation of Surveyors (FIG). Working Group 6.1: Deformation Measurements and Analysis

# 4. PUBLICATIONS

## Part of books

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# DEPARTMENT OF GEOTECHNICS

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Geology

Geology and Geomorphology

Soil Mechanics

Soil Mechanics and Foundations

Building Foundations

Building Foundations and Underground Structures

Engineering Geology and Rock Mechanics

Properties of Rocks and Soils

Water Reservoirs and Dams

Underground Constructions

Plane and Deep Foundations

Soil Construction

#### Optional subjects

Geology

Geology and Geomorphology

Soil Mechanics

Soil Mechanics and Foundations

Building Foundations

Building Foundations and Underground Structures

Engineering Geology and Rock Mechanics

Properties of Rocks and Soils

Water Reservoirs and Dams

Underground Constructions

Plane and Deep Foundations

Soil Construction

#### Recommended subjects

Dam Design

Foundations of Water Structures

Selected Topics in Soil Mechanics

Complex Dam Projects

Diploma Seminar

Special Engineering Geology and Hydrogeology

Soil Properties

Geomechanics

### 1.2 Postgraduate courses

Foundation of Water Structures

Selected Topics in Soil Mechanics

Complex Dam Projects

## 2. THESES

### 2.1 Bachelor theses

There were 19 works.

### 2.2 Graduate theses

Bednár, M.: Alternative Design of the Escape Route for the Hencnava Railway Tunnel

Supervisor: Chabroňová, J.

Buznová, M.: Geotechnical Analysis of a Retro High-Rise Building in Bratislava  
Supervisor: Hruštinec, Ľ.

Dermentzoglou, I.: Geotechnical Design of a Retaining Structure  
Supervisor: Frankovská, J.

Dobrodenková, V.: Optimization of a Slope Cut  
Supervisor: Súľovská, M.

Fillová, J.: Design of the Foundation of a High-Rise Apartment Building in Complex Engineering-Geological Conditions  
Supervisor: Slávik, I.

Kajaba, V.: Effect of Lime Admixtures on the Mechanical Properties of Soils  
Supervisor: Frankovská, J.

Kováčik, M.: Geological and Geotechnical Survey of a Levee  
Supervisor: Minárik, M.

Kubuřová, J.: Filtration and Stability Calculations for a Levee  
Supervisor: Minárik, M.

Lalioi, K.: Geotechnical Design of a Deep Excavation  
Supervisor: Frankovská, J.

Pavlíková, Z.: Starina Hydraulic Structure from the Perspective of Its Long-Term Operation  
Supervisor: Bednářová, E.

Pavlovič, M.: Design of Civil Engineering Provisions in Highway Tunnels  
Supervisor: Chabroňová, J.

Pollák, P.: Geotechnical Assessment of the Foundations of a Statically Demanding High-Rise Building in Bratislava  
Supervisor: Hruštinec, L.

Zlatinská, L.: Planar Tailing Dam for Lime Sludge – An Alternative Way for Heightening It  
Supervisor: Slávik, I.

## 2.3 Doctoral theses

Bartoš, V.: Interaction of a Natural Rock Environment with the Construction of a Tunnel  
Supervisor: Kuzma, J.

Steranková, A.: Contribution on a Methodical Approach for Evaluating the Positive and Negative Effects of Water Reservoirs on the Environment  
Supervisor: Bednářová, E.

## 3. RESEARCH

### 3.1 Research projects

The Effect of Long-Term Loading on the Safety of Embankments of Hydraulic Structures (2013-2015, BEDNÁŘOVÁ, E.), VEGA 1/ 0318/13

Prediction and Verification of the Geotechnical Aspects of Environmental Burdens and Constructions (2012-2014, MASAROVIČOVÁ, M.), VEGA 1/1309/12

Estimating the Effect of Geotechnical Soil Properties on an Effective Design for Treating Landslides (2011-2013 KOPECKÝ, M.), VEGA 1/0944/11

Prediction of the Development of Deformations of Geotechnical Structures Depending on Their States of Stress (2013-2015, TURČEK, P.), VEGA 1/ 0241/13

### 3.2 International cooperation

#### Membership in international professional organizations

Frankovská, J.: Representative of the Slovak Republic on the Czech and Slovak Committee of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

Frankovská, J.: Representative of the Slovak Republic on CEN – TC 250/SC7 Geotechnics

Frankovská, J.: Representative of the Slovak Republic on ETC 10 Evaluation of Eurocode 7 of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

Hruštinec, L.: Representative of the Slovak Republic on the Czech and Slovak Committee of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

Hulla, J.: Representative of the Slovak Republic on the Czech and Slovak Committee of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

Kopecký, M.: Representative of the Slovak Republic on the Slovak Committee of the International Association of Engineering Geology (IAEG)

Masarovičová, M.: Representative of the Slovak Republic on the Regional Committee of the International Association for Computer Methods and Advances in Geomechanics (IACMAG)

Masarovičová, M.: Representative of the Slovak Republic on the Czech and Slovak Committee of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

Minárik, M.: Representative of the Slovak Republic on the International Committee of ICOLD (International Commission on Large Dams) – Computational Aspects of Analysis and Design of Dams.

Ondrášik, M.: Representative of the Slovak Republic on the International Association for Engineering Geology and the Environment (IAEG)

Slávik, I.: Representative of the Slovak Republic on the Czech and Slovak Committee of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

Súřovská, M.: Representative of the Slovak Republic on the Czech and Slovak Committee of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

Turček, P.: Representative of the Slovak Republic on the Czech and Slovak Committee of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

Turček, P.: Representative of the Slovak Republic on CEN – TC 250/SC7 Geotechnics

Turček, P.: Representative of the Slovak Republic on the ETC 10 Evaluation of Eurocode 7 of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

## 4. PUBLICATIONS

### Books

Durmeková, T – Wagner, P. – Frankovská, J.: Soil Properties and Their Determination in a Laboratory. I. Behaviour of Rocks. Comenius University in Bratislava, 2013, ISBN 978-80-223-3330-6, 173 pp. (in Slovak)

## Parts of books

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## Journals

Baliak, F. – Brček, M.: Atlas of Slope Stability Maps in Slovakia as a Tool for Expert Witnesses. In: Almanach znalca. ISSN 1336-3174 – Vol. 13, No. 1 (2013), pp. 8-13 (in Slovak)

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Slávik, I. – Masarovičová, M.: Failure of Engineering Structures Due to the Negative Impact of Water. In: Inžinierske stavby. ISSN 1335-0846 – Vol. 61, No. 4 (2013), pp. 18-21 (in Slovak)

Slávik, I.: Stability Analysis of the Impoundment of Ash. In: Slovak Journal of Civil Engineering. ISSN 1210-3896 – Vol. 21, No. 1 (2013), pp. 17-20 (in English)

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- Frankovská, J.: Assessment of the Characteristic Values of Soil Geotechnical Parameters. In: Proceedings of 41st International Conference on the Foundations of Structures, Brno, Czech Republic, 2013, ISBN 978-80-87920-00-8, pp. 21-27 (in Slovak)
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- Kopecký, M. – Ondrášik, M. – Frankovská, J. – Antolová, D.: Landslides on the Slopes of Water Reservoirs in the Environment of Carpathian Flysch. In: Proceedings of the 13th International Symposium on Water Management and Hydraulic Engineering, Bratislava, Slovakia, 2013, ISBN 978-80-227-4003-6, pp. 681-693 (in English)
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- Ladicsová, E.: Assessment of the Results of Soil Nail Wall Deformations by Numerical Calculations Based on Inclinator Measurements. In: Proceedings of 23rd Annual PhD Student Conference on Advances in Architectural, Civil and Environmental Engineering, Bratislava, Slovakia, 2013, ISBN 978-80-227-4102-6, pp. 444-451 (in Slovak)

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- Martinka, L.: Calculation of the Deformations of a Desludging Site. In: Proceedings of Seminar on New Knowledge in Geotechnical Engineering, Kočovce, Slovakia, 2013, ISBN 978-80-227-3857-6, pp. 83-89 (in Slovak)
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- Stacho, J.: Alternative Calculation Method for the Design of CFA Piles. In: Proceedings of 15th PhD. Student Conference Juniorstav, Brno, Czech Republic, 2013, ISBN 978-80-214-4670-0 (in Slovak)
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- Turček, P. – Súľovská, M.: Failures of the Trinity Cathedral in Žilina. In: Proceedings of 15th Conference on Foundations of Structures, Stará Lesná, Slovakia, 2013, ISBN 978-80-89655-01-4, pp. 103-112 (in Slovak)
- Turček, P. – Súľovská, M.: Filtration Stability of Course-Grained Soils in Excavation Pits. In: Proceedings of 11th International Geotechnical Conference on the Effect of Water on Geotechnical Constructions, Bratislava, Slovakia, ISBN 978-80-227-3950-4, pp. 555-563 (in Slovak)
- Turček, P.: Geotechnical Failures Caused by Design Errors. In: Proceedings of 15th Conference on Foundations of Structures, Stará Lesná, Slovakia, 2013, ISBN 978-80-89655-01-4, pp. 9-18 (in Slovak)
- Turček, P. – Súľovská, M.: Influence of Groundwater on the Stability of Slopes. In: Proceedings of Conference on Geotechnical Collapses, Budapest, Hungary, 2013, ISBN 978-963-89854-1-5, pp. 105-116 (in English)
- Turček, P. – Súľovská, M.: Preventive Redevelopment Precautions in Landslide Areas. In: Proceedings of conference "Nauka i Praktika", Minsk, Belarus, 2013, ISBN 978-985-550-317-1, pp. 306-317 (in Russian)
- Turček, P. – Súľovská, M. – Ladicsová, E.: Problems of Excavation Pits in Urban Areas. In: Proceedings of conference on Geotechnics, Ráckeve, Hungary, 2013, ISBN 978-963-89016-7-5 (in Hungarian)
- Turček, P.: Strains of Reinforced Soil Structures. In: Proceedings of 7th International Conference on Geosynthetics in Construction, Žilina, Slovakia, ISBN 978-80-554-0639-8, pp. 39-48 (in Slovak)
- Turček, P. – Súľovská, M.: Unacceptable Man-Made Interventions on Slopes. In: Proceedings of 18th conference on Statics of Structures, Piešťany, Slovakia, 2013, ISBN 978-80-89655-00-7, pp. 231-236 (in Slovak)
- Vozár, M.: Designing the Foundations of High-Rise Buildings. In: Proceedings of 23rd Annual PhD Student Conference on Advances in Architectural, Civil and Environmental Engineering, Bratislava, Slovakia, 2013, ISBN 978-80-227-4102-6, pp. 506-516 (in Slovak)
- Vozár, M.: Changes of Diameters in Pile-Raft Foundations. In: Proceedings of Seminar on New Knowledge in Geotechnical Engineering, Kočovce, Slovakia, 2013, ISBN 978-80-227-3857-6 (in Slovak)
- Vozár, M.: Pile Raft Foundations Design. In: Proceedings of 15th Conference on Foundations of Structures, Stará Lesná, Slovakia, 2013, ISBN 978-80-89655-01-4, pp. 81-91 (in Slovak)
- Vozár, M.: Pile-Raft Foundations in Soft Soil. In: Proceedings of conference "Nauka i Praktika", Minsk, Belarus, 2013, ISBN 978-985-550-317-1, pp. 229-240 (in English)

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# DEPARTMENT OF LAND AND WATER RESOURCES MANAGEMENT

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Hydrology

Landscape Ecology

Landscape Ecology and Bioecology

Meteorology and Hydrology

Landscape Engineering

Engineering Structures in a Landscape

River Training

Pedology

River Restoration

Integrated River Basin Management

Water Management

Hydrological Field Measurements

CAD Systems in Landscape Engineering

Water Regime of a Landscape

Irrigation and Drainage

GIS in Water Management

#### Optional subjects

Project 1 – Sustainable Landscape Development

Basics of the Design of Landscape Structures

CAD Systems in Water Management

Project Work

Computer Modelling in Water Management

Design of Small Water Reservoirs

Revitalization of Wetlands

CAD Systems in Environmental Engineering

### 1.2 Postgraduate courses

Hydrology

Hydrology of Surface Waters

Hydrology of Sub-Surface Waters

Hydrodynamics of Porous Media

Methods of Field and Laboratory Experiments in Hydrology

Mathematical Modelling of Hydrological and Hydraulic Processes

Simulation Methods, Algorithms and Programming

Evaluation of the Risk of Extreme Hydrological Processes

Geoinformatics

Methods and Models of Hydrological Balance

Methods of Hydrological Forecasting

Deterministic and Stochastic Models of Hydrological Processes

Landscape Planning

Revitalization of Rivers

Soil Water Regime

Hydrochemistry and Hydrobiology

## 2. THESES

### 2.1 Bachelor theses

There were 7 works.

### 2.2 Graduate theses

Birčák, O.: Modeling of Runoff Changes in the Laborec River Basin.

Supervisor: Kohnová, S.

Zlatinský, R.: Analysis of Changes in Water Balance Parameters in the Myjava River Basin.

Supervisor: Kohnová, S.

Baničová, M.: The Impact of a Cultivation Method on the Course of a Soil Water Regime.

Supervisor: Skalová, J.

Čelár, L.: Application of Data Mining in Water Resources Management.

Supervisor: Čistý, M.

Becová, A.: Analysis of Crop Water Requirements in Southern Slovakia.

Supervisor: Čistý, M.

Vastag, T.: Application of 3D CAD in Water Resources and Landscape Engineering.

Supervisor: Čistý, M.



Klohnová, L.: Proposed Stabilization Measures and Soil Erosion Control for a Selected River Basin.

Supervisor: Hlavčová, K.

Mičicová, H.: Modelling Changes in Runoff in the Conditions of Climate Change in the Poprad Catchment.

Supervisor: Hlavčová, K.

Kolář, B.: Assessment of the Impact of Changes in a Hydrological Regime Under the Impact of Climate Change.

Supervisor: Hlavčová, K.

Bartóková, L.: Development of the Parameters of Snow Cover Over Past Decades.

Supervisor: Szolgay, J.

Ondrej, V.: Revitalization of the Porec River near the Village of Zavod.

Supervisor: Macura, V.

Magyarová, M.: Analysis and Proposal for Flood Protection in the Village of Moravské Lieskové.

Supervisor: Škrinár, A.

Vráblik, J.: Analysis of the Flood Protection of the Village of Malá Hradná.

Supervisor: Škrinár, A.

Bors, R.: Regulation of the Domanížanka River in the Village of Prečín.

Supervisor: Škrinár, A.

Kovačević, K.: Regulation of the Drava River from Donji Miholjac to Belišće.

2nd Supervisor: Škrinár, A.

## 2.3 Doctoral theses

Látečková, Jana: Scaling of Short-Term Rainfalls over Months and the Whole Warm Season in Slovakia.

Supervisor: Kohnová, S.

Pásztorová, M.: Consequences of Climate Change on the Water Regime of Wetlands.

Supervisor: Skalová, J.

Stankoci, I.: Evaluation of the Quality of Aquatic Habitats in Urban Areas.

Supervisor: Macura, V.

Šimor, V.: Estimation of the Flood Potential of a Landscape and Flood Forecasting with Artificial Intelligence Techniques.

Supervisor: Hlavčová, K.

Štefunková, Z.: The Assessment of the Impact of Climate Change on Runoff Processes in Slovakia.

Supervisor: Hlavčová, K.

Výleta, R.: Modelling Rainfall for a Frequency Analysis of Discharges in River Basins.

Supervisor: Szolgay, J.

Spál, P.: Flood Waves for Designing Retention Storage on Small Catchments.

Supervisor: Szolgay, J.

## 3. RESEARCH

### 3.1 Research projects

Hybrid Methods for the Modelling and Evaluation of Hydrological Extremes for a Risk Analysis (2011-2014, HLAVČOVÁ, K.), Research Grant of the Slovak Grant Agency VEGA 1/0908/11

Effect of the Biotic and Abiotic Characteristics of Stream Ecosystems on the Water Regime of Soils (2011-2014, MACURA, V.), Research Grant of the Slovak Grant Agency VEGA 1/0243/11

Evolutionary Algorithms and Data-Driven Methods in the Water Management of a Landscape (2011-2014, ČISTÝ, M.), Research Grant of the Slovak Grant Agency VEGA 1/1044/11

Spatial Interpretation of Soil Hydrophysical Characteristics in Relation to Their Hydrological Regime (2011-2014, SKALOVÁ, J.), Research Project of APVV-0139-10

Multivariate Frequency Analysis of Hydrological Extremes for Water Resources Planning and Design (2011-2014, SZOLGAY, J.), Research Project of APVV-0496-10

Development of a Regional System of Climate and Rainfall – Runoff Models for the Prediction of Runoff under a Changed Climate in the Mountainous Regions of Slovakia (2012-2015, HLAVČOVÁ, K.), Research Project of APVV-0303-11

Development of Methods for Determining Climatic and Hydrological Design Characteristics (2012-2015, KOHNOVÁ, S.) (Research project of the European Fund for Regional Development)

Integrated System for the Simulation of Runoff Processes (2010-2013, HLAVČOVÁ, K.), Research project of the European Fund for Regional Development

### 3.2 International cooperation

#### Cooperating institutions

Department of Hydraulic Engineering, Faculty of Civil Engineering, Czech Technical University, Prague, Czech Republic

Department of Landscape and Water Management, Faculty of Civil Engineering, Technical University, Brno, Czech Republic

Institute of Hydraulics, Hydrology and Water Management, Faculty of Civil Engineering, Vienna University of Technology, Vienna, Austria

Department of Hydraulic Structures, Warsaw Agricultural University, Poland

VITUKI – Water Research Centre, Budapest, Hungary

University of Uppsala, Sweden

Delft Hydraulics, Delft, The Netherlands

Wageningen University, Wageningen, The Netherlands

European Joint Research Centre, ISPRA, Italy

University of Bologna, Italy

Institute of Hydromechanics and Water Resources Management, Swiss Federal Institute of Technology, Zürich, Switzerland

University of Padova, Department of Land and Agroforest Environments, Italy

University of Jean Moulin Lyon 3, Lyon, France

## Membership in international professional organizations

Hlavčová, K.: Member of the International Association of Hydrological Sciences

Hlavčová, K.: Member of the European Geosciences Union

Kohnová, S.: Member of the European Geosciences Union

Kohnová, S.: Member of the International Association of Hydrological Sciences

Szolgay, J.: Member of the Editorial Board of the Journal of River Basin Management

Szolgay, J.: Member of the Editorial Board of Water Resources Management

Szolgay, J.: Member of the Editorial Board of the Journal of Hydrology

Szolgay, J.: Member of the Editorial Board of the Journal of Hydrological Sciences

Szolgay, J.: National Correspondent of IAHS for Water Management Systems

Szolgay, J.: National Representative of the International Association for Hydrological Sciences

Szolgay, J.: Chairman of the Subdivision for Hydrological Forecasting of the Hydrological Division of the EGU

Szolgay, J.: Member of the Association of Hydrological Sciences

## 4. PUBLICATIONS

### Books

Kohnová, S. – Hlavčová, K. – Mindáš, J. – Fencik, R.: Integrated River Basin Management – Selected Problems, Slovak University of Technology in Bratislava, 2013, ISBN 978-80-227-4072-2, 215 pp. (in Slovak)

Látečková, J.: Scaling of Short-Term Rainfall Intensities in Individual Months and Seasons, Ed. of Scientific Works No. 133, Slovak University of Technology in Bratislava, 2013, ISBN 978-80-227-4117-0. 81 pp. (in Slovak)

Macura, V. – Halaj, P.: River Management and Revitalization, Slovak University of Technology in Bratislava, 2013, ISBN 978-80-227-3925-2, 228 pp. (in Slovak)

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# DEPARTMENT OF HYDRAULIC ENGINEERING

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Hydraulics I

Hydraulics II

Water Management Structures

Weirs

Groundwater Hydraulics

Inland Waterways

Computer Exploitation in Engineering

Special Issues of Weirs

Special Issues of Waterways

Operation and Reconstruction of Hydraulic Structures

Small Water Power Plants

Stability and Static Solutions for Hydraulic Structures

Water Power Utilization

Field Measurements

Hydropower Engineering

Construction of Metallic Hydraulic Structures

Hydraulic Research

Engineering Networks and Water Structures

Automation of Engineering Problems

Special Articles of Hydraulic Structures

Numerical Modelling of Hydraulic Processes

Water and Road Constructions

### 1.2 Postgraduate courses

Hydropower Systems

Hydraulic Modelling of Hydrodynamic Phenomena

Fluid Mechanics

Advanced Issues of Hydraulic Structures

## 2. THESES

### 2.1 Bachelor theses

There were 11 works.

### 2.2 Graduate theses

Bogdanyová, E.: Design of a Small Hydropower Plant on the Hron River at Hliník nad Hronom

Supervisor: Šulek, P.

Lukačovič, T.: Assessment of Parameters of the Central Váh Water Structures with Respect to the Navigational Requirements

Supervisor: Možiešik, L.

Paulech, A.: Proposed Hydropower Utilization of the Weir at Bánovce nad Bebravou

Supervisor: Šulek, P.

Sádovský, I.: A Software for Simulation of Filling and Emptying of a Navigational Lock

Supervisor: Možiešik, L.

Michalka, J.: Design of a Navigational Lock of the Madunice Water Structure

Supervisor: Cabadaj, R.

Molnár, M.: Design of the Černová Small Hydropower Plant

Supervisor: Rumann, J.

Turček, P.: Design of a Navigational Lock of the Horná Streda Water Structure

Supervisor: Cabadaj, R.

Ujváry, P.: Design of a Weir Structure at the Hubová SHPP

Supervisor: Rumann, J.

Kamenský, M.: Predicting the Effects of a Small Hydropower Plant Construction on a Groundwater Level Regime

Supervisor: Baroková, D.

Kukučka, L.: Design of a Fishpass for a Planned Water Structure

Supervisor: Čubanová, L.

Dušička, M.: Hydropower Utilization of an Old Mill Structure at the Village of Meliata

Supervisor: Rumann, J.

Dušek, P.: Predicting the Groundwater Level Regime After the Construction of the Šalková SHPP

Supervisor: Baroková, D.

Hrabovský, M.: Design of Water Management Precautions Providing Flood Protection of the City of Kežmarok

Supervisor: Šoltész, A.

Kinczer, T.: Determination of the Effects of the Course of the Interconnection of the TEN-T Railway Corridor on the Groundwater Flow and Regime

Supervisor: Baroková, D.

Kováč, L.: Variant Design of a Fishpass on a Water Structure

Supervisor: Čubanová, L.

Perina, J.: Flood Protection of the Village of Limbach

Supervisor: Šoltész, A.

Nagy, A.: Variant Design of the Navigational Lock Filling System of the Kolárovo WS

Supervisor: Možiešik, L.

## 2.3 Doctoral theses

# 3. RESEARCH

## 3.1 Research projects

Possibilities of the Solution of Flood Situations on Rivers by Means of Technical Interference (2012-2015, ŠOLTÉSZ, A.), VEGA 1/1011/12

Transformation of Flow Waves in Stages without Direct Hydraulic Bonds of Water Management-Energy Systems (2011-2014, DUŠIČKA, P.), APVV-0680-10

Research on the Use of Heuristic Optimization Methods in the Process of Generating Water Management / Energy Plans for the Regulation of Hydropower Plants (2011-2014, ŠULEK, P.), VEGA 1/0578/11

EU Danube Strategy – To Increase the Operational Safety and Transport Capacity of Large Ship Locks by Optimizing Hydraulic Filling and Emptying Systems Through Mathematical Modeling. Research and Heuristic Optimization Methods. (2012-2015, MOŽIEŠIK, L.), VEGA 1/0660/12

Teaching and Learning Civil Engineering in the European Context (2005-2016, ŠOLTÉSZ, A.), CEEPUS CIII-BG-0022-08-1213

Creation and Development of Environmental Technologies in the Flood Protection of the Small Carpathian Region – the Modra Case Study (2009-2012, ŠOLTÉSZ, A.), ITMS Code 26240220019

Terrain Research on the Water Flow in the ESL-3 Channel Network (PS Čičarovce, Pavlovce nad Uhom and Ptrukša) (2012-2013, PALINKÁŠOVÁ, Z.), 7626-781000

## 3.2 International cooperation

### Cooperating institutions

Czech Technical University, Prague, Faculty of Civil Engineering, Department of Hydraulic Engineering, Czech Republic

Technical University of Brno, Faculty of Civil Engineering, Institute of Water Structures, Czech Republic

### Membership in international professional organizations

Šoltész, A.: International Commission on Irrigation and Drainage (ICID) – Vice President of ICID Slovak Committee, Member of European Workgroup (ERWG)

Šoltész, A.: International Association of Hydrological Sciences (IAHS) – National Correspondent of Ground Water Workgroup

# 4. PUBLICATIONS

## Journals

Šulek, P. – Dušička, P. – Rumann, J.: SHPP in Slovakia and the Experience with Their Preparation in the Central Hron River. In: Eurostav, ISSN 1335-1249, Vol.19, Nos.7-8 (2013), pp. 28-30

## Conference Proceedings

Andrássy, T.: Research of Groundwater Flow in a Flood Situation. In: Water Management and Hydraulic Engineering. Proceedings of 13th International Symposium. Bratislava, SR, 9.-12.9.2013. Nakladateľstvo STU, Bratislava, 2013, ISBN 978-80-227-4003-6, pp. 15-24

Andrássy, T.: Research on Groundwater Flow in a Flood Situation at the Sihoť Island. In: Proceedings of Conference of Young Researchers. Kočovce, SR, 13.-15.11.2013. STU v Bratislave SvF, Bratislava, 2013, ISBN 978-80-227-4077-7, pp. 1-10

Andrássy, T.: Research on Modelling Groundwater in Flood Situations. In: Proceedings of 25th Conference of Young Hydrologists. 12th Conference of Young Water Engineers. Proceedings of Competition Works of Young Professionals. Bratislava, SR, 7.11.2013. Slovenský hydrometeorologický ústav, Bratislava, 2013, ISBN 978-80-88907-85-5, p. 10

Baroková, D. – Šoltész, A.: Impact of Extreme Hydrological Conditions on Groundwater Level Regimes in Urban Areas – Case Study in the Small Carpathians. In: Water Management and Hydraulic Engineering. Proceedings of 13th International Symposium. Bratislava, SR, 9.-12.9.2013. Nakladateľstvo STU, Bratislava, 2013, ISBN 978-80-227-4003-6, pp. 41-50

Cabadaj, R. – Rumann, J.: Objects for Overcoming of a SHPP by Sport and Recreational Boats. In: Proceedings of the 27th International Conference – Navigation Days. Žilina, SR, 18.-20.9.2013. Bratislava: Slovenský plavebný kongres, 2013, ISBN 978-80-227-4031-9, pp. 239-247



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- Dušek, P. – Baroková, D. – Šoltész, A.: Impact of the Small Hydropower Plant in Šalková on the Groundwater Level Regime. In: Water Management and Hydraulic Engineering. Proceedings of the 13th International Symposium. Bratislava, SR, 9.-12.9.2013. Nakladateľstvo STU, Bratislava, 2013, ISBN 978-80-227-4003-6, pp. 113-120
- Dušička, M.: The Use of the Arrangement of an Abandoned Mill at the Village of Meliata for the Construction of a SHPP. In: Proceedings of Conference of Young Researchers. Kočovce, SR, 13.-15.11.2013. STU v Bratislave SvF, Bratislava, 2013, ISBN 978-80-227-4077-7, pp. 19-30
- Dušička, M.: Use of an Old Mill's Hydraulic Scheme for the Construction of the Meliata Small HPP. In: Proceedings of 25th Conference of Young Hydrologists. 12th Conference of Young Water Engineers. Proceedings of Competition Works of Young Professionals. Bratislava, SR, 7.11.2013. Slovenský hydrometeorologický ústav, Bratislava, 2013, ISBN 978-80-88907-85-5, p.11
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# DEPARTMENT OF BUILDING CONSTRUCTION

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Building Acoustics and Illumination  
Building and Energy  
Building Constructions 1  
Building Constructions 2  
Building Constructions 3  
Building Constructions 4  
Building Constructions 5  
Building Constructions V  
Building Energy and Environmental Simulation  
Building Energy and Indoor Environment Simulation  
Building Pathology  
Building Physics (in English)  
Constructions in Architecture 1 (in English)  
Constructions in Architecture 2 (in English)  
Constructions in Architecture 3 (in English)  
Design Basics  
Design of Architectural Constructions  
Design Studio  
Design Studio 3  
Design Studio 4  
Ecological Architecture  
Excursion  
Final Thesis  
Fire Engineering of Buildings  
Fire Safety of Buildings  
Master's Seminar  
Master's Thesis  
Methodology of Scientific Experiments  
Modelling of Climatic Processes  
Physics of Indoor Environments

Practical Training  
Professional Practice  
Project 1 – Low-Energy Buildings  
Reconstruction of Buildings and Preservation of Monuments 1  
Renovation of Buildings  
Selected Problems of Building Constructions  
Special Architectural Structures  
Special Building Constructions  
Studio of Building Design I  
Studio of Building Design II  
Studio of Building Design III  
Technical Drawing  
Thermal Performance of Buildings

#### Obligatory elective subjects

Acoustics in Architecture  
Advanced Building Materials and Constructions  
Aerodynamics and Hydrodynamics of Buildings  
Facade Techniques of Intelligent Buildings  
Solar Technology and Illumination of Buildings  
Thermal Protection of Buildings

#### Optional subjects

Building-Physical Construction  
Computer Graphics  
Computer Graphics and Visualization  
Computer Graphics and Visualization I  
Information Technologies  
Building Design

### 1.2 Postgraduate courses

Aerodynamics and Hydrodynamics of Buildings  
Building and Energy  
Building and Urban Acoustics  
Building Climatology

Building Constructions – Selected Essays  
 Building Simulation  
 Fire Safety Engineering  
 Renewal and Protection of Historic Buildings  
 Selected Essays from Building Constructions  
 Thermal Performance of Buildings

Martiško, M.: Mountain Hotel  
 Supervisor: Tomašovič, P.  
 Mazanec, I.: City Hotel  
 Supervisor: Minarovičová, K.  
 Náčiniaková, L.: Veterinary Surgery and Pound  
 Supervisor: Mikolai, I.

Piški, O.: Church  
 Supervisor: Oláh, J.

Pócsik, M.: Hotel  
 Supervisor: Držka, M.

Sova, P.: Health Centre  
 Supervisor: Pernišová, A.

Šupina Š.: Administrative Building  
 Supervisor: Chmúrny, I.

Uhliarik, M.: Multipurpose Hall  
 Supervisor: Puškár, A.

Vantroba, J.: Low-Energy Family House  
 Supervisor: Rabenseifer, R.

Varhaník, J.: Central Market Hall  
 Supervisor: Žilinský, J.

Wallner, J.: Cableway Station  
 Supervisor: Jakeš, E.

## 2. THESES

### 2.1 Bachelor theses

There were 192 works.

### 2.2 Graduate theses

Brišaková, K.: Residential Dwelling with Increased Demand for Energy Economy  
 Supervisor: Palko, M.

Bugár, V.: Administrative Building  
 Supervisor: Bielek, B.

Duračková, A.: Concert Hall for 2800 Viewers  
 Supervisor: Dlhý, D.

Frolová, M.: Administrative Building  
 Supervisor: Miklósiová, T.

Fúsková, M.: Library  
 Supervisor: Gieciová, M.

Hambáľková, Z.: Minor Integrated Fire and Rescue Station in Bratislava – Podunajské Biskupice  
 Supervisor: Olbřemek, J.

Holubek, L.: Ice-Hockey Training Hall  
 Supervisor: Jamnický, M.

Hric, M.: University Library  
 Supervisor: Hraška, J.

Jurík, M.: City Hotel  
 Supervisor: Buday, P.

Kontra, M.: Recovery of Object in a Historic Zone – Adaptation for Administrative Purposes  
 Supervisor: Vargová, A.

Králik, M.: Low-Energy Residential Dwelling  
 Supervisor: Mendán, R.

Malík, V.: Multipurpose Building  
 Supervisor: Vavrovič, B.

### 2.3 Doctoral theses

Grofčík, E.: Modernization of Light Facade Systems with the Application of Natural Physical Cavities.  
 Supervisor: Bielek, B.

Halúzová, D.: Thermodynamics of Aerated Concrete Wall with Micro-Encapsulated Phase Change Material  
 Supervisor: Hraška, J.

Hřebík, P.: The Impact of the Uncertainty of Selected Parameters for the Calculation of Heat Demands  
 Supervisor: Matiašovský, P.

Chmelík, V.: Principles of Inclusive Design in Architecture and Room Acoustics  
 Supervisor: Rychtáriková, M.

Jedovnický, M.: Discussion on Guidelines for the Design and Assessment of Sports Halls from the Point of View of Room Acoustics  
 Supervisor: Tomašovič, P.

Kašuba, M.: Modeling of Fire Ventilation in the Shopping Arcades of Shopping Centers Using Computer Simulations  
 Supervisor: Mikolai, I.

Šutliak, S.: Degradation of PVC-P Membranes in Compositions of Flat Roofs  
Supervisor: Oláh, J.

## 3. RESEARCH

### 3.1 Research projects

Symbiosis of the Interaction of Renewable Energy Sources and the Link Building-Climate-Energy System in the Ecology of Low-Energy, Green and Sustainable Architecture (2011-2014, Bielek, M.), APVV-0624-10

Research of Indoor Lighting Environment Based on Chronobiology and Circadian Photometry (2011-2014, Hraška, J.) APVV-0150-10

Thermal Protection for Passive and Low-Energy Buildings (2012-2014, Chmúrny, I.) VEGA 1/0281/12

Learning Sustainable Building Principles (2013-2014, Rabenseifer, R.) Erasmus Mundus joint programmes

Analysis of Sound Propagation in Double Skin Facades from the Point of View of Airborne Sound Insulation. Design, Measurement Methodology, Assessment and Criteria (2013-2015, Tomašovič, P.) VEGA 1/0358/13

Contribution to the Solution of Selected Problems of Building Roofs (2013-2016, Oláh, J.) VEGA 1/0710/13

### 3.2 International cooperation

#### Cooperating institutions

TU Vienna, Austria

Wolfen WIRN, Austria

ČVUT Prague, Czech Republic

VUT Brno, Czech Republic

KEB Berlin, Germany

IFT Rosenheim, Germany

Planungsinstitut für ländliche Siedlung, Stuttgart, Germany

TU Budapest, Hungary

TU Győr, Hungary

CE Haifa, Israel

TU Eindhoven, The Netherlands

TU Delft, The Netherlands

KU Leuven, Belgium

MISI Moscow, Russia

TU Kharkov, Ukraine

University of Strathclyde, United Kingdom

Chungnam National University, Daejeon, Korea

### Membership in international professional organizations

Chmelík, V.: YAN – Young Acoustician Network – representative of the Slovak Republic

Chmúrny, I.: ISO TC 163 Thermal Insulation, CEN TC 89 Thermal Performance of Building – representative of the Slovak Republic (SÚTN BA)

Rabenseifer, R., Hraška, J.: IBPSA – International Building Performance Simulation Association

Rychtáriková, M., Chmelík, V.: EAA – European Acoustic Association

## 4. PUBLICATIONS

### Books

Chmúrny, I. – Tomašovič, P. – Hraška, J.: Physics of the Indoor Environment of Buildings: Selected Chapters of Fundamentals of the Thermal Protection of Buildings, Building Acoustics, Daylighting and Insolation of Buildings. 1<sup>st</sup> ed., Bratislava: Publisher STU, 2013. 394 pp. ISBN 978-80-227-3917-7 (in Slovak)

### Parts of books

Bartko, M. – Miyauchi, H. – Katou, N. – Tanaka, K.: Wind Resistance Evaluation to Dynamic Response of Mechanically Anchored Waterproofing Membrane System. ([https://is.stuba.sk/vv/pub\\_priloha.pl?id=252705](https://is.stuba.sk/vv/pub_priloha.pl?id=252705)) In: Hygrothermal Behavior, Building Pathology and Durability: Building Pathology and Rehabilitation. Vol. 1., Berlin: Springer Verlag, 2013. ISBN 978-3-642-31157-4. pp. 211-232 (in English)

### Textbooks

Rabenseifer, R. – Šallai, E.: Computer-Aided Building Performance Simulation: A courseware. 1<sup>st</sup> ed., Bratislava: Publisher STU, 2013. 65 pp. ISBN 978-80-227-4101-9 (in English)

### Journals

Bartko, M. – Miyauchi, H. – Tanaka, K.: Confirmation of the Suitability of Autoclaved Aerated Concrete Panel Substrate for Mechanically Attached Waterproof Systems and Their Strengths Under High Wind Loads. (<http://www.sciencedirect.com/science/article/pii/S0167610513001037>) In: Journal of Wind Engineering & Industrial Aerodynamics. ISSN 0167-6105. Vol.119 (2013), pp. 60-68 (in English)

Bielek, B. – Bielek, M. – Míkle, S. – Szabó, J.: Aerodynamic Mode of Double-Skin Transparent Facade with Narrow Physical Cavity and Its Influence on Indoor Environment in the Summer Season. In: Advanced Materials Research. ISSN 1022-6680(P). ISSN 1662-8985(E). Vol. 649 (2013), pp. 29-32 (in English)

Dlhý, D.: Comparison of the Results of the Calculation of the Sound Insulation of Building Structures According to EN 12354 with the Results of Measurements on a Site According to EN ISO 140. In: Fyzikálne fakty prostredia. ISSN 1338-3922. Vol. 3, No. 1 (2013), pp. 12-15 (in Slovak)

Fabian, M. – Darula, S.: Influence of Glazing on the Reduction of Energy Necessary for Lighting. In: Světlo. ISSN 1212-0812. Vol. 16, No. 5 (2013), pp. 38-41 (in Slovak)

Chmurný, I.: Energy Performance of a Renovated School Building. In: Správa budov. ISSN 1337-6233. Vol. 7, No. 3 (2013), pp. 40-42 (in Slovak)

Jamnický, M.: Method of Creating 3D Models for Simulations in Building Acoustics. In: Fyzikálne faktory prostredia. ISSN 1338-3922. Vol. 3, No. 1 (2013), pp. 21-24 (in Slovak)

Jedovnický, M. – Tomašovič, P.: Analysis of Selected Acoustic Criteria in Terms of Their Suitability for the Review of Sport Spaces. In: Fyzikálne faktory prostredia. ISSN 1338-3922. Vol. 3, No. 1 (2013), pp. 25-28 (in Czech)

Juráš, P.: Influence of Rain on a Building Envelope. In: Eurostav. ISSN 1335-1249. Vol. 19, No. 4 (2013), pp. 24-26 (in Slovak)

Lipiak, J.: Transfer of Water (Water Vapor) in Porous Building Materials. In: Stavebné materiály. ISSN 1336-7617. Vol. 9, No. 1 (2013), pp. 52-54 (in Slovak)

Medveď, J.: Sound Requirements for the Floor Constructions of Dwellings. In: Fyzikálne faktory prostredia. ISSN 1338-3922. Vol. 3, No. 1 (2013), pp. 33-37 (in Slovak)

Mihalčík, L. – Dlhý, D.: Noise and a "Hygienic Window". In: Fyzikálne faktory prostredia. ISSN 1338-3922. Vol. 3, No. 2, Special No. (2013), pp. 34-39 (in Slovak)

Minarovičová, K. – Dlhý, D.: Selected Problems of Renovated Apartment Building Entrances in Slovakia. In: Advanced Materials Research. ISSN 1022-6680(P). ISSN 1662-8985(E). Vol. 649 (2013), pp. 117-120 (in English)

Oláh, J. – Duda, E.: Roofs as a Historical Phenomenon. In: Střechy, fasády, izolace. ISSN 1212-0111. Vol. 20, No.10 (2013), pp. 6-9 (in Slovak)

Panáček, P. – Puškár, A.: Installation of Windows in a Building under STN and TNI in Practice. In: Ateliér otvorových výplní, izolací a vybavení staveb. ISSN 1212-4370. Vol.17, No. 5 (2013), pp. 6-7 (in Slovak)

Pernišová, A.: Construction of Ceiling Systems in an Interior. In: Stavebné hmoty. ISSN 1336-6041. Vol. 9, Nos. 3-4 (2013), pp. 36-37 (in Slovak)

Rabenseifer, R.: Low-Emissivity Layer and Its Use. ([www.casopisstavebnictvi.cz](http://www.casopisstavebnictvi.cz)) In: Stavebnictví. ISSN 1802-2030. Vol. 7, No. 4 (2013), pp. 22-25 (in Slovak)

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Urbán, D. – Tomašovič, P.: Acoustics of Double-Skin Facades, Methodology of Research. In: Fyzikálne faktory prostredia. ISSN 1338-3922. Vol. 3, No. 1 (2013), pp. 57-60 (in Slovak)

Vargová, A.: Assessment of Causes of Rain Water Leakage into an Office Room Situated under the Terrace of a Multifunctional House in Bratislava. In: Almanach znalca. ISSN 1336-3174. Vol.13, No. 1 (2013), pp. 33-36 (in Slovak)

## Conference Proceedings

Bánó, B. – Puškár, A.: Facade Renewal and User Satisfaction Survey of STU – Faculty of Civil Engineering Building in Bratislava. In: ATF 2013 [electronic source]: 2nd Conference on Acoustics, Light and Thermal Physics in Architecture and Building Structures. Book of proceedings. Leuven, Belgium 2.-3.5.2013. Leuven: Katholieke Universiteit Leuven, 2013. ISBN 978-90-8649-637-2. pp. 144-146 (in English)

Bielek, B. – Bielek, M.: Geometric Classification of Natural Physical Cavities and Air Flow Trajectory. In: ATF 2013 [electronic source]: 2nd Conference on Acoustics, Light and Thermal Physics in Architecture and Building Structures. Book of proceedings. Leuven, Belgium 2.-3.5.2013. Leuven: Katholieke Universiteit Leuven, 2013. ISBN 978-90-8649-637-2. pp. 152-158 (in English)

Bielek, B. – Bielek, M. – Híreš, J.: Natural Physical Cavities and Development of Renewable and Sustainable Energy Technologies. In: CESB 13 Prague. Central Europe towards Sustainable Building 2013: 26th – 28th June 2013, Prague, Czech Republic. Prague: Grada Publishing, 2013. ISBN 978-80-247-5015-6. pp. 511-514 (in English)

Čekon, M. – Kalousek, M. – Hraška, J.: Verification of MZELWE Module in ESP-r Programme with Experimental Confrontation. In: Research and Applications in Structural Engineering, Mechanics and Computation: Fifth International conference. Proceedings. Cape Town, South Africa, 2.-4.9.2013. London: Taylor & Francis Group, 2013. ISBN 978-1-138-00061-2. pp. 1813-1818 (in English)

Dlhý, D.: Results of the Analysis of the Acoustical Quality of Doors on the Basis of Wood. In: ATF 2013 [electronic source]: 2nd Conference on Acoustics, Light and Thermal Physics in Architecture and Building Structures. Book of proceedings. Leuven, Belgium 2.-3.5.2013. Leuven: Katholieke Universiteit Leuven, 2013. ISBN 978-90-8649-637-2. pp. 25-29 (in English)

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Držka, M.: Defects in Roof Envelope of a Building Related to Warm and Moisture Indoor Environments. In: ATF 2013 [electronic source]: 2nd Conference on Acoustics, Light and Thermal Physics in Architecture and Building Structures. Book of proceedings. Leuven, Belgium 2.-3.5.2013. Leuven: Katholieke Universiteit Leuven, 2013. ISBN 978-90-8649-637-2. pp. 278-280 (in English)

Fabian, M. – Darula, S.: Diffuse Clearness Index in Relation to Daylight Standard Conditions. In: LUX EUROPA Krakow 2013: 12th European Lighting Conference. Crakow, Poland, Sept. 17-19, 2013. Warsaw: Polski Komitet Oświetleniowy Sept., 2013. ISBN 978-83-910849-6-0. pp. 439-443 (in English)

Gieciová, M. – Kittová, T.: Compensative Staircases and Their Problems. In: ATF 2013 [electronic source]: 2nd Conference on Acoustics, Light and Thermal Physics in Architecture and Building Structures. Book of proceedings. Leuven, Belgium 2.-3.5.2013. Leuven: Katholieke Universiteit Leuven, 2013. ISBN 978-90-8649-637-2. pp. 281-284 (in English)



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- Hraška, J.: Visual and Non-Visual Aspects of Daylight and Criteria for Daylighting of Buildings. In: CLIMA 2013 [electronic source]: 11th REHVA World Congress and the 8th International Conference on Indoor Air Quality, Ventilation and Energy Conservation in Buildings. Prague, CR, 16.-19.6.2013. Prague: Society of Environmental Engineering, 2013. ISBN 978-80-260-4001-9. [10] p. (in English)
- Hrebík, P. – Mihálka, P. – Matiašovský, P.: Uncertainty Parameters of Random Behaviors of the Residential Buildings Occupants in Terms of Energy Performance Buildings. In: ATF 2013 [electronic source]: 2nd Conference on Acoustics, Light and Thermal Physics in Architecture and Building Structures. Book of proceedings. Leuven, Belgium 2.-3.5.2013. Leuven: Katholieke Universiteit Leuven, 2013. ISBN 978-90-8649-637-2. pp. 170-174 (in English)
- Chmelík, V. – Nuyts, G. – Rychtáriková, M. – Glorieux, C.: Egocentric Localisation in Virtual Environments. In: ATF 2013 [electronic source]: 2nd Conference on Acoustics, Light and Thermal Physics in Architecture and Building Structures. Book of proceedings. Leuven, Belgium 2.-3.5.2013. Leuven: Katholieke Universiteit Leuven, 2013. ISBN 978-90-8649-637-2. pp. 51-60 (in English)
- Chmúrny, I.: Evaluation of the Operation of a Renovated Primary School. In: Tepelná ochrana budov 2013: 17th international conference. Energy Efficiency of Buildings. Appeal on Improving Thermal Protection of Buildings until 2020. Štrbské Pleso, SR, 16.-17.5.2013. Bratislava: BB Print,s.r.o., 2013. ISBN 978-80-89627-02-8. pp. 178-181 (in Slovak)
- Jakeš, E.: Roof and Chimney. In: ATF 2013 [electronic source]: 2nd Conference on Acoustics, Light and Thermal Physics in Architecture and Building Structures. Book of proceedings. Leuven, Belgium 2.-3.5.2013. Leuven: Katholieke Universiteit Leuven, 2013. ISBN 978-90-8649-637-2. pp. 285-288 (in English)
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- Urbán, D. – Tomašovič, P.: Introduction to Acoustics of Double Skin Facades. In: ATF 2013 [electronic source]: 2nd Conference on Acoustics, Light and Thermal Physics in Architecture and Building Structures. Book of proceedings. Leuven, Belgium 2.-3.5.2013. Leuven: Katholieke Universiteit Leuven, 2013. ISBN 978-90-8649-637-2. pp. 70-73 (in English)

Vargová, A. – Jakeš, E.: Exterior Facade Cladding and Ventilated Air Cavity. In: ATF 2013 [electronic source]: 2nd Conference on Acoustics, Light and Thermal Physics in Architecture and Building Structures. Book of proceedings. Leuven, Belgium 2.-3.5.2013. Leuven: Katholieke Universiteit Leuven, 2013. ISBN 978-90-8649-637-2. pp. 348-350 (in English)

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## Patents and Standards

Tomašovič, P. – Minarovičová, K.: STN EN ISO 717-1 Acoustics. Rating of Sound Insulation in Buildings and Building Elements. Part 1: Airborne Sound Insulation (ISO 717-1:2013): Part 1: Airborne Sound Insulation (ISO 717-1:2013). Bratislava: SÚTN, 2013. 24 pp. (in Slovak)

Tomašovič, P. – Minarovičová, K.: STN EN ISO 717-2 Acoustics. Rating of Sound Insulation in Buildings and Building Elements. Part 2: Impact Sound Insulation (ISO 717-2:2013): Part 2: Impact Sound Insulation (ISO 717-2:2013). Bratislava: SÚTN, 2013. 20 pp. (in Slovak)

Tomašovič, P. – Minarovičová, K.: STN EN 16272-1. Railway Applications. Track. Noise Barriers and Related Devices Acting on Airborne Sound Propagation. Test Method for Determining Acoustic Performance. Part 1: Intrinsic Characteristics. Sound Absorption in a Laboratory under Diffuse Sound Field Conditions.: Bratislava: SUTN, 2013. 15 pp. (in Slovak)

Tomašovič, P. – Minarovičová, K.: STN EN 16272-2. Railway Applications. Track. Noise Barriers and Related Devices Acting on Airborne Sound Propagation. Test Method for Determining Acoustic Performance. Part 2: Intrinsic Characteristics. Airborne Sound Insulation in Laboratory under Diffuse Sound Field Conditions.: Bratislava: SUTN, 2013. 12 pp. (in Slovak)

Tomašovič, P. – Minarovičová, K.: STN EN 16272-3-1. Railway Applications. Track. Noise Barriers and Related Devices Acting on Airborne Sound Propagation. Test Method for Determining Acoustic Performance. Part 3-1: Normalized Spectrum of Railway Noise and Single-Number Evaluative Quantity for Applications of Diffuse Sound Fields. Bratislava: SUTN, 2013. 12 pp. (in Slovak)

Tomašovič, P. – Zát'ko, P.: STN 73 0532. Acoustics. Evaluation of Insulation in Buildings and Building Elements. Requirements. Bratislava: SÚTN, 2013. 32 pp. (in Slovak)

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# DEPARTMENT OF STEEL AND TIMBER STRUCTURES

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Load-Bearing Metal Elements

Load-Bearing Steel Systems

Timber Elements and Structures

Load-Bearing Metal and Timber Elements

Load-Bearing Steel and Timber Systems

Structural Metal Design

Metal and Timber Structures

Steel, Timber and Glass in Architecture

Steel Structures and Bridges

Special Problems of Steel Structures

Metal Bridges

Metal and Timber in Civil Engineering

High-Rise and Long-Span Structures

Bridge Design

Composite Structures

Stability and Plasticity of Steel and Timber Structures

Experimental Verification

#### Obligatory elective subjects

Timber Structures

High-Rise and Long-Span Structures

Metal and Timber Structures and Bridges

Repair of Metal and Timber Structures

Metal and Timber Structures II

Steel, Timber and Glass in Architecture

Metal and Timber Structures

Structures of Environmental Steel and Timber Buildings

Repair and Recycling of Steel Buildings

Load-Bearing Steel and Timber Systems

Steel Structures of Water Works

## 2. THESES

### 2.1 Bachelor theses

There were 12 works.

### 2.2 Graduate theses

Antalová, J.: Load-Bearing Structure – Hornbach Devínska Nová Ves  
Supervisor: Sandanus, J.

Babala, O.: Multifunctional Sport Hall  
Supervisor: Slivanský, M.

Bondra, Š.: Hockey Hall in Bardejov  
Supervisor: Magura, M.

Botló, M.: Spartak Moscow Football Stadium  
Supervisor: Magura, M.

Domonkos, R.: Sports Hall in Šamorín  
Supervisor: Csölleová, Zs.

Eibenová, L.: Bridge No. 244 on Highway D3 in the Svrčinovec – Skalité Section  
Supervisor: Živner, T.

Fábry, M.: Bridge No. 216 on Highway D1 in the Jánovce – Jablonov Section  
Supervisor: Živner, T.

Hölgycová, B.: Showroom in Bratislava  
Supervisor: Csölleová, Zs.

Kopuncová, M.: Sports Hall with Extension  
Supervisor: Slivanský, M.

Krocsany, P.: Training Hall in Košice  
Supervisor: Csölleová, Zs.

Kubala, L.: National Football Stadium in Bratislava – Multi-Storey Buildings  
Supervisor: Brodniansky, J.

Mečár, J.: National Football Stadium in Bratislava – Stadium  
Supervisor: Brodniansky, J.

Oláh, T.: Municipal Swimming Pool in Šamorín  
Supervisor: Csölleová, Zs.

Olasz, T.: CBC Office Building in Bratislava  
Supervisor: Magura, M.

Pilarčík, P.: Gym in Dolný Kubín  
Supervisor: Sandanus, J.

Poláčková, M.: Footbridge for Pedestrians and Cyclists over the River Morava  
Supervisor: Živner, T.

Poór, A.: Municipal Sports Hall in Poprad  
Supervisor: Magura, M.

Šidová, M.: Horse-Riding Resort in Stupava  
Supervisor: Magura, M.

Soós, D.: Municipal Sports Hall in Senica  
Supervisor: Magura, M.

Špak, M.: Ice Rink in Poprad  
Supervisor: Slivanský, M.

Štefanovič, T.: Design of Čadečka Composite Road Bridge on Highway D3  
Svrčinovec – Skalité  
Supervisor: Ároch, R.

Surovec, L.: Ice Rink in Malacky  
Supervisor: Sandanus, J.

Turza, P.: Multi-Storey Building with Load-Bearing Timber Structure  
Supervisor: Sógel, K.

## 2.3 Doctoral theses

Blesák, L.: The Impact of the Local Strengthening of Wood and Joints on the Behaviour of Timber Structures.  
Supervisor: Sandanus, J.

Dallemule, M.: Buckling Resistance of Arch Structure on Their Planes  
Supervisor: Baláž, I.

Kusendová, M.: Theoretical and Experimental Analysis of Joints of Hybrid Load-Bearing Systems  
Supervisor: Brodniansky, J.

Németh, Cs: Theoretical and Structural Analysis of Shell Structures  
Supervisor: Brodniansky, J.

Proksa, D.: Optimization of Composite Timber-Concrete Structures  
Supervisor: Sandanus, J.

Recký, J.: Theoretical and Structural Issues of Steel Poles  
Supervisor: Brodniansky, J.

## 3. RESEARCH

### 3.1 Research projects

Strength and Stability of Metal Bars, Bar Systems and Arches. (2012-2014, BALÁŽ, I.), VEGA 1/1101/12

Design and Analysis of Hybrid Load-Bearing Steel Systems for Buildings and Transmission Line Systems. (2012-2014, BRODNIANSKY, J.), VEGA 1/0929/12

Composite beams made of wood, concrete, and high-strength materials. Their real features, serviceability, reconstructions, joints, rheology and ecology (2011-2013, DRAŠKOVIČ, F.), VEGA 1/1032/11

Operational analysis of timber truss constructions during short-term and long-term loading; spatial interaction with reinforcements. (2012-2014, SANDANUS, J.) VEGA 1/0947/12

Calculation Process for Tensegrity Prism Analysis (2013, CSÖLLEOVÁ, ZS.) Fund of STU BA: Program for the Support of Young Researchers

Stability of Web-Tapered I-Beams (2013, KOVÁČ, M.) Fund of STU BA: Program for the Support of Young Researchers

### 3.2 International cooperation

#### Cooperating institutions

Brno University of Technology, Czech Republic

Czech Technical University in Prague, Czech Republic

Technical University of Ostrava, Czech Republic

Vienna University of Technology, Austria

Budapest University of Technology and Economics, Hungary

Graz University of Technology, Austria

Brandenburg University of Technology, Cottbus, Germany

#### Membership in international professional organizations

ÁROCH, R.: ECCS (European Convention for Constructional Steelwork), TC 7 Thin-Walled Structures

ÁROCH, R.: ECCS (European Convention for Constructional Steelwork), TC 10 Structural Connections

BALÁŽ, I.: Member of Eurocode National Correspondents Working Group

BALÁŽ, I.: Member of CEN TC 250 SC3 Subcommittee SC3 Design of Steel Structures

BALÁŽ, I.: Member of CEN TC 250 SC9 Subcommittee SC9 Design of Aluminium Structures

BALÁŽ, I.: Member of SC3 Evolution Group for EN 1993-1-1 Design of Buildings

BALÁŽ, I.: Member of SC3 Evolution Group for EN 1993-1-3 Design of Cold-Formed Members and Sheeting

BALÁŽ, I.: Member of SC3 Evolution Group for EN 1993-1-5 Design of Plated Structural Elements

BALÁŽ, I.: Member of SC3 Evolution Group for EN 1993-2 Design of Steel Bridges

BALÁŽ, I.: Member of SC9 Evolution Group for EN 1999-1-1 Design of Aluminium Structures

BALÁŽ, I.: Member of TC 7, TWG 7.5, ECCS (European Convention for Constructional Steelwork), Technical Committee 7: Thin-Walled, Cold-Formed Sheet Steel in a Building. TC 7.5: Practical Improvement of Design Procedures: European Recommendations for the Application of Metal Sheeting Acting as a Diaphragm

BALÁŽ, I.: Member of IABSE (International Association for Bridge and Structural Engineers)

BALÁŽ, I.: P.E., M.ASCE, Member of ASCE (American Society of Civil Engineering) since 1997

BRODNIANSKY, J.: IASS (International Association for Shell and Spatial Structures)

MAGURA, M.: IASS (International Association for Shell and Spatial Structures)

SLIVANSKÝ, M.: IASS (International Association for Shell and Spatial Structures)

SANDANUS, J.: IASS (International Association for Shell and Spatial Structures)

CSÖLLEOVÁ, ZS.: EMT (Hungarian Technical Scientific Society of Transylvania)

SÓGEL, K.: EMT (Hungarian Technical Scientific Society of Transylvania)

Blesák, L. – Sandanus, J.: Effect of the Hydrothermal Treatment of Timber on Load-Bearing Joints. In: Eurostav. ISSN 1335-1249, Vol. 19, Nos. 7-8 (2013), pp. 54-55 (in Slovak)

Dallemule, M.: Buckling Shape as an Imperfection of an Arch Structure. In: Pollack Periodica. ISSN 1788-1994, Vol. 8, No. 2 (2013), pp. 29-40 (in Slovak)

Forgács, J.: Resistance of Beam Crane Rails According to the Eurocodes. In: Konstrukce. ISSN 1213-8762, Vol. 12, No. 1 (2013), pp. 76-80 (in Slovak)

Chladný, E. – Štujberová, M.: Frames with Unique Global and Local Imperfection in Shape of the Elastic Buckling Mode (Part 1). In: Stahlbau. ISSN 0038-9145, Vol. 82, No. 8 (2013), pp. 609-617 (in English)

Chladný, E. – Štujberová, M.: Frames with Unique Global and Local Imperfection in Shape of the Elastic Buckling Mode (časť 2). In: Stahlbau. ISSN 0038-9145, Vol. 82, No. 9 (2013), pp. 684-694 (in English)

Ilanovský, V.: I-Girders with Corrugated Webs. In: Pollack Periodica. ISSN 1788-1994, Vol. 8, No. 2 (2013), pp. 13-22 (in English)

Matejčeková-Farhat, M. – Ároch, R.: Some Remarks on the Choice of Ductility Class for Earthquake-Resistant Steel Structures. In: Slovak Journal of Civil Engineering. ISSN 1210-3896, Vol. 21, No. 3 (2013), pp. 1-10 (in English)

Németh, Cs. – Brodniansky, J.: Silo with a Corrugated Sheet Wall. In: Slovak Journal of Civil Engineering. ISSN 1210-3896, Vol. 21, No. 3 (2013), pp. 19-30 (in English)

Sandanus, J.: Construction "Building with Timber – Way to the Future." In: Eurostav. ISSN 1335-1249, Vol. 19, Nos. 1-2 (2013), pp. 48-49 (in Slovak)

Sandanus, J.: Future Houses in Graz. In: Eurostav. ISSN 1335-1249, Vol. 19, No. 9 (2013), pp. 52-53 (in Slovak)

Sandanus, J. – Julínek, I.: Objects "with a Heart" for the Environment. In: Eurostav. ISSN 1335-1249, Vol. 19, No. 10 (2013), pp. 68-69 (in Slovak)

Sandanus, J.: Residential Buildings Made of Cross-Laminated Timber in Milan. In: Eurostav. ISSN 1335-1249, Vol. 19, No. 4 (2013), pp. 58-59 (in Slovak)

Sandanus, J. – Slivanský, M.: Strain Gauge Measurements of Timber Structures at the Cathedral of St. Martin during Thermal Refurbishment. In: Stavebné materiály. ISSN 1336-7617, Vol. 9, No. 4 (2013), pp. 32-34 (in Slovak)

Sandanus, J. – Sógel, K. – Slivanský, M.: Testing of Timber Trusses. In: Eurostav. ISSN 1335-1249, Vol. 19, No. 5 (2013), pp. 60-61 (in Slovak)

Sógel, K.: Family House Made of Cross-Laminated Timber. In: Eurostav. ISSN 1335-1249, Vol. 19, No. 3 (2013), pp. 62-63 (in Slovak)

## Conference Proceedings

Ároch, R. – Sokol, M.: Seismic Dampers and Reduction of Earthquake Effects on Bridges. In: Bridges in the Danube Basin. Proceedings of 8th International

## 4. PUBLICATIONS

### Journals

Baláž, I.: Arched Bridges with Obliquely Arranged Suspensions. In: Eurostav. ISSN 1335-1249, Vol. 19, No. 4 (2013), pp. 54-55 (in Slovak)

Baláž, I.: Exceptionally Tall Buildings. In: Eurostav. ISSN 1335-1249, Vol. 19, No. 3 (2013), pp. 22-25 (in Slovak)

Baláž, I.: Historic Timber Super-Bridges. In: Eurostav. ISSN 1335-1249, Vol. 19, No. 10 (2013), pp. 66-67 (in Slovak)

Baláž, I.: Metal Truss Arch Bridges. In: Eurostav. ISSN 1335-1249, Vol. 19, Nos. 1-2 (2013), pp. 50-51 (in Slovak)

Baláž, I.: Record of Timber Bridge Structures 3. In: Eurostav. ISSN 1335-1249, Vol. 19, No. 9 (2013), pp. 58-59 (in Slovak)

Baláž, I.: Steel Arch Beam Bridges. In: Eurostav. ISSN 1335-1249, Vol. 19, No. 3 (2013), pp. 56-57 (in Slovak)

Baláž, I.: Timber Bridges with Record Spans. In: Eurostav. ISSN 1335-1249, Vol. 19, No. 5 (2013), pp. 62-63 (in Slovak)

Baláž, I.: Timber Bridges with Record Spans, Part 2. In: Eurostav. ISSN 1335-1249, Vol. 19, Nos. 7-8 (2013), pp. 50-51 (in Slovak)



- Conference. *New Trends in Bridge Engineering and Efficient Solutions for Large and Medium-Span Bridges*. Timisoara, Romania, Oct. 4-5, 2013. Wiesbaden, Springer, 2013, ISBN 978-3-658-03713-0, pp. 353-372 (in Slovak)
- Baláz, I.: *Bridges in Slovakia*. In: *Bridges in the Danube Basin*. Proceedings of 8th International Conference. *New Trends in Bridge Engineering and Efficient Solutions for Large and Medium-Span Bridges*. Timisoara, Romania, Oct. 4-5, 2013. Wiesbaden, Springer, 2013, ISBN 978-3-658-03713-0, pp. 497-508 (in English)
- Baláz, I. – Koleková, Y.: *Elastic Critical Buckling Stress of a Web Binder Subjected to Transverse Force*. In: *Engineering Mechanics 2013*. Proceedings of 19th International Conference. Svatka, Czech Republic, May 13-16, 2013. Prague, Institute of Theoretical and Applied Mechanics Academy of Sciences of the Czech Republic, 2013, ISBN 978-80-87012-47-5 (in English)
- Baláz, I. – Koleková, Y.: *Elastic Critical Stress of a Beam Wall Loaded with Transverse Loads*. In: *Load-Bearing Steel, Composite and Timber Structures and Bridges*. Proceedings of 38th Meeting of Experts on Steel Structures. Košice, Slovak Republic, Oct. 2-4, 2013. Technical University of Košice, 2013, ISBN 978-80-553-1480-8, pp. 19-26 (in Slovak)
- Baláz, I.: *Historical Development of Danube Bridges in Slovakia*. In: *Bridges in Danube Basin*. Proceedings of 8th International Conference. *New Trends in Bridge Engineering and Efficient Solutions for Large and Medium-Span Bridges*. Timisoara, Romania, Oct. 4-5, 2013. Wiesbaden, Springer, 2013, ISBN 978-3-658-03713-0, pp. 509-514 (in English)
- Baláz, I.: *Implementation of the Eurocodes in the Slovak Technical Standards System*. In: *Engineering and Industrial Surveying. Staking and Control Measurements of Technological Equipment*. Bratislava, Slovak Republic, Sept. 12-13, 2013. Slovak University of Technology, 2013, ISBN 978-80-227-4032-6 (in Slovak)
- Baláz, I. – Koleková, Y.: *Resistance to Transverse Loads*. In: *Load-Bearing Steel, Composite and Timber Structures and Bridges*. Proceedings of 38th Meeting of Experts on Steel Structures. Košice, Slovak Republic, Oct. 2-4, 2013. Technical University of Košice, 2013, ISBN 978-80-553-1480-8, pp. 11-18 (in Slovak)
- Baláz, I.: *The Collapse of Steel Doors of Waterworks*. In: *Statika stavieb 2013*. Proceedings of 18th Conference. Piešťany, Slovak Republic, Mar. 14-15, 2013. Association of Structural Engineers of Slovakia, Bratislava, 2013, ISBN 978-80-89655-00-7, pp. 69-80 (in Slovak)
- Brodniansky, J. – Ároch, R.: *Determination of Shear Stiffness to Stabilize the Purlins Through a Roof Cladding*. In: *Load-Bearing Steel, Composite and Timber Structures and Bridges*. Proceedings of 38th Meeting of Experts on Steel Structures. Košice, Slovak Republic, Oct. 2-4, 2013. Technical University of Košice, 2013, ISBN 978-80-553-1480-8, pp. 35-42 (in Slovak)
- Brodniansky, J.: *Evaluation of the Effective Parameters of a Thin-Walled Cross Section Using an Iterative Approach*. In: *Advances in Architectural, Civil and Environmental Engineering*. Proceedings of 23rd Annual PhD Student Conference. Bratislava 30.10.2013. Slovak University of Technology in Bratislava, Slovak Republic, 2013, ISBN 978-80-227-4102-6, pp. 358-364 (in Slovak)
- Brodniansky, J. – Magura, M.: *Model Experimental Tests of Pipelines with Imperfections and Flanged Connections of Tubular Poles*. In: *Hustopeče 2013*. Proceedings of 51st Nationwide Conference of Steel Structures. Hustopeče, Czech Republic, 5.12.2013. Czech Association for Steel Structures, 2013, ISBN 978-80-02-02413-2, pp. 10-15 (in Slovak)
- Csőleová, Zs.: *Analytical Calculation Method for Internal Forces of Asymmetrically Loaded Tensegrity Prisms*. In: *Load-Bearing Steel, Composite and Timber Structures and Bridges*. Proceedings of 38th Meeting of Experts on Steel Structures. Košice, Slovak Republic, Oct. 2-4, 2013. Technical University of Košice, 2013, ISBN 978-80-553-1480-8, pp. 43-48 (in Slovak)
- Dallemule, M.: *Comparison of Various Methods of Equivalent Imperfection Applications on Arch Structures*. In: *Juniorstav 2013*. Proceedings of 15th Scientific PhD Conference. Brno, 7.2.2013. Brno University of Technology, 2013, ISBN 978-80-214-4670-0, unpag. (in Slovak)
- Fábry, M. – Živner, T.: *Lateral Buckling of Continuous and Composite Beams*. In: *Load-Bearing Steel, Composite and Timber Structures and Bridges*. Proceedings of 38th Meeting of Experts on Steel Structures. Košice, Slovak Republic, Oct. 2-4, 2013. Technical University of Košice, 2013, ISBN 978-80-553-1480-8, pp. 49-54 (in Slovak)
- Forgács, J. – Ároch, R. – Sokol, M.: *Analysis of a Joint under Cyclic Loading with Material Nonlinearity*. In: *Juniorstav 2013*. Proceedings of 15th Scientific PhD Conference. Brno, 7.2.2013. Brno University of Technology, 2013, ISBN 978-80-214-4670-0, unpag. (in Slovak)
- Forgács, J. – Ároch, R. – Sokol, M.: *Experimental Measurement of K-shaped Bracing*. In: *Load-Bearing Steel, Composite and Timber Structures and Bridges*. Proceedings of 38th Meeting of Experts on Steel Structures. Košice, Slovak Republic, Oct. 2-4, 2013. Technical University of Košice, 2013, ISBN 978-80-553-1480-8, pp. 55-58 (in Slovak)
- Forgács, J.: *Numerical and Experimental Analysis of „K“ Bracing Truss*. In: *Advances in Architectural, Civil and Environmental Engineering*. Proceedings of 23rd Annual PhD Student Conference. Bratislava, 30.10.2013. Slovak University of Technology in Bratislava, Slovak Republic, 2013, ISBN 978-80-227-4102-6, pp. 371-375 (in Slovak)
- Grančičová, I.: *Design and Optimization of a Grid Shell Structure*. In: *Load-Bearing Steel, Composite and Timber Structures and Bridges*. Proceedings of 38th Meeting of Experts on Steel Structures. Košice, Slovak Republic, Oct. 2-4, 2013. Technical University of Košice, 2013, ISBN 978-80-553-1480-8, pp. 59-64 (in Slovak)
- Grančičová, I.: *Geometric Design and Form-Finding of Grid Shell Structures*. In: *Juniorstav 2013*. Proceedings of 15th Scientific PhD Conference. Brno, 7.2.2013. Brno University of Technology, 2013, ISBN 978-80-214-4670-0, unpag. (in Slovak)
- Grančičová, I.: *Optimization of Grid Shell Structures by the Dynamic Relaxation Method*. In: *Advances in Architectural, Civil and Environmental Engineering*. Proceedings of 23rd Annual PhD Student Conference. Bratislava, 30.10.2013. Slovak University of Technology in Bratislava, Slovak Republic, 2013, ISBN 978-80-227-4102-6, pp. 382-387 (in Slovak)

- Húska, M. – Mikula, K. – Novosedlák, P. – Remešíková, M.: A New Form-Finding Method for Cable Constructions. In: MAGIA 2012: Mathematics, Geometry and Their Applications. Kočovce, 26.-28.10.2012. Slovak University of Technology in Bratislava, Slovak Republic, 2013, ISBN 978-80-227-3873-6, pp. 7-18 (in English)
- Ilanovský, V.: Comparison of Members in Compression with Welded or Built-Up Profiles. In: Advances in Architectural, Civil and Environmental Engineering. Proceedings of 23rd Annual PhD Student Conference. Bratislava, 30.10.2013. Slovak University of Technology in Bratislava, Slovak Republic, 2013, ISBN 978-80-227-4102-6, pp. 420-425 (in Slovak)
- Ilanovský, V.: Design of Girders with Corrugated Webs According to the Eurocodes. In: Juniorstav 2013. Proceedings of 15th Scientific PhD Conference. Brno, 7.2.2013. Brno University of Technology, 2013, ISBN 978-80-214-4670-0, unpag. (in Slovak)
- Ilanovský, V.: Influence of a Transverse Bending Moment on a Flange on the Resistance of Girders with a Corrugated Web. In: Load-Bearing Steel, Composite and Timber Structures and Bridges. Proceedings of 38th Meeting of Experts on Steel Structures. Košice, Slovak Republic, Oct. 2-4, 2013. Technical University of Košice, 2013, ISBN 978-80-553-1480-8, pp. 73-80 (in Slovak)
- Katona, O.: Design of Cross-Laminated Timber. In: Advances in Architectural, Civil and Environmental Engineering. Proceedings of 23rd Annual PhD Student Conference. Bratislava, 30.10.2013. Slovak University of Technology in Bratislava, Slovak Republic, 2013, ISBN 978-80-227-4102-6, pp. 426-431 (in Slovak)
- Klas, T. – Magura, M. – Recký, J.: Flanged Connections. In: Load-Bearing Steel, Composite and Timber Structures and Bridges. Proceedings of 38th Meeting of Experts on Steel Structures. Košice, Slovak Republic, Oct. 2-4, 2013. Technical University of Košice, 2013, ISBN 978-80-553-1480-8, pp. 111-124 (in Slovak)
- Kováč, M.: Lateral-Torsional Buckling of Beams with Tapered Cross Sections. In: Load-Bearing Steel, Composite and Timber Structures and Bridges. Proceedings of 38th Meeting of Experts on Steel Structures. Košice, Slovak Republic, Oct. 2-4, 2013. Technical University of Košice, 2013, ISBN 978-80-553-1480-8, pp. 125-130 (in Slovak)
- Kovasich, M.: Influence of Stiffened Joints on the Stability of Beams. In: Juniorstav 2013. Proceedings of 15th Scientific PhD Conference. Brno, 7.2.2013. Brno University of Technology, 2013, ISBN 978-80-214-4670-0, unpag. (in Slovak)
- Magura, M. – Brodniansky, J.: Failures of Steel Structures Loaded by Temperatures. In: Modelování v mechanice 2013. Proceedings of Scientific Conference. Ostrava, Czech Republic, May 22-23, 2013. Technical University of Ostrava, 2013, ISBN 978-80-248-2985-2, pp. 57-58 (in Slovak)
- Magura, M. – Brodniansky, J.: Low-Cycle Thermal Fatigue of Steel Structures. In: Beyond the Limits of Man. Proceedings of the IASS 2013 Symposium. Wroclaw, Poland, 23.-27.9.2013. Wroclaw University of Technology, 2013, ISBN 978-83-7493-787-0, unpag. (in English)
- Magura, M.: Temperature Effects on Technological Steel Structures. In: Load-Bearing Steel, Composite and Timber Structures and Bridges. Proceedings of 38th Meeting of Experts on Steel Structures. Košice, Slovak Republic, Oct. 2-4, 2013. Technical University of Košice, 2013, ISBN 978-80-553-1480-8, pp. 145-152 (in Slovak)
- Magura, M. – Brodniansky, J.: Theoretical Analysis of Pipes with Imperfections. In: Load-Bearing Steel, Composite and Timber Structures and Bridges. Proceedings of 38th Meeting of Experts on Steel Structures. Košice, Slovak Republic, Oct. 2-4, 2013. Technical University of Košice, 2013, ISBN 978-80-553-1480-8, pp. 153-160 (in Slovak)
- Nittmannová, Ľ.: Analysis of Test Methods of Elastomeric Bearings. In: Advances in Architectural, Civil and Environmental Engineering. Proceedings of 23rd Annual PhD Student Conference. Bratislava, 30.10.2013. Slovak University of Technology in Bratislava, Slovak Republic, 2013, ISBN 978-80-227-4102-6, pp. 459-465 (in Slovak)
- Nittmannová, Ľ.: Theoretical Preparation for Experimental Verification of Elastomeric Bearings. In: Load-Bearing Steel, Composite and Timber Structures and Bridges. Proceedings of 38th Meeting of Experts on Steel Structures. Košice, Slovak Republic, October 2-4, 2013. Technical University of Košice, 2013, ISBN 978-80-553-1480-8, pp. 161-168 (in Slovak)
- Nittmannová, Ľ.: Verification of Bridge Bearing Deformations. In: Juniorstav 2013. Proceedings of 15th Scientific PhD Conference. Brno, 7.2.2013. Brno University of Technology, 2013, ISBN 978-80-214-4670-0, unpag. (in Slovak)
- Novosedlák, P.: Automation of Form-Finding Process of Membrane Structures. In: Juniorstav 2013. Proceedings of 15th Scientific PhD Conference. Brno, 7.2.2013. Brno University of Technology, 2013, ISBN 978-80-214-4670-0, unpag. (in Slovak)
- Novosedlák, P.: Construction of Minimal Surfaces. In: Advances in Architectural, Civil and Environmental Engineering. Proceedings of 23rd Annual PhD Student Conference. Bratislava, 30.10.2013. Slovak University of Technology in Bratislava, Slovak Republic, 2013, ISBN 978-80-227-4102-6, pp. 466-471 (in Slovak)
- Sandanus, J. – Slivanský, M.: Analysis of Changes in the Roof Structure of St. Martin's Cathedral in Bratislava during Thermal Refurbishment. In: Proceedings of 18th Conference. Piešťany, Slovak Republic, Mar. 14-15, 2013. Association of Structural Engineers of Slovakia, Bratislava, 2013, ISBN 978-80-89655-00-7, pp. 133-138 (in Slovak)
- Sandanus, J. – Slivanský, M. – Sógel, K.: Diagnostics and Refurbishment of Timber Structures. In: Sanace dřevěných konstrukcí. Proceedings of Vocational Seminar. Spišské Podhradie, Slovak Republic, 6.6.2013. ŠMÍRA-PRINT 2013, ISBN 978-80-87427-97-2, pp. 38-45 (in Slovak)
- Sandanus, J. – Slivanský, M. – Sógel, K.: Experimental Verification of Truss Girders. In: Dřevostavby 2013. Proceedings of Professional Seminar with international participation. Volyně, Czech Republic, 27.-28.3.2013. Higher Professional School and Secondary Technical School Volyně, 2013, ISBN 978-80-86837-51-2, pp. 133-140 (in Slovak)

Sandanus, J. – Sógel, K.: Modelling of the Load-Bearing Structure of Historic Buildings. In: Modelování v mechanice 2013. Proceedings of Scientific Conference. Ostrava, Czech Republic, May 22-23, 2013. Technical University of Ostrava, 2013, ISBN 978-80-248-2985-2, pp. 87-88 (in Slovak)

Slivanský, M.: FEM Modelling of Reinforced Glass Beams. In: Modelování v mechanice 2013. Proceedings of Scientific Conference. Ostrava, Czech Republic, May 22-23, 2013. Technical University of Ostrava, 2013, ISBN 978-80-248-2985-2, pp. 89-90 (in Slovak)

Slivanský, M. – Brodniansky, J.: Protective Wall on Staromestská Street in Bratislava. In: Load-Bearing Steel, Composite and Timber Structures and Bridges. Proceedings of 38th Meeting of Experts on Steel Structures. Košice, Slovak Republic, Oct. 2-4, 2013. Technical University of Košice, 2013, ISBN 978-80-553-1480-8, pp. 181-186 (in Slovak)

Sokol, M. – Ároch, R.: Improvement of Seismic Response of an Industrial Structure. In: Seismic Design of Industrial Facilities. Proceedings of International Conference. Aachen, Germany, 26.-27.9.2013. Wiesbaden, Springer Verlag, 2013, ISBN 978-3-658-02809-1, pp. 143-154 (in English)

Sokol, M. – Ároch, R. – Gogová, Z.: Seismic Performance of Typical New Family Houses in Slovakia. In: Vienna Congress on Recent Advances in Earthquake Engineering and Structural Dynamics 2013. Vienna, Austria, 28.-30.8.2013, ISBN 978-3-902749-04-8, unpag. (in English)

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# DEPARTMENT OF MAPPING AND LAND CONSOLIDATION

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Cartographic Techniques and Norms

Cadastral Mapping

Topography

Field Practice in the Cadastre of Real Estate and Cadastral Mapping

Cartographic Creation and Reproduction

Land Consolidation 1

Land Consolidation 2

Land Surveying, Cartography and Cadastre of Real Estate

Mathematical Cartography

Specialised Field Practice

Spatial Modelling in GIS

#### Obligatory elective subjects

Environmental Modelling and Evaluations of Landscapes

Cartometry and Data Analysis of the Cadastre of Real Estate

#### Optional Subjects

Information Technology Applications in the Cadastre of Real Estate and Land Consolidation

## 2. THESES

### 2.1 Bachelor Theses

There were 3 works.

### 2.2 Graduate Theses

Dendis, J.: The Transformation of the Geodetic Data File of the Cadastre of Real Estate to a New National Realization of the S-JTSK Coordinate System  
Supervisor: Geisse, R.

Fabišovicová, V.: Updating Map Symbols for Creating a Basic Large-Scale Map  
Supervisor: Hudecová, L.

Farkas, Z.: Using Microsurvey Software in Geodetical Practice  
Supervisor: Geisse, R.

Gulášová, M.: The Additive and Integral Evaluation Criteria of the Cartographic Representation of the Slovak Republic  
Supervisor: Vajsáblová, M.

Kálnay, A.: The State Border Dossier  
Supervisor: Hudecová, L.

Kohútová, J.: The Optimization of Electronic Submissions to the Cadastre of Real Estate  
Supervisor: Hudecová, L.

Lizák, F.: Cartographic Model of the Basic Map of the Slovak Republic 1:50 000  
Supervisor: Fencík, R.

Slemenský, J.: Green Design of a Landscape in a Land Consolidation Project  
Supervisor: Geisse, R.

Sobotková, I.: Evidence of Ownership Rights to Underground Structures and Easements Arising from Underground Structures  
Supervisor: Hudecová, L.

## 3. RESEARCH

### 3.1 International cooperation

#### Cooperating institutions

Department of Geoinformation and Cartography, Vienna University of Technology, Vienna, Austria

Department of Geoinformatics, Palacký University Olomouc, Olomouc, Czech Republic

Department of Mathematics, University of West Bohemia, Pilsen, Czech Republic

## 4. PUBLICATIONS

### Books

Čižmár, J.: Samuel Mikovíni – Significant Slovak Innovator, Bratislava: Slovak Centre of Scientific and Technical Information, 2013, ISBN 978-80-89354-10-8, 37 pp. (in Slovak)

### Parts of books

Fencík, R.: Map Series and Spatial Data for Integrated River Basin Management. In: Integrated River Basin Management: Selected Problems. – 1<sup>st</sup> Edition. Bratislava, Nakladateľstvo STU, ISBN 978-80-227-4072-2, 2013. – pp. 97 – 156

### Journals

Geisse, R. – Hudecová, L.: Mapping in Land Consolidation and the Cadastre of Real Estate. In: Životné prostredie, ISSN 0044-4863. – Vol. 47, No. 1 (2013), pp. 49 – 52 (in Slovak)

Hudecová, L.: Quality and Content of Cadastral Mapping Results. In: Geodetický a kartografický obzor, ISSN 0016-7096. – Vol. 59 (101), No. 5 (2013), pp. 100 – 104 (in Slovak)

Hudecová, L.: Mapping as a Spatial Data Source. In: Slovak Journal of Civil Engineering. ISSN 1210-3896. Vol. 21, No. 1 (2013), pp. 24 – 30 (in English)

Straka, J.: Visualization of Objects in New Generation Maps. In: Geodetický a kartografický obzor, ISSN 0016-7096. – Vol. 59(101), No. 12 (2013), pp. 320 – 327 (in Slovak)

### Conference Proceedings

Straka, J.: Visualization of Objects in New Generation Maps. In: Forum of Young Geoinformatics 2013 [electronic source], Zvolen, Slovak Republic, 2.-3.5.2013. – Zvolen: University of Technology in Zvolen, 2013. – ISBN 978-80-228-2518-4 (in Slovak)

Gálová, L. – Kliment, T. – Ďuračiová, R. – Fencík, R.: Search Capabilities of Geospatial Information for Flood Protection Domain in a Web Environment. In: Enviro-i-Forum 2013 [electronic source], Zvolen, Slovak Republic, 14.-15.5.2013 – Zvolen: Slovak Agency of the Environment, 2013. – ISBN 978-80-89503-25-4, pp.35 – 39 (in Slovak)

Čižmár, J. – Feranec, J. – Soukup, T. – Šafár, J. – Kontra, P.: Land Cover Map of Europe at Scale 1:5,000,000. In: From Pole to Pole 2013: 26th International Cartographic Conference [electronic source]. Dresden, Germany, 25.-30.08.2013. Dresden: International Cartographic Association, Deutsche Gesellschaft für Kartographie e.V., 2013, – ISBN 978-1-907075-06-3 (in English)

Čižmár, J. – Bartaloš, J.: Gallery IV of Cartographers on the Territory of the Slovak Republic. In: Historical Maps: Proceedings. Bratislava, Slovak Republic, 24.10.2013. – Bratislava: Cartography Society of the Slovak Republic, 2013. – ISBN 978-80-89060-22-1 (in Slovak)

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# DEPARTMENT OF MATHEMATICS AND DESCRIPTIVE GEOMETRY

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Descriptive Geometry

Mathematics I

Mathematics II

Mathematics III

Mathematics IV

Informatics

Mathematical Statistics

Mathematical Cartography

Mathematical Analysis I

Engineering Geometry and AutoCAD I

Engineering Geometry and AutoCAD II

Geometry

Algebraic Structures and Mathematical Logic

Programming in C Language

Probability Theory

Numerical Mathematics

Modelling and Data Analysis

Finite Element Methods

Functional Analysis and Variational Methods

Stochastic and Differential Equations

Fluid Flow

Time Series Analysis

Financial Mathematics

Software (ANSYS)

Applied Statistics

Projection Methods

Applied Mathematics

#### Optional subjects

Mathematical Statistics

Architectural Mathematics

Numerical and Stochastic Methods

Informatics and Statistics

Foundations of Mathematics

#### Recommended subjects

Computer Graphics

Fuzzy Management

### 1.2 Postgraduate courses

Linear Models of Time Series

Nonlinear Models of Time Series

Mathematical Methods in Fluid Flow, Diffusion and Heat Transfer

Numerical Methods in Fluid Flow, Diffusion and Heat Transfer

Mathematical Basis of the Finite Element Method I

Mathematical Basis of the Finite Element Method II

Stochastic Processes I

Probability and Statistical Estimation

Multidimensional Statistics

Statistical Methods in Geodesy

Mathematics

Decision Theory

Aggregation Functions

Multicriteria Decision Support

Proposed Experiment in Optimisation

Time Series Analysis in Civil Engineering

Dynamic and Stochastic Optimisation

Discrete Mathematics

Graph Theory

Mathematical Models of Fluid Dynamics



## 2. THESES

### 2.1 Bachelor theses

There were 13 works.

### 2.2 Graduate theses

Holá, Z.: Modeling of Economic and Financial Time Series  
Supervisor: Komorníková, M.

Niklová, K.: Solution to the Geodetic Boundary Value Problem with Infinite Elements  
Supervisor: Minarechová, Z.

### 2.3 Doctoral theses

Lenčuchová, J.: Markov-Switching (MSW) Time Series Models and Their Application  
Supervisor: Komorníková, M.

Petričková, A.: Regime-Switching Time Series Models and Their Application  
Supervisor: Komorníková, M.

Smoleň, J.: Forecasting Methods and Revenue Management in a Power Generating Company  
Supervisor: Knor, M.

Jágr, V.: Generalization of Archimax Copulas for Higher Dimensions  
Supervisor: Mesiar, R.

Pekárová, M.: Constructions of Copulas with Predetermined Properties  
Supervisor: Mesiar, R.

Mgr. Robert Bystrický: Multicriteria Decision- Making and Election Systems  
Supervisor: Mesiar, R.

Kútík, P.: Numerical Solution of Partial Differential Equations in Financial Mathematics  
Supervisor: Mikula, K.

## 3. RESEARCH

### 3.1 Research projects

Multiregimes and Multidimensional Time Series: Models and Application (2011-2014, KOMORNÍKOVÁ, M.), VEGA 1/0143/11

Efficient Numerical Methods and Parallel Computing in Geodesy (2011-2014, ČUNDERLÍK, R.), VEGA-1/1063/11

Uncertainty from the Point of View of Probability Theory, Algebra, Self-Adjoint Operators and Quantum Structures (2012-2015, JENČA, G.), APVV-0178-11

Mathematical Models of Quantum Structures and Uncertainty (2012-2014, KALINA, M. – JENČA, G. – SARKOCI, P.), VEGA 2/0059/12

Aggregation Functions and Their Applications (2012-2014, MESIAR, R.), VEGA 1/0171/12

Aggregation Functions as a Tool for Information Processing (2011-2014, MESIAR, R.), APVV-0073-10

Extremal Problems in the Metric Theory of Graphs and Discrete Structures (2013-2015, KNOR, M.), VEGA 1/0065/13

Geometric Partial Differential Equations – Numerical Analysis and Applications (2011-2014, MIKULA, K.), APVV 0184-10

Numerical Modeling in Geodesy (2012-2015, MIKULA, K.), APVV 0072-11

Determination of Geometric Characteristics of Objects on Images Obtained from Criminalistically Relevant Records (2013-2016, MIKULA, K.), APVV 0161-12

Finite Volume Methods for Partial Differential Equations (2012-2014, FROLKOVIČ, P.), VEGA 1/1137/12

Graphs as Network Models with a High Level of Symmetry (2013-2017, ŠIRÁŇ, J.), APVV 0136-12

### 3.2 International cooperation

#### Cooperating institutions

University of Linz, Austria

University of Novi Sad, Serbia

University of Haifa, Israel

Communication University of China, Beijing, China

Beijing Institute of Technology, China

CTU Prague, Czech Republic

University of Ostrava, Czech Republic

University of Liberec, Czech Republic

WB University, Plzeň, Czech Republic

Czech Academy of Sciences, Czech Republic

Charles University in Prague, Czech Republic

University of Ghent, Belgium

TU Budapest, Hungary

University of Waterloo, Canada

University of Freiburg, Germany

University of Bremen, Germany

University of Heidelberg, Germany

Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany

University of Dortmund, Germany

Goethe University, Frankfurt, Germany

University of Newcastle, Australia  
 University of Bologna, Italy  
 University of Sannio, Benevento, Italy  
 La Sapienza University, Rome, Italy  
 CINECA – Supercomputing Centre, Bologna, Italy  
 University of Catania, Italy  
 University of Ljubljana, Slovenia  
 Faculty of Information Studies, Novo Mesto, Slovenia  
 University of Pamplona, Spain  
 University of the Balearic Islands, Palma de Mallorca, Spain  
 Universitat Polytechnica e Catalunya in Barcelona, Spain  
 Complutense University Madrid, Spain  
 CNRS, Paris, France  
 ICS, Paris, France  
 University of Groningen, The Netherlands  
 Universidad Nacional Autónoma de México, Mexico City, Distrito Federal, Mexico  
 Open UNI London, Great Britain  
 Western Australia University, Perth, Australia  
 University of Auckland, New Zealand  
 TU Cracow, Poland  
 Pohang University of Science and Technology, South Korea  
 Western Washington University, Bellingham, WA, USA  
 University of Latvia, Latvia  
 The Open University, Milton Keynes, United Kingdom

## Membership in international professional organizations

Mesiar, R.: European Society for Fuzzy Logic and Technology (EUSFLAT)  
 Jenča, G.: International Quantum Structures Association (IQSA)  
 Kalina, M.: International Quantum Structures Association (IQSA)  
 Komorníková, M.: SEFI Mathematics Working Group  
 Mikula, K. – Čunderlík, R. – Minarechová, Z.: Joint Working Group 0.1.1: Vertical Datum Standardisation (JWG 0.1.1 – VDS)  
 Mikula, K. – Čunderlík: Joint Study Group 0.7: Computational Methods for High-Resolution Gravity Field Modelling and Nonlinear Diffusion Filtering (within the Inter-Commission on Theory (ICCT) of the International Association of Geodesy (IAG)  
 Mikula, K.: European Research Council (ERC)

## 4. PUBLICATIONS

### Books

Pekárová, M.: Construction of Copulas with Pre-Determined Properties, Bratislava: STU Publisher, 2013, (Series of Scientific Papers, Paper No. 124), ISBN 978-80-227-4053-1, 67 pp. (in English)

Vajsáblová, M.: Mathematical Cartography, 1st Ed., Bratislava: STU Publisher, 2013, ISBN 978-80-227-4027-2, 315 pp. (in Slovak)

### Parts of books

Hliněná, D. – Kalina, M. – Kráf, P.: Implication Functions Generated Using Functions of One Variable. In: Advances in Fuzzy Implication Functions, Berlin: Springer Verlag, ISBN 978-3-642-35676-6, 2013, pp. 125-153 (in English)  
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# DEPARTMENT OF PHYSICS

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Physics I

Physics II

Physics III

Physics (English)

#### Optional Subjects

Engineering Thermodynamics

### 1.2 Postgraduate courses

Physical Principles of Measurements

Special Aspects of Physics

Modelling Transport Phenomena

Physical Fields, Waves

Heat and Moisture Transport in Building Materials

## 2. RESEARCH

### 2.1 Research projects

Determination of the Physical Characteristics of Infiltration and Contaminant Transport with Adsorption in Porous Media (2010-2014), APVV-0743-10

Hygic Deformation of Building Materials, (2013-2015), VEGA 1/0689/13

### 2.2 International cooperation

#### Cooperating institutions

Faculty of Civil Engineering, Czech Technical University, Prague, Czech Republic

Silesian University of Technology, Gliwice, Poland

Faculty of Civil Engineering, Technical University, Brno, Czech Republic

Institute of Theoretical and Applied Mechanics of the ASCR, Prague, CR

Cracow University of Technology, Poland

Military University of Technology, Warsaw, Poland

Katholieke Universiteit Leuven, Belgium

#### Membership in international professional organizations

Baník I. – Lukovičová J.: European Physical Society

Lukovičová J.: European Society for the Study of Science and Theology

Lukovičová J.: International Council for Research and Innovation in Building and Construction–W 40

## 3. PUBLICATIONS

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Šujanová, J. – Samáková, J. – Cagáňová, D. – Čambál, M. – Pavlendová, G.: 2020 Competence Model of Slovak Industrial Engineers. In: *Toyotarity: People, Processes, Quality Improvement*. – Alba Iulia : Aeternitas Publishing House, 2013. – ISBN 978-606-613-079-0. – pp. 41-50 (in English)

#### Journals

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Baník, I. – Lukovičová, J. – Pavlendová, G. – Sarkar, B. K.: Compensation Effect in the Amorphous Hydrogenated Silicon from Point of View of the Barrier – Cluster Model. In: *Acta Electrotechnica et Informatica*. – ISSN 1335-8243. – Vol. 13, No. 1 (2013), pp. 26-31 (in English)

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## Conferences

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Baník, I. Photoinduced Changes in Chalcogenide Glasses on the Basis of a Barrier-Cluster-Heating Model. *Proceeding of International Conference ADEPT 2013, Advances in Electronic and Photonic Technologies 2013, Novy Smokovec, High Tatras, June 2-5, 2013, University of Zilina, Ed.: D.Pubis, I.Letricnova, L. Suslik, J.Kovac, A.Vincze, Zilina, Slovakia, 2013.* – ISBN 978-80-554-0689-3. pp. 201-206 (in English)

Baník, I. – Chovancová, M. – Pavlendová, G.: Home Experiments of Pupils and Students – a Way to Increase the Interest of Young People in Physics, Engineering and Science. In: *HSCI 2013. 10th International Conference on Hands-On Science: Proceedings.* Košice, SR, 1.-5.7.2013. – Košice : University of Pavla Jozefa Šafárika v Košiciach, 2013. – ISBN 978-989-98032-2-0. pp. 96-101 (in English)

Baník, I. – Chovancová, M. – Pavlendová, G.: Electromagnetic Forces in Nontraditional Experiments. In: *Creative Physics Teacher VI.: National Physics Festival 2013.* Smolenice, SR, 7.-10.4.2013. – Bratislava : Slovak Physical Society, 2013. – ISBN 978-80-971450-0-2. pp. 15-26 (in Slovak)

Chovancová, M.: Creativity and Motivation in Physics Education. In: *HSCI 2013. 10th International Conference on Hands-On Science : Proceedings.* Košice, SR, 1.-5.7.2013. – Košice : University of Pavla Jozefa Šafárika in Košice, 2013. – ISBN 978-989-98032-2-0. pp. 92-95 (in English)

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Pavlendová, G. – Baník, I. – Chovancová, M.: The Importance of Simple Experiments in University Education. In: *Creative Physics Teacher VI.: National Physics Festival 2013.* Smolenice, SR, 7.-10.4.2013. – Bratislava : Slovak Physical Society, 2013. – ISBN 978-80-971450-0-2. pp. 215-226 (in Slovak)

Podoba, R. – Trník, A. – Štubňa, I.: DC Conductivity of Waste Calcite – Clay Ceramics in the Temperature Range of 30 – 1050 °C. In: *35th International*

*Czech and Slovak Calorimetry Seminar: Proceedings.* Třeboň, ČR, 27.-31.5.2013. – Pardubice: University of Pardubice, 2013. – ISBN 978-80-7395-611-0. pp. 93-96 (in Slovak)

Baník, I. – Lukovičová, J. – Pavlendová, G. – Podoba, R.: Some Open Problems in Physics of Disordered Materials (and Their Possible Solutions on the Base of the Barrier-Cluster-Heating Model). In: *TIM – 2012 International Physics Conference: Timisoara, Romania, 27.-30.11.2012.: AIP Publishing, 2013.* – ISBN 978-07354-1192-0. pp. 117-122 (in English)

Baník, I. – Lukovičová, J. – Pavlendová, G.: Self-Diffusion on Pd(111) from the Point of View of the Band Model of Diffusion. In: *DSL 2013 [electronic source] : 9th International Conference on Diffusion in Solids and Liquids. Abstract Book.* Madrid, Spain, 24.-28.6.2013. – : [B.m.], 2013 (<http://www.dsl-conference.com>). pp. 262-263 (in English)

Šín, P.- Podoba, R. – Štubňa, I: Mechanical Properties of Alumina Porcelain During Heating. In: *TIM – 2013 International Physics Conference [electronic source]: Abstract Book.* Timisoara, Romania, 21.-24.11.2013. – Timisoara: West University of Timisoara, 2013. p.73 (in English)

Baník, I. – Lukovičová, J. – Šín, P.: Barrier-Cluster-Heating Model and Photoinduced Phenomena in Chalcogenide Glasses. In: *TIM – 2013 International Physics Conference [electronic source]: Abstract Book.* Timisoara, Romania, 21.-24.11.2013. – Timisoara: West University of Timisoara, 2013. p. 132 (in English)

Lukovičová, J. – Pavlendová, G. – Baník, I. – Podoba, R.: Determination of Poroelastic Parameters of Porous Building Materials. In: *DSL 2013 [electronic source]: 9th International Conference on Diffusion in Solids and Liquids. Abstract book.* Madrid, Spain, 24.-28.6.2013. – : [B.m.], 2013 (<http://www.dsl-conference.com>). p. 207 (in English)

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Podoba R. – Štubňa I.- Podobník L.: Application of Thermal Analyses for Historical Building Ceramics. In: *Book of Abstracts of the 2nd Central and Eastern European Conference on Thermal Analysis and Calorimetry (CEEC-TAC2), 27-30 Aug. 2013, Vilnius, Lithuania.* Greifswald: Academica Greifswald, 2013, p. 37. ISBN 978-3-940237-33-0 (in English)

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# DEPARTMENT OF STRUCTURAL MECHANICS

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Building Analysis

Interaction of Structures and Foundations

Plane and Spatial Structures

Special Problems in Dynamics and Statics

Statics

Statics (English)

Structural Analysis

Structural Dynamics

Structural Mechanics

Structural Mechanics (English)

Theory of Elasticity

Theory of Elasticity (English)

Theory of Elasticity and Plasticity

#### Optional subjects

Aeroelastics

Life Span and Reliability of Structures

Modeling Subgrades

Non-Linear Mechanics

Seismic Engineering

#### Recommended subjects

Automation in Non-Linear Structural Analysis

Automation in Structural Dynamics

Automation in the Statics of Structures

Plasticity Analysis of Structures

Stability of Structures

Structural Modeling Using FEM

Viscoelasticity of Structural Systems

## 2. THESES

### 2.1 Bachelor theses

There were 16 works.

### 2.2 Graduate theses

Havran, J.: Static and Dynamic Analysis of a High-Rise Building  
Supervisor: Psotný, M.

Kiss, T.: Static Design of a Tower Tank  
Supervisor: Jendželovský, N.

Kocúr, M.: Static and Dynamic Analysis of a High-Rise Building  
Supervisor: Jendželovský, N.

Marko, J.: Seismic Analysis of a Frame Structure  
Supervisor: Psotný, M.

Marko, O.: Static and Dynamic Analysis of a Contemporary Art Gallery Building  
Supervisor: Ivánková, O.

Martina, M.: Design of a Frame Foundation Below a Turbo-Generator  
Supervisor: Psotný, M.

Medvecká, S.: Analysis of a High-Rise Building Considering the Horizontal Forces  
Supervisor: Jendželovský, N.

Polák, M.: Static and Dynamic Analysis of a High-Rise Building  
Supervisor: Ivánková, O.

Šnirc, L.: Stability and Dynamics of Billboard Structures  
Supervisor: Ravinger, J.

Tirpáková, M.: Fire Resistance Analysis of a Building's Bearing Structure  
Supervisor: Králik, J.

Velísková, P.: Mechanical Response of a Human Spine  
Supervisor: Sokol, M.

Vráblová, K.: Analysis of Circular Concrete Tanks  
Supervisor: Jendželovský, N.



## 2.3 Doctoral theses

Konečná, L.: Influence of Dynamic Effects on the Determination of Soil Characteristics and Dynamic Parameters of Structures  
Supervisor: Sokol, M.

## 3. RESEARCH

### 3.1 Research projects

Modeling of the Basic Characteristic Quantities of Natural Wind in the BLWT Wind Tunnel STU (2013 – 2015, HUBOVÁ, O.), VEGA 1/0480/13

Optimal Structural Design in Terms of Failure Analysis with an Emphasis on Aspects of the Reliability and Durability of Structures (2012 – 2014, IVÁNKOVÁ, O.), VEGA 1/1186/12

Non – Destructive Methods for Identification of the Quality of Engineering Constructions (2012 – 2014, JENDŽELOVSKÝ, N.), VEGA 1/0629/12

Reliability of Structures under the Effects of Accidental Loads. Increase in the Safety of Nuclear Power Plants (2012 – 2014, KRÁLIK, J.), VEGA 1/1039/12

Resistance of Metal Girders with Corrugated Webs, Beams with Non-Uniform Cross-Sections and Resistance of Steel L-Profiles in Compression (2013 – 2015, KOLEKOVÁ, Y.), VEGA 1/0748/13

Monitoring Structural Health Using Dynamic Tests and Smart Systems for Dynamic Structural Response Control (2011 – 2013, SOKOL, M.), VEGA 1/1119/11

Monitoring of Bearing Structures of Bridges by Multiple Dynamic Tests (2013 – 2015, SOKOL, M.), APVV-0236-12

### 3.2 International cooperation

#### Cooperating institutions

Civil Engineering Institute of the Polish Academy of Science, Warsaw, Poland

Technical University of Opole, Poland

Silesian University of Technology, Gliwice, Poland

Cracow University of Technology, Poland

Fakultät der Bauingenieurwesen Ruhr-Universität, Bochum, Germany

Bundesforschung und Prufzentrum, Arsenal, Vienna, Austria

Czech Academy of Sciences, Prague, Czech Republic

Technical University of Ostrava, Czech Republic

Brno University of Technology, Czech Republic

Czech Technical University in Prague, Czech Republic

Budapest University of Technology and Economics, Budapest, Hungary

## Membership in international professional organizations

Koleková, Y.: Member of ÖGE Bridges and Building Structures, TU Vienna

Ravinger, J.: Member of Polish – Slovak Commission for Civil Engineering, Polish Academy of Sciences

Sokol, M.: Member of ÖGE Bridges and Building Structures, TU Vienna

Sokol, M.: Member of European Association for Earthquake Engineering

Sokol, M.: Member of Technical Committee CEN 250/ SC 8

Sokol, M.: Member of European Society of Biomechanics

## 4. PUBLICATIONS

### Books

Marton, P.: Dynamics of Power Line Masts. Bratislava, Slovak University of Technology, 2013. 116 pp. ISBN 978-80-227-4017-3 (in German)

Marton, P.: Statics & Vibration of Multilayer Structures. Bratislava, Slovak University of Technology, 2013. 82 pp. ISBN 978-80-227-4069-2 (in English)

### Parts of books

Ivanková, O. – Drobný, D.: Analysis of the Fracture Parameters of a Three-Point Loaded Beam with a Crack. In: Computational and Experimental Methods in Applied Mechanics I. Ústí nad Labem, J. E. Purkyně University, 2013. ISBN 978-80-7414-609-1. pp. 91-98 (in Slovak)

Králik, J. – Králik, J. Jr.: Impact of Accidental Torsional Effects to Seismic Resistance of Reinforced Concrete Tall Buildings. In: Computational and Experimental Methods in Applied Mechanics I. Ústí nad Labem, J. E. Purkyně University, 2013. ISBN 978-80-7414-609-1. pp. 75-82 (in English)

Králik, J.: Seismic Resistance of Steel Tanks Considering the Soil-Fluid-Tank Interaction. In: Computational and Experimental Methods in Applied Mechanics I. Ústí nad Labem, J. E. Purkyně University, 2013. ISBN 978-80-7414-609-1. pp. 99-106 (in English)

Lenk, P. – Jendzelovský, N.: Structural Glass – Review of Design Philosophies & Analysis Methods. In: COST Action TU0905. Mid-Term Conference on Structural Glass. London, Taylor & Francis Group, 2013. ISBN 978-1-138-00044-5. pp. 545-554 (in English)

Marton, P.: Static Analysis of Three-Layer Sandwich Beams with the Matrix K81V. In: Computational and Experimental Methods in Applied Mechanics I. – Ústí nad Labem, J. E. Purkyně University, 2013. ISBN 978-80-7414-609-1. pp. 69-74 (in English)

Marton, P.: Vibration of the Supporting Tower of Voltage Transmission Lines Caused by Wind Effects. In: Computational and Experimental Methods in Applied Mechanics I. – Ústí nad Labem, J. E. Purkyně University, 2013. ISBN 978-80-7414-609-1. pp. 107-114 (in Slovak)

Tvrda, K.: Analysis of a Beam Using the SBRA Method. In: Computational and Experimental Methods in Applied Mechanics I. Ústí nad Labem, J. E. Purkyně University, 2013. ISBN 978-80-7414-609-1. pp. 83-90 (in English)

## Textbooks

Hubová, O.: Aeroelasticity. Static and Dynamic Effects of Wind upon Building Structures. Bratislava, Slovak University of Technology, 2013. 92 pp. ISBN 978-80-227-3886-6 (in Slovak)

Psoťný, M. – Véghová, I.: Statics. Instructions for Exercises. Bratislava, Slovak University of Technology, 2013. 124 pp. ISBN 978-80-227-3945-0 (in Slovak)

## Journals

Hubová, O.: Wind Effects Acting upon the Holes in Building Structures. In: OKNOVINY. ISSN 1337-8791. No. 2 (2013), p. 4 (in Slovak)

Králik, J. – Baran, M.: Numerical Analysis of the Exterior Explosion Effects on the Buildings with Barriers. In: Applied Mechanics and Materials. ISSN 1660-9336, Vol. 390 (2013), pp. 230-234 (in English)

Králik, J.: Deterministic and Probabilistic Analysis of Steel Frame Bracing System Efficiency. In: Applied Mechanics and Materials. ISSN 1660-9336, Vol. 390 (2013), pp. 172-177 (in English)

Králik, J.: Nonlinear Probabilistic Analysis of the Reinforced Concrete Structure Failure of a Nuclear Power Plant Considering Degradation Effects. In: Applied Mechanics and Materials. ISSN 1660-9336, Vol. 249-250 (2013), pp. 1087-1098 (in English)

Králik, J.: NPP Safety in Slovakia According to Stress Tests after Accident in Fukushima. Transactions of the VŠB – Technical University of Ostrava, Civil Engineering Series. No. 1, 2013, Vol. 13. VŠB-TU Ostrava, 2013, pp. 119-128. ISSN 1213-1962 (in English)

Králik, J.: Optimal Design of NPP Containment Protection Against Fuel Container Drop. In: Advanced Materials Research. ISSN 1022-6680(P), ISSN 1662-8985(E). Vol. 688 (2013), pp. 213-221 (in English)

Králik, J. – Králik, J. Jr.: Probability Assessment of Analysis of High-Rise Buildings Seismic Resistance. Advanced Materials Research, Vols. 712 – 715 (2013), pp. 929-936. ISSN 1662-8985 (in English)

Nagyová, M. – Ravinger, J.: A V-2\*8x18m Billboard. In: Konstrukce. ISSN 1213-8762, Vol. 12, No. 1 (2013), pp. 63-68 (in Slovak)

Ravinger, J.: Container Swing Structure. In: Konstrukce. ISSN 1213-8762, Vol. 12, No. 3 (2013), pp. 26-28 (in Slovak)

## Conference Proceedings

Ároch, R. – Sokol, M.: Seismic Isolation and Decrease of Seismic Effects on Bridges. In: Bridges in Danube Basin, 8<sup>th</sup> International Conference on New Trends in Bridge Engineering and Efficient Solutions for Large and Medium-Span Bridges. Timisoara, Romania, 4.-5.10.2013. Springer, 2013. ISBN 978-3-658-03713-0. pp. 353-372 (in English)

Baláž, I. – Koleková, Y.: Elastic Critical Buckling Stress of a Web Girder Subjected to Transverse Force. In: Engineering Mechanics 2013. Svatka, Czech Republic, 13.-16.5.2013. ISBN 978-80-87012-47-5. 6 pp. (in English)

Baláž, I. – Koleková, Y.: Elastic Critical Stress of Beam Wall Loaded with Transverse Loads. In: Steel, Composite and Timber Bearing Structures and Bridges. Košice, 2.-4.10.2013. ISBN 978-80-553-1480-8. pp. 19-26 (in English)

Baláž, I. – Koleková, Y.: Resistance to Transverse Load. In: Steel, Composite and Timber Bearing Structures and Bridges. Košice, 2.-4.10.2013. ISBN 978-80-553-1480-8. pp. 11-18 (in English)

Baláž, L. – Vyskoč, E.: Design and Realization of Gravel Bedding Considering the Quality of the Subsoil. In: Proceedings of New Trends in the Statics and Dynamics of Buildings, Oct. 3-4, 2013, SvF STU Bratislava, pp. 1-4. ISBN 978-80-227-4040-1 (in Slovak)

Baláž, L.: Cylindrical Tanks – Numerical Modeling and Experimental Determination of Natural Frequencies. In: Proceedings of Advances in Architectural, Civil and Environmental Engineering. 23<sup>rd</sup> PhD Student Conference, SvF STU Bratislava, Oct. 30, 2013, pp. 91-97. ISBN 978-80-227-3853-8 (in Slovak)

Baláž, L.: Load Modeling of a Cylindrical Tank. In: Proceedings of Juniorstav 2013. VUT, Brno, 7.2.2013. ISBN 978-80-214-4670-0. 10 pp. (in Slovak)

Baláž, L.: Static Analysis of a Cylindrical Shell Wall. In: Proceedings of Modeling in Mechanics 2013, Ostrava, 22.-23.5.2013. ISBN 978-80-248-2985-2. 11 pp. (in Slovak)

Brzáčová, M. – Koleková, Y.: Bending Resistance of Curved Beams According to Eurocode STN EN 1993. In: Proceedings of New Trends in the Statics and Dynamics of Buildings, Bratislava, 3.-4.10.2013. ISBN 978-80-227-4040-1. pp. 17-20 (in English)

Dický, J.: Some Experience on a New Civil Engineering Programme Taught in English. In: Civil Engineering Education: Are We Meeting the Needs of the Industry and Society? Proceedings of 2<sup>nd</sup> EUCET Association Conference. Moscow, Russia, 14.-15.10.2013. ISBN 978-5-7264-0757-9. pp. 97-101 (in English)

Forgács, J. – Ároch, R. – Sokol, M.: Analysis of a Joint Under Cyclic Loading with Material Nonlinearity. In: Proceedings of Juniorstav 2013. VUT Brno, 7.2.2013. ISBN 978-80-214-4670-0. 7 pp. (in Slovak)

Forgács, J. – Ároch, R. – Sokol, M.: Experimental Measurement of K-Shaped Bracing. In: Steel, Composite and Timber Bearing Structures and Bridges. Košice, 2.-4.10.2013. ISBN 978-80-553-1480-8. pp. 55-58 (in Slovak)

Hofko, M. – Dický, J.: Optimal Design of a Plate. In: Proceedings of Juniorstav 2013. VUT Brno, 7.2.2013. ISBN 978-80-214-4670-0. 6 pp. (in Slovak)

Hofko, M. – Dický, J.: Optimization of a Concrete Bridge Plate Using the SOLID65 Element. In: Proceedings of New Trends in the Statics and Dynamics of Buildings, Bratislava, 3.-4.10.2013. ISBN 978-80-227-4040-1. pp. 67-70 (in Slovak)

- Hoľko, M.: Optimal Design of a Ceiling Deck. In: Proceedings of Advances in Architectural, Civil and Environmental Engineering. 23<sup>rd</sup> PhD Student Conference, SvF STU Bratislava, Oct. 30, 2013, pp. 98-104. ISBN 978-80-227-3853-8 (in Slovak)
- Hubová, O. – Olekšáková, I.: Wind Effects on Circular Cylinders. In: 13<sup>th</sup> International Scientific Conference VSU 2013. Sofia, Bulgaria, 6.-7.6.2013. pp. 286-291 (in English)
- Ivánková, O. – Kováčiková, J.: Effects of Failures upon the Deformations and Stresses of a Timber Beam. In: Proceedings of Juniorstav 2013. VUT, Brno, 7.2.2013. ISBN 978-80-214-4670-0. 9 pp. (in Slovak)
- Jendželovský, N. – Baláž, L.: Analysis of Steel Tanks. In: 21<sup>st</sup> SVS FEM ANSYS Users' Group Meeting and Conference 2013, Luhačovice, Czech Republic, 12.-14.6.2013. ISBN 978-80-905525-0-0, 6 pp. (in Slovak)
- Jendželovský, N. – Baláž, L.: EXOSKELETON Structural System – Analysis of a Tall Building. In: 13<sup>th</sup> International Scientific Conference VSU 2013. Sofia, Bulgaria, 6.-7.6.2013. pp. 283-286 (in English)
- Jendželovský, N. – Baláž, L.: Modeling of the Gravel Base of a Cylindrical Tank. In: Proceedings of Structural and Physical Aspects of Civil Engineering 2013, Nov. 27-29, 2013, Štrbské Pleso, Slovakia, 5 pp. ISBN 978-80-553-1488-4 (in Slovak)
- Jendželovský, N. – Baláž, L.: Natural Frequencies of Steel Tanks. In: Proceedings of New Trends in the Statics and Dynamics of Buildings, Bratislava, 3.-4.10. 2013. ISBN 978-80-227-4040-1. pp. 73-76 (in Slovak)
- Jendželovský, N. – Medvecká, S.: Analysis of the Horizontal Forces Acting upon a High-Rise Building. In: Proceedings of New Trends in the Statics and Dynamics of Buildings, Bratislava, 3.-4.10. 2013. ISBN 978-80-227-4040-1. pp. 77-80 (in Slovak)
- Jendželovský, N. – Prekop, L. – Grmanová, A.: Analysis of Pile Foundations. In: 13<sup>th</sup> International Scientific Conference VSU 2013. Sofia, Bulgaria, 6.-7.6.2013. pp. 185-188 (in English)
- Jendželovský, N.: Analysis of 3D State of Stress of a Concrete Beam. In: Proceedings of Structural and Physical Aspects of Civil Engineering 2013, Nov. 27-29, 2013, Štrbské Pleso, Slovakia, 6 pp. ISBN 978-80-553-1488-4 (in Slovak)
- Jendželovský, N.: Modeling of Water Towers Using the FEM. In: 21<sup>st</sup> SVS FEM ANSYS Users' Group Meeting and Conference 2013, Luhačovice, Czech Republic, 12.-14.6.2013. ISBN 978-80-905525-0-0, 6 pp. (in Slovak)
- Klabník, M.: Probabilistic Assessment of Fire Resistance. In: Proceedings of Advances in Architectural, Civil and Environmental Engineering. 23<sup>rd</sup> PhD Student Conference, SvF STU Bratislava, Oct. 30, 2013, pp. 105-111. ISBN 978-80-227-3853-8 (in Slovak)
- Kotrasová, K. – Kormaníková, E. – Králik, J.: Dynamic Analysis of the Soil-Foundation-Tank-Fluid Interaction. In: 11<sup>th</sup> International Conference on Vibration Problems. Book of Abstracts. Lisbon, Portugal, 9.-12.9.2013. ISBN 978-989-96264-4-7. p. 384 (in English)
- Kováčiková, J. – Ivánková, O.: Analysis of a Stress Intensity Factor Around a Crack Tip. In: Proceedings of Structural and Physical Aspects of Civil Engineering 2013, Nov. 27-29, 2013, Štrbské Pleso, Slovakia, 6 pp. ISBN 978-80-553-1488-4 (in Slovak)
- Kováčiková, J. – Ivánková, O.: Determining the Stress Intensity Coefficient around a Crack Tip in Mode I. In: Proceedings of New Trends in the Statics and Dynamics of Buildings Bratislava, 3.-4.10. 2013. ISBN 978-80-227-4040-1. pp. 105-108 (in Slovak)
- Kováčiková, J.: The Determination of a Stress Intensity Factor Considering Mode I. In: Proceedings of Advances in Architectural, Civil and Environmental Engineering. 23<sup>rd</sup> PhD Student Conference, SvF STU Bratislava, Oct. 30, 2013, pp. 112-118. ISBN 978-80-227-3853-8 (in Slovak)
- Králik, J. – Baran, M.: Simulation of the Exterior Explosion Impact on the High Rise Buildings with Barriers. In: Proceedings of Structura 2013, Ostrava, Nov. 7-8, 2013, pp. 133-139. ISBN 978-80-248-3236-4 (in English)
- Králik, J. – Hukel, D.: Thermomechanic Analysis of the Bubbler Tower Gas Tank. In: 21<sup>st</sup> SVS FEM ANSYS Users' Group Meeting and Conference 2013. Luhačovice, Czech Republic, 12.-14.6.2013. ISBN 978-80-905525-0-0. 7 pp. (in Slovak)
- Králik, J. – Klabník, M.: Deterministic and Probability Fire Resistance Analyses of a Multistorey Steel Frame. In: Proceedings of Modeling in Mechanics 2013, Ostrava, 22.-23.5.2013. ISBN 978-80-248-2985-2. 9 pp. (in Slovak)
- Králik, J. – Klabník, M.: Numerical Methods for Analyses of Structural Reliability. In: Proceedings of New Trends in the Statics and Dynamics of Buildings. Bratislava, 3.-4.10. 2013. ISBN 978-80-227-4040-1. pp. 117-120 (in Slovak)
- Králik, J. – Králik, J. Jr.: Sensitivity Analysis of Soil-Foundation-Machine Interaction on Layered Soil. In: Proceedings of 11<sup>th</sup> International Conference on Vibration Problems. Lisbon, Portugal, 9.-12.9.2013. ISBN 978-989-96264-4-7. 10 pp. (in English)
- Králik, J. – Rozsár, P.: Probabilistic Design of High Rise Building Safety Against the Blast Impact. In: Proceedings of Structura 2013, Ostrava, Nov. 7-8, 2013, pp. 140-146. ISBN 978-80-248-3236-4 (in English)
- Králik, J. – Tirpáková, M.: Nonlinear Analysis of Steel Concrete Column Fire Resistance. In: Proceedings of Modeling in Mechanics 2013, Ostrava, 22.-23.5.2013. ISBN 978-80-248-2985-2. 11 pp. (in English)
- Králik, J.: A RSM Approximation in Probabilistic Nonlinear Analysis of Fire Resistance of Technology Support Structures. In: Proceedings of Structural and Physical Aspects of Civil Engineering 2013, Nov. 27-29, 2013, Štrbské Pleso, Slovakia, 8 pp. ISBN 978-80-553-1488-4 (in English)
- Králik, J.: A RSM Method Used for Nonlinear Seismic Analysis of Frame Bracing System Efficiency. In: 21<sup>st</sup> SVS FEM ANSYS Users' Group Meeting and Conference 2013, Luhačovice, Czech Republic, 12.-14.6.2013. ISBN 978-80-905525-0-0. 12 pp. (in English)

- Králik, J.: Probabilistic Nonlinear Analysis of Reinforced Concrete Bubbler Tower Structure Failure. In: Proceedings of Modeling in Mechanics 2013, Ostrava, 22.-23.5.2013. ISBN 978-80-248-2985-2. 14 pp. (in English)
- Králik, J.: Probabilistic Seismic Assessment of Nuclear Power Plant Safety. In: Proceedings of 11<sup>th</sup> International Conference on Vibration Problems. Lisbon, Portugal, 9.-12.9.2013. ISBN 978-989-96264-4-7. 10 pp. (in English)
- Krchňák, M.: Computational Core of a Program for Nonlinear Analysis. In: Proceedings of Advances in Architectural, Civil and Environmental Engineering. 23<sup>rd</sup> PhD Student Conference, SvF STU Bratislava, Oct. 30, 2013, pp. 119-125. ISBN 978-80-227-3853-8 (in Slovak)
- Marton, P.: Static Analysis of Multilayer Beams in the Temperature Field. In: Proceedings of Modeling in Mechanics 2013, Ostrava, 22.-23.5.2013. ISBN 978-80-248-2985-2. 4 pp. (in English)
- Marton, P.: Static Analysis of Reinforced Concrete Beams with the Exclusion of Tensile Stresses Zone. In: Proceedings of Modeling in Mechanics 2013, Ostrava, 22.-23.5.2013. ISBN 978-80-248-2985-2. 6 pp. (in English)
- Mistriková, Z. – Vyskoč, E.: Influence of Subsoil Model on Reinforced Concrete Plate Divided by Construction Joint. In: 13<sup>th</sup> International Scientific Conference VSU 2013. Sofia, Bulgaria, 6.-7.6.2013. pp. 217-222 (in English)
- Mistriková, Z.: Excentrically Loaded Beam on Elastic Subsoil with Unilateral Coupling. In: 13<sup>th</sup> International Scientific Conference VSU 2013. Sofia, Bulgaria, 6.-7.6.2013. pp. 223-227 (in English)
- Mistriková, Z.: Influence of Unilateral Foundation on Deflection of the Excentrically Loaded Beam. In: Proceedings of New Trends in the Statics and Dynamics of Buildings, Bratislava, 3.-4.10. 2013. ISBN 978-80-227-4040-1. pp. 143-146 (in English)
- Olekšáková, I. – Hubová, O.: Comparison of Various Turbulence Models. In: 13<sup>th</sup> International Scientific Conference VSU 2013. Sofia, Bulgaria, 6.-7.6.2013. pp. 145-149 (in English)
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# DEPARTMENT OF MATERIAL ENGINEERING

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Concrete Technology

Technological Project

Concrete Technology II

Testing

Technology of Repairs

#### Optional subjects

Ceramics

Binders I

Insulating Materials

Chemistry of Building Materials II

### 1.2 Postgraduate courses

Building Materials

Selected Chapters from Chemistry II

## 2. THESES

### 2.1 Graduate theses

Demko, J.: Possibilities and Prospects of the Recycling of Construction Waste as Valuable Raw Materials and the Current Situation Concerning Construction Waste in the Slovak Republic.

Supervisor: Ledererová, M.

Rentka, P.: Options for the Use of Waste and Its Influence on the Properties of Cement Composites.

Supervisor: Ledererová, M.

Beliančin, V.: Effects of Pozzolan Admixtures on the Properties of Lime Mortars.

Supervisor: Pavlík, V.

Gregorová, V.: Influence of Expansive Additives on the Shrinkage of Cement Composites.

Supervisor: Struhárová, A.

Hrubý, O.: Self-Leveling Cement Floors.

Supervisor: Struhárová, A.

Hurtošová, Z.: Improvement of Thermo-Isolating Properties of Brick Bodies

Supervisor: Šveda, M.

Podivinský P.: Impact of Shrinkage-Reducing Admixtures on the Properties of High-Strength Cement Composites

Supervisor: Unčík, S.

### 2.2 Doctoral theses

Gregušová, S.: The Impact of the Temperature and Moisture Content of a Ceramic Body on the Thermal Conductivity of Brick Products.

Supervisor: Unčík, S.

Kmecová, V.: Effect of Basalt Powder on the Properties of High-Performance Cement Composites.

Supervisor: Unčík, S.

Štefunková, Z.: Cement Composites with the Addition of Alkali-Resistant Glass Fibres.

Supervisor: Unčík, S.

## 3. RESEARCH

### 3.1 Research projects

Application of Admixtures Based on Zeolites and Bentonites for Modifying the Pore Structure of Roofing Tiles (2011-2013 ŠVEDA, M.), VEGA 1/0517/11

Correlative Relations between the Properties of Autoclaved Aerated Concrete and Its Use in the Quality Management Process in Construction (2011-2013 UNČÍK, S.), VEGA 1/0472/11

Study of the Hardening Processes of Historical and Current Mortars (2013-2015 PAVLÍK, V.), VEGA 1/0534/13



## 3.2 International cooperation

### Cooperating institutions

Faculty of Civil Engineering, Brno University of Technology, Czech Republic

Klokner Institute, ČVUT Prague, Czech Republic

Faculty of Civil Engineering, VŠB – Technical University of Ostrava, Czech Republic

## 4. PUBLICATIONS

### Books

Unčík, S.: *Influencing Concrete Properties by Admixtures*, 1<sup>st</sup> ed. Bratislava: Nakladateľstvo STU, 2013. 95 pp. ISBN 978-80-227-3867-5 (in Slovak)

### Journals

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Ledererová, M.: Disposal of Construction Waste and the Recycling of Concrete. In: *Stavebné hmoty*, ISSN 1336-6041. – Vol. 9, No. 2 (2013), pp. 46-49 (in Slovak)

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Struhárová, A.: Effect of Fluidized Fly Ash on Selected Physical-Mechanical Properties of Autoclaved Aerated Concrete. In: *Stavebné hmoty*, ISSN 1336-6041. – Vol. 9, No. 2 (2013), pp. 16-19 (in Slovak)

Šveda, M. – Sokolář, R.: Evaluation of the Frost Resistance of a Brick Body. In: *Sklař a keramik*, ISSN 0037-637X. – Vol. 63, Nos. 1-2 (2013), pp. 3-6 (in Slovak)

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### Conference Proceedings

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Bajza, A. – Bilčík, J.: Urea Granulation Tower at Duslo Šaľa. In: *Repair of Concrete Structures: Proceedings of 8th Seminar*. Smolenice, SR, 3.-4.12.2013. Bratislava: Association for the Repair of Concrete Structures at SZSI, Bratislava 2013. pp. 39-44. ISBN 978-80-8076-109-7 (in Slovak)

Hlavinková, M. – Unčík, S. – Struhárová, A.: Influence of Temperature and Moisture Content of Autoclaved Aerated Concrete on the Coefficient of Thermal Conductivity. In: *Construction Materials: Proceedings of reviewed scientific papers*. Nitra, 2013. [CD-ROM] – Slovak University of Agriculture in Nitra, 2013. – ISBN 978-80-552-1031-5. pp. 1-5 (in Slovak)

Janík, B. – Šveda, M.: The Influence of Chemical Additive KS-4 on Brick Body. In: *Organization, Technology and Management in Construction: Proceedings of 11th international conference*. Dubrovnik, Croatia, 28.-30.9.2013. [CD-ROM] – Zagreb: University of Zagreb, 2013. ISBN 978-953-7686-04-8. pp. 146-153 (in English)

Janík, B. – Šveda, M.: Use of Waste from the Chemical Industry in the Manufacture of Brick Products. In: *Waste Recycling: Proceedings of 17th international conference on Waste Recycling*. Book of abstracts, Košice, SR, 21.-22.11.2013. [CD-ROM] Košice: Institute of Geotechnics SAS, 2013. ISBN 978-80-970034-6-3. pp. 41-44 (in English)

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Unčák, S.: Defects in Concrete Structures Resulting from the Insufficient Specification of Concrete. In: Repair of Concrete Structures: Proceedings of 8th seminar. Smolenice, SR, 3.-4.12.2013. Bratislava: Association for the Repair of Concrete Structures at SZSI, Bratislava 2013. ISBN 978-80-8076-109-7 pp. 27-32 (in Slovak)

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## 1. EDUCATION

### 1.1 Graduate study

#### Mandatory subjects

Technology and Managing of Constructions (STOP)

Technology of Construction Processes I. (TMS)

Technology of Construction Processes II. (TMS)

Professional Training (TMS)

Final Work (TMS)

Construction of Buildings (TMS)

Excursion (TMS)

System of Quality Management (TPB)

Construction Site Facility (TS)

Professional Training (TS)

Thesis (TS)

Safety and Protection of Health in the Construction Process (TS)

Technology of Construction Processes I. (PSA)

Technology of Construction Processes II. (PSA)

Costs and Prices (TMS)

Protection of the Environment (TMS)

Seminars for Bachelor Thesis (TMS)

Technology of Construction Processes II. (TMS)

Quality Management in Construction (TS)

Pre-Construction Design (TS)

Excursion (TS)

#### Mandatory elective subjects

A Manager in the Construction Industry (TMS)

Safety and Protection of Health in the Construction Industry (TMS)

Construction of Buildings (PSA)

Technology of Construction Processes (IKDS)

Technology of Finishing Processes (TS)

Technology of Building Renovation II. (TS)

Protection and Creation of the Environment (TS)

Computer-Aided Pre-Construction Design (TS)

Economic-Mathematical Optimization Methods (TS)

Ethics of an Undertaking (TS)

Historical Construction Technologies (TS)

Technology Project II. (TS)

Construction Engineering in Praxis (TMS)

Technological Processes in Technical Facilities (TZB)

Technology of Building Renovation I (TS)

Modelling of Construction Processes (TS)

Pathology of Buildings (TS)

Technology of Maintenance (TS)

Technology Project I. (TS)

Forensic Action (TS)

Technological Processes in Technical Facilities (TS)

Non-Destructive Testing (TS)

Civil Engineering in Practice (VSVH)

Costs and Prices (VSVH)

#### In English

Building Technology (CE)

Construction and Maintenance Management (CE)

Building Economics (CE)

Financial Management (CE)

Technology of Traditional Buildings (CE)

### 1.2 Postgraduate Courses

#### Technology of Construction

##### Subjects

Technology of Construction

Postgraduate Study Project I-VII

Pedagogic Activity

Scientific and Publication Activity

Technology of Concrete (TS)

Steel and Wooden Loadbearing Systems (TS)

Forensic Activity (TS)	Czaník, E.: Apartment Complex, Bratislava
Construction Law (TS)	Supervisor: Szalayová, S.
Built-Up Constructions (TS)	Červeň, L.: Selected Parts of Building Technology Project of the “Sport and Relax Centre” Bratislava
Personnel Management (TS)	Supervisor: Antošová, N.
Ethics of an Undertaking (TS)	
Valuation of Estates (TS)	Deák, R.: Congress Centre Zlín
Technology of Historical Buildings (TS)	Supervisor: Makýš, P.
Land Law (TS)	
Non-Destructive Testing (TS)	Derevjanik, D.: Multifunctional Residential Complex
Space Economics (TS)	Supervisor: Božík, M.
Technology of Water-Related Buildings (TS)	Dostál, F.: Multifunctional Residential Complex in Trnava, Dohnány st. Trnava
Financial Management II (TS)	Supervisor: Jankovichová, E.
Technology Project II (TS)	Dubovský, D.: “Katka” Apartment Building in Šaľa
Technology of Construction Processes 1,2,3 (TMS)	Supervisor: Somorová, V.
Professional Practice (TMS)	
Seminars for Bachelor Thesis (TMS)	Dynka, R.: Building Technology Project of “Malý Dunaj 3 – Bratislava”
Costs and Prices in the Construction Industry (TMS)	Supervisor: Gašparík, J.

## 2. THESES

### 2.1 Bachelor theses

There were 101 works.

### 2.2 Graduate theses

Balogh, B.: Building Technology Project of Parking Garage, IKEA Bratislava  
Supervisor: Gašparík, J.

Bartaloš, K.: Škoda Showroom in Levice  
Supervisor: Búciová, M.

Bartík, E.: Selected Parts of Building Technology Project “Panoráma Apartment Building” Bratislava  
Supervisor: Antošová, N.

Bažík, P.: Building Technology Project of the “BC Forum”, Bratislava  
Supervisor: Gašparík, J.

Benda, T.: Selected Parts of Building Technology Project  
Supervisor: Briatka, P.

Blahovičová, M.: Selected Parts of Building Technology Project of the “Zlín University Centre – University of Tomáš Baťa in Zlín”  
Supervisor: Juríček, I.

Böjtiová, A.: “Petržalka City” – Locality A, 1st Stage – Multifunctional Residential Complex  
Supervisor: Jankovichová, E.

Fekete, P.: “Trinity”, Bratislava  
Supervisor: Somorová, V.

Foriška, L.: Selected Parts of Building Technology Project of “Trucks and Out Buildings”, Štefánikova 13 and 15, Bratislava  
Supervisor: Juríček, I.

Friso, P.: Selected Parts of Building Technology Project for Construction of the “Ružinov Multipurpose Centre”  
Supervisor: Antošová, N.

Gašparovičová, D.: Hotel “Majolika” Modra  
Supervisor: Hulínová, Z.

Golierová, L.: “Agátky” Apartment Building, Stupava – 2nd Phase  
Supervisor: Prokopčáková, K.

Guba, M.: Selected Parts of Building Technology Project for Construction of a Multifunctional Residential Complex in Nitra  
Supervisor: Búciová, M.

Gula, J.: Multifunctional Residential Complex  
Supervisor: Božík, M.

Hajduchová, S.: Selected Parts of Building Technology Project for Construction of the “Multifunctional Residential Complex” Údernická St. Nos. 1 and 2, Bratislava  
Supervisor: Juríček, I.

Hajtman, O.: Complete Renovation of “The Yellow Castle” in Dunajská Streda  
Supervisor: Makýš, O.

- Hanko, M.: Apartment Building "Jége Alley", Bratislava  
Supervisor: Búciová, M.
- Horský, M.: Administrative Buildings and Service Hall, Nitra  
Supervisor: Szalayová, S.
- Horšulák, M.: Selected Parts of Building Technology Project  
Supervisor: Briatka, P.
- Hupka, T.: Selected Parts of Building Technology Project  
Supervisor: Chamulová, B.
- Hupková, L.: "Emporia Tower" in Bratislava  
Supervisor: Búciová, M.
- Hut'fa, M.: Selected Parts of Building Technology Project : "Residential Complex Panoráma", Koliba, Bratislava  
Supervisor: Juriček, I.
- Chorvát, J.: Selected Parts of Building Technology Project "Administrative Centre Pajštún St." Bratislava  
Supervisor: Antošová, N.
- Chromík, P.: Hockey Hall, Partizánske  
Supervisor: Prokopčáková, K.
- Jánoška, V.: South City, Sector C1, 1st Stage  
Supervisor: Jankovichová, E.
- Jerzová, L.: Administrative and Operational Building, Bratislava  
Supervisor: Szalayová, S.
- Kemláge, J.: Multifunctional Residential Complex  
Supervisor: Božík, M.
- Koller, E.: Selected Parts of Building Technology Project  
Supervisor: Briatka, P.
- Kopačka, J.: "Viktória" Multifunctional Building, Bratislava  
Supervisor: Somorová, V.
- Kopča, R.: Selected Parts of Building Technology Project  
Supervisor: Chamulová, B.
- Kopíneč, R.: Technological Test Centre, Púchov  
Supervisor: Szalayová, S.
- Košťun, V.: Shopping Centre "Saratovo"  
Supervisor: Somorová, V.
- Kováč, P.: Rental Apartments in Machulince  
Supervisor: Szalayová, S.
- Kovalčík, T.: Administrative Multifunctional Building, Máj St. 23, Čadca  
Supervisor: Jankovichová, E.
- Kovarovičová, S.: "Sunflowers" Apartment Building Bratislava  
Supervisor: Gašparík, J.
- Kysocká, M.: Selected Parts of Building Technology Project "Multifunctional Complex Hrach St." Bratislava  
Supervisor: Juriček, I.
- Labdafský, L.: Selected Parts of Building Technology Project  
Supervisor: Chamulová, B.
- Lahoda, M.: "Machnáč" Apartment Building, Bratislava  
Supervisor: Prokopčáková, K.
- Lebdeh, A.: Multifunctional Complex  
Supervisor: Bizub, J.
- Lukács, M.: "Geology St." Apartment Building, Bratislava  
Supervisor: Prokopčáková, K.
- Lukaščík, M.: Selected Parts of Building Technology Project  
Supervisor: Chamulová, B.
- Macka, M.: Multifunctional Residential Complex: "Pod Ladronkou", Prague 5 – Smíchov  
Supervisor: Búciová, M.
- Mackanič, J.: Selected Parts of Building Technology Project  
Supervisor: Bizub, J.
- Macko, P.: Conservation of a Church in Zázrivá  
Supervisor: Makýš, O.
- Mackovičová, M.: Radlinský St. Multipurpose Centre Bratislava  
Supervisor: Prokopčáková, K.
- Maňuch, J.: Building Technology Project of the "Diocese Centre, Žilina"  
Supervisor: Gašparík, J.
- Metke, M.: Selected Parts of Building Technology Project for the Construction of an "Apartment Multifunctional Building", Prague, Na vyhlídce  
Supervisor: Juriček, I.
- Mikulášiková, Z.: Selected Parts of Building Technology Project  
Supervisor: Briatka, P.
- Mociková, L.: Selected Parts of Building Technology Project: "Residential Complex Nitra – Part IV"  
Supervisor: Antošová, N.
- Moravčík, D.: Restoration of a Manor House in Malé Vozakany  
Supervisor: Makýš, O.
- Moravčíková, M.: Selected Parts of Building Technology Project  
Supervisor: Chamulová, B.



Motko, M.: Tennis Centre, Multifunctional Hall  
Supervisor: Božík, M.

Ondrášová, S.: Smolník st. Residential Complex, Bratislava  
Supervisor: Makýš, P.

Oravkin, R.: Manufacturing Plant  
Supervisor: Božík, M.

Papcun, T.: "Žarnov" Multifunctional Complex  
Supervisor: Jankovichová, E.

Pastier, M.: "Nový Dax" Multifunctional Centre, Bratislava"  
Supervisor: Somorová, V.

Pastier, V.: Selected Parts of Building Technology Project  
Supervisor: Chamulová, B.

Polakovič, J.: Commercial Centre "Just Play, Bratislava"  
Supervisor: Makýš, P.

Povolný, M.: Apartment Building  
Supervisor: Bizub, J.

Radačovský, M.: Apartment Buildings, Mukačevo St. in Prešov  
Supervisor: Hulínová, Z.

Rusek, V.: "Trinity" LifeStyle Residence, Plynárenská St. Bratislava – Ružinov  
Supervisor: Hulínová, Z.

Rybár, M.: SENEK Multifunctional Building  
Supervisor: Jankovichová, E.

Schmidt, T.: Renovation of the Building of the Nitra Gallery – Block D in Nitra  
Supervisor: Makýš, O.

Schroner, M.: Conservation of the Castle in Beladice  
Supervisor: Makýš, O.

Sloboda, M.: CBC Karadžič st. Bratislava  
Supervisor: Búciová, M.

Slobodová, G.: Emergency Teaching Hospital of L. Pasteur, Košice  
Supervisor: Makýš, P.

Slovák, P.: Apartment Building, Gedday and Osuský Sts. Bratislava  
Supervisor: Hulínová, Z.

Spišiak, A.: Selected Parts of Building Technology Project  
Supervisor: Briatka, P.

Stašák, M.: "Gas Oil Engineering" Sh. Co.  
Supervisor: Somorová, V.

Šajban, F.: Selected Parts of Building Technology Project  
Supervisor: Bizub, J.

Šalgovičová, D.: Conservation of the Plavec Castle  
Supervisor: Makýš, O.

Šimonič, P.: "Tarjanne" Residential Complex Dúbravka  
Supervisor: Makýš, P.

Šrámek, P.: Selected Parts of Building Technology Project: "Multifunctional Information and Education Centre"  
Supervisor: Antošová, N.

Šrobárová, D.: Building Technology Project in Košice: "Nová terasa, Apartment Building HB1"  
Supervisor: Gašparík, J.

Táncoš, R.: Selected Parts of Building Technology Project: "Petržalka Multifunctional Building"  
Supervisor: Antošová, N., Vágaiová, R.:

Multifunctional Residential Complex: "Galanta West"  
Supervisor: Gašparík, J.

Valach, J.: Building Technology Project in Petržalka – Stage A  
Supervisor: Gašparík, J.

Višňovský, D.: South City, Sector C1, 1st stage  
Supervisor: Jankovichová, E.

Zámečník, G.: Selected Parts of Building Technology Project  
Supervisor: Chamulová, B.

Žák, L.: Multifunctional Residential Complex  
Supervisor: Božík, M.

## 2.3 Doctoral theses

Bilančík, M.: Methodology for Selecting the Optimal Technology for Thermal Insulation Composite Systems with Respect to the Impact of the Given Climatic Factors in a Geographic Location  
Supervisor: Božík, M.

Ďubek, M.: Distribution of Dispersed Fiber in Steel Fibre Reinforced Concrete Construction  
Supervisor: Makýš, P.

Kováčik, O.: Minimization of Negative Impact of Noise during Construction  
Supervisor: Gašparík, J.

Orosi, P.: Methodology of the Design of Outdoor Construction Site Lighting  
Supervisor: Makýš, P.

Petro, M.: Methodology for Solving Failures of Contact Insulation Systems  
Supervisor: Božík, M.

Tarábková, L.: Health and Safety Management System of a Construction Company  
Supervisor: Gašparík, J.

## 3. RESEARCH

### 3.1 Research projects

Gašparík, J.: "Automatised System of Modeling Mechanised Construction Processes with the Application of the Method of Mutlicriteria Optimisation", VEGA No.1/0184/12.

Gašparík, J.: "On-line Quality Assurance of Study Programmes, 543727-TEMPUS-2013, 1-IT-TEMPUS-SMGR – EQUASP.

Gašparík, J.: "LLP LdV Transfer of Innovations: Leonardo – BESTILE – Best Practice for Installation of Ceramic, Glass and Stone Tile.

Jankovichová, E.: "Documentation for Quality Assurance of Study Programmes", 517340-TEMPUS-1-2011-1-IT-TEMPUS-SMGR DOQUP.

Makýš, O.: "Days for Monument Technology Conservation", MK-7269/2013/1.3.

Makýš, O.: "Editing of Publication: Technology of constructing and repairing a wooden cottage", MK-7265/2013/1.3.

### 3.2 International cooperation

#### Cooperating institutions

CNAM, Paris, France

CONTEC, Kralupy n. Vltavou, Czech Republic

Czech Technical University (ČVUT), Faculty of Building Engineering, Prague, Czech Republic

District Institute for the Preservation of a Cultural Heritage, Brno, Czech Republic

ICCROM (International Centre of the Study of the Preservation and Restoration of Cultural Property), Rome, Italy

National Institute for the Preservation of a Cultural Heritage, Prague, Czech Republic

National Institute for the Preservation of a Cultural Heritage, Brno, Czech Republic

Purdue University, Division of Construction Engineering and Management, School of Civil Engineering, West Lafayette, IN, USA

Southampton Institute, Built Environment Division, Southampton, England, UK  
 Technical University (VUT), Faculty of Building Engineering, Department of Building Technology, Brno, Czech Republic

University of Brighton, Faculty of Engineering and Environmental Studies, Brighton, England, UK

Membership in international professional organizations

ICOMOS (International Council on Monuments and Sites) – Slovak branch, Bratislava, SK

STOP – Society for the Technology of the Protection of Monuments, Prague, CZ

## 4. PUBLICATIONS

### Books

Makýš, O.: Technology of the Construction and Repair of Wooden Cottages, Pezinok: Renesans, Ltd., 2013, 176 pp., ISBN 978-80-89402-60-1.

### Textbooks

Makýš, O.: Ways and Procedures of Renovating Monuments, Bratislava: Renesans, Ltd., 2013, 126 pp., ISBN 978-80-89402-67-0.

### Journals

Antošová, N.: Development of the Relationship Between Building Technology and the Pathology of Buildings, In: *Immovables and Living* [www], Vol. 8, No. 2, pp. 102-107. ISSN 1336-944X.

Antošová, N.: Technology of the Liquidation of Microorganisms on the ETICS and Corrosion Resistance of a Facade, In: *Administration of Buildings*, Vol.7, No.1, pp.14-18. ISSN 1337-6233.

Antošová, N.: Manual for the Use of Biogas Stations. In: *Gasman – Plumber – Heating Engineer + Air Condition*, Vol. 11, No. 3, pp. 2-34. ISSN 1335-9614.

Antošová, N.: Quantitative Parameters and Their Concepts as a Way of Comparing Technical and Economic Indicators of Buildings, In: *Estates and Housing*: [www], Vol. 8, No. 1, pg. 26-38, ISSN 1336-944X.

Antošová, N.: Causes of the Appearance of Mold in Building Structures and Their Removal, In: *Construct and Live with Us*, Vol.12, No.1, Band 2013, pp. 36-38. ISSN 1336-1295.

Antošová, N.: Rules for the Effective Maintenance of Buildings and the ETICS System with Biocorrosion, In: *Organization, Technology & Management in Construction*, Vol.5, No.1. pp. 654-662, ISSN 1847-5450.

Antošová, N.: The Development of Directions and User Guidebooks for the Use and Operation of a Biogas Station BPS, TZB portal [www], Dec. 2013, p. 4, ISSN 1338-3418.

Briatka, P. – Bilančík, M. – Sternová, Z.: Changes in Volume of the ETICS' Base Coat, In: *Spektra*, Vol. 13, No. 2. pp. 34-37, ISSN 1801-1799.

Briatka, P. – Makýš, P. – Janotka, I.: Curing Concrete – 7. DTA, TG and DSC Verification of Action of Internal Curing, In: *Beton*, Vol.13, No.1, pp. 67-69, ISSN 1213-3116.

Briatka, P. – Makýš, P.: Formworks from Design to Form Removal – as We Do (Not) Know, In: *Realisation of Constructions*, Vol. 8, No. 2. pp. 38-41, ISSN 1802-0631.

Briatka, P. – Makýš, P.: Formworks – from Selection to Removal, In: *Construction Materials*, Vol. 9, No. 1, pp. 44-47, ISSN 1336-7617.

- Briatka, P. – Makýš, P.: Curing Concrete – 8. Mortars with Internal Curing – Strength and Volume Changes, In: *Beton*, Vol. 13, No. 2, pp. 40-47, ISSN 1213-3116.
- Briatka, P. – Makýš, P.: Curing Concrete – 9. Curing Methods and Their Impact on Mechanical Characteristics, In: *Beton*, Vol. 13, No. 3. pp. 70-72, ISSN 1213-3116.
- Briatka, P. – Matúšek, R.: Diagnostics of Flat Roofs – Practical Experience, In: *Construction Materials*, Vol. 9, No. 4. pp. 22-25, ISSN 1336-7617.
- Briatka, P. – Matúšek, R.: Flat Roofs – Diagnostics in Practice, In: *Realisation of Constructions*, Vol. 8, No. 3, pp. 30-33, ISSN 1802-0631.
- Ellingerová, H.: Economically Justified Costs, In: *House for 3H*, Bratislava: Eurostav, 2013, pp. 116-119. ISBN 978-80-89228-36-2.
- Ellingerová, H.: Classification Systems Used in Pricing, In: *Eurostav*: Vol. 19, No. 5, pp. 64-65, ISSN 1335-1249.
- Ellingerová, H.: Measurement and Standardization of New Technologies, In: *Eurostav*: Vol. 19, Nos. 11-12, pp. 86-87, ISSN 1335-1249.
- Ellingerová, H.: Preparation of Construction Plans for Public Works, In: *Eurostav*: Vol. 19, Nos. 7-8, Band Nos. 7-8, Vol.19, pp. 56-57, ISSN 1335-1249.
- Ellingerová, H.: The Process of the Procurement of Construction Works, In: *Eurostav*: Vol. 19, No. 6, pp. 76-77, ISSN 1335-1249.
- Ellingerová, H.: Sorting and Grading Systems in the Construction Industry, In: *Eurostav*: Vol. 19, No. 4. pp. 62-63, ISSN 1335-1249.
- Ellingerová, H.: Impacts on the Amount of the Budget of a Family House, In: *Eurostav*: Vol. 19, Nos. 1-2, pp. 52-53, ISSN 1335-1249.
- Ellingerová, H.: Development of Insulation Costs, In: *Eurostav*: Vol. 19, No. 10, pp. 70-71, ISSN 1335-1249.
- Ellingerová, H.: The Final Assessment of Completed Public Works, In: *Eurostav*: Vol. 19, No. 9, pp. 60-61, ISSN 1335-1249.
- Ellingerová, H.: Changes in the Wage Policy and Their Impact on the Rate of Construction, In: *Eurostav*: Vol. 19, No. 3, pp. 64-65, ISSN 1335-1249.
- Funtík, T. – Strigáčová, L.: The Use of BIM in the Life Cycle of an Intelligent Building, *iDB Journal*, Vol. 3, No. 1, pp. 16-17, ISSN 1338-3337.
- Gašparík, J. – Gašparíková, V.: Implementation and Evaluation of CAF Model, In: *Education Organizations – IJONTE*, Vol. 4, No. 1. pp. 5-27. ISSN 1309-6249.
- Horský, M. – Lusová, I. – Briatka, P.: Factors Affecting Development of Rate of Strength of Concrete – I. Internal Factors, *Realising of Constructions*, Vol. 8, No. 1, Band 2013, pp. 22-23, ISSN 1802-0631.
- Horský, M. – Lusová, I. – Briatka, P.: Factors Affecting the Development of the Concrete Rate of Strength – I. External Factors, *Realisation of Constructions*, Vol. 8, No. 2. Band 2013, pp. 42-43, ISSN 1802-0631.
- Jankovichová, E.: Examples of Construction Technologies for Housing Socially Excluded Communities, *Expert Almanac*, Vol. 13, No. 1, pp. 18-22, ISSN 1336-3174.
- Lusová, I. – Briatka, P.: Standards Used for the Determination of the Striking Time of Monolithic Structures, *Construction Materials*, Vol. 9, No. 2, pp. 36-37, ISSN 1336-7617.
- Lusová, I.: Computational-Laboratory Method for Ascertaining the Current Strength of Concrete at the Time of Maturity, *Realisation of Constructions*, Vol. 8, No. 3, pp. 42-43, ISSN 1802-0631.
- Makýš, O.: Mock-up Presentation of the Gate Tower to the Hill Fort at Liptovská Mara, *EXARC [www]*, No. 5, 9 p.
- Makýš, O.: Repair of Wooden Constructions. *Construct and Live with Us*, Vol. 12, No. 1, pp. 66-68, ISSN 1336-1295.
- Makýš, O.: Condition Surveys of a Castle's Ruins, *Eurostav*: Vol. 19, No. 10, pp. 36-39, ISSN 1335-1249.
- Makýš, O.: Moisture in Older Buildings, *Construct and Live with Us*, Vol. 12, No.1, pp.7-9, ISSN 1336-1295.
- Malenková, J. – Somorová, V.: Cleaning is an Important Service of Facility Management, *Administration of Buildings*, Vol.7, No.2, pp.50-51, ISSN 1337-6233.
- Malenková, J.: Standard Instructions for the Use of Buildings, *Eurostav*, Vol. 19, No. 4. pp. 28-31, ISSN 1335-1249.
- Matúšek, R. – Božík, M.: Renewing the "Nova doba" Residential Dwelling – Phenolic Foam Insulation, *Administration of Buildings*, Vol. 7, No. 3, pp. 18-20, ISSN 1337-6233.
- Matúšek, R.: Software for Supporting the Management and Renewal of Buildings, *iDB Journal* Vol. 3, No. 6, Band 6 (2013), pp. 18-19, ISSN 1338-3337.
- Petro, M.: Selection of Alternative Solution for the Repair of the ETICS, *Expert Almanac*, Vol. 13, No. 2, pp. 9-13, ISSN 1336-3174.
- Somorová, V. – Malenková, J.: Administration of Residential and Commercial Buildings – Comparison, *Administration of Buildings*, Vol. 7, No. 1, pp. 34-35, ISSN 1337-6233.
- Somorová, V.: European Standard EN 15221 Facility Management, *TZB-info*, [CD], Dec. 2013, pp. 3, ISSN 1801-4399.
- Somorová, V.: Facility Management in the Operation of Sustainable Buildings, *Eurostav*, Vol. 19, No. 9, pp. 32-35, ISSN 1335-1249.
- Somorová, V.: Manual Maintenance of Heating Equipment, *TZB Haustechnik*, Vol. 21, No. 2, pp. 42-43, ISSN 1210-356X.

## Conference Proceedings

Antošová, N. – Zajacová, J.: Legal and Technical Aspects of the Development of ETICS System Rules Used in the Process of Sustainability, In: *Nauka i obrazovanie dlja ustojčigovo razvitija ekonomiki, prirodny i obščestva*. Tom 3, Sbornik dokladov [CD], Tambov: Tambovskij gosudarstvennyj tehničeskij universitet, 2013, pp. 69-76. ISBN 978-5-8265-1203-6.

Antošová, N.: Instruction Manual for the Use of a Biogas Building in the Process of Sustainability, In: *Heating 2013, 21st International Conference on Energy, Environmental and Economic Aspects during the Operation of Heating Systems*, Ľubovňa Spa, Bratislava: SSTP, 2013, pp. 475-478, ISBN 978-80-89216-53-6.

Antošová, N.: The Development of the Building Technology Field in Relation to the Pathology of Buildings, In: *Innovative Trends in Construction and the Real Estate Sector – ITCRES 2013* [CD], Bratislava: STU, 2013, 6 p., ISBN 978-80-227-3932-0.

Antošová, N.: The Development of the Building Technology Field in Relation to the Pathology of Buildings, In: *Innovative Trends in Construction and the Real Estate Sector – ITCRES 2013*, Bratislava: STU, 2013, Vol. 1, pp. 16-17, ISBN 978-80-227-3931-3.

Bača, M. – Kormaník, M.: Traditional Preparation and Use of Lime Mortar in the Conservation of the Lietava Castle, In: *Juniorstav 2013* [CD], Brno: VUT, 2013, ISBN 978-80-214-4670-0.

Bača, M.: Use and Preparation of Lime Mortar in the Use of Traditional Technology – “Hot Lime Mix”, In: *Development Trends in the Areas of the Designing, Preparation, Realising and Maintenance of Buildings*, Brno: Tribun EU, 2013, pp. 9-15, ISBN 978-80-263-0544-6.

Bača, M.: Traditional Methods of Mortar Preparation: the Hot Lime Mix Method, In: *Advances In Architectural, Civil and Environmental Engineering* [CD], Bratislava, STU Publishing, 2013, pp. 245-250. ISBN 978-80-227-4102-6.

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# DEPARTMENT OF SANITARY AND ENVIRONMENTAL ENGINEERING

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Environmental Technology VHVS  
Environmental Technology  
Water Chemistry and Hydrobiology  
Chemistry of Water, Soil, Air and Waste  
Environmental Hygiene  
Landscape Engineering  
Infrastructure of Urban Regions  
Landscape Eng. and Infrastr. of Urban Regions  
Water Pollution Control  
Sanitary Engineering Structures  
Design and Execution of Water Management Structures  
Water Supplies and Water Treatment  
Public Utility Networks  
Solid Waste Management  
Public Utility Networks and Water Management Structures  
Sewerage and Waste Water Treatment  
In-Situ Training  
Practical Training  
Solid Waste Management  
Urban Hygiene  
Selected Water Supply and Water Treatment Chapters  
Selected Sewerage and Waste Water Treatment Chapters  
Spas and Mineral Waters  
Special Excursion  
Special Seminar  
Realization of Sanitary Structures  
Water Management  
Automation of Engineering Works  
Theory and Techniques of Air Protection  
Final Thesis

#### Optional Subjects

Pumping Stations

Industrial Water Management  
Urban and Regional Planning  
Rehabilitation of Old Waste Disposal Sites  
Urban Hydrology  
Operation and Maintenance of Sanitary  
Engineering Structures

### 1.2 Postgraduate courses

Hydrochemistry and Hydrobiology  
Water Pollution Control  
Sanitary Engineering Structures  
Water Supply Systems  
Water Treatment for Drinking and Industrial Use  
Balneology  
Horizontal and Vertical Intake Structures  
Waste Water Collection  
Rehabilitation of Old Waste Disposal Sites  
Protection and Utilization of Water Resources  
Waste Water Treatment  
Solid Waste Treatment

## 2. THESES

### 2.1 Bachelor theses

There were 20 works.

### 2.2 Graduate theses

Czafíková, L.: Advice on Water Supply Concepts  
Supervisor: Božíková, J.

Čeginík, P.: Extension of the Water Supply Network in the Village of Limbach  
Supervisor: Barloková, D.

Čekovský M.: Design of the Water Supply Network for the Village of Nemešany  
Supervisor: Barloková, D.

Gábor, M.: Modern Methods of Water Treatment

Supervisor: Kriš, J.

Gáliik, M.: Systemic Application of IS/IT in a Water Supply Company

Supervisor: Stanko, Š.

Kavecký, J.: Reduction of Surface Runoff in a Town Agglomeration

Supervisor: Mahříková, I.

Kendrová, D.: Disposal of Food Waste

Supervisor: Škultétyová, I.

Košec, P.: Removal of Iron and Manganese from Water

Supervisor: Ilavský, J.

Košťuriaková, L.: Waste Water Disposal in Areas without a Public Sewage System

Supervisor: Mahříková, I.

Polakovičová, L.: Study of a Sewer System in the Area of Nižná Šebastová

Supervisor: Rusnák, D.

Urban, J.: Assessment of the Hydraulic Capacity of the Sewer System in the Town of Hanušovce nad Topľou

Supervisor: Rusnák, D.

Vrták, T.: Removal of Heavy Metals from Water with Sorption Materials

Supervisor: Ilavský, J.

Zelenák, M.: Municipal Solid Waste Landfill Project

Supervisor: Škultétyová, I.

Wassermann, M.: The Design of a Rain Sewer System and Simulation of Rain Water Discharge

Supervisor: Stanko, Š.

## 2.3 Doctoral theses

Berta, P.: Extension of Pollution in Surface Waters

Supervisor: Sokáč, M.

Bronišová, M.: Assessment of Sewage Networks, Background for Renewal Plans of Sewage Systems

Supervisor: Rusnák, D.

Galbová, K.: Water Regime of a Communal Landfill

Supervisor: Škultétyová, I.

Galík, M.: Analysis of an Assessment of Water Distribution Systems

Supervisor: Kriš, J.

Hanková, M.: Reconstruction of Water Systems

Supervisor: Kriš, J.

Hanusová, A.: Water Filtration in a Multi – Material Basin

Supervisor: Ilavský, J.

Hrudka, J.: Dynamic Modelling of WWTP Structures

Supervisor: Stanko, Š.

Holubec, M.: Mathematical Modeling of Pipeline Systems

Supervisor: Kriš, J.

Kunštek, M.: Changes in the Water Quality of Distribution Systems

Supervisor: Ilavský, J.

Molnár, K.: Impact of Pressure Zonation of Water Networks for the Elimination of Water Losses

Supervisor: Božíková, J.

Molnár, T.: Optimization and Modernization of Technological Processes Used in Water Treatment

Supervisor: Barloková, D.

Molnárová, L.: Optimization of the Operation of a Sewage System

Supervisor: Stanko, Š.

Némeš, P.: Material Impact of a Flow Regime on Losses in Water Networks

Supervisor: Božíková, J.

Staník, V.: Reverse Logistics in Waste Management

Supervisor: Škultétyová, I.

Turzová, B.: Rainwater Disposal in Urban Areas

Supervisor: Stanko, Š.

## 3. RESEARCH

### 3.1 Research projects

Integrated Sanitary Infrastructure Rehabilitation Solution, Reliability and Environmental Impact (2011-2013, KRIŠ, J.), VEGA 1/1143/11

Disposal of the Waters from Surface Runoff in an Integrated Drainage System in Urban Areas (2012-2014, Stanko, Š.) VEGA 1/1079/12

Quantification of the Simulated Effect of Input Data and Model Parameters on the Accuracy of the Outputs of Dispersion Models for Surface Water (2011-2015, Sokáč, M.) APWV-0274-10

Natural Materials for the Removal of Harmful Compounds from the Environment (2012-2014, Barloková, D.) Vega 1/1243/12

Master Training Network for Water Resources Management Technologies – Netwater (2010-2013, Kriš, J.) Tempus Project No. 159311-TEMPUS-IT-TEMPUS-JPCR)

Towards Sustainable Water Resources Management in Central Asia – Swan (2010-2013, Kriš, J.) (Tempus Project No. 158982-TEMPUS-ES-TEMPUS-JPCR)

Increase of Stormwater Runoff Retention and Detention in Urban Catchments (2013-2015 SOKÁČ, M.) VEGA 1/0691/13

Experimental Research on Reducing the Impacts of Sewer Network Floods on Areas. (2013-2017 STANKO, Š.) APVV-0372-12

## 3.2 International cooperation

### Cooperating institutions

Technical University, Prague, Czech Republic

Technical University, Brno, Czech Republic

Technical University, Vienna, Austria

Universität für Bodenkultur, Vienna, Austria

Danish Hydraulic Institute, Horsholm, Denmark, and Prague, Czech Republic

National Water Research Institute, Burlington, Canada

Instytut Inżynierii Sanitarnej i Ochrony Środowiska, Politechnika Czesochowska, Czesochowa, Poland

Hokkaido University, Sapporo, Japan

University of Pavia, Pavia, Italy

### Membership in international professional organizations

Barloková, D.: Member of Czechoslovak Association of Water Experts

Ilavský, J.: Member of Czechoslovak Association of Water Experts

Kriš, J.: Member of International Water Association, London, official member of National Board Committee

Mahriková, I.: Member of International Water Association London, official member of National Board Committee

Mahriková, I.: International Member of Engineering Academy of Armenia

## 4. PUBLICATIONS

### Book

Kriš, J.– Hanková, M. – Galík, M. –Vrbovský, P. – Kyncl, M.: Water Treatment and Water Supply : Part I. Water Treatment. Slovak University of Technology in Bratislava, 2013, ISBN 978-80-227-3948-1, 294 pp. (in English)

### Textbook

Kriš, J. – Kyncl, M. – Hanková, M. – Galík, M.: Water Treatment. Montanex in Ostrava, 2013, ISBN 978-80-7225-389-0, 285 pp. (in English)

### Journals

Božiková, J. – Hronček, M.: The Usage of the ČKB-2A Well in Červený Kláštor. In: Bazén & Sauna, ISSN 1211-541X, – Vol. 20, Nos. 5-6 (2013), pp. 28-31 (in Slovak)

Dubová, V. – Sokáč, M.: Temporal Changes of Corrosion Losses and Corrosion Rates in Water Pipes. In: Food and Environment Safety. ISSN 2068-6609. – Vol.12, No. 1 (2013), pp. 30-37 (in English)

Kriš, J.– Hanková, M. – Brtko, J.: Groundwater Quality and Protection in the Slovak Republic. In: Instal, ISSN 1640-8160. No. 3 (2013), pp. 54-60 (in English)

Kriš, J. – Galík, M. – Ivanič, G. – Kvassay, V.: Sludge Disposal and Wastewater Treatment in the Region of Bratislava. In: Water Practice & Technology, ISSN 1751-231X. – Vol. 8, No. 2 (2013), pp. 286-303 (in English)

Kriš, J.– Hanková, M.: Structural Failures of Water Pipes. In: TZB Haustechnik, ISSN 1803-4802. – Vol. 6, No. 4 (2013) pp. 42-44 (in Slovak)

Kriš, J. – Škultétyová, I. – Stanko, Š.: The Construction of the Oravice Thermal Aquatic Park, Part 2, Technical Equipment and Technologies. In: Stavebnictví, ISSN 1802-2030. – Vol. 7, No. 1 (2013), pp. 48-53 (in Slovak)

Kriš, J.– Hanková, M.: The Structure of Water Supply System Failures. In: Stavebnictví, ISSN 1802-2030. – Vol. 7, No. 9 (2013), pp. 56-61 (in Slovak)

Mackuľak, T. – Smolinská, M. – Takáčová, A. – Škubák, J. – Kunštek, M. – Bodík, I.: Innovative Methods for Cleaning Water Risks. In: Vodní hospodářství, ISSN 0862-5549. – Vol. 63, No. 2 (2013), pp. 51-57 (in Slovak)

Sokáč, M.: City Sewerage Master Plans and Rehabilitation Plans. In: Urbanita, ISSN 0139-5912. – Vol. 25, No. 2 (2013), pp. 32-35 (in Slovak)

Staník, V.– Knápek, I. – Vlčej, J. – Košíková, A.: Recycling Modeled by the LCA Method. In: Odpady, ISSN 1335-7808. – Vol. 13, No. 2 (2013), pp. 22-23 (in Slovak)

Stanko, Š.: What Influences the Sanitation Level? In: Proceedings of Engineering Academy of Armenia, ISSN 1829-0043. – Vol. 21 (2013), p. 51 (in English)

Škultétyová, I.: The Quality of Life and the School Environment. In: Proceedings of Engineering Academy of Armenia, ISSN 1829-0043. – Vol. 21 (2013), p. 53 (in English)

Tkáčová, J. – Božiková, J.: The Study of Chlorine Dioxide Properties – the Conditions for Limiting the Formation of DBPs. In: Vodohospodársky spravodajca, ISSN 0322-886X. – Vol. 56, Nos. 5-6 (2013), pp. 12-15 (in Slovak)

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- Hrudka, J. – Stanko, Š.: Consideration of Objects in Sedimentation Tanks. In: Reconstruction of Sewage Systems and Waste Water Treatment Plants: 8th International Conference. Podbanské, 14.-16.10.2013. – Bratislava : Water Research Institute, 2013. – ISBN 978-80-89062-94-2. – pp. 223-227 (in Slovak)
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- Mahríková, I.: Sewage Sludge Treatment and Reuse. In: Water Management and Hydraulic Engineering : 13th International Symposium. Bratislava, Slovak Republic, 9.-12.9.2013. – Bratislava: Publisher STU, 2013. – ISBN 978-80-227-4003-6. – pp. 311-318 (in English)
- Molnárová, L. – Rusnák, D.: Flood Protection of a Sewer System. In: Water Supply, Sewage Systems, Wastes – Small Water Works – Country and Water : 12th Conference with international participation. Tatranská Lomnica, Slovak Republic, 25.-27.11.2013. – Bratislava: Publisher STU, 2013. – ISBN 978-80-89385-27-0. -pp. 179-188 (in Slovak)
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- Sokáč, M. – Velísková, Y. – Berta, P.: Assessment of Impacts on Water Quality Caused by Short-Term Storm Discharges from Urbanized Catchment. In: Water Resources. Forest, Marine and Ocean Ecosystems : 13th International Multidisciplinary Scientific Geoconference SGEM 2013. Albena, Bulgaria, 16.-22.6.2013. – Sofia : SGEM, 2013. – ISBN 978-619-7105-02-5. – pp. 39-46 (in English)
- Sokáč, M. – Velísková, Y. – Dubová, V.: Modelling the Impacts of CSO Events on Receiving Water Quality. In: EWRA 2013: 8th International Conference. Water

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# DEPARTMENT OF BUILDING SERVICES

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Building Services I

Building Services II

Building Services III

Internal Water Piping

Internal Drainage

Heating I

Heating II

Design IV

Design V

Design VI

Air Conditioning

Sanitary Techniques

Water Delivery and Drainage

Computer Design Systems

Measurement and Control I

Measurement and Control II

Energy Supply of Buildings

Excursions

Building Control Systems

Special Seminar

Heating Systems

Industrial Installations

Renewable Energy in the Technical Equipment of Buildings

Ventilation and Air Conditioning Systems I

Fire-Fighting Equipment

Diploma Seminar

#### Optional subjects

Technical Equipment

Sanitary-Technical Equipment

Heating Systems

Combustion Theory and Techniques

Ventilation and Air Conditioning Systems

Industrial Air Conditioning Systems II

Sanitation Audit

Heating Audit

Ventilation Audit

Operation of Air Conditioning Systems

Heat Delivery to Buildings

Renovation of Building Services

Indoor Environment of Buildings

Environmental Audit of Buildings

### 1.2 Postgraduate courses

Indoor Environment of Buildings

Energy Audit of Buildings

Ph.D. Project I, II, III

Ph.D. Project IV, V, VI

Teaching I – IV

Sanitary Installations

Heating

Ventilation and Air Conditioning

## 2. THESES

### 2.1 Graduate theses

Belica, A.: Design and Calculation of Low-Temperature Heating with Heat Pumps for a Hotel

Supervisor: Petráš, D.

Bubliš, M.: Multifunctional Building: Cast-in-Situ Hollow Slab Concrete Structure

Supervisor: Borzovič, V.

Budayová, M.: Analysis of Heat and Electroc Energy in A Family Hous. Photovoltaic Energy Base.

Supervisor: Kalús, D.



- Derevjanik, M.: Conception of Geothermal Energy Use for Sport Resort in Neded.  
Supervisor: Takács, J.
- Hanulík, L.: Energy and Environmental Audit of Office Building – Ventilation System.  
Supervisor: Fűrri, B.
- Horniak, M.: Alternatives for Progressive Heat Sources for Dwellings.  
Supervisor: Lulkovičová, O.
- Hrabovský, P.: Heat Delivery for a Family House. Renewable Energy Base.  
Supervisor: Petráš, D.
- Janečko, M.: Case Study on Energy Systems for Family House.  
Supervisor: Koudelková, D.
- Kamťková, J.: Technical and Economical Evaluation of a Dwelling Stock Renovation.  
Supervisor: Petráš, D.
- Kostolný, P.: Energy Audit and Certificate for an Office Building.  
Supervisor: Petráš, D.
- Kuruc, D.: Renovation and Revitalization of Fire Protection Systems. Water Base.  
Supervisor: Jánošková, T.
- Líška, J.: Design of Building Structures with an Internal Energy Source.  
Supervisor: Kalús, D.
- Michale, M.: Pre-Cleaning of Water from Sewage System in a Church Community Center.  
Supervisor: Peráčková, J.
- Paštrnák, O.: Energy Audit of a Building. A Boiler Room and Cogeneration System Design.  
Supervisor: Fűrri, B.
- Sočuvka, O.: Comparison of Distribution Elements Used in a Ventilation System for an Office Building.  
Supervisor: Kovářová, Z.
- Sčerba, K.: A Heat Source for a Basic School in Rozkovec. Biomass Base.  
Supervisor: Takács, J.
- Štefanka, Š.: Ventilation Systems for a Dwelling House.  
Supervisor: Šabíková, J.
- Vlha, T.: A Heat Source for a Family House with an Active Thermal Insulation System.  
Supervisor: Kalús, D.
- Bartošová, V.: Comparison of Alternatives for Hot Water Preparation in a Hotel.  
Supervisor: Peráčková, J.
- Bogyaová, L.: Air Conditioning System for a Mushroom Production.  
Supervisor:
- Derzsi, I.: Design of Combined Heating and Cooling System in an Office Building with Utilization of Local Energy Sources.  
Supervisor: Kalús, D.
- Derzsi, T.: Sanitary Installations for a Dwelling House.  
Supervisor: Jánošková, T.
- Durec, Drainage and Rain Systems in a Shopping Center.  
Supervisor: Jánošková, T.
- Dzibela, J.: Air Conditioning in Clean Spaces.  
Supervisor: Székelyová, M.
- Frťalová, M.: Ventilation of an Industrial Hall and Sanitary Rooms in there.  
Supervisor: Kovářová Z.
- Galvánková, M.: Design of a Heat Source, Cooling and Heating System in an Office Building.  
Supervisor: Kalús, D.
- Glosová, V.: Design of a System of Rain and Grey Water Utilization in a Dwelling House.  
Supervisor: Jánošková, T.
- Herda, J.: Design of Combined Heat System for a Basic School.  
Supervisor: Lulkovičová, O.
- Jakub, F.: Design of Low Temperature Heating in a Hotel. Heat Pump Base.  
Supervisor: Petráš, D.
- Jakusová, E.: Design of a Sanitary Installation System for a Dwelling House.  
Supervisor: Tonhauzer, I.
- Kaníková, V.: Design of a Sanitary Installation System for a Semi-Functional Dwelling House  
Supervisor: Peráčková, J.
- Klukán, P.: Calculation and Design of Warm Water System for a School.  
Supervisor:
- Kolenčíková, S.: Human Response to Convective and Radiant Cooling Systems  
Supervisor: Székelyová, M.
- Konečná, M.: Calculation and Design of a Heating System. Geothermal Base.  
Supervisor: Takács, J.
- Koník, M.: Ventilation and Air Conditioning Systems for a Shopping Center.  
Supervisor: Székelyová, M.
- Kovár, J.: Design of a Heat Source for a Dwelling House. Condensation Base.  
Supervisor:
- Kraňanský, V.: Ventilation and Air Conditioning for an Office Building.  
Supervisor: Székelyová, M.

Kruteková, K.: Ventilation System for a Dwelling House.

Supervisor: Šabíková J.

Macháč, M.: Design of a Heat Pump for a Dwelling House.

Supervisor: Fűrri, B.

Matušková, Z.: Calculation and Design of a Warm Water Heating System for a Basic School in Neded.

Supervisor: Takács, J.

Matušovič, T.: Utilization of Waste Heat from Bio – Gas Boiler Room for a Building Heating System.

Supervisor: Kalús, D.

Mečiar, A.: Combined Energy Production for the Utilization in Heating and Cooling Systems for an Office Building.

Supervisor: Fűrri, B.

Medľová, Z.: Ventilation and Air Conditioning for a Part of MAMMACENTRUM Hospital.

Supervisor: Boďo, R.

Ochotnický, A.: Ventilation of BMW Showroom and Car Service in Piešťany Town.

Supervisor: Boďo, R.

Oravec, T.: Air Conditioning in a Gallery.

Supervisor: Székyová, M.

Orihel, P.: Ventilation in an Indoor Swimming Pool and a Canteen in a Hotel.

Supervisor: Boďo, R.

Pavlanský, J.: Design of a Computer Software for an Energy Control in a Laboratory.

Supervisor: Koudelková, D.

Péliová, M.: Calculation and Design of Hot Water Heating System. Pelet Base.

Supervisor: Takács, J.

Popluhárová, A.: Alternatives for Rain Drainage Systems for a Building.

Supervisor: Peráčková, J.

Praženková, A.: Water Delivery System for an Office Building. Rain Utilization Base.

Supervisor: Peráčková, J.

Strenk, Ľ.: Drainage and Rain Water Systems in an Industrial Building.

Supervisor: Jánošková, T.

Tóthová, R.: Heating System for a Semi – Functional Building. Heat Pump Base.

Supervisor: Fűrri, B.

Trenčanová, R.: Design of a Heat Source for a Kinder Garden. Renewable Energy Base.

Supervisor: Lulkovičová, O.

Vaškaninová, M.: Design of a Boiler Room and Installations for a Dwelling. Gas Base.

Supervisor: Peráčková, J.

Volajová, E.: Rain Water Utilization in a Hotel.

Supervisor: Peráčková, J.

## 2.2 Doctoral theses

Krajčík, M.: Thermal Comfort and Ventilation Effectiveness in Low-Energy Buildings with Mechanical Ventilation and Radiant Heating/Cooling System

Supervisor: Petráš, D.

Pustayová, H.: Evaluation of Energy Performance and Thermal Comfort in the Dwelling Buildings in Process of Refurbishment.

Supervisor: Petráš, D.

Skalík, L.: Evaluation of Efficiency of Solar Energy Systems in Dwellings.

Supervisor: Lulkovičová, O.

Kurčová, M.: The Influence of Dwelling Renovation on Hydronics in Heating Systems.

Supervisor: Lulkovičová, O.

Janík, P.: Optimization of Energy Systems with Long Term Heat Accumulation.

Supervisor: Kalús, D.

## 3. RESEARCH

### 3.1 Research projects

Education without Frontiers (2012-2013, Lulkovičová, O.), CEEPUS CIII-AT-0050-08-1213

Energy-Efficient Environmental Technology Systems Utilizing Renewable Energy Sources and Employing Automated Technology for Intelligent Buildings (2011-2013, Petráš, D.), VEGA 1/1052/11

Progressive Solutions for Sanitary Installations and Ventilation Systems in the Creation of an Indoor Environment in Buildings with the Aim of Decreasing the Energy Demands (2011-2013, Peráčková, J.) VEGA 1/0511/11

Competence Centre of Intelligent Technologies for the Electronization and Informatization of Systems and Services (2011-2014, Petráš, D.), ITMS 26240220072

### 3.2 International cooperation

#### Cooperating institutions

Hansa, AG, Burglengenfeld, Germany

Herz, GmbH, Vienna, Austria

Atrea, Jablonec nad Nisou, Czech republic

Geberit, AG, Rottenbrunn, Germany  
 GAS, Ltd, Prague, Czech Republic  
 CVUT – Civil Engineering Faculty, Prague, Czech Republic  
 VUT, Brno, Czech Republic  
 VUT, Ostrava, Czech Republic  
 Deutsche Institute fur Bautechnik, Berlin, Germany  
 Czech Association of Civil Engineers, Prague, Czech Republic  
 ASHRAE, – Society of Heating, Refrigerating and Air Conditioning Engineers  
 Atlanta, Georgia, USA  
 REHVA – Federation of European Heating and Air-Conditioning Associations  
 Brussels, Belgium  
 Fachhochschule, Pinkafeld, Austria  
 The Danish Technical University – International Center for the Indoor  
 Environment and Energy  
 Metropolit UNI, Warsaw, Poland

### Membership in international professional organizations

Petráš, D.: Representative of the Slovak Republic on CEN TC 228 Eurocodes  
 Petráš, D.: Representative of the Slovak Republic on ASHRAE (American  
 Society of Heating,  
 Petráš, D.: Refrigerating and Air Conditioning Engineers) TC – 6.5  
 Petráš, D.: Representative of the Slovak Republic on REHVA (Federation of  
 European Heating and Air-Conditioning Associations)  
 Lulkovičová, O.: Representative of the Slovak Republic on Czecho – Slovak  
 Solar Energy  
 Takács, J.: Representative of the Slovak Republic on Hungarian Chamber  
 Engineers.

## 4. PUBLICATIONS

### Books

Krajčík, Michal: Thermal Comfort and Ventilation Effectiveness in Low Energy  
 Buildings with Mechanical Ventilation and Radiant Heating/Cooling System. –  
 1st. edition – Bratislava: Nakladateľstvo STU, 2013. – p.168 (Queen: Scientific  
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### Parts of books

Petráš, Dušan: Complete Restoration of a Building Stock. In: The Guide of  
 Sustainable Architecture. The Guide of Sustainable Architecture. – Bratislava:  
 Slovak Chamber of Architects, 2013. – ISBN 978-80-971205-1-1. – pp. 106-  
 111 (in Slovak)

Petráš, Dušan: Energy Performance of Buildings and Their Evaluation. In: The  
 Guide of Sustainable Architecture. The Guide of Sustainable Architecture. –  
 Bratislava: Slovenská komora architektov, 2013. – ISBN 978-80-971205-1-1.  
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Petráš, Dušan: The Quality of an Indoor Environment. In: The Guide of  
 Sustainable Architecture. The Guide of Sustainable Architecture. – Bratislava:  
 Slovak Chamber of Architects, 2013. – ISBN 978-80-971205-1-1. – pp. 80-83  
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### Journals

Borisová, Lucia – Földváry, Veronika – Petráš, Dušan: Energy and Environmental  
 Evaluation of Residential Buildings. In: Eurostav. – ISSN 1335-1249. – Vol. 19,  
 Nos. 1-2 (2013), pp. 28-31 (in Slovak)

Borisová, Lucia – Földváry, Veronika – Petráš, Dušan: Energy and Environmental  
 Evaluation of Dwelling Houses. In: Energeticky soběstačné budovy. – ISSN  
 1805-3297. – Vol. 2, No. 3 (2013), pp. 40-44 (in Slovak)

Borisová, Lucia – Petráš, Dušan: Energy Monitoring of a Residential Building  
 Before and After Recovery. In: Správca bytových domov. – ISSN 1336-7919. –  
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Borisová, Lucia – Petráš, Dušan: Measurement and Allocation of Heat  
 Consumption Before and After the Restoration of a Residential Building. In:  
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Bugáň, Jozef – Petráš, Dušan: Assessment of the Thermal Ceiling Heating  
 System in an Office Building. In: Správa budov. – ISSN 1337-6233. – Vol. 7,  
 No. 3 (2013), pp. 54-56 (in Slovak)

Földváry, Veronika – Petráš, Dušan: Energy Intensity and the Thermal State  
 of an Apartment Building Before and After Restoration. In: Správca bytových  
 domov. – ISSN 1336-7919. – Vol. 8, No. 1 (2013), pp. 47-49 (in Slovak)

Földváry, Veronika – Borisová, Lucia – Petráš, Dušan: Energy Needs and  
 the Thermal Condition of Two Dwellings Before and After Renovation. In:  
 REHVA European HVAC Journal. – ISSN 1307-3729. – Vol. 50, No. 5 (2013),  
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 State of Apartment Buildings. In: Magyar Épületgépészet. – ISSN 1215-9913.  
 – Vol. 62, Nos. 1-2 (2013), pp. 35-37 (in Hungarian)

Füri, Belo – Turza, Róbert: Determining the Operating Conditions of Indoor Swim-  
 ming Pools Where Heat is Supplied by Air Heaters. In: Magyar Épületgépészet.  
 – ISSN 1215-9913. – Vol. 62, Nos. 1-2 (2013), pp. 18-20 (in Hungarian)

Jánošková, Tatjana: Fireproof Measures When Installing Healthcare Technology.  
 In: TZB Haustechnik. – ISSN 1210-356X. – Vol. 21, No. 3 (2013), pp. 50-52  
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Jurka, Pavol – Takács, Ján: Optimizing the Utilization of Geothermal Energy  
 in a Thermal Pool. In: TZB Haustechnik. – ISSN 1210-356X. – Vol. 21, No. 4  
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Koudelková, Daniela: Control of the Primary Circuit of Solar Energy Systems.  
 In: Plynár – vodár – kúrenár + klimatizácia. – ISSN 1335-9614. – Vol. 11, No.  
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- Koudelková, Daniela: Optimizing the Operation of the Primary Circuit of Solar Energy Systems by an Automatic Control. In: TZB Haustechnik. – ISSN 1803-4802. – Vol. 6, No. 2 (2013), pp. 36-40 (in Czech)
- Koudelková, Daniela: Power Control of Heat Exchangers in Steam Transfer Stations. In: Plynár – vodár – kúrenár + klimatizácia. – ISSN 1335-9614. – Vol. 11, No. 3 (2013), pp. 6-10 (in Slovak)
- Kovářová, Zuzana: Hygienic and Technical Ventilation. In: Eurostav. – ISSN 1335-1249. – Vol. 19, No. 3 (2013), pp. 36-39 (in Slovak)
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## Patents and Standards

Petráš, D. [processor/creator] – Krajčík, Michal [processor/creator]: Heating Systems in Buildings. Design for Water-Based Heating Systems. – Bratislava: SÚTN, 2013. – p. 63 – translated from English (in Slovak)

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# DEPARTMENT OF ARCHITECTURE

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

History of Architecture and Civil Engineering

History of Architecture and Art 1

Typology 1

Drawing and Composition

Design Studio 1

History of Architecture and Art 2

Design Studio 2

Composition and Colour in Architecture

Typology 2

Typology 3

Bachelor's Work

Urbanism

Renovation of Buildings and Preservation of Monuments 1

Typology 5

Design Studio 4

Urbanism 2

Design Studio 5

History of Architecture and Art 3

Restoration and Preservation of Monuments 2

Design Studio 6

Urbanism 3

Interior Design 1

Design Studio 7

Design Studio 8

Design Studio 9

Special Seminar

Thesis

Design Studio 10

Internship

Excursion

#### Obligatory elective subjects

Drawing and Modelling

Typology 4

Philosophical, Aesthetic and Compositional Principles in Architectural Design

History of Urban and Rural Settlements

History of Drawing and Sketching

#### Optional subjects

Interior Design 2

Landscape Design

Humanization and Revitalization of the Built Environment

### 1.2 Postgraduate courses

Doctoral Degree Study: Theory and Construction of Building Structures

## 2. THESES

### 2.1 Bachelor theses

There were 12 works.

### 2.2 Graduate theses

Kázmer, P.: Multifunctional Sport Centre

Supervisor: Mudrončík, M.

Segiň, P.: Ice-Hockey Stadium

Supervisor: Mudrončík, M.

Hasák, M.: Gallery

Supervisor: Mudrončík, M.

Kalina, M.: Centre of Administration

Supervisor: Mudrončík, M.

Slaninková, A.: Hotel in Mountains

Supervisor: Liščák, J.

Suchár, M.: Social Accommodation in Košeca  
Supervisor: Dohňanská, E.

Kondášová, S.: Cultural Centre in Záhorská Bystrica  
Supervisor: Dohňanská, E.

Prokipčák, J.: Revitalization of Old Brickfield in Modra  
Supervisor: Nádaská, Z.

Onderko, J.: Housing Estate  
Supervisor: Nádaská, Z.

Lejko, M.: Cultural Centre in Bratislava  
Supervisor: Nádaská, Z.

Dubiny, M.: Museum in Nitra  
Supervisor: Húsenicová, J.

Kubačková, A.: Hotel  
Supervisor: Húsenicová, J.

Šutarik, R.: Gallery of Modern Art  
Supervisor: Kuráň, J.

Perknovská, D.: Equestrian Club  
Supervisor: Kuráň, J.

Labudová, A.: College Dormitory  
Supervisor: Kuráň, J.

Mešina, M.: Volkswagen Museum  
Supervisor: Kuráň, J.

Šustek, M.: Kindergarten  
Supervisor: Kuráň, J.

Kováčiková, A.: Cultural – Community Centre in Trenčín  
Supervisor: Kubišová, M.

Sádovský, J.: Hotel in Bratislava  
Supervisor: Kubišová, M.

Banko, T.: Stadium  
Supervisor: Paňák, P.

Řepová, P.: Housing Estate  
Supervisor: Paňák, P.

Urbanová, M.: Winery  
Supervisor: Paňák, P.

Jelínek, M.: Hotel  
Supervisor: Bauer, P.

Svrčková, E.: Gallery of Modern Art  
Supervisor: Bauer, P.

Makuch, L.: City Hall in Bardejov  
Supervisor: Bauer, P.

Pinter, M.: Gallery of Modern Art  
Supervisor: Bauer, P.

Jakubov, M.: River Port of Bratislava  
Supervisor: Borecká, E.

Bokorová, V.: Multifunctional Building  
Supervisor: Borecká, E.

Bestvinová, R.: College Dormitory  
Supervisor: Šimkovičová, V.

Štrbová, L.: Museum of Architecture  
Supervisor: Šimkovičová, V.

Juhásová, A.: Multifunctional Centre in Bratislava  
Supervisor: Šimkovičová, V.

Meňhart, M.: Cable Car Station – Zobor  
Supervisor: Šimkovičová, V.

Bielik, M.: Kindergarten in Sliač  
Supervisor: Šimkovičová, V.

Záhorský, I.: Football Stadium Tribune  
Supervisor: Grandtnerová, A.

## 2.3 Doctoral theses

Guldan, M.: Contribution to the Typology of Winery Buildings  
Supervisor: Húsenicová, J.

Oravcová, K.: Formulation of Marginal Conditions for Choice of Roof Types of Protected Castles in Ruins  
Supervisor: Húsenicová, J.

Bízík, L.: Reconstruction and Revitalization of the Architecture of the First Half of the 20<sup>th</sup> Century in Bratislava  
Supervisor: Mudrončík, M.

## 3. RESEARCH

### 3.1 International cooperation

#### Cooperating institutions

VŠB-TU Ostrava, Faculty of Civil Engineering, Czech Republic

ČVUT-Czech Technical University in Prague, Faculty of Civil Engineering, Czech Republic

## 4. PUBLICATIONS

### Journals

Guldan, Martin – Oravcová, Katarína: *Alternative Building Materials*. In: *Stavebníctvo a bývanie*. – ISSN 1336-0191. – Vol.15, Mar. 2013 (2013), pp. 100-102 (in Slovak)

Guldan, Martin – Oravcová, Katarína: *Houses and Buildings without Barriers*. In: *Stavebníctvo a bývanie*. – ISSN 1336-0191. – Vol.15, Dec. 2012/Jan.2013 (2013), pp. 97-98 (in Slovak)

Oravcová, Katarína – Guldan, Martin: *Clay – Rediscovered Material*. In: *Stavebníctvo a bývanie*. – ISSN 1336-0191. – Vol.15, Nov. 2013 (2013), pp. 100-101 (in Slovak)

### Conference Proceedings

Bauer, Peter – Vargová, Kristína: *Construction for the Development of Countryside Residences*. In: *Rural Buildings in European Regions [electronic source] : Proceedings of scientific works*. Nitra, SR, 18.-20.9.2013. – Nitra : Slovak Agricultural University in Nitra, 2013. – ISBN 978-80-552-1071-1. – pp. 10-13 (in Slovak)

Bízík, Lubomír: *How to Protect Industrial Buildings?* In: *Juniorstav 2013 [electronic source] : 15th Conference of Doctoral Studies*. Brno University of Technology, Brno, 7.2.2013. – ISBN 978-80-214-4670-0 in Slovak)

Dohňanská, Elena – Ondrejka, Marek: *Slovak Regional Architecture and Its Possibilities for Creating New Job Opportunities in Rural Areas*. In: *Rural Buildings in European Regions [electronic source] Proceedings of scientific works*. Nitra, SR, 18.-20.9.2013. – Nitra : Slovak Agricultural University in Nitra, 2013. – ISBN 978-80-552-1071-1. – pp. 1-4 (in Slovak)

Dohňanská, Elena – Szántová, Gabriela: *The Optimization of the Environment of Psychiatric Hospitals*. In: *Rural Buildings in European Regions [electronic source] : Proceedings of scientific works*. Nitra, SR, 18.-20.9.2013. – Nitra : Slovak Agricultural University in Nitra, 2013. – ISBN 978-80-552-1071-1. – pp. 18-24 (in Slovak)

Guldan, Martin: *Space and Technology Requirements of Wineries*. In: *Juniorstav 2013 [electronic source] : 15th Conference of Doctoral Studies*. Brno University of Technology, Brno, 7.2.2013. – ISBN 978-80-214-4670-0 (in Slovak)

Húsenicová, Jarmila: *Contribution to Sustainable Regional Identity of Countryside Settlements*. In: *Rural Buildings in European Regions [electronic source] : Proceedings of scientific works*. Nitra, SR, 18.-20.9.2013. – Nitra : Slovak Agricultural University in Nitra, 2013. – ISBN 978-80-552-1071-1. – pp. 5-9 (in Slovak)

Sivoň, Peter: *Adaptation of Traditional Architectural Morphology for Current Construction of Residential Dwellings*. In: *Juniorstav 2013 [electronic source] : 15th Conference of Doctoral Studies*. Brno University of Technology, Brno, 7.2.2013. – ISBN 978-80-214-4670-0 (in Slovak)

Sivoň, Peter: *Traditional Architectural Morphology as an Inspiration for Modern Architecture*. In: *Rural Buildings in European Regions [electronic source] : Proceedings of scientific works*. Nitra, SR, 18.-20.9.2013. – Nitra : Slovak Agricultural University in Nitra, 2013. – ISBN 978-80-552-1071-1. – pp. 25-30 (in Slovak)

Šimko, Peter: *Young People's Requirements for Starting Flats*. In: *Juniorstav 2013 [electronic source] : 15th Conference of Doctoral Studies*. Brno University of Technology, Brno, 7.2.2013. – ISBN 978-80-214-4670-0 (in Slovak)

Šimko, Peter: *Social Housing – The Exact Term or Not ?* In: *Juniorstav 2013 [electronic source] : 15th Conference of Doctoral Studies*, Brno University of Technology, Brno, 7.2.2013. – ISBN 978-80-214-4670-0 (in Slovak)

Vargová, Kristína: *Farm Space, Taking into Account Enrichment and Welfare*. In: *Rural Buildings in European Regions [electronic source] : Proceedings of scientific works*. Nitra, SR, 18.-20.9.2013. – Nitra : Slovak Agricultural University in Nitra, 2013. – ISBN 978-80-552-1071-1. – pp. 14-17 (in Slovak)

Vargová, Kristína: *Hotel Form of Accommodation that is also Friendly to Animals*. In: *Juniorstav 2013 [electronic source] : 15th Conference of Doctoral Studies*. Brno University of Technology, Brno, 7.2.2013. – ISBN 978-80-214-4670-0 (in Slovak)

Wirthová, Petra: *Typological and Structural Aspects of Cycling Equipment in Extra Regions*. In: *Juniorstav 2013 [electronic source] : 15th Conference of Doctoral Studies*, Brno University of Technology, Brno, 7.2.2013. – ISBN 978-80-214-4670-0 (in Slovak)

## 5. ACTIVITY IN THE FIELD OF ART

Řehák, I.: *World Money Fair, Berlin, 2013 Collector's 100 € Gold Coin, Prince Pribina from Nitra, One of Top 10 Golden Coins*.

Řehák, I.: *Collector's Silver Coin: 450th Anniversary of the Coronation of Emperor Maximilian II. Habsburg for Hungarian King in Bratislava 2. Prize in competition, sponsored by Slovak National Bank*

Řehák, I.: *Collector's Silver Coin: Royal City of Prague, Prague Mint*

Řehák, I.: *Collector's Silver Coin: 150th Anniversary of the Birth of Jozef Murgaš 1. Prize in competition, sponsored by Slovak National Bank*

Pribiš, M.: *Competition for Memorial of St. Cyrus, St. Methodius and St. Gorazd in Bratislava*

Pribiš, M.: *Design of Logo of University in Žilina*

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# INSTITUTE OF FORENSIC ENGINEERING

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## 1. EDUCATION

### 1.1 Graduate study

#### Optional subjects

Bases of Legal Expertise

Real Estate Valuation

### 1.2 Postgraduate courses

Specialized courses for experts in the Building Industry field

Specialized courses concerning the performance method of expert activities

Specialized courses on "Improvement of Experts"

Road safety audit

## 3. RESEARCH

### 3.1 Research projects

Building Foundations for Interdisciplinary Transfer of Research Results of Architectural Heritage. (2011-2013, Kráľová, E., Faculty of Architecture) Grant project KEGA No. 064STU-4/2011

### 3.2 International cooperation

#### Cooperating institutions

VUT Brno, Czech Republic,

VŠB Ostrava, Czech Republic

## 4. PUBLICATIONS

#### Parts of books

Nič, M. – Bób, J.: Property tax. In.: Hofbauer, G.: Challenges, Research and Perspectives. 2013, p. 251- 265. Günter Hofbauer – Berlin: uni-edition, 2013. ISBN 978-3-944072-20-3.

#### Journals

Nič, M.; Sojková, V.: Documentations of Building Research by Photogrammetry. In.: VISNIK Nacionalnoho Universitetu Lvivskaja Politechnika No. 756, Lvov 2013 ISSN 0321-0499, p. 176-184.

Hornánský, I.; Sojková, V.: Information Provided by Land Register. In: Almanach znalca, ISSN 1336-3174. – Vol.12, No. 1(2012), pp. 14-17 (in Slovak)

#### Conference Proceedings

Nič, M.: SITE DIARY – An Essential Document of a Quality of Construction. In.: Proceedings of reviewed papers of Conference: Testing and Quality in Building Constructions 2013. VUT Brno. p. 347 – 355. ISBN 978-80-214-4777-6.

Fridrich, J, Kubečka, K., Vlček, P, Nič, M., Vodičková, M., Vaculíková, H.: BIM and its Implementation in Fire Risk Area. In: Proceedings of 3rd International Conference. Ostrava. 2013, ČR, VŠB University of Technology Ostrava. 07.-08.11.2012, s. 55-61. ISBN 978-80-248-3235-7.

Sojková, V.; Nič, M.; Fraštia, M.: Photogrammetry as an Effective Tool for an Actual Building Execution. In: ExFos 2013 : XXII. International Conference of Forensic Experts 2013. Brno, ČR: VUT Brno, Intitute of Forensic Experts, 2013, p. 453-460. ISBN 978-80-214-4675-5.

Nič, M., Kubečka, K., Vlček, P., Vaculíková, H.: Application of risk analysis by the evaluation of buildings indoor environment. In: enviBUILD Buildings and environment 2013 [electronic source] : Proceedings of International Scientific Conference, 17.10.2013, Bratislava: STU Publishing, 2013, p. 513-516. ISBN 978-80-227-4070-8.

Nič, M., Nováčiková, J.: Quality Management of External Thermal Insulation Envelope of Buildings. In: enviBUILD Buildings and environment 2013 [electronic source] : Proceedings of International Scientific Conference, 17.10.2013, Bratislava: STU Publishing, 2013, p. 399-405. ISBN 978-80-227-4070-8.

Kubečka, K., Vlček, P., Nič, M.: Instruments for Risk Analysis as an Alternative Decision-Making Method in the Forensic Sciences. In enviBUILD Buildings and environment 2013 [electronic source] : Proceedings of International Scientific Conference, 17.10.2013, Bratislava: STU Publishing, 2013, p. 501-504. ISBN 978-80-227-4070-8.

Kubečka, K., Vlček, P., Vaculíková, H., Sojková, V., Kubečková, D.: Risk Analysis of Asbestos Structures and their Impact on the Internal Environment of Buildings. In enviBUILD Buildings and environment 2013 [electronic source] : Proceedings of International Scientific Conference, 17.10.2013, Bratislava: STU Publishing, 2013, p. 517-520. ISBN 978-80-227-4070-8.

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# DEPARTMENT OF LANGUAGES

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

English

German

### 1.2 Postgraduate courses

Ph.D. courses in advanced English

## 2. RESEARCH

### 2.1 International cooperation

#### Cooperating institutions

British Council, Bratislava, Slovakia

Institute of Technology, Tralee, Ireland

### 2.2 Educational Project

Life Long Learning Programm

Vocationally Oriented Culture and Language in the Medical Emergency Sector  
2014-2014

(ŠPILDOVÁ, D.), VOCAL – Medical LLP/LdV/TOI/2013/IRL-506

## 3. PUBLICATIONS

### Journals

Filipoiu, Tatiana: Auld Lang Syne. In: *Friendship*. – ISSN 1335-2709. – Vol. 47, Nos. 4-5 (2013), p. 2 (in English)

Filipoiu, Tatiana: Hyde Park. In: *Friendship*. – ISSN 1335-2709. – Vol. 47, No. 3 (2013), p. 2 (in English)

Filipoiu, Tatiana: The Bishop Gore School. In: *Friendship*. – ISSN 1335-2709. – Vol. 47, Nos. 1-2 (2013), p. 33 (in English)

Filipoiu, Tatiana: Monticello. In: *Friendship*. – ISSN 1335-2709. – Vol. 46, No. 6 (2013), p. 17 (in English)

Filipoiu, Tatiana: The Crazy Horse Memorial. In: *Friendship*. – ISSN 1335-2709. – Vol. 46, No. 8 (2013), p. 1 (in English)

Filipoiu, Tatiana: The National Cowboy & Western Heritage Museum. In: *Friendship*. – ISSN 1335-2709. – Vol. 46, Nos. 9-10 (2013), p. 2 (in English)

Filipoiu, Tatiana: When you Succeed, Your Teacher Gets Paid More. What?!? In: *Friendship*. – ISSN 1335-2709. – Vol. 46, No. 7 (2013), p. 14 (in English)

Gambrill, Debra: How the Grinch Stole Christmas. In: *Friendship*. – ISSN 1335-2709. – Vol. 47, Nos. 4-5 (2013), p. 26-27 (in English)

Gambrill, Debra: Boys in School: Problems and Solutions. In: *Friendship*. – ISSN 1335-2709. – Vol. 46, Nos. 9-10 (2013), p. 25 (in English)

Něničková, Janka: Down Under. In: *Friendship*. – ISSN 1335-2709. – Vol. 47, Nos. 4-5 (2013), pp. 24-25 (in English)

Něničková, Janka: English Idioms – What is an idiom? In: *Friendship*. – ISSN 1335-2709. – Vol. 47, Nos. 1-2 (2013), p. 19 (in English)

Něničková, Janka: English Idioms – What is an Idiom? In: *Friendship*. – ISSN 1335-2709. – Vol. 47, No. 3 (2013), p. 13 (in English)

Něničková, Janka: Food Idioms. In: *Friendship*. – ISSN 1335-2709. – Vol. 47, Nos. 4-5 (2013), p. 13 (in English)

Něničková, Janka: Christmas and New Year's Superstitions in England. In: *Friendship*. – ISSN 1335-2709. – Vol. 47, Nos. 4-5 (2013), p. 20 (in English)

Něničková, Janka: O.Henry The Gift of the Magi. In: *Friendship*. – ISSN 1335-2709. – Vol. 47, Nos. 4-5 (2013), pp. 4-5 (in English)

Něničková, Janka: Poweriser Jumping Stilts – Activities In: *Friendship*. – ISSN 1335-2709. – Vol. 47, Nos. 1-2 (2013), p. 8 (in English)

Něničková, Janka: Pygmalion. In: *Friendship*. – ISSN 1335-2709. – Vol. 47, No. 3 (2013), pp. 4-5 (in English)

Něničková, Janka: Queen Mary's Gardens. In: *Friendship*. – ISSN 1335-2709. – Vol. 47, No. 3 (2013), p. 18 (in English)

Něničková, Janka: Royal Exhibition Building. In: *Friendship*. – ISSN 1335-2709. – Vol. 47, Nos. 1-2 (2013), p. 2 (in English)



- Něničková, Janka: The Forth Road Bridge. In: Friendship. – ISSN 1335-2709. – Vol. 47, Nos. 1-2 (2013), p. 34 (in English)
- Něničková, Janka: The Inventor of Earmuffs. In: Friendship. – ISSN 1335-2709. – Vol. 47, Nos. 4-5 (2013), p. 19 (in English)
- Něničková, Janka: The Old Man and The Sea. In: Friendship. – ISSN 1335-2709. – Vol. 47, Nos. 1-2 (2013), pp. 4-5 (in English)
- Něničková, Janka: The Stranger. In: Friendship. – ISSN 1335-2709. – Vol. 47, Nos. 1-2 (2013), p. 14 (in English)
- Něničková, Janka: Britain's Smallest House. In: Friendship. – ISSN 1335-2709. – Vol. 46, Nos. 9-10 (2013), p. 33 (in English)
- Něničková, Janka: Embankment Lions or When the Lions Drink, London is in Danger. In: Friendship. – ISSN 1335-2709. – Vol. 46, No. 7 (2013), p. 2 (in English)
- Něničková, Janka: George Washington and Abraham Lincoln's Birthplaces. In: Friendship. – ISSN 1335-2709. – Vol. 46, No. 6 (2013), p. 2 (in English)
- Něničková, Janka: Henry Ford's Time. In: Friendship. – ISSN 1335-2709. – Vol. 46, Nos. 9-10 (2013), p. 9 (in English)
- Něničková, Janka: Ingenious \$400 Million Plan: How to Deal with the Wrecked Costa Concordia. In: Friendship. – ISSN 1335-2709. – Vol. 46, Nos. 9-10 (2013), pp. 28-29 (in English)
- Něničková, Janka: Mount Vernon Estate and Gardens. In: Friendship. – ISSN 1335-2709. – Vol. 46, No. 6 (2013), p. 18 (in English)
- Něničková, Janka: Thames Barrier at Woolwich Reach. In: Friendship. – ISSN 1335-2709. – Vol. 46, No. 8 (2013), p. 18 (in English)
- Něničková, Janka: Winchester Mystery House. In: Friendship. – ISSN 1335-2709. – Vol. 46, Nos. 9-10 (2013), p. 34 (in English)
- Něničková, Janka: Welcome to Christmas Town, USA. In: Friendship. – ISSN 1335-2709. – Vol. 46, Nos. 4-5 (2013), p. 23 (in English)
- Něničková, Janka: Christmas Traditions. In: Friendship. – ISSN 1335-2709. – Vol. 46, Nos. 4-5 (2013), p. 25 (in English)
- Něničková, Janka: Prison versus Work. In: Friendship. – ISSN 1335-2709. – Vol. 46, Nos. 4-5 (2013), p. 28 (in English)
- Špildová, Dagmar: Ecology and the Environment. In: Friendship. – ISSN 1335-2709. – Vol. 47, Nos. 1-2 (2013), p. 9 (in English)
- Špildová, Dagmar: Christmas Gifts. In: Friendship. – ISSN 1335-2709. – Vol. 47, Nos. 4-5 (2013), p. 9 (in English)
- Špildová, Dagmar: Exam – A Few Hints on How to be Successful. In: Friendship. – ISSN 1335-2709. – Vol. 46, Nos. 9-10 (2013), p. 7 (in English)
- Špildová, Dagmar: It's April, Let's Have Fun. In: Friendship. – ISSN 1335-2709. – Vol. 46, No. 8 (2013), p. 9 (in English)
- Špildová, Dagmar: No Borders for Love. In: Friendship. – ISSN 1335-2709. – Vol. 46, No. 6 (2013), p. 9 (in English)
- Špildová, Dagmar: What Will You Have for Breakfast? In: Friendship. – ISSN 1335-2709. – Vol. 46, No. 7 (2013), p. 9 (in English)
- Špildová, Dagmar: Protection of the Environment – Empty Words? In: Friendship. – ISSN 1335-2709. – Vol. 47, No. 3 (2013), p. 9 (in English)
- Hoboth Kralina, Katalin: The Usage of Professional Language and Knowledge of Terminology of Bilingual Students. In: Félúton 8. [elektronický zdroj] : ELTE BTK Nyelvtudományi Doktori Iskola konferenciája. Budapest, Hungary, 11.-12.10.2012. Budapest: ELTE BTK Nyelvtudományi Doktori Iskola, 2013, pp. 103--117 (in Hungarian)
- Hoboth Kralina, Katalin: Contrastive Aspects in Native Language Education and in the Teaching of Orthography. In: Szolidaritás és párbeszéd a nemzedékek között [elektronický zdroj] : XVI. Apáczai-napok Tudományos Konferencia. Győr, Hungary, 26.10.2012. Nyugat-magyarországi Egyetem, 2013, p. 48--55. ISBN 978-963-7287-28-2 (in Hungarian)
- Hoboth Kralina, Katalin: The Usage of Professional Language and Knowledge of Terminology of Textbooks and Their Translations: Quality and Defective Translations (Hungarian) of Textbooks. In: Vzdelávanie, globalizácia a regionálny rozvoj : Medzinárodný nekonferenčný recenzovaný zborník. Trenčín: Trenčianska univerzita Alexandra Dubčeka v Trenčíne, 2013, pp. 65-70. ISBN 978-80-8075-618-5.
- Filipoiu, Tatiana: Foreign Language Teaching, Globalisation and Multilingual Communication. In: Vzdelávanie, globalizácia a regionálny rozvoj : Medzinárodný nekonferenčný recenzovaný zborník. Trenčín: Trenčianska univerzita Alexandra Dubčeka v Trenčíne, 2013, pp. 27-32. ISBN 978-80-8075-618-5.

## Conference Editing

### Proceedings

Gambrill, D.: Annual Report 2012

Gambrill,, D.: Journal of Civil Engineering

Volume XXI

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2013/2

2013/3

2013/4

## Conferences

Kralina Hoboth, K.: Language for Specific Purposes and Terminology in Monolingual and Bilingual Environments, Nitra, 13.2.2013, Constantine The Philosopher University in Nitra, Faculty of Central European Studies (in Hungarian), international conference for PhD students

Kralina Hoboth, K.: Interference Phenomena in Textbooks Used in Civil Engineering Secondary Schools Using Hungarian as a Language of Instruction in Slovakia, Nitra, 26–27.4.2013, Constantine The Philosopher University in Nitra, Faculty of Central European Studies, (in Hungarian), international conference

Kralina Hoboth, K.: Languages for Specific Purposes and Their Teaching in a Bilingual Environment International conference: 17th APÁCZAI-NAPOK nemzetközi tudományos konferencia, 25.10.2013, Győr, Hungary, Nyugat-magyarországi Egyetem, Apáczai Csere János Kar (University of West Hungary, Apáczai Csere János Faculty), (in Hungarian)

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# DEPARTMENT OF PHYSICAL EDUCATION

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Optional Subjects

Aerobics

Basketball

Swimming

Volleyball

Football

Skiing

Bodybuilding

Water Sports /Kayaking, Canoeing/

Tennis

Squash

Floorball

Hiking

Aquagymnastics

#### Recommended subjects

swimming courses

skiing courses

white water rafting

cross-country skiing

physical fitness exercises

cardio-vascular fitness

## 2. RESEARCH

### Cooperation

The Faculty of Physical Education and Sports, Comenius University, Bratislava,  
Slovakia

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# DEPARTMENT OF HUMANE SCIENCES

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Construction and Commercial Law

Construction and Land Law

Entrepreneurship Law

Environmentalism

Geoecology

History of Civil Engineering

History of Civil Engineering & Surveying

Land Law

Macroeconomics

Philosophy

Political Science

Public Administration

Sociology

Optional subjects

Commercial Law

Construction Law

Engineering Ethics

Environmental Law

Globalization

Sociology

## 2. RESEARCH

### 2.1. Research Projects

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## 3. INTERNATIONAL COOPERATION

### Cooperating institutions

Czech Technical University, Prague, Czech Republic

TSTU – Tambov State Technical University

## 4. PUBLICATIONS

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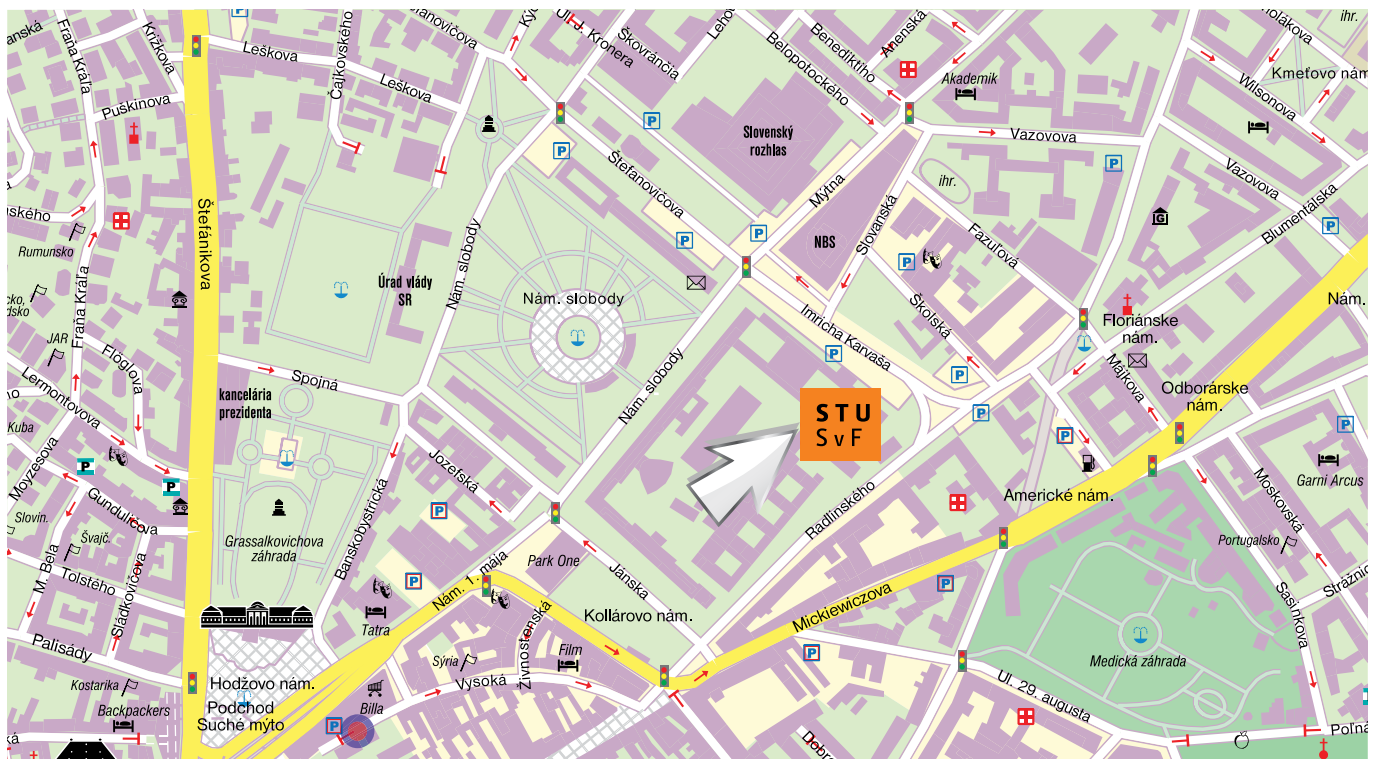
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