



# ANNUAL REPORT

2015



SLOVAK UNIVERSITY OF  
TECHNOLOGY IN BRATISLAVA  
FACULTY OF CIVIL ENGINEERING

# 2015

# ANNUAL REPORT

of the Faculty of Civil Engineering

Bratislava

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# INTRODUCTION

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The activities of the Faculty are governed by Act No. 131/2002 Coll., on universities and other principal documents of the Faculty and University, including the Long-Term Development Goals of the Faculty.

In accordance with the Bologna Declaration, **the studies** at the Faculty of Civil Engineering have three levels that implement the credit system for assessments. The instruction is 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. After completing the process of complex accreditation, instruction in the winter semester 2015/2016 was provided according to the new structure of the study programs: 8 at the bachelor level, 11 at the engineering level and 9 at the doctoral level.

In the admissions process of students for bachelor studies, the entrance examination has been omitted since the academic year 2012/13. In addition, the Faculty of Civil Engineering organized a second round of the entrance examinations for bachelor and engineering studies in the assessed year. In spite of this fact, we again noticed a slight decline in students enrolled in the first year of the bachelor as well as the engineering studies. The number of graduates at the bachelor and engineering levels declined; the number of graduates at the doctoral level increased. The percentage of students who successfully completed the last year of the bachelor and engineering levels remained balanced with 60% at the bachelor and 85% at the engineering level.

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 the commercial sector and who receive numerous awards. We managed to increase the number of students who went to study abroad, but the number of foreign students at the FCE is consistently low (3% 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 applies various tools to monitor the teaching process. The Faculty regularly organizes an anonymous evaluation of the teaching process by the students. In the previous semester 50% of the students took part in this anonymous survey. We require the lecturers to consider this information and respond to the students by an email sent to all of them. The students said they appreciated this activity at several meetings. They also appreciated the prepared posters for the exhibition of their dissertations and inspections at their classes (a total of 243 this academic year).

In compliance with the provisions of the Act on Higher Education, creative scientific and research work is an integral

part of the university's educational 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 predicted European and world trends in civil engineering and geodesy. The bodies of the Faculty have discussed, and the Scientific Board has 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, modelling 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, optimization of planning, 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, through their employees and partners, has taken an active part in the creation of a transnational concept and state scientific policy – The Strategy of Research, Development and Innovations (RIS3). They have striven to incorporate the key issues of civil engineering and water management in the conceptual materials which are being prepared. The Faculty constantly strives to disseminate information to the practice concerning the creation and updating of international, European and domestic norms, as well as the realization of tasks requested by companies or institutions.

In 2015, research teams of the Faculty submitted a total of 65 new projects. The Faculty has been working on 67 projects – out of that number, 39 were VEGA, 12 APVV, and one grant project from the Ministry of Culture. The total amount of funding from the national budget for these projects was 1 million Euros.

Within the framework of **the Operational Research and Development Program**, the Faculty is involved in a number of university projects aimed at the field of diagnostics of deformations of the Earth's surface in Slovakia by the application of satellites, gravimetric and tropospheric measurements, the development of methods for the excavation of high-volume energy wells, the development of accumulative vacuum tanks, and the creation and development of environmental technologies in the flood protection of settlements in the region of the Small Carpathians. Projects are also aimed at the development of integration systems for the simulation of drain processes, the applied research of methods for the determination of climate and hydrological design variables, and the development of intel-

ligent technologies for the use of electronics and computation in the systems and services of constructions. The Faculty devoted a large part of the year to the realization of tasks of the University Scientific Park and other projects funded from the Structural Funds (SF); it received more than 7.5 million Euros for construction works and laboratory equipment.

The Presidium of the Faculty, along with the Scientific Board of the Faculty, has recommended diversifying the Faculty's 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).

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 favourable conditions for creative work, including publishing work.

Due to the activities of its employees, FCE, STU is currently participating in all the significant EU programs, including TEMPUS, SOCRATES, and ERASMUS+, but we also have to mention other international activities, especially the CEEPUS II program and bilateral programs based on our employees' contacts with foreign partner universities. A total of 28 research and educational projects within various forms of EU framework programs were submitted in 2015. In 2015, the Faculty obtained 200,000 Euros for international projects and projects of the State Fund.

The Faculty has to vigorously 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 graduates' 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 the care of its employees.

In the previous year the Presidium of the Faculty continued in its effort to improve not only the teaching process but also the standard services provided to the students. As a result, many classrooms were renovated and equipped with data projectors, and the network's infrastructure was upgraded. The students can also consult on a daily basis with the professionals from the Centre 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.

The arrangement of specialized zones in the library for notebooks to be connected to the Internet has enhanced the ca-

capacity of the reading room and the comfort of its users. This has resulted in higher attendance at the Library and Information Centre of the FCE, STU, with students spending longer periods of time there on average. The modernization of the library and its higher quality services has had a positive impact on attendance in the library's reading room, which steadily increases every year. There was a continuing trend of increased attendance in 2015 as well, and the number of visitors has reached more than 68,000 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 centre for education and the meaningful use of free time during breaks between classes.

From the point of view of investment activities in the year 2015, the Faculty is aiming at completing the reconstruction of the manor house in Kočovce as well as basic repair work and maintenance of the premises of the FCE.

The manor house in Kočovce belongs among the protected monuments registered on the Central List of the Monumental Fund of the SR under No. 1234/1-2. The manor house in Kočovce is used as an instruction and training facility for the Faculty of Civil Engineering of the STU in Bratislava. As its latest reconstruction was realized in the 1970s, the manor house is exhibiting a number of significant defects. Reconstruction of the manor house is a part of an approved project of OPVaV with the title of "Complex modernization of educational, tangible and information-communicational infrastructure CAMPUS – Bottova II. and reconstruction of the Kočovce instruction and training facility," which is being realized in cooperation with the Faculty of Material Engineering of STU in Trnava. The ongoing restoration of the windows and the interior of the manor house will cost 554,000 Euros.

The above-mentioned activities represent just a small part of the measures aimed at a common effort of improving the standard of our pedagogical and research infrastructure and improving the quality of 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 activities. 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, not only in the Faculty's pedagogy, but also by focusing on international cooperation.

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# BODIES OF THE FACULTY

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## 1. THE DEAN OF THE FACULTY

Prof. Ing. Stanislav Unčík, PhD.

## 2. PRESIDIUM OF THE FACULTY

Prof. Ing. Stanislav Unčík, PhD.

Prof. Ing. Ján Szolgay, PhD.

Assoc. Prof. Ing. Peter Makýš, PhD.

Prof. Ing. Vladimír Benko, PhD.

Prof. Ing. Boris Bielek, PhD.

Ing. Tomáš Šatura

Assoc. Prof. Ing. arch. Jarmila Húsenicová, PhD.

Petra Danišová/Michal Karpel

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. Stanislav Unčík, PhD.

Prof. Ing. Ján Szolgay, PhD.

Assoc. Prof. Ing. Peter Makýš, PhD.

Prof. Ing. Vladimír Benko, PhD.

Ing. Peter Kyrinovič, PhD.

Ing. Tomáš Šatura

Assoc. Prof. Ing. arch. Jarmila Húsenicová, PhD.

Petra Danišová/Michal Karpel

Ing. Miloslav Štujber

Prof. Ing. Juraj Bilčík, PhD.

Ing. Tibor Schlosser, 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
Prof. Ing. Alojz Kopáčik, 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. Boris Bielek, PhD.	– Head of Department of Building Construction
Prof. Ing. Ján Brodniansky, PhD.	– Head of Department of Steel and Timber Structures
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
Ing. Alena Struhárová, PhD.	– Head of Department of Material Engineering
Prof. Ing. Jozef Gašparík, PhD.	– Head of Department of Building Technology
doc. RNDr. Ivona Škultétyová, PhD.	– Head of Department of Sanitary and Environmental Engineering
Prof. Ing. Dušan Petráš, PhD.	– Head of Department of Building Services
PhDr. Dagmar Špildová	– Head of Department of Languages
Mgr. Zuzana Híkl	– Head of Department of Physical Education
JUDr. Janka Zajacová, PhD.	– Head of Department of Humanities
Assoc. Prof. Ing. arch. Jarmila Húsenicová, PhD.	– Head of Department of Architecture
Assoc. Prof. Ing. Zora Petráková, PhD.	– Head of Institute of Forensic Engineering

## 4. SCIENTIFIC BOARD OF THE FACULTY

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

<b>Chair man:</b>	Prof. Ing. Stanislav Unčík, PhD.
<b>Vice-Chair man:</b>	Prof. Ing. Ján Szolgay, PhD.

Prof. Ing. Ivan Baláž, PhD., Department of Steel and Timber Structures  
 Prof. prof. Ing. Vladimír Benko, PhD., Vice-Dean for Public Relations  
 Prof. Ing. Jaroslav Halvonik, PhD., Department of Concrete Structures and Bridges  
 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  
 Assoc. Prof. Štefan Stanko, 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. Boris Bielek, PhD., Department of Building Structures

Prof. Ing. Norbert Jendželovský, PhD., Department of Structural Mechanics

Prof. Ing. Milan Sokol, PhD., Department of Structural Mechanics

Prof. Ing. Andrej Šoltész, PhD., Department of Hydraulic Engineering

Prof. Ing. Emília Bednárová, PhD., Department of Geotechnics

Assoc. Prof. Ing. Arch. Ľubica Vítková, PhD., Dean of the Faculty of Architecture, SUT

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

Prof. Ing. Ján Čelko, PhD., Faculty of Civil Engineering, University of Žilina

Assoc. Prof. Ing. Peter Černík, PhD., STRABAG Development Slovakia, Ltd.

Assoc. Prof. RNDr. Ján Feranec, DrSc., Geographical Institute SAS Bratislava

Prof. Ing. Mária Kozlovská, PhD., Faculty of Civil Engineering, Technical University of Košice

Ing. Peter Matiašovský, CSc., Institute of Construction and Architecture SAS Bratislava

Prof. RNDr. Daniel Ševčovič, CSc., Faculty of Mathematics, Physics and Informatics, Comenius University Bratislava

Assoc. Prof. Ing. Peter Halaj, CSc., The Faculty of Horticulture and Landscape Engineering, Slovak University of Agriculture in Nitra

RNDr. Pavla Pekárová, DrSc., Slovak Academy Of Sciences, Bratislava

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

The Scientific Board consists of the representatives of the following entities:

Dean of the Faculty of Civil Engineering, Czech University in Prague

Dean of the Faculty of Civil Engineering, Brno University of Technology

Dean of the Faculty of Civil Engineering, Technical University Ostrava

Dean of the Faculty of Civil Engineering, University of Žilina

Dean of the Faculty of Civil Engineering, Technical University of Košice

Dean of the Faculty of Architecture, STU Bratislava

Chairman, Bureau of Geodesy, Cartography and Cadaster of the SR

President of the Slovak Association of Construction Entrepreneurs

Chairman of the Slovak Chamber of Civil Engineers

Chairman of the Directorate of the Chamber of Surveyors and Cartographers

President of the Slovak Chamber of Architects

**The honorable members in the year 2015 were:**

Prof. Ing. Alena Kohoutková, CSc., Dean of the Faculty of Civil Engineering ČVUT Prague,  
Prof. Ing. Rostislav Drochytka, CSc., Dean of the Faculty of Civil Engineering VUT Brno,  
Prof. Ing. Radim Čajka, CSc., Dean of the Faculty of Civil Engineering VŠB TU Ostrava,  
Prof. Ing. Josef Vičan, CSc., Dean of the Faculty of Civil Engineering ŽU Žilina,  
Prof. Ing. Vincent Kvočák, PhD., Dean of the Faculty of Civil Engineering TU Košice,  
Ing. Mária Frindrichová, Head of the Geodesy, Cartography and Cadastre Authority of the Slovak Republic,  
Ing. Zsolt Lukáč, President of the Association of Construction Entrepreneurs in Slovakia,  
Ing. Ján Hardoš, Chairman of the Board of the Chamber of Surveyors and Cartographers,  
Ing. arch. Imrich Pleidel, Chairman of the Slovak Chamber of Architects,  
Prof. Ing. Vladimír Benko, PhD., Chairman of the Slovak Chamber of Civil Engineers (he is also a regular member of the Scientific Board).

**5. THE FACULTY'S ACADEMIC SENATE**

After the election procedure and the approval of its results, the Academic Senate of the Faculty was appointed for the period from 2015 to 2019 at the session of the AS of the Faculty on 27.3.2015. The presiding officers were elected at this session, and the members were delegated their functions on the following working committees:

**Presiding Officers:**

Assoc. Prof. Ing. arch. Jarmila Húsenicová, PhD.

JUDr. Jana Zajacová , PhD.

Prof. RNDr. Radko Mesiar, DrSc.

Prof. Ing. Ľudovít Fillo, PhD.

Petra Danišová

Bc. Kristína Vaňová

**The Academic Senate Member**

Assoc.Prof. Ing. Ľudovít Možiešik, PhD.

Assoc. Prof. Ing. Ladislav Husár, PhD.

prof. Ing. Ivan Baláž, PhD.

Ing. Mária Kurčová, PhD.

Ing. Alena Struhárová, PhD.

Ing. Peter Buday, PhD.

Monika Pračková

Ondrej Bruncko

Jozef Kováč

Assoc.Prof Ing. Ľuboš Hruštinec, PhD.

Mgr. Tatiana Filipoiu  
Ing. Marek Fraštia, PhD.  
Assoc.Prof. RNDr. Ivona Škultétyová, PhD.  
Bc. Monika Csehová  
Bc. Matúš Mlynarčík  
Assoc. Prof. Ing. Naďa Antošová, PhD.  
Prof. Ing. Silvia Kohnová, PhD.  
Mgr. Zita Herzánová  
Bc. Anna Kosíková  
Andrea Dobiašová  
Assoc.Prof. Ing. Gabriela Pavlendová, PhD.  
Assoc.Prof. Ing. Katarína Bačová, PhD.  
Assoc. Prof. Ing. Oľga Ivánková, PhD.  
Ing. Ján Karel, PhD.  
Bc. Maroš Kamenský  
Barbora Junasová

## 6. THE INDUSTRY BOARD

The Industry Board is the Dean's advisory body that consists mainly of leaders of the most significant companies and organisations in the fields of civil engineering and geodesy and cartography in Slovakia. Its sessions are held twice a year in the spring and autumn, and it comments on the Faculty's activities, especially on education, the structure of the study programs and the profile of the graduates of FCE from the point of view of their future employment.

The Industry Board provides a direct contact of the Faculty with the building industry, which is necessary for an institution training graduates for these companies and organisations.

### Members of the Industry Board:

Prof. Ing. Vladimír Benko, PhD., Faculty of Civil Engineering STU, Vice-Dean for PR, Chair of the Slovak Chamber of Civil Engineers  
Ing. Igor Beroun, Director General of JOHNSON CONTROLS CR and SR  
Ing. Mikuláš Bobik, Director of Applied Precision, Ltd.  
Mgr. Magdaléna Dobišová, Chairman of the Board and General Director of Skanska SK a.s.  
prof. Ing. Ľudovít Fillo, PhD., Faculty of Civil Engineering STU Bratislava  
Ing. Ľuboš Fúsek, Director of BAUMIT, Ltd.  
Ing. Peter Glaus, Hydroconsulting, Ltd.  
Ing. Martin Greguš, Saint-Gobain Construction Products, Ltd.  
Ing. Peter Halász, Director of Jaga Group, Ltd.  
Ing. Ján Hardoš, Chairman of the Chamber of Surveyors and Cartographers, Director of fy SIGEO  
Ing. Juraj Hirner, Executive Manager and Director of STRABAG Corporation – Building and Civil Engineering Constructions, Ltd.  
Ing. Oto Hornáček, General Director of HORNEX, a.s.

Ing. Stanislav Hreha, Chairman of the Board of the Association of Water Companies, Chairman of the Board of the East-Slovakian Water Company, a.s.

Ing. Milín Kaňuščák, Executive Manager of KAMI PROFIT, Ltd.

Ing. Arch. Pavol Kollár, Chief of Holding Invest-in

Prof. Ing. Alojz Kopáčik, PhD., President of the Association ABF Slovakia, Faculty of Civil Engineering STU Bratislava

Ing. Ľubica Kopčová, General Director of the Research Institute for Water Management, Chairman of the Executive Board of the Association of Employers in Water Management in Slovakia

Ing. Arch. Ivan Kubík, Ateliér Ivan Kubík, Ltd.

Ing. Peter Kyrinovič, PhD., Vice-Dean for Faculty Development, Faculty of Civil Engineering STU Bratislava

Ing. Miroslav Leško, Director, Premac

Ing. Zsolt Lukáč, President of the Association of Construction Entrepreneurs in Slovakia

Ing. Ján Majerský, Director of PROMA, Ltd.

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

Prof. Ing. Dušan Petráš, PhD., President of ZSVTS, FCE STU Bratislava

Ing. Ladislav Piršel, Slovak Council for Green Buildings

Ing. Slavomír Podmanický, General Director of REMING Consult, a.s.

Ing. Peter Pochaba, T-Klíma, Ltd.

Ing. Jozef Ružanský, General Director of Drevona, a.s.

Ing. Vladimír Stromček, Director of Geodézia, a.s. Žilina, member of the Board of the Chamber of Surveyors and Cartographers

Assoc. Prof. Ing. Peter Suchánek, PhD., procurement officer, head of the branch of window and façade systems, REHAU, Ltd.

Ing. Marián Supek, General Director of the Slovak Water Management Enterprise

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

Ing. Ján Šedivý, Chairman of the Board and Director of the company, SCS UNI&Co., a.s.

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

Prof. Ing. Andrej Šoltész, PhD., Alumni Chairman of FCE STU Bratislava

Ing. Vladimír Uhlík, General Director of Geodézia a.s.

Prof. Ing. Stanislav Unčík, PhD., Dean of FCE STU Bratislava

Ing. Ján Záhradník, Sales Director of Doprastav, a.s. Directorate General

Ing. František Zvrškovec, President of Divident Group Sk

# DEPARTMENTS

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# DEPARTMENT OF CONCRETE STRUCTURES AND BRIDGES

Head of Department

Prof. Ing. Juraj Bilčík, PhD.  
Tel.: +421 2 59274 546  
Fax: +421 2 5292 6213  
E-mail: juraj.bilcik@stuba.sk

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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 (Slovak and English)  
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  
Experimental Testing of Concrete Structures  
Modeling of Civil Engineering Works

#### Optional subjects

Modeling of Concrete Structures  
Recommended subjects  
Modeling of 2D Reinforced Concrete Structures  
Modeling of 3D Reinforced Concrete Structures

### 1.2 Postgraduate courses

Modeling of Concrete Structures  
Experimental Testing of Concrete Structures

## 2. THESES

### 2.1 Bachelor theses

There were 6 works

### 2.2 Graduate theses

Antal, M.: Design of a High-Rise Building  
Supervisor: Fillo, L.

Behúl, L.: Design Calculations of a Multi-Storey Garage: Precast Concrete Structure  
Supervisor: Bilčík, J.

Bolješik, D.: Reinforced Concrete Underground Collector for Cooling Water Pipes  
Supervisor: Hudoba, I.

Csekes, Á.: "Uzbecká – Dolné Hony – Bratislava" Apartment Block: Cast-in-Situ RC Wall Bearing Structure with Stiffening Cores  
Supervisor: Abrahoim, I.

Diko, L.: Staré Grunty – Bratislava Hotel \*\*\*: Combined Cast-in-Situ Reinforced Concrete Structure with Stiffening Cores  
Supervisor: Abrahoim, I.

Dobsová, K.: Multifunctional Residential Building, Petržalka, Bratislava: Cast-in-Situ Reinforced Concrete Structure with Stiffening Cores  
Supervisor: Abrahoim, I.

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

Drevehák, M.: Road Bridge: Post-Tensioned Cast-in-Situ Concrete Structure  
Supervisor: Borzovič, V.

Drška, I.: Office Building: Cast-in-Situ Reinforced Concrete Structure  
Supervisor: Borzovič, V.

Držíková, D.: Cast-in-Situ Prestressed Concrete Bridge on Motorway D1  
Supervisor: Halvoník, J.

El Hajjar, M.: Bridge No. 202 on Sverepec – Višňové Highway Section  
Supervisor: Paulík, P.

- Farkašová, K.: Design Calculations of a High-Rise Building Made from Structural Concrete  
Supervisor: Fillo, L.
- Fülöp, P.: Load-Bearing Structure of a Multifunctional High-Rise Building  
Supervisor: Gramblička, H.
- Gaban, P.: Design Calculations of an Underground Garage under the Winter Stadium in Bratislava: Cast-in-Situ RC Structure  
Supervisor: Bilčík, J.
- Gahérová, M.: Load-Bearing Structure of a High-Rise Office Building  
Supervisor: Gramblička, Š.
- Gúcky, T.: 25 - Storey High-Rise Building of an Administration Centre. Cast-in-Situ RC Structure with Flat Slabs and a Stiffening Core  
Supervisor: Harvan, I.
- Gura, A.: Office Block: Cast-in-Situ Reinforced Concrete Structure  
Supervisor: Hollý, I.
- Holý, P.: Road Bridge: Post-Tensioned Cast-in-Situ Concrete Structure  
Supervisor: Borzovič, V.
- Juranová, M.: "Trinity" Multifunctional Building: Cast-in-Situ Reinforced Concrete Structure  
Supervisor: Halvoník, J.
- Klimová, M.: High-Rise Apartment House: Bearing Structure  
Supervisor: Gramblička, Š.
- Koterec, D.: Multifunctional Building: Cast-in-Situ Concrete Structure  
Supervisor: Borzovič, V.
- Kováčsová, N.: "Trinity" Multifunctional Complex: Cast-in-Situ Reinforced Concrete Structure  
Supervisor: Halvoník, J.
- Kučera, M.: Structural Design of a Tram Bridge in Bratislava  
Supervisor: Halvoník, J.
- Lamparský, J.: Load-Bearing Structure of a Multifunctional Building  
Supervisor: Gramblička, Š.
- Matiašková, L.: Control Center for an Industrial Enterprise. Design of a Bearing System Subjected to Blast Loading  
Supervisor: Bartók, A.
- Milová, K.: Central Police Office in Bratislava: Multi-Storey RC Skeleton Structure with Stiffening Cores  
Supervisor: Harvan, I.
- Mižák, V.: Design Calculations of Multi-Storey Garage: Cast-in-Situ RC Structure  
Supervisor: Bilčík, J.
- Natšín, J.: Shopping Centre: Precast Concrete Structure  
Supervisor: Borzovič, V.
- Országhová, L.: Hotel Delfin, Senec: Combined Cast-in-Situ Reinforced Concrete Structure with a Stiffening Core  
Supervisor: Abrahoim, I.
- Pecník, M.: Design Calculations of an Office Block: Cast-in-Situ RC Structure  
Supervisor: Bilčík, J.
- Plancsíková, A.: Static and Dynamic Analysis of a High-Rise Building  
Supervisor: Šoltész, J.
- Potempová, A.: Office Building - Generali Slovakia Insurance Company, Bratislava: Cast-in-Situ Reinforced Concrete Structure with Flat Slabs and Stiffening Cores  
Supervisor: Abrahoim, I.
- Prostredný, M.: Bridge No. 203 on Sverepec – Višňové Highway Section  
Supervisor: Paulík, P.
- Revaj, M.: Office Block  
Supervisor: Brondoš, J.
- Rogel, M.: Underground Parking Garage: Watertight Diaphragm Wall  
Supervisor: Šoltész, J.
- Sárosfai, Á.: Automobile Centre: Bratislava Rožňavská: Cast-in-Situ Reinforced Concrete Combined Bearing Structure with a Stiffening Core  
Supervisor: Abrahoim, I.
- Siládi, R.: Hotel "TULA", Banská Bystrica: Cast-in-Situ RC Combined Structure on a Skeleton Pedestal with a Stiffening Core  
Supervisor: Harvan, I.
- Skladany, P.: Underground Cast-in-Situ Reinforced Concrete Retention Tank  
Supervisor: Hudoba, I.
- Tisoň, L.: Office Block: Cast-in-Situ Reinforced Concrete Structure  
Supervisor: Hollý, I.
- Vitéková, M.: Bridge on R1 Expressway, Nitra West Selenec  
Supervisor: Halvoník, J.
- Wachal, M.: Multifunctional Building: Cast-in-Situ Reinforced Concrete Structure  
Supervisor: Borzovič, V.
- Žigmond, M.: Static and Dynamic Analysis of 120 m Tall Reinforced Concrete Chimney  
Supervisor: Šoltész, J.

## 2.3 Doctoral theses

Ignačák, M.: Thermodynamic and Stress Analysis of Base Slabs at an Early Stage

Supervisor: Šoltész, J.

Sonnenschein, R.: Parameter Analysis of a Reinforcement for the Control of the Width of Early Cracks in Concrete

Supervisor: Bilčík, J.

## 3. RESEARCH

### 3.1 Research projects

Analysis of Reliability Risks in the Design and Execution of Concrete Structures (2015-2017, Bilčík, J.), VEGA /0583/15

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

Reliability and Resistance of Concrete and Composite Steel-Concrete Structures (2014-2016, Fillo, L.), VEGA 1/0696/14

### 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

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

St. Paul University, Brussels, Belgium

Fachhochschule Braunschweig – Wolfenbüttel, Germany

Institut für Massivbau, TU Darmstadt, Germany

Fachhochschule Coburg, Germany

#### Membership in international professional organizations

Benko, V.: Austrian Standard Institut. Standard Committees – ON-AG 01301, ON-AG 1011 01, ON-AG 010 01, ON-AG 176 02. ON-K 176, ON-K 010

Benko, V.: ECEC European Council of Engineers Chamber

Benko, V.: ECCE European Council of Civil Engineers

Benko, V.: ASCE American Society of Civil Engineers

Bilčík, J.: American Concrete Institute

Bilčík, J. and Gajdošová, K.: TUD COST Action TU1207 – Management Committee WG 3: Next Generation Design Guidelines for Composites in Construction

Fillo, L.: CEN TC 250 – SC2 Eurocode: 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

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## 4. PUBLICATIONS

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- Knapcová, V.: Design of Slender Concrete Columns. In: Advances in Architectural, Civil and Environmental Engineering: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, Slovak Republic, Oct. 28, 2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, [CD ROM] pp. 474-480. ISBN 978-80-227-4514-7 (in Slovak)
- Križma, M. – Bolha, L.: Long -Term Deformations of Reinforced Beams Completed with a Slab Through Reinforced Compacts. In: Proceedings of 9th Seminar on Repair of Concrete Structures, Smolenice, Slovak Republic, Dec. 10-11, 2015. Brno: Tribun EU, 2015, pp. 99-104. ISBN 978-80-263-0882-9 (in Slovak)
- Laco, J. – Pažma, P. – Halvoník, J.: Analysis of Secondary Effects and of Bond Behavior Due to Prestressing. In: Advanced Materials Research: Proceedings of 21st Czech Concrete Days 2014 Conference, Hradec Králové, Czech Republic, Nov. 26 – 27, 2014. Vol. 1106, (2015), pp. 177-180. ISSN 1022-6680 (in English)
- Laco, K. – Borzovič, V.: Effect of the Calculation Approach on the Axial Forces of the Structural Members of a Cast-in-Situ Tall Skeletal Structure. In: Proceedings of 20th Conference on Statics of Buildings 2015, Piešťany, Slovak Republic, Mar. 12-13, 2015. 1st ed. Bratislava: Association of Structural Engineers of Slovakia, 2015, pp. 17-22. ISBN 978-80-89655-07-6 (in Slovak)
- Laco, K. – Borzovič, V.: Reliability of Approach Slabs and Modelling of Transition Zones of Bridge. In: 21st International Conference on Engineering Mechanics 2015, Svratka, Czech Republic, May 11-14, 2015. 1st ed. Prague: Institute of Theoretical and Applied Mechanics, 2015, Extended Abstracts: pp. 180-181. ISSN 1805-8248, ISBN 978-80-86246-42-0 (in English)
- Laco, K. – Borzovič, V.: Design of the Approach Slab of a Road Bridge. In: Proceedings of 22nd Concrete Days 2015 Conference, Litomyšl, Czech Republic, Nov. 25-26, 2015. 1st ed. Prague: Czech Concrete Society ČSSI, 2015, [electronic source] 6 pp. ISBN 978-80-906097-0-9 (in Slovak)
- Laco, K.: Analysis of a Preparatory Experiment for an Approach Slab. In: Advances in Architectural, Civil and Environmental Engineering: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, Slovak Republic, Oct. 28, 2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, [CD ROM] pp. 481-488. ISBN 978-80-227-4514-7 (in Slovak)
- Majtánová, L.: Assessment of the Maximum Punching Resistance of Reinforced Concrete Flat Slabs. In: Advances in Architectural, Civil and Environmental Engineering: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, Slovak Republic, Oct. 28, 2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, [CD ROM] pp. 489-496. ISBN 978-80-227-4514-7 (in Slovak)
- Paulík, P. – Bačuvčík, M. – Ševčík, P. – Janotka, I. – Gajdošová, K.: Experimental Verification of the Mechanical Properties of Concretes More than 120 Years Old from Two Bridges in Slovakia. In: Proceedings of 13th Conference on Technology of Concrete, Jihlava, Czech Republic, April 9, 2015. 1st ed. Prague: Czech Concrete Society ČSSI, 2015, [CD-ROM] 8 pp. ISBN 978-80-903806-8-4 (in Slovak)
- Paulík, P. – Halvoník, J. – Benko, V. – Fillo, L.: Causes of the Bridge Falsework Collapse Near Levoča in Slovakia. In: Proceedings of international conference on Large Bridges Multi-Span. Porto, Portugal, July 1-3, 2015. London: CRC Press - Taylor & Francis Group, 2015, [CD-ROM] pp. 975-981. ISBN 978-1-138-02757-2 (in English)
- Paulík, P. – Koteš, P. – Vičan, J. – Bačuvčík, M.: Reconstruction of the Reinforced Concrete Bridge at Krásno nad Kysucou. In: Proceedings of 9th Seminar on Repair of Concrete Structures, Smolenice, Slovak Republic, Dec. 10-11, 2015. Brno: Tribun EU, 2015, pp. 73-78. ISBN 978-80-263-0882-9 (in Slovak)
- Pažma, P. – Brondoš, J. – Halvoník, J.: Experimental Verification of a Secondary Effect Due to Prestressing. In: Proceedings of Scientific Conference on Structural Modeling, Ostrava, Czech Republic, May 28-29, 2015. 1st ed. Ostrava: Mining School of University of Technology in Ostrava, 2015, [CD-ROM] 8 pp. ISBN 978-80-248-3756-7 (in Slovak)
- Pažma, P. – Borzovič, V. – Halvoník, J.: Secondary Effect Due to Prestressing after the Creation of Kinematic Mechanism. In: Proceedings of 22nd Concrete Days 2015 Conference, Litomyšl, Czech Republic, Nov. 25-26, 2015. 1st ed. Prague: Czech Concrete Society ČSSI, 2015, [electronic source] 6 pp. ISBN 978-80-906097-0-9 (in Slovak)
- Pažma, P.: Secondary Effect Due to Prestressing at ULS. In: Advances in Architectural, Civil and Environmental Engineering: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, Slovak Republic, Oct. 28, 2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, [CD ROM] pp. 512-516. ISBN 978-80-227-4514-7 (in Slovak)
- Šoltész, J. – Ignačák, M.: Behaviour and Strengthening of Prefabricated Floor Structures of the Revised Priemstav "MS-RP" Due to the Effects of Horizontal Loading. In: Proceedings of 25th International Symposium on Repair of Concrete Structures 2015, Brno, Czech Republic, May 13-15, 2015, Association for Repair of Concrete Structures, 2015, pp. 235-242 ISBN 978-80-214-5193-3 (in Slovak)
- Vida, R. – Halvoník, J.: Shear Resistance of RC Slabs Without Shear Reinforcement. In: Proceedings of 22nd Concrete Days 2015 Conference, Litomyšl, Czech Republic, Nov. 25-26, 2015. 1st ed. Prague: Czech Concrete Society ČSSI, 2015, [electronic source] 6 pp. ISBN 978-80-906097-0-9 (in Slovak)

Vida, R.: Models for the Calculation of the Shear Resistance of RC Slabs Without Shear Reinforcement Under Area Loads. In: Advances in Architectural, Civil and Environmental Engineering: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, Slovak Republic, Oct. 28, 2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, [CD ROM] pp. 530-537. ISBN 978-80-227-4514-7 (in Slovak)

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# DEPARTMENT OF TRANSPORTATION ENGINEERING

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Airport Planning and Design

Bachelor Thesis

Design Studio of Urban Planning I

Design Studio of Urban Planning II

Design Studio of Spatial Planning

Diploma Thesis

Environmental Transport

Experimental Verification

Excursion

Modeling and Graphics in Road Construction

Pavement Diagnosis and Reconstruction

Pavement Mechanics

Predictions and Scenarios for the Development of Transport

Project: Road Constructions

Railway

Roads in Urban Areas

Road Intersections

Transport Forecasting

#### Obligatory elective subjects

Design and Realization of a Transport Infrastructure

Ecology of Urban Settlements and Urban Transportation Planning

Experiments and Testing

Project II

Project II: Transport Infrastructure

Selected Chapters on Roads and Motorways

Special Lectures of Transportation Structures

Technology of Engineering Construction

Transport Construction

Urban Transportation Planning

Urban Planning I

## 2. THESES

### 2.1 Bachelor theses

There were 14 works.

### 2.2 Graduate theses

Baluča, E.: Western Bypass of R4 Stropkov – Technical Study  
Supervisor: Bačová, K.

Bežuch, J.: Transport in a Zoning Plan  
Supervisor: Bežák, B.

Bohunická, M.: Proposed Reconstruction of Roads in a Desired Location  
Supervisor: Bačová, K.

Dobrovodský, M.: Double Track Railway Project at a Specified Section  
Supervisor: Bačová, K.

Halaj, M.: Reconstruction of Road Communications on the Road I/66 Babiná  
– Bypass  
Supervisor: Zuzulová, A.

Haraslín, L.: Continuously Reinforced Concrete Pavement in a Tunnel on  
Highway D1  
Supervisor: Zuzulová, A.

Harmata, T.: Evaluation of the Road Conditions in the Area of Road I / 59  
Likavka – Valaská Dubová  
Supervisor: Zuzulová, A.

Jochman, J.: Solutions for Road Constructions on Cycling Communications  
Supervisor: Zuzulová, A.

Kesidi, E.: Transfer Node of Railway Station at Devínska Nová Ves  
Supervisor: Bežák, B.

Klein, M.: Study of Porúbka Bypass  
Supervisor: Bačová, K.

Kubovičová, M.: Transport Study on Trnavské Myto Transfer Node in Bratislava  
Supervisor: Bežák, B.

Lichvár, D.: Renovation of Cement Concrete Pavement on Roads I/62 and I/75  
Supervisor: Zuzulová, A.

Mojžiš, M.: Reconstruction of Route Alignment of Road I/18 in the Jánovce – Jablonov section

Supervisor: Bačová, K.

Motolík, M.: Bypass of Town of Modra

Supervisor: Kapusta, V.

Mourad, A. I. A.: Design Study of the Expressway R2 – Bypass of Town of Plešivec

Supervisor: Bezák, B.

Peniaško, M.: Proposed Cement Concrete Pavement at Special Traffic Areas

Supervisor: Zuzulová, A.

Slovačeková, L.: Solution to Traffic of the Transfer Window Node at Trnavské Mýto in Bratislava

Supervisor: Bezák, B.

## 3. RESEARCH

### 3.1 Research projects

Traffic Area Structures in Integrated Transport Spaces (2013-2015, BAČOVÁ, K.), VEGA 1/0351/13

Environmental Mixtures (2015, Bachratá, M.), Acronym: ENVIZ

### 3.2 International cooperation

#### Cooperating institutions

Bauhaus-University Weimar, Weimar, Germany

Cologne University of Applied Science, Cologne, Germany

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

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

Hellenic Institute of Transport, Thessaloniki, Greece

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

Cracow University of Technology, Faculty of Civil Engineering, Cracow, Poland

Széchenyi István University, Department of Transportation Infrastructure and Municipal Engineering, Győr, Hungary

University of Maribor, Faculty of Civil Engineering, Department of Transportation Engineering, Maribor, Slovenia

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

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

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

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

Wroclaw University of Technology, Faculty of Civil Engineering, Institute of Building Engineering, Wroclaw, Poland

### 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

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

Gschwendt, I.: Member of the PIARC – 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

Zuzulová, A.: Member of the Editorial Board - Przegląd komunikacyjny, Wroclaw, Poland

## 4. PUBLICATIONS

### Journals

Báčová, K.: 20th Seminar Ivan Poliaček, The Development of Road Construction. In: *Magazín stavebné stroje a mechanizácia (Journal of Building Mechanism and Mechanization)*. Vol. 10, No. 6 (2015), p. 50. ISSN 1336-958X (in Slovak)

Báčová, K. – Gschwendt, I.: Road Construction and Technical Development. In: *Inžinierske stavby (Engineering Constructions)*. Vol. 63, No. 1 (2015), pp. 58-61. ISSN 1335-0846 (in Slovak)

Zuzulová, A.: Research on the Effectiveness of Dowels in Concrete Pavements. In: *Silniční obzor*. Vol. 76, No. 6 (2015), pp. 164-168. ISSN 0322-7154 (in Slovak)

## Conference Proceedings

- Báčová, K. – Bachratá, M. – Orthová, M.: Pavements in Urbanized Areas. In: Sustainable Development of Road Construction, Proceedings of the 20th Seminar of Ivan Poliaček with international participation. 1st ed. Bratislava : Kongres STUDIO, 2015, pp. 52-58. ISBN 978-80-89565-21-4 (in Slovak)
- BACHRATÁ, M.: Environmental Mixtures of Road Pavements. In: Juniorstav 2015 : Proceedings of 17th Professional Conference of Postgraduate Students. VUT, Brno, Czech Republic. 29.1.2015, 1st ed. Brno : VUT, 2015.- ISBN 978-80-214-5091-2 (in Slovak)
- Bachratá, M. – Orthová, M.: Environmental Pavements. In: RISEM 2015 – Research and Innovation of Secondary Materials with a Focus on Civil Engineering : Proceedings of International Students' Scientific Conference. Prague, Czech Republic, 23.9.2015. Prague : Czech Technical University in Prague, 2015, pp. 74-80. ISBN 978-80-01-05813-8 (in English)
- Bachratá, M.: Proposed Reconstruction of Transportation Facilities in the Area of the Trnava Railway Station. In: Conference NITT 2015: Transfer technológií na Slovensku a v zahraničí (Technology Transfer in Slovakia and Abroad). Bratislava, Slovakia, 6-7.10.2015. 1st ed. Bratislava: CVTI Slovakia, 2015, p. 29. ISBN 978-80-89354-53-5 (in Slovak)
- Bachratá, M.: Environmental Mixtures. In: MMK 2015.: International Masaryk Conference for Ph.D. Students and Young Researchers: Online conference. – 1st ed. Hradec Králové: Magnanimitas, Czech Republic, 14.-18.12.2015, pp. 2508-2515. ISBN 978-80-87952-12-2 (in English)
- Bachratá, M.: Reused Asphalt Mixtures. In: Advances in Architectural, Civil and Environmental Engineering : 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, Slovakia, 28.10.2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, pp. 375-380. ISBN 978-80-227-4514-7 (in Slovak)
- Bezák, B.: Traffic Engineering Tasks in Road Management. In: Cestná konferencia 2015 (Road Conference 2015): Conference Proceedings. Bratislava, Slovakia, 24.-25.3.2015, 1st ed. Bratislava : Kongres STUDIO, 2015, CD-ROM, pp. 43-50. ISBN 978-80-89565-18-4 (in Slovak)
- Bezák, B. – Balkó, G.: Enhanced Traffic Safety through Integrated Public Transport Network. In: Roads and Mobility Creating New Value from Transport: 25th World Road Congress. Seoul, South Korea, 2.-6.11.2015.: World Road Association (PIARC), 2015, CD-ROM. (in English)
- Bezák, B.: Assumptions for the Integration of the Twin-City Cross-Border Region. In: XVI. dopravně-inženýrské dny. Integrace hromadné dopravy, preference a řízení dopravy, integrovaný dopravní systém (26th Traffic – Engineering Days: Integration of Public Transport, Preferences and Traffic Management, Integrated Transport System), Mikulov, Czech Republic, 27.-28.5.2015. 1st ed. Brno: Česká silniční společnost (Czech Road Association), 2015, CD-ROM, pp. 51-56 (in Slovak)
- Cápayová, S. – Zuzulová, A. – Bačová, K.: Properties of Asphalt Mixtures With Reclaimed Material in Slovakia. In: Green Building, Materials and Civil Engineering : Selected Papers from the 4th International Conference on Green Building, Materials and Civil Engineering (GBMCE), Hong Kong, China, 21.-22.8.2014. 1st ed. London: CRC Press, Taylor & Francis Group, 2015, pp. 17-20. ISBN 978-1-138-02669-8 (in English)
- Cápayová, S. – Orthová, M. – Zuzulová, A.: Measurement of the Roughness of Road Surfaces. In: Bezpečnosť dopravy na pozemných komunikáciách (Traffic Safety on Roads): conference proceedings. Vyhne, Slovakia, 21.-23.9.2015. 1st ed. Bratislava: Kongres STUDIO, 2015, CD-ROM, pp. 40-46. ISBN 978-80-89565-19-1 (in Slovak)
- Cápayová, S. – Zuzulová, A. – Orthová, M.: Application of Reclaimed Material to Asphalt Mixes in Slovakia. In: RDIT 2015 – Research, Development and Innovation in Transport: Seminar Proceedings. Vysoké Mýto, Czech Republic, 5.11.2015. 1st ed. Ostrava: VŠB – Technical University of Ostrava, 2015, CD-ROM, pp. 46-51. ISBN 978-80-248-3841-0 (in Slovak)
- Cápayová, S. – Gschwendt, I. – Zuzulová, A.: Calculations of Permanent Deformations of Asphalt Pavements. In: Asfaltové vozovky 2015 (Asphalt Pavements 2015): Conference Proceedings. České Budějovice, Czech Republic, 24.-25.11.2015, 1st ed. Praha: PRAGOPROJEKT, 2015, USB, ISBN 978-80-903925-7-1 (in Slovak)
- Cápayová, S.: General and Empirical Requirements For Asphalt Mixtures. In: Trvalo udržateľný rozvoj cestného staviteľstva (Sustainable Development of Road Construction): proceedings of the 20th Seminar of Ivan Poliaček with international participation. Jasná, Slovakia, 18.-20.11.2015. 1st ed. Bratislava: Kongres STUDIO, 2015, pp. 32-37. ISBN 978-80-89565-21-4 (in Slovak)
- Čížková, Z. – Valentová, T. – Mondschein, P. – Valentin, J. – Cápayová, S.: Evaluation of Moisture Susceptibility of Cold Recycled Mixes. In: Výstavba a rehabilitácia asfaltových vozoviek. Asfaltové vozovky v kontexte tvorby a ochrany životného prostredia (Construction and Rehabilitation of Asphalt Pavements. Asphalt Pavements in the Context of Development and Environmental Protection): Conference Proceedings. Podbanské, Slovakia, 8.-10.4.2015, 1st ed. Košice : Etela Bačenková – Dom techniky, 2015, CD-ROM, pp. 39-50. ISBN 978-80-232-0328-8 (in Czech)
- Gschwendt, I. – Zuzulová, A. – Cápayová, S. – Čelko, J. – Šedivý, J. – Boros, Z.: Road Network Characteristics Indicators. In: Roads and Mobility Creating New Value from Transport : 25th World Road Congress. Seoul, South Korea, 2.-6.11.2015. World Road Association (PIARC), 2015, CD-ROM (in English)
- Los, P. – Bezák, B. – Schlosser, T.: Framework of Strategic Transport Planning in Slovakia. In: Roads and Mobility Creating New Value from Transport : 25th World Road Congress. Seoul, South Korea, 2.-6.11.2015. World Road Association (PIARC), 2015, CD-ROM (in English)
- Nemček, M.: Car Accidents Caused by Running into Wild Animals. In: Bezpečnosť dopravy na pozemných komunikáciách (Traffic Safety on Roads): Conference Proceedings. Vyhne, Slovakia, 21.-23.9.2015, 1st ed. Bratislava : Kongres STUDIO, 2015, CD-ROM, pp. 151-121. ISBN 978-80-89565-19-1 (in Slovak)



- Orthová, M.: Measuring Of the Roughness of the Road Surface at a Viennese Type of Public Transport Stop. In: Juniorstav 2015 : Proceedings of 17th Professional Conference of Postgraduate Students. VUT, Brno, Czech Republic, 29.1.2015. 1st ed. Brno. 2015, CD-ROM, ISBN 978-80-214-5091-2 (in Slovak)
- Orthová, M. – Bachratá, M.: Environmentally-Friendly Road Pavements. In: ESaT 2015 : Proceedings of the international conference on Engineering Sciences and Technologies. Tatranská Štrba, Slovakia, 27.-29.5.2015. Košice: Technical University of Košice, Faculty of Civil Engineering, 2015, CD-ROM, ISBN 978-80-553-2042-7 (in English)
- Orthová, M.: Pavements that Reduce Environmental Impacts. In: Conference NITT 2015: Transfer technológií na Slovensku a v zahraničí (Technology Transfer in Slovakia and Abroad). Bratislava, Slovakia, 6-7.10.2015. 1st ed. Bratislava : CVTI Slovakia, 2015, p. 28. ISBN 978-80-89354-53-5 (in Slovak)
- Orthová, M.: Environmental Friendly Pavement Constructions. In: Asfaltové vozovky 2015 (Asphalt Pavements 2015): Conference Proceedings. České Budějovice, Czech Republic, 24.-25.11.2015. 1st ed. Prague: PRAGOPROJEKT, 2015, USB, ISBN 978-80-903925-7-1 (in Slovak)
- Orthová, M.: Environmentally Suitable Pavements. In: MMK 2015: International Masaryk Conference for Ph.D. Students and Young Researchers: Online conference. – 1st ed. Hradec Králové: Magnanimitas, Czech Republic, 14.-18.12.2015, pp. 2468-2473. ISBN 978-80-87952-12-2 (in English)
- Orthová, M.: Noise and Roughness in an Urban Environment. In: Advances in Architectural, Civil and Environmental Engineering: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, Slovakia, 28.10.2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, pp. 497-503. ISBN 978-80-227-4514-7 (in Slovak)
- Schlosser, T.: Remarks on Parking Policy Developments in the Conditions of the Capital of Slovakia – Bratislava. In: Cestná konferencia 2015 (Road Conference 2015): Conference Proceedings, Bratislava, Slovakia, 24.-25.3.2015. 1st ed. Bratislava: Kongres STUDIO, 2015, CD-ROM, pp. 59-65. ISBN 978-80-89565-18-4 (in Slovak)
- Schlosser, T.: Modal Split in Bratislava. In: XVI. dopravně-inženýrské dny. Integrace hromadné dopravy, preference a řízení dopravy, integrovaný dopravní systém (26th Traffic – Engineering Days: Integration of Public Transport, Preferences and Traffic Management, Integrated Transport System), Mikulov, Czech Republic, 27.-28.5.2015. 1st ed. Brno : Česká silniční společnost (Czech Road Association), 2015, CD-ROM, pp. 156-161 (in Slovak)
- Valentin, J. – Soukupová, L. – Valentová, T. – Cápavová, S.: Comparison of Deformation Behavior of SMA11+ Low-Temperature Mixture Variants. In: Výstavba a rehabilitácia asfaltových vozoviek. Asfaltové vozovky v kontexte tvorby a ochrany životného prostredia (Construction and Rehabilitation of Asphalt Pavements. Asphalt Pavements in the Context of Development and Environmental Protection): Conference Proceedings. Podbanské, Slovakia, 8.-10.4.2015. 1st ed. Košice : Etela Bačenková – Dom techniky, 2015, CD-ROM, pp. 61-72. ISBN 978-80-232-0328-8 (in Czech)
- Zuzulová, A.: Cement Concrete Pavements in Traffic Areas. In: Trvalo udržateľný rozvoj cestného staviteľstva (Sustainable Development of Road Construction): proceedings of the 20th Seminar of Ivan Poliaček with international participation. Jasná, Slovakia, 18.-20.11.2015. 1st ed. Bratislava: Kongres STUDIO, 2015, pp. 142-147. ISBN 978-80-89565-21-4 (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

Geoinformatics (Institute of Management)

Local Geodetic Networks

Global Geodesy 1

Geodesy in Spatial Planning (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

Spatial Data Management

Satellite Geodesy

Spatial Modelling in GIS

Metrology in Geodesy

Mathematical Models in Geodesy

Specialized Field Education

GIS in Building Sciences

#### 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 Websites Using PHP and JavaScript

### 1.2 Postgraduate courses

Processing and Analysis of Measurements

Global Geodesy

Geodynamics

Geographic Information Systems

## 2. THESES

### 2.1 Bachelor theses

There were 20 works.

### 2.2 Graduate theses

Ceizel, P.: The Influence of Atmospheric Pressure Variations on Gravity  
Supervisor: Hábel, B.

Čechovský, M.: Documentation Methods for Archaeological Structures and  
Their Implementation in GIS  
Supervisor: Lieskovský, T.

Ficová, M.: Spatial Model of Utilities  
Supervisor: Fencík, R.

Herceg, M.: Methodology for Processing Absolute Gravity Measurements  
Supervisor: Janák, J.

Hrušovská, M.: Design of 3D GIS System to Support Archeological Research  
in the Petén – Guatemala  
Supervisor: Lieskovský, T.

Krivosudská, M.: Global Gravity Field Models of the Earth and Their Applications  
Supervisor: Janák, J.

Macejová, A.: Monitoring of the Stability of Geodetic Points  
Supervisor: Gerhátová, L.

Marhula, M.: Stochastic and Parametric Modeling of a GNSS Receiver Clock Using External Frequency Standards

Supervisor: Hefty, J.

Muříko, M.: Usability of the Vector Support Machine Method for Prediction Modeling in GIS

Supervisor: Ďuračiová, R.

Očkay, J.: Proposed UML Model Domain for Cultural Heritage Protection

Supervisor: Faixová Chalachanová, J.

Reváková, L.: The Detection of Archaeological Structures Using Airborne Laser Scanning

Supervisor: Lieskovský, T.

Sojčáková, M.: Creation of the Dynamic Labeling of Settlements for a Web Map Service

Supervisor: Fencik, R.

Strmeň, B.: ZBGIS Quality Control

Supervisor: Ďuračiová, R.

Špánik, P.: Analysis of GPS and Galileo Observations in Methods of Detection, Modeling and Visualization of Multipath Effects

Supervisor: Hefty, J.

Vanko, J.: Monitoring Landscape Changes Using Satellite Radar Imagery

Supervisor: Papčo, J.

## 3. RESEARCH

### 3.1 Research projects

National Centre for Diagnosing the Earth's Surface Deformations in Slovakia (2010-2015, Mojzeš, M.), ITMS 26220220108

Recognition of Objects Based on High Resolution Radar Imagery

(2012-2015, Papčo, J. – Bakoň, M.), TSX-Archive-2012, Project ID LAN1583  
Accepted by DLR

3D-Geokinematics of Continental Europe Inferred from Combinations of Long-Term Geodetic Satellite Positioning

(2013-2015, Hefty, J.), VEGA 1/0642/13

COST – Advanced Tropospheric Products of Global Navigation Satellite Systems for Monitoring Severe Events and the Climate (GNSS4SWEC)

(2013-2017, Hefty, J.), ES1206

Analysis of Global Data Sources and Possibilities of Their Application in the Refinement and Testing of Earth Gravity Field Models (2015-2017, JANÁK, J.), VEGA 1/0954/15

## 3.2 International cooperation

### Cooperating institutions

CEGRN – Central European Geodynamic Regional Network Consortium

EPN – EUREF Permanent Network

Freie Universität Berlin - Tell Fecheriye Research Project, Germany

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

North Carolina State University, Department of Marine Earth and Atmospheric Sciences, United States of America

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

Research Institute of Geodesy, Topography and Cartography, Czech Republic

Technical University of Ostrava, Institute of Geoinformatics, Czech Republic

UNAVCO - A Non-Profit University-Governed Consortium, Facilitates Geoscience Research and Education Using Geodesy

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

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

University of Stuttgart, Institute of Navigation, Germany

University of Trás-os-Montes e Alto Douro, Vila Real, Portugal

University of Trieste, Department of Earth Sciences, Italy

University of Trieste, Department of Mathematics and Geosciences, Italy

University of Vienna, Department of Meteorology and Geophysics, Austria

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

### Membership in international professional organizations

Hefty, J.: American Geophysical Union

Hefty, J.: European Geosciences Union

Hefty, J.: International Association of Geodesy

Hefty, J.: International Astronomical Union

Janák, J.: European Geosciences Union

Mojzeš, M.: American Geophysical Union

Mojzeš, M.: CEGRN Consortium

Mojzeš, M.: European Geosciences Union

Mojzeš, M.: International Association of Geodesy

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Lieskovský, T. – Chalachanová, Faixová, J. – Ďuračiová, R. – Blažová, E. – Karell, L.: Archaeological Predictive Modelling from the Point of View of Geoinformatics, Slovak University of Technology in Bratislava, 2015, CD-ROM, ISBN 978-80-227-4504-8, 246 pp. (in Slovak)

### Parts of Books

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Lieskovský, T.: Photogrammetric Documentation of the Elements of the Statues and Architecture of Uaxactun. In: Nuevas Excavaciones en Uaxactun VI.: Temporada de Campo 2014. Bratislava: Center for Mesoamerican Studies, Comenius University, 2015, ISBN 978-80-89027-43-9, online, pp. 350-371 (in Spanish)

Lieskovský, T. – Straka, J. – Peschl, R. – Drápela, T.: Mapping and Survey of Uaxactun. In: Nuevas Excavaciones en Uaxactun VI.: Temporada de Campo 2014. Bratislava: Center for Mesoamerican Studies, Comenius University, 2015, ISBN 978-80-89027-43-9, online, pp. 372-401 (in Spanish)

Pašteka, R. – Milo, P. – Kušnířák, D. – Wunderlich, T. – Wilken, D. – Putiška, R. – Urmínský, J. – Papčo, J. – Murín, I.: Role of Regularized Derivatives in Magnetic Edge Mappers Evaluation. In: Archaeologia Polona, ISSN 0066-5924, 2015, Vol. 53, pp. 567-571 (in English)

### Textbooks

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### Journals

Bucha, B. – Bezděk, A. – Sebera, J. – Janák, J.: Global and Regional Gravity Field Determination from GOCE Kinematic Orbit by Means of Spherical Radial Basis Functions. In: Surveys in Geophysics, ISSN 0169-3298. – Vol. 36, No. 6 (2015), pp. 773-801 (in English)

Ďuračiová, R.: Uncertainty Modeling in GIS and Database Systems. In: Slovenský geodet a kartograf, ISSN 1335-4019. Vol. 20, No.3 (2015), pp. 4-11 (in Slovak)

Kostelecký, J. – Klokočník, J. – Bucha, B. – Bezděk, A. – Förste, Ch.: Evaluation of the Gravity Field Model EIGEN-6C4 in Comparison with EGM2008 by Means of Various Functions of the Gravity Potential and by GNSS/Levelling. In: Geoinformatics, ISSN 1802-2669. – Vol. 14, No. 1 (2015), online, pp. 7-27 (in English)

Krivá, Z. – Papčo, J. – Vanko, J.: Quad-Tree Based Finite Volume Method for Diffusion Equations with Application to SAR Imaged Filtering. In: Acta Universitatis Palackianae Olomucensis, Facultas Rerum Naturalium, Mathematica, ISSN 0231-9721. – Vol. 54, No. 2 (2015), pp. 41-61 (in English)

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- Bakoň, M. – Papčo, J. – Perissin, D. – Lazecký, M. – Sousa, J., J. – Hlaváčová, I. – Bátorová, K. – Ondrejka, P. – Liščák, P. – Paudits, P. – Real, N.: Monitoring of Landslide Activity in Slovakia Territory Using Multi-Temporal InSAR Techniques. In: Fringe 2015 Workshop: Proceedings. Frascati, Italy, 23.-27.3.2015. European Space Agency, 2015, CD-ROM. ISSN 1609-042X, ISBN 978-92-9092-295-7. p. 5 (in English)
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# DEPARTMENT OF SURVEYING

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Cadastral Mapping  
Cadastrre of Real Estate  
Cartometry and Analysis of the Cadastre of Real Estate  
Diploma Seminar  
Engineering Surveying I, II  
Environmental Modelling and Landscape Evaluation  
Field Practice in Surveying  
Field Practice in Cadastral Mapping and the Cadastre of Real Estate  
Field Practice in Engineering Surveying  
History of Surveying  
Industrial Surveying  
Land Consolidation I, II  
Legislation of Geodetic Activities  
Photogrammetry I, II  
Professional Practice  
Remote Sensing  
Special Seminar  
Staking and Monitoring of Construction Objects  
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, Cartography and Cadastre  
Surveying in Building Construction (branch of study: Engineering Constructions and Transportation Structures)  
Surveying in Civil Engineering (English)  
Vocational Practice

#### Obligatory elective subjects

Applied Close-Range Photogrammetry  
Bachelor Thesis

Diploma Thesis  
Surveying in Underground Areas

#### Optional subjects

Application of Information Technology in the Cadastre of Real Estate and Land Consolidation  
Measurement Systems in Engineering Surveying

### 1.2 Postgraduate courses

Cadastrre of Real Estate and Land Consolidation  
Engineering Surveying  
Photogrammetry

## 2. THESES

### 2.1 Bachelor theses

There were 19 works.

### 2.2 Graduate theses

Breza, J.: Geodetic Monitoring of Holcim Cement Plant During Demolition Works  
Supervisor: Bajtala, M.

Čmelová, M.: The 3rd Spatial Dimension and the Land Register  
Supervisor: Hudecová, L.

Guzma, M.: Location of Persons in an Indoor Environment  
Supervisor: Erdélyi, J.

Hlavina, M.: Determination of the Dynamic Characteristics of a Bridge Structure Using Fiber Optic Sensors  
Supervisor: Lipták, I.

Holíček, V.: Measurement of Vertical Displacements of Flood Protection Structures  
Supervisor: Ježko, J.

Jančí, B.: Photogrammetric Documentation of Tall Buildings  
Supervisor: Marčíš, M.

Kacián, M.: Measurement and Construction of a Thematic Map for the Reconstruction of a Tram Line.  
Supervisor: Sokol, Š.

Kliman, M.: Legal Easements

Supervisor: Hudecová, L.

Kršiak, M.: Documentation of Traffic Accidents Using TLS

Supervisor: Erdélyi, J.

Maslíková, D.: Modelling of Common Systems and Technical Equipment in a Land Consolidation Project

Supervisor: Geisse, R.

Nemec, J.: Testing of a Tilt Sensor

Supervisor: Kyrinovič, P.

Ostružlíková, K.: 3D Model Of a Cemetery

Supervisor: Geisse, R.

Petráš, J.: Elimination of Vertical Refraction at Trigonometric Measured Elevations

Supervisor: Sokol, Š.

Pirohová, N.: Digital Reconstruction of Ruins of Mayan Structures in Uaxactun

Supervisor: Fraštia, M.

Sečka, Š.: Creation of a Physical Model of Refraction Based on Experimental Measurements

Supervisor: Sokol, Š.

Tepličanec, M.: The Digitization of Sculptures for Documentation and Restoration

Supervisor: Fraštia, M.

## 3. RESEARCH

### 3.1 Research projects

Monitoring the Structural Health of a Bridge via Repeated Dynamic Tests (2013–2017, Sokol, M. – Kopáček, A. – Kyrinovič, P. – Erdélyi, J. – Lipták, I.), APVW–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

Detection of an Area and Discrete Shifts in a Fragile Territory Using Low–Cost Photogrammetry, Terrestrial and Satellite Technologies (2014–2016, Sokol, Š.), VEGA 1/0133/14

Competence Center for SMART Technologies for Electronics and Informatics Systems and Services (2015, Kopáček, A. – Erdélyi, J. – Lipták, I. – Ilkovičová, L.), ITMS 26240220072

University Science Park STU Bratislava (2015, Kopáček, A. – Erdélyi, J.), ITMS 26240220084

Testing and Calibration of an Inertial Measurement System (2015, Kajánek, P.) Young Research Project

## 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

Technische Universität Munich, Germany

University of Zagreb, Croatia

Geodetic and Geophysical Institute MTA, Hungary

Vienna University of Technology, Austria

Kavala Institute of Technology, Greece

“1 Decembrie 1918” University of Alba Iulia, Romania

University of West Hungary, Hungary

“Politehnica” University of Timisoara, Romania

Central Mining Institute, Poland

### Membership in international professional organizations

Erdélyi, J.: National Delegate to International Federation of Surveyors (FIG), Commission 10: Construction Economics and Management

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

Hudecová, L.: National Delegate to International Federation of Surveyors (FIG), Commission 3: Spatial Information Management

Hudecová, L.: National Delegate to International Federation of Surveyors (FIG), Commission 7: Cadastre and Land Management

Kopáček, A.: Bavarian Academy of Sciences: Surveying Commission

Kopáček, A.: FTBGU

Kopáček, A.: International Association of Geodesy, SC4 WG2: Building Structures as Kinematic Systems

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

Kopáček, A.: National Delegate to International Federation of Surveyors (FIG), WG 6.2: Engineering Surveying for Industry and Research

Kopáček, A.: European Education in Geodetic Engineering, Cartography and Surveying, WG1: Pregraduate Education

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

### Books

Lipták, I.: Automation of Deformation Measurements of Bridge Structures, 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, ISBN 978-80-227-4322-8. (in Slovak)

### Parts of Books

Ilkovičová, L. – Kajánek, P. – Kopáček, A.: Automated Pedestrian Tracking Using Smartphones. In: Technical Computing Bratislava 2014: Proceedings. Saarbrücken: LAP LAMBERT Academic Publishing, 2015, ISBN 978-3-659-40792-5. pp. 126–140 (in English)

### Journals

Erdélyi, J.: Automated Point Cloud Processing for Deformation Monitoring. In: Geoinformatics. ISSN 1802-2669. Vol. 14, No. 2 (2015), pp. 47–54 (in English)

Erdélyi, J. – Kopáček, A. – Lipták, I. – Kyrinovič, P.: Suspended Steel Bridge Monitoring Using Terrestrial Laser Scanning. In: Interdisciplinarity in Theory and Practice. ISSN 2344-2409. No. 8 (2015), pp. 107–111 (in English)

Ilkovičová, L. – Kajánek, P.: Determination of the Trajectory of Pedestrian Indoor Movements Based on the Step Detection Method. In: Slovak Surveyor and Cartographer. ISSN 1335-4019. Vol. 20, No. 1 (2015), pp. 8–11 (in Slovak)

Ilkovičová, L. – Erdélyi, J. – Kopáček, A.: Navigation in an Indoor Environment Using RFID Technology. In: Transfer. ISSN 1337-9747. Vol. 7, No. 1 (2015), pp. 14–15 (in Slovak)

Ilkovičová, L. – Kopáček, A.: Positioning System in Indoor Environment Using Near Field Communication Technology. In: Interdisciplinarity in Theory and Practice. ISSN 2344-2409. No. 8 (2015), pp. 123–127 (in English)

Ježko, J.: Verification and Testing of Leveling Instruments for Work in the Building Industry. In: Czech Journal of Civil Engineering. ISSN 2336-7148. Vol. 1, No. 2 (2015), pp. 51–56 (in Slovak)

Kopáček, A. – Lipták, I. – Erdélyi, J. – Kyrinovič, P.: Structural Health Monitoring of Bridges Using Accelerometers – A Case Study at Apollo Bridge in Bratislava. In: Geonauka. ISSN 2334-8119. Vol. 3, No. 1 (2015), pp. 9–15 (in English)

Lipták, I.: Software Solution for Dynamic Geodetic Measurements. In: Interdisciplinarity in Theory and Practice. ISSN 2344-2409. No. 6 (2015), pp. 5–8 (in English)

Lipták, I. – Erdélyi, J. – Kyrinovič, P. – Kopáček, A.: Bridge Deformation Monitoring by Terrestrial Radar Interferometry. In: Interdisciplinarity in Theory and Practice. ISSN 2344-2409. No. 8 (2015), pp. 112–116 (in English)

Martvoňová, K.: Influence of the Distribution of Reference Points on the Position of a TLS Centre. In: Slovak Surveyor and Cartographer. ISSN 1335-4019. Vol. 20, No. 1 (2015), pp. 12–14 (in Slovak)

Sokol, Š. – Lipták, M. – Bajtala, M.: Comparison of Multiple Regression Model and a Two-Regime Model of a Verification. In: GeoScience Engineering. ISSN 1802-5420. Vol. 61, No. 1 (2015), pp. 32–41 (in English)

### Conference Proceedings

Bajtala, M. – Sokol, Š. – Kubinec, J.: Measurements of the Vertical Stiffeners of Cereal Silos. In: Geodesy and Mining Surveying 2015: 22nd SDGM Conference. Prague, CR, 24.-26.6.2015. Ostrava: VŠB – Technical University of Ostrava, 2015. ISBN 978-80-248-3767-3. (in Slovak)

Bobál, P. – Fraštia, M. – Ivaňák, M.: Point Cloud Data Source for DEM Creation. In: GIS Ostrava 2015: Current Challenges of Geoinformatics. Ostrava, CR, 26.-28.1.2015. Ostrava: VŠB – Technical University of Ostrava, 2015. ISBN 978-80-248-3678-2. (in Slovak)

Brunčák, P. – Haličková, J. – Fraštia, M.: Application of Image Scanning in Industrial Surveying. In: IPG 2015: Laser and Image Scanning Systems in Engineering Surveying. Bratislava, SR, 9.9.2015. Bratislava: SUT in Bratislava, 2015. ISBN 978-80-227-4436-2. pp. 57–64 (in Slovak)

Erdélyi, J. – Lipták, I. – Kopáček, A. – Kyrinovič, P.: Suspended Structure Monitoring Using TLS. In: ESaT 2015: Proceedings of the International Conference on Engineering Sciences and Technologies. Tatranská Štrba, SR, 27.-29.5.2015. Košice: Technical University of Košice, Faculty of Civil Engineering, 2015. ISBN 978-80-553-2042-7. (in English)

Erdélyi, J. – Kopáček, A. – Kyrinovič, P. – Lipták, I.: Exploitation of TLS in Engineering and Industrial Surveying. In: IPG 2015: Laser and Image Scanning Systems in Engineering Surveying. Bratislava, SR, 9.9.2015. Bratislava: SUT in Bratislava, 2015. ISBN 978-80-227-4436-2. pp. 33–44 (in Slovak)

Erdélyi, J. – Lipták, I. – Kyrinovič, P.: Using TLS in Engineering and Industrial Surveying. In: 23rd Slovak Geodetic Days: Abstracts. Trnava, SR, 5.-6.11.2015. Bratislava: Chamber of Surveyors and Cartographers, 2015. ISBN 978-80-89623-09-9. (in Slovak)

Ferianc, D. – Hudecová, L. – Navrátilová, D. – Nechuta, V.: Possibilities of Using Electronic Communications in Geo Practice. In: 21st International Czech – Slovak – Polish Geodetic Days. Prague: Czech Union of Surveyors and Cartographers, 2015. (in Slovak)

Fraštia, M. – Marčíš, M. – Talarovič, M.: Possibilities of Image Scanning by Monitoring Retaining Walls. In: Geodesy and Mining Surveying 2015: 22nd SDGM Conference. Prague, CR, 24.-26.6.2015. Ostrava: VŠB – Technical University of Ostrava, 2015. ISBN 978-80-248-3767-3. (in Slovak)

Fraštia, M. – Marčíš, M. – Trhan, O.: Deformation of a Model Created by Image Scanning. In: IPG 2015: Laser and Image Scanning Systems in Engineering Surveying. Bratislava, SR, 9.9.2015. Bratislava: SUT in Bratislava, 2015. ISBN 978-80-227-4436-2. pp. 65–76 (in Slovak)

- Fraštia, M. – Marčíš, M.: Deformation of a Photogrammetric Model Created by Image Scanning. In: 23rd Slovak Geodetic Days: Abstracts. Trnava, SR, 5.-6.11.2015. Bratislava: Chamber of Surveyors and Cartographers, 2015. ISBN 978-80-89623-09-9. (in Slovak)
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- Hudecová, L.: Direction of the Development of a Cadastre in the View of FIG. In: 23rd Slovak Geodetic Days: Abstracts. Trnava, SR, 5.-6.11.2015. Bratislava: Chamber of Surveyors and Cartographers, 2015. ISBN 978-80-89623-09-9. (in Slovak)
- Ilkovičová, L. – Kopáčik, A.: A Proposal for a Localization System in Indoor Environment Using QR Codes. In: IGIT 2015 – Integrated Geo-Spatial Information Technology and Its Application to Resource and Environmental Management Towards the GEOSS: Proceedings of the International Conference, Székesfehérvár, Hungary, 16.-17.1.2015. Sopron: Nyugat – magyarországi Egyetem Kiadó, 2015. ISBN 978-936-334-211-4. pp. 54–58 (in English)
- Ilkovičová, L. – Kopáčik, A.: Automated Calculation of Pedestrian Movements with Matlab Software. In: Juniorstav 2015: 17th Professional Conference of Postgraduate Students. Brno, CR, 29.1.2015. Brno: Brno University of Technology, 2015. ISBN 978-80-214-5091-2. (in Slovak)
- Ilkovičová, L. – Kopáčik, A.: Localization System in Indoor Environment of Building Using NFC. In: ESaT 2015: Proceedings of International Conference on Engineering Sciences and Technologies. Tatranská Štrba, SR, 27.-29.5.2015. Košice: Technical University of Košice, Faculty of Civil Engineering, 2015. ISBN 978-80-553-2042-7. (in English)
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- Ilkovičová L.: Determination of Position in an Indoor Environment Using RFID Technology. In: Advances in Architectural, Civil and Environmental Engineering: 25th Annual Phd. Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy and Applied Mathematics. Bratislava, SR, 28.10.2015. Bratislava: SUT in Bratislava, 2015. ISBN 978-80-227-4514-7. pp. 175–181 (in Slovak)
- Ilkovičová L.: Localisation System in an Indoor Environment of Buildings Using NFC. In: Construction 2016: Commercial Building Directory. Bratislava: INFOMA Business Trading, 2015. ISBN 978-80-89087-67-9. pp. 40–42 (in Slovak)
- Ježko, J.: Testing of GNSS Receivers According to STN ISO 17 123–8: Procedure and Results. In: Satellite Methods in Geodesy and Cadastre: Proceedings. Brno, CR, 5.2.2015. Brno: ECON, 2015. ISBN 978-80-86433-59-2. pp. 91–100 (in Slovak)
- Ježko, J.: Monitoring of Selected Structures for Flood Protection. In: Geodesy and Mining Surveying 2015: 22nd SDGM Conference. Prague, CR, 24.-26.6.2015. Ostrava: VŠB – Technical University of Ostrava, 2015. ISBN 978-80-248-3767-3. 15 pp. (in Slovak)
- Ježko, J.: Monitoring of Static Properties of Building Construction and Elements Using Geodetic Methods. In: 17th International Conference on the Rehabilitation and Reconstruction of Buildings: Proceedings and Abstracts. Prague, CR, 12.-13.11.2015. Prague: Scientific and Technical Association for Building Rehabilitation and Monument Preservation WTA CZ, 2015. ISBN 978-80-02-0263-0. pp. 130–140 (in Slovak)
- Kajánek, P.: Localization of a Machine Using an Inertial Measurement System. In: Juniorstav 2015: 17th Professional Conference of Postgraduate Students. Brno, CR, 29.1.2015. Brno: Brno University of Technology, 2015. ISBN 978-80-214-5091-2. (in Slovak)
- Kajánek, P.: Improvement of the Determination of Positions Using IMS. In: Advances in Architectural, Civil and Environmental Engineering: 25th Annual Phd. Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy and Applied Mathematics. Bratislava, SR, 28.10.2015. Bratislava: SUT in Bratislava, 2015. ISBN 978-80-227-4514-7. pp. 182–189 (in Slovak)
- Kopáčik, A. – Martvoňová, K.: Development of Terrestrial Laser Scanners. In: IPG 2015: Laser and Image Scanning Systems in Engineering Surveying. Bratislava, SR, 9.9.2015. Bratislava: SUT in Bratislava, 2015. ISBN 978-80-227-4436-2. pp. 7–16 (in Slovak)
- Kyřinovič, P. – Kopáčik, A. – Erdélyi, J. – Lipták, I.: As-Built Documentation of the Anchorage Elements of the Facade of a High-Rise Building. In: Surveying in Construction and Industry: Proceedings. Brno, CR, 23.4.2015. Prague: Czech Union of Surveyors and Cartographers, 2015. ISBN 978-80-02-02600-6. pp. 67–76 (in Slovak)
- Lipták, I. – Hlavina, M. – Kopáčik, A.: Fiber Optic Sensors for Structural Health Monitoring. In: Surveying in Construction and Industry: Proceedings. Brno, CR, 23.4.2015. Prague: Czech Union of Surveyors and Cartographers, 2015. ISBN 978-80-02-02600-6. pp. 59–66 (in Slovak)
- Lipták, I. – Kopáčik, A. – Erdélyi, J. – Kyřinovič, P.: Radar Interferometry in Bridge Monitoring. In: ESaT 2015: Proceedings of the International Conference on Engineering Sciences and Technologies. Tatranská Štrba, SR, 27.-29.5.2015. Košice: Technical University of Košice, Faculty of Civil Engineering, 2015. ISBN 978-80-553-2042-7. (in English)
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Nemcová, P.: Guiding Principles for a Draft of a New Concept of a State Map Series on a Large Scale. In: Juniorstav 2015: 17th Professional Conference of Postgraduate Students. Brno, CR, 29.1.2015. Brno: Brno University of Technology, 2015. ISBN 978–80–214–5091–2. (in Slovak)

Trhan, O.: Monitoring of a Rock Massif Using Low-Cost UAV Photogrammetry. In: Juniorstav 2015: 17th Professional Conference of Postgraduate Students. Brno, CR, 29.1.2015. Brno: Brno University of Technology, 2015. ISBN 978–80–214–5091–2. (in Slovak)

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# DEPARTMENT OF GEOTECHNICS

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Engineering Geology

Engineering Geology and Rock Mechanics

Soil Mechanics

Foundation Engineering

Soil Mechanics and Foundations

Geotechnical Structures

Geotechnical Constructions

Geology

Underground Constructions

Properties of Rocks and Soils

Spread and Deep Foundations

Foundation Pits

Water Reservoirs and Dams

Landfills and Ponds

Special Problems of Geotechnical Engineering

Geology and Geomorphology

Geomechanics

Soil Construction

#### Optional subjects

Spread and Deep Foundations

Basics of the Design of Geotechnical Structures

Engineering Geology

Reconstruction in Geotechnics

Geotechnical Structures

Dumps, Tailings Ponds and Waste Recycling

Engineering Geology and Hydrogeology

Underground Constructions

Hydrogeology

Complex Project of Geotechnical Constructions

Filtration and Stability Tasks

Foundation of Hydraulic Structures

Water Management Systems

Dams and Water Reservoirs

Soil Construction

#### Recommended subjects

Spread and Deep Foundations

Diploma Seminar

Roads and Highway Tunnels

Laboratories of Soil Mechanics

Urban Underground Construction

The Aging and Reconstruction of Dams

Underground Water Management Constructions

Construction, Maintenance and Reconstruction of Railway Tunnels

### 1.2 Postgraduate courses

Engineering Geology and Hydrogeology

Soil Mechanics

Foundation Engineering

Geotechnical Structures

Filtration and Stability Tasks of Embankment Dikes

Dams and Water Reservoirs – Selected Topics

## 2. THESES

### 2.1 Bachelor theses

There were 5 works.

### 2.2 Graduate theses

Benko, A.: Design and Assessment of the Foundation of Bridge Structure No. 201 on the D1 Highway in the Dubna Skala – Turany, km 0.400 Section. Supervisor: Hruštinec, Ľ.

Ďuran-Bašták, M.: Proposed Substructure Ecoducts over a Highway. Supervisor: Frankovská, J.

Jančová, B.: Design of the Primary Lining of the Čebrať Tunnel. Supervisor: Chabroňová, J.

Kanistras, G.: Geotechnical Design of a Retaining Structure  
Supervisor: Frankovská, J.

Kolovos, K.: Soil Structure Interaction  
Supervisor: Frankovská, J.

Končal, P.: Aging Dam of Small Water Reservoir. Draft Measures to Extend Its Life.  
Supervisor: Minárik, M.

Koptár, P.: Foundation Design of a Bridge  
Supervisor: Frankovská, J.

Kostovský, P.: Design and Assessment of Road Embankment in the R2 Zvolen – Krivan Area  
Supervisor: Hruštinec, L.

Közseggy, A.: Stability Analysis of a Setting Pit with Ore Sludge Deposit – Design of the Remediation Measures against the Formation of the Worst Case Scenario  
Supervisor: Slávik, I.

Makrypoulias, Ch.: Geotechnical Design of a Spread Foundation  
Supervisor: Frankovská, J.

Marikovič, T.: Geotechnical Analysis of the Foundation of the Weir at Petrovce  
Supervisor: Hruštinec, L.

Mitrodimos, V.: Geotechnical Design of Slope Stabilization  
Supervisor: Frankovská, J.

Rojček, J.: Proposed Excavation in Cramped Conditions in Ružomberok  
Supervisor: Súľovská, M.

Rovňák, P.: Design and Assessment of a Foundation for Bridge Object No. 224 in the D1 Highway Section of Dubná Skala – Turany at km 12.985  
Supervisor: Hruštinec, L.

Škvarka, J.: The Impact of the Operation of MVE Tekov on the Level Regime in the Affected Area  
Supervisor: Bednárová, E.

Tzobras, O.: Geotechnical Design: Case Study  
Supervisor: Frankovská, J.

Ujmiak, M.: Design of Construction Pit and Foundation of an Object in Semi-Rock Minerals  
Supervisor: Súľovská, M.

Výdurek, M.: Construction of the Children's Hospital Pavilion in Martin  
Supervisor: Súľovská, M.

## 2.3 Doctoral theses

Hromada, M.: Subsoil Deformation Analysis at a High Intensity Load  
Supervisor: Hruštinec, L.

Martinka, L.: Analysis of the Properties of Non - Standard Geomaterials  
Supervisor: Masarovičová, M.

Stacho, J.: Analysis of Pile Design Taking Into Account the Impact of Technology  
Supervisor: Frankovská, J.

## 3. RESEARCH

### 3.1 Research projects

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

Determination of the Critical Parameters of the Activation of Landslide Areas that Threaten Transport Construction and Waterworks (2014-2016, Kopecký, M.), VEGA 1/0533/14

Prediction of the Development of Deformations of Geotechnical Structures Depending on the State of the 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 design

Frankovská, J.: Representative of the Slovak Republic on TC 308 Energy Geotechnics of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

Frankovská, J.: Representative of the CEN – TC 396 Earthworks / WG 2 – Soil and Rock Classification for Earthworks

Chabroňová, J.: Representative of the Slovak Republic at the German – Czech Scientific Foundation (WSDTI) of the European Forum Underground Construction (EFUC)

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 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 the Analysis and Design of Dams.

Ondrášik, M.: Representative of the Slovak Republic for 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)

Súľovská, 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 for the ETC 10 Evaluation of Eurocode 7 of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

## 4. PUBLICATIONS

### Books

Hruštinec, L.: Utilization of the Finite Element Method in the Analysis and Design of Geotechnical Structures. Slovak University of Technology in Bratislava, 2014, 228 pp. ISBN 978-80-227-4279-5 (in Slovak)

### Journals

Baliak, F. – Ondrášik, M. – Brček, M.: Rock Environment and Its Impact on the Human. In: *Acupuncture and Natural Medicine* [online], No. 1 (2015), pp. 33 – 39. ISSN 1339-4703 (in English)

Baliak, F. – Brček, M.: Slope Movements as Geofactors of the Environment and Their Impact on Humans. In: *Acupuncture and Natural Medicine* [online], Nos. 5 – 6 (2015), pp. 49-56. ISSN 1339-4703 (in English)

Bednárová, E. – Grambličková, D. – Kolesárová, E.: The Influence of Material Pits on the Safety of Dikes of the Borša Dry Polder. In: *Acta hydrologica Slovaca*, Vol. 16, No. 2 (2015), pp. 95 – 101. ISSN 1335-6291 (in Slovak)

Černý, M. – Hruštinec, L.: Determination of Bearing Capacity According to the Pressiometer Test. In: *Engineering Structures*, Vol. 63, No. 4 (2015), pp. 43 – 45. ISSN 1335-0846 (in Slovak)

Klepsatel, F. – Chabroňová, J.: Development of Tunnels in Slovakia Using Classical Construction Methods. In: *Tunel*, Vol. 24, No. 3 (2015), pp. 48 – 60. ISSN 1211-0728 (in Slovak)

Kopecký, M. – Turinič, L. – Brček, M. – Ondrášik, M.: Construction of a Railway Cut in Complicated Geological Engineering Conditions. In: *Engineering Structures*, Vol. 63, No. 4 (2015), pp. 28 – 31. ISSN 1335-0846 (in Slovak)

### Conference Proceedings

Bednárová, E. – Grambličková, D. – Minárik, M. – Kopčáková, B.: Lessons Learned from Reviewing the Effects of the Long Term Operation of the Hydraulic Structure Liptovská Mara on Its Safety. In: *Eksploracja budowli piętrzących – diagnostyka i zapobieganie zagrożeniom*. 1. Warszawa Instytut Meteorologii i Gospodarki Wodnej Państwowy Instytut Badawczy, Warsaw, Poland, 2015, pp. 323 – 332. ISBN 978-83-64979-09-5. (in English)

Bednárová, E. – Kapušanský, J. – Minárik, M. – Grambličková, D.: Control of the Efficiency of Grouting Curtain in the Subsoil of Vličia dolina Dam. In: *Proceedings of 15th International Multidisciplinary Scientific GeoConference, Science and Technologies in Geology, SGEM 2015*, Albena, Bulgaria, June 18 – 24, 2015, pp. 217-224. ISBN 978-619-7105-32-2 (in English)

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Bednárová, E.: Application of Special Measurement Methods in the Assessment of the Safety of the Veľká Domaša Dam. In: *Proceedings of 14th conference on District Water Days*, Michalovce, Slovakia, Apr. 9 – 10, 2015, pp. 15 – 20. ISBN 978-80-89139-34-7 (in Slovak)

Bednárová, E.: Dam Construction in Slovakia in the Past and in the Present. In: *The Cooperation of Neighboring Countries in Water Management and Flood Protection*, Prague, Czech Republic, 2015, pp. 30 – 36. ISBN 978-80-87438-66-4 (in English)

Fábryová Chalupková, K.: Influence of a Material Model on the Numerical Analysis of an Oedometer Test. In: *Advances in Architectural, Civil and Environmental Engineering: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics*. Bratislava, Slovakia, Oct. 28, 2015, pp. 411 – 417. ISBN 978-80-227-4514-7 (in Slovak)

Frankovská, J. – Kopecký, M. – Panuška, J. – Ladicsová, E.: Stability of Pile Wall in Claystones. In: *Proceedings of 15th International Multidisciplinary Scientific GeoConference, Science and Technologies in Geology SGEM 2015*, Albena, Bulgaria, June 18 – 24, 2015, pp. 745 – 752. ISBN 978-619-7105-32-2 (in English)

Frankovská, J. – Súľovská, M. – Panuška, J.: Soil Treatment with Lime – Laboratory Experiments and Case Studies. In: *Proceedings of 15th International Multidisciplinary Scientific GeoConference, Science and Technologies in Geology SGEM 2015*, Albena, Bulgaria, June 18 – 24, 2015, pp. 689 – 695. ISBN 978-619-7105-32-2 (in English)

Frankovská, J. – Kopecký, M. – Panuška, J. – Chalmovský, J.: Numerical Modelling of Slope Instability. In: *Proceedings of Procedia Earth and Planetary Science / World Multidisciplinary Earth Sciences Symposium, WMESS 2015*, Prague, Czech Republic, Vol. 15, (2015), pp. 309 – 314. ISSN 1878-5220 (in English)



- Frankovská, J. – Kopecký, M.: Instability Problems of Cut Slopes During the Construction of Expressways in Slovakia. In: Proceedings of 16th European Conference on Soil Mechanics and Geotechnical Engineering ECSMGE 2015, Geotechnical Engineering for Infrastructure and Development, Edinburgh, The United Kingdom, Sep. 13 – 17, 2015, pp. 6. ISBN 978-0-7277-6067-8 (in English)
- Frankovská, J.: Characteristic and Design Values of Geotechnical Parameters: A Statistical Approach. In: Proceedings of the 12th Slovak Geotechnical Conference on 55 Years of Geotechnical Engineering in Slovakia, Bratislava, Slovakia, June 1 – 2, 2015, pp. 93 – 100. ISBN 978-80-227-4363-1 (in Slovak)
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- Grambličková, D. – Bednárová, E. – Kolesárová, E.: Increasing the Safety of the Borša Polder. In: Influence of Anthropogenic Activities on the Water Regime of a Lowland Territory, Proceedings of peer-reviewed contributions, Bratislava, Slovakia, 2015, pp. 80 – 88. ISBN 978-80-89139-35-4 (in Slovak)
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- Horváthová, T.: Numerical Modelling of Groundwater Flow in Area of Refining and Petrochemicals Complex Slovnaft. In: Proceedings of the 12th Slovak Geotechnical Conference on 55 Years of Geotechnical Engineering in Slovakia, Bratislava, Slovakia, June 1 – 2, 2015, pp. 114 – 120. ISBN 978-80-227-4363-1 (in Slovak)
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- Hruštinec, L. – Sumec, J. – Hromada, M.: Settlement of the Hydropower Plant in Gabčíkovo – Comparison of the In-Situ Measured and Calculated Values. In: Proceedings of 15th International scientific conference VSU, 2015, Vol. 1, Sofia, Bulgaria, June 4 – 6, 2015, pp. 305 – 310. ISSN 1314-071X (in English)
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- Hruštinec, L.: Influence of the Stiffness and Coupling of the "Foundation – Subsoil" System on Contact Stresses of Square Spread Foundations. In: Proceedings of the 12th Slovak Geotechnical Conference on 55 Years of Geotechnical Engineering in Slovakia, Bratislava, Slovakia, June 1 – 2, 2015, pp. 121 – 132. ISBN 978-80-227-4363-1 (in Slovak)
- Hruštinec, L. – Sumec, J. – Kuzma, J.: Comparison of Analytical and FEM Solutions of the Contact Tasks of Foundation - Subsoil Interaction. In: Proceedings of 12th International Conference on Applied Mechanics and Materials: Trends in Statics and Dynamics of Construction, Bratislava, Slovakia, Oct. 16 – 17, 2014, Vol. 769 (2015), pp. 55 – 60. ISSN 1660-9336 (in English)
- Hruštinec, L. – Sumec, J.: Analysis of Square Spread Foundation Deformations with Stiffness Variability. In: Proceedings of 13th International Conference on New Trends in Statics and Dynamics of Buildings, Bratislava, Slovakia, Oct. 15 – 16, 2015, pp. 10. ISBN 978-80-227-4463-8 (in Slovak)
- Chalupková, K.: Influence of the Method of Calculation of a Final Settlement. In: Proceedings of the 12th Slovak Geotechnical Conference on 55 Years of Geotechnical Engineering in Slovakia, Bratislava, Slovakia, June 1 – 2, 2015, pp. 154 – 162. ISBN 978-80-227-4363-1 (in Slovak)
- Chalupková, K. – Fábry, M. – Černý, M.: Short Viewpoint on the Design of the Reconstruction of the Lower Construction of a Concrete Bridge. In: Proceedings of the 12th Slovak Geotechnical Conference on 55 Years of Geotechnical Engineering in Slovakia, Bratislava, Slovakia, June 1 – 2, 2015, pp. 163 – 171. ISBN 978-80-227-4363-1 (in Slovak)
- Janták, V. – Baliak, F. – Mušec, P. – Brček, M.: Road-Cut Landslide at km 79.000 of Expressway R-1, Nitra (west) – Tekovske Nemce. In: Proceedings of the 12th Slovak Geotechnical Conference on 55 Years of Geotechnical Engineering in Slovakia, Bratislava, Slovakia, June 1 – 2, 2015, pp. 172 – 182. ISBN 978-80-227-4363-1 (in Slovak)
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- Kopecký, M. – Ondrášik, M. – Brček, M. – Laho, M.: Road Cuts of Traffic Constructions in the Geology of the Inner Carpathian Flysch. In: Proceedings of the 12th Slovak Geotechnical Conference on 55 Years of Geotechnical Engineering in Slovakia, Bratislava, Slovakia, June 1 – 2, 2015, pp. 183 – 188. ISBN 978-80-227-4363-1 (in Slovak)
- Ladicsová, E.: Analysis of a Pile Wall on the D1 Motorway. In: Proceedings of 19th International Conference on Civil Engineering and Architecture ÉPKO 2015, Cluj, Romania, 2015, pp. 124 – 127, ISSN 1843-2123 (in Hungarian)
- Mazán, J. – Hruštinec, L.: Methods for Improving the Soil Properties of Low Bearing Capacity and Unsuitable Foundation Soils: Improving a Building's Subsoil by Injecting the Synthetic Resin URETEK. In: Proceedings of 20th conference on Statics of Structures 2015, Piešťany, Slovakia, 2015, pp. 131 – 137. ISBN 978-80-89655-07-6 (in Slovak)
- Ondrášik, M. – Frankovská, J. – Kopecký, M. – Brček, M.: Swedish Granite – Host Rock Environment of the Deep Energy Well. In: Proceedings of 15th International Multidisciplinary Scientific GeoConference, Science and Technologies in Geology SGEM 2015, Albena, Bulgaria, June 18 – 24, 2015, pp. 799 – 806 ISBN 978-619-7105-32-2 (in English)

- Ondrášik, M. – Kopecký, M. – Frankovská, J. – Brček, M.: Baltic Shield – an Experimental Geological Host Environment for a Large Volume Energy Well. In: Proceedings of the 12th Slovak Geotechnical Conference on 55 Years of Geotechnical Engineering in Slovakia, Bratislava, Slovakia, June 1 – 2, 2015, pp. 219 – 229. ISBN 978-80-227-4363-1 (in Slovak)
- Panuška, J.: Dependency of Strain on the Shear Stiffness of Soil: An Overview of Some Laboratory Methods for Determining Geotechnical Parameters. In: Proceedings of the 12th Slovak Geotechnical Conference on 55 Years of Geotechnical Engineering in Slovakia, Bratislava, Slovakia, June 1 – 2, 2015, pp. 230 – 241. ISBN 978-80-227-4363-1 (in Slovak)
- Panuška, J.: Determination of the Maximum Shear Modulus of Soil. In: Advances in Architectural, Civil and Environmental Engineering: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, Slovakia, Oct. 28, 2015, pp. 504 – 511. ISBN 978-80-227-4514-7 (in Slovak)
- Pollák, P.: Modeling the Deconsolidation of an Excavation Pit for a Water Pump Structure of the Jaslovské Bohunice Nuclear Power Plant. In: Juniorstav 2015: 17th International conference of PhD students, Brno, Czech Republic, Jan. 29, 2015, pp. 8. ISBN 978-80-214-5091-2 (in Slovak)
- Pollák, P.: Influence of the Differential Settlement and Stiffness of a Concrete Frame Construction System on the Redistribution of Internal Forces in a Supporting Structure. In: Foundation Engineering – Brno 2015, 43rd Conference with international participation, Prague, Czech Republic, 2015, pp. 111 – 116. ISBN 978-80-87920-02-2 (in Slovak)
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- Stacho, J.: Design of Continuous Flight Auger Piles Using the Cavity Expansion Theory. In: Proceedings of the 12th Slovak Geotechnical Conference on 55 Years of Geotechnical Engineering in Slovakia, Bratislava, Slovakia, June 1 – 2, 2015, pp. 327 – 339. ISBN 978-80-227-4363-1 (in Slovak)
- Súľovská, M. – Turček, P.: Sealing Control of Grouted Subsoil. In: Proceedings of 20th international seminar on Strengthening, Sealing and Anchoring a Rock Mass and Building Structures 2015, Ostrava, Czech Republic, 2015, pp. 169 – 174. ISBN 978-80-248-3672-0 (in Slovak)
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- Turček, P. – Súľovská, M. – Ladicsová, E.: Design of Reservoir for Snow-Covering in High Tatra. In: Proceedings of 16th European Conference on

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- Turček, P. – Súřovská, M. – Ladicsová, E.: Evaluation of Bridge Foundation Design over River Danube in Bratislava. In: Proceedings of 16th European Conference on Soil Mechanics and Geotechnical Engineering ECSMGE 2015, Geotechnical Engineering for Infrastructure and Development, Edinburgh, The United Kingdom, Sep. 13 – 17, 2015, pp. 799 – 804. ISBN 978-0-7277-6067-8 (in English)
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- Turček, P.: Investigation of Hydraulic Failure by Erosion in Slovak Conditions. In: Proceedings of 15th International Multidisciplinary Scientific GeoConference, Science and Technologies in Geology SGEM 2015, Albena, Bulgaria, June 18 – 24, 2015, pp. 407 – 414. ISBN 978-619-7105-32-2 (in English)
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- Turček, P. – Súřovská, M.: Re-evaluation of Existing Structures and Slope Stabilization Before Widening a Highway. In: Proceedings of 17th conference on Foundation Engineering 2015, Stará Lesná, Slovakia, Oct. 11 – 13, 2015, pp. 77 – 85. ISBN 978-80-89655-08-3 (in Slovak)
- Turček, P. – Súřovská, M.: Good Geotechnical Design is Dependent on High-Quality Data. In: Proceedings of 20th conference on Static of Structures 2015, Piešťany, Slovakia, 2015, pp. 120 – 125. ISBN 978-80-89655-07-6 (in Slovak)
- Zlatinská, L.: Seepage through the Jelšava Tailings Impoundment. In: Juniorstav 2015: 17th International conference of PhD students, Brno, Czech Republic, Jan. 29, 2015, pp. 6. ISBN 978-80-214-5091-2 (in Slovak)
- Zlatinská, L.: Remediation of Jelšava Tailings Dam. In: Foundation Engineering – Brno 2015, 43rd Conference with international participation, Prague, Czech Republic, Nov. 9 – 10, 2015, pp. 103 – 108. ISBN 978-80-87920-02-2 (in Slovak)
- Zlatinská, L.: Use of Tailings Ashes in Road Embankment Structures. In: International Journal of Advance Research in Science and Engineering (IJARSE), Vol. 4, Special Issue No. 2 (2015), Prague, Czech Republic, 2015, pp. 31 – 39. ISSN 2319-8346 (in English)
- Zlatinská, L.: Principles of Proposed Drainage System Depending on the Technology of Tailings Dam Construction. In: Proceedings of the 12th Slovak Geotechnical Conference on 55 Years of Geotechnical Engineering in Slovakia, Bratislava, Slovakia, June 1 – 2, 2015, pp. 434 – 441. ISBN 978-80-227-4363-1 (in Slovak)
- Zlatinská, L.: Stability and Seepage Problems of Hydraulically Deposited Ash Tailing Impoundments. In: Advances in Architectural, Civil and Environmental Engineering: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, Slovakia, Oct. 28, 2015, pp. 538 – 543. ISBN 978-80-227-4514-7 (in Slovak)
- Zhussupbekov, A. – Frankovská, J. – Stacho, J. – Al-Mhaidib, A. I. – Doubrovsky, M. – Uranhayev, N. – Yerzhanov, S. – Morev, Ivan.: Geotechnical and Construction Considerations of Pile Foundations in Problematical Soils. In: The 15th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering: extended abstracts. Fukuoka, Japan, Nov. 9 – 13, 2015, p. 504 (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 12 works.

### 2.2 Graduate theses

Nosko, R.: Evaluation of Developing an Erosion Rill for Proposed of Erosion Control.

Supervisor: Danáčová, M.

Belan, M.: Evaluation of Changes in Snow Cover in Slovakia by Semi-Distributed Modelling.

Supervisor: Výleta, R.

Franko, T.: Proposed Flood Protection for the Village of Píla.

Supervisor: Macura, V.

Kocka, L.: Restoration of the Branoský Stream in the Village of Čechy.

Supervisor: Macura, V.

Maliarik, P.: Stabilization of the Handlovka River Channel in Handlová.

Supervisor: Škrinár, A.

Ďurecová, Z.: Analysis of Rainfall Intensities and Their Changes in Slovakia.

Supervisor: Kohnová, S.

Marková, R.: Analysis of SCS-CN Parameters on the Myjava River Basin  
Supervisor: Kohnová, S.

Morvayová, V.: Proposed Landscale Engineering Measures and Soil Erosion Control for a Selected River Basin.  
Supervisor: Hlavčová, K.

Csicsóová, A.: The Effect of Different Crops on the Course of a Soil Water Regime.  
Supervisor: Skalová, J.

Ďurechová, L.: Determining the Course of the Water Retention Curves for the Soils of Slovakia.  
Supervisor: Skalová, J.

## 2.3 Doctoral theses

Jeneiová, K.: Detection of Changes in Annual Flood Time Series  
Supervisor: Kohnová, S.

# 3. RESEARCH

## 3.1 Research projects

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)

Preventing and Remediating Degradation of Soils in Europe Through Land Care (RECARÉ). (2013-1018, Szolgay, J.). Research Project of 7FP No. 603498.

## 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

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

University of Natural Resources and Life Sciences, Institute of Hydrobiology and Aquatic Ecosystem Management, Vienna, Austria

## 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

## Books

Bezák, J.: Analysis of the Use of Hybrid Data-Driven Models for Predictions of Hydrological Variables. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015. 98 pp. ISBN 978-80-227-4460-7 (in Slovak)

Rehák, Š. – Bárek, V. – Jurík, Ľ. – Čistý, M. – Igaz, D. – Adam, Š. – Lapin, M. – Skalová, J. – Alena, J. – Fekete, V. – Šútor, J. – Jobbágy, J.: Irrigation of Field Ccrops, Vegetables and Orchards. 1st ed. Bratislava : Veda, 2015. 640 pp. ISBN 978-80-224-1429-6 (in Slovak)

Skalová, J. – Kotorová, D. – Igaz, D. – Gomboš, M. – Nováková, K.: Regionalization of Pedotransfer Functions of Water Retention Curves for Soils in Slovakia. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2014, 143 pp. Edition of monographs. ISBN 978-80-227-4455-3 (in Slovak)

## Textbooks

Čistý, M. – Becová, A.: River Basin Management : Irrigation. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015. 77 pp. ISBN 978-80-227-4493-5 (in English)

## Journals

- Bajtek, Z. – Čistý, M. – Čelár, L.: Irrigation Distribution Network Analysis. In: IOSR Journal of Mechanical and Civil Engineering. Vol. 12, No. 6 (2015), [8] pp. ISSN 2320-334X (in English)
- Čistý, M. – Čelár, L. – Minarič, P.: Conversion Between Soil Texture Classification Systems Using the Random Forest Algorithm. In: Air, Soil and Water Research. Vol. 8, (2015), online, pp. 67-75. ISSN 1178-6221 (in English)
- Čistý, M. – Čelár, L.: Using R in Water Resources Education. In International Journal for Innovation Education and Research. Vol. 3, No. 10 (2015), pp. 97-117. ISSN 2411-3123 (in English)
- Danáčová, M. – Szolgay, J. – Výleta, R.: Estimation of the Relationship Between the Travel Time of Flood Peaks and Peak Discharge on the Poprad River by Multilinear Flood Routing. In: International Journal of New Technology and Research. Vol. 1, No. 6 (2015), online, pp. 35-39. ISSN 2454-4116 (in English)
- Danáčová, M. – Nosko, R. – Výleta, R. – Randusová, B. – Szolgay, J.: Possibilities of Estimating the Changes in Gully Erosion on the Myjava Basin. In: Acta Hydrologica Slovaca. Vol. 16, 1 (2015), pp. 167-175. ISSN 1335-6291 (in Slovak)
- Gaál, L. – Szolgay, J. – Kohnová, S. – Hlavčová, K. – Parajka, J. – Viglione, A. – Merz, R. – Blöschl, G.: Dependence Between Flood Peaks and Volumes: a Case Study on Climate and Hydrological Controls. In: Hydrological Sciences Journal – Journal des Sciences Hydrologiques. Vol. 60, No. 6 (2015), pp. 968-984. ISSN 0262-6667 (in English)
- Hlavčová, K. – Lapin, M. – Valent, P. – Szolgay, J. – Kohnová, S. – Rončák, P.: Estimation of the Impact of Climate Change-Induced Extreme Precipitation Events on Floods. In: Contributions to Geophysics and Geodesy. Vol. 45, No. 3 (2015), pp. 173-192. ISSN 1335-2806 (in English)
- Ivan, P. – Macura, V.: Modification of a Measured Habitat Suitability Curve for a Wide Range of Flows. In: Acta Hydrologica Slovaca. Vol. 16, No. 1 (2015), pp. 60-68. ISSN 1335-6291 (in Slovak)
- Ivan, P.: Evaluation of Quality of Aquatic Habitat on the Nitrava River. In: Acta Scientiarum Polonorum Formatio Circumiectionis. Vol. 14, No. 2 (2015), pp. 93-101. ISSN 1644-0765 (in English)
- Jarabicová, M. – Pásztorová, M. – Minarič, P. – Skalová, J.: Impact of the Climate Change on Evapotranspiration in the Poiplie Area. In: Acta Scientiarum Polonorum Formatio Circumiectionis. Vol. 14, No. 1 (2015), pp. 85-97. ISSN 1644-0765 (in English)
- Jarabicová, M. – Minarič, P. – Pásztorová, M.: The Course of the Soil Water Regime in the Poiplie Area as a Consequence of Climate Change. In: Acta Hydrologica Slovaca. Vol. 16, No. 2 (2015), pp. 178-186. ISSN 1335-6291 (in Slovak)
- Jeneiová, K. – Kohnová, S. – Parajka, J. – Szolgay, J.: Detection of Changes in the Annual Maximum Discharge Series in South Slovakia. In: Acta Hydrologica Slovaca. Vol. 16, 1 (2015), pp. 53-58. ISSN 1335-6291 (in Slovak)
- Korbeľová, L.: Garden Where Miracles Happen. In: A+D. Vol. 10, No. 18 (2015), pp. 36-37. ISSN 1338-2861 (in Slovak)
- Korbeľová, L.: Place Inspired by Nature. In: A+D. Vol. 10, No. 18 (2015), pp. 38-39. ISSN 1338-2861 (in Slovak)
- Macura, V. – Škrinár, A.: Possibilities of River Restoration in Slovakia. In: Vodohospodársky spravodajca. Vol. 58, (2015), pp. 26-30. ISSN 0322-886X (in Slovak)
- Mediero, L. – Kjeldsen, T. R. – Macdonald, N. – Kohnová, S. – Merz, B. – Vorogushyn, S. – Wilson, D. – Albuquerque, T. – Blöschl, G. – Bogdanowicz, E. – Castellari, A. – Hall, J. – Kobold, M. – Kriaučiunienė, J. – Lang, M. – Madsen, H. – Onusluel G., G. – Perdigao, R. A P – Roald, L. A. – Salinas, J. L. – Toumazis, Antonis D. – Vejjalainen, N. – Pórarinnsson, Ó.: Identification of Coherent Flood Regions across Europe by Using the Longest Streamflow Records. In: Journal of Hydrology. Vol. 528, (2015), pp. 341-360. ISSN 0022-1694 (in English)
- Molnár, P. – Fatichi, S. – Gaál, L. – Szolgay, J. – Burlando, P.: Storm Type Effects on Super Clausius-Clapeyron Scaling of Intense Rainstorm Properties with Air Temperature. In: Hydrology and Earth System Sciences. Vol. 19, No. 4 (2015), pp. 1753-1766. ISSN 1027-5606 (in English)
- Randusová, B. [Karabová, B.] – Marková, R. – Hlavčová, K. – Kohnová, S.: Parametrisation of the SCS-CN Method on the Myjava Catchment. In: Acta Hydrologica Slovaca. Vol. 16, 1 (2015), pp. 161-166. ISSN 1335-6291 (in Slovak)
- Randusová, B. [Karabová, B.] – Marková, R. – Kohnová, S. – Hlavčová, K.: Comparison of CN Estimation Approaches. In: International Journal of Engineering Research & Science. Vol. 1, No. 7 (2015), online, pp. 34-40. ISSN 2395-6992 (in English)
- Rutkowska, A. – Kohnová, S. – Banasik, K. – Szolgay, J. – Karabová, B. [Karabová, B.]: Probabilistic Properties of a Curve Number: A Case Study for Small Polish and Slovak Carpathian Basins. In: Journal of Mountain Science. Vol. 12, No. 3 (2015), pp. 533-548. ISSN 1672-6316 (in English)
- Sleziak, P. – Hlavčová, K. – Szolgay, J.: Advantages of a Time Series Analysis Using Wavelet Transform as Compared with a Fourier Analysis. In: Slovak Journal of Civil Engineering. Vol. 23, No. 2 (2015), pp. 30-36. ISSN 1210-3896 (in English)
- Sleziak, P. – Szolgay, J.: Analysis of the Similarities Between Time Series of Discharges of Selected Slovak Rivers Using Wavelet Coherence. In: Meteorological Journal. Vol. 18, No. 1 (2015), pp. 25-32. ISSN 1335-339X (in English)
- Studvová, Z. – Hlavčová, K. – Kotríková, K. – Morvayová, V.: Evaluating the Effectiveness of Erosion Control on a Selected Area in the Myjava Basin. In: Acta Hydrologica Slovaca. Vol. 16, 1 (2015), pp. 176-183. ISSN 1335-6291 (in Slovak)

Valent, P. – Maliariková, M. – Rončák, P. – Hlavčová, K. – Randusová, B. [Karabová, B.]: Analysis of Land Use Changes in the Myjava River Basin Utilizing Historical Maps. In: *Acta Hydrologica Slovaca*. Vol. 16, 1 (2015), pp. 152-160. ISSN 1335-6291 (in Slovak)

Valent, P. – Výleta, R.: Calculating Areal Rainfall Using a More Efficient IDW Interpolation Algorithm. In: *International Journal of Engineering Research & Science*. Vol. 1, No. 7 (2015), online, pp. 9-17. ISSN 2395-6992 (in English)

Vitková, J. – Brezianská, K. – Skalová, J.: Analysis of Actual Evapotranspiration at the Zahorie Lowland in the Time Horizons 2010, 2030 and 2075. In: *Acta Hydrologica Slovaca*. Vol. 16, No. 2 (2015), pp. 171-177. ISSN 1335-6291 (in Slovak)

Výleta, R. – Szolgay, J.: Stochastic Modelling of Mean Monthly Flows Using the Thomas-Friering Model for the Needs of Engineering Hydrology. In: *Acta Hydrologica Slovaca*. Vol. 16, No. 1 (2015), pp. 51-59. ISSN 1335-6291 (in Slovak)

Výleta, R. – Kotríková, K. – Valent, P. – Szolgay, J. – Szász, V.: The Modelling of a Snow Water Equivalent Using a Spatially Semi-Distributed Model of a Catchment. In: *Acta Hydrologica Slovaca*. Vol. 16, 1 (2015), pp. 235-244. ISSN 1335-6291 (in Slovak)

Zechelová, K. – Ďurecová, Z. – Kohnová, S.: Testing Changes in the Trends and Scaling Exponents of Short-Term Rainfall at the Hurbanovo Station. In: *Acta Hydrologica Slovaca*. Vol. 16, 1 (2015), pp. 184-189. ISSN 1335-6291 (in Slovak)

## Conference Proceedings

Becová, A.: Analysis of Drought Events Using Selected Drought Indices. In: *Advances in Architectural, Civil and Environmental Engineering : 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics*. Bratislava, SR, 28.10.2015. 1st ed. Bratislava : Slovak University of Technology in Bratislava, 2015, CD-ROM, pp. 252-258. ISBN 978-80-227-4514-7 (in Slovak)

Čelár, L.: Analysis and Visualisation of an Irrigation Distribution Network. In: *Advances in Architectural, Civil and Environmental Engineering : 25rd Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics*. Bratislava, SR, 28.10.2015. 1st ed. Bratislava : Slovak University of Technology in Bratislava, 2015, CD-ROM, pp. 783-789. ISBN 978-80-227-4514-7 (in Slovak)

Čistý, M. – Bajtek, Z. – Čelár, L.: Analysis and Visualization of Irrigation Distribution Systems. In: *Water Management and Hydraulic Engineering 2015 : 14th International Symposium*. Brno, CR, 8.-10.9.2015. 1st ed. Brno : Institute of Water Structures, FCE, BUT, 2015, pp. 131-140. ISSN 2410-5910. ISBN 978-80-214-5230-5 (in English)

Čistý, M. – Čelár, L. – Becová, A.: Application of Copulas in Analysis of Drought and Irrigation. In: *ADVCOMP 2015 : the Ninth International Conference on Advanced Engineering Computing and Applications in Sciences*. Nice, France, 19.-24.7.2015 : International Academy, Research and Industry Association (IARIA), 2015, pp. 104-108. ISBN 978-1-61208-419-0 (in English)

Danáčová, M. – Szolgay, J.: Comparison of the Simulation of Hydrological Flow Routing Models on the River Suir. In: *Workshop of Adolf Patera 2015 : Extreme Hydrological Events in Catchments*. Prague, CR, 16.12.2015. 1st ed. Prague : CVUT in Prague, 2015, pp. 25-32. ISBN 978-80-01-05856-5 (in Slovak)

Hall, J. – Arheimer, B. – Aronica, G. T. – Bilbashi, A. – Boháč, M. – Gaál, L. – Kohnová, S. – Szolgay, J.: A European Flood Database: Facilitating Comprehensive Flood Research Beyond Administrative Boundaries. In: *Proceedings of the International Association of Hydrological Sciences*. Vol. 370, (2015), online, pp. 89-95. ISSN 2199-8981 (in English)

Hépal, M. – Tokár, O.: Natural Systems and Elements in the City and Their Classification. In: *Advanced Building Construction and Materials 2015 (ABCM 2015) : Proceedings of the Scientific Conference with international participation*. Strážnice, CR, 25.-27.6.2015. 1st ed. Ostrava : VŠB – Technical University of Ostrava, Faculty of Safety Engineering, 2015, CD-ROM, pp. 111-114. ISBN 978-80-248-3860-1 (in Slovak)

Hlavčová, K. – Kotríková, K. – Szolgay, J. – Kohnová, S.: Changes in Snow Pack in Mountainous Basins in Slovakia Due to Climate Change. In: *Earth and Environmental Sciences for Future Generations : 26th General Assembly of the International Union of Geodesy and Geophysics*. Prague, CR, 22.6.-2.7.2015. Potsdam : International Union of Geodesy and Geophysics, 2015 (in English)

Hlavčová, K. – Kotríková, K. – Kohnová, S. – Valent, P.: Changes in the Snow Water Equivalent in Mountainous Basins in Slovakia Over Recent Decades. In: *Proceedings of the International Association of Hydrological Sciences*. Vol. 370, (2015), online, pp. 109-116. ISSN 2199-8981 (in English)

Ivan, P. – Jarabíková, M. – Muchová, Z.: Assessment of Changes in Landuse by the Coefficient of Ecological Stability. In: *SGEM 2015. 15th International Multidisciplinary Scientific Geoconference. Ecology, Economics, Education and Legislation : Conference Proceedings*, 18.-24.6.2015, Albena, Bulgaria. 1st ed. Sofia : STEF 92 Technology, 2015, pp. 73-80. ISSN 1314-2704. ISBN 978-619-7105-39-1 (in English)

Ivan, P. – Majorošová, M. – Macura, V.: Modification and Application of Habitat Suitability Curves for a Depth. In: *SGEM 2015. 15th International Multidisciplinary Scientific GeoConference. Water Resources. Forest, Marine and Ocean Ecosystems : conference proceedings*. Albena, Bulgaria, 18.-24.6.2015. 1st ed. Sofia : STEF 92 Technology, 2015, pp. 453-460. ISSN 1314-2704. ISBN 978-619-7105-36-0 (in English)

Ivan, P. – Chebeňová, T.: The Land Use Changes Described by Coefficients of Ecological Stability. In: *Landscape Architecture and Landscape Planning. Conference Proceedings*, 1.-2.10.2015, Bratislava, 1st ed. Bratislava : SUT, 2015, pp. 159-166. ISBN 978-80-227-4443-0 (in Slovak)

- Ivan, P.: Modification of Habitat Suitability Curve of Depths for a Wider Flow Range in the Nitrica River. In: *Advances in Architectural, Civil and Environmental Engineering : 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics*. Bratislava, SR, 28.10.2015. 1st ed. Bratislava : Slovak University of Technology in Bratislava, 2015, CD-ROM, pp. 259-265. ISBN 978-80-227-4514-7 (in Slovak)
- Jarabíková, M. – Minarič, P. – Pásztorová, M.: Forecasting the Soil Water Regime for the Poipie Area. In: *Impact of Anthropogenic Activities on the Water Regime of Lowlands. Conference Proceedings, Zemplínska Šírava, SR, 2.-4.6.2015*. 1st ed. Bratislava : Institute of Hydrology of SAS, 2015, CD-ROM, pp. 112-125. ISBN 978-80-89139-35-4 (in Slovak)
- Jarabíková, M. – Minarič, P. – Skalová, J. – Vitková, J.: Diagnosis of a Water Regime for Different Ecosystems. In: *Landscape Architecture and Landscape Planning in Perspective. Conference Proceedings, 1.-2.10.2015, Bratislava, Slovakia*. 1st ed. Bratislava : SUT, 2015, pp. 179-186. ISBN 978-80-227-4443-0 (in Slovak)
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Valent, P. – Kotříková, K. – Hlavčová, K.: The Utilization of a Multi-Objective Calibration Approach and a Semi-Distributed Modelling Scheme in the Simulation of a Snow Water Equivalent. In: *HydroCarpath 2015. Catchment Processes in Regional Hydrology: Linking Experiments and Modelling in Carpathian Drainage Basins : Proceedings of international conference*. Sopron/ Bratislava/Vienna, 29.10.2015. 1st ed. Sopron : University of West Hungary Press, 2015, CD-ROM, 8 pp. ISBN 978-963-334-268-8 (in English)

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Výleta, R. – Valent, P. – Čistý, M.: The Qualitative Water Balance of a Small Reservoir. In *HydroCarpath 2015. Catchment Processes in Regional Hydrology: Linking Experiments and Modelling in Carpathian Drainage Basins : Proceedings of the International Conference*. Sopron/ Bratislava/Vienna, 29.10.2015. 1st ed. Sopron : University of West Hungary Press, 2015, CD-ROM, 8 pp. ISBN 978-963-334-268-8 (in English)

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# DEPARTMENT OF HYDRAULIC ENGINEERING

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Hydraulics I

Hydraulics II

Hydromechanics

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 15 works.

### 2.2 Graduate theses

Česelská, M.: Flow Simulation by Means of a 2D Hydrodynamic Model in the Area of a Selected Water Structure on the Váh River

Supervisor: Orfánus, M.

Chlebák, O.: Design of the Sajkov Small Hydropower Plant on the Hornád River

Supervisor: Dušička, P.

Hanzlík, M.: Design of the Hydropower Utilization of the Weir at Vyškovce nad Ipľom

Supervisor: Šulek, P.

Ivaneková, P.: Flow Simulation by Means of a 2D Hydrodynamic Model in the Area of a Selected Water Structure on the Danube River

Supervisor: Orfánus, M.

Janík, A.: Solution of the Flood Protection of Urban Areas in the Small Carpathians

Supervisor: Šoltész, A.

Klenovič, M.: Design of a Small Hydropower Plant on the Hornád River

Supervisor: Rumann, J.

Kopáčová, A.: Design of Water Management Measures and Hydropower Utilization in the Area of Trstie

Supervisor: Dušička, P.

Križan, M.: Design of a Control Weir on the Váh River

Supervisor: Gramblička, M.

Kyseláková, M.: Assessment of the Possibilities of Hydropower Utilization of the Váh River in the Kraľovany – Ružomberok Stage

Supervisor: Rumann, J.

Motyka, T.: Design of a Small Hydropower Plant

Supervisor: Šulek, P.

Nahálková, M.: Modelling the Effects of a Planned Water Structure on the Danube on a Groundwater Flow and Regime

Supervisor: Baroková, D.

Pavlíková, A.: Hydraulic and Stability Aspects of the Selice Navigation Structure on the Váh River  
Supervisor: Možiešik, L.

## 2.3 Doctoral theses

Andrássy, T.: Analyses of Groundwater Flow in the Vicinity of Water Resources  
Supervisor: Šoltész, A.

Kelčík, S.: Application of Artificial Intelligence Methods in Solving Hydrotechnics Problems  
Supervisor: Květon, R.

Pindjaková, T.: Influence of Hydraulic Parameters on the Groundwater Regime in Urban Areas  
Supervisor: Šoltész, A.

## 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

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

### 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

### Books

Andrássy, T.: Analyses of Groundwater Flow in the Vicinity of Water Resources. 1st ed., Bratislava, Slovak University of Technology in Bratislava, 2015, 105 pp. ISBN 978-80-227-4507-9 (in Slovak)

Baroková, D.: Simulation of the Impact of Selected Buildings on a Groundwater Regime. 1st ed., Bratislava, Slovak University of Technology in Bratislava, 2015, 158 pp., Edition of Scientific Works, ISBN 978-80-227-4475-1 (in Slovak)

Dušíčka, P. – Květon, R.: Channel Water Power Plants – Hydraulic Research of Diversion Channel Operations: Basic Hydraulic Research, 1st ed., Bratislava, Slovak University of Technology in Bratislava, 2015, CD-ROM, online, 92 pp., <[http://www.svf.stuba.sk/docs//dokumenty/skripta/Monografia-komplet\\_2.pdf](http://www.svf.stuba.sk/docs//dokumenty/skripta/Monografia-komplet_2.pdf)>, ISBN 978-80-227-4326-6 (in Slovak)

Kelčík, S.: Application of Artificial Intelligence Methods in Solving Problems of Hydrotechnics. Expert System for Support of the Management of the Dispatching System of the Gabčíkovo-Nagymaros Dams. 1st ed., Bratislava, Slovak University of Technology in Bratislava, 2015, 134 pp., ISBN 978-80-227-4508-6 (in Slovak)

Pálinkášová, Z.: Optimisation of the Water Level Regulation in the East Slovak Lowland Drainage System. 1st ed., Bratislava, Slovak University of Technology in Bratislava, 2015, 94 pp. ISSN 978-80-227-4505-5 (in Slovak)

Pindjaková, T.: Influence of Hydrological Parameters on the Groundwater Regime in Urban Areas. 1st ed., Bratislava, Slovak University of Technology in Bratislava, 2015, 111 pp. ISBN 978-80-227-4506-2 (in Slovak)

Šulek, P.: Scheduling Daily Operations of Regulatory Hydropower Plants. 1st ed., Bratislava, Slovak University of Technology in Bratislava, 2015, 124 pp. ISBN 978-80-227-4278-8 (in Slovak)

### Textbooks

Květon, R. – Orfánus, M.: Hydroinformatics 1st part: Simulation of Process of the Free Surface Flow of Water in Open Channels and Through Hydraulic Structures. 1st ed., Bratislava, Slovak University of Technology in Bratislava, 2015, Online, 202 pp., Textbooks Edition, <[http://www.svf.stuba.sk/docs//dokumenty/skripta/hydroinformatika\\_1.pdf](http://www.svf.stuba.sk/docs//dokumenty/skripta/hydroinformatika_1.pdf)>, ISBN 978-80-227-4468-3 (in Slovak)

### Journals

Baroková, D. – Šoltész, A. – Možiešiková, K.: Analysis and Assessment of the Possible Impact of Training the Trnávka Stream on the Groundwater Level Regime, In: Acta Hydrologica Slovaca. Vol. 16, No. 2 (2015), 116-124. ISSN 1335-6291 (in Slovak)

Dušíčka, P. – Šulek, P.: Water Power Utilization in Slovakia, In: Životné prostredie. (Environment) Vol. 49, No. 1 (2015), pp. 34-40, ISSN 0044-4863 (in Slovak)

Možiešik, Ľ. – Orfánus, M. – Šulek, P. – Rumann, J. – Dušička, P.: The Kolárovo Water Structure on the Váh River: Research Model, In: *Inžinierske stavby*. Vol. 63, No. 6 (2015), pp. 17-19. ISSN 1335-0846 (in Slovak)

## Conference Proceedings

Baroková, D. – Šoltész, A. – Možiešiková, K.: Analysis and Review of the Possible Impact of Changes in the Regulation of the Trnávka Stream on the Groundwater Level Regime. In: *Proceedings of the 9th International Conference on the Influence of Anthropogenic Activities on the Water Regime of a Lowland Territory, Zemplínska Šírava, SR, 2.-4.6.2015, 1st ed.*, Bratislava, Institute of Hydrology SAS, 2015, CD-ROM, pp. 11-24, ISBN 978-80-89139-35-4 (in Slovak)

Červeňanská, M. – Baroková, D. – Šoltész, A.: Modelling of Groundwater Flow in the Area of Water Resources Operation, In: *Proceedings of the 11th International Miklós Iványi PhD & DLA Symposium. Architectural, Engineering and Information Sciences, Book of Abstracts, Pécs, Hungary, Pollack Press, 2015, p. 40, ISBN 978-963-642-876-1 (in English)*

Červeňanská, M. – Baroková, D.: Analysis of the Groundwater Flow on Danube Islands. In: *Proceedings of Colloquium on Landscape Management 2015, 1st ed.*, Brno, Mendel University in Brno, 2015, CD-ROM, pp. 4-8, ISBN 978-80-7509-378-3 (in English)

Dušička, M. – Rumann, J.: Pit Intake Structures. In: *Proceedings of Colloquium on Landscape Management 2015, Brno, Czech Republic, 15.12.2015, 1st ed.*, Brno, Mendel University in Brno, 2015, CD-ROM, pp. 44-48, ISBN 978-80-7509-378-3 (in English)

Dušička, M.: Pit Intake Structures. In: *Advances in Architectural, Civil and Environmental Engineering. 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. 1st ed.* Bratislava, Slovak University of Technology in Bratislava, 2015, CD-ROM, pp. 790-794, ISBN 978-80-227-4514-7 (in Slovak)

Gramblička, M.: Impact of a Water Work on a River Flow. In: *Proceedings of the 9th International Conference on the Influence of Anthropogenic Activities on the Water Regime of a Lowland Territory, Zemplínska Šírava, SR, 2.4.6.2015, 1st ed.*, Bratislava, Institute of Hydrology SAS, 2015, CD-ROM, pp. 76-79, ISBN 978-80-89139-35-4 (in Slovak)

Janík, A. – Šoltész, A.: Hydraulic Assessment of Flood Protection Measures in Small Carpathians. In: *Proceedings of the 14th International Symposium on Water Management and Hydraulic Engineering 2015, Brno, Czech Republic, 8.-10.9.2015, 1st ed.*, Brno, Institute of Water Structures, FCE, BUT, 2015, pp. 379-390, ISSN 2410-5910, ISBN 978-80-214-5230-5 (in English)

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# DEPARTMENT OF BUILDING CONSTRUCTION

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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

Buildings and Energy

Buildings and Urban Acoustics

Building Climatology

Building Constructions – Selected Essays

Building Simulations

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

Kovaľ, P.: Tourist Apartment  
 Supervisor: Gieciová, M.

Kuchár, D.: College Dormitory  
 Supervisor: Hraška, J.

Mihál, M.: University Dormitory with Increased Demands for Energy Efficiency  
 Supervisor: Palková, A.

Pastorková, Z.: Family Farm – Horse Breeding and Hypotherapy  
 Supervisor: Mikolai, I.

Poľáčko, M.: Multifunctional High-Rise Building  
 Supervisor: Chmúrny, I.

Randuška, M.: Theater for Small Theatrical Forms  
 Supervisor: Tomašovič, P.

Rišová, K.: Multi-Purpose Sports Hall  
 Supervisor: Puškár, A.

Roman, D.: Warehouse for Fruits and Vegetables  
 Supervisor: Jamnický, M.

Sarka, M.: Administrative Building with Double-Skin Facade  
 Supervisor: Bielek, B.

Sekerák, Ľ.: Logistics Centre  
 Supervisor: Jamnický, M.

Stehlík, L.: A Cable Car Station and Restaurant  
 Supervisor: Žilinský, J.

Szjártóová, M.: City Hotel\*\*\*  
 Supervisor: Dlhý, D.

Szusztor, T.: Restaurant with Accommodations  
 Supervisor: Ingeli, R.

Šedivý, M.: Hotel  
 Supervisor: Vavrovič, B.

Šimončíčová, A.: Main Integrated County Fire and Rescue Station in Trnava  
 Supervisor: Olbřímek, J.

Šlepecký, P.: Bus Station  
 Supervisor: Pernišová, A.

Teplický, M.: Modernization of an Office Building  
 Supervisor: Rabenseifer, R.

Vallová, M.: An Office Building with Increased Demands for Energy Efficiency  
 Supervisor: Palko, M.

Vida, P.: Ultra Low-Energy Apartment Building  
 Supervisor: Mendňan, R.

## 2. THESES

### 2.1 Bachelor theses

There were 188 works.

### 2.2 Graduate theses

Bab, L.: Pastoral Center  
 Supervisor: Jakeš, E.

Bajnok, M.: Automobile Centre  
 Supervisor: Hanuliak, P.

Baláži, P.: Museum  
 Supervisor: Oláh, J.

Drozda, Ľ.: An Airport Terminal Building  
 Supervisor: Dlhý, D.

Dubecký, M.: Bus Station  
 Supervisor: Miklósová, T.

Galatová, K.: Office Building  
 Supervisor: Miklósová, T.

Galba, J.: Chtelnica Manor House – Monument Restoration of a Building  
 Supervisor: Vargová, A.

Hudeková, L.: A Library  
 Supervisor: Puškár, A.

Hulák, T.: Mountain Hotel  
 Supervisor: Minarovičová, K.

Jahodník, M.: Administrative Center  
 Supervisor: Hraška, J.

Kašík, M.: Parking Garage  
 Supervisor: Držka, M.

Kevély, J.: Boathouse  
 Supervisor: Žilinský, J.

Klamová, L.: A Shopping and Business Centre  
 Supervisor: Buday, P.

Kosorínová, L.: A White Mill  
 Supervisor: Jakeš, E.



## 2.3 Doctoral theses

Doležel, M.: Thermal Barriers in Wall Construction  
Supervisor: Chmúrny, I.

Fabian, M.: Daylight Standard Conditions in Bratislava  
Supervisor: Darula, S.

Jurdík, J.: Fire Stations and Modelling the Deployment of Fire Houses in a Selected Area of the Slovak Republic, District of Považská Bystrica and Púchov  
Supervisor: Mikolaj, I.

Leuck, R.: Entwicklung eines mathematischen Modells zur dreidimensionalen Darstellung der Wirtschaftlichkeit von energieeffizienten Gebäuden (in Germany)  
Supervisor: Puškár, A.

Medved', J.: A Comprehensive Evaluation of the Impact Sound Insulation in Housing  
Supervisor: Puškár, A.

Michálek, V.: Multiple Glazing for Nearly Zero Energy Buildings  
Supervisor: Chmúrny, I.

Mikulášik, M.: Thermal Properties of Earthen Building Walls  
Supervisor: Žilinský, J.

Šída, M.: Contribution to Snow Protection Solutions for Pitched Roofs  
Supervisor: Oláh, J.

Urbán, D.: Sound Propagation within Double Transparent Constructions  
Supervisor: Tomašovič, P.

## 3. RESEARCH

### 3.1 Research projects

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

Simulation of Daylight in an Artificial Sky (2013-2016, Hanuliak, P.) APWV-0118-12

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

Novel Structural Skins: Improving Sustainability and Efficiency through New Structural Textile Materials and Designs (2013-2017, Rychtáriková, M., Vargová, A.) COST Action TU1303

Transport and Urban Development – Adaptive Facade Networks (2014-2018, Hraška, J., Rabenseifer, R.) COST Action TU 1403

Fire Resistant Use of Bio-based Building Products (2014-2018, Olbřímek, J.) COST Action FP1404

Innovation of Envelopes of Low-Energy and Passive Assembled Buildings Based on Wood by Integrated Photovoltaic Elements with Regard to Their Effective Cooling (2015, Hraška, J.) MH SR Voucher PP 63

Pipe System of Active Thermal Protection into External Walls (2015, Puškár, A.) MH SR Voucher PP 61

Application of Basalt Fibre for Improving Rheology Properties of the Concrete and Enhancement of Strength of the Concrete in Building Production (2015, Puškár, A.) MH SR Voucher PP 62

Mobility Between Higher Education Institutions. EEA Scholarship Programme Slovakia (2015-2016 Rabenseifer, R.), EHP-26/SK06-II-01-004/2015

Development, Theoretical and Experimental Research of Building Envelopes with Integrated Photovoltaic Elements (2015-2017, Hraška, J.) VEGA 1/0286/15

Setting Up Qualifications and a Continuing Education and Training Scheme for Middle and Senior Level Professionals on Energy Efficiency and the Use of Renewable Energy Sources in Buildings (ingREeS 649925) (2015-2018, Rabenseifer, R.) H2020: SC3 – Secure, Clean and Efficient Energy, SEP-210174191

Advanced Physical-Acoustic and Psycho-Acoustic Diagnostic Methods for Innovation in Building Acoustics – Papabuild (2015-2019, Rychtáriková, M.) H2020 MSCA – 690970

### 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 Buildings – 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

Rychtáriková, M.: ICA International Commission on Acoustics (ICA)

## 4. PUBLICATIONS

### Books

Palko, M. – Palková, A. – Peleš, M.: Progressive Building Materials and Construction 2015/1: Saunas, Swimming Pools, Fair-Faced Concrete, Exterior and Floor Coverings. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015. CD-ROM, 133 pp. Edition of university textbooks. ISBN 978-80-227-4517-8 (in Slovak)

Palková, A. – Palko, M.: Progressive Building Materials and Construction 2015/2: Container Architecture, Corten Steel, In-Depth Restoration of Facades, Green Roofs and Facades. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015. CD-ROM, 120 pp. Edition of university textbooks. ISBN ISBN 978-80-227-4518-5 (in Slovak)

Rychtáriková, M.: Psychoacoustic Tests in Building Acoustics. 1st ed. Bratislava: doc. Ing. Monika Rychtáriková, PhD., 2015. 90 pp. ISBN 978-80-971993-6-4 (in Slovak)

Rychtáriková, M. – Chmelík, V.: Architectural Acoustics. Room Acoustics. 1st ed. Leuven: Acco, 2015. 140 pp. ISBN 978-94-6292-266-2 (in English)

### Textbooks

Oláh, J. – Šutliak, S. – Ingeli, R.: Design Studio. Composition and Details of Flat Roofs. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015. 249 pp. Edition of textbooks. ISBN 978-80-227-4404-1 (in Slovak)

### Journals

Bielek, B. – Szabó, D. – Lavričik, M.: Innovative Facade of Panorama City Towers. In: Eurostav. Vol. 21, Nos. 7-8 (2015), pp. 26-30. ISSN 1335-1249 (in Slovak)

Buday, P. – Ingeli, R.: Thermal Insulation of Extended Balcony Slabs Using Isokorb Bearing Elements: vs. Their Thermal Quantification According to Standard (STN). In: TZB-info.cz. Vol. 17, No. 42 (2015), online, [6] p. ISSN 1801-4399 (in Slovak)

Buday, P. – Ingeli, R.: Influence of Bearing Steel on the Equivalent Thermal Conductivity Coefficient of Thermal Insulation Parts of Isokorb Bearing Elements. In: Tepelná ochrana budov. Vol. 18, No. 5 (2015), pp. 40-44. ISSN 1213-0907 (in Slovak)

Carvalho, F. R. – Van Ee, R. – Rychtáriková, M. – Touhafi, A. – Steenhaut, K. – Persoone, D. – Spence, C.: Using Sound-Taste Correspondences to Enhance the Subjective Value of Tasting Experiences. In: Frontiers in Psychology. Vol. 6, (2015), online, Art. No. 1309, [8] p. ISSN 1664-1078 (in English)

Carvalho, F. R. – Van Ee, R. – Rychtáriková, M. – Touhafi, A. – Steenhaut, K. – Persoone, D. – Spence, C. – Leman, M.: Does Music Influence the Multisensory Tasting Experience? In: Journal of Sensory Studies. Vol. 30, No. 5 (2015), pp. 404-412. ISSN 0887-8250 (in English)

Čeheľová, D. – Janák, M. – Bielek, B.: An Assessment of the Effect of Wind on the Thermal Comfort and Safety of Pedestrians Near Buildings Using the CFD Method. In: Vytápění, větrání, instalace. Vol. 24, Iss. 4 (2015), pp. 166-170. ISSN 1210-1389 (in Slovak)

Dlhý, D. – Urbán, D. – Zaťko, P. – Tomašovič, P.: Sound Insulation of Double-Skin Transparent Facade – Results of Experimental Measurements. In: Fyzikálne faktory prostredia. Vol. 5, No. 1 (2015), pp. 7-10. ISSN 1338-3922 (in Slovak)

Dlhý, D. – Zaťko, P. – Petrák, P.: Measures to Increase the Sound Insulation Between Rooms in Buildings. In: Fyzikálne faktory prostredia. Vol. 5, No. 1 (2015), pp. 11-14. ISSN 1338-3922 (in Slovak)

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Dohňanská, Z.: Archtrip 2015. In: Arch. Vol. 20, No. 12 (2015), p. 70. ISSN 1335-3268 (in Slovak)

Halmová, D. – Pekárová, P. – Olbřímek, J. – Miklánek, P. – Pekár, J.: Precipitation Regime and Temporal Changes in the Central Danubian Lowland Region. In: Advances in Meteorology. 2015, (2015), 12 pp. ISSN 1687-9309 (print). (in English)

Hépal, M. – Tokár, O. – Rajecká, M.: Creation of a Concept for the Spatial Development of Cycling Paths in the Context of Integrated Transport Systems and Tourism. In: Czech Journal of Civil Engineering. Vol. 1, No. 2 (2015), online, pp. 32-38. ISSN 2336-7148 (in Slovak)

Horvat, M. – Jambrošić, K. – Francetić, J. – Domitrović, H. – Rychtáriková, M. – Chmelík, V.: On the Ability of Normal-Sighted Persons to Assess Room Size and Position Inside the Room Based on Its Acoustic Response. In: Akustika. Vol. 24, (2015), pp. 2-8. ISSN 1801-9064 (in English)

Hraška, J.: Chronobiological Aspects of Green Buildings Daylighting. In: Renewable Energy. Vol. 73 (2015), pp. 109-114. ISSN 0960-1481 (in English)

Hraška, J.: Daylighting in Assessment Systems of Sustainable Buildings. In: Fyzikálne faktory prostredia. Vol. 5, Iss. 1 (2015), pp. 17-25. ISSN 1338-3922 (in Slovak)

Chmúrny, I.: New Advanced Glazing Units for Ultra Low Energy Buildings. In: OKNOviny. Vol. 8, No. 1 (2015), p. 2. ISSN 1337-8791 (in Slovak)

Chmúrny, I. – Panáček, P.: What Will the Offer of Producers of Windows for Investment Be After 2018? In: *Dom a byt*. Vol. 21, Nos. 1-2 (2015), pp. 9-11. ISSN 1335-6615 (in Slovak)

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Chmúrny, I.: Energy Ratings and Proving of nZEB. In: *Plynár – vodár – kúrenár + klimatizácia*. Vol. 13, No. 5 (2015), pp. 22-24. ISSN 1335-9614 (in Slovak)

Mendňan, R.: Parametric Study of the Thermal Properties of a Simple Family House (Part II). In: *Almanach znalca*. Vol. 15, Nos. 1-2 (2015), CD-ROM, pp. 49-107. ISSN 1336-3174 (in Slovak)

Mendňan, R.: Calculating Heat Requirements for the Heating of Two Characteristic Family Houses in Several Variant Solutions – Pairwise Comparisons and Evaluations. In: *Almanach znalca*. Vol. 15, No. 3 (2015), CD-ROM, pp. 27-35. ISSN 1336-3174 (in Slovak)

Minarovičová, K.: Yesterday Traditional, Today Innovative? In: *Eurostav*. Vol. 21, Nos. 7-8 (2015), pp. 16-19. ISSN 1335-1249 (in Slovak)

Oláh, J.: New Zealand and Roofs. In: *Střechy, fasády, izolace*. Vol. 22, Nos. 6 (2015), pp. 6-12. ISSN 1212-0111 (in Slovak)

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- Urbán, D.: Sound Insulation Prediction Methods of Single Layer Structures. In: *Juniorstav 2015: 17th professional conference of PhD study*. Brno, ČR, 29.1.2015 [electronic source]. 1st ed. Brno: Brno University of Technology, 2015, CD-ROM, [7] p. ISBN 978-80-214-5091-2 (in English)
- Urbán, D. – Tomašovič, P. – Rychtáriková, M. – Roozen, N., B. – Glorieux, C.: Sound Propagation within a Double Skin Facade and Its Influence on the Speech Privacy in Offices. In: *EuroNoise 2015: proceedings of the 10th European Congress and Exposition on Noise Control Engineering*. Maastricht, The Netherlands, 1.-3.6.2015. [s.l.]: European Acoustics Association, 2015, USB key, pp. 2543-2548. ISSN 2226-5147 (in English)
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- Zelem, L. – Chmelík, V. – Urbán, D. – Rychtáriková, M.: Analysis of the Acoustic Conditions in the Student Restaurant. In: *EuroNoise 2015: proceedings of the 10th European Congress and Exposition on Noise Control Engineering*. Maastricht, The Netherlands, 1.-3.6.2015. [s.l.]: European Acoustics Association, 2015, USB key, pp. 1627-1631. ISSN 2226-5147 (in English)
- Zelem, L.: The Impact of Acoustic Properties of Room and Number of People Present on Psychoacoustics Perception and Verbal Communication. In: *Advanced Building Construction and Materials 2015 (ABCM 2015): proceedings of scientific conference with international participation*. Strážnice, ČR, 25.-27.6.2015. 1st ed. Ostrava: VŠB – Technical University of Ostrava, Faculty of Safety Engineering, 2015, CD-ROM, pp. 386-392. ISBN 978-80-248-3860-1 (in English)



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Zrnková, J. – Zaťko, P. – Garcia, D., P. – Rychtáriková, M.: Effective Sound Absorption of Acoustic Panels in a Diffuse and Non-Diffuse Sound Field. In: EuroNoise 2015: proceedings of the 10th European Congress and Exposition on Noise Control Engineering. Maastricht, The Netherlands, 1.-3.6.2015. [s.l.]: European Acoustics Association, 2015, USB key, pp. 1467-1470. ISSN 2226-5147 (in English)

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# DEPARTMENT OF STEEL AND TIMBER STRUCTURES

Head of Department

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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 2 works.

### 2.2 Graduate theses

Bednár, T.: An Auditorium

Supervisor: Sógel, K.

Cabadaj, M.: Design of a Double Track Railway Bridge over the Váh River in Trenčín

Supervisor: Ároch, R.

Čahoj, M.: The SEC Hall in Nitra

Supervisor: Brodniansky, J.

Ďurejová, J.: A Multifunctional Sports Hall

Supervisor: Slivanský, M.

Fehérová, E.: A Sports Hall in Prievidza

Supervisor: Sandanus, J.

Ferenc, J.: A Footbridge for Pedestrians and Cyclists in Záhorská Ves

Supervisor: Sandanus, J.

Harmady, D.: A Footbridge over the Váh River in Vrútky

Supervisor: Sandanus, J.

Janovič, M.: A Sports Hall in Malacky

Supervisor: Sandanus, J.

Jakubička, M.: Design of a Multi-Storey Building of a Bio-Incubator, Taking into Account the Effects of Fire

Supervisor: Štujberová, M.

Kováčik, J.: A Railway Bridge over Rožňavská Street at the 6,139 km

Supervisor: Živner, T.

Kramár, R.: An Ice Stadium

Supervisor: Slivanský, M.

Kutarňa, P.: The Urpín Sightseeing Tower

Supervisor: Sandanus, J.

Lipjansky, T.: A Footbridge for Pedestrians and Cyclists in Nové Zámky  
Supervisor: Sandanus, J.

Molnár, B.: A Multi-Storey Office Building in Bratislava  
Supervisor: Magura, M.

Nemček, L.: An Office Building  
Supervisor: Sógel, K.

Niko, I.: Two Design Variants of a Bridge, Taking into Account the Impact of Torsion  
Supervisor: Kováč, M.

Orbanová, M.: A Footbridge for Pedestrians and Cyclists  
Supervisor: Sógel, K.

Poliak, L.: A Football Stadium  
Supervisor: Slivanský, M.

Rédli, A.: Swimming Pool  
Supervisor: Sógel, K.

Rózsová, H.: A Car Showroom in Brezno  
Supervisor: Vaník, Zs.

Rybár, L.: An Apartment House  
Supervisor: Sógel, K.

Sivek, M.: A Winery  
Supervisor: Sógel, K.

Stančoková, M.: A Sports Hall in Martin  
Supervisor: Sandanus, J.

Toman, M.: Design of a Footbridge for Pedestrians over a River with a Lock Chamber  
Supervisor: Ároch, R.

Vičanová, D.: A Concert Hall in Prievidza  
Supervisor: Magura, M.

## 2.3 Doctoral theses

Nittmannová, L.: Interaction of Elastomeric Bearings in Bridge Construction  
Supervisor: Ároch, R.

Ilanovský, V.: Stability and Strength of Metal Frames  
Supervisor: Baláž, I.

Grančičová, I.: Theoretical and Design Problems of Grid Shell Structures  
Supervisor: Brodniansky, J.

## 3. RESEARCH

### 3.1 Research projects

Resistance of Metal Cross-Sections and Members under Combination of Internal Forces and Moments. (2015-2017, Baláž, I.), VEGA 1/0819/15

Slip-Joint Connections for Steel Towers of Transmission Lines (2015, Bottló, M.) Fund of STU BA: Program for the Support of Young Researchers

Theoretical and Experimental Analysis of Joints with Glued-in Rods in Timber Structures. (2015, Duchoň, V.) Fund of STU BA: Program for the Support of Young Researchers

Experimental Tests of Composite Timber-Concrete Girders. (2015, Surovec, L.) Fund of STU BA: Program for the Support of Young Researchers

Stability Problems of Frames with Truss Members. (2015, Kováč, M.; Vaník Zs.; Magura M.) Fund of STU BA: Program for the Support of Young Researchers

Basis of Structural Timber Design, from Research to Standards. (2014-2018, Sandanus, J.; Sógel, K.) COST FP1402

### 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)

Brodniansky, J. – Magura, M. – Recký, J.: Proposal, Experimental Verification and Refurbishment of Structures in Energetics and Industry. In: *Konstrukce*. Vol. 14, No. 1 (2015), ISSN 1213-8762, pp. 82-85 (in Slovak)

Ilanovský, V.: Assessment of Bending Moment Resistance of Girders with Corrugated Web. In: *Pollack Periodica*. Vol. 10, No. 2 (2015), ISSN 1788-1994. In database: SCOPUS; DOI: 10.1556/606.2015.10.2.4, pp. 35-44 (in English)

Katona, O.: Investigation of the Impact of the Dimensions of Cross Laminated Timber Boards on Their Resistance. In: *TZB-info.cz*. Vol. 17, No. 18 (2015), ISSN 1801-4399 (in Slovak)

Kováč, M.: Elastic Critical Axial Force for the Torsional-flexural Buckling of Thin-walled Metal Members: An Approximate Method. In: *Slovak Journal of Civil Engineering*. Vol. 23, No. 1 (2015), ISSN 1210-3896, pp. 23-32 (in English)

Magura, M.: Analysis of the Resistance of an Inner and Outer Tank. In: *Projekt – stavba*. Vol. 10, No. 1 (2015), ISSN 1336-6327, pp. 26-28 (in Slovak)

Magura, M.: Forming Devices for Tank Concreting. In: *Projekt – stavba*. Vol. 10, No. 1 (2015), ISSN 1336-6327, pp. 24-25 (in Slovak)

Mikula, K. – Remešíková, M. – Novosedlák, P.: Truss Structure Design Using a Length-Oriented Surface Remeshing Technique. In: *Discrete and Continuous Dynamical Systems - Series S*. Vol. 8, no. 5 (2015), ISSN 1937-1632. In database: CC: 000357886400011; SCOPUS; DOI: 10.3934/dcdss.2015.8.933, pp. 933-951 (in English)

Sógel, K. – Sandanus, J.: A Two-Storey Cross Laminated Timber School Building. In: *Materiály pro stavbu*. Vol. 21, No. 8 (2015), ISSN 1213-0311, pp. 16-19 (in Slovak)

Sógel, K.: Effect of Long-Term Loading on Timber Load-Bearing Elements. In: *Pollack Periodica*. Vol. 10, No. 2 (2015), ISSN 1788-1994. In database: SCOPUS; DOI: 10.1556/606.2015.10.2.3, pp. 25-34 (in English)

Sógel, K. – Sandanus, J.: Pilot Project in Slovakia – A School with Timber Construction. In: *TZB-info.cz*. Vol. 17, No. 48 (2015). ISSN 1801-4399 (in Slovak)

Sógel, K. Sandanus, J.: School Construction in Slovakia. In: *Holzkurier*. Vol. 69, no. 48 (2015), ISSN 0018-3784, pp. 34-35 (in German)

Štujberová, M.: Optimisation of the Fire Resistance of Steel Beams for Short-Term Fire Resistance. In: *Konstrukce*. Vol. 14, No. 3 (2015), ISSN 1213-8762, pp. 52-56 (in Slovak)

Vaník, Z. – Magura, M.: Progressive Solutions for a Hall Construction Made of Steel. In: *Eurostav*. Vol. 21, No. 4 (2015), ISSN 1335-1249, pp. 41-43 (in Slovak)

Živner, T. – Ároch, R. – Fábry, M.: The Impact of Sequential Concreting of Reinforced Concrete Slabs on a Continuous Composite Girder Bridge. In: *Inžinierske stavby*. Vol. 63, No. 6 (2015), ISSN 1335-0846, pp. 46-49 (in Slovak)

## 4. PUBLICATIONS

### Books

Sógel, K.: *Timber Load-bearing Elements*. 1st Edition. Ing. Kristián Sógel, PhD. in cooperation with Ecoletra.com, 2015, ISBN 978-80-971929-4-5, 86 pp. (in Slovak)

Štujberová, M.: *Fire Resistance of Metal Structures*. 1st Edition. Assoc. Prof. Magdaléna Štujberová, PhD. in cooperation with Ecoletra.com, 2015, ISBN 978-80-972207-6-1, 88 pp. (in Slovak)

### Journals

Baláž, I. – Koleková, Y. – Živner, T.: Stability of Timber Cantilever with Doubly Symmetric Profile under Concentrated End Load F. In: *Interdisciplinarity in Theory and Practice*. No. 8 (2015), ISSN 2344-2409, pp. 33-38 (in English)

Baláž, I. – Koleková, Y. – Živner, T.: Stability of Timber Cantilever with Doubly Symmetric Profile under Uniform Load q. In: *Interdisciplinarity in Theory and Practice*. No. 7 (2015), ISSN 2344-2409, pp. 41-44 (in English)

Balcierák, L.: Comparing the Impacts of Anchoring on Laminated Glass Railings. In: *Materiály pro stavbu*. Vol. 21, No. 3 (2015), ISSN 1213-0311, pp. 39-41 (in Slovak)

## Conference Proceedings

- Baláž, I. – Koleková, Y.: Development and New Generation of Eurocodes. In: Technical Sciences and Production Management 2015. Proceedings of the International Scientific Conference. Tatranská Štrba, Slovak Republic, 16.-17.4.2015. 1, University of Economics in Bratislava, 2015, ISBN 978-80-971555-4-4, pp. 59 (in English)
- Baláž, I.: Bridges with Record Spans. In: Mosty/Bridges 2015. Proceedings of 20th International Symposium. Brno, Czech Republic, 23.-24.4.2015. Ostrava - Zábřeh Sekurkon, 2015, ISBN 978-80-86604-65-7, pp. 172-175 (in Slovak)
- Baláž, I. – Koleková, Y.: Safety Factors Gamma M0 and Gamma M1 in Metal Eurocodes. In: Engineering Mechanics 2015, Extended Abstracts. 21st International Conference. Svratka, Czech Republic, 11.-14.5.2015. Prague, Institute of Theoretical and Applied Mechanics, 2015, ISSN 1805-8248, ISBN 978-80-86246-42-0, pp. 12-13 (in English)
- Baláž, I. – Koleková, Y.: Bending, Torsion and Distortion of Thin-Walled Beams. In: Engineering Mechanics 2015, Extended Abstracts. 21st International Conference. Svratka, Czech Republic, 11.-14.5.2015. Prague, Institute of Theoretical and Applied Mechanics, 2015, ISSN 1805-8248, ISBN 978-80-86246-42-0, pp. 12-13 (in English)
- Baláž, I. – Koleková, Y. – Živner, T.: Comparison of Procedures for Calculation of Critical Moment of Timber Cantilever under Point End Load F. In: ESaT 2015. Proceedings of International Conference on Engineering Sciences and Technologies. Tatranská Štrba, Slovak Republic, 27.-29.5.2015. Technical University of Košice, Faculty of Civil Engineering, 2015, ISBN 978-80-553-2042-7 (in English)
- Baláž, I. – Koleková, Y. – Živner, T.: Comparison of Procedures for Calculation of Critical Moment of Timber Cantilever under Uniform Load q. In: ESaT 2015. Proceedings of International Conference on Engineering Sciences and Technologies. Tatranská Štrba, Slovak Republic, 27.-29.5.2015. Technical University of Košice, Faculty of Civil Engineering, 2015, ISBN 978-80-553-2042-7 (in English)
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### Book Review

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# DEPARTMENT OF MATHEMATICS AND DESCRIPTIVE GEOMETRY

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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

Architectural Mathematics

Foundations of Mathematics

Informatics and Statistics

Mathematical Statistics

Numerical and Stochastic Methods

#### Recommended subjects

Computer Graphics

Fuzzy Management

### 1.2 Postgraduate courses

Aggregation Functions

Decision Theory

Discrete Mathematics

Dynamic and Stochastic Optimisation

Graph Theory

Linear Models of Time Series

Mathematical Basis of the Finite Element Method I

Mathematical Basis of the Finite Element Method II

Mathematical Methods in Fluid Flow, Diffusion and Heat Transfer

Mathematical Models of Fluid Dynamics

Mathematics

Multicriteria Decision Support

Multidimensional Statistics

Nonlinear Models of Time Series

Numerical Methods in Fluid Flow, Diffusion and Heat Transfer

Probability and Statistical Estimation

Proposed Experiment in Optimization

Statistical Methods in Geodesy

Stochastic Processes I

Time Series Analysis in Civil Engineering

## 2. THESES

### 2.1 Bachelor theses

There were 12 works.

## 2.2 Graduate theses

Daniel, P.: Reconstruction of 3D Objects from Point Clouds Using Surface Evolution  
Supervisor: Remešíková, M.

Jasaň, P.: Processing of Data Obtained by Automatic Segmentation Algorithms  
Supervisor: Špir, R.

Juhásová, L.: Viscoelastic Models, Constitutive Equations and Applications.  
Supervisor: Minárová, M.

Klimeková, Z.: Influence of the Character of a Territory on the Distortion in a Cartographic Projection  
Supervisor: Vajsáblová, M.

Kósa, B.: 3D Point Cloud Surface Reconstruction by Using Level Set Methods  
Supervisor: Mikula, K.

Kurínek, L.: Utilization of Copula Functions by Modelling of the Development of the Return of Czech Assets for Slovak Investors.  
Supervisor: Stupňanová, A.

Petrovič, P.: Toolkit to Process and Analyze Satellite Radar Data Based on Adaptive Algorithms  
Supervisor: Krivá, Z.

Škablá, P.: Semi-Implicit High Order Accurate Methods for Advection Equations  
Supervisor: Frolkovič, P.

## 2.3 Doctoral theses

Szatmári, D.: Design and Optimization of Cartographic Projections  
Supervisor: Vajsáblová, M.

Špir, R.: Parallel Algorithms for the Solution of Partial Differential Equations - Numerical Methods for Analysis of Embryogenesis Images  
Supervisor: Mikula, K.

Smišek, M.: Analysis of 3D and 4D Images of Organisms in Embryogenesis  
Supervisor: Mikula, K.

# 3. RESEARCH

## 3.1 Research projects

Advanced Methods of Uncertainty Modelling for Decision Problems (2015-2019, MESIAR, R.), APVV-14-0013

Determination of the Geometric Characteristics of Objects on Images Obtained from Relevant Criminal Records (2013-2017, MIKULA, K.), APVV 0161-12

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

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

Modern Methods of Information Aggregation and Applications (2015-2018, MESIAR, R.), VEGA 1/0420/15

Numerical Methods for the Modelling the Earth's Gravity Field and Non-linear Filtering of Data in Geodesy (2015-2018, ČUNDERLÍK, R.), VEGA 1/0714/15

The Development of New Numerical Methods for Engineering Applications (2015-2018, MIKULA, K.), VEGA 1/0608/15

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

Semi-Implicit Methods for the Solution of Partial Differential Equations (FROLKOVIČ, P.), VEGA 1/0728/15

Symmetric Maps (2014-2016, ŠIRÁŇ, J.), VEGA 1/0007/14

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

## 3.2 International cooperation

### Cooperating institutions

AVL LIST GmbH Graz, Austria

Beijing Institute of Technology, China

CINECA – Supercomputing Centre, Bologna, Italy

CNRS, Paris, France

Communication University of China, Beijing, China

Complutense University, Madrid, Spain

Czech Academy of Sciences, Czech Republic

Czech Technical University in Prague, Czech Republic

Faculty of Information Studies, Novo Mesto, Slovenia

Goethe Center for Scientific Computing, University of Frankfurt, Germany

Goethe University, Frankfurt, Germany

Charles University in Prague, Czech Republic

ICS, Paris, France

Karadeniz Technical University in Trabzon, Turkey

La Sapienza University, Rome, Italy

Open UNI London, Great Britain

Pohang University of Science and Technology, South Korea

The Open University, Milton Keynes, United Kingdom

TU Budapest, Hungary

TU Cracow, Poland

Universita Autonoma, Mexico City, Queretaro, Mexico  
 Universidad Nacional Autónoma de México, Mexico City, Distrito Federal, Mexico  
 Universitat Polytechnica e Catalunya in Barcelona, Spain  
 Universita de Roma, Italy  
 University of Auckland, New Zealand  
 University of Bologna, Italy  
 University of Bremen, Germany  
 University of Catania, Italy  
 University of Dortmund, Germany  
 University of Freiburg, Germany  
 University of Ghent, Belgium  
 University of Groningen, The Netherlands  
 University of Haifa, Israel  
 University of Heidelberg, Germany  
 University of Latvia, Latvia  
 University of Lleida, Spain  
 University of Liberec, Czech Republic  
 University of Linz, Austria  
 University of Ljubljana, Slovenia  
 University of Newcastle, Australia  
 University of Novi Sad, Serbia  
 University of Ostrava, Czech Republic  
 University of Pamplona, Spain  
 University of Sannio, Benevento, Italy  
 University of the Balearic Islands, Palma de Mallorca, Spain  
 University of Waterloo, Canada  
 UPC University in Barcelona, Spain  
 WB University, Plzeň, Czech Republic  
 Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany  
 Western Australia University, Perth, Australia  
 Western Washington University, Bellingham, WA, USA

### Membership in international professional organizations

Jenča, G.: International Quantum Structures Association (IQSA)  
 Kalina, M.: International Quantum Structures Association (IQSA)  
 Kalina, M.: European Society for Fuzzy Logic and Technology (EUSFLAT)  
 Komorníková, M.: SEFI Mathematics Working Group  
 Mesiar, R.: European Society for Fuzzy Logic and Technology (EUSFLAT)  
 Mikula, K.: European Research Council (ERC)  
 Mikula, K. – Čunderlík, R.: 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. – Frolkovič, P.: Mathematics for Industry Network <http://mi-network.org/>  
 Stupňanová, A.: European Society for Fuzzy Logic and Technology (EUSFLAT)  
 Širáň, J.: London Mathematical Society  
 Širáň, J.: American Mathematical Society  
 Ždímalová, M.: European Women in Mathematics  
 Ždímalová, M.: Indonesian Journal of Combinatorics (Editorial Board)

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Čunderlík, R.: Nonlinear Filtering of the Satellite-only Mean Dynamic Topography for Purposes to Estimate Offsets between Tide Gauges. In: Theoretical Geodesy and Geodynamics 2015 [electronic source]: Conference Proceedings. Kočovce, SR, 8.-9.10. 2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, Faculty of Civil Engineering, 2015, ISBN 978-80-227-4466-9, pp. 57-63 (in English)

Dibala, M.: About Singular Components of the Archimax Copula With Piecewise Linear Generator and Dependence Function. In: Advances in Architectural, Civil and Environmental Engineering [electronic source]: 25rd Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, ISBN 978-80-227-4514-7, pp. 25-30 (in English)

Hriňáková, K.: Which Regular Maps With Automorphism Group Isomorphic to  $M(q_2)$  Are Self-Dual? In: Advances in Architectural, Civil and Environmental Engineering [electronic source]: 25rd Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, ISBN 978-80-227-4514-7, pp. 31-36 (in English)

Hucíková, V.: Self-Dual and Non-Self-Dual Chiral Regular Maps. In: Advances in Architectural, Civil and Environmental Engineering [electronic source]: 25rd Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, ISBN 978-80-227-4514-7, pp. 37-43 (in English)

Kleinová, V.: Algorithms to Compute the Optic Flow in Image Processing and Their Comparison. In: Advances in Architectural, Civil and Environmental Engineering [electronic source]: 25rd Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, ISBN 978-80-227-4514-7, pp. 44-50 (in English)

Kollár, M. – Mikula, K.: Filtration of Geodetic Data on a Closed Surface Using the New Nonlinear Diffusion Filter. In: Advances in Architectural, Civil and Environmental Engineering [electronic source]: 25rd Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, ISBN 978-80-227-4514-7, pp. 51-57 (in English)

Medľa, M. – Mikula, K.: Proof of Second Order Convergence for the Finite Volume Method on Uniform Grid for Laplace Equation With Dirichlet Boundary Conditions. In: Advances in Architectural, Civil and Environmental Engineering [electronic source]: 25rd Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, ISBN 978-80-227-4514-7, pp. 58-70 (in English)

Riečanová, I.: Finite Volume Method Scheme for the Solution of Helmholtz Equation. In: Aplimat 2015 [electronic source] : Proceedings. 14th Conference on Applied Mathematics. 1st ed. Bratislava: Faculty of Mechanical Engineering Slovak University of Technology, 2015, CD-ROM, ISBN 978-80-227-4143-3, pp. 665-671 (in English)

Riečanová, I.: Propagation of Acoustic Waves in the Free 2D Space and in the Space With Barrier. In: Advances in Architectural, Civil and Environmental Engineering [electronic source]: 25rd Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, ISBN 978-80-227-4514-7, pp. 71-76 (in English)

Tješšová, M.: The Analysis of the Motion Segment With the Different Modifications of the Vertebral Body Base. In: Advances in Architectural, Civil and Environmental Engineering [electronic source] : 25rd Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, ISBN 978-80-227-4514-7, pp. 77-84 (in English)

Tomek, L. – Mikula, K.: Elimination of Numerical Tangential Motion of Vertices in Mean Curvature Flow of Surfaces. In: Advances in Architectural, Civil and Environmental Engineering [electronic source] : 25rd Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. 1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, ISBN 978-80-227-4514-7, pp. 85-94 (in English)

Vajsáblóvá, M.: Conformal Azimuthal Projections of the Points on Ellipsoid and Sphere and Their Parameters. In: Proceedings of the Slovak-Czech Conference on Geometry and Graphics : Terchová, Žilina, SR, 14.-18.9.2015.



1st ed. Bratislava: Slovak University of Technology in Bratislava, 2015, ISBN 978-80-227-4479-9, pp. 253-260 (in English)

Ždímalová, M. – Krivá, Z. – Bohumel, T.: Graph Cuts in Image Processing. In: Aplimat 2015 [electronic source]: Proceedings. 14th Conference on Applied Mathematics. 1st ed. Bratislava: Faculty of Mechanical Engineering Slovak University of Technology, 2015, CD-ROM, ISBN 978-80-227-4143-3, pp. 774-786 (in English)

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# DEPARTMENT OF PHYSICS

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Physics I

Physics II

Physics (English)

Engineering Thermodynamics

### 1.2 Postgraduate courses

Physical Principles of Measurements

Special Aspects of Physics

Heat and Moisture Transport in Building Materials

## 2. RESEARCH

### 2.1 Research projects

Study of relaxation mechanisms in composites with special fillings on the basis of carbon (2013-2015) VEGA 1/0356/13

Quantification of radiation damage of composite materials for thermonuclear fission reactors (2013-2016) VEGA 1/0402/13

Special glasses for optoelectronics, non-linear optics and fiber optics (2014 – 2015) APVV: SK-CZ-2013-0182

Characterization of selected special glasses (2014-2015) APVV: SK-FR-2013-0007

Hygric 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

University of Rennes, France

Academy of Science of Czech Republic, Prague

### Membership in international professional organizations

Banič, I. – Lukovičová, J. – Kubliha, M., Šín, P.: European Physical Society

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

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

Kubliha, M.: Scientific Society of Metal Science

## 3. PUBLICATIONS

### Textbook

Pavlendová, G.: Fundamental Physics: Examples, Slovak University of Technology, Bratislava, 2015, ISBN 978-80-227-4423-2, 76 pp. (in English)

### Journals

Jankula, M. – Húlan, T. – Štubňa, I. – Ondruška, J. – Podoba, R., Šín, P. – Bačík, P. – Trník, A.: The influence of heat on elastic properties of illitic clay Radobica. In: Journal of Ceramic Society of Japan – Vol. 123, Iss 1441 – (2015), pp. 874-879 (in English)

Kubliha, M. – Soltani, M. T. – Trnovcová, V. – Legouera, M. – Labaš, V. – Kostka P. – Le Coq, D. – Hamzaoui, M.: Electrical, dielectric and optical properties of Sb2O3-Li2O-MoO3 glasses. In: Journal of Non-Crystalline Solids – Vol. 428 – (2015), pp. 42-48 (in English)

Kubliha, M. – Trnovcová V. – Ondruška, J. – Štubňa, I. – Bošák, O. – Kaljuvee, T. – Bačík, P.: DC Conductivity of illitic clay after various firing. In: Journal of Thermal Analysis and Calorimetry – Vol. 122, No. 2 – (2015), pp. 6 (in English)

Bošák, O. – Minárik, S. – Kubliha, M. – Labaš, V.: The relationship between mechanical and electrical properties during vulcanisations of SBR based rubber. In: Edukacja – Technika – Informatyka – Vol. 12, No. 2 (2015), pp. 192-197 (in English)

Kvetan, K. – Kubliha, M. – Ožvoldová M. – Bošák, O. – Naď, M. – Kotianová J.: New Dynamic method for examination of elastic properties of thin wire samples. In: *Edukacija – Technika – Informatyka* – Vol. 12 – No. 2 – (2015), pp. 179-185 (in English)

Lukovičová, J. – Pavlendová, G.: Determination of Heat transfer Coefficient by Inverse Heat Transfer Analysis with Thermographic Experiment. In: *MTM – Machines, technologies, materials* – Vol. 9, Iss 2 (2015), pp. 17-19 (in English)

Šín, P. – Lukovičová, J. – Pavlendová G. – Kubliha M.: Unčik, S.: Experimental Performance of Hygro-Thermal Deformation of Contemporary and Historical Ceramic Bricks. In: *International Journal of Materials* – Vol. 2 – (2015), pp. 54-57 (in English)

Šín, P. – Lukovičová, J. – Pavlendová, G. – Kubliha, M.: An Experimental determination of coupled Thermal and Moisture Expansion of Plasters. In: *International Journal of Advanced Research in Engineering* – Vol. 1, No. 3 – (2015), pp. 23-25 (in English)

## Conference Proceedings

Baník, I. – Kubliha, M. – Lukovičová, J. – Pavlendová, G.: Mid-Gap Phenomena in Chalcogenide Glasses and Barrier-Cluster-Heating Model. In: *AIP Conference Proceedings: TIM14 Physics Conference – Physics Without Frontiers*. Timisoara, Romania 20.-22.11.2014 – Timisoara: West University of Timisoara, 2014. – ISBN 978-0-7354-1341-2 (in English)

Lukovičová, J. – Pavlendová, G. – Unčik, S.: Experimental Determination of Innovative Plaster Moisture Expansion. In: *Advanced Materials Research: proceedings of the 16th Conference on the Rehabilitation and Reconstruction of Buildings, CRRB 2014*, Brno, Czech Republic, 05.-06.11.2014. – Brno, 2014 – ISSN 1022-6680 (in English)

Seliga, E. – Bošák, O. – Košťál, P. – Dvořák, Z. – Kubliha, M. – Minárik, S. – Labaš, V.: Monitoring of vulcanization process using measurement of electrical properties during linear increasing temperature. In: *Journal of Physics, Conference Series* – Vol. 602, Iss 1 – (2015), pp. 1-7 (in English)

Baník, I. – Pavlendová G.: Photo- and Thermo-Induced Effects in Chalcogenide Glasses from Point of View of the Barrier-Cluster-Heating Model. In *Advanced Materials Research: Thermophysics and Mass Transfer in Materials Science and Construction. Proceedings of the 20th Thermophysics 2015* – Vol. 1126 – (2015), pp. 9-15. Terchová, Slovakia 14.-16.10.2015. – Terchová, 2015. – ISSN 1022-6680.

Pavlendová, G. – Lukovičová, J. – Baník, I.: Wireless Electro Osmosis. In: *Advanced Materials Research: Thermophysics and Mass Transfer in Materials Science and Construction. Proceedings of the 20th Thermophysics 2015* – Vol. 1126 – (2015), pp. 9-15. Terchová, Slovakia 14.-16.10.2015. – Terchová, 2015. – ISSN 1022-6680.

## Abstracts from international conferences

Minárik, S. – Labaš, V. – Bošák, O. – Kubliha, M.: Application of random sequential algorithm for the modeling of macromolecular chains of cross-linking evolution during a polymer surface modification. In: *ICAMPE 2015 First International conference on Advanced materials for power engineering*. Kotayam, India, 11.-13.12.2015 – Kotayam, 2015. – pp. 57-58 (in English)

Lukovičová, J. – Pavlendová, G. – Kubliha, M. – Šín, P.: Experimental study of moist lime based plasters thermophysical properties. In: *Sovremennyye metody I sredstva issledovaniy teplofyzičeskych svojstv veščestv: materialy konferencii. III. međžunarondaja naučno-techničeskaja konferencija*. Sankt Peterburg, Russia, 20.-22.05.2015. – Sankt Peterburg: Izdatel'sko-informacionnyj kompleks Universiteta ITMO, 2015. – p. 89 (in English)

Bošák, O. – Minárik, S. – Labaš, V. – Janičková, Z. – Košťál, P. – Zimný, O. – Kubliha, M. – Poullain, M. – Soltani, M. T.: Artificial Neural Network analysis of optical measurements of glasses based on Sb<sub>2</sub>O<sub>3</sub>. In: *Abstract Book: 7th International Conference on Amorphous and Nanostructured Chalcogenides*. Cluj, Romania, 05.-10.07.2015. – Cluj: National Institute of Materials Physics, 2015. – pp. 26-27 (in English)

Labaš, V. – Le Coq, D. – Bošák, O. – Kubliha, M. – Trnovcová, V. – Cozic, S. – Brehault, A.: Electrical and dielectric properties of superionic glass system GeS<sub>2</sub> – Ga<sub>2</sub>S<sub>3</sub> – NaI. In *Abstract Book: 7th International Conference on Amorphous and Nanostructured Chalcogenides*. Cluj, Romania, 05.-10.07.2015. – Cluj: National Institute of Materials Physics, 2015. – p. 33 (in English)

Lukovičová, J. – Pavlendová, G. – Kubliha, M. – Šín, P.: Coupled Moisture and Temperature Caused Deformation of Innovative Plasters. In *DSL 2015: abstract book. 11th International Conference on Diffusion in Solids and Liquids*. Munich, Germany, 22.-26.06.2015. – Munich 2015. – p. 180 (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

Shell 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

Interaction of Structures and Foundations

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

Antal, R.: Effects of Wind upon a Building Having an Irregular Ground Plan  
Supervisor: Jendželovský, N.

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

Kostovský, P.: Design of a Foundation below a Turbo Generator Unit  
Supervisor: Psočný, M.

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

Mesiar, M.: Effects of Wind upon High-Rise Buildings  
Supervisor: Ivánková, O.

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

### 2.3 Doctoral theses

Hol'ko, M.: Optimal Design of Structures Considering Nonlinear Properties of Materials  
Supervisor: Dický, J.

Krchňák, M.: Program for Nonlinear Analysis of RC Frame Structures Considering Shear  
Supervisor: Sokol, M.

Štiglic, M.: Design Optimization of Structures with the Consideration of Unilateral Bonds  
Supervisor: Dický, J.

## 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

Prediction of the Behavior of Building Structures under Special Dynamic Loading (2015 – 2017, JENDŽELOVSKÝ, N.), VEGA 1/0544/15

Reliability of Structures under the Effects of Accidental Loads. Increase in the Safety of Nuclear Power Plants (2012 – 2015, 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

Stability and Dynamics of Snap-Through of Slender Webs and Shallow Shells (2015 – 2017, RAVINGER, J.), VEGA 1/0272/15

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

Ravinger, J. – Véghová, I.: Elasticity and Plasticity. Bratislava, STU, 2015. 252 pp. ISBN 978-80-227-4478-2 (in Slovak)

### Parts of books

Hubová, O.: The Multipurpose New BLWT STU Tunnel and Possibilities of Its Utilization. Chapter 3. In: Selected Practical and Theoretical Aspects of Contemporary Mechanics. Politechnika Czestochowska 2015. pp. 37-49. ISBN 978-83-65179-20-3 (in English)

Králik, J.: Safety and Reliability of NPP in Slovakia within IAEA Project "Stress Tests". Chapter 2. In: Selected Practical and Theoretical Aspects of Contemporary Mechanics. Politechnika Czestochowska 2015. pp. 21-36. ISBN 978-83-65179-20-3 (in English)

Tvrďá, K.: Optimization in Civil Engineering. Chapter 4. In: Selected Practical and Theoretical Aspects of Contemporary Mechanics. Politechnika Czestochowska 2015. pp. 50-65. ISBN 978-83-65179-20-3 (in English)

### Textbooks

Štiglic, M. – Tvrďá, K. – Jendželovský, N.: FEM in the Statics and Dynamics of Structures. Bratislava, STU, 2015. 124 pp. ISBN 978-80-227-4417-1 (in Slovak)

### Journals

Baláž, I. – Koleková, Y. – Živner, T.: Stability of Timber Cantilever with Doubly Symmetric Profile under Uniform Load  $q$ . Interdisciplinarity in Theory and Practice, No. 7 (2015), online, pp. 41-47. ISSN 2344-2409 (in English)

Baláž, I. – Koleková, Y. – Živner, T.: Stability of Timber Cantilever with Doubly Symmetric Profile under Concentrated End Load  $F$ . Interdisciplinarity in Theory and Practice, No. 8 (2015), online, pp. 33-38. ISSN 2344-2409 (in English)

Baláž, I. – Koleková, Y.: Effective Areas of Internal and Outstand Elements under Compression Stress Lower than the Yield Strength. Applied Mechanics and Materials, Vol. 769 (2015), pp. 118-125. ISSN 1662-7482 (in English)

Havran, J. – Psotný, M.: Effect of a Nonlinear Term in a Strain-Displacement Relationship on the Load-Displacement Path of Von Mises Truss. Applied Mechanics and Materials, Vol. 769 (2015), pp. 85-90. ISSN 1662-7482 (in English)

Holko, M. – Dický, J.: Optimal Design of Structures Made of Fiber Reinforced Concrete. Applied Mechanics and Materials, Vol. 769 (2015), pp. 326-330. ISSN 1662-7482 (in English)

Hubová, O. – Konečná, L. – Olekšáková, I.: Experimental and Numerical Determination of Wind Pressure Distribution on an Object with Atypical Form. Applied Mechanics and Materials, Vol. 769 (2015), pp. 185-191. ISSN 1662-7482 (in English)

Ivánková, O. – Konečná, L. – Vojteková, E.: Static Analysis of Load-Bearing Structure of a Transparent Roof. Applied Mechanics and Materials, Vol. 769 (2015), pp. 69-76. ISSN 1662-7482 (in English)

Ivánková, O. – Konečná, L.: Influence of the Load-Bearing System of a High-Rise Building on Its Stiffness. *Applied Mechanics and Materials*, Vol. 769 (2015), pp. 29-35. ISSN 1662-7482 (in English)

Jendželovský, N. – Baláž, L.: Modeling of a Filled Cylindrical Tank and the Dynamic Analysis of Its Eigenfrequencies. *Applied Mechanics and Materials*, Vol. 769 (2015), pp. 212-217. ISSN 1662-7482 (in English)

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Venglár, M. – Sokol, M.: Lessons Learned from the Dynamic Measurement of a Bridge Structure. In: Advances in Architectural, Civil and Environmental Engineering. 25th Annual PhD Student Conference, SvF STU Bratislava, Oct. 28, 2015, pp. 144-149. ISBN 978-80-227-4514-7 (in Slovak)

Vráblová, K.: Consideration of Boundary Conditions During Impact Loading of a Slab. In: Juniorstav 2015. Brno, Czech Republic, FAST VUT, Jan. 29, 2015. 8 pp. ISBN 978-80-214-5091-2 (in English)

Zabáková Vráblová, K. – Jendželovský, N. – Konečná, L.: Experimental Verification of the Calculation of the First Natural Frequency of a Plexiglass Plate. In: New Trends in the Statics and Dynamics of Buildings, Oct. 15-16, 2015, SvF STU Bratislava, 4 pp. ISBN 978-80-227-4463-8 (in Slovak)

Zabáková Vráblová, K.: Experimental and Numerical Analysis of a Plexiglass Plate. In: Advances in Architectural, Civil and Environmental Engineering. 25th Annual PhD Student Conference, SvF STU Bratislava, Oct. 28, 2015, pp. 150-154. ISBN 978-80-227-4514-7 (in Slovak)

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# DEPARTMENT OF MATERIAL ENGINEERING

**Prof. Ing. Stanislav Unčik, PhD.**

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Technological Project I

Technological Project II

Concrete Technology I

Testing

Technology of Repairs

### 1.2 Postgraduate courses

Building Materials

Selected Chapters from Chemistry II

## 2. THESES

### 2.1 Bachelor theses

There were 3 works.

### 2.2 Graduate theses

Gajdošík, P.: Influencing the Shrinkage of Cement Pastes by SRA Admixtures  
Supervisor: Štefunková, Z.

Guliš, M.: Influence of Selected Additives on the Plastic Shrinkage of Cement Composites  
Supervisor: Štefunková, Z.

Bajus, A.: Verification and Comparison of the Selected Physical-Mechanical Properties of Different Types of Autoclaved Aerated Concrete  
Supervisor: Struhárová, A.

Žiačková, A.: The Effect of Moisture Content on the Physical-Mechanical Properties of Autoclaved Aerated Concrete  
Supervisor: Struhárová, A.

### 2.2 Doctoral theses

Janík Branislav: Use of Secondary Raw Materials in the Brick Industry in Order to Improve Thermal Properties of Brick Products for Masonry Structures  
Supervisor: Šveda, M.

Kormaník, M.: Study of Mortars Based on Lime with Hydraulic Properties for the Restoration of Historic Buildings and Current Use  
Supervisor: Pavlík, V.

## 3. RESEARCH

### 3.1 Research projects

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

Reducing the Energy Demand of Buildings during the Use of Secondary Raw Materials from the Chemical and Food Industries in the Manufacture of Brick Products (2015 – 2017 ŠVEDA, M.), VEGA 1/0045/15

Progressive Materials for the Building Construction and Low-Energy Building Industry (2014-2015 ŠVEDA, M.), Research and Development Operational Programme for the Project "University Science Park of STU Bratislava", ITMS 26240220084, co-funded by the European Regional Development Fund.

### 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

### Journals

Gregorová, V.: An Overview of Lightweight Concrete Using Waste Plastics. In: *Mladá veda*, ISSN 1339-3189. Vol. 3, No. 1 (2015), pp. 32-44 (in Slovak)

Struhárová, A.: Measuring of the Thermo-Technical Parameters of Autoclaved Aerated Concrete. In: *Applied Mechanics and Materials*, ISSN: 1660-9336. Vol. 824 (2016), pp. 100-107 (in English)

Gregorová, V.: Polyurethane Foam Waste as a New Filler for Thermal-Insulating Lightweight Concrete. In: *Mladá veda*, ISSN 1339-3189. Vol. 3, No. 2 (2015), pp. 92-99 (in Slovak)

Ledererová, M.: Nanomaterials, Nanocomposites Use in Construction. In: *Applied Mechanics and Materials*, ISSN: 1660-9336, ISSN/ISO: App. Mechanic. and Mater., Vol. 824 (2016), pp. 108-115 (in English).

Matulová, K. – Unčík, S.: Shrinkage-Reducing Admixture (SRA) in Cement Pastes. In: *Interdisciplinarity in Theory and Practice*, ISSN 2344-2409. No. 7 (2015), pp. 91-94 (in English)

Pavlík, V. – Užáková, M.: Effect of Curing Conditions on the Properties of Lime, Lime–Metakaolin and Lime–Zeolite Mortars. *Construction and Building Materials*, ISSN: 0950-0618. Vol. 102 (2016) pp. 14–25.

Šveda, M. – Kerestúr, M. – Sokolář, R. – Nevřivová, L. – Unčík, S.: Determination of Suitable Raw Materials for Preparation of Frost Resistant Brick Body and Its Evaluation According to Pore Size Distribution. *Journal of the Ceramic Society of Japan*. ISSN 1882-0743. Vol. 123 (2015), pp. 868-873 (in English)

Šveda, M. – Pavlík, V. – Janík, B.: Brick in the Context of the 21st Century. *Transfer*. ISSN 1337-9747. Vol. 7, No. 2 (2015), pp. 12-13 (in Slovak)

### Conference Proceedings

Gregorová, V.: Replacement of Commonly Used Polystyrene Pearls in the Concrete by Waste Recycled Polystyrene. In: *Construmat 2015. Proceedings of Conference on Structural Materials*. Brno, Moravec, Czech Republic 10.-12.6.2015. [CD-ROM]: Brno University of Technology, Faculty of Civil Engineering, Institute of Technology of Building Materials and Components, 2015. ISBN 978-80-214-5205-3, 6. pp. (in English)

Gregorová, V.: Use of Recycled Polyurethane Foam as a Filler for Heat-insulating Lightweight Concrete. In: *Construmat 2015. Proceedings of Conference on Structural Materials*. Brno, Moravec, Czech Republic 10.-12.6.2015. [CD-ROM]: Brno University of Technology, Faculty of Civil Engineering, Institute of Technology of Building Materials and Components, 2015. ISBN 978-80-214-5205-3, 6pp. (in Slovak)

Gregorová, V.: Effect of Filler Based on Polyurethane Foam Waste on the Physical-Mechanical Properties of Lightweight Concrete. In: *Advances in Architectural, Civil and Environmental Engineering. Proceedings of 25th*

Annual Postgraduate Student Conference. Bratislava, SR, 28.10.2015 [CD-ROM]. Bratislava: STU Publishing House, 2015. ISBN 978-80-227-4514-7. pp. 301-307 (in Slovak)

Gregorová, V.: Lightweight Concrete Based on Recycled Foam Polystyrene and Polypropylene. In: *MMK 15 – International Masaryk Conference for Ph.D Students and Young Researchers. Proceedings of International Scientific Conference*. Vol. 4. Hradec Králové, Czech Republic 14.-18.12.2015. [electronic source]. Hradec Králové: Magnanimitas, 2015. ISBN 978-80-87952-12-2. pp. 2484-2489 (in English)

Kormaník, M. – Pavlík, V.: Effect of Consistency on the Compressive Strength of Mortars Made from Natural Hydraulic Lime. In: *Construmat 2015: 21. Conference on Structural Materials*. Brno, Moravec, CR, 10.-12.6.2015. [CD-ROM]. Brno University of Technology, Faculty of Civil Engineering, 2015. R. Drochytka, J. Hodul (Eds.). ISBN 978-80-214-5205-3. 4 pp. (in Slovak)

Kormaník, M.: Lime Mortars with the Addition of Cement and Fly Ash. In: *Juniorstav 2015: Proceedings of 17th International Conference of Postgraduate Students*. Brno, CR, 29.1.2015. [CD-ROM]. Brno: Brno University of Technology, Faculty of Civil Engineering, 2015. ISBN 978-80-214-5091-2. 7 pp. (in Slovak)

Ledererová, M.: Nanotechnology and Its Potential Use in Construction. In: *Proceedings of 19th Conference on the Environment and Mineral Processing, Part II*. Ostrava, CR, 4.- 6.6.2015. Ostrava: Technical University of Ostrava, Faculty of Mining and Geology, Institute of Environmental Engineering 2015. ISBN 978-80-248-3754-3. pp. 35-40 (in English).

Ledererová, M.: Bau und Abbruchabfällen (Construction and demolition waste). In: *Construmat 2015. Conference on Structural Materials*. Brno, Moravec, Czech Republic, 10.-12.6.2015. [CD-ROM]: Brno University of Technology, Faculty of Civil Engineering, Institute of Technology of Building Materials and Components, 2015. ISBN 978-80-214-5205-3 (in German)

Ledererová, M.: Nanotechnologies, Recycled Materials and Options for Their Use in Construction. In: *RECYCLING 2015: Possibilities and Future of Waste Recycling from Buildings as a Source of Valuable Raw Materials*. Brno, CR, 9.-10.4. 2015. Brno University of Technology, Faculty of Mechanical Engineering, 2015, ISBN 978-80-214-5141-4. pp. 102-107 (in Slovak)

Matulová, K. – Unčík, S.: Reduction of the Shrinkage of Cement Composites. In: *ESaT 2015 : Proceedings of the International Conference on Engineering Science and Technologies*. Tatranská Štrba, SR, 27.-29.5.2015. Košice: Technical University of Košice, Faculty of Civil Engineering, 2015. ISBN 978-80-553-2042-7. pp. 329-334 (in English)

Matulová, K. – Unčík, S.: Shrinkage-Reducing Admixtures in Cement Composites. In: *Construmat 2015: Conference on Structural Materials*. Brno, Moravec, CR, 10.-12.6.2015. [CD-ROM]. Brno University of Technology, Faculty of Civil Engineering, 2015. ISBN 978-80-214-5205-3 (in Slovak)

Matulová, K.: Properties of Cement Pastes with Shrinkage-Reducing Admixtures. In: *Advances in Architectural, Civil and Environmental Engineering: Proceedings of 25th Annual Postgraduate Student Conference*.

- Bratislava, SR, 28.10.2015. [CD-ROM]. Bratislava: Slovak University of Technology in Bratislava, 2015. ISBN 978-80-227-4514-7. pp. 338-342 (in Slovak)
- Matulová, K.: Reduction in the Shrinkage of Cement Composites by Selected Admixtures and Additives. In: Juniorstav 2015: Proceedings of 17th International Conference of Postgraduate Students. Brno, CR, 29.1.2015. [CD-ROM]. Brno: Brno University of Technology, Faculty of Civil Engineering, 2015. ISBN 978-80-214-5091-2 (in Slovak)
- Matulová, K. – Unčik, S.: Reduction in the Shrinkage of Reprofiling Mortars by SRA Admixtures. In: Rehabilitation of Concrete Structures: Proceedings of 9th Conference. Smolenice, SR, 10.-11.12.2015. Brno: Tribun EU, 2015. ISBN 978-80-263-0882-9. pp. 61-66 (in Slovak)
- Pavlík, V. – Kormaník, M. – Struhárová, A.: Long-Term Damage of External Lime-Cement Renders by Air Pollution. In: Construmat 2015: 21. Conference on Structural Materials. Brno, Moravec, CR, 10.-12.6.2015. [CD-ROM]. Brno University of Technology, Faculty of Civil Engineering, 2015. R. Drochytka, J. Hodul (Eds.). ISBN 978-80-214-5205-3. 6pp. (in English)
- Užáková, M. – Pavlík, V. – Palou, M.T.: Effect of the Addition of Zeolite on the Physical-Mechanical Properties of Lime Mortars. In: Natural and Synthetic Zeolites in Slovakia. Proceedings of seminar of the Expert Group for Zeolites. Bratislava, SR, 23.6.2015. Bratislava, Slovak Society of Industrial Chemistry at FCHPT STU, Department of Petroleum Technology and Petrochemistr. FCHPT STU, (P. Hudec et al. Eds.). ISBN 978-80-89597-26-0. pp. 16-31 (in Slovak)
- Struhárová, A. – Balkovic, S.: Effect of Fluidized Fly Ash on Properties of Autoclaved Aerated Concrete. In: Proceedings of 19th Conference on the Environment and Mineral Processing, Part II. Ostrava, Czech Republic, 4.-6.6.2015. Technical University of Ostrava, Faculty of Mining and Geology, Institute of Environmental Engineering 2015. ISBN 978-80-248-3754-3. pp. 29-35 (in English).
- Struhárová, A.: Influence of Hydrophobic Grouting Solution Freeztec DPC for Protection of Autoclaved Aerated Concrete Brickwork. In: Construmat 2015. Conference on Structural Materials. Brno, Moravec, Czech Republic, 10.-12.6.2015. [CD-ROM]: Brno University of Technology, Faculty of Civil Engineering, Institute of Technology of Building Materials and Components, 2015. ISBN 978-80-214-5205-3. 3 pp. (in English).
- Štefunková, Z.: Cement Composites with Addition of Alkali Resistant Glass Fibres. In: Construmat 2015. Conference on Structural Materials. Brno, Czech Republic, 10.-12.6.2015. [CD-ROM]: Brno University of Technology, 2015 Faculty of Civil Engineering, Institute of Technology of Building Materials and Components, 2015. ISBN 978-80-214-5205-3. 6 pp. (in English)
- Štefunková, Z. – Guliš, M.: Effect of Shrinkage Reducing Admixtures on the Properties of Cement Composites. In: Construmat 2015. Conference on Structural Materials. Brno, Moravec, Czech Republic, 10.-12.6.2015. [CD-ROM]: Brno University of Technology, Faculty of Civil Engineering, Institute of Technology of Building Materials and Components, 2015. ISBN 978-80-214-5205-3. 6 pp. (in English)
- Šveda, M. – Janík, B.: Development of Brick Blocks at the Beginning of the 21st Century. In: Construmat 2015. Conference on Structural Materials. Brno, Moravec, Czech Republic, 10.-12.6.2015. [CD-ROM]: Brno University of Technology, Faculty of Civil Engineering, Institute of Technology of Building Materials and Components, 2015. ISBN 978-80-214-5205-3 (in Slovak).
- Šveda, M. – Kerestúr, M. – Sokolář, R. – Nevřivová, L. – Unčik, S.: Frost Resistant of Brick and Its Evaluation According to Pore Size Distribution. In: Construmat 2015. Conference on Structural Materials. Brno, Moravec, Czech Republic, 10.-12.6.2015. [CD-ROM]: Brno University of Technology, Faculty of Civil Engineering, Institute of Technology of Building Materials and Components, 2015. ISBN 978-80-214-5205-3 (in English).
- Šveda, M. – Sokolář, R. – Janík, B. – Štefunková, Z.: The Economic Considerations in the Application of Chemical Additive Vuppor Instead Of Combustible Pore-Forming Agents. In: Construmat 2015. Conference on Structural Materials. Brno, Moravec, Czech Republic, 10.-12.6.2015. [CD-ROM]: Brno University of Technology, Faculty of Civil Engineering, Institute of Technology of Building Materials and Components, 2015. ISBN 978-80-214-5205-3 (in English).
- Šveda, M. – Janík, B.: Utilization of Wastes from the Paper, Chemical and Sugar Industry in Brickmaking. In: Research and Innovation Week in Practice TVIP 2015, The Waste Forum 2015, 18.-20.3.2015, Hustopeče, Czech Republic [CD ROM]: Aprochem, The Waste Forum. Prague: Czech Environmental Management Center, 2015. ISBN 978-80-85990-26-3 (in Slovak).

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# DEPARTMENT OF BUILDING TECHNOLOGY

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Technology of Construction Processes 1  
Costs and Prices in the Building Industry  
Technology of Construction Processes 2  
Building Technology and Management  
Professional Training  
Protection of the Environment  
Seminar for the Bachelor Thesis  
Excursion  
Technology of Construction Processes 3  
Construction of Buildings  
Final Work  
Technology Project  
Pre-Construction Design  
Construction Site Facility  
Quality Management in Construction  
Thesis  
Forensic Activities  
Historical Building Technologies

#### Obligatory elective subjects (optional course)

Civil Engineering in Practice  
Construction of Buildings  
Forensic Activities  
Safety and Protection of Health in the Construction Process  
A Manager in the Construction Industry  
Construction Engineering in Practice  
Technology of Maintenance  
Technological Processes in Technical Facilities  
Modelling of Construction Processes  
Technology of Building Renovation I.  
Computer-Aided Preconstruction Design

Financial Management  
Technology of Finishing Processes  
Pathology of Buildings  
Non-Destructive Testing  
Technology Project I.  
Technology Project II.  
Technology of Building Renovation II.  
Ethics of an Undertaking  
Historical Construction Technologies I.  
Costs and Prices

#### In English

Building Economy (CE)  
Building Technology (CE)  
Quality Management in CE (CE)  
Facility Management (CE)  
Financial Management (CE)  
Building Planning and Realization (CE)  
Technology of Building Renovation (CE)  
Building Site Management (CE)

### 1.2 Postgraduate courses

Dissertation Projects I. - VII.  
Dissertation Exam  
Pedagogic Activity  
Scientific and Publication Activities I. - V.  
Dissertation Work

## 2. THESES

### 2.1 Bachelor theses

There were 86 works.

### 2.2 Graduate theses

Annuš, D.: Multifunctional Building on Ružinovská Street, Bratislava.  
Supervisor: Somorová, V.

- Bača, L.: Residential Building on Zlatovská Street, Trenčín.  
Supervisor: Ďubek, M.
- Badžgoň, P.: "Rustaveliho" Apartment Building.  
Supervisor: Jankovichová, E.
- Bajo, M.: "Harmónia" Apartment Building.  
Supervisor: Prokopčáková, K.
- Baláž, R.: Multifunctional Building.  
Supervisor: Funtík, T.
- Balážová, S.: Selected Parts of a Building Technology Project for the Construction of the Hájpark I – Two Residential Buildings, Bratislava.  
Supervisor: Chamulová, B.
- Bederka, M.: Peri Complex.  
Supervisor: Makýš, P.
- Blašková, A.: "Olbrachtova" Apartment Building.  
Supervisor: Antošová, N.
- Bodnár, S.: Sewage Clarification Plant in Kežmarok.  
Supervisor: Hulínová, Z.
- Borovjak, M.: Residential Complex in "Nový Poprad".  
Supervisor: Búciová, M.
- Brusňai, G.: Implementation of the Reconstruction of the Synagogue in Lučenec.  
Supervisor: Makýš, O.
- Bugef, M.: Condominium Complex.  
Supervisor: Matúšek, R.
- Bukovský, M.: Realisation of the Renovation of the Modrý kúpeľ and LD "Kollár" Structures in Turčianske Teplice.  
Supervisor: Makýš, O.
- Búzik, R.: Selected Parts of a Building Technology Project for the Construction of the ECODESIGN HOUSE – Multifunctional Residential House.  
Supervisor: Chamulová, B.
- Čierny, M.: "Pod vrškami" Residential Complex.  
Supervisor: Somorová, V.
- Dorušinec, R.: The "ISKRA" Administration Building in Partizánske.  
Supervisor: Búciová, M.
- Ďuriačová, R.: Sokolská Residence, Bratislava.  
Supervisor: Prokopčáková, K.
- Figuli, I.: Multifunctional Apartment House.  
Supervisor: Ďubek, M.
- Foltán, I.: "Gen. Svobodu" Apartment House in Partizánske.  
Supervisor: Somorová, V.
- Franta, J.: Turancar BUSPORT – Administrative Building and Service Hall  
Supervisor: Jankovichová, E.
- Gombarček, I.: Selected Parts of the Technological Preparation of a Building Construction: Martin Center of Biomedicine.  
Supervisor: Briatka, P.
- Haring, P.: "Nejedlého" Apartment Building II. Phase.  
Supervisor: Jankovichová, E.
- Haršany, F.: Panorama Centrum in Pezínok.  
Supervisor: Búciová, M.
- Chrappa, F.: Multifunctional Apartment House.  
Supervisor: Božík, M.
- Imriška, V.: Rhenus Depo II.  
Supervisor: Briatka, P.
- Jamrich, A.: Slab Residential Building.  
Supervisor: Szalayová, S.
- Jančovič, D.: "Púchov - II. Stage" Railway Station Building.  
Supervisor: Antošová, N.
- Jurányi, I.: "DINE" Multifunctional Building.  
Supervisor: Jankovichová, E.
- Jurovčík, Š.: PERI GmbH Complex.  
Supervisor: Makýš, P.
- Kánová, B.: Multifunctional Residential Buildings, Nejedlého Street, Bratislava-Dúbravka.  
Supervisor: Hulínová, Z.
- Kapičák, D.: Multifunctional Building "At the Crossroads".  
Supervisor: Petro, M.
- Kardos, R.: Selected Parts of the Construction – Technological Preparation for the "Dvojkřížna" Apartments.  
Supervisor: Chamulová, B.
- Klenovská, L.: Selected Parts of the Construction and Technological Preparation for the Perla Ružinova – II. Stage Construction.  
Supervisor: Juriček, I.
- Klesniak, P.: Construction – Technology Project for the Construction of the BYTOVÝ DOM MILESTONES, III. Stage, Banská Bystrica.  
Supervisor: Gašparík, J.
- Klinovský, J.: Data Centre.  
Supervisor: Božík, M.
- Kobetičová, V.: AXXENCE Slovakia Park, Bratislava.  
Supervisor: Prokopčáková, K.

- Köszegi, H.: Multifunctional Building.  
Supervisor: Petro, M.
- Košik, A.: Administrative Building of the Railway Station in Púchov – Phase “I”.  
Supervisor: Antošová, N.
- Krajčirovičová, D.: REDING II. Administrative Center, Račianska Street, Bratislava-Rača.  
Supervisor: Hulínová, Z.
- Kretová, H.: “Javor” Multipurpose Building.  
Supervisor: Jankovichová, E.
- Kúsek, P.: Residential Building, Zlaté Moravce.  
Supervisor: Szalayová, S.
- Kúsek, P.: Residential Complex, Vráble.  
Supervisor: Szalayová, S.
- Laco, L.: “Nejedlého” Apartment Building.  
Supervisor: Ďubek, M.
- Laktiš, M.: Žitava II. Apartment House.  
Supervisor: Matúšek, R.
- Martinovič, M.: “Mlyny” Residential Building.  
Supervisor: Funtík, T.
- Matúšek, P.: Silvanium II. Multifunctional Structure  
Supervisor: Jankovichová, E.
- Maxian, F.: Selected Parts of the Building-Technological Preparation of the “Perla Ružinova” II. Stage Building.  
Supervisor: Briatka, P.
- Meleg, A.: “Pod vřškami”, Residential Complex Bratislava-Záhorská Bystrica.  
Supervisor: Hulínová, Z.
- Miškovič, M.: Multifunctional Building, Dunajská Street, Bratislava.  
Supervisor: Hulínová, Z.
- Müller, R.: Selected Parts of a Building Technology Project for the Construction of the “F” SLOVAKTUAL Production Hall, Pravenec.  
Supervisor: Chamulová, B.
- Murín, A.: “Oscar” Residential Complex, Martin.  
Supervisor: Matúšek, R.
- Mydla, J.: Multifunctional House on Rusovská Street.  
Supervisor: Prokopčáková, K.
- Nagy, J.: Selected Parts of the Site Facility Project for an Industrial Factory Hall and Administration Building.  
Supervisor: Juriček, I.
- Nemček, M.: “Tarjanne” Residential Area.  
Supervisor: Funtík, T.
- Novotná, M.: “Rinzle” Apartment Complex.  
Supervisor: Petro, M.
- Ondrášik, O.: Selected Parts of Building Technology Project for the Construction of the “Mokrohájska” Residential House.  
Supervisor: Chamulová, B.
- Ostrolucký, M.: Technological Building Project for the Construction of the North – I. Stage Residential Complex, Žiar nad Hronom.  
Supervisor: Gašparík, J.
- Pavlik, L.: Multifunctional House on Rázusova Street, Banská Bystrica.  
Supervisor: Somorová, V.
- Petráň, J.: Štefánikova 13 and 15 Office Buildings.  
Supervisor: Jankovichová, E.
- Petrová, V.: Residential Building in Trnava.  
Supervisor: Antošová, N.
- Prepiak, F.: “HBV” Stupava – I. Stage Apartment Building.  
Supervisor: Prokopčáková, K.
- Rosival, M.: Dubravčice – East, Multifunctional Residential Complex II. Stage.  
Supervisor: Prokopčáková, K.
- Rudinská, L.: Meinl Residence Multifunctional Building.  
Supervisor: Petro, M.
- Rusnák, D.: Implementation of the Reconstruction of the Révayovského Mansion in Blatnica.  
Supervisor: Makýš, O.
- Sándorová, K.: Gala Residential Building, Galanta.  
Supervisor: Gašparík, J.
- Schevela, T.: Multifunctional Residential Building.  
Supervisor: Božík, M.
- Schreinerová, K.: SAV Pavilion of Material Science.  
Supervisor: Funtík, T.
- Smitka, J.: Construction of Multipurpose TATRA RESIDENCE.  
Supervisor: Ďubek, M.
- Staškovanová, V.: Administrative Building with a Hall in Dubnica.  
Supervisor: Antošová, N.
- Sukovská, H.: Recyclates from Construction Waste and Their Use in Practice.  
Supervisor: Szalayová, S.



Süttiová, A.: Implementation of Construction-Technological Project: Apartment Building, Gercenova II. Stage.

Supervisor: Gašparík, J.

Šimeková, H.: "Petržalské korzo" Residential Building.

Supervisor: Juriček, I.

Šiška, M.: Multifunctional Residential Building.

Supervisor: Božík, M.

Škandík, J.: Aqua Area I.

Supervisor: Božík, M.

Šoltýsová, J.: Multifunctional Building.

Supervisor: Petro, M.

Šrobová, V.: Multifunctional Building on Gagarinova Street, Bratislava.

Supervisor: Makýš, P.

Trepáč, J.: Multifunctional Apartment House.

Supervisor: Božík, M.

Turlík, S.: Na Vrátkach Multifunctional Building, Bratislava.

Supervisor: Búciová, M.

Urban, B.: European Relaxation Information Centrum for the Development of the Countryside in Bela.

Supervisor: Hulínová, Z.

Vačoková, S.: "Ružinovská 44" Multifunctional Building, Bratislava.

Supervisor: Hulínová, Z.

Vajdík, D.: "PERLA RUŽINOVA 2" Multipurpose Center.

Supervisor: Ďubek, M.

Vuová, B.: Multifunctional Residential Building, Radničné námestie, Rača.

Supervisor: Makýš, P.

## 2.3 Doctoral theses

Lusová, I.: The Selection of the Optimal Method for Determining the Compressive Strength of Concrete

Supervisor: Juriček, I.

## 3. RESEARCH

### 3.1 Research projects

Gašparík, J.: Project EU-TEMPUS 543727-TEMPUS-1-2013-1-IT-TEMPUS-SMGR – EQUASP, Tempus - On-line Quality Assurance of Study Programmes (2014-2016).

Gašparík, J.: Project Leonardo – BESTILE: Best Practices for the Installation of Ceramic, Glass and Stone Tiles. LLP LdV Transfér Inovácií (2014-2016).

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

Jankovichová, E.: 561539-EPP-1-2015-1-ES-EPPKA2-CBHE-JP, ERASMUS+ KA2, MIND – Management – Innovation – Development.

Somorová, V.: Facility Management – Accredited Training, 6174, 6178.

## 3.2 International cooperation

### Cooperating institutions

CONTEC, Kralupy nad Vltavou, Czech Republic

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

District Institute for the Preservation of 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

Technical University (VUT), Faculty of Building Engineering, Brno, Czech Republic

Department of Building Technology, Brno, Czech Republic

### Membership in international professional organizations

Gašparík, J.: International Association for Automation and Robotics in Construction.

Makýš, O.: International Council on Monuments and Sites - Slovak branch, Bratislava, SK.

Makýš, O.: Society for the Technology of the Protection of Monuments, Prague, CZ.

## 4. PUBLICATIONS

### Books

Ellingerová, H.: The Analysis of Construction Costs in the Investment Process. No. 1. Bratislava: Slovak University of Technology in Bratislava 2015, 143 pp., Series of scientific work. ISBN 978-80-227-4345-7 (in Slovak)

Gašparík, J.: Audit of Integrated Management System. No. 1. Brno: Tribun EU, 2015. CD-ROM, 187 pp., ISBN 978-80-263-0871-3 (in Slovak)

Gašparík, J.: Optimal Machine Group Selection Method Implemented into Construction Processes. No. 1. Brno: Tribun EU, 2015, 80 pp., ISBN 978-80-263-0400-5

Jankovichová, E.: Corporate Social Responsibility in the Construction Industry. No. 1. Brno: Tribun EU, 2015, 80 pp., ISBN 978-80-263-0463-0

Szalayová, S.: Environmental aspects of Construction IV. Nature Conservation. No 1. Brno: Tribun EU, 2015, CD-ROM, 73 pp., ISBN 978-80-263-0982-6 (in Slovak)

## Journals

Antošová, N.: The Methodology for the Selection of Technology for Eliminating Microorganisms in ETICS. In: Czech Journal of Civil Engineering. Vol. 1, No. 1. (2015), online, pp. 6 -14., ISSN 2336-7148 (in Slovak)

Briatka, P. – Makýš, P.: Concrete and Sustainability of Construction. In: Materiály pro stavbu. Vol. 21, No. 3 (2015), pp. 16-19., ISSN 1213-0311 (in Slovak)

Ďubek, M. – Makýš, P.: Technological Look at the Effects of the Temporary Cessation of Construction Work. In: Almanach znalca. Vol. 15, Nos. 1-2 (2015), CD-ROM, pp. 29-31., ISSN 1336-3174 (in Slovak)

Ellingerová, H.: The New Approaches to Calculating Prices in the Construction Industry. In: Eurostav. Vol. 21, Nos. 1-2 (2015), pp. 46-47., ISSN 1335-1249 (in Slovak)

Ellingerová, H.: Innovation Approaches to the Creating Bills of Quantities. In: Eurostav. Vol. 21, No. 3 (2015), pp. 56-57., ISSN 1335-1249 (in Slovak)

Ellingerová, H.: The Economical Aspects of Ventilated Façades. In: Eurostav. Vol. 21, No. 4 (2015), pp. 70-71., ISSN 1335-1249 (in Slovak)

Ellingerová, H.: The Ways of Measuring and Methods of Determining Time Standards. In: Eurostav. Vol. 21, No. 5 (2015), pp. 68-69., ISSN 1335-1249 (in Slovak)

Ellingerová, H.: The Methods of Predicting the Course of Prices. In: Eurostav. Vol. 21, Nos. 7-8 (2015), pp. 52-53., ISSN 1335-1249 (in Slovak)

Ellingerová, H.: The Course of Predicting Prices by the Method of Trend Extrapolation. In: Eurostav. Vol. 21, No. 9 (2015), pp. 46-48., ISSN 1335-1249 (in Slovak)

Ellingerová, H.: The Control of the Costs of a Construction Structure in a New Way? In: Eurostav. Vol. 21, No. 10 (2015), pp. 56-57., ISSN 1335-1249 (in Slovak)

Fillo, L. – Vítek, J. – Coufal, R. – Juriček, I.: Vacuum-Insulated Test Container of UHPFRC. In: Projekt – stavba. Vol. 10, No. 1 (2015), pp. 20-21., ISSN 1336-6327 (in Slovak)

Funtík, T.: BIM Level of Detail during a Project's Lifecycle. In: Eurostav. Vol. 21, Nos. 1-2 (2015), pp. 40-41., ISSN 1335-1249 (in Slovak)

FUNTÍK, Tomáš. BIM in Practice. Victoria Station Upgrade, London. In: Eurostav. Vol. 21, No. 3 (2015), pp. 54-55., ISSN 1335-1249 (in Slovak)

Funtík, T. – Kalnovič, R.: Automated Clash Detection in Project Documentation. In: Eurostav. Vol. 21, No. 5 (2015), pp. 64-65., ISSN 1335-1249 (in Slovak)

Funtík, T. – Paulovičová, L.: Quantity Takeoff Processing. In: Eurostav. Vol. 21, Nos. 7-8 (2015), pp. 48-49., ISSN 1335-1249 (in Slovak)

Funtík, T.: 5D BIM – The Fifth Dimension is Finance. In: Eurostav. Vol. 21, No. 9 (2015), pp. 42-43., ISSN 1335-1249 (in Slovak)

Funtík, T.: BIM and Facility Management. In: Eurostav. Vol. 21, No. 10 (2015), pp. 50-51., ISSN 1335-1249 (in Slovak)

Hajduchová, S.: Factors Affecting the Cost of Construction Equipment. In: Eurostav. Vol. 21, No. 3 (2015), pp. 33-35., ISSN 1335-1249 (in Slovak)

Hajduchová, S.: Decision Making for a Cost Assessment Model of Construction Equipment. In: Mladá veda. Vol. 3, No. 2 (2015), online, pp. 72-81., ISSN 1339-3189 (in Slovak)

Hajduchová, S.: Determining the Criteria and Scales for a Cost Assessment Model of Construction Equipment. In: Almanach znalca. Vol. 15, Nos. 1-2 (2015), CD-ROM, pp. 39-43., ISSN 1336-3174 (in Slovak)

Hanko, M. – Cúciková, Z.: The Current Application of the BIM Process in the Maintenance of Buildings in Slovakia and Abroad. In: iDB Journal. Vol. 5, No. 6 (2015), pp. 28-29., ISSN 1338-3337 (in Slovak)

HULÍNOVÁ, Z. – MADOVÁ, J.: Building Information Modeling and OHAS. In: Czech Journal of Civil Engineering. Vol. 1, No. 1 (2015), online, pp. 26-31., ISSN 2336-7148 (in Slovak)

Jankovíková, E.: Green Households – Increased Share of Renewable Energy Sources. In: Almanach znalca. Vol. 15, Nos. 1-2 (2015), CD-ROM, pp. 14-20., ISSN 1336-3174 (in Slovak)

Juriček, I. – Fillo, L.: Minimization of Water Content in Concrete. In: Projekt – stavba. Vol. 10, No. 1 (2015), pp. 12-16., ISSN 1336-6327 (in Slovak)

Makýš, P. – Funtík, T.: As-Built Verification Using BIM and Terrestrial Laser Scanning. In: Eurostav. Vol. 21, No. 4 (2015), pp. 66-67., ISSN 1335-1249 (in Slovak)

MAKÝŠ, P. – BRIATKA, P.: Development of Fibers and Fiber-Reinforced Concrete. In: Materiály pro stavbu. Vol. 21, No. 7 (2015), pp. 32-36., ISSN 1213-0311 (in Slovak)

Nguyen Tien, M.: The Share of Renewable Sources in Slovakia and Selected Countries. In: Almanach znalca. Vol. 15, Nos. 1-2 (2015), CD-ROM, pp. 21-25., ISSN 1336-3174 (in Slovak)

Paulovičová, L.: Automatization in the Sector of Mechanized Earthwork Processes. In: Mladá veda. Vol. 3, No. 2 (2015), pp. 82-91., ISSN 1339-3189 (in Slovak)

Somorová, V.: Manual for Buildings Using Facility Management. In: TZB-info. cz. Vol. 17, No. 3 (2015), online, [5] pp., ISSN 1801-4399 (in Slovak)

Somorová, V.: Application of Facility Management in the Maintenance of Residential Buildings. In: Správca bytových domov. Vol. 10, No. 1 (2015), pp. 22-23., ISSN 1336-7919 (in Slovak)

Somorová, V.: European Standard ČSN EN 15221-6 Facility Management - Area and Space Measurement in FM. In: TZB-info.cz. Vol. 17, No. 21 (2015), online, [4] pp., ISSN 1801-4399. (in Slovak)

Somorová, V.: The Fifth Part of the European Standard EN 15221-5 Guidance on Facility Management Processes. In: TZB-info.cz. Vol. 17, No. 11 (2015), online, [3] pp., ISSN 1801-4399 (in Slovak)

Somorová, V.: European Standard STN EN 15221-7 Guidelines for Performance Benchmarking. In: TZB-info.cz. Vol. 17, No. 30 (2015), online, [4] pp., ISSN 1801-4399 (in Slovak)

Somorová, V.: Facility Management in the Design Phase of Residential Buildings. In: Správca bytových domov. Vol. 10, No. 4 (2015), pp. 24-25., ISSN 1336-7919 (in Slovak)

Somorová, V.: Improve the Management of Residential Building Administration Using Facility Management. In: Správca bytových domov. Vol. 10, No. 6 (2015), pp. 20-21., ISSN 1336-7919 (in Slovak)

## Conference Proceedings

Antošová, N.: The Reasons for the Growth of Algae on Renovated Buildings and Methods of Its Removal. In: Zborník odborných referátov z 22. odbornej konferencie. Theory and Civil Engineering Construction. From Architectural Designs for Renovation after Implementation: Bratislava, SR, 25.3.2015. 1. ed. Bratislava: BB Print, 2015, pp. 40-45., ISBN 978-80-89627-05-9 (in Slovak)

Antošová, N. – Minarovičová, K.: Technologies for the Removal of Microorganisms from ETICS. In: Advanced Building Construction and Materials 2015 (ABCM 2015): Proceedings of scientific conference with international participation. Strážnice, ČR, 25.-27.6.2015. 1. ed. Ostrava: VŠB – Technical University of Ostrava, Faculty of Safety Engineering, 2015, CD-ROM, pp. 397-400., ISBN 978-80-248-3860-1 (in English)

Ashworth, S. – Štrup, O. – Somorová, V.: The Challenges and Added Value Benefits of Introducing the EN 15221 FM Standards into Practice. In: People Make Facilities Management: EuroFM Research Papers. Advancing Knowledge in FM. Schiphol-Rijk: EuroFM Publications, 2015, online, [10] pp., ISSN 2411-1791 (in English)

Bažík, P.: Streamlining the Process of Construction and Technological Preparation Using Excel. In: Advances in Architectural, Civil and Environmental Engineering [electronic source: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. No. 1. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, pp. 291-296., ISBN 978-80-227-4514-7 (in Slovak)

Cúciková, Z.: KPI – The Tool of Facility Management in the Maintenance of Buildings. In: Juniorstav 2015: 17. odborná konferencia doktorského štúdia. Brno, ČR, 29.1.2015 [electronic source] 1. ed. Brno: Vysoké učení technické v Brně, 2015, CD-ROM, [6] pp., ISBN 978-80-214-5091-2 (in Slovak)

Cúciková, Z.: Maintenance of External Claddings in the Context of Facility Management. In: Advances in Architectural, Civil and Environmental Engineering [electronic source]: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. No. 1. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, pp. 297-300., ISBN 978-80-227-4514-7 (in Slovak)

Cúciková, Z. – Hanko, M.: Multi-Criteria Decision-Making in Optimum Maintenance in Terms of Parameters. In: Facility Management 2015. Operation and Maintenance of Buildings in Terms of Information Technology: Proceedings of the 13th Scientific and Technical Conference with international participation, Štrbské Pleso, SR, 6.-7.10.2015. 1. ed. Bratislava: Slovak Society for Environmental Technology, 2015, pp. 81-84., ISBN 978-80-89216-78-9 (in Slovak)

Cúciková, Z. – Hanko, M.: Use of the Maintenance Manual of Buildings to Extend the Lifetime of Buildings in Accordance with Sustainable Development. In: enviBUILD - Buildings and the Environment 2015: proceedings of international conference and abstracts. Bratislava, SR, 15.-16.10.2015 = enviBUILD - Budovy a prostredie 2015, Proceedings and Abstracts from International Conferences. 1. ed. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, pp. 31-34., ISBN 978-80-227-4469-0 (in English)

Funtík, T.: Methods, Principles and Assessment of Energy Management Employing BIM. In: Energetický manažment 2015. Energy Efficiency and Energy Services in Practice: Proceedings of Scientific and Professional Conference. Vyhne, SR, 9.-10.6.2015. 1. ed. Bratislava: SSTP, 2015, pp. 73-79., ISBN 978-80-89216-76-5 (in Slovak)

Funtík, T. – Erdélyi, J.: BIM - Modeling Building Information. In: 23. slovenské geodetické dni: zborník abstraktov. Trnava, SR, 5.-6.11.2015. 1. ed. Bratislava: Chamber of Surveyors and Cartographers, 2015, [1] pp., ISBN 978-80-89623-09-9 (in Slovak)

Gašparík, J. – Szalayová, S.: Optimal Method of the Selection of Building Elevator from the Viewpoint of Minimizing Their Energy Consumption. In: ISARC 2015 – Connected to the Future: proceedings of the 32nd International Symposium on Automation and Robotics in Construction and Mining. Oulu, Finland, 15.-18.6.2015. Oulu: University of Oulu, 2015, online, [7] pp., ISSN 0356-9403. ISBN 978-951-758-597-2 (in English)

Gašparík, J. – Paulovičová, L. – Šrobárová, D. – Hanko, M.: Minimizing Energy Consumption of Construction Machine Groups Implemented into Soil Processes. In: OTMC 2015 - Organization, Technology and Management in Construction: conference proceedings of 12th international conference. Primošten, Croatia, 2.-5.9.2015. Zagreb: Croatian Association for Construction Management, 2015, online, pp. 91-103., ISBN 978-953-7686-06-2 (in English)

Hajduchová, S.: Determination of the Criteria for an Evaluation Model of Construction Equipment Costs. In: Advances in Architectural, Civil and Environmental Engineering [electronic source]: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials,

Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. No. 1. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, pp. 308-312., ISBN 978-80-227-4514-7 (in Slovak)

Hanko, M. – Cúciková, Z.: Analysis of the Implementation of BIM Technology into Building Maintenance. In: Facility Management 2015. Operation and Maintenance of Buildings in Terms of Information Technology: Proceedings of the 13th Scientific and Technical Conference with international participation, Štrbské Pleso, SR, 6.-7.10.2015. 1. ed. Bratislava: Slovak Society for Environmental Technology, 2015, pp. 133-137., ISBN 978-80-89216-78-9 (in Slovak)

Hanko, M.: Promoting Development Through BIM Technology in the Application of Building Maintenance in Facility Management In: Advances in Architectural, Civil and Environmental Engineering [electronic source]: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. No. 1. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, pp. 313-317., ISBN 978-80-227-4514-7 (in Slovak)

Lusová, I.: The Selection of the Optimal Method for Determining the Compressive Strength of Concrete Based on the Accuracy of Measurements. In: Juniorstav 2015: 17. odborná konferencia doktorského štúdia. Brno, ČR, 29.1.2015 [electronic source]. 1. ed. Brno: Vysoké učení technické v Brně, 2015, CD-ROM, [8] pp., ISBN 978-80-214-5091-2 (in Slovak)

Madová, J.: Risk Analysis and Correlation of BIM. In: Advances in Architectural, Civil and Environmental Engineering [electronic source]: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. No. 1. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, pp. 326-330., ISBN 978-80-227-4514-7 (in Slovak)

Paulovičová, L.: Optimization of Mechanized Earth Processes and Stochastic Modeling. In: Advances in Architectural, Civil and Environmental Engineering [electronic source]: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. No. 1. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, pp. 350-355., ISBN 978-80-227-4514-7 (in Slovak)

Somorová, V.: Determination of the Optimum Variant of the Material Solution of Building Constructions from the Aspect of the Effectiveness of Real Estate Developments. In: Advanced Materials Research: selected, peer reviewed papers from the 2014 3rd Global Conference on Civil, Structural and Environmental Engineering (GCCSEE 2014). Chengdu, China, 21.-22.10.2014. Vol. 1065-1069, (2015), pp. 2454-2458., ISSN 1022-6680 (in English)

Somorová, V.: Effectiveness of Building Maintenance Using Facility Management in the Design Phase. In: Facility Management 2015. Operation and Maintenance of Buildings in Terms of Information Technology: Proceedings of the 13th Scientific and Technical Conference international participation, Štrbské Pleso, SR, 6.-7.10.2015. 1. ed. Bratislava: Slovak Society for Environmental Technology, 2015, pp. 7-10., ISBN 978-80-89216-78-9 (in Slovak)

Somorová, V.: Influence of the Effectiveness of the Parameters of Building Design of Real Estate Development. In: Advanced Materials Research: selected, peer reviewed papers from the 2014 3rd Global Conference on Civil, Structural and Environmental Engineering (GCCSEE 2014). Chengdu, China, 21.-22.10.2014. Vol. 1065-1069, (2015), pp. 2520-2524., ISSN 1022-6680 (in English)

Šrobárová, D.: Maintenance of the Wooden Structures of Historical Buildings. In: Facility Management 2015. Operation and Maintenance of Buildings in Terms of Information Technology: Proceedings of the 13th Scientific and Technical Conference with international participation, Štrbské Pleso, SR, 6.-7.10.2015. No. 1. Bratislava: Slovak Society for Environmental Technology, 2015, pp. 89-92., ISBN 978-80-89216-78-9 (in Slovak)

Šrobárová, D.: Acoustic Scanning of Activities of Ligniperdus Insects in Repaired Historic Wooden Structures. In: Advances in Architectural, Civil and Environmental Engineering [electronic source]: 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. No. 1. Bratislava: Slovak University of Technology in Bratislava, 2015, CD-ROM, pp. 363-367., ISBN 978-80-227-4514-7 (in Slovak)

## Other

Petráš, D. (Ed.) – Somorová, V. (ed.): Facility Management 2015. Operation and Maintenance of Buildings in Terms of Information Technology: Proceedings of the 13th Scientific and Technical Conference with international participation, Štrbské Pleso, SR, 6.-7.10.2015. 1. ed. Bratislava: Slovak Society for Environmental Technology, 2015. pp. 145., ISBN 978-80-89216-78-9 (in Slovak)

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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 14 works

### 2.2 Graduate theses

Debnár, M.: Design and Reconstruction of Public Utility Networks  
Supervisor: Božíková, J.

Bednarčík, T.: Proposed Secondary Disinfection for Indoor and Outdoor Whirlpools in a Thermal Park  
Supervisor: Božíková, J.

Havašová, J.: Impact of Climate Change on Urban Areas  
Supervisor: Holubec, M.

Janíková, K.: Membrane Processes in Water Treatment  
Supervisor: Barloková, D.

Komorníková, L.: LCA WWTP Vráble  
Supervisor: Stanko, Š.

Korbeľa, D.: Use of Statistical Methods and Simulation Programs in the Planning Process of the Rehabilitation and Reconstruction of the WWTP of the Town of Stupava  
Supervisor: Tóthová, K.

Majliš, D.: Solution to an Environmental Burden  
Supervisor: Škultétyová, I.

Novák, P.: Assessment of the Sewage System of the Town of Levice  
Supervisor: Stanko, S.

Vilímek, I.: Design of the Recreational and Sitting Pool on the Grounds of the Patince Thermal Pool  
Supervisor: Kriš, J.

## 2.3 Doctoral theses

Berta, P.: Extension of Pollution in Surface Waters  
Supervisor: Sokáč, M.

Dubcová, M.: Use of Multi-criteria Analysis for the Sustainability of Water Management Systems

Gregušová, V.: Mathematical Simulation of WWTP Structures  
Supervisor: Stanko, Š.

Hanusová, A.: Possibilities for the Removal of Selected Micropollutants from Components of the Environment  
Supervisor: Ilavský, J.

Hrudka, J.: Dynamic Modelling of WWTP Structures  
Supervisor: Stanko, Š.

Kunštek, M.: Pharmaceuticals in Water and Possibilities for Their Removal  
Supervisor: Barloková, D.

Molnár, T.: Optimization and Modernization of Technological Processes Used in Water Treatment  
Supervisor: Barloková, D.

Molnárová, I.: Optimization of the Operation of a Sewage System  
Supervisor: Stanko, Š.

Rusnák, D.: Significance of Boundary Conditions in the Hydraulic Assessment of a Sewage Network  
Supervisor: Stanko, Š.

Kapusta, O.: Optimization of the Filtration Process of a Small Surface Water Treatment Plant to Obtain Safe Drinking Water  
Supervisor: Barloková, D.

Štefanec, B.: Effectiveness of the Employment of GIS in the Operation of the Technical Infrastructure of Water Companies  
Supervisor: Sokáč, M.

## 3. RESEARCH

### 3.1 Research projects

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.) APVV-0274-10

Increase in the Retention and Detention of Stormwater Runoff 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

Optimization of Water Treatment Processes in Small Surface Water Treatment Plants for Guaranteeing Supplies of Safe Drinking Water (2015-2017 Ilavský, J.) VEGA 1/0400/15

Experimental Research of Combined and Storm Sewage - Determined to the Protection of Receiving Water and Possibilities of Alternative Rainfall Runoff Regulation. (2015-2017 Stanko, Š.) VEGA 1/0631/15

ANAFAMS - Analysis of Factors for the Frequency of Cleaning Weather Stations. (2015 Rusnák, D.) STU Grant for excellent team of young researchers

### 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 Czestochowska, Czestochowa, Poland

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

Mahríková, I.: Member of International Water Association London, official member of National Board Committee

Mahríková, I.: International Member of Engineering Academy of Armenia

## 4. PUBLICATIONS

### Textbooks

Barloková, D. – Tóthová, K.: *Water Treatment and Water Supply : Water Distribution – Theory and Exercises*. STU in Bratislava, 2015. ISBN 978-80-227-4430-0, 152 pp. (in English and Slovak)

Ilavský, J.: *Chemistry of Water : Laboratory Exercises*. STU in Bratislava, 2015. ISBN 978-80-227-4421-8, 189 pp. (in Slovak)

### Journals

Barloková, D. – Ilavský, J. – Franková, E. – Molnár, T.: Comparison of Aluminium Sorption Using Inorganic and Organic Natural Sorbents. In: *Food and Environment Safety*. Vol. 14, No. 1 (2015), ISSN 2068-6609, pp. 58-66 (in English)

Barloková, D. – Ilavský, J. – Sokáč, M.: Modified Zeolites in Ground Water Treatment. In: *GeoScience Engineering*. Vol. 61, No. 1 (2015), ISSN 1802-5420, pp. 10-17 (in English)

Barloková, D. – Ilavský, J.: Technological Processes and Modernization of Water Treatment Plants. In: *Plynár - vodár - kúrenár + klimatizácia*. Vol. 13, No. 5 (2015), ISSN 1335-9614, pp. 16-18 (in Slovak)

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- Hanusová, A. – Mackuľák, T. – Drtil, M. – Vojs Staňová, A. – Behúl, M. – Vojs, M.: The Degradation of Micropollutants in Waters Using Boron-doped Electrodes. In: Analytical Methods and Human Health : 20th International Conference. Patince, Slovak Republic, 15.-18.6.2015 – Bratislava : Comenius University, 2015, CD-ROM – ISBN 978-80-971179-5-5 –pp. 284-287 (in Slovak)
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- Ilavský, J. – Barloková, D.: Modernization of Large Water Treatment Plants in Slovakia. In: Drinking Water 2015 : 16th International Conference. Trenčianske Teplice, Slovak Republic, 6.-8.10.2015 – Bratislava : VodaTím Ltd., 2013 – ISBN 978-80-971272-3-7 – pp. 55-62 (in Slovak)
- Mahríková, I. – Kutil, V.: The Experience gained from the Intensification and Operation of a Combined Sewage Treatment Plant - Municipal and Industrial WW. In: 47th Conference of Water Managers in Industry. Liptovský Ján, Slovak Republic, 9.-11.11.2015 – Bratislava : HEKAS, 2015 – ISBN 978-80-971819-1-8 – pp. 193-203 (in Slovak)
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- Rusnák, D. – Stanko, Š. – Škultétyová, I.: Impact Analysis of Model Rains in Sewer Systems Assessments. In: Architectural, Engineering and Information Sciences : abstract book. 11th International Miklós Iványi PhD & DLA Symposium. Pécs, Hungary, 19.-20.10.2015. Pécs : Pollack Press, 2015 – ISBN 978-963-642-876-1 – p. 105 (in English)
- Sokáč, M.: Runoff Quality from Green Roofs. In: Water Management and Hydraulic Engineering 2015 : 14th International Symposium. Brno, Czech Republic, 8.-10.9.2015 – Brno : Institute of Water Structures, FCE, BUT, 2015 – ISSN 2410-5910. ISBN 978-80-214-5230-5 – pp. 264-270 (in English)
- Sokáč, M. – Velísková, I.: Measurement Results of Longitudinal Dispersion Coefficient in Urban Sewer Networks Under Dry Weather Conditions. In: New Developments in Environmental Science and Geoscience : proceedings of International Conference on Environmental Science and Geoscience (ESG 2015). Vienna, Austria, 15.-17.3.2015 – Vienna, 2015 – ISSN 2227-4359, ISBN 978-1-61804-283-5 – pp. 57-60 (in English)
- Stanko, Š. – Škultétyová, I. – Belica, P.: „Retro-Perspectives“ of Wastewater Management. In: Reconstruction of Sewage Systems and Waste Water Treatment Plants: 9th International Conference. Podbanské, Slovak Republic, 13.-15.10.2015 – Bratislava : Water Research Institute, 2015 – ISBN 978-80-89740-08-6 ISBN 978-80-89740-08-6 – pp. 110-119 (in Slovak)



Stanko, Š. – Škultétyová, I.: Development of Sanitation Under the Influence of Religions. In: Urban Engineering Karlovy Vary 2015 – Religious Building and Town: 20th International Conference. Karlovy Vary, Czech Republic, 5.6.2015 – Prague : ČKAIT, 2015 – ISBN 978-80-87438-63-6 – pp. 90-98 (in German)

Škultétyová, I. – Stanko, Š.: Impact of Pilgrimage Sites on the Environment. In: Urban Engineering Karlovy Vary 2015 - Religious Building and Town: 20th International Conference. Karlovy Vary, Czech Republic, 5.6. 2015 – Prague : ČKAIT, 2015 – ISBN 978-80-87438-63-6 – pp. 137-145 (in German)

Štefanec, B. – Sokáč, M.: Use of GIS Systems in the Water Utilities in Slovakia In: Reconstruction of Sewage Systems and Waste Water Treatment Plants: 9th International Conference. Podbanské, Slovak Republic, 13.-15.10.2015 – Bratislava : Water Research Institute, 2015 – ISBN 978-80-89740-08-6 ISBN 978-80-89740-08-6 – pp. 220-227 (in Slovak)

Tóthová, K. – Barloková, D.: Basis of Information for the Design of the Volume of Tanks in Correspondence with the Water Demands. In: Innovative Information and Communication Technologies in Water: Conference proceedings. Bratislava, Slovak Republic, 26.6.2015 – Liptovský Ján: PROHU – ISBN 978-80-89535-19-4 – pp. 89-97 (in Slovak)

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# DEPARTMENT OF BUILDING SERVICES

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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

Design IV

Design V

Design VI

Air Conditioning

Sanitary Techniques

Water Delivery and Drainage

Computer Design Systems

Measurement and Control

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

#### 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. Bachelor theses

There were 3 works.

### 2.2 Graduate theses

Olejka, M.: Decentralised ventilation of storage spaces of logistics center  
Supervisor: Straková, Z.

Kiripolszky, Z.: Design of ventilation for administrative buildings and design of heat and cold's source  
Supervisor: Fűri, B.

Fricová, L. Ventilation and cooling of selected areas of the multipurpose building  
Supervisor: Straková, Z.

Prno, T.: Ventilation and air conditioning of culture house  
Supervisor: Straková, Z.

- Šteško, T.: Ventilation and fire ventilation of underground garage  
Supervisor: Straková, Z.
- Križanová, V.: Ventilation and warm air heating of production hall with administrative building  
Supervisor: Straková, Z.
- Hincová, B.: Ventilation of Audi service station in Bratislava – Dúbravka  
Supervisor: Boďo, R.
- Olšová, V.: Ventilation of non-residential character's building  
Supervisor: Šabíková, J.
- Pisklákova, K.: Ventilation of primary school's part in Piešťany  
Supervisor: Boďo, R.
- Kalivodová, K.: Ventilation of Lumiere cinema in Bratislava  
Supervisor: Boďo, R.
- Sokolíková, Z.: Kitchen ventilation in the shopping center  
Supervisor: Boďo, R.
- Augustín, P.: Energy Use of Heat from Communal Waste  
Supervisor: Takács, J.
- Belovič, L.: Application of Active Thermal Protection for Building Heating and Cooling  
Supervisor: Kalús, D.
- Bobeková, A.: Environmental and Economical Evaluation of Energy Systems in a Family House  
Supervisor: Petráš, D.
- Bozsíková, Z.: Environmental Evaluation of Building Service Operation in an Office Building  
Supervisor: Petráš, D.
- Cizibová, S.: Alternatives for Rain Water Use in a Dwelling  
Supervisor: Januška, J.
- Fabiankovič, M.: Design of Heat Source for a Dwelling – Biomas Base  
Supervisor: Kalús, D.
- Juhászová, G.: Selection of Optimilization of Energy Saving Measures During Building Renovation  
Supervisor: Krajčík, M.
- Krčmárová, L.: Passive Cooling from Building Envelope Surface Treatment Point of View  
Supervisor: Šabíková, J.
- Maršálek, A.: Comparison of Alternatives for Heat Delivery in a Building and Design of Heat Source  
Supervisor: Krajčík, M.
- Nikova, I.: Energy Certification of Low Energy Family House via Heating System with Heat Pump  
Supervisor: Fűri, B.
- Ondisova, M.: Comparison of Different Heat Sources for a Family House – Biomass Base  
Supervisor: Takács, J.
- Pašková, Z.: Centralized Heat Production via Biomass Boiler – Kysuce county  
Supervisor: Skalík, L.
- Straňák, M.: Calculation and Design of Heat Source for a Basic School – Biomas Base  
Supervisor: Takács, J.
- Úradníčková, K.: Ventilation in a Gymnasium  
Supervisor: Šabíková, J.
- Kaniová, H.: Design of a Drainage System and Wastewater Pre-treatment Systems alternatives in Office Building  
Supervisor: Peráčková, J.
- Kevecká, L.: Gas Supply in a Dwelling House with Gas Heating Boiler  
Supervisor: Peráčková, J.
- Košč, I.: Alternative Gas Supply Systems for a Dwelling House  
Supervisor: Peráčková, J.
- Majerech, M.: Design of the System for Reusing of Rainwater  
Supervisor: Jánošková, T.
- Mihel, R.: Design of Automatic Sprinkler System  
Supervisor: Jánošková, T.
- Kozár, J.: Design of a Sanitary Technology Systems for a Car Showroom  
Supervisor: Tonhauzer, I.
- Kudiváni, P.: Design of a Sanitary Technology Systems for a Dwelling House for Disabled Peoples  
Supervisor: Peráčková, J.
- Načevová, L.: Design of a Water Supply System using Local Water Source for a Church Centre  
Supervisor: Peráčková, J.
- Pálešová, T.: Design of Systems for conveying of Rainwater and Alternative Soakaways from a Hotel  
Supervisor: Peráčková, J.
- Ružová, A.: Design of the System for conveying, Reusing and Soakaway System for Rainwater in the Family house  
Supervisor: Jánošková, T.
- Zvára, M.: Alternative Design of a Progressive Hot Water Preparing System for a Dwelling House  
Supervisor: Peráčková, J.

J. Žumárová, T.: Design of a Water Supply System in a Senior House with reusing of Rainwater  
Supervisor: Peráčková, J.

Barnová, Z.: Utilization of photovoltaic to support the heat pump for heating / cooling in office building  
Supervisor: Kalús, D.

Halaj, M.: Low temperature heating and high temperature cooling in office building  
Supervisor: Petráš, D.

Hrčková, L.: Design of the heat source for biomass combustion for object of culture house and town hall  
Supervisor: Lulkovičová, O.

Chudá, Z.: Hydraulic balancing of heating system and energy audit of residential building  
Supervisor: Petráš, D.

Ivančíková, I.: Low temperature heating and high temperature cooling in office building  
Supervisor: Kalús, D.

Kmeťo, D.: Heating system of residential building with a biomass heat source and solar energy system for domestic hot water  
Supervisor: Kalús, D.

Koscelníková, V.: Design of the heating system for manor-house building  
Supervisor: Kurčová, M.

Lisík L.: Design of the combined heat source for a manor house building with services  
Supervisor: Lulkovičová, O.

Lörincz, A.: Calculation and design of biomass heat source for primary school building in Senec  
Supervisor: Takács, J.

Michalec, M.: Hot water floor heating for multifunctional building with heat pump  
Supervisor: Petráš, D.

Miterko, M.: Reconstruction of hot water heating system in primary school in village Báhoň  
Supervisor: Takács, J.

Pál, V.: Analysis of utilization of geothermal energy for greenhouse facility in village Zemné  
Supervisor: Takács, J.

Perdík, J.: Calculation and design of heat source based on heat pump and low temperature heating for office building  
Supervisor: Takács, J.

Píšťanek, M.: Design of combined heat source with use of solar energy for residential building  
Supervisor: Lulkovičová, O.

Povoda, J.: Realization project of heating and cooling for multifunctional building  
Supervisor: Koudelková, D.

Rigas, D.: Hydraulic balancing of heating system in residential building  
Supervisor: Kurčová, M.

Šalátová, S.: Design of various heat sources in residential building  
Supervisor: Lulkovičová, O.

Šimková, A.: Reconstruction of heating system in sacral building  
Supervisor: Koudelková, D.

Šoula, J.: Calculation and design of low temperature heat source based on heat pump for office building  
Supervisor: Takács, J.

Šulek, M.: Design of heat source based on renewable source of energy for kindergarten building  
Supervisor: Lulkovičová, O.

Vozatár, M.: Decentralisation of heating in large space building  
Supervisor: Kalús, D.

Zavadová, M.: Design of heat source with condensation technique for dormitory building  
Supervisor: Lulkovičová, O.

## 2.3 Doctoral theses

Bukoviansky, M.: The Effect of Utilization of Geothermal Energy for Evaluation of the Energy Performance of Residential Buildings.  
Supervisor: Takács,

J. Jurka, P.: Evaluation of Energy Performance of Thermal Pools  
Supervisor: Takács, J.

Miček, I.: Energy and Environmental Aspects of Using Geothermal Energy in Balneological Technical Equipments.  
Supervisor: Takács, J.

Rácz, L.: The Analysis of the Influence of Circulating Pumps at the Energy Consumption of Operation of Heating Systems in Residential Buildings  
Supervisor: Takács, J.

Čermanová, Z.: The Consumption of Hot Water and an Energy Balance of Hot Water's Preparation in Apartment Houses  
Supervisor: Peráčková, J.

Horský, J.: The Evaluation Methodology Analysis of Energy Efficiency of Various Biomass Burning Boilers  
Supervisor: Lulkovičová, O.

Vichová, K.: Analysis Methods of Calculation of Energy Performance of Heat Generators for Biomass  
Supervisor: Lulkovičová, O.

Hurtíková, D. : Indoor Air Quality and Energy Certification of Ventilation and Air Conditioning  
Supervisor: .Petráš, D., Hensen, J. L. M.

Bugáň, J.: Low Temperature Heating and High Temperature Cooling Utilizing RES  
Supervisor: Petráš, D.

## 3. RESEARCH

### 3.1 Research projects

Health and energy aspects of building integrated photovoltaic facades (2015-2016, KRAJČÍK, M.), Grant scheme to support excellent teams of young researchers at the Slovak University of Technology in Bratislava

Kompetenčné centrum inteligentných technológií pre elektronizáciu a informatizáciu systémov a služieb (2011-2015, PETRÁŠ, D.), KC-INTELINSYS, ITMS 26240220072

CEEPUS III – Education without Frontiers (2015-2016, LULKOVIČOVÁ, O.), CIII-AT-0050-00-1516

### 3.2 International cooperation

#### Cooperating institutions

Danmarks Tekniske Universitet, Lyngby, Danmark Fachhochschule Burgenland, Pinkafeld, Austria Ensi – Energy Saving International AS, Oslo, Norway Budapest University of Technology and Economics, Budapest, Hungary

#### Memberships in international professional organizations

Petráš, D.: ASHRAE Petráš, D.: ISIAQ Petráš, D.: REHVA

#### Visits of staff members to foreign institutions

University Tallin, Estland

University Orlando, USA

University Kocaeli, Turkey

TU Eindhoven, Holland

University Berkeley, USA

GRUNDFOS AG, Tatabánya, Hungary

REHAU AG, Wien, Austria University Pinkafeld, Austria University Coimbra, Portugal

## 4. PUBLICATIONS

### Books

Pustayová, H. [Pustayová, Hana]. Evaluation of energy performance and thermal comfort of dwellings in the process of refurbishment. 1. ed. Bratislava : Slovenská technická univerzita v Bratislave, 2015. 118 p. Edícia vedeckých prác. ISBN 978-80-227-4474-4. (in English)

### Textbooks

Krajčík, M. – Petráš, D.: Energy assessment of buildings. 1. ed. Bratislava : Slovenská technická univerzita v Bratislave, 2015. 231 p. Edícia skript. ISBN 978-80-227-4462-1. (in Slovak)

Straková, Z. [Kovářová, Z.] – Šabíková, J. – Leimberger, P. – Boďo, R.: Building Services 3 : Ventilation and Air-Conditioning – Exercise. 1. ed. Bratislava : Slovenská technická univerzita v Bratislave, 2015. 288 p. Edícia skript. ISBN 978-80-227-4362-4. (in Slovak)

### Journals

Borisová, L.: Determining the optimal parameters Energy Performance of Buildings, part II. : What is the final determination of the resulting curve optimal cost of a specific residential building? In: TZB Haustechnik. Vol. 8, Iss. 1 (2015), p. 32-34. ISSN 1803-4802. (in Czech)

Bukoviánsky, M. – Takács, J.: Geothermal energy utilization in district heating systems and recommendations for optimization. In: iDB Journal. Vol. 5, Iss. 1 (2015), p. 28-29. ISSN 1338-3337. (in Slovak)

Buzás, V. [Podobeková, V.] – Peráčková, J.: Energy systems to recycle waste water heat. In: TZB Haustechnik. Vol. 23, Iss. 4 (2015), p. 52-54. ISSN 1210-356X. (in Slovak)

Buzás, V. [Podobeková, V.] – Peráčková, J.: Using the heat from sewage systems by the heat pump. In: TZB Haustechnik. Vol. 8, Iss. 3 (2015), p. 34-36. ISSN 1803-4802. (in Czech)

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# DEPARTMENT OF ARCHITECTURE

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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

#### 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 22 works.

### 2.2 Graduate theses

Fašungová, Z.: Leisure Time Centre

Supervisor: Bauer, P.

Eržiak, M.: A Center of Coffee Culture

Supervisor: Bauer, P.

Polakovičová, D.: Swimming Pool

Supervisor: Bauer, P.

Weiserová, V.: Multifunctional Object

Supervisor: Bauer, P.

Liptáková, S.: Leisure Time Complex

Supervisor: Borecká, E.

Jevčík, M.: Municipal Office in Leopoldov

Supervisor: Gürtler, I.

Viskup, M.: Municipal Office in Leopoldov  
Supervisor: Gürtler, I.

Púpala, P.: Municipal Office in Leopoldov  
Supervisor: Gürtler, I.

Szilvássy, R.: Municipal Office in Leopoldov  
Supervisor: Gürtler, I.

Slavkova, M.: Hotel  
Supervisor: Husenicová, J.

Arnoulová, J.: Revitalisation of Petržalka  
Supervisor: Kubišová, M.

Hubová, B.: Revitalisation of Petržalka  
Supervisor: Kubišová, M.

Kaššáková, M.: Revitalisation of Petržalka  
Supervisor: Kubišová, M.

Miklášová, B.: Winter Sports Centre  
Supervisor: Kuráň, J.

Polák, M.: Gallery of Modern Art  
Supervisor: Kuráň, J.

Stano, J.: Residential Complex Astana  
Supervisor: Kuráň, J.

Zavarská, B.: Revitalisation of Industrial Centre  
Supervisor: Kuráň, J.

Pituchová, T.: Cultural Centre in Bardejov  
Supervisor: Mudrončík, M.

Belica, P.: Municipal Office in Leopoldov  
Supervisor: Mudrončík, M.

Šajgalík, P.: Amphitheatre in Banská Bystrica  
Supervisor: Mudrončík, M.

Bojdová, Z.: Revitalisation of Petržalka  
Supervisor: Nádaská, Z.

Bubniaková, J.: Revitalisation of Petržalka  
Supervisor: Nádaská, Z.

Bránický, F.: Multifunctional Structure with a Student Dormitory  
Supervisor: Paňák, P.

Vargic, L.: Hurban Barracks Area  
Supervisor: Paňák, P.

Vass, J.: Winery  
Supervisor: Paňák, P.

Rošťák, M.: Dolný Kubín Sport Centre  
Supervisor: Šimkovičová, V.

Laciková, S.: Kindergarten  
Supervisor: Šimkovičová, V.

## 2.3 Doctoral theses

Pavle, M.: Housing for Senior Citizens  
Supervisor: Mudrončík, M.

Pribylínec, P.: Behaviour of Hysteresis in Porous Material from the Aspect of Humidity  
Supervisor: Mudrončík, M.

Schlesinger, R.: Soft Capping of Historic Walls  
Supervisor: Husenicová, J.

Sivoň, P.: Application Morphology of Traditional Architecture  
Supervisor: Mudrončík, M.

## 3. RESEARCH

### 3.2 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

### Books

Dohňanská, E.: KARCH 2010-2014. 1st ed. Bratislava : Pre-um 2015. 72 pp. ISBN 978-80-972192-1-5 (in Slovak)

Kubišová, M. – Nádaská, Z.: Petržalka Housing estate – a New Way of Living. 1st ed. Bratislava : Pre-um, 2015. 76 pp. ISBN 978-80-972192-0-8. (in Slovak)

Kuráň, J. – Bauer, P. – Borecká, E. – Bránický, F. – Dohňanská, E. – Gürtler, I. – Husenicová, J. – Kubišová, M. – Mudrončík, M. – Nádaská, Z. – Paňák, P. – Pilař, P. – Šimkovičová, V.: Graduates of 2015 and Theses from the Department of Architecture. 1st ed. Brno : Tribun EU, 2015. 64 pp. ISBN 978-80-263-0563-7 (in Slovak)

### Journals

Borecká, E.: House with a Bay Window in the Art Deco Style. In: Interior. Vol. 16, No. 6 (2015), pp. 62-66. ISSN 1335-4868 (in Slovak)

Borecká, E.: Villa N. In: Interior. Vol. 16, No.11 (2015), pp. 78-84. ISSN 1335-4868 (in Slovak)

Borecká, E.: White Villa above the City. In: *Interier*. Vol. 16, Nos. 7-8 (2015), pp. 74-78. ISSN 1335-4868. (in Slovak)

Borecká, E.: Villa Hubert. In: *Interier*. Vol. 16, No.4 (2015), pp. 70-74. ISSN 1335-4868 (in Slovak)

Nádaská, Z. – Kubišová, M.: How to Proceed in Petržalka. In: *Projekt*. Vol. 57, Nos 4-5 (2015), pp. 68-73. ISSN 1335-2180 (in Slovak)

Pilař, P.: Today Cities are a Place for Everyone. In: *Kultúrny kyslík*. Vol. 2, No. 2 (2015), online, pp. 13. ISSN 1339-6919 (in Slovak)

## Conference Proceedings

Bauer, P.: Memories of the Creation of the Urban Regulation of the "Pribinova Zone" – Bratislava Center on the Danube Waterfront. In: *Advanced Building Construction and Materials 2015 (ABCM 2015)*. Proceedings of scientific conference with international participation. Strážnice, ČR, 25.-27.6.2015. 1st ed. Ostrava : VŠB – Technical University of Ostrava, Faculty of Safety Engineering, 2015, CD-ROM, pp. 29-33. ISBN 978-80-248-3860-1. (in Slovak)

Borecká, E.: Development of Modern Wineries and Tourism in the Regions. In: *Architecture in Perspective 2015*. Proceedings of 7th Architecture in Perspective 2015 conference. Ostrava, Czech Republic, 24-25.10.2015. Ostrava : VŠB – Technical University of Ostrava, 2015, pp. 48-49. ISBN 978-80-248-3802-1 (in Slovak)

Borecká, E.: Notes on the Preservation of Cultural, Historical and Material Values of Residential Buildings from the Interwar Period. In: *Advanced Building Construction and Materials 2015 (ABCM 2015)*. Proceedings of scientific conference with international participation. Strážnice, ČR, 25.-27.6.2015. 1st ed. Ostrava : VŠB – Technical University of Ostrava, Faculty of Safety Engineering, 2015, CD-ROM, pp. 16-23. ISBN 978-80-248-3860-1 (in Slovak)

Borecká, E. :Traditional Modernism in Slovakia, Prof. Franz Wimmer (1885 – 1953) and Andrej Szónyi (1885-1968). In: *Nová doba, nový svet : Proceedings of international scientific conference*, Bratislava, SR, 5.3.2015. 1st ed. Bratislava : STU Bratislava, Faculty of Civil Engineering, 2015, CD-ROM, pp. 79-89. ISBN 978-80-227-4500-0 (in Slovak)

Bránický, F.: Borosilicate in Architecture. In: *Advanced Building Construction and Materials 2015 (ABCM 2015)*: Proceedings of scientific conference with international participation. Strážnice, ČR, 25.-27.6.2015. 1st ed. Ostrava : VŠB – Technical University of Ostrava, Faculty of Safety Engineering, 2015, CD-ROM, pp. 375-379. ISBN 978-80-248-3860-1 (in English)

Dohňanská, E. – Dohňanská, Z.: Contribution to the Design and Restoration of a Building Fund in Rural Areas. In: *Rural Buildings in European Regions III*. Proceedings of reviewed scientific articles: Architecture – Construction – Technology – Safety – Logistics. 1st ed. University of Agriculture in Nitra, 2015, CD-ROM, pp. 141-144. ISBN 978-80-552-1399-6 (in Slovak)

Dohňanská, E. – Dohňanská, Z.: Context and Materiality in the Architecture of Rural Historic Environments. In: *Advanced Building Construction and Materials 2015 (ABCM 2015)*. Proceedings of scientific conference with

international participation. Strážnice, ČR, 25.-27.6.2015. 1st ed. Ostrava : VŠB – Technical University of Ostrava, Faculty of Safety Engineering, 2015, CD-ROM, pp. 63-67. ISBN 978-80-248-3860-1 (in Slovak)

Húsenicová, J.: Harmonization Process of Green Infrastructure and Towns in Slovakia. In: *Advanced Building Construction and Materials 2015 (ABCM 2015)*. Proceedings of scientific conference with international participation. Strážnice, ČR, 25.-27.6.2015. 1st ed. Ostrava : VŠB – Technical University of Ostrava, Faculty of Safety Engineering, 2015, CD-ROM, pp. 165-171. ISBN 978-80-248-3860-1 (in English)

Húsenicová, J.: Modern Zvolen. In: *Nová doba, nový svet : Proceedings of scientific conference Bratislava*, SR, 5.3.2015. 1st ed. Bratislava : STU Bratislava, Faculty of Civil Engineering, 2015, CD-ROM, pp. 95-112. ISBN 978-80-227-4500-0 (in Slovak)

Kuráň, J.: Development of the Disposition of Residential Houses in our Area, Background Design and the Layout of Individual Residential Houses Today. In: *Advanced Building Construction and Materials 2015 (ABCM 2015)*. Proceedings of scientific conference with international participation. Strážnice, ČR, 25.-27.6.2015. 1st ed. Ostrava : VŠB – Technical University of Ostrava, Faculty of Safety Engineering, 2015, CD-ROM, pp. 50-54. ISBN 978-80-248-3860-1 (in Slovak)

Kuráň, J.: Options of Typological Solutions for Optimization of the Cost of the Construction of Individual Housing. In: *Advanced Building Construction and Materials 2015 (ABCM 2015) : Proceedings of scientific conference with international participation*. Strážnice, ČR, 25.-27.6.2015. 1st ed. Ostrava : VŠB – Technical University of Ostrava, Faculty of Safety Engineering, 2015, CD-ROM, pp. 87-93. ISBN 978-80-248-3860-1 (in Slovak)

Mellner, D.: Borough of Svojdovov in Žilina. In: *Nová doba, nový svet : Proceedings of scientific conference Bratislava*, SR, 5.3.2015. 1st ed. Bratislava : STU Bratislava, Faculty of Civil Engineering, 2015, CD-ROM, pp. 66-78. ISBN 978-80-227-4500-0 (in Slovak)

Mešina, M.: Senior Cohousing and Possibilities of Its Application in the Slovak Republic. In: *Juniorstav 2015 : 17th Doctoral Studies Conference Brno*, ČR, 29.1.2015 [electronic source]. 1st ed. Brno University of Technology, 2015, CD-ROM, [8] pp. ISBN 978-80-214-5091-2 (in Slovak)

Mešina, M.: Senior Housing in Communities. In: *Advances in Architectural, Civil and Environmental Engineering*. 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, SR, 28.10.2015. 1st ed. STU Bratislava, Faculty of Civil Engineering, 2015, CD-ROM, pp. 628-634. ISBN 978-80-227-4514-7 (in Slovak)

Mudrončík, M.: Creating Architecture as Quality of Construction Work. In: *Advanced Building Construction and Materials 2015 (ABCM 2015) : Proceedings of scientific conference with international participation*. Strážnice, ČR, 25.-27.6.2015. 1st ed. Ostrava : VŠB – Technical University of Ostrava, Faculty of Safety Engineering, 2015, CD-ROM, pp. 24-28. ISBN 978-80-248-3860-1 (in English)

Pilař, P.: Transformation and the Current State of the Cultural Infrastructure. In: *Advances in Architectural, Civil and Environmental Engineering : 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics*. Bratislava, SR, 28.10.2015. 1.st ed. STU Bratislava, Faculty of Civil Engineering, 2015, CD-ROM, pp. 644-651. ISBN 978-80-227-4514-7 (in Slovak)

Řehák, I.: Alojz Rigele and Architecture of the Modern Era. In: *Nová doba, nový svet* In: *Proceedings of international conference Bratislava, SR, 5.3.2015*. 1st ed. STU Bratislava, Faculty of Civil Engineering, 2015, CD-ROM, pp. 113-133. ISBN 978-80-227-4500-0 (in Slovak)

Struhařová, P.: The Future of Residential Buildings with Passive Standards. In: *Advances in Architectural, Civil and Environmental Engineering : 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics*. Bratislava, SR, 28.10.2015. 1st ed. STU Bratislava, Faculty of Civil Engineering, 2015, CD-ROM, pp. 652-658. ISBN 978-80-227-4514-7 (in Slovak)

Szántová, G.: Daylight and Artificial Lighting in Relation to the Diagnosis of Seasonal Affective Disorder (SAD) and Depression. In: *Juniorstav 2015 : 17th Doctoral Studies Conference Brno, ČR, 29.1.2015 [electronic source]*. 1st ed. Brno University of Technology, 2015, CD-ROM, [9] pp. ISBN 978-80-214-5091-2 (in Slovak)

Szántová, G. – Rychtáriková, M.: The Importance of Audio-Visual Aspects in the Architectural Design of Psychiatric Clinics. In: *Energy Procedia. 6th International Building Physics Conference, IBPC 2015. Vol. 78, (2015), online*, pp. 1251-1256. ISSN 1876-6102 (in English)

Szántová, G.: Audiovisual and Spatial Issues of the Wards of Psychiatric Clinics. In: *Advances in Architectural, Civil and Environmental Engineering : 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics*. Bratislava, SR, 28.10.2015. 1st. ed. STU Bratislava, Faculty of Civil Engineering, 2015, CD-ROM, pp. 667-674. ISBN 978-80-227-4514-7 (in Slovak)

Varga, D.: Sustainable Management of Rainwater in Urban Area. In: *Advanced Building Construction and Materials 2015 (ABCM 2015) : Proceedings of scientific conference with international participation*. Strážnice, ČR, 25.-27.6.2015. 1st ed. Ostrava : VŠB – Technical University of Ostrava, Faculty of Safety Engineering, 2015, CD-ROM, pp. 180-184. ISBN 978-80-248-3860-1 (in English)

Varga, D.: Adaptation of Public Space in Cities to Climate Change – Management of Rainwater. In: *Advances in Architectural, Civil and Environmental Engineering : 25th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics*. Bratislava, SR,

28.10.2015. 1st. ed. STU Bratislava, Faculty of Civil Engineering, 2015, CD-ROM, pp. 675-679. ISBN 978-80-227-4514-7(in Slovak)

## Others

Mellner, D. (ed.) – BORECKÁ, E.(ed.): *Nová doba, nový svet : Proceedings of scientific conference Bratislava, SR, 5.3.2015*. 1.st ed. STU Bratislava, Faculty of Civil Engineering, 2015. CD-ROM, 138 pp. ISBN 978-80-227-4500-0 (in Slovak)

## 5. ACTIVITY IN THE FIELD OF ART

Pribiš M.: *Design – silver memorial Kč 200 coin 450th Anniversary of the Birth of Jan Jessenius, Prague Czech National Bank, 2015*

Pribiš M.: *Participation in Exhibition XXIV. Salon Bratislava Gallery SVU Jan., Febr. 2015*

Řehák, I.: *Design and realisation of silver memorial medal: 240th Anniversary of the Birth of Matěj Kopecký. Prague mint, February 2015*

Řehák I.: *Design and realisation of memorial 2 €: coin 200th Anniversary of the Birth of Ludovít Štúr 1000 000 coins, Bratislava, Slovak National Bank, Oct. 2015*

Řehák I.: *Participation in the Medal exhibition in Wrocław: Znad Dunaju, Weltawy i Wisly. King's Palace Wrocław, Oct., Nov. 2015*

Řehák I.: *Design of the 2 € memorial coin to the Presidency of Slovakia in the EU. Bratislava, Slovak National Bank, July 2015 (awarded)*

Řehák I.: *Design – silver collector's 10 € memorial coin: 400th Anniversary of the Death of Juraj Thurzo, Bratislava, Slovak National Bank, Dec. 2015*

Řehák, I.: *Design of golden 100 € collector's coin : 275th Anniversary of the Coronation of Maria Theresa. Bratislava, Slovak National Bank, Nov. 2015 / awarded/*

Bauer, P. – Szántová, G., – Mešina, M. : *Coneco 2015 – Architectural and Spatial Concept of the Exhibition of the Faculty of Civil Engineering and Slovak Chamber of Civil Engineers. Bratislava Incheba, 25.-28.3.2015*

Dohňanská, E. – curator: *Exhibition of the Study Programme B-PSA 2010-2014, Faculty of Civil Engineering, Bratislava, Jan. 2015*



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# INSTITUTE OF FORENSIC ENGINEERING

Head of Department

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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"

21, No. 5 (2015), ISSN 1335-1249, pp. 66-67 (in Slovak)

Petránková, Z.: Project Management and Planning of Cash Flows. In Eurostav.

Vol. 21, No. 6 (2015), ISSN 1335-1249, pp. 100-101 (in Slovak)

Petránková, Z.: PPP Projects—as a Form of Financing Development Projects. In

Eurostav. Vol. 21, No. 7-8 (2015), ISSN 1335-1249, pp. 54-55 (in Slovak)

Petránková, Z.: Risk of Cost Escalations in Building Projects. In Eurostav. Vol.

21, No. 9 (2015), ISSN 1335-1249, pp. 44-45 (in Slovak)

Petránková, Z. : The Application of Project Management Methods. In Eurostav.

Vol. 21, No. 3 (2015), ISSN 1335-1249, pp. 58-60 (in Slovak)

Petránková, Z.: Controlling Role in the Process of Managing Construction

Projects. In Eurostav. Vol. 21, No. 10 (2015), ISSN 1335-1249, pp. 54-55 (in

Slovak)

## 3. RESEARCH

### 3.2 International cooperation

#### Cooperating institution

VUT Brno, Czech Republic,

VŠB Ostrava, Czech Republic

#### Conference Proceedings

Nič, M.: Dissemination of Civil Engineering Expertise into Individual

Specializations. In: ExFoS 2015. Expert Forensic Science: 24th International

Scientific Conference of the Forensic Engineering. Brno University of

Technology, 2015, CD-ROM, pp. 213-222. ISBN 978-80-214-5100-1 (in

Slovak)

Nič, M.—Nováčiková, J.: Quality Control of Thermal Insulation Installations.

In: Building Industry and Real Estate. Forensic Engineering and Valuation:

Proceedings of the 12th International Conference. Prague, Czech Republic,

27.–28. 11. 2014. 1. edition. Moscow: Akademstrojnauka, 2015, pp. 289-

298. ISBN 978-5-9903774-2-4 (in English)

## 4. PUBLICATIONS

#### Journals

Gregušová, S.: Causes of Failures in Floor Construction. Part 1: Ceramic Tiles.

In Almanach znalca, Vol. 15, Nos. 1-2 (2015), CD-ROM, ISSN 1336-3174,

pp. 26-28 (in Slovak)

Majdúch, D.—Karel, J.: Increases in the General Value of a Flat in an Insulated

Apartment Building. In Almanach znalca. Vol. 15, Nos. 1-2 (2015), CD-ROM,

ISSN 1336-3174, pp. 6-7 (in Slovak)

Petránková, Z.: Project Management—a Tool for Preparation and Management.

In Eurostav. Vol. 21, Nos. 1-2 (2015), ISSN 1335-1249, pp. 44-45 (in Slovak)

Petránková, Z.: Optimization of Insulation. In Eurostav. Vol. 21, No. 4 (2015),

ISSN 1335-1249, pp. 68-69 (in Slovak)

Petránková, Z.: Assessment of the Cost of Building Projects. In Eurostav. Vol.

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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

Hoboth Kralina, K.: Motivation and Language Teaching. Effective Teaching of the German Language for Students of Civil Engineering. In: Quid est veritas? (Jn 18,38). Teóriák, hipotézisek és az igazság viszonya [electronic source]: XVIII. Apáczai-napok Nemzetközi Tudományos Konferencia. Tanulmánykötet. Győr, Magyarország, Oct. 2014, Vol.1, Győr : Nyugat-magyarországi Egyetem Apáczai Csere János Kar, 2015, CD-ROM, pp. 361-367. ISBN 978-963-334-258-9 (in Hungarian)

Hoboth Kralina, K.: Higher Education and Employment in the Labour Market in Slovakia. In: Gondolkodási struktúrák és kreativitás : XIX. Apáczai-napok Nemzetközi Tudományos Konferencia. Absztraktfüzet. Győr, Magyarország, Oct. 2015. Vol.1, Győr: Nyugat-magyarországi Egyetem Apáczai Csere János Kar, 2015, online, 1 p. (in Hungarian)

## 2. RESEARCH

### 2.1 International cooperation

British Council, Bratislava, Slovakia

Institute of Technology, Tralee, Ireland

Korbašová, M.: The Importance of Technical English Nowadays. In: Quid est veritas? (Jn 18, 38). Teóriák, hipotézisek és az igazság viszonya [electronic source]: XVIII. Apáczai-napok Nemzetközi Tudományos Konferencia. Tanulmánykötet. Győr, Magyarország, Oct. 2014. Vol.1, Győr : Nyugat-magyarországi Egyetem Apáczai Csere János Kar, 2015, CD-ROM, pp. 353-360. ISBN 978-963-334-258-9 (in English)

### 2.2 Educational project

Lifelong Learning Programme Vocationally Oriented Culture and Language in the Medical Emergency Sector 2014 – 2016 (Špildová, D.), VOCAL – Medical LLP/LdV/TOI/2013/IRL-506

Lukáč, Š. – Korbašová, M. – Ferienc, D.: Geodetic and Metrological Support of Sub-Atomic Research in CERN. In: 50th Geodetic Information Days, Electronic collection of reviewed scientific papers, Oct. 2015, Vol.1, Prague (Czech Republic): Czech Union of Surveyors and Cartographers – Union of Surveyors Brno, 2015, CD-ROM, 11 p. ISBN 978-80-02-02584-9 (in Slovak)

## 3. PUBLICATIONS

### Books

Pálová, A.: Civil Engineering – Textbook – and Workbook of German Terminology. Part 4. Vol. 1. Bratislava : Slovak University of Technology, 2015. Edition of university textbooks. 112 p. ISBN 978-80-227-4426-3 (in German)

### Journals

Hoboth Kralina, K.: Choice of Career and the Labour Market. In: Katedra. Vol. 23, No. 4 (2015), pp. 14-15. ISSN 1335-6445 (in Hungarian)

### Conference Proceedings

Filipoiu, T.: Is Giving Homework Meaningful? In: Multidisciplinary View on the Research of Foreign Languages, Electronic collection of reviewed scientific papers, Vol.1, Trnava, Slovak Society for Regional Politics, Slovak Academy of Science, 2015, CD-ROM, pp. 162-171. ISBN 978-80-969043-8-9 (in Slovak)

Hoboth Kralina, K.: Language Usage and the Mental Lexicon of Bilingual People. In: Foreign Languages in a Changing Time. EU BA, Faculty of Applied Languages, Electronic collection of reviewed scientific papers, Vol.1, Bratislava: EKONÓM, 2015, CD-ROM, pp. 50-54. ISBN 978-80-225-4132-9 (in Slovak)

Korbašová, M.: On the Question of the Evaluation of English Teaching. In: Foreign Languages in a Changing Time. EU BA, Faculty of Applied Languages, Electronic collection of reviewed scientific papers, Vol.1, Bratislava: EKONÓM, 2015, CD-ROM, pp. 135-138. ISBN 978-80-225-4132-9 (in Slovak)

Korbašová, M.: Evaluation of Quality of Teaching Technical English Using Aggregation Operators. In: Gondolkodási struktúrák és kreativitás : XIX. Apáczai-napok Nemzetközi Tudományos Konferencia. Absztraktfüzet. Győr, Magyarország, Oct. 2015, Vol.1, Győr: Nyugat-magyarországi Egyetem Apáczai Csere János Kar, 2015, online, 1 p. (in English)

Špildová, D.: Foreign Language Training as a Part of Social Science Application for Engineering Practice. In: Application of the Knowledge of the Social Sciences in Technical Branches. Electronic collection of reviewed scientific papers, Nov. 2015, Vol.1, Bratislava: Slovak University of Technology in Bratislava, Faculty of Civil Engineering, 2015, CD-ROM, pp. 102-108. ISBN 978-80-227-4471-3 (in English)

Špildová, D.: Multilingual E-learning Projects. In: Gondolkodási struktúrák és kreativitás: XIX. Apáczai-napok Nemzetközi Tudományos Konferencia. Absztraktfüzet. Győr, Magyarország, Oct. 2015, Vol.1, Győr: Nyugat-magyarországi Egyetem Apáczai Csere János Kar, 2015, online, 1 p. (in English)

## Reviewing

Gambrill, D.: Annual Report 2014

Gambrill, D.: Journal of Civil Engineering, Volume XXIII, 2015/1, 2015/2, 2015/3, 2015/4

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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

Water Sports /Kayaking, Canoeing/

Tennis

Squash

Floorball

Hiking

Aquagymnastics

Badminton

## 2. RESEARCH

#### Cooperation

The Faculty of Physical Education and Sports, Comenius University,  
Bratislava, Slovakia .

## 3. PUBLICATIONS

#### Parts of Books

Kvetáková, L.: Body Composition of Flat Water Racers. From Research to Practice in Sport 2015: Proceedings of Scientific Works, 1st ed. Bratislava : Slovak University of Technology in Bratislava, 2015, CD-ROM, [9] p. ISBN 978-80-227-4485-0 (in Slovak)

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# DEPARTMENT OF HUMANE SCIENCES

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Construction and Commercial Law

Construction and Land Law

Construction Law

Basic Law

Entrepreneurship Law

Environmentalism

Geoecology

History of Architecture and Civil Engineering

Land Law

Law

Legal Forms of Entrepreneurship

Macroeconomics

Philosophy

Political Science

Sociology

#### Optional subjects

Commercial Law

Construction Law

Engineering Ethics

Environmental Law

Globalization

Sociology

## 2. RESEARCH

### 2.1 International cooperation

Czech Technical University, Prague, Czech Republic

## 4. PUBLICATIONS

### Parts of Books

Kopšová, O. – Gajniak, J. F.: Slovak Republic. In Studies in European Construction Law. 1st ed. Berlin : European Society of Construction Law, 2015 pp. 511-557. ISBN 978-94-6315-007-1 (in English)

### Textbooks

Duda, E. – Heretiková, K.: History of Architecture and Civil Engineering. 1st ed. Bratislava : Slovenská technická univerzita v Bratislave, 2015. 146 pp. ISBN 978-80-227-4523-9 (in Slovak)

### Conference Proceedings

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