



SLOVAK UNIVERSITY OF  
TECHNOLOGY IN BRATISLAVA  
FACULTY OF CIVIL ENGINEERING

# 2018

# ANNUAL REPORT

of the Faculty of Civil Engineering

Bratislava

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Authorized contributions from the departments

Introduction translation by Dagmar Špíldová, Slovak University of Technology in Bratislava,  
Faculty of Civil Engineering, Department of Languages

Language consultant:

Debra Gambrell, Slovak University of Technology in Bratislava, Faculty of Civil Engineering, Department of Languages

Editor: Jozef Urbánek

Layout: Ivan Pokrývka

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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 28 study programs with the following structure: 9 at the bachelor level, 12 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 admission process for bachelor and engineering studies in the assessed year. In this year, we noticed a slight increase in students enrolled in the first year of the bachelor study. The number of graduates at the bachelor, engineering and doctoral levels declined. 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. 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 two semesters about 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.

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 constantly strives to disseminate information to the practice concerning the creation and updating of international, European and domestic standards, as well as the realization of tasks requested by companies or institutions.

Within the framework of **the Operational Research and Development Program**, the Faculty was in the past years 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 intelligent 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).

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 TEM-

PUS, 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.

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 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 above-mentioned activities represent just a small part of the measures aimed at a common effort of maintain the high standard of teaching process and research activities and improve the faculty infrastructure.

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 and research, but also by focusing on international cooperation.

Stanislav Unčík  
Dean

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# BODIES OF THE FACULTY

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## 1. THE DEAN OF THE FACULTY

Prof. Ing. Stanislav Unčák, PhD.

## 2. THE PRESIDIUM OF THE FACULTY

Prof. Ing. Stanislav Unčák, PhD.

Prof. Ing. Ján Szolgay, PhD.

Assoc. Prof. Ing. Peter Makýš, PhD.

Prof. Ing. Vladimír Benko, PhD.

Assoc. Prof. Ing. Peter Kyrinovič, PhD.

Ing. Tomáš Šatura

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

Adam Beneš

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
- Faculty 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 Unčák, PhD.

Prof. Ing. Ján Szolgay, PhD.

Assoc. Prof. Ing. Peter Makýš, PhD.

Prof. Ing. Vladimír Benko, PhD.

Assoc. Prof. Ing. Peter Kyrinovič, PhD.

Ing. Tomáš Šatura

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

Adam Beneš

Ing. Miloslav Štujber

Prof. Ing. Juraj Bilčík, PhD.

Ing. Tibor Schlosser, PhD.

Assoc. Prof. Ing. Juraj Janák, PhD.

Prof. Ing. Alojz Kopáčik, PhD.

Assoc. Prof. Ing. Ivan Slávik, 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
- Head of Department of Theoretical Geodesy
- Head of Department of Surveying
- 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
Assoc. Prof. Ing. Rudolf Ároch, PhD.	– Head of Department of Steel and Timber Structures
Prof. RNDr. Radko Mesiar, DrSc.	– Head of Department of Mathematics and Descriptive Geometry
Prof. RNDr. Igor Medveď, 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
Assoc. Prof. 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 Hikl	– 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. THE SCIENTIFIC BOARD OF THE FACULTY

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

#### Chair man:

Prof. Ing. Stanislav Unčák, PhD.

#### Vice-Chair man:

Prof. Ing. Ján Szolgay, PhD.

Prof. Ing. Ivan Baláž, PhD.	– Department of Steel and Timber Structures
Prof. Ing. Vladimír Benko, PhD.	– Vice-Dean for Public Relations
Prof. Ing. Emília Bednárová, PhD.	– Head of Department of Geotechnics
Prof. Ing. Boris Bielek, PhD.	– Department of Building Construction
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.	– Vice-Rector of STU
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. 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
Assoc. Prof. Ing. Arch. Ľubica Vítková, PhD.	– Dean of the Faculty of Architecture, STU



## 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)

Prof. Ing. Alena Kohoutková, CSc.	– Dean of the Faculty of Civil Engineering ČVUT Prague,
Prof. Ing. Miroslav Bajer, 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. Pavol Kováčik, PhD., MBA	– 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

## 5. THE FACULTY'S ACADEMIC SENATE

### Presiding Officers:

Assoc. Prof. Ing. arch. Jarmila Húsenicová, PhD.	– Chairman of the AS
JUDr. Jana Zajacová , PhD.	– Deputy Chairman of the AS
Prof. RNDr. Radko Mesiar, DrSc.	– Presiding Officers
Prof. Ing. Ľudovít Fillo, PhD.	
Bc. Barbora Junasová	
Bc. Peter Drahoš	

## Employees

Assoc. Prof. Ing. Nad'ľa Antořov, PhD.  
 Assoc. Prof. Ing. Katarna Bačov, PhD.,  
 Ing. Slva Cpayov, PhD. – from October, 2018  
 Prof. Ing. Ivan Balz, PhD.  
 Ing. Peter Buday, PhD.  
 Ing. Marek Frařtia, PhD.  
 Mgr. Zita Herznov  
 Assoc. Prof. Ing. arch. Jarmila Hsenicov, PhD.  
 Assoc. Prof. Ing. Luboř Hruřtinec, PhD.  
 Assoc. Prof. Ing. Ladislav Husr, PhD.  
 Assoc. Prof. Ing. Oľga Ivnkov, PhD.  
 prof. Ing. Slva Kohnov, PhD.  
 Ing. Mria Kurčov, PhD.  
 Assoc. Prof. Ing. Ludovt Mořieřik, PhD.  
 PhDr. Alřbeta Plov, PhD.  
 Assoc. Prof. Ing. Gabriela Pavlendov, PhD.  
 Assoc. Prof. Ing. Zora Petrkov, PhD.  
 Ing. Alena Struhrov, PhD.  
 Prof. RNDr. Ivona řkulttyov, PhD

## Students

Lucia Barborkov  
 Bc. Miroslav Kovcik, Richard Hornk – from October, 2018  
 Juraj Ledeck  
 Adam Mackovin  
 Bc. Nora Naddourov  
 Tomř řaliga  
 Bc. Michaela řtefanovičov  
 Milan řvolk  
 Nina Velick

## 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. Vladimr 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. Mikulř Bobik, Director of Applied Precision, Ltd.  
 Mgr. Magdalna Dobiřov, Chairman of the Board and GeneralDirector of Skanska SK a. s.  
 Prof. Ing. Ldovt Fillo, PhD., Faculty of Civil Engineering STU Bratislava  
 Ing. Luboř Fussek, Director of BAUMIT, Ltd.  
 Ing. Stanislav Gbork, General Director of the Slovak Water Management Enterprise  
 Ing. Peter Glaus, Hydroconsulting, Ltd.  
 Ing. Martin Greguř, Saint-Gobain Construction Products, Ltd.  
 Ing. Peter Halsz, 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 Kopáčík, PhD., President of the Association ABF Slovakia, Faculty of Civil Engineering STU Bratislava
- Ing. Lubica 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.
- Assoc. Prof. Ing. Peter Kyrinovič, PhD., Vice-Dean for Faculty Development, Faculty of Civil Engineering STU Bratislava
- Ing. Miroslav Leško, Director, Premac
- Ing. Pavol Kováčik, PhD., MBA, President of the Association of Construction Entrepreneurs in Slovakia
- Ing. Zsolt Lukáč, EMBA, Chairman of the Board of Directors, Bratislava Water Company,
- 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.
- 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. Jaroslav Halvonik, PhD.

Tel.: +421 2 592 74 555

Fax: +421 2 529 26 213

E-mail: jaroslav.halvonik@stuba.sk

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Advanced Topics of Concrete Structures (Slovak and English)

Concrete and Masonry Members

Concrete Bridges I, II (Slovak and English)

Load-Bearing Concrete Members

Concrete Members (Slovak and English)

Concrete Structures I, II (Slovak and English)

Concrete Structures of Civil Engineering Works

Design Realization of Civil Engineering Works

Tall Concrete Structures (Slovak and English)

Brick Buildings and Reconstruction (Slovak and English)

Design and Realization of Engineering Structures (Slovak and English)

Prestressed Concrete (Slovak and English)

Excursion

Structural Design Studio 1, 2, 3 (Slovak and English)

Diploma Thesis

#### Obligatory elective subjects

Repair of Concrete Structures

Special Problems of Concrete Structures

### 1.2 Postgraduate courses

Experimental Assessment of Concrete Structures

Modelling of Concrete Structures

Reliability and Strengthening of Concrete Structures

Special Problems of Concrete and Masonry Structures

Special Problems of Concrete Bridges

Structural Materials and Systems

## 2. THESES

### 2.1 Bachelor theses

There were 3 works.

### 2.2 Graduate theses

BÉDI, V.: Residential Building - Monolithic Reinforced Concrete Structure  
Supervisor: HOLLÝ, I.

BENEDIKOVIČ, R.: Office Building – Monolithic Reinforced Concrete Construction  
Supervisor: SONNENSCHNEIN, R.

BESENYEIOVÁ, M.: Design of Parking and Residential Complex on Bezručova St.  
Supervisor: ŠOLTÉSZ, J.

BLECHOVÁ, K.: Hotel – Monolithic Reinforced Concrete Structure  
Supervisor: HOLLÝ, I.

BOLEŠOVÁ, M.: Student Dormitory – Monolithic Reinforced Concrete Structure  
Supervisor: HOLLÝ, I.

DIČKA, P.: Multifunctional Building – Monolithic Reinforced Concrete Structure  
Supervisor: HOLLÝ, I.

HLÁDEK, S.: Bridge at Svrčinovec - Alternative Construction Method by Self-Launching Movable Scaffolding System (MSS)  
Supervisor: PAULÍK, P.

HOBOT, P.: Hotel, Staré Grunty, Bratislava  
Supervisor: ABRAHOIM, I.

JANČIGA, J.: Monolithic Reinforced Concrete Structure of the "Letna" Multifunctional Building  
Supervisor: GAJDOŠOVÁ, K.

JANKAJOVÁ, A.: Monolithic Reinforced Concrete Structure of a High - Rise Building on Bottova Street  
Supervisor: GAJDOŠOVÁ, K.

JÁNOŠOV, P.: Bridge at Svrčinovec - Alternative Construction by the Monolithic Balanced Cantilever Method  
Supervisor: PAULÍK, P.

JURČO, P.: The Bridge on the Jánovce - Jablonov Section of the D1 Motorway  
Supervisor: HALVONIK, J.

KOČAN, M.: 30 - Storey High - Rise Concrete Building  
Supervisor: BENKO, V.

KOPERNICKÝ, J.: Bicycle Bridge Across the River Vah  
Supervisor: ŠOLTÉSZ, J.

KORITÁROVÁ, B.: Office Building - Monolithic Reinforced Concrete Structure  
Supervisor: SONNENSCHNEIN, R.

KORMOŠOVÁ, L.: Bridge on Motorway D4 over the Kayak Channel  
Supervisor: HALVONIK, J.

KOVÁČIK, M.: An Administrative Building Suspended from a Prestressed Grid located on the Top Floor of a Building  
Supervisor: BENKO, V.

KRAJČÍ, R.: Road Bridge – Post-Tensioned Concrete Structure  
Supervisor: BORZOVIČ, V.

KRÁLOVÍČ, T.: Office Building - Monolithic Reinforced Concrete Structure  
Supervisor: SONNENSCHNEIN, R.

LÁNIOVÁ, D.: Application of GFRP Reinforcement in Concrete Bridge Design  
Supervisor: BORZOVIČ, V.

MIROŠKYNOVÁ, L.: Bridge at Prievoz Intersection on D4 Motorway  
Supervisor: HALVONIK, J.

MORÁVKOVÁ, B.: Bridge on D4 Motorway over the Danube River  
Supervisor: HALVONIK, J.

MRÁZ, M.: Hotel  
Supervisor: BENKO, V.

MUČAJIOVÁ, J.: Parking Garage - Waterproof RC Structure under Lomonosova Street  
Supervisor: ŠOLTÉSZ, J.

PALDANOVÁ, S.: Multifunctional Building - Monolithic Reinforced Concrete Structure  
Supervisor: SONNENSCHNEIN, R.

PELEGRIN, R.: Load-Bearing Structure of High-Rise Residential Apartment Building  
Supervisor: GRAMBLIČKA, Š.

RABIANSKY, P.: Science and Technology Museum - Reinforced Concrete Structure  
Supervisor: BORZOVIČ, V.

RUBINT, J.: Bridge at Svrčinovec - Alternative Construction by Precast Segmental Balanced Cantilever Method  
Supervisor: PAULÍK, P.

SCHMUCK, M.: Structural Design of a Multifunctional High - Rise Building  
Supervisor: GRAMBLIČKA, Š.

SCHWEITZEROVÁ, M.: Structural Analysis of a Biogas Station  
Supervisor: ŠOLTÉSZ, J.

SLÚKOVÁ, P.: An Administrative Building Suspended from Prestressed Beams  
Supervisor: BENKO, V.

ŠTETULIČ, P.: Office Building - Monolithic Reinforced Concrete Structure of a High - Rise Building  
Supervisor: SONNENSCHNEIN, R.

SZARKA, G.: High - Rise Office Building - Monolithic Concrete Structure  
Supervisor: BARTÓK, A.

ŠARVAICOVÁ, S.: Office Building - Monolithic Reinforced Concrete Structure  
Supervisor: BORZOVIČ, V.

ŠTRBAVÁ, A.: Multifunctional 22 - Storey Concrete Building  
Supervisor: BENKO, V.

ŠULKA, D.: Design of a Biogas Station as a Prestressed Structure  
Supervisor: ŠOLTÉSZ, J.

ŠVACHULA, R.: Application of GFRP Reinforcement in the Design of Building Structures  
Supervisor: BORZOVIČ, V.

TÓTH, A.: Student Dormitory - Reinforced Concrete Construction  
Supervisor: HOLLÝ, I.

VAJDIAR, J.: Roman Catholic Church - Monolithic Concrete Structure  
Supervisor: BARTÓK, A.

ZANOVIT, M.: Precast Reinforced Concrete Structure of a Warehouse  
Supervisor: GAJDOŠOVÁ, K.

## 2.3 Doctoral theses

AUGUSTÍN, T.: Punching Resistance of Flat Slabs with Openings  
Supervisor: FILLO, L.

GAŽOVIČOVÁ, N.: Analysis of GFRP Reinforcement Parameters for the Development of Early-Age Cracks in Concrete  
Supervisor: BILČÍK, J.

HANZEL, J.: Reliability of Models for Predicting the Punching Shear Resistance of Foundation Footings Without Shear Reinforcement  
Supervisor: HALVONIK, J.

KESELI, O.: Strengthening of Flat Slabs Against Punching Shear Using Post - Installed Shear Reinforcement  
Supervisor: BILČÍK, J.



LACO, K.: Theoretical and Experimental Analysis of the Approach Slabs of Road Bridges

Supervisor: BORZOVIČ, V.

VIDA, R.: Shear Resistance of Bridge Deck Slabs

Supervisor: HALVONIK, J.

## 3. RESEARCH

### 3.1 Research projects

Punching Resistance of Flat Slabs, Foundation Slabs and Footings

(2016-2018, HALVONÍK, J.), VEGA 1/0810/16

Non-Metallic Reinforcement for Concrete Structures Made in Slovakia and Innovative Design Methods to Prevent the Progressive Collapse of Concrete Structures

(2016-2020, BENKO, V.), APVV-15-0658

Non-Linear Analysis of Concrete and Composite Structures

(2017-2019, FILLO, L.), VEGA 1/0456/17

Enhancement of the Durability and Structural Reliability of New and Existing Concrete Bridges

(2018-2021, HALVONIK, J.), APVV-17-0204

### 3.2 International cooperation

#### Cooperating institutions

Klokner Institute ČVUT Prague, Czech Republic

ETH – Laboratory for Building Materials, ETH Zurich, Switzerland

Baustoffinstitut, TU Munich, Germany

Institut für Baustatik und Konstruktion, ETH Zurich, Switzerland

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

RIB Bausoftware, Stuttgart, Germany

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

European Commission, DG Research, Brussels, Belgium

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

St. Paul University, Brussels, Belgium

Fachhochschule Braunschweig – Wolfenbüttel, Germany

Institut für Massivbau, TU Darmstadt, Germany

Fachhochschule Coburg, Germany

#### Membership in international professional organizations

BENKO, V.: ON AG01001 - EUROCODE 2/ASI

BENKO, V.: ASCE - American Society of Civil Engineers

BENKO, V.: KOMITEE 176 – BELASTUNGSANNAHMEN IM BAUWESSEN

BENKO, V.: ECEC European Council of Engineers Chamber

BENKO, V.: ECCE European Council of Civil Engineers

BENKO, V.: ECCE: WG – Public Procurement

BENKO, V.: ON AG 176.02 – Erdbeben Kräfte

BILČÍK, J.: American Concrete Institute

FILLO, L.: Cen TC 250 – SC2 Eurocodes – Design of Concrete Structures WG1 Group

FILLO, L.: Design of Concrete structures 2003

FILLO, L.: Member of Task Group fib TG 1.1 Design Application 02

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

FILLO, L.: Scientific Council, Faculty of Civil Engineering, Technical University of Ostrava, Czech Republic

GAJDOŠOVÁ, K.: CEN/TC 250 Structural Eurocodes

GAJDOŠOVÁ, K.: CEN/TC 250/SC 2/WG 1/ TG 1 Strengthening and Reinforcing with Fibre-Reinforced Polymers

HALVONIK, J.: CEN TC 250/SC 1 – Actions on Structures

HALVONIK, J.: TC 250/SC 2/WG 1/ TG 4 Design of Concrete Structures

PAULÍK, P.: CEB-FIB

PAULÍK, P.: TG FIB – Management of Prestressed Bridges

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# DEPARTMENT OF TRANSPORTATION ENGINEERING

Head of Department

Assoc. Prof. Ing. Tibor Schlosser, CSc.

Tel.: +421 2 592 74 707

E-mail: [tibor.schlosser@stuba.sk](mailto:tibor.schlosser@stuba.sk)

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Airport Planning and Design

Assessing the Quality of Road Construction

Bachelor Thesis

Design and Realization of a Road

Design Studio of Urban Planning I

Design Studio of Urban Planning II

Design Studio of Spatial Planning

Diploma Thesis

Ecology of Urban Settlements and Urban Transportation Design

Environmental Transport

Excursion

Modeling of Transport Structures

Pavement Diagnosis and Reconstruction

Pavement Mechanics

Project: Road Constructions

Railway

Road Construction

Roads and Motorways

Roads in Urban Areas

Road Intersections

Territorial Transport Systems

Town and Land Use Planning

Traffic Management

Transport Structure Engineering

Transportation Planning

Urban Roads and Infrastructure

#### Obligatory elective subjects

Design and Realization of a Transport Infrastructure

Ecology of Urban Settlements and Urban Transportation Planning

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

## 2. THESES

### 2.1 Bachelor theses

There were 4 works.

### 2.2 Graduate theses

LETTRICH, M.: The Principles for the Assessment of Public Transport Routes on Radial Roads in Bratislava  
Supervisor: SCHLOSSER, T.

VEREŠ, D.: Proposed Urban Transport Solution of Bridge on Slovnaftska Street and R7 in Bratislava  
Supervisor: SCHLOSSER, T.

TRUBAROVÁ, Z.: Revitalization of an Inner Transport Circuit  
Supervisor: BEZÁK, B.

BRENKUSOVÁ, M.: Effect of a Traffic Load and Its Impact on the Design of a Pavement Structure  
Supervisor: BAČOVÁ, K.

JEŠKOVÁ, V.: Design of Road Reconstruction in Dunajská Lužná – Studené  
Supervisor: BAČOVÁ, K.

ŠIŠMIŠOVÁ, T.: Design of Road Reconstruction in Čierna Voda  
Supervisor: BAČOVÁ, K.

ČERVENÁ, I.: Mechanically Reinforced Aggregates in a Pavement Structure - Design of a Mixture for the 1st to 3rd Traffic Load Classes  
Supervisor: ČÁPAYOVÁ, S.

GUOTH, M.: The Ružomberok Bypass  
Supervisor: KAPUSTA, V.

KURČA, M.: The Drietoma Bypass  
Supervisor: KAPUSTA, V.

## 3. RESEARCH

### 3.1 Research projects

Environmentally Acceptable Materials and Technologies for Traffic Areas (2017-2019, principal investigator: UNČÍK, S. (Department of Material Engineering), deputy head: CÁPAYOVÁ, S., researchers: SCHLOSSER, T., ZUZULOVÁ, A., ŠTEFUNKOVÁ, Z. (Department of Material Engineering), GOLEJ, J. (Institute of Management), doctoral students: HODÁKOVÁ, D., BÁLLINT, G., LISICKÝ, R., BRANIŠ, M.), VEGA 1/0501/17

### 3.2 International cooperation

#### Cooperating institutions

Bauhaus-University Weimar, Weimar, Germany  
City University of Hong Kong, Department of System Engineering and Engineering Management  
Cologne University of Applied Science, Cologne, Germany  
Cracow University of Technology, Faculty of Civil Engineering, Cracow, Poland  
Czech Technical University in Prague, Faculty of Civil Engineering, Prague, Czech Republic  
Czech Technical University in Prague, Faculty of Transportation Sciences, Prague, Czech Republic  
HAMK University of Applied Sciences, Finland  
Hellenic Institute of Transport, Thessaloniki, Greece  
Institute for Transport Studies, Department of Landscape, Spatial and Infrastructure Sciences, BOKU, Vienna, Austria  
Moscow State University of Civil Engineering, Moscow, Russia  
O. M. Beketov National University of Urban Economy in Kharkiv, Department of Transport System and Logistics, Kharkiv, Ukraine  
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

BEŽÁK, B.: Member of the PIARC – TC 3.2 Design and Operation of Safer Road Infrastructure, Paris, France  
BEŽÁK, B.: Member of the Editorial Board – Acta Technica Jaurinensis, Győr, Hungary  
CÁPAYOVÁ, S.: Member of the Editorial Board – Drogownictwo, ISSN: 00126357, Warsaw, Poland  
CÁPAYOVÁ, S.: Member of the Scientific Committee – International Journal of Advanced Information Science and Technology (JAIST), ISSN 2319-2682, online magazine  
CÁPAYOVÁ, S.: Member of the PIARC – TC D.2 Pavements, Paris, France  
GSCHWENDT, I.: Member of the PIARC – TC D.2 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  
GSCHWENDT, I.: Slovak Chamber of Civil Engineers, Slovakia  
SCHLOSSER T.: Corresponding Member of the PIARC – TC B.1 Road Network Operations/ Intelligent Transportation Systems, Paris, France  
SCHLOSSER T.: Member of the Scientific Committee – International Journal of Advanced Information Science and Technology (JAIST), ISSN 2319-2682, online magazine  
SCHLOSSER T.: Member of the Editorial Board – Journal of Advanced Engineering, IGRPS – International Gazette Of Research and ePublishers, California, USA  
SCHLOSSER T.: Deputy of Slovak Chamber of Civil Engineers in IFME (International Federation of Municipal Engineering), Slovakia  
ZUZULOVÁ, A.: Member of the Editorial Board – Przegląd komunikacyjny, ISSN 0033-22-32, Wroclaw, Poland  
ZUZULOVÁ, A.: Member of the PIARC – TC D.2 Pavements, Paris, France

## 4. PUBLICATIONS

#### Parts of books

SCHLOSSER, T. Traffic and the New Rybné Square. In: Víziv Rybného námestia. 1. ed. Bratislava: Spektrum STU, 2018, pp. 37-51. ISBN 978-80-227-4783-7 (in Slovak)

#### Journals

BAČOVÁ, K. Walls - Objects on Roads. In: Magazín stroje a mechanizácia. Vol. 13, No. 1 (2018), pp. 28-30. ISSN 2453-7500 (in Slovak)

CÁPAYOVÁ, S. - JEVÍNOVÁ, A. Modification of Asphalt Mixtures with Rubber-Asphalt Granulate. In: Silniční obzor. Vol. 79, No. 2 (2018), pp. 45-49. ISSN 0322-7154 (in Slovak)



CÁPAYOVÁ, S. - UNČÍK, S. - CIHLÁŘOVÁ, D. Experience with the Use of Warm Mix Asphalt Additives in Bitumen Binders. In: Slovak Journal of Civil Engineering. Vol. 26, No. 1 (2018), pp. 33-39. ISSN 1210-3896 (in English)

CIHLÁŘOVÁ, D. - FENCL, I. - CÁPAYOVÁ, S. - POSPÍŠIL, P. Use of Adhesion Promoters in Asphalt Mixtures. In: Slovak Journal of Civil Engineering. Vol. 26, No. 1 (2018), pp. 19-24. ISSN 1210-3896 (in English)

CIHLÁŘOVÁ, D. - MONDSCHHEIN, P. - CÁPAYOVÁ, S. Compaction Density Determination of the Road Asphalt Layers. In: Komunikácie. Communications. Vol. 20, No. 3 (2018), pp. 61-66. ISSN 1335-4205 (in English)

GSCHWENDT, I. - BAČOVÁ, K. - CÁPAYOVÁ, S. Reuse of materials in Road Reconstruction. In: Inžinierske stavby. Vol. 66, No. 1 (2018), pp. 50-54. ISSN 1335-0846 (in Slovak)

SCHLOSSER, T. - SCHLOSSER, P. Traffic Engineering Analysis in the Preparation and Reconstruction of Urban Roads. In: Slovak Journal of Civil Engineering. Vol. 26, No. 2 (2018), pp. 35-39. ISSN 1210-3896 (in English)

SCHLOSSER, T. Integration of Rail Transport and Its Development in the Northwest of Bratislava. In: Stavebnictví. Vol. 12, No. 10 (2018), pp. 52-57. ISSN 1802-2030 (in Slovak)

## Conference proceedings

BRANIŠ, M. Measurable Values for Evaluating Public Transport. In: 19th Dopravně - inženýrské dny. Veřejný prostor - návrh, obnova, využití a revitalizace, včetně dopravně inženýrských opatření: International Seminar, 6. - 7. 6. 2018, Mikulov, Czech Republic. Brno: Czech Road Company, 2018, CD-ROM, pp. 97-103. ISBN 978-80-270-3445-1 (in Slovak)

BRANIŠ, M. - HODÁKOVÁ, D. - CÁPAYOVÁ, S. - SCHLOSSER, T. - GALKIN, A. Future of Evaluating Public Transport Services. In: SGEM 2018. 18th International Multidisciplinary Scientific GeoConference SGEM 2018. Conference Proceedings Vol. 18. Nano, Bio, and Green - Technologies for a Sustainable Future: Albena, Bulgaria, 2 - 8 July 2018. 1. ed. Sofia: STEF 92 Technology, 2018, pp. 565-571. ISSN 1314-2704. ISBN 978-619-7408-52-2 (in English)

GALKIN, Andrii - SCHLOSSER, Tibor - GALKINA, Olena - HODÁKOVÁ, Dominika - CÁPAYOVÁ, Silvia [Štefunková, Silvia]. Last-mile Delivery Via Crowdsourcing in Bratislava. In: Verejná osobná doprava 2018: International Conference Proceedings. 25. - 26 Oct 2018, Bratislava, SR. 1. ed. Bratislava: Kongres STUDIO, 2018, CD-ROM, pp. 148-153. ISBN 978-80-89565-36-8 (in Slovak)

GALKIN, A. - LOBASHOV, O. - CÁPAYOVÁ, S. - HODÁKOVÁ, D. - SCHLOSSER, T. The Perspective of Decreasing of Road Traffic Pollution in the Cities. In: SGEM 2018. 18th International Multidisciplinary Scientific GeoConference. Vol. 18. Energy and Clean Technologies: Conference Proceedings. Albena, Bulgaria, 2 July - 8 July 2018. 1. ed. Sofia: STEF 92 Technology, 2018, pp. 547-554. ISSN 1314-2704. ISBN 978-619-7408-45-4 (in English)

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LISICKÝ, R. Optimization of Road Traffic Safety with Eye Tracker Technology. In: Közlekedéstudományi Konferencia Győr 2018: Technika és technológia a fenntartható közlekedés szolgálatában. Győr, Magyarország, 22. - 23. 3. 2018. 1. ed. Győr: Széchenyi István Egyetem, 2018, CD-ROM, pp. 614-618. ISBN 978-615-5776-13-7 (in Hungarian)

LISICKÝ, R. Climate Change in the Bratislava Region and its Influence on the Design of Roads. In: Pozemní komunikace 2018: International Conference Proceedings, Prague, Czech Republic, 21 June 2018. Prague: CTU in Prague, 2018, CD ROM, ISBN 978-80-01-06427-6 (in Slovak)

PRASOLENKO, O. - GALKIN, A. - SCHLOSSER, T. - CÁPAYOVÁ, S. Assessing the Fatigue State of the Driver While Urban Driving. In: Pozemní komunikace 2018: International Conference Proceedings, Prague, Czech Republic, 21. 6. 2018. Prague: CTU in Prague, 2018, CD ROM, ISBN 978-80-01-06427-6 (in English)

SCHLOSSER, M. - BRANIŠ, M. Experience with Traffic Routing Surveys and Proposed Technical Requirements. In: Rozvoj cestnej infraštruktúry: 23rd Seminar of Ivan Poliaček with International Participation. 21 - 23 Nov 2018, Jasná, Low Tatras. 1. ed. Bratislava: Kongres STUDIO, 2018, pp. 19-26. ISBN 978-80-89565-38-2 (in Slovak)

SCHLOSSER, M. - BRANIŠ, M. - PAŽITNAJ, A. - SCHLOSSER, T. Application of Traffic Surveys in Smartphones. In: 19th Dopravně - inženýrské dny. Veřejný prostor - návrh, obnova, využití a revitalizace, včetně dopravně inženýrských opatření, International Seminar, 6 - 7 June. 2018, Mikulov, Czech Republic. Brno: Czech Road Company, 2018, CD-ROM, pp. 131-137. ISBN 978-80-270-3445-1 (in Slovak)

SCHLOSSER, T. Traffic-capacity Assessments in the Project Documentation of Road and Urban Engineering. In: Cestná konferencia 2018: Conference Proceedings. Bratislava, SR, 27 - 28 March 2018. 1. ed. Bratislava: Slovak Road Company, 2018, CD-ROM, pp. 53-61. ISBN 978-80-972611-3-9 (in Slovak)

SCHLOSSER, T. Integration of Rail Transport and Its Development in the Northwest Part of Bratislava. In: Městské inženýrství Karlovarsko 2018 - Doprava ve městě: a 23rd International Conference. Cheb, CZECH REPUBLIC, 8 June 2018. Prague: Czech Chamber of Authorized Engineers and Technicians Active in Construction, 2018, USB key, pp. 21-28 (in Slovak)

SCHLOSSER, T. - SCHLOSSER, P. - CÁPAYOVÁ, S. - HODÁKOVÁ, D. Traffic Model for the Tramway Lines in the City Center of Bratislava. In: Road and Rail Infrastructure V: Proceedings of the 5th International Conference CETRA 2018. 17-19 May 2018, Zadar, Croatia. Zagreb: University of Zagreb, Faculty of Civil Engineering, 2018, pp. 1565-1571. ISBN 978-953-8168-25-3 (in English)

SCHLOSSER, T. - BRANIŠ, M. - SCHLOSSER, M. Issues of Traffic Surveys of Routing in Junctions. In: Közlekedéstudományi Konferencia Győr 2018: Technika és technológia a fenntartható közlekedés szolgálatában. Győr, Magyarország, 22 - 23 March 2018. 1. ed. Győr: Széchenyi István Egyetem, 2018, CD-ROM, pp. 47-52. ISBN 978-615-5776-13-7 (in English)

SCHLOSSER, T. - SCHLOSSER, P. - SCHLOSSER, M. Traffic Model as a Tool for Changing of Modal Split in Bratislava New City Centre. In: Közlekedéstudományi Konferencia Győr 2018: Technika és technológia a fenntartható közlekedés szolgálatában. Győr, Magyarország, 22 – 23 March 2018. 1. ed. Győr: Széchenyi István Egyetem, 2018, CD-ROM, pp. 41-46. ISBN 978-615-5776-13-7 (in English)

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SCHLOSSER, T. - SCHLOSSER, P. Technical Conditions in Public Procurements from the Point of View of Traffic-Planning Requirements. In: Rozvoj cestnej infraštruktúry: 23rd Seminar of Ivan Poliaček with international participation. 21 - 23 Nov 2018, Jasná, Low Tatras. 1. ed. Bratislava: Kongres STUDIO, 2018, pp. 27-36. ISBN 978-80-89565-38-2 (in Slovak)

SCHLOSSER, T. - CÁPAYOVÁ, S. - HODÁKOVÁ, D. - SCHLOSSER, P. Evaluation of Sustainable Mobility for Urban Development Projects with Traffic Engineering Tools - Example from Bratislava. In: SGEM 2018. 18th International Multidisciplinary Scientific GeoConference SGEM 2018. Conference Proceedings Vol. 18. Nano, Bio and Green - Technologies for a Sustainable Future: Albena, Bulgaria, 2 - 8 July 2018. 1. ed. Sofia: STEF 92 Technology, 2018, pp. 549-556. ISSN 1314-2704. ISBN 978-619-7408-52-2 (in English)

SCHLOSSER, T. Smart Technologies for Transportation. In: Elektromobilita a doprava: Proceedings from a Professional Seminar. 18 Jan 2018, Bratislava, SR. 1. ed. Bratislava: Spektrum STU, 2018, CD-ROM, ISBN 978-80-227-4764-6 (in Slovak)

SCHLOSSER, T. - SCHLOSSER, P. - BRANIŠ, M. Strategy of Traffic Planning for New Developments Together with Rail Track Public Transport - Experiences from Bratislava. In: International Journal of Trend in Research and Development. Vol. 5, special issue ICTIMESH-18 (2018), online, pp. 137-142. ISSN 2394-9333 (in English)

ZUZULOVÁ, A. - HODÁKOVÁ, D. - PUK, B. Rehabilitation of Pavements at the Bratislava Airport. In: Airport Pavements 2018, Proceedings of the 4th International Conference. High Tatras, SR, 21 – 22 May 2018 1. ed. Bratislava: Kongres STUDIO, 2018, CD-ROM, pp. 54-59. ISBN 978-80-89565-34-4 (in Slovak)

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# DEPARTMENT OF THEORETICAL GEODESY

Head of Department

Prof. Ing. Juraj Janák, PhD.

Tel.: +421 2 59274 535

E-mail: juraj.janak@stuba.sk

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Interactive Graphics Systems

Processing and Analysis of Measurements 1, 2, 3

Information Technologies

Geoinformatics

Global Geodesy 1, 2

CAD Systems in Surveying 1

Global Navigation Systems

Cartographic Creation and Reproduction

Field Education in Geodetic Controls

Bachelor Thesis

Physical Geodesy 1, 2

Space Geodesy 1, 2

Spatial Modeling in GIS

Programming

Spatial Data Management

Metrology in Geodesy

Diploma Thesis

Database Systems in GIS

Satellite Geodesy

Specialized Field Education

GIS in Building Sciences

Geodesy in Spatial Planning (Institute of Management)

#### Obligatory elective subjects

Geodynamics

GIS Design and Implementation

Gravimetry

Web Technologies in GIS

#### Optional subjects

CAD Systems in Surveying 2

Structure and Dynamics of the Earth

Object-Oriented Programming in Geodesy

Quality Analysis of Geodata

Geometry and Relativity in Geodesy

### 1.2 Postgraduate courses

Geodynamics

Geographic Information Systems

Global Geodesy

Processing and Analysis of Measurements

## 2. THESES

### 2.1 Bachelor theses

There were 6 works.

### 2.2 Graduate theses

ÁBRAHÁMOVÁ, A.: Processing and Analysis of GNSS Observations at Sites of the National Center for Diagnosing Earth Surface Deformations in Slovakia  
Supervisor: GERHÁTOVÁ, L.

BARÁTHOVÁ, M.: Monitoring Landscape Changes Using Satellite Radar Polarimetry  
Supervisor: PAPČO, J.

DREVENIAKOVÁ, P.: The Creation of Digital Terrain Models from Airborne Laser Scanning Data  
Supervisor: FENCÍK, R.

MIKULÁŠOVÁ, M.: Spatial Analysis of Data on Damage to Forests Using the TANABBO Methodology  
Supervisor: ĎURAČIOVÁ, R.

POCKLAN, T.: Optimization of the Use of Point Data for the Spatial Interpolation of Meteorological Characteristics on a Mountainous Terrain  
Supervisor: ĎURAČIOVÁ, R.

PORUBANOVÁ, V.: Potential of Fractals in Landscape Modeling  
Supervisor: FAIXOVÁ CHALACHANOVÁ, J.

PRUŽINEC, F.: Geographical Information System for Smart Public Lighting  
Supervisor: ĎURAČIOVÁ, R.

## 2.3 Doctoral theses

ĎURÍČKOVÁ, Z.: Solution to Topographic Effect Problems in Spherical Approximations  
Supervisor: JANÁK, J.

KROČKOVÁ, K.: Harmonisation of Spatial Data of the Domain of Cultural Heritage Protection  
Supervisor: HUSÁR, L.

LETKO, P.: Analysis and Detection of Relativistic Effects in Space Geodesy  
Supervisor: HUSÁR, L.

RÁŠOVÁ, A.: Substantive Visibility Analysis in GIS  
Supervisor: HEFTY, J.

## 3. RESEARCH

### 3.1 Research projects

Optimization of Geomodeling Processes Using Probabilistic and Fuzzy Data (2016-2019, STUPŇANOVÁ, A.), VEGA 1/0682/16

Solution of Actual Problems in the Geophysical and Geodetic Detection of Underground Cavities in Environmental and Archaeological Applications (2016-2019, PAŠTEKA, R.), VEGA 1/0462/16

Analysis of Selected Geodynamical Processes Using Absolute and Relative Gravimetry and GNSS Technology (2018-2020, JANÁK, J.), VEGA 1/0750/18

Retrieval of Motions and Potential Deformation Threats Using Sentinel-1 (remotIO) (2018-2020, PAPČO, J.), ESA PECS 4000123625/18/NL/SC

### 3.2 International cooperation

#### Cooperating institutions

Curtin University, School of Earth and Planetary Sciences & Western Australian Geodesy, Australia

EPN - EUREF Permanent Network

Geodetic Observatory Pecny, Research Institute of Geodesy, Cartography and Topography, Czech Republic

Institute of Anthropology and History, Guatemala

Institute of Archaeology of the Czech Academy of Sciences, Czech Republic

National Corporation for Antiquities and Museums of Sudan, Sudan

Pacunam Lidar Initiative, Guatemala

Polytechnic University of Valencia, Department of Cartographic Engineering, Geodesy and Photogrammetry, Spain

State Board of Antiquities and Heritage of Iraq, Iraq

Technical University of Munich, Institute for Astronomical and Physical Geodesy, Germany

Technical University of Ostrava, Institute of Geoinformatics, Czech Republic

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

University of West Bohemia in Pilsen, Department of Geomatics, Czech Republic

### Membership in international professional organizations

BUCHA, B.: International Association of Geodesy

HEFTY, J.: American Geophysical Union

HEFTY, J.: European Geosciences Union

HEFTY, J.: International Astronomical Union

JANÁK, J.: International Association of Geodesy

JANÁK, J.: European Geosciences Union

## 4. PUBLICATIONS

### Parts of Books

HULÍNEK, D. – HULÍNKOVÁ ŤUCHOVÁ, E. – LIESKOVSKÝ, T. – DEMJÁN, P. – RÁŠOVÁ, A. – RÁŠO, J.: Goals and Methodology of Research. In: Archaeological Project SAHI - Tell Jokha, 2017 (Season 2). Bratislava, Slovak Archeological and Historical Institute, ISBN 978-80-89704-05-7, 2018, pp. 7-15 (in English)

HULÍNEK, D. – HULÍNKOVÁ ŤUCHOVÁ, E. – MITTERMAYER, C. – LIESKOVSKÝ, T.: History of Summerian City of Umma in the Context of Current Archaeological Research. In: Antica Slavica. Trnava, University of Sts. Cyril and Methodius in Trnava, ISBN 978-80-8105-929-2, 2018, pp. 7-60 (in Slovak)

LIESKOVSKÝ, T. – RÁŠOVÁ, A. – RÁŠO, J.: Surveying, Photogrammetry and GIS - Results. In: Archaeological Project SAHI - Tell Jokha, 2017 (Season 2). Bratislava, Slovak Archeological and Historical Institute, ISBN 978-80-89704-05-7, 2018, pp. 64-70 (in English)

### Journals

CANUTO, M.A. – ESTRADA-BELLI, F. – GARRISON, T.G. – HOUSTON, S.D. – ACUÑA, M.J. – KOVÁČ, M. – MARKEN, D. – NONDÉDÉO, P. – AULD-THOMAS, L. – CASTANET, C. – CHATELAIN, D. – CHIRIBOGA, C.R. – DRÁPELA, T. – LIESKOVSKÝ, T. – TOKOVININE, A. – VELASQUEZ, A. – FERNÁNDEZ-DÍAZ, J.C. – SHRESTHA, R.: Ancient Lowland Maya Complexity as Revealed by Airborne Laser Scanning of Northern Guatemala. In: Science, ISSN 0036-8075. - Vol. 361, No. 6409 (2018), p. 17 (in English)

HÁBEL, B. – JANÁK, J.: Analysis of Local Covariance Functions Applied to GOCE Satellite Gravity Gradiometry Data. In: Acta Geodaetica et Geophysica, ISSN 2213-5812. - Vol. 53, No. 1 (2018), pp. 125-138 (in English)

JANÁK, J.: Perspectives on Absolute Gravity Measurements Using a Ballistic Absolute Gravimeter. In: Slovenský geodet a kartograf, ISSN 1335-4019. - Vol. 23, No. 3 (2018), pp. 5-13 (in Slovak)

NOSKO, R. – MALIARIKOVÁ, M. – FENCÍK, R. – SZOLGAY, J.: Comparison of Spatial Data Collection Methods for Purposes of the Measurement of the Gully in the Locality of Tura Luka. In: Kartografické listy, ISSN 1336-5274. - Vol. 26, No. 2 (2018), pp. 63-75 (in Slovak)

RÁŠOVÁ, A.: Vegetation Modelling in 2.5D Visibility Analysis. In: Kartografické listy, ISSN 1336-5274. - Vol. 26, No. 1 (2018), pp. 10-20 (in English)

REXER, M. – HIRT, CH. – BUCHA, B. – HOLMES, S.: Solution to the Spectral Filter Problem of Residual Terrain Modelling (RTM). In: Journal of Geodesy, ISSN 0949-7714. - Vol. 92, No. 6 (2018), pp. 675-690 (in English)

ZAHOREC, P. – PAPČO, J.: Estimation of Bouguer Correction Density Based on Underground and Surface Gravity Measurements and Precise Modelling of Topographic Effects – Two Case Studies from Slovakia. In: Contributions to Geophysics and Geodesy, ISSN 1335-2806. - Vol. 48, No. 4 (2018), pp. 319-336 (in English)

ZAHOREC, P. – PAPČO, J. – VAJDA, P. – GRECO, F. – CANTARERO, M. – CARBONE, D.: Refined Prediction of Vertical Gradient of Gravity at Etna Volcano Gravity Network (Italy). In: Contributions to Geophysics and Geodesy, ISSN 1335-2806. - Vol. 48, No. 4 (2018), pp. 299-317 (in English)

## Conference Proceedings

CZIKHARDT, R.: Atmospheric Systematic Effects in Multi-Temporal InSAR and Methods to Mitigate Them. In: Advances in Architectural, Civil and Environmental Engineering: 28th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Building Technology, Geodesy and Cartography, Landscaping, Theory and Environmental Technology of Buildings, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Water Resources Engineering. Bratislava, Slovakia, 24.10.2018. - Bratislava: Spektrum STU, 2018, CD-ROM. - ISBN 978-80-227-4864-3. - pp. 136-145 (in English)

CZIKHARDT, R. – PAPČO, J. – BAKOŇ, M.: Feasibility of the Sentinel-1 Multi-Temporal InSAR System Based on the SNAP and StaMPS: Case Study from the Tatra Mts., Slovakia. In: CENTERIS 2018 - International Conference on ENTERprise Information Systems/ProjMAN 2018 - International Conference on Project MANagement/HCist 2018 - International Conference on Health and Social Care Information Systems and Technologies, CENTERIS/ProjMAN/HCist 2018. Lisbon, Portugal, 21.-23.11.2018. - Amsterdam: Elsevier, 2018, online. - ISSN 1877-0509. - pp. 366-373 (in English)

ĎURAČIOVÁ, R. – FAIXOVÁ CHALACHANOVÁ, J.: Fuzzy Spatio-Temporal Querying the PostgreSQL/PostGIS Database for Multiple Criteria Decision Making. In: Dynamics in GIScience: GIS Ostrava 2017. Ostrava, Czech Republic, 22.-24.3.2017. - Cham: Springer, 2018. - ISSN 1863-2246, ISBN 978-3-319-61296-6. - pp. 81-97 (in English)

ĎURAČIOVÁ, R. – MUŇKO, M. – CAHA, J.: Aggregation of Uncertain Information and Its Implementation in Geographic Information Systems and Spatial Databases. In: Advances and Trends in Geodesy, Cartography and Geoinformatics: Proceedings of the 10th International Scientific and Professional Conference on Geodesy, Cartography and Geoinformatics (GCG 2017). Demänovská dolina, Slovakia, 10.-13.10.2017. - London: CRC Press, 2018. - ISBN 978-1-138-58489-1. - pp. 153-158 (in English)

FENCÍK, R. – BUČO, M.: Using UAV Photogrammetry for the Creation of Digital Terrain Models. In: Innovations in Geodesy, Cartography, Real Estate Management and Surface Water Protection: Book of Abstracts. Janów Lubelski, Poland, 6.-8.6.2018. - Lublin: University of Life Sciences in Lublin, 2018. - ISBN 978-83-63657-97-0. - p. 18 (in English)

GERHÁTOVÁ, L. – MINÁRIKOVÁ, M. – FERIANC, M.: Is Galileo Ready for Precise Geodetic Applications? In: Advances and Trends in Geodesy, Cartography and Geoinformatics: Proceedings of the 10th International Scientific and Professional Conference on Geodesy, Cartography and Geoinformatics (GCG 2017). Demänovská dolina, Slovakia, 10.-13.10.2017. - London: CRC Press, 2018. - ISBN 978-1-138-58489-1. - pp. 127-132 (in English)

HÁBEL, B. – PAPČO, J. – JANÁK, J. – VALKO, M.: Monitoring the Gravity Changes in an Urban Area Using gPhoneX 108 Relative Gravimeter. In: Abstracts of the 1st Workshop on the International Geodynamics and Earth Tide Service (IGETS). Potsdam, Germany, 18.-20.6.2018. - Potsdam: GFZ German Research Centre for Geosciences, 2018, online. - p. 12 (in English)

KROČKOVÁ, K.: Conceptual Basis for a Modeling Cultural Heritage in Slovakia: Harmonisation Requirements and Application the Humboldt Project Tools. In: Advances and Trends in Geodesy, Cartography and Geoinformatics: Proceedings of the 10th International Scientific and Professional Conference on Geodesy, Cartography and Geoinformatics (GCG 2017). Demänovská dolina, Slovakia, 10.-13.10.2017. - London: CRC Press, 2018. - ISBN 978-1-138-58489-1. - pp. 177-182 (in English)

LEŠKO, M.: Monitoring the Movement of the Landscape in the Area of Upper Nitra Using Satellite Radar Interferometry. In: Advances in Architectural, Civil and Environmental Engineering: 28th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Building Technology, Geodesy and Cartography, Landscaping, Theory and Environmental Technology of Buildings, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Water Resources Engineering. Bratislava, Slovakia, 24.10.2018. - Bratislava: Spektrum STU, 2018, CD-ROM. - ISBN 978-80-227-4864-3. - pp. 154-166 (in Slovak)

LEŠKO, M. – PAPČO, J. – BAKOŇ, M. – LIŠČÁK, P.: Monitoring of Natural Hazards in Slovakia by Using of Satellite Radar Interferometry. In: CENTERIS 2018 - International Conference on ENTERprise Information Systems/ProjMAN 2018 - International Conference on Project MANagement/HCist 2018 - International Conference on Health and Social Care Information Systems and Technologies, CENTERIS/ProjMAN/HCist 2018. Lisbon, Portugal, 21.-23.11.2018. - Amsterdam: Elsevier, 2018, online. - ISSN 1877-0509. - pp. 374-381 (in English)

- LIESKOVSKÝ, T. – FAIXOVÁ CHALACHANOVÁ, J. – LESSOVÁ, L. – HORŇÁK, M.: Analysis of LiDAR Data with Low Density in the Context of Its Applicability for the Cultural Heritage Documentation. In: *Advances and Trends in Geodesy, Cartography and Geoinformatics: Proceedings of the 10th International Scientific and Professional Conference on Geodesy, Cartography and Geoinformatics (GCG 2017)*. Demänovská dolina, Slovakia, 10.-13.10.2017. - London: CRC Press, 2018. - ISBN 978-1-138-58489-1. - pp. 191-196 (in English)
- NOSKO, R. – MALIARIKOVÁ, M. – FENCÍK, R. – SZOLGAY, J.: Use of Spatial Data Collection Methods for Purposes of the Measurement of the Gully in the Locality of Tura Luka. In: *GeoKARTO 2018*. Zvolen, Slovakia, 6.-7.9.2018. - Bratislava: Kartografická spoločnosť Slovenskej republiky, 2018. - ISBN 987-80-89060-25-2. - p. 22 (in Slovak)
- PIAČKOVÁ, D.: Expansion of the Topographic Gravitation in Spheroidal Harmonics. In: *Advances in Architectural, Civil and Environmental Engineering: 28th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Building Technology, Geodesy and Cartography, Landscaping, Theory and Environmental Technology of Buildings, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Water Resources Engineering*. Bratislava, Slovakia, 24.10.2018. - Bratislava: Spektrum STU, 2018, CD-ROM. - ISBN 978-80-227-4864-3. - pp. 167-172 (in English)
- PLAKINGER, M. – FRAŠTIA, M. – PAPČO, J.: Monitoring of Undermined Territories by Airborne Laser Scanning. In: *Geodézie a dŕlní měřictví 2018*. Ostrava, Czech Republic, 24.-26.10.2018. - Ostrava: VSB - Technical University of Ostrava, 2018, USB. - ISBN 978-80-248-4226-4. - p. 11 (in Slovak)
- RÁŠOVÁ, A.: Total Viewshed Computation for Large Areas. In: *Počítačová podpora v archeologii 17*. Kouty, Czech Republic, 28.-30.5.2018. - Prague: Institute of Archaeology of the Czech Academy of Sciences, 2018. - ISBN 978-80-7581-007-6. - pp. 39-40 (in Slovak)
- RÁŠOVÁ, A.: Modelling of the Vegetation in Viewshed Analysis Using 2.5D Digital Elevation Models. In: *GeoKARTO 2018*. Zvolen, Slovakia, 6.-7.9.2018. - Bratislava: Kartografická spoločnosť Slovenskej republiky, 2018. - ISBN 987-80-89060-25-2. - pp. 25-26 (in Slovak)
- RUIZ-ARMENTEROS, A.M. – LAZECKÝ, M. – HLAVÁČOVÁ, I. – BAKOŇ, M. – DELGADO, J.M. – SOUSA, J.J. – LAMAS-FERNÁNDEZ, F. – MARCHAMALO, M. – CARO-CUENCA, M. – PAPČO, J. – PERISSIN, D.: Deformation Monitoring of Dam Infrastructures via Spaceborne MT-InSAR. The Case of La Viñuela (Málaga, Southern Spain). In: *CENTERIS 2018 - International Conference on ENTERprise Information Systems/ProjMAN 2018 - International Conference on Project MANagement/HCist 2018 - International Conference on Health and Social Care Information Systems and Technologies, CENTERIS/ProjMAN/HCist 2018*. Lisbon, Portugal, 21.-23.11.2018. - Amsterdam: Elsevier, 2018, online. - ISSN 1877-0509. - pp. 346-353 (in English)
- ŠPÁNIK, P. – HEFTY, J. – GERHÁTOVÁ, Ľ. – PAPČO, J.: First Experience with Raw GNSS Data Processing from Devices Using an Android Operating System. In: *Družicové metódy v geodézii a katastru*. Brno, Czech Republic, 1.2.2018. - Brno: ECON Publishing, 2018. - ISBN 978-80-86433-67-7. - pp. 59-66 (in Slovak)
- ŠPÁNIK, P.: Analysis of the Multipath Effect at SKPOS Permanent Stations. In: *Advances in Architectural, Civil and Environmental Engineering: 28th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Building Technology, Geodesy and Cartography, Landscaping, Theory and Environmental Technology of Buildings, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Water Resources Engineering*. Bratislava, Slovakia, 24.10.2018. - Bratislava: Spektrum STU, 2018, CD-ROM. - ISBN 978-80-227-4864-3. - pp. 173-180 (in Slovak)

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# DEPARTMENT OF SURVEYING

Head of Department

Prof. Ing. Alojz Kopáček, PhD.

Tel.: + 421 2 592 74 559

E-mail: [alozj.kopacik@stuba.sk](mailto:alozj.kopacik@stuba.sk)

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Bachelor Thesis  
Cadastral Mapping  
Cadaastre of Real Estate  
Cartometry and Data Analysis of Cadastral Data  
Diploma Seminar  
Diploma Thesis  
Engineering Surveying I, II  
Environmental Modelling and Landscape Evaluations  
Field Practice in Engineering Surveying  
Field Practice in Surveying  
Field Practice in Cadastral Mapping and Cadaastre of Real Estate  
History of Surveying  
Industrial Surveying  
Land Consolidation I, II  
Legislation of Geodetic Activities  
Photogrammetry I, II  
Professional Practice  
Remote Sensing  
Special Seminar  
Surveying I, II, III  
Surveying in Building Construction  
Surveying in Civil Engineering (English)  
Vocational Practice

#### Obligatory elective subjects

Applied Close Range Photogrammetry  
Surveying in Underground Areas  
Map Collection and Cadaastre of Real Estate  
Modern Technologies for the Creation of Geodetic Data

#### Optional subjects

Application of Information Technologies in the Cadaastre of Real Estate and Land Consolidation  
Measuring Systems in Engineering Surveying  
Stakeout and Monitoring of Structures  
Surveying Methods for Structure Monitoring (English)

### 1.2 Postgraduate courses

Cadaastre of Real Estate and Land Consolidation  
Engineering Surveying  
Photogrammetry

## 2. THESES

### 2.1 Bachelor theses

There were 7 works.

### 2.2 Graduate theses

FODREK, M.: Application of the XL-80 Laser Measurement System for Calibration Measurements  
Supervisor: JEŽKO, J.

HANULJAKOVÁ, P.: Landscape Creation in Land Consolidation  
Supervisor: GEISSE R.

HORVÁTH, M.: Project for Measuring Displacements and Deformations of the Handlovka Stabilization Embankment and Pipelines  
Supervisor: KYRINOVIČ, P.

CHOLEVA, R.: Testing of Laser Trackers  
Supervisor: ERDÉLYI, J.

LUPTÁK, M.: Determining the Quality Code of a Plot Area  
Supervisor: GEISSE R.

REHÁK, P.: Photogrammetric Measurement of Obchodná Street in Bratislava  
Supervisor: MARČIŠ, M.

ŠIPOŠ, R.: Measurement and Processing of a Geodetic Network Measured by Terrestrial and GNSS Technology  
Supervisor: BAJTALA, M.

URBAŇÁK, D.: Reclassification of Non – Numeric to Numerical Vector Cadastral Maps  
 Supervisor: HUDECOVÁ, L.

### 3. RESEARCH

#### 3.1 Research projects

Development of an Algorithm for Automated Quality Check of Construction Works in BIM Environment (2018–2020, KOPÁČIK, A. – KYRINOVIČ, P. – ERDÉLYI, J. – MARČIŠ, M. – HAŠKOVÁ, V. – KAJÁNEK, P. – HONTI, R. – CHOLEVA, R.), VEGA 1/0506/18

Interdisciplinary Approach of the Protection of Cultural and Natural Heritage (2017–2019, SOKOL, Š. – JEŽKO, J. – BAJTALA, M. – FRAŠTIA, M. – MARČIŠ, M.), KEGA 016STU-4/2017

Modernization and Development of Technical Skills in the Teaching of Geodesy and Photogrammetry (2016–2018, SOKOL, Š. – JEŽKO, J. – FRAŠTIA, M. – BAJTALA, M. – MARČIŠ, M. – HUDECOVÁ, L.), KEGA 037STU-4/2016

Monitoring the Structural Health of a Bridge via Repeated Dynamic Tests (2013–2017, SOKOL, M. – KOPÁČIK, A. – KYRINOVIČ, P. – ERDÉLYI, J. – LIPTÁK, I.), APVV-0236-12

Competence Center for SMART Technologies for Electronics and Informatics Systems and Services (2016, KOPÁČIK, A. – KYRINOVIČ, P. – ERDÉLYI, J. – LIPTÁK, I. – ILKOVIČOVÁ, L. – KAJÁNEK, P.), ITMS 26240220072

University Science Park, STU Bratislava (2016, KOPÁČIK, A. – ERDÉLYI, J.), ITMS 26240220084

#### 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

Chair of Geodesy, Technical University of Munich, Germany

Faculty of Geodesy, University of Zagreb, Croatia

Geodetic and Geophysical Institute, Hungarian Academy of Science, Hungary

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

Kavala Institute of Technology, Greece

“1 Decembrie 1918” University of Alba Iulia, Romania

Institute of Geoinformatics, Alba Regia Faculty of Technology, University of Óbuda, Hungary

“Politehnica” University of Timisoara, Romania

#### Membership in international professional organizations

ERDÉLYI, J.: National Delegate to International Federation of Surveyors (FIG), WG 10.2: BIM, National Delegate to International Association for Automation and Robotics in Construction (IAARC)

FRAŠTIA, M.: International Society for Photogrammetry and Remote Sensing (ISPRS), National Delegate to International Federation of Surveyors (FIG), Commission 4: Hydrology

HUDECOVÁ, L.: National Delegate to International Federation of Surveyors (FIG), Commission 3: Spatial Information Management, Commission 7: Cadastre and Land Management

KOPÁČIK, A.: German Geodetic Commission of the Bavarian Academy of Science, National Delegate to International Federation of Surveyors (FIG), Commission 2: Education, Commission 6: Engineering Surveying, WG 10.2: BIM

KYRINOVIČ, P.: National Delegate to International Association for Automation and Robotics in Construction (IAARC)

MARČIŠ, M.: National Delegate to International Federation of Surveyors (FIG), Commission 1: Professional Standards and Practice

### 4. PUBLICATIONS

#### Books

FUNTÍK, T. - PASIAR, M. - ERDÉLYI, J. - HLA VATÁ, J. - KALEJA, P. - MAYER, P. Building Information Modeling. 1. ed. Bratislava: Eurostav, 2018. 205 pp. ISBN 978-80-89228-56-0 (in Slovak)

#### Parts of Books

JEŽKO, J. Photogrammetric and Surveying Activities of Jozef Maximilián Petzval. In: Z dějin geodézie a kartografie 19: mapová díla, zeměměřičké práce, názvosloví, přístroje a osobnosti. 1. ed. Prague: Národní technické muzeum, 2018, pp. 127-133. ISBN 978-80-7037-310-1 (in Slovak)

#### Journals

ERDÉLYI, J. - KOPÁČIK, A. - KYRINOVIČ, P. Construction Control and Documentation of Facade Elements Using Terrestrial Laser Scanning. In: Applied Geomatics. Vol. 10, No. 2 (2018), pp. 113-121. ISSN 1866-9298 (in English)

ERDÉLYI, J. - HONTI, R. Use of Exchange Formats for Building Information Modeling. In: Slovenský geodet a kartograf. Vol. 23, No. 2 (2018), pp. 4-9. ISSN 1335-4019 (in Slovak)

GAŠINCOVÁ, S. - GAŠINEC, J. - HUDECOVÁ, L. - ČERNOTA, P. - STAŇKOVÁ, H. Analysis of the Usability of the Maps from the Former Cadastre of Lands in Terms of Parcels Area Registered in the Cadastral Documentation. In: Inžynieria mineralna. No. 2 (2018), pp. 191-200. ISSN 1640-4920 (in English)



GAŠINCOVÁ, S. - HUDECOVÁ, L. - GAŠINEC, J. Teaching of Real Estate Cadastre in the Field of Geodesy and Cartography at the Faculty of BERG TU in Košice. In: Slovenský geodet a kartograf. Vol. 23, No. 3 (2018), pp. 14-18. ISSN 1335-4019 (in Slovak)

GEISSE, R. - HUDECOVÁ, L. - ŽIGMUNDOVÁ, V. Utilization of a Plot Compactness Index in Land Consolidation Processing. In: Geodetický a kartografický obzor. Vol. 64 (106), No. 12 (2018), online, pp. 257-263. ISSN 1805-7446 (in Slovak)

HONTI, R. - ERDÉLYI, J. Software Solution for Transformation of Point Clouds Obtained by TLS. In: Interdisciplinarity in Theory and Practice. No. 15 (2018), online, pp. 7-10. ISSN 2344-2409 (in English)

HONTI, R. - ERDÉLYI, J. - KOPÁČIK, A. Plane Segmentation from Point Clouds. In: Pollack Periodica. Vol. 13, No. 2 (2018), pp. 159-171. ISSN 1788-1994 (in English)

HUDECOVÁ, L. Historical Review of Creating Survey Sketches in Slovakia. In: Slovenský geodet a kartograf. Vol. 23, No. 1 (2018), pp. 5-12. ISSN 1335-4019 (in Slovak)

HUDECOVÁ, L. - GEISSE, R. Evaluation of the Status of Real Property in Rural Areas. In: Slovak Journal of Civil Engineering. Vol. 26, No. 4 (2018), pp. 50-55. ISSN 1210-3896 (in English)

JEŽKO, J. Comparison of a 3D Model from Direct Measurements with a Digital Model. In: Czech Journal of Civil Engineering. Vol. 4, No. 1 (2018), online, pp. 50-57. ISSN 2336-7148 (in Slovak)

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JEŽKO, J. Creating Models for the Requirements of the Reconstruction of Objects and Areas. In: Czech Journal of Civil Engineering. Vol. 4, No. 2 (2018), online, pp. 81-88. ISSN 2336-7148 (in Slovak)

MARČIŠ, M. - FRAŠTIA, M. Photogrammetry as an Effective Help for a Surveyor: An Example of the Measurement of a Building. In: Geodetický a kartografický obzor. Vol. 64 (106), No. 11 (2018), online, pp. 236-243. ISSN 1805-7446 (in Slovak)

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## Conference Proceedings

AUGUSTÍN, T. - FILLO, L. - HALVONÍK, J. - MARČIŠ, M. Punching Resistance of Flat Slabs with Openings - Experimental Investigation. In: Solid State Phenomena: 24th Concrete Days 2017. Nov. 22 - 23, 2017, Litomyšl, Czech Republic. Vol. 272, (2018), pp. 41-46. ISSN 1012-0394 (in English)

AUGUSTÍN, T. - FILLO, L. - HALVONÍK, J. - MARČIŠ, M. Punching Shear Resistance of Flat Slabs with Openings - Experimental Testing. In: Proceedings of the 12th fib International PhD Symposium in Civil Engineering: Prague, Czech Republic, Aug. 29-31, 2018. 1. ed. Prague: Czech Technical University in Prague, 2018, USB, pp. 305-310. ISBN 978-80-01-06401-6 (in English)

BAJTALA, M. - SOKOL, Š. Impact of a Horizontal Refraction on a Geodetic Network Adjustment. In: Advances and Trends in Geodesy, Cartography and Geoinformatics: proceedings of the 10th International Scientific and Professional Conference on Geodesy, Cartography and Geoinformatics (GCG 2017), Oct. 10-13, 2017, Demänovská Dolina, Low Tatras, Slovakia. 1. ed. London: CRC Press, 2018, pp. 3-8. ISBN 978-1-138-58489-1 (in English)

ĎUBEK, M. - FUNTÍK, T. - ERDÉLYI, J. - MAKÝŠ, P. - PETRO, M. Process of Verification of Earthworks Execution Using Terrestrial Laser Scanning. In: ISARC 2018 - The Future of Buildings Things: proceedings of the 35th International Symposium on Automation and Robotics in Construction & International AEC/FM Hackathon. Berlin, Germany, July 20-25, 2018. 1. ed. London: International Association for Automation and Robotics in Construction, 2018, online, pp. 1038-1043. ISBN 9728-3-00-060855-1 (in English)

ERDÉLYI, J. - KOPÁČIK, A. - KYRINOVIČ, P. Multi-sensor Monitoring of Suspended Steel Bridge Structure. In: Advances and Trends in Geodesy, Cartography and Geoinformatics: proceedings of the 10th International Scientific and Professional Conference on Geodesy, Cartography and Geoinformatics (GCG 2017), Oct. 10-13, 2017, Demänovská Dolina, Low Tatras, Slovakia. 1. ed. London: CRC Press, 2018, pp. 27-33. ISBN 978-1-138-58489-1 (in English)

ERDÉLYIOVÁ, L. [Ilkovičová, L.] - KAJÁNEK, P. - KOPÁČIK, A. Pedestrian Positioning Using Smartphones in Building with Atypical Geometry. In: Advances and Trends in Geodesy, Cartography and Geoinformatics: proceedings of the 10th International Scientific and Professional Conference on Geodesy, Cartography and Geoinformatics (GCG 2017), Oct. 10-13, 2017, Demänovská Dolina, Low Tatras, Slovakia. 1. ed. London: CRC Press, 2018, pp. 35-40. ISBN 978-1-138-58489-1 (in English)

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FRAŠTIA, M. - MARČIŠ, M. - SOKOL, Š. Combined Airborne and Terrestrial Laser Scanning for Engineering-Geological Analysis. In: Geodézie a Důlní měřičtví 2018: Proceedings. 25th SDMG Conference, Ostrava, ČR, 24. - 26. Oct. 2018. 1. ed. Ostrava: Technical University of Ostrava, 2018, USB, [12] p. ISBN 978-80-248-4226-4 (in Slovak)

HAŠKOVÁ, V. Verification of Horizontal Circles Quality of Surveying Instruments. In: Advances and Trends in Geodesy, Cartography and Geoinformatics: proceedings of the 10th International Scientific and Professional Conference on Geodesy, Cartography and Geoinformatics (GCG 2017), Oct. 10-13, 2017, Demänovská Dolina, Low Tatras, Slovakia. 1. ed. London: CRC Press, 2018, pp. 47-52. ISBN 978-1-138-58489-1 (in English)

- HONTI, R. Semi - Automated Identification of Planes in Point Clouds. In: Juniorstav 2018, proceedings of the 20th International Conference of Ph.D. Students. 1. ed. Brno: ECON publishing, 2018, USB, pp. 1014-1019. ISBN 978-80-86433-69-1 (in Slovak)
- HONTI, R. Segmentation of Cylinders from Point Clouds. In: Abstract book for the 14th Miklós Iványi International PhD & DLA Symposium: Architectural, Engineering and Information Sciences. Hungary, Pécs, 29-30 Oct. 2018. Pécs: Pollack Press, 2018, [1] p. ISBN 978-963-429-284-5 (in English)
- HONTI, R. Automation of Cylinder Extraction from Point Clouds. In: Advances in Architectural, Civil and Environmental Engineering: 28th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Building Technology, Geodesy and Cartography, Landscaping, Theory and Environmental Technology of Buildings, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Water Resources Engineering. Oct. 24th, 2018, Bratislava. 1. ed. Bratislava: Spektrum STU, 2018, CD-ROM, pp. 146-153. ISBN 978-80-227-4864-3 (in Slovak)
- HONTI, R. - ERDÉLYI, J. Possibilities of BIM Data Exchange. In: SGEM 2018. 18th International Multidisciplinary Scientific GeoConference. Vol. 18. Informatics, Geoinformatics and Remote Sensing: conference proceedings. Albena, Bulgaria, 2 July - 8 July 2018. 1. ed. Sofia: STEF 92 Technology, 2018, pp. 923-930. ISSN 1314-2704. ISBN 978-619-7408-40-9 (in English)
- HUDECOVÁ, Ľ. - GEISSE, R. Displaying of Easements in Vector Cadastral Maps. In: Advances and Trends in Geodesy, Cartography and Geoinformatics: proceedings of the 10th International Scientific and Professional Conference on Geodesy, Cartography and Geoinformatics (GCG 2017), Oct. 10-13, 2017, Demänovská Dolina, Low Tatras, Slovakia. 1. ed. London: CRC Press, 2018, pp. 165-170. ISBN 978-1-138-58489-1 (in English)
- HUDECOVÁ, Ľ. Cadastral Database and Communication Channels of the Real Estate Cadastre in Slovakia. In: SGEM 2018. 18th International Multidisciplinary Scientific GeoConference. Vol. 18. Informatics, Geoinformatics and Remote Sensing: conference proceedings. Albena, Bulgaria, 2 July - 8 July 2018. 1. ed. Sofia: STEF 92 Technology, 2018, pp. 623-630. ISSN 1314-2704. ISBN 978-619-7408-40-9 (in English)
- JEŽKO, J. - SOKOL, Š. Verification of the Quality of Selected Electro-Optical Rangefinders According to STN ISO 17123-4: 2013. In: Advances and Trends in Geodesy, Cartography and Geoinformatics: proceedings of the 10th International Scientific and Professional Conference on Geodesy, Cartography and Geoinformatics (GCG 2017), Oct. 10-13, 2017, Demänovská Dolina, Low Tatras, Slovakia. 1. ed. London: CRC Press, 2018, pp. 59-64. ISBN 978-1-138-58489-1 (in English)
- JEŽKO, J. - MARČIŠ, M. Selected Outputs of the Department of Surveying in KEGA Projects. In: Geodézie a Dúlní měřictví 2018: Proceedings. 25th SDMG Conference, Ostrava, ČR, 24. - 26. Oct. 2018. 1. ed. Ostrava: Technical University of Ostrava, 2018, USB, [11] p. ISBN 978-80-248-4226-4 (in Slovak)
- JEŽKO, J. - KAJÁNEK, P. - FODREK, M. System Calibration of Digital Levels and Bar Code Rods. In: Geodézie a Dúlní měřictví 2018: Proceedings. 25th SDMG Conference, Ostrava, ČR, 24. - 26. Oct. 2018. 1. ed. Ostrava: Technical University of Ostrava, 2018, USB, [11] p. ISBN 978-80-248-4226-4 (in Slovak)
- KAJÁNEK, P. - KOPÁČIK, A. - ERDÉLYI, J. - KYRINOVIČ, P. Development of Circular Motion Simulator for Dynamic Tests of Sensors. In: SGEM 2018. 18th International Multidisciplinary Scientific GeoConference. Vol. 18. Informatics, Geoinformatics and Remote Sensing: conference proceedings. Albena, Bulgaria, 2 July - 8 July 2018. 1. ed. Sofia: STEF 92 Technology, 2018, pp. 729-736. ISSN 1314-2704. ISBN 978-619-7408-40-9 (in English)
- KESELI, O. - BILČÍK, J. - MARČIŠ, M. Post-installed Shear Reinforcement in Flat Slabs. In: Proceedings of the 12th fib International PhD Symposium in Civil Engineering: Prague, Czech Republic, Aug. 29-31, 2018. 1. ed. Prague: Czech Technical University in Prague, 2018, USB, pp. 871-878. ISBN 978-80-01-06401-6 (in English)
- KOPÁČIK, A. - ERDÉLYI, J. - KYRINOVIČ, P. Project of Determination Monitoring of Technological Equipment. In: Geodézie ve stavebnictví a průmyslu: Proceedings. Brno, ČR, 26. 4. 2018. 1. ed. Prague: Český svaz geodetů a kartografů, 2018, pp. 43-49. ISBN 978-80-02-02781-2 (in Slovak)
- KYSEL, P. - HUDECOVÁ, Ľ. - BAJTALA, M. Spatial Analyze of Cadastral Maps. In: SGEM 2018. 18th International Multidisciplinary Scientific GeoConference. Vol. 18. Informatics, Geoinformatics and Remote Sensing: conference proceedings. Albena, Bulgaria, 2 July - 8 July 2018. 1. ed. Sofia: STEF 92 Technology, 2018, S. 567-574. ISSN 1314-2704. ISBN 978-619-7408-41-6 (in English)
- MARČIŠ, M. - FRAŠTIA, M. Influence of Image Compression on Image and Reference Point Accuracy in Photogrammetric Measurement. In: Advances and Trends in Geodesy, Cartography and Geoinformatics: proceedings of the 10th International Scientific and Professional Conference on Geodesy, Cartography and Geoinformatics (GCG 2017), Oct. 10-13, 2017, Demänovská Dolina, Low Tatras, Slovakia. 1. ed. London: CRC Press, 2018, pp. 77-82. ISBN 978-1-138-58489-1 (in English)
- MARČIŠ, M. - FRAŠTIA, M. - AUGUSTÍN, T. Photogrammetric Deformation Measurement of Concrete Flat Slab. In: Advances and Trends in Geodesy, Cartography and Geoinformatics: proceedings of the 10th International Scientific and Professional Conference on Geodesy, Cartography and Geoinformatics (GCG 2017), Oct. 10-13, 2017, Demänovská Dolina, Low Tatras, Slovakia. 1. ed. London: CRC Press, 2018, pp. 83-88. ISBN 978-1-138-58489-1 (in English)
- PLAKINGER, M. - FRAŠTIA, M. - PAPČO, J. Monitoring of Undermined Territories by Airborne Laser Scanning. In: Geodézie a Dúlní měřictví 2018: Proceedings. 25th SDMG Conference, Ostrava, ČR, 24. - 26. Oct. 2018. 1. ed. Ostrava: Technical University of Ostrava, 2018, USB, [11] p. ISBN 978-80-248-4226-4 (in Slovak)

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# DEPARTMENT OF GEOTECHNICS

## Head of Department

**Assoc. Prof. Ivan Slávik, PhD.**

Tel.: +421 2 592 74 672

Fax: +421 2 529 25 642

E-mail: [ivan.slavik@stuba.sk](mailto:ivan.slavik@stuba.sk)

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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

Properties of Rocks and Soils

Spread and Deep Foundations

Water Reservoirs and Dams

Landfills and Ponds

Environmental Geotechnics

#### Optional subjects

Spread and Deep Foundations

Engineering Geology

Geology and Geomorphology

Numerical Modelling in Geotechnics

Reconstruction in Geotechnics

Geotechnical Structures

Dumps, Tailing Ponds and Waste Recycling

Engineering Geology and Hydrogeology

Underground Constructions

Foundation Pits

Underground Structures and Trenchless Methods

Filtration and Stability Tasks

Foundation of Hydraulic Structures

Water Management Systems

Dams and Water Reservoirs

Special Foundation Problems

Design and Realization of Geotechnical Constructions

Atelier Design – Geotechnics

Special Problems of Geotechnical Engineering

Design and Operation of Dams

#### 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

Engineering Geology and Rock Mechanics

Soil Mechanics

Foundation Engineering

Properties of Rocks and Soils

Water Reservoirs and Dams

Landfills and Ponds

### 1.2 Postgraduate courses

Engineering Geology and Hydrogeology

Soil Mechanics

Foundation Engineering

Underground Constructions

Geotechnical Structures

Filtration and Stability Tasks of Embankment Dikes

Dams and Water Reservoirs – Selected Topics

Selected States in Geotechnics

## 2. THESES

### 2.1 Bachelor theses

There was 1 work.

## 2.2 Graduate theses

HMIRAK, M.: Palcmanská Maša Water Work - Reassessment of Injection Screen Parameters.

Supervisor: BEDNÁROVÁ, E.

HRIVNÁK, M.: Impact of Long - Term Operation of WS Orava on Dam Safety.

Supervisor: BEDNÁROVÁ, E.

KOLEŇÁK, M.: Alternative Design for the Intensification of a Lime Sludge Impoundment.

Supervisor: SLÁVIK, I.

YASIN ARSAL, K.: Determination of Rock Strength for Foundations.

Supervisor: KOPECKÝ, M.

LEŠKO, D.: Design of a Deep Excavation Pit in Mlynské Nivy.

Supervisor: SÚLOVSKÁ, M.

MIZERÁK, P.: Excavation for the Foundation of a Danube Bridge Pillar.

Supervisor: SÚLOVSKÁ, M.

TESLÍKOVÁ, K.: Excavation Design in Difficult Conditions.

Supervisor: SÚLOVSKÁ, M.

GOUYENOU, P.: Geotechnical Design of Foundations for the Diplomatic District in Bratislava.

Supervisor: FRANKOVSKÁ, J.

AL HAYALI, M. T. Q.: Geotechnical Design of an Underground Tram Line in Bratislava.

Supervisor: BRČEK, M.

KUČOVÁ, E.: Geotechnical Design of a Tunnel for the Transport Connection of the Northern Bypass in Bratislava.

Supervisor: BRČEK, M.

## 2.3 Doctoral theses

FÁBRYOVÁ CHALUPKOVÁ, K.: Numerical Analysis of the Time Development of the Vertical Deformations of the Neogene Subsoil of Foundation Structures.

Supervisor: HRUŠTINEC, L.

PANUŠKA, J.: Elastic Properties of Natural Sands with Fines Measured by Bender / Extender Elements.

Supervisor: FRANKOVSKÁ, J.

## 3. RESEARCH

### 3.1 Research projects

Analysis of Risk Factors Determining the Safety of the Dikes of Water Structures (2017-2020, BEDNÁROVÁ, E.), VEGA 1/0452/17

Effect of Boundary Conditions on the Limit States of Geotechnical Structures (2016-2018, TURČEK, P.), VEGA 1/0882/16

Research on the Hydromechanical Behavior of Soils and Rocks for Modeling Multi - Physical Processes in Geotechnics (2018-2020, FRANKOVSKÁ, J.), VEGA 1/0842/18

### 3.2 International cooperation

#### Membership in international professional organizations

BEDNÁROVÁ, E.: Representative of the Slovak Republic on the Slovak National Committee on Large Dams (SKCOLD)

FRANKOVSKÁ, J.: Representative of the Slovak Republic on CEN – TC 396 Earthworks

FRANKOVSKÁ, J.: Representative of the Slovak Republic on CEN – TC 250/ SC7 Geotechnical design, convenor of WG2 Ground investigation

FRANKOVSKÁ, J.: President of the Czech and Slovak Society for Soil Mechanics and Geotechnical Engineering, National Member of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

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 Slovak Republic on ETC 10 Evaluation of Eurocode 7 of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

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

HRUŠTINEC, L.: Member of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

HULLA, J.: Member 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)

PANUŠKA, J.: Secretary of the Czech and Slovak Society for Soil Mechanics and Geotechnical Engineering

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

SLÁVIK, I.: Member of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

SÚLOVSKÁ, M.: Member of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

TURČEK, P.: Representative of the Slovak Republic in the Regional Committee of the Czech and Slovak Society for Soil Mechanics and Geotechnical Engineering of the International Society (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

STACHO, J.: Impact of a Technology on the Resistance of a Pile, Bratislava: Spektrum STU, 2018, ISBN 978-80-227-4790-5, 198 pp. (in Slovak)

### Journals

PANUŠKA, J. – FRANKOVSKÁ, J.: Regression Analysis of Small Strain Shear and Constrained Modulus Measurements on Sands with Fines: Effect of Different Void Ratio Functions Used, In: Slovak Journal of Civil Engineering, Vol. 26, No. 4, 2018, ISSN 1210-3896, pp. 11 - 19 (in English)

STACHO, J.: The Design of Drilled Displacement System Piles Using the Cavity Expansion Theory, In: Acta Geotechnica Slovenica, Vol. 15, No. 2, 2018, ISSN 1854-0171, pp. 81 - 91 (in English)

### Conference Proceedings

BEDNÁROVÁ, E. – ŠKVARKA, J. – GRAMBLIČKOVÁ, D.: Analysis of Causes of Uplift Anomalous Development in the Subsoil of the Palmanská Maša Dam. In: SGEM 2018. 18<sup>th</sup> International Multidisciplinary Scientific GeoConference, Vol. 18, Science and Technologies in Geology, Exploration and Mining: Conference Proceedings, 2. - 8. 7. 2018, Albena, Bulgaria, Sofia: STEF 92 Technology, 2018, ISBN 978-619-7408-36-2, pp. 11 - 18 (in English)

BEDNÁROVÁ, E.: Water Structures on the Territory of Slovakia. In: Proceedings of Papers and Lectures on the 65<sup>th</sup> Anniversary of the Founding of the Vodohospodárska Výstavba Company, 8. 11. 2018, Bratislava, Slovakia, 2018, pp. 27 - 31 (in Slovak)

BEDNÁROVÁ, E.: Water Structures - What They Took from Us and What They Gave to Us. In: Proceedings of Papers and Lectures on the Professional Conference on the Occasion of the 20<sup>th</sup> Anniversary of the Žilina Water Works, 23. 4. 2018, Žilina, Slovakia, 2018, pp. 14 - 18 (in Slovak)

BEDNÁROVÁ, E. – BAKEŠ, M.: Question 102 Geology and Dams. In: 36<sup>th</sup> Dam Days 2018: Proceedings of Abstracts from the 26<sup>th</sup> World Congress ICOLD 2018 in Austria, 24. - 26. 10. 2018, Bratislava, Slovakia, Slovak Water Management Company, 2018, ISBN 978-80-570-0382-3, pp. 71 - 97 (in Slovak)

FÁBRYOVÁ CHALUPKOVÁ, K. – HRUŠTINEC, L.: Analysis of the Suitability of Material Models in the Calculation of Structure Settlements. In: SGEM 2018. 18<sup>th</sup> International Multidisciplinary Scientific GeoConference, Vol. 18, Science and Technologies in Geology, Exploration and Mining: Conference Proceedings, 2. - 8. 7. 2018, Albena, Bulgaria, Sofia: STEF 92 Technology, 2018, ISBN 978-619-7408-36-2, pp. 51 - 58 (in English)

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TURČEK, P.: Durability of Geosynthetics and Their Long - Term Behaviour. In: Geosynthetics 2018: Proceedings from the Seminar, 14. 2. 2018, Bratislava, Slovakia, Spektrum STU, 2018, ISBN 978-80-227-4771-4, pp. 59 - 68 (in Slovak)

TURČEK, P. – SÚLOVSKÁ, M.: Design of an Energy Channel in a Free Path and Supporting the Building. In: Geotechnics 2018, Conference Proceedings of the 16th International Conference, 18. - 19. 10. 2018, Soláň, Czech Republic, Ostrava: Faculty of Civil Engineering VŠB - Technical University of Ostrava, 2018, ISBN 978-80-248-4216-5, p. 6 (in Slovak)

TURČEK, P. – SÚLOVSKÁ, M. – KOPECKÝ, M. – PANUŠKA, J.: Analysis of Remedial Actions Designed to Stabilize a Highway Cut in Landslide Area. In: Foundation Engineering Brno 2017: Proceedings of 45th Conference, 13. - 14. 11. 2017, Brno, Czech Republic, Czech Technical University in Prague, 2018, ISBN 978-80-01-06460-3, pp. 25 - 31 (in English)

TURČEK, P. – SÚLOVSKÁ, M. – DOBROVOLSKÝ, J. – SKYBA, O.: Expected Settlement of a High - Rise Building. In: Foundation Engineering - Brno 2018, 46th Conference with International Participation, 19. - 20. 11. 2018, Brno, Czech Republic, 2018, Prague: Czech Geotechnical Society CSSI, ISBN 978-80-87920-06-0, pp. 117 - 122 (in Slovak)

VYSKOČ, A. – HRUŠTINEC, L.: Lessons Learned from the Realization of a Sheeting Building Pit. In: Foundation of Buildings 2018: Proceedings of Papers from the 20th Conference, Stará Lesná, Slovakia, 10. - 12. 10. 2018, Trnava: Slovak Association of Statics, 2018, ISBN 978-80-89655-12-0, pp. 128 - 139 (in Slovak)

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# DEPARTMENT OF LAND AND WATER RESOURCES MANAGEMENT

Head of Department

Prof. Ing. Ján Szolgay, PhD.

Tel.: +421 2 592 74 498

E-mail: jan.szolgay@stuba.sk

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Computer - Aided Design  
Hydrology  
Dendrology  
Land Consolidation in Landscape Planning  
River Restoration  
Landscape Planning and Management  
Water Resources Management  
Landscape Ecology  
River Training  
Hydraulic and Water Management Structures  
Water Management  
Design Studio Project 1 from Landscape Planning  
Design Studio Project 2 from Landscape Planning  
Biotechnology in Landscape Greenery  
Historical Landscape Structures  
River and Wetlands Restoration  
Design Studio Project 2  
Pedology and Soil Evaluation  
Introduction to the Legislation of Landscaping and Landscape Planning  
Design Studio Project 3  
Project 2  
Landscape Planning and Management  
Diploma Seminar  
Integrated Management of Catchments  
Design Studio Project 1  
GIS in Water Resources Management  
River Basin Management

#### Obligatory elective subjects

Project 1 - Sustainable Use of a Landscape  
Project 2 - Introduction to the Design of Landscape Architecture

Studio Design Project in Water Resources Management  
Mathematical Modelling in Hydrology  
Ponds and Detention Reservoirs  
EIA - Environmental Impact Assessment  
Erosion and Transport Processes in a Landscape  
3D Rendering  
Information Technologies in Landscape Engineering and Hydroinformatics  
Water Management  
Geographic Information Systems  
Flood Risk Management  
Technical and Art Works in Landscapes  
CAD System in Landscape Engineering  
Water Resources Management  
Landscape Water Regime Treatment  
Practical Problems in Flood Protection  
Daa Processing in Environmental Engineering

### 1.2 Postgraduate courses

Dissertation Project 1  
Dissertation Project 2  
Dissertation Project 3  
Dissertation Project 4  
Dissertation Project 5  
Dissertation Project 6  
Dissertation Project 7  
Methodology of Science Work 1  
Methodology of Science Work 2  
Theory and Methodology of Landscape Architecture  
Hydrodynamics of Porous Media  
Hydrology - Selected Chapters  
Landscape Ecology  
River Restoration  
Deterministic Models of Hydrological Processes  
Hydropedology and Soil Assessment  
Landscape Planning  
Systematics of Creative Activities in a Region



Geoinformatics  
 Risk Assessment of Extreme Hydrological Events  
 Basics of the Design of Landscape Structures  
 Restoration of Wetland Ecosystems  
 Soil Water Regime  
 Chapters from Landscape Ecology and Landscape Planning  
 Geoinformatics in Hydrology and Water Management  
 Geostatistical Methods in Hydrology  
 Landscape - Engineering Structures -Selected Chapters  
 Methods and Models of Water Resources Assessments  
 Hydrological Forecasting  
 Methods of Laboratory Research of Hydrodynamics Processes  
 Simulation and Optimisation of Water Resources Systems  
 Stochastic Models of Hydrological Processes

## 2. THESES

### 2.1 Bachelor theses

There were 10 works.

### 2.2 Graduate theses

KUBÁŇ, M.: Parametrization of an HBV Rainfall - Runoff Model in a Changing Climate  
 Supervisor: SZOLGAY, J.

XHAJA, A.: Detection of Changes in Mean Monthly Discharges  
 Supervisor: KOHNOVÁ, S.

RATTAYOVÁ, V.: Proposed Landscape-Engineering Methods for Flood and Erosion Control in the Village of Vrbovce  
 Supervisor: HLAVČOVÁ, K.

JURKÁČEK, T.: Evaluation of Irrigation Systems  
 Supervisor: ČISTÝ, M.

MIKLAŠ, M.: Utilization of Freely Accessible Climatic Databases  
 Supervisor: ČISTÝ, M.

AGÓCSOVÁ, A.: Restoration of the Dead Arm of the Hron River near Rudno nad Hronom  
 Supervisor: ŠKRINÁR, A.

FÜREK, M.: Design of Drip Irrigation in a Greenhouse  
 Supervisor: BAJTEK, Z.

KOŠŤÁL, D.: Diagnostics of Water Soil Conditions  
 Supervisor: BAJTEK, Z.

LAJDA, D.: An Evaluation of Snow Cover Monitoring on an Experimental Mountain Catchment  
 Supervisor: DANÁČOVÁ, M.

STANKO, M.: Assessment of Changes in Land Use in Selected River Basins in Slovakia  
 Supervisor: DANÁČOVÁ, M.

KLČOVÁ, M.: Ecological Stability and Landscape Management in Vrbovce  
 Supervisor: VÝLETA, R.

BRZIAK, A.: Design and Validation of a 3D Printed Tipping-Bucket Rain Gauge  
 Supervisor: VALENT, P.

VAVROVIČ, J.: Restoration of Arms of the Danube in Bratislava  
 Supervisor: ŠTEFUNKOVÁ, Z.

### 2.3 Doctoral theses

LUKÁČ, Z.: Adaptation Plans for a Climate - Resilient Water Utility Operation  
 Supervisor: SZOLGAY, J.

KOTRÍKOVÁ, K.: Evaluation of Changes in the Snow Pack in Slovakia over Recent Decades  
 Supervisor: HLAVČOVÁ, K.

MAJOROŠOVÁ, M.: Invasive Vegetation in Riverbank Vegetation  
 Supervisor: MACURA, V.

## 3. RESEARCH

### 3.1 Research projects

Sensitivity of Flood Generation to Intensive Precipitation and Land Use in Catchment Headwaters (2016-2019, SZOLGAY, J.), Research Project of APVV-15-0497

Impact of Natural Hazards on Forest Ecosystems in Slovakia under the Conditions of a Future Climate (2016-2019, SZOLGAY, J.), Research Project of APVV-15-0425

Analysis of Drought by Multicriterial Statistical Methods and Methods of Data Mining for the Design of Adaptation Measures in a Landscape (2016-2019, ČISTÝ, M.), Research Project of APVV-15-0489

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

Predicted Impact of Climate and Morphological Changes on the Ecosystem of Mountainous Catchments Using Soft-Computing Technologies (2015-2018, MACURA, V.), VEGA 1/0625/15

Analysis of Climate and Hydrological Extremes by Data Mining and Hydroinformatic Methods for Adaptation Measures in a Landscape (2015-2018, ČISTÝ, M.), VEGA 1/0665/15

Parametrization of Rainfall-Runoff Processes for Modelling Extreme Runoff in Small Catchments (2015-2018, KOHNOVÁ, S.), VEGA 1/0710/15

Development of a Method for Assessing the Ecological Potential of Heavily Modified Water Bodies (HMWB) Based on Fish Communities (2017-2021, ŠKRINÁR, A.), APVV-16-0253

Detection and Modelling of Climate Change - Induced Changes in a Hydrometeorological Time Series (2017- 2020, HLAVČOVÁ, K.), VEGA 1/0891/17

Science and Management of Intermittent Rivers and Ephemeral Streams (SMIRES) (2016 – 2020, KOHNOVA S.), CA15113 COST

Climate Change Manipulation Experiments in Terrestrial Ecosystems: Networking and Outreach (2014 - 2018, KOHNOVA S., HLAVČOVÁ, K.), ES1308 COST

Connecting European Connectivity Research (2014 – 2018, HLAVČOVÁ, K.), ES1306 COST

Natural Flood Retention on Private Land (2017 – 2021, KOHNOVA, S., SZOGAY J.), CA16209 COST

Methodology Processing: Processing a Design Flood Wave (ORDER No.: O/2018-1849, 3.12.20108, VALENT, P.)

Preventing and Eliminating the Effects of Soil Erosion, Building Ecostabilization Elements in the Countryside, and Developing Selected Elements of a Green Infrastructure to Protect and Coordinate the Management of Naturally Important Cross-Border Areas. (2017 – 2019, VÝLETA, R.) C996, NFP304020C996 - Interreg

## 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 Thessaly, Volos, Greece

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

### Membership in international professional organizations

SZOLGAY, J: Member of the Editorial Board of the Journal: Water

SZOLGAY, J: Member of the APVV Program Board Supporting the Preparation and Implementation of the Research and Development Projects for the EU Framework Program for Research and Innovation by 2020 - Horizon 2020.

SZOLGAY, J: Member of the Editorial Board of the Journal: Journal of Hydrology and Hydromechanics

SZOLGAY, J: Member of the Editorial Board of the Journal: Sci

SZOLGAY, J: Member of the Editorial Board of the Journal: Meteorology Hydrology and Water Management

SZOLGAY, J: Member of the 3rd International Electronic Conference on Water Sciences

SZOLGAY, J: Chairman of the Catchment and River Processes in Regional Hydrology: Field Experiments and Modelling in Carpathians Basins, 6th International Conference 2018

SZOLGAY, J: Member of the EGU General Assembly, Vienna 2018, Session BG2.24/HS10.13 Climate and Hydrological Factors Influencing the Resilience of Forests

SZOLGAY, J: Member of the EGU General Assembly Vienna 2018, HS2.1.1 Hydrological Extremes: from Droughts to Floods

SZOLGAY, J.: Member of TK 64 Hydrology and Meteorology

SZOLGAY, J: National Representative of the Slovak Republic at ICWRS - International Commission on Water Resources Systems of the International Hydrological Sciences Association

SZOLGAY, J: Vice-Chairman of the Slovak National Committee of IUGG

SZOLGAY, J: Member of the International Advisory Body of the National Research Program in Water Resources of Hungary

SZOLGAY, J: National Representative of the Slovak Republic in the International Hydrological Sciences Association IAHS

SZOLGAY, J: Member of the Expert Committee of UNESCO Member Countries for the Preparation of the 9th Phase of the UNESCO International Hydrological Program

SZOLGAY, J: Committee of the X. Scientific Conference with International Participation: Impact of Anthropogenic Activity on the Water Regime of a Lowland Territory, Zemplínska Šírava 22-24.5. 2018.

SZOLGAY, J: Expert Guarantor: <http://www.cvtvhs.cz/index.php/8-clanky/50-seminar-adolfa-patery-2018-uloha-nadrzi-a-dalsich-opatreni-pri-zvladani-extremnich-hydrologickych-phenomenon-in-basins>

SZOLGAY, J: Member of the Editorial Board of the Journal: Contribution to Geodesy and Geophysics

SZOLGAY, J: Member of the Hidrologiai Kozlony

SZOLGAY, J: Member of the Editorial Board of the Journal of Hydrological Science and Technology

SZOLGAY, J: Member of the Editorial Board of the Journal of European Water

SZOLGAY, J: Member of the Editorial Board of the Slovak Journal of Civil Engineering

SZOLGAY, J: Member of the Subdivision on Catchment Hydrology of the EGU

KOHNNOVÁ, S.: Member of the Editorial Board of the Journal: Scientific Review Engineering and Environmental Sciences

KOHNNOVÁ, S.: Member of the Editorial Board of the Journal: ACTA Hydrologica Slovaca

KOHNNOVÁ, S.: External Expert of Working Group 5.-Floods at the Ministry of the Environment of the Slovak Republic

KOHNNOVÁ, S.: Member of the Working Group on Water Safety during Floods, Ministry of the Environment of the Slovak Republic

KOHNNOVÁ, S.: Member of TNK Hydrology

KOHNNOVÁ, S.: Member of the Understanding Flood Changes, Pantha Rei Change in Hydrology and Society Project

KOHNNOVÁ, S.: Member of Flood Research Consortium

KOHNNOVÁ, S.: Water Training Coordinator for the Sustainable Water Management Program within the Baltic University Program

KOHNNOVÁ, S: Member of the Editorial Board of the Austin Journal of Hydrology

HLAVČOVÁ, K.: Member of the Slovak Ramsar Committee - Advisory Body of the MoE SR

HLAVČOVÁ, K.: Member of TK Hydrotechnics and Melioration

HLAVČOVÁ, K.: Member of the Editorial Board of the Journal: Slovak Journal of Civil Engineering

HLAVČOVÁ, K.: Chairman of the Commission VEGA No. 2 for Earth and Space Sciences

MACURA, V.: Member of the Editorial Board of the Journal: Acta Horticulturae at Regiotecturae

MACURA, V.: Member of the Normalization Commission of Hydrotechnics

ČISTÝ, M.: Member of Committee of TK 2 - Hydrotechnics and Melioration

## 4. PUBLICATIONS

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DANÁČOVÁ, M. - DANÁČOVÁ, Z. - VÝLETA, R. - SZOLGAY, J.: Education in the Field - Hydrological Section: Methods to Determine Flow in Open Channels. Bratislava: Spektrum STU, 2018. 122 pp. ISBN 978-80-227-4881-0.

VÝLETA, R. - KOHNNOVÁ, S. - VALENT, P.: Solving Hydrology Tasks I: River Basin, Precipitation, Flow and Hydrological Balance. Bratislava: Spektrum STU, 2018. 81 pp. ISBN 978-80-227-4887-2.

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# DEPARTMENT OF HYDRAULIC ENGINEERING

Head of Department

Prof. Ing. Peter Dušička, PhD.

Tel.: +421 2 592 74 565

Fax: +421 2 592 74 619

E-mail: peter.dusicka@stuba.sk

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Basics of River Hydraulics  
Biocorridors and EIA  
Energy Utilization of Water Sources  
Flood Protection and Energy Utilization of Reservoirs  
Flow of Liquids  
Groundwater Hydraulics  
Hydraulic Structures  
Hydraulic Structures on Land  
Hydraulics  
Hydrodynamics of a Porous Environment  
Hydroinformatics  
Hydromechanics  
Project 1  
Project 2  
Project 3  
Structures for the Protection and Utilization of Land  
Studio Work – Hydraulic Engineering  
Utilization of Water Power  
Waterways  
Weir Structures  
Weirs and Waterways

#### Obligatory elective subjects

Biocorridors and Fish Passes  
CAD Systems in Land Planning  
Computer Design Support in Hydraulic Engineering  
Flood Hydraulics and GIS Mapping  
Hydroinformatics  
Management of Water Management  
Mathematical Modelling in Water Management  
Operational Management of Hydraulic Structures

Operation of Hydropower Plants  
Planning and Constructing Water Structures  
Practical Problems in Flood Protection  
Project 1  
Small Hydropower Plants  
Software Applications in Hydraulics  
Water Management Structures  
Water Structures

#### Optional subjects

CAD in Hydraulic Structures  
Computer Design Support in Hydraulic Engineering  
Small Hydropower Plants

### 1.2 Postgraduate courses

Advanced Issues of Hydraulic Structures  
Fluid Mechanics  
Hydropower Systems  
Physical Modelling of Hydrodynamic Phenomena

## 2. THESES

### 2.1 Bachelor theses

There were 3 works.

### 2.2 Graduate theses

BULÍN, M.: Design of Small Hydropower Plant with Archimedean Screw  
Supervisor: DUŠIČKA, P.

BYTČANKOVÁ, L.: Assessment of the Flow in the Intake Structure of the Small Stará Lubovňa Hydropower Plant  
Supervisor: RUMANN, J.

FERENČÍK, P.: Analysis of the Reconstruction of the Fish Pass at the Small Prešov Hydropower Plant  
Supervisor: ČUBANOVÁ, L.

HUDEC, M.: Analysis of the Existing Fish Pass on a Water Structure and Variant Proposal to Improve Its Functionality

Supervisor: ČUBANOVÁ, L.

RÁZGOVÁ, M.: Design of a Small Hydropower Plant

Supervisor: ŠULEK, P.

ŠČASNÝ, P.: Simulation of Water Flow Near Water Structures

Supervisor: ORFÁNUS, M.

ŽIVČICOVÁ, K.: Proposed Flood Protection Measures in the River Basin of the Lukavica Stream

Supervisor: ŠOLTÉSZ, A.

## 2.3 Doctoral theses

KINCZER, T.: Optimisation of the Operation of Regulatory Hydropower Plants Using Heuristic Methods

Supervisor: ŠULEK, P.

## 3. RESEARCH

### 3.1 Research projects

New Possibilities for the Use of a Canal Drainage System, Taking into Account the Protection and Use of a Landscape  
(2015–2019, ŠOLTÉSZ, A.), APVV-14-0735

New Possibilities for the Utilization of Methods of Mathematical and Physical Modelling in Hydrodynamics Education  
(2017-2019, ŠOLTÉSZ, A.), KEGA 053STU-4/2017

Optimization of the Flood Protection of Municipalities in River Basins of Mountain Streams  
(2017-2020, ŠOLTÉSZ, A.), VEGA 1/0800/17

Use of Hydromelioration Structures for Mitigation of the Effects of Extreme Negative Hydrological Phenomena and Their Impact on the Quality of Water Bodies in Agricultural Landscapes  
(2017-2021, ŠOLTÉSZ, A.), APVV-16-0278

Optimizing Hydropower Operations Using Hybrid Optimization Methods  
(2017-2019, ŠULEK, P.), VEGA 1/0361/17

### 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

DUŠIČKA, P.: KUVOZE - Chamber of End Users and Producers of Renewable Energy Sources – Expert Section

MOŽIEŠIK, L.: Slovak Navigational Congress – Member of the PIANC Chair

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 Groundwater Workgroup

## 4. PUBLICATIONS

### Journals

ČERVEŇANSKÁ, M. – JANÍK, A. – BAROKOVÁ, D.: Infiltration Experiments: Realization and Evaluation. In: Pollack Periodica. Vol. 13, No. 1 (2018), pp. 137-144. ISSN 1788-1994 (in English)

ČUBANOVÁ, L.: Possibilities of the Fish Pass Restoration. In: SSP - Journal of Civil Engineering. Vol. 13, No: 1 (2018), pp. 29-36. ISSN 1338-9024 (in English)

ČUBANOVÁ, L. – DUŠIČKA, P.: Revitalization and Restoration of Existing Fish Passes as Response to the Commitment to EU. In: Journal of Landscape Management. Vol. 9, no. 1 (2018), pp. 12-16. ISSN 1804-2821 (in English)

ČUBANOVÁ, L. – RUMANN, J.: Field Research of Fish Pass - Case Study Žilina Water Structure. In: Journal of Landscape Management. Vol. 9, no. 2 (2018), pp. 11-15. ISSN 1804-2821 (in English)

KNEZEVIC, M. – CVETKOVSKA, M. – HANÁK, T. – BRAGANCA, L. – ŠOLTÉSZ, A.: Artificial Neural Networks and Fuzzy Neural Networks for Solving Civil Engineering Problems. In: Complexity. Vol. 2018, (2018), online, [2] pp., article ID 8149650. ISSN 1076-2787 (in English)

ORFÁNUS, M. – DUŠIČKA, P. – MOŽIEŠIK, L. – RUMANN, J.: Analysis of Navigation on Typical Corridor on Lower Váh Using the CFD Tools. In: Journal of Landscape Management. Vol. 9, no. 1 (2018), pp. 54-58. ISSN 1804-2821 (in English)

RONČÁK, P. – RUMANN, J. – HLAVČOVÁ, K. – SZOLGAY, J.: Impacts of Climate Change on the Use of the Hydropower Potential in Selected River Basins in Slovakia. In: Czech Journal of Civil Engineering. Vol. 4, No: 1 (2018), online, pp. 78-84. ISSN 2336-7148 (in Slovak)

SHENGA, Z. D. – BAROKOVÁ, D. – ŠOLTÉSZ, A.: Modeling of Groundwater Extraction from Wells to Control Excessive Water Levels. In: Pollack Periodica. Vol. 13, No. 1 (2018), pp. 125-136. ISSN 1788-1994 (in English)

SHENGA, Z. D. – BAROKOVÁ, D. – ŠOLTÉSZ, A.: Numerical Modeling of Groundwater to Assess the Impact of Proposed Railway Construction on Groundwater Regime. In: Pollack Periodica. Vol. 13, no. 3 (2018), pp. 187-196. ISSN 1788-1994 (in English)



SHENGA, Z. D. – BAROKOVÁ, D. – ŠOLTÉSZ, A.: Numerical Modelling of Groundwater Extraction System to Control Excessive Water Level. In: Acta Hydrologica Slovaca. Vol. 19, No: 1 (2018), pp. 109-116. ISSN 1335-6291 (in English)

ŠOLTÉSZ, A. – BAROKOVÁ, D. – ČUBANOVÁ, L. – MOŽIEŠIKOVÁ, K.: Changes in the Groundwater Level Regime According to River Training. In: Journal of Landscape Management. Vol. 9, no. 1 (2018), pp. 59-63. ISSN 1804-2821 (in English)

ŠOLTÉSZ, A. – ČUBANOVÁ, L. – JANÍK, A. – BAROKOVÁ, D.: Flood Protection Measures to Protect Urban Areas. In: Acta Hydrologica Slovaca. Vol. 19, No: 2 (2018), pp. 296-303. ISSN 1335-6291 (in English)

ŠULEK, P. – KINCZER, T.: Optimization of Operation of the Gabčíkovo Project. In: Journal of Landscape Management. Vol. 9, No. 2 (2018), pp. 47-55. ISSN 1804-2821 (in English)

## Conference Proceedings

BAROKOVÁ, D. – SHENGA, Z. D. – ŠOLTÉSZ, A.: Effect of Q1000 on the Drainage System for the Reduction of Groundwater in the Nitra Industrial Park. In: Vplyv antropogénnej činnosti na vodný režim nížinného územia: zborník recenzovaných príspevkov z X. vedeckej konferencie s medzinárodnou účasťou. Zemplínska šírava, SR, 22. - 24. 5. 2018 = Effect of Anthropogenic Activities on the Water Regime of a Lowland Territory, Proceedings of Peer-reviewed Contributions. 1. ed. Bratislava: Ústav hydrologie SAV, 2018, USB key, pp. 34-51. ISBN 978-80-89139-41-5 (in Slovak)

BUČEK, D. – ORFÁNUS, M. – DUŠIČKA, P.: Comparison of Uncertainty Analysis Methods on Numerical Hydrodynamic Model. In: Colloquium on Landscape Management 2018: conference proceedings. Brno, 7 Dec. 2018. 1. ed. Brno: Mendel University in Brno, 2018, CD-ROM, pp. 3-10. ISBN 978-80-2631-520-9 (in English)

BUČEK, D.: Application of Uncertainty Analysis Methods in Numerical Hydrodynamic Modeling. In: Advances in Architectural, Civil and Environmental Engineering: 28th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Building Technology, Geodesy and Cartography, Landscaping, Theory and Environmental Technology of Buildings, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Water Resources Engineering. 24 Oct. 2018, Bratislava. 1. ed. Bratislava: Spektrum STU, 2018, CD-ROM, pp. 422-428. ISBN 978-80-227-4864-3 (in Slovak)

BYTČANKOVÁ, L. – RUMANN, J.: Analyzing the Impact of Intake Structure Design During a Simultaneous Operation of Turbines of a Low Pressure SHPPP. In: Colloquium on Landscape Management 2018: conference proceedings. Brno, 7 Dec. 2018. 1. ed. Brno: Mendel University in Brno, 2018, CD-ROM, pp. 25-31. ISBN 978-80-2631-520-9 (in English)

ČERVENĀNSKÁ, M. – ŽIVČICOVÁ, K. – MYDLA, J. – ŠOLTÉSZ, A. – BUČEK, D.: Design of the Water Retention Measures on the Trnávka River in a Residential Area in the Town of Trnava. In: Vplyv antropogénnej činnosti na vodný režim nížinného územia: zborník recenzovaných príspevkov z X. vedeckej konferencie s medzinárodnou účasťou. Zemplínska šírava, SR,

22. - 24. 5. 2018 = Effect of Anthropogenic Activities on the Water Regime of a Lowland Territory, Proceedings of Peer-reviewed Contributions. 1. ed. Bratislava: Ústav hydrologie SAV, 2018, USB key, pp. 52-59. ISBN 978-80-89139-41-5 (in Slovak)

ČUBANOVÁ, L. – ŠOLTÉSZ, A. – JANÍK, A.: Hydrological-hydraulic Assessment of Existing Flood Protection Measures. In: Book of Abstracts for the 14th Miklós Iványi International PhD & DLA Symposium: Architectural, Engineering and Information Sciences. Hungary, Pécs, 29-30 Oct. 2018. Pécs: Pollack Press, 2018, USB key, [1] pp. ISBN 978-963-429-284-5 (in English)

HRUDKA, J. – ČERVENĀNSKÁ, M. – RUSNÁK, D. – STANKO, Š.: Analysis of Surface Runoff and Effectiveness of Sewerage Network in the Urban Area. In: SGEM 2018. 18th International Multidisciplinary Scientific GeoConference. Vol. 18. Water Resources, Forest, Marine and Ocean Ecosystems: Conference Proceedings. Albena, Bulgaria, 2 - 8 July 2018. 1. ed. Sofia: STEF 92 Technology, 2018, pp. 39-45. ISSN 1314-2704. ISBN 978-619-7408-42-3 (in English)

JANÍK, A. – ŠOLTÉSZ, A. – ČUBANOVÁ, L.: Hydraulic Analysis of the Flood Protection in Bardejov, Slovakia. In: Book of Abstracts for the 14th Miklós Iványi International PhD & DLA Symposium: Architectural, Engineering and Information Sciences. Hungary, Pécs, 29-30 Oct. 2018. Pécs: Pollack Press, 2018, USB key, [1] pp. ISBN 978-963-429-284-5 (in English)

JANÍK, A.: Study of the Flood Protection Measures of the Village of Veľká Lúka. In: Zborník súťažných prác mladých odborníkov 2018: Bratislava, 8. Nov. 2018. 1. ed. Bratislava: Slovenský hydrometeorologický ústav, 2018, CD-ROM, [12] pp. ISBN 978-80-88907-98-5 (in Slovak)

JANÍK, A.: The Impact of the Length and Shape of a Culvert on the Mitigation of a Flood Wave. In: Advances in Architectural, Civil and Environmental Engineering: 28th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Building Technology, Geodesy and Cartography, Landscaping, Theory and Environmental Technology of Buildings, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Water Resources Engineering. 24 Oct. 2018, Bratislava. 1. ed. Bratislava: Spektrum STU, 2018, CD-ROM, pp. 456-463. ISBN 978-80-227-4864-3 (in Slovak)

PAVLÍKOVÁ, A.: Assessment of the Foundation of the VD Selice Lock-Chamber. In: Juniorstav 2018: sborník příspěvků. 20. odborná konference doktorského studia. Brno, ČR, 25. 1. 2018 = Juniorstav 2018, Proceedings of the 20th International Conference of Ph.D. Students. 1. ed. Brno: ECON Publishing, 2018, USB key, pp. 825-832. ISBN 978-80-86433-69-1 (in Slovak)

PAVLÍKOVÁ, A.: Design of Navigational Hydraulic Structures. In: Colloquium on Landscape Management 2018: Conference Proceedings. Brno, 7 Dec. 2018. 1. ed. Brno: Mendel University in Brno, 2018, CD-ROM, pp. 32-36. ISBN 978-80-2631-520-9 (in English)

PAVLÍKOVÁ, A.: Optimization of the Design of Hydraulic Navigational Structures with Regard to Navigational Safety. In: Advances in Architectural, Civil and Environmental Engineering: 28th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Building Technology, Geodesy

and Cartography, Landscaping, Theory and Environmental Technology of Buildings, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Water Resources Engineering. 24 Oct. 2018, Bratislava. 1. ed. Bratislava: Spektrum STU, 2018, CD-ROM, pp. 499-509. ISBN 978-80-227-4864-3 (in Slovak)

RONČÁK, P. – RUMANN, J. – HLAVČOVÁ, K. – SZOLGAY, J.: Impact of Climate Change on the Hydropower Potential in the Selected River Basins in Slovakia. In: SGEM 2018. 18th International Multidisciplinary Scientific GeoConference. Vol. 18. Water Resources. Forest, Marine and Ocean Ecosystems: conference proceedings. Albena, Bulgaria, 2 - 8 July 2018. 1. ed. Sofia: STEF 92 Technology, 2018, pp. 399-406. ISSN 1314-2704. ISBN 978-619-7408-42-3 (in English)

RUMANN, J. – TVRDOŇ, M. – DUŠIČKA, P. – ŠULEK, P.: Experimental Study on Flow Conditions at Inclined Self-cleaning Screenings. In: Hydroturbo 2018: zborník článkov z medzinárodnej konferencie o vodnej energetike. Bratislava, SR, 25. - 27. 9. 2018. 1. ed. Bratislava: Slovenská technická univerzita v Bratislave, 2018, USB key, pp. 363-370. ISBN 978-80-227-4829-2 (in English)

SHENGA, Z. D.: Potential Impacts of Building Constructions on Groundwater. In: Advances in Architectural, Civil and Environmental Engineering: 28th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Building Technology, Geodesy and Cartography, Landscaping, Theory and Environmental Technology of Buildings, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Water Resources Engineering. 24 Oct. 2018, Bratislava. 1. ed. Bratislava: Spektrum STU, 2018, CD-ROM, pp. 510-515. ISBN 978-80-227-4864-3 (in English)

SHENGA, Z. D.: Impacts of High-rise Buildings on Groundwater Level. In Colloquium on Landscape Management 2018: Conference Proceedings. Brno, 7 Dec. 2018. 1. ed. Brno: Mendel University in Brno, 2018, CD-ROM, pp. 37-41. ISBN 978-80-2631-520-9 (in English)

ŠOLTÉSZ, A. – ČUBANOVÁ, L. – ORFÁNUS, M.: Possibilities for the Revitalisation of the Water Bodies in the East Slovak Lowlands by the Existing Channel System. In: Vplyv antropogénnej činnosti na vodný režim nížinného územia: zborník recenzovaných príspevkov z X. vedeckej konferencie s medzinárodnou účasťou. Zemplínska šírava, SR, 22. - 24. 5. 2018 = Effect of Anthropogenic Activities on the Water Regime of a Lowland Territory, Proceedings of Peer-reviewed Contributions. 1. ed. Bratislava: Ústav hydrologie SAV, 2018, USB key, pp. 274-280. ISBN 978-80-89139-41-5 (in Slovak)

ŠOLTÉSZ, A. – JANÍK, A. – ČUBANOVÁ, L.: Analysis of the Flood Protection of the Town of Bardejov. In: Vplyv antropogénnej činnosti na vodný režim nížinného územia: zborník recenzovaných príspevkov z X. vedeckej konferencie s medzinárodnou účasťou. Zemplínska šírava, SR, 22. - 24. 5. 2018 = Effect of Anthropogenic Activities on the Water Regime of a Lowland Territory, Proceedings of Peer-reviewed Contributions. 1. ed. Bratislava: Ústav hydrologie SAV, 2018, USB key, pp. 281-289. ISBN 978-80-89139-41-5 (in Slovak)

ŠOLTÉSZ, A. – ČUBANOVÁ, L. – JANÍK, A. – BAROKOVÁ, D.: Design of Flood Protection for Municipalities in Various Hydrological Conditions. In: XXXVI. Priehradné dni 2018: zborník príspevkov. Bratislava, SR, 24. - 26. 10. 2018. 1. ed. Bratislava: Slovenský vodohospodársky podnik, 2018, USB key, pp. 284-293. ISBN 978-80-570-0381-6 (in Slovak)

ŠOLTÉSZ, A. – BAROKOVÁ, D. – MOŽIEŠIKOVÁ, K. – ČUBANOVÁ, L.: Detailed Analysis of the Possible Impact of Surface Stream Training on the Groundwater Level Regime. In: SGEM 2018. 18th International Multidisciplinary Scientific GeoConference. Vol. 18. Science and Technologies in Geology, Exploration and Mining: conference proceedings. Albena, Bulgaria, 2 - 8 July 2018. 1. ed. Sofia: STEF 92 Technology, 2018, pp. 199-206. ISSN 1314-2704. ISBN 978-619-7408-36-2 (in English)

ŠULEK, P. – MOŽIEŠIK, L. – KINCZER, T.: Expert System for the Navigational and Energy Operation of the Gabčíkovo Hydropowerplant. In: Hydroturbo 2018: zborník článkov z medzinárodnej konferencie o vodnej energetike. Bratislava, SR, 25. - 27. 9. 2018. 1. ed. Bratislava: Slovenská technická univerzita v Bratislave, 2018, USB key, pp. 356-362. ISBN 978-80-227-4829-2 (in Slovak)

ŠULEK, P. – MOŽIEŠIK, L. – KINCZER, T.: Expert Control System of Shipping Operations at the Gabčíkovo Project. In: XXXVI. Priehradné dni 2018: zborník príspevkov. Bratislava, SR, 24. - 26. 10. 2018. 1. ed. Bratislava: Slovenský vodohospodársky podnik, 2018, USB key, pp. 170-183. ISBN 978-80-570-0381-6 (in Slovak)

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# DEPARTMENT OF BUILDING CONSTRUCTION

Head of Department

Prof. Ing. Boris Bielek, PhD.

Tel.: +421 2 592 74 642

Fax: +421 2 529 20 482

E-mail: boris.bielek@stuba.sk

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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 Energy and Environmental Simulations  
Building Energy and Indoor Environment Simulations  
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  
Renovation and Protection of Historic Buildings  
Selected Essays from Building Constructions  
Thermal Performance of Buildings

## 2. THESES

### 2.1 Bachelor theses

There were 101 works.

### 2.2 Graduate theses

JAVORSKÁ, K.: City Library  
Supervisor: BIELEK, B.

KLEM, J.: Car Showroom and Vehicle Service  
Supervisor: BIELEK, B.

GRICH, K.: Health Center  
Supervisor: BUDAY, P.

PEKAROVÁ, D.: Hotel  
Supervisor: BUDAY, P.

TOMÁŠ, T.: Airport Control Panel  
Supervisor: BUDAY, P.

BUDZÁK, M.: A Hostel with a Gas Station  
Supervisor: DLHÝ, D.

HYKA, A.: An Exhibition Hall  
Supervisor: DLHÝ, D.

KOŇAK, T.: Brewery with a Restaurant  
Supervisor: DLHÝ, D.

BOHUNICKÝ, R.: Sports Centre  
Supervisor: HANULIAK, P.

FRANEK, L.: Regional Airport  
Supervisor: HANULIAK, P.

KRIŠTOFÍK, A.: City Theatre  
Supervisor: HANULIAK, P.

JURČO, M.: Library  
Supervisor: Hartman, P.

ČERVENCOVÁ, P.: University Library  
Supervisor: HRAŠKA, J.

LENHARTOVÁ, K.: Kindergarten  
Supervisor: HRAŠKA, J.

CHABADA, P.: Crematorium  
Supervisor: CHMELÍK, V.

TKÁČOVÁ, L.: Dance School  
Supervisor: CHMELÍK, V.

KYSELICA, M.: Hotel  
Supervisor: CHMÚRNÝ, I.

KRIŽANOVÁ, S.: Reconstruction of a Public Building  
Supervisor: INGELI, R.

RUSIŇÁK, K.: Bowling Center  
Supervisor: INGELI, R.

BALKOVÁ, Z.: Car Showroom Building  
Supervisor: INGELI, R.

BONDRA, T.: Mountain Cottage  
Supervisor: JAKEŠ, E.

TIBENSKÝ, A.: Devín Amphitheater  
Supervisor: JAKEŠ, E.

KUBALOVÁ, D.: Office Building  
Supervisor: JAMNICKÝ, M.

TATLJAK, M.-A.: Apartment Hotel  
Supervisor: JAMNICKÝ, M.

CHOVANCOVÁ, D.: Hospital with a Health Center  
Supervisor: MAŇKOVÁ, L.

JURKO, M.: Elementary School  
Supervisor: MAŇKOVÁ, L.

MENYHÉRT, K.: Sport Hall  
Supervisor: MAŇKOVÁ, L.

BARTOŠEK, L.: Training Center for Service Dogs  
Supervisor: MIKOLAI, I.

KOČNEROVÁ, L.: Center for Zoo Therapy  
Supervisor: MIKOLAI, I.

HUDÁKOVÁ, A.: Fire Brigade Type III  
Supervisor: MIKOLAI, I.

KOLEŇ, V.: Retirement Home  
Supervisor: MINAROVIČOVÁ, K.

UHRINA, L.: Technical Museum  
Supervisor: MINAROVIČOVÁ, K.

KRONKOVÁ, A.: Central Integrated Fire and Rescue Station in a Certain Area  
Supervisor: OLBRÍMEK, J.

KOCOUREK, M.: Family Brewery with Accommodations  
Supervisor: PALKO, M.

NOVYSEDLÁKOVÁ, L.: Office Building with Accommodations  
Supervisor: PALKO, M.

ADAMOVI, V.: Office Building  
Supervisor: PALKO, M.

RUSKOVÁ, J.: Library  
Supervisor: PALKOVÁ, A.

SÚKENIKOVÁ, S.: Kindergarten  
Supervisor: PALKOVÁ, A.

GRÓFOVÁ, V.: Hotel  
Supervisor: PALKOVÁ, A.

BUBLÁKOVÁ, B.: Cultural Center  
Supervisor: PUŠKÁR, A.

VODILYÁK, F.: Sport & Rehabilitation Center  
Supervisor: PUŠKÁR, A.

SOLČIANSKA, J.: Education Center  
Supervisor: PUŠKÁR, A.

SPUSTA, T.: Kindergarten in a Passive Energy Standard  
Supervisor: RABENSEIFER, R.

ŠČEPKOVÁ, E.: Municipal Library  
Supervisor: RABENSEIFER, R.

DŽÍBELA, M.: Administrative Complex  
Supervisor: RABENSEIFER, R.

BUCKULČÍK, M.: House for Social Services  
Supervisor: VARGOVÁ, A.

DEMETROVIČOVÁ, V.: Community Center  
Supervisor: VARGOVÁ, A.

PONGRÁČZ, B.: Winery  
Supervisor: VARGOVÁ, A.

HOMOLA, M.: Office Building  
Supervisor: VAVROVIČ, B.

HOSPODÁR, D.: Hotel  
Supervisor: VAVROVIČ, B.

BAKALÁR, P.: Tv Studio  
Supervisor: ŽILINSKÝ, J.

POLÁČIKOVÁ, D.: Primary School  
Supervisor: ŽILINSKÝ, J.

KISS, T.: Hotel  
Supervisor: ŽILINSKÝ, J.

## 2.3 Doctoral theses

ZELEM, L.: Assessment and Prediction of Acoustic Comfort in Restaurants  
Supervisor: RYCHTÁRIKOVÁ, M.

## 3. RESEARCH

### 3.1 Research projects

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, OLBRÍMEK, J.) COST Action FP1404

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 Innovations in Building Acoustics – Papabuild (MSCA - 690970)  
(2016-2020, CHMELÍK, V.) H2020: Excellence: Action Marie Skłodowska-Curie (MSCA)

Thermal Performance of Nearly Zero-Energy Buildings (nZEB)  
(2016-2018 CHMÚRNÝ, I.) VEGA 1/0087/16

Optimisation of the Physical Issues of Window Designs for the Energy Standards of Buildings After 2020  
(2016-2018 PALKO, M.) VEGA 1/0685/16

Strategic Role of Renewable Energy Sources in a Project Involving a Strategy in the Design of Building Technology for Green and Sustainable Architecture  
(2016-2018 BIELEK, B.) VEGA 1/0067/16

ACE – Acoustic Course for Engineers  
(2016-2018, VARGOVÁ, A.) ERASMUS+KA2

Designs for Noise-Reducing Materials and Structures (DENORMS)  
(2016-2020, RYCHTÁRIKOVÁ, M., CHMELÍK, V.) COST Action CA15125

Photovoltaic Facades of Buildings with Almost Zero Energy Needs  
(2018-2020, HRAŠKA, J.) VEGA1/0050/18

Facade Techniques of Buildings with a Multi-Level Utilization of Renewable Energy Resources for Sustainable Architecture (APVV-16-0126)  
(2017-2021, BIELEK, B.) APVV – General Call

InStep - International Sustainable Engineering Practices  
(2017-2021, RABENSEIFER, R.) ID – 21810098, Visegrad Fund  
Research on Roofing with a Heat Exchanger with Integrated Functions  
(2018-2021, PUŠKÁR, A.) APVV-17-0580

## 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

CHMÚRNÝ, I.: ISO TC 163 Thermal Insulation, CEN TC 89 Thermal Performance of Buildings - representative of the Slovak Republic (SÚTN BA)

OLBŘÍMEK, J.: CEN TC 127 WG 05 Roof, CEN/TC 250/SC 1/WG 4 Actions on Structures Exposed to Fire - representative of the Slovak Republic

RABENSEIFER, R., HRAŠKA, J.: IBPSA - International Building Performance Simulation Association

RABENSEIFER, R.: International Association of Building Physics

RYCHTÁRIKOVÁ, M., CHMELÍK, V., SZABÓ, D., ZELEM, L.: EAA - European Acoustic Association

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

## 4. PUBLICATIONS

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PALKO, M. – PALKOVÁ, A.: Window research - laboratory measurements. 1. ed. Brno: CERM, 2018. CD-ROM, 112 pp. ISBN 978-80-7204-996-7 (in English)

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ŽILINSKÝ, J. – ADAMSKÁ, G. – MIKLÓŠIOVÁ, T.: Building Construction: Underground Engineering. 1. ed. Bratislava: Spektrum STU, 2018. CD-ROM, 102 pp. Ed. of textbooks. Available on the internet: <[https://www.svf.stuba.sk/sk/dokumenty/edicna-cinnost/skripta.html?page\\_id=1801](https://www.svf.stuba.sk/sk/dokumenty/edicna-cinnost/skripta.html?page_id=1801)>. ISBN 978-80-227-4866-7 (in Slovak)

ŽILINSKÝ, J. – GIECIOVÁ, M.: Building Construction: Stairs. 1. ed. Bratislava: Spektrum STU, 2018. CD-ROM, 93 pp. Edition of textbooks. Available on the internet: <[https://www.svf.stuba.sk/sk/dokumenty/edicna-cinnost/skripta.html?page\\_id=1801](https://www.svf.stuba.sk/sk/dokumenty/edicna-cinnost/skripta.html?page_id=1801)>. ISBN 978-80-227-4867-4 (in Slovak)

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BLAŽO, A. - PALKO, M.: Current and new trends in window glazing systems. In: APABD 2018: book of selected peer-reviewed papers from International Conference on Architectural and Physical Aspects of Building Design. June 25, 2018, Mikulov, Czech Republic. 1st ed. Brno: VUT - Brno University of Technology, 2018, CD-ROM, pp. 70-74. ISBN 978-80-7204-999-8 (in English)

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BOHUNICKÝ, B. - PALKO, M.: Modeling terrain categories in boundary layer wind tunnel. In: Juniorstav 2018: proceedings of the 20th professional conference of PhD study. Brno, ČR, 25. 1. 2018. 1st ed. Brno: ECON Publishing, 2018, USB key, pp. 49-54. ISBN 978-80-86433-69-1 (in English)

BOHUNICKÝ, B. - PALKO, M.: Designing reversible construction for modeling terrain categories in boundary layer wind tunnel in Bratislava. In: APABD 2018: book of selected peer-reviewed papers from International Conference on Architectural and Physical Aspects of Building Design. June 25, 2018, Mikulov, Czech Republic. 1st ed. Brno: VUT - Brno University of Technology, 2018, CD-ROM, pp. 75-80. ISBN 978-80-7204-999-8 (in English)

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# DEPARTMENT OF STEEL AND TIMBER STRUCTURES

Head of Department

Assoc. Prof. Rudolf Ároch, PhD.

Tel.: +421 2 592 74 377

E-mail: rudolf.aroch@stuba.sk

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Load-Bearing Metal Elements

Timber Elements and Structures

Load-Bearing Metal and Timber Elements

Load-Bearing Steel and Timber Systems

Metal and Timber Structures

Steel, Timber and Glass in Load-Bearing Structures

Steel Structures and Bridges

Special Problems of Steel and Timber Structures

Metal Bridges

High-Rise and Long-Span Structures

Composite Structures

Stability and Plasticity of Steel and Timber Structures

#### 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 4 works.

### 2.2 Graduate theses

CSÖLLE, A.: Sport Hall

Supervisor: SLIVANSKÝ, M.

FEHÉROVÁ, K.: Structural Design of the Roof Structure of a Railway Station in Bratislava

Supervisor: BRODNIANSKY, J.

CHLPEK, A.: Footbridge over the Nosický Water Channel

Supervisor: ŠTUJBEROVÁ, M.

KOLENČÍK, R.: Sightseeing Tower at the Orava and Kysuce Border

Supervisor: BRODNIANSKY, J.

MAXIAN, P.: Sport Hall in Šaštín

Supervisor: SANDANUS, J.

NEUSCH, M.: Hospital with a Timber Structure

Supervisor: SANDANUS, J.

NIŽŇANSKÝ, L.: Design of a Multistorey Building

Supervisor: ŠTUJBEROVÁ, M.

NOVÁK, T.: Sightseeing Tower at Skalka

Supervisor: SANDANUS, J.

ONDRISKA, P.: Automobile Showroom in Bratislava

Supervisor: MAGURA, M.

ONDRUŠKOVÁ, L.: Airplane Hangar in Piešťany

Supervisor: MAGURA, M.

PETRÍK, A.: Design of Winter Stadium Steel Structure

Supervisor: ŠTUJBEROVÁ, M.

POLÁKOVÁ, V.: Design of Airplane Hangar Steel Structure

Supervisor: ŠTUJBEROVÁ, M.

ŠEBÍK, J.: Footbridge in Horné Srnie

Supervisor: SLIVANSKÝ, M.

ŠTECÁK, R.: Footbridge over the Dunaj River

Supervisor: BRODNIANSKY, J.

ZÁBOJNÍKOVÁ, B.: Design of Atypically Shaped Footbridge

Supervisor: BRODNIANSKY, J.

## 2.3 Doctoral theses

KAMENICKÁ, Z.: Special Problems with the Evaluation of the Fire Resistance of Timber Structures  
Supervisor: SANDANUS, J.

## 3. RESEARCH

### 3.1 Research projects

Safety and Reliability of Modern Load-Bearing Elements Made of Metal, Glass and Membranes  
(2016–2018, BRODNIANSKY, J.), VEGA 1/0747/16

Innovative Joints of Steel and Timber Structures in Combination with Concrete  
(2018–2020, ÁROCH, R.), VEGA 1/0773/18

Steel Sculpture – Innovative Didactic Tool for Students with a Technical Specialization  
(2017 ÁROCH, R.), KEGA 065STU-4/2017

Resistance of Members Made of Various Structural Materials under Excentric Transverse and Compression Loads  
(2017, BALÁŽ, I.), VEGA 1/0603/17

Basis of Structural Timber Design from Research to Standards  
(2014–2018, SANDANUS, J.; SÓGEL, K.) COST FP1402

Quantifying the Value of Structural Health Monitoring  
(2014–2018, ÁROCH, R.) COST TU 1402

### 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

ÁROCH, R.: IABSE (International Association for Bridge and Structural Engineering)

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 TC 8, TWG 8.3, ECCS (European Convention for Constructional Steelwork), Technical Committee 8: Thin-Walled, Cold-Formed Sheet Steel in a Building. TC 8.3: Plate Buckling

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)

SLIVANSKÝ, M.: CEN/TC 250/SC 11 (Structural Glass, European Committee for Standardisation)

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

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

## 4. PUBLICATIONS

#### Books

DIAS, A. – FRAGIACOMO, M. – GRAMATIKOV, K. – KREIS, B. – KUPFERLE, F. – MONTEIRO, S. – SANDANUS, J. – SCHÄNZLIN, J. – SCHOBER, K. – SEBASTIAN, W. – SÓGEL, K.: Design of Timber-Concrete Composite Structures, Aachen. Shaker Verlag, 2018. CD-ROM, 228 pp. ISBN 978-3-8440-6145-1 (in English)

## Journals

KAMENICKÁ, Z. – SANDANUS, J. – BLESÁK, L. – CÁBOVÁ, K. – WALD, F.: Methods for Determining the Charring Rate of Timber and Their Mutual Comparison. In: *Wood Research*. Vol. 63, No. 4 (2018), pp. 583-590. ISSN 1336-4561 (in English)

KAMENICKÁ, Z. – SANDANUS, J. – KLAS, T. – RANTUCH, P. – MARTINKA, J. – BALOG, K.: Experimental and Numerical Analysis of the Effects of Fissures on the Charring Rate of Timber Elements. In: *Czech Journal of Civil Engineering*. Vol. 4, No. 1 (2018), online, pp. 58-64. ISSN 2336-7148 (in Slovak)

SANDANUS, J. – SÓGEL, K.: Restoration of a National Cultural Monument in Topoľčianky. In: *TZB-info.cz*. Vol. 20, No. 30 (2018), online, 5 pp. ISSN 1801-4399 (in Slovak)

SANDANUS, J. – SÓGEL, K.: Restoration of a National Cultural Monument in Topoľčianky. In: *Materiály pro stavbu*. Vol. 24, No. 8 (2018), pp. 26-29. ISSN 1213-0311 (in Slovak)

SLIVANSKÝ, M. – SANDANUS, J.: How Diagnostics of Steel Structures Decrease Operating Costs. In: *Vodárenské pohľady*. Vol. 13, No. 2 (2018), pp. 6-7. ISSN 1336-6467 (in Slovak)

ŠTUJBEROVÁ, M.: Structural Systems of a Factory – Modern Trends. In: *Eurostav*. Vol. 24, No. 3 (2018), pp. 28-31. ISSN 1335-1249 (in Slovak)

VENGLÁR, M. – SOKOL, M. – ÁROCH, R.: Ambient Vibration Measurements of Steel Truss Bridges. In: *Journal of Measurements in Engineering*. Vol. 6, No. 4 (2018), pp. 234-239. ISSN 2335-2124 (in English)

## Conference Proceedings

ÁROCH, R. – KLAS, T. – KOVÁČ, M. – SANDANUS, J.: Experimental and Theoretical Research at the Department of Steel and Timber Structures at SUT in Bratislava. In: *Proceedings of 56th Conference of Steel Structures*. Hustopeče u Brna, 6. 12. 2018. Česká společnost pro ocelové konstrukce, 2018, pp. 27-39. ISBN 978-80-02-02801-7 (in Slovak)

BALÁŽ, I.: Making of a New Generation of Eurocodes 2021. In: *Statika stavieb 2018. Proceedings of 23rd Conference*. Piešťany, SR, 15. – 16. 3. 2018. 1. ed. Bratislava. Spolok statikov Slovenska, 2018, pp. 9-16. ISBN 978-80-89842-02-5 (in Slovak)

BALÁŽ, I.: 3rd Final Drafts of prEN 1993-1-1: 2017 and prEN 1999-1-1: 2017. In: *Statika stavieb 2018. Proceedings of 23rd Conference*. Piešťany, SR, 15. – 16. 3. 2018. 1. ed. Bratislava. Spolok statikov Slovenska, 2018, pp. 73-92. ISBN 978-80-89842-02-5 (in Slovak)

BALÁŽ, I. – KOLEKOVÁ, Y. – MOROCZOVÁ, L.: Analysis of Internal Forces in Aluminium Laced Built-Up Column with Bow Imperfection under Combination of Actions. In: *ESaT 2018. Proceedings of the 3rd International Conference on Engineering Sciences and Technologies*. Tatranské Matliare, Slovak Republic, 12th – 14th Sept. 2018. 1. ed. Košice. Technical University of Košice, Faculty

of Civil Engineering, 2018, CD-ROM, 5 pp. ISBN 978-80-553-2982-6 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y. – MOROCZOVÁ, L.: Analysis of Internal Forces in Aluminium Laced Built-Up Column with Sway Imperfection under Combination of Actions. In: *ESaT 2018. Proceedings of the 3rd International Conference on Engineering Sciences and Technologies*. Tatranské Matliare, Slovak Republic, 12th – 14th Sept. 2018. 1. ed. Košice. Technical University of Košice, Faculty of Civil Engineering, 2018, CD-ROM, 5 pp. ISBN 978-80-553-2982-6 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y. – MOROCZOVÁ, L.: Shear Resistance and Its Influences in Eurocodes EN 1993-1-1 and EN 1999-1-1. In: *Engineering Mechanics 2018. Book of Full Texts*. 24th International Conference. May, 14-17, 2018, Svatka, Czech Republic. Institute of Theoretical and Applied Mechanics of the Czech Academy of Sciences, 2018, pp. 37-40. ISSN 1805-8248. ISBN 978-80-86246-88-8 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y. – MOROCZOVÁ, L.: Analysis of the Behaviour of a Generally Loaded Laced Built-Up Column. In: *Proceedings of 43rd Meeting of Experts on Steel Structures*. Bešeňová, SR, 18. – 19. 10. 2018. 1. ed. Kysucké Nové Mesto. Reklamný servis, 2018, pp. 11-16. ISBN 978-80-89838-07-3 (in Slovak)

BRODNIANSKY, J. – MAGURA, M. – BRODNIANSKY, J.: Realized Projects of Maintenance Services on a Transit Gas–Pipeline System in the Year 2018. In: *Proceedings of 43rd Meeting of Experts on Steel Structures*. Bešeňová, SR, 18. – 19. 10. 2018. 1. ed. Kysucké Nové Mesto. Reklamný servis, 2018, pp. 23-28. ISBN 978-80-89838-07-3 (in Slovak)

BRODNIANSKY, J. – BRODNIANSKY, J. – MAGURA, M.: New Approach in FEM Modelling of Gas Pipeline Components. In: *ESaT 2018. Proceedings of the 3rd International Conference on Engineering Sciences and Technologies*. Tatranské Matliare, Slovak Republic, 12th – 14th Sept. 2018. 1. ed. Košice. Technical University of Košice, Faculty of Civil Engineering, 2018, CD-ROM, pp. 4. ISBN 978-80-553-2982-6 (in English)

BRODNIANSKY, J. – BRODNIANSKY, J. – RECKÝ, J. – MAGURA, M. – KLAS, T. – BOTLÓ, M.: Connections of Conical Towers Subjected to Bending and Torsion – Slip-Joints. In: *ESaT 2018. Proceedings of the 3rd International Conference on Engineering Sciences and Technologies*. Tatranské Matliare, Slovak Republic, 12th – 14th Sept. 2018. 1. ed. Košice. Technical University of Košice, Faculty of Civil Engineering, 2018, CD-ROM, pp. 4. ISBN 978-80-553-2982-6 (in English)

KAMENICKÁ, Z.: Analysis of the Charring Rate of Timber Elements with Fissures. In: *Juniorstav 2018. Proceedings of 20th Scientific PhD Conference*. Brno, ČR, 25. 1. 2018 = *Juniorstav 2018, Proceedings of the 20th International Conference of Ph.D. Students*. 1. ed. Brno : ECON publishing, 2018, USB stick, pp. 488-493. ISBN 978-80-86433-69-1 (in English)

KLAS, T.: Testing Timber Specimens. In: *Proceedings of 43rd Meeting of Experts on Steel Structures*. Bešeňová, SR, 18. – 19. 10. 2018. 1. ed. Kysucké Nové Mesto. Reklamný servis, 2018, pp. 95-100. ISBN 978-80-89838-07-3 (in Slovak)



KOLEKOVÁ, Y. – BALÁŽ, I. – MOROCZOVÁ, L.: Bimoment and Its Influence in the Draft prEN 1993-1-1: 2017. In: Engineering Mechanics 2018. Book of Full Texts. 24th International Conference. May, 14-17, 2018, Svatka, Czech Republic. Institute of Theoretical and Applied Mechanics of the Czech Academy of Sciences, 2018, pp. 385-388. ISSN 1805-8248. ISBN 978-80-86246-88-8 (in English)

KOVÁČ, M. – VANÍK, Zs.: Sway Buckling Influence for Laced Built-up Portal Frames with Hollow Cross-sections. In: ESaT 2018. Proceedings of the 3rd International Conference on Engineering Sciences and Technologies. Tatranské Matliare, Slovak Republic, 12th – 14th Sept. 2018. 1. ed. Košice. Technical University of Košice, Faculty of Civil Engineering, 2018, CD-ROM, pp. 4. ISBN 978-80-553-2982-6 (in English)

KOVÁČ, M. – VANÍK, Zs.: Special Stability Problems of Steel Frames. In: QUARE 2017. Proceedings of the International Interdisciplinary Scientific Conference of Ph.D. Students and Lecturers. Hradec Králové, CR. 26.-30. 6. 2017. 1. ed. Hradec Králové. Magnanimitas, 2017, CD-ROM, pp. 724-728. ISBN 978-80-87952-20-7 (in English)

MAGURA, M. – BRODNIANSKY, J. – BRODNIANSKY, J. – RECKÝ, J.: Theoretical and Experimental Verification of Load Bearing Structures of Silos. In: Creativity in Structural Design. Proceedings of the IASS Symposium 2018. July 16-20, 2018, MIT, Boston, USA. 1. ed. Boston. International Association for Shell and Spatial Structures, 2018, USB stick, 8 pp. ISSN 2518-6582 (in English)

MAGURA, M. – BRODNIANSKY, J. – BRODNIANSKY, J.: FEM Modeling of Thin-Walled Sheeting of Silos. In: ESaT 2018. Proceedings of the 3rd International Conference on Engineering Sciences and Technologies. Tatranské Matliare, Slovak Republic, 12th – 14th Sept. 2018. 1. ed. Košice. Technical University of Košice, Faculty of Civil Engineering, 2018, CD-ROM, pp. 4. ISBN 978-80-553-2982-6 (in English)

NIKO, I.: Initial Global and Local imperfections of Compression Members. In: Juniorstav 2018. Proceedings of 20th Scientific PhD Conference. Brno, ČR, 25. 1. 2018 = Juniorstav 2018, Proceedings of the 20th International Conference of Ph.D. Students. 1. ed. Brno : ECON publishing, 2018, USB stick, pp. 494-498. ISBN 978-80-86433-69-1 (in Slovak)

SANDANUS, J. – SLIVANSKÝ, M.: Diagnostics of Steel Structures of BVS Objects. In: Proceedings of 43rd Meeting of Experts on Steel Structures. Bešeňová, SR, 18. – 19. 10. 2018. 1. ed. Kysucké Nové Mesto. Reklamný servis, 2018, pp. 135-140. ISBN 978-80-89838-07-3 (in Slovak)

SANDANUS, J. – KAMENICKÁ, Z. – RANTUCH, P. – MARTINKA, J. – BALOG, K.: Analysis of Timber Structural Members with Fissures and Their Charring Rate. In: ESaT 2018. Proceedings of the 3rd International Conference on Engineering Sciences and Technologies. Tatranské Matliare, Slovak Republic, 12th – 14th Sept. 2018. 1. ed. Košice. Technical University of Košice, Faculty of Civil Engineering, 2018, CD-ROM, pp. 4. ISBN 978-80-553-2982-6 (in English)

SANDANUS, J. – SLIVANSKÝ, M. – SÓGEL, K.: Diagnostics of the Biotic and Abiotic Degradation of Historical Roof Structures. In: Proceedings of CSTI 2018 Conservation Science, Technology and Industry. Bratislava, 7.- 9. 3.

2018. 1. ed. Bratislava : FCHPT SUT in Bratislava, 2018, pp. 451-457. ISBN 978-80-8060-435-6 (in Slovak)

SOKOL, M. – ÁROCH, R. – VENGLÁR, M. – LAMPEROVÁ, K. – ŠIŠMIŠOVÁ, Z.: Fatigue Effects on a Tower Structure Based on Dynamic Tests and More Precise Assessment of the Load. In: ESaT 2018. Proceedings of the 3rd International Conference on Engineering Sciences and Technologies. Tatranské Matliare, Slovak Republic, 12th – 14th Sept. 2018. 1. ed. Košice. Technical University of Košice, Faculty of Civil Engineering, 2018, CD-ROM, pp. 4. ISBN 978-80-553-2982-6 (in English)

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# DEPARTMENT OF MATHEMATICS AND DESCRIPTIVE GEOMETRY

Head of Department

Prof. RNDr. Radko Mesiar, DrSc.

Tel.: +421 2 592 74 703

Fax: +421 2 529 25 787

E-mail: radko.mesiar@stuba.sk

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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 9 (12) works.

## 2.2 Graduate theses

BÁŤKA, A.: Parallel Computing in Image Processing Using GPU and CUDA Architecture

Supervisor: URBÁN, J.

HRAPKOVÁ, L.: Inflow-Implicit/Outflow-Explicit Methods for Solving Partial Differential Equations on Nonuniform Grids

Supervisor: MIKULA, K.

POLAKOVIČOVÁ, Z.: Numerical Scheme for AMMS Model in Image Processing

Supervisor: HANDLOVIČOVÁ, A.

SOVA, O.: Analysis of Biomedical Data by Min-Cut Algorithm

Supervisor: ŽDÍMALOVÁ, M.

## 2.3 Doctoral theses

KLEINOVÁ, V.: Optical Flow and Its Application for Image Processing

Supervisor: FROLKOVIČ, P.

TIBENSKÝ, M.: Usage of Gradient Schemes for Numerical Solution of Non-Linear Parabolic Equations

Supervisor: HANDLOVIČOVÁ, A.

TJEŠŠOVÁ, M.: Assessment of Dynamic Effects on Spine Due to Different Dynamic Loading or Various Seating Positions in a Car

Supervisor: KRIVÁ, Z., (SOKOL, M.)

AMBROZ, M.: Numerical Modelling of the Propagation of Forest Fires

Supervisor: MIKULA, K.

KOLLÁR, M.: Solving Partial Differential Equations on Surfaces with Applications to Geodetic Data Analysis

Supervisor: MIKULA, K.

MEDLA, M.: Solving Partial Differential Equations Using the Finite Volume Method on Non-Uniform Grids

Supervisor: MIKULA, K.

## 3. RESEARCH

### 3.1 Research projects

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

Algebraic Probabilistic and Categorical Aspects of the Modelling of Quantum Events and Uncertainty (2016-2019, SARKOCI, P.), VEGA 2/0069/16

Algebraic, Topological and Combinatorial Methods in the Study of Discrete Structures (2016-2020, ŠIRÁŇ, J.), APVV-15-0220

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

Numerical Methods for the Development of Curves and Surfaces and Their Applications (2016-2020, MIKULA, K.), APVV-15-0522

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

Optimization of Geomodeling Processes Using Probabilistic and Fuzzy Data (2016-2019, STUPŇANOVÁ, A.), VEGA 1/0682/16

Metric Extremal Problems in Graphs and Discrete Structures (2016-2018, KNOR, M.), VEGA 1/0026/26

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

Semi-Implicit Methods for the Solution of Partial Differential Equations (2015-2018, FROLKOVIČ, P.), VEGA 1/0728/15

Identification and Monitoring of Natura 2000 Habitats by Dynamic Segmentation of Satellite Images (2017-2021, MIKULA, K.), APVV-16-0431

Probabilistic, Algebraic and Quantum-Mechanical Aspects of Uncertainty (2017-2021, JENČA, G.), APVV-16-0073

Symmetric Representations of Discrete Structures on Compact Surfaces (2017-2019, ŠIRÁŇ, J.), VEGA 1/0142/17

### 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, Queretarro, 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 Erlangen-Nürnberg, Germany  
 University of Freiburg, Germany  
 University of Ghent, Belgium  
 University of Gröningen, 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

Čunderlík, R.: Joint Study Group 0.12: "Advanced Computational Methods for the Recovery of High-Resolution Gravity Field Models" within the Inter-Commission on Theory (ICCT) of the International Association of Geodesy (IAG)

Frolkovič, P.: European Cooperation in Science and Technology (COST) Action: Mathematics of Industry (Management Committee)  
 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.: European Cooperation in Science and Technology (COST) Action: Mathematics of Industry (Management Committee)  
 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)

## 4. PUBLICATIONS

### Parts of Books

AMBROZ, M. - MIKULA, K.: New Lagrangian Surface Forest Fire Propagation Model. In: *Advances in Forest Fire Research 2018*. 1st. Ed. Coimbra: Coimbra University Press, ISBN 978-989-26-16-506, Online, 2018, pp. 577-587 (in English)

BUSTINCE, H. - FERNANDEZ, J. - MESIAR, R. - STUPŇANOVÁ, A.: Aggregation Operators in Fuzzy Sets. In: *Wiley Encyclopedia of Electrical and Electronics Engineering*. New York: John Wiley & Sons, Online, [1,258 AH]. ISBN 9780471346081, 2018, p. 11 (in English)

ČUNDERLÍK, R. - MIKULA, K. - MINARECHOVÁ, Z. - MACÁK, M. Computational Methods for High-Resolution Gravity Field Modeling. In: *Encyclopedia of Geodesy*. 1st. Ed. Cham (Switzerland): Springer, Online, ISSN 1871-756X. ISBN 978-3-319-02370-0, 2018, p.12 (in English)

### Textbooks

MÉSZÁROSOVÁ, K. - RÜCKSCHLOSSOVÁ, T. - TEREŇOVÁ, Z.: *Descriptive Geometry II: The Second Part - Ruled, Translational, Affine (Sphenoid) and Canal Surfaces*. 1st. Ed. Bratislava: Spektrum STU, Textbook Ed., 2018, CD-ROM, Online, ISBN 978-80-227-4767-7, 427 pp. (in Slovak)

VAJSÁBLOVÁ, M. - SZATMÁRI, D.: *Mathematical Cartography in Examples*. 1st. Ed. Bratislava: Spektrum STU, Textbook Edition, ISBN 978-80-227-4857-5, 2018, 134 pp. (in Slovak)

## Journals

- AGAH, H. - MESIAR, R.: On Choquet-Pettis Expectation of Banach-Valued Functions: A Counter Example. In: *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, Vol. 26, No. 2 (2018), ISSN 0218-4885, pp. 255-259 (in English)
- ANDOVA, V. - KNOR, M. - ŠKREKOVSKI, R.: Distance Based Indices in Nanotubical Graphs: Part 1. In: *Journal of Mathematical Chemistry*, Vol. 56, No. 9 (2018), ISSN 0259-9791 , pp. 2801-2815 (in English)
- ANDOVA, V. - KNOR, M. - ŠKREKOVSKI, R.: Distance Based Indices in Nanotubical Graphs: Part 2. In: *Journal of Mathematical Chemistry*, Vol. 56, No. 10 (2018), ISSN 0259-9791 , pp. 3076-3088 (in English)
- ARIAS-GARCÍA, J.J. - MESIAR, R. - KLEMENT, E. P. - SAMINGER-PLATZ, S. - DE BAETS, B.: Extremal Lipschitz Continuous Aggregation Functions with a Given Diagonal Section. In: *Fuzzy Sets and Systems*, Vol. 346 (2018), ISSN 0165-0114, pp. 147-167 (in English)
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TORRA, V. - MESIAR, R. - DE BAETS, B.: Preface. In: Aggregation Functions in Theory and in Practice: 9th International Summer School on Aggregation Functions, Skövde, Sweden, 19-22 June 2017. 1st Ed. Cham (Switzerland): Springer International Publishing AG, 2018.- ISSN 2194-5357. ISBN 978-3-319-59305-0.- [1] p. (in English)

VAGASKÁ, A. - STUPŇANOVÁ, A.: A Note on Moderate Deviation Function. In: FSTA 2018: Abstracts. 14th International Conference on Fuzzy Set Theory and Applications. Jan. 28 - Feb. 2, 2018, Liptovský Ján, Slovak Republic. 1st Ed. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2018.- ISBN 978-80-8040-560-1.- p. 105 (in English)

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19th Conference of Košice Mathematicians: Herľany, 12th -14th April 2018. 1st Ed. Košice: Faculty of Science UPJŠ, 2018. - ISBN 978-80-553-2958-1. - p. 29 (in English)

## Others

HRIŇÁKOVÁ, K. - HRIŇÁK, M.: The Canary Islands. In: Young Scientist. No. 37 (2018).- ISSN 1337-5873.- pp. 2-5 (in Slovak)

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HRIŇÁKOVÁ, K. - HRIŇÁK, M.: The Nobel Prize in Physics 2018. In: Young Scientist. No. 39 (2018).- ISSN 1337-5873.- pp. 2-5 (in Slovak)

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# DEPARTMENT OF PHYSICS

Head of Department

Prof. RNDr. Igor Medved', PhD.

Tel.: +421 2 592 74 403

E-mail: igor.medved@stuba.sk

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Physics I

Physics II

Physics (English)

Obligatory elective subjects

Engineering Thermodynamics

Selected Topics in Physics

#### Optional subjects

Selected Chapters in Physics

### 1.2 Postgraduate courses

Selected Topics in Physics

Heat and Moisture Transport

Heat and Moisture Transport in Porous Material

Physical Principles of Measurements

## 3. RESEARCH

### 3.1 Research projects

Investigation of the Hygrothermal and Mechanical Properties of Porous Building Materials Based on Mathematical Modeling (2017-2020, KAČUR, J.), APVV-15-0681

### 3.2 International cooperation Cooperating institutions

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

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

Faculty of Energy Technology, University of Maribor, Krško, Slovenia

Department of Building Engineering, University of Debrecen, Debrecen, Hungary

Katholieke Universiteit Leuven, Belgium

Department of Chemistry, Texas Christian University, Fort Worth, TX, USA  
Department of Mechanical & Aeronautical Engineering, Clarkson University, Potsdam, NY, USA

## 4. PUBLICATIONS

#### Parts of books

PAVLEDOVÁ, G. – LUKOVIČOVÁ, J. – ŠUJANOVÁ, P.: Historical Buildings Deteriorating Safety Risks and Electroosmotic Dewatering. In: Techniczne i materialne aspekty bezpieczeństwa. 1st edition. Czestochowa: Oficyna Wydawnicza Stowarzyszenia Menedżerów Jakości i Produkcji, ISBN 978-83-63978-69-3, 2017, pp. 128-155 (in English)

#### Journals

MEDVEĎ, Igor - TRNÍK, Anton. Behavior of a PCM at Varying Heating Rates: Experimental and Theoretical Study with an Aim at Temperature Moderation in Radionuclide Concrete Encasements. In: International Journal of Thermophysics. Vol. 39, No. 7 (2018) Art. No. 83, 8 pp. ISSN 0195-928X (in English)

#### Conference Proceedings

JERMAN, Miloš - MEDVEĎ, Igor - MADĚRA, Jiří - KOČÍ, Václav - ČERNÝ, Robert. Effect of Moisture Variations on Damage Cumulation in Surface Layers of Building Structures. In: Proceedings of the International Conference of Numerical Analysis and Applied Mathematics 2017 (ICNAAM 2017): 25-30 Sept. 2017, Thessaloniki, Greece. 1st edition. Melville, New York: AIP Publishing, 2018, CD-ROM, Art. No. 080005, 5 pp. ISBN 978-0-7354-1690-1 (in English)

KOBETIČOVÁ, Klára - MEDVEĎ, Igor - KEPPERT, Martin - ČERNÝ, Robert. Measurement and Modelling of Calcium Diffusion in a Sandstone. In: Thermophysics 2018: Proceedings of 23rd International Meeting of Thermophysics. Smolenice, SR, 7-9 Nov. 2018. 1st edition. Melville: AIP Publishing, 2018, online, Art. No. 020019, 6 pp. ISBN 978-0-7354-1704-5 (in English)

MEDVEĎ, Igor - ČERNÝ, Robert. Varying Coefficients of Diffusion of  $^{133}\text{Ba}^{2+}$  and  $^{137}\text{Cs}^{+}$  in Granite. In: Proceedings of the International Conference of Numerical Analysis and Applied Mathematics 2017 (ICNAAM 2017): 25-30 Sept. 2017, Thessaloniki, Greece. 1st edition. Melville, New York: AIP Publishing, 2018, CD-ROM, Art. No. 080007, 4 pp. ISBN 978-0-7354-1690-1 (in English)

MEDVEĎ, Igor - TRNÍK, Anton. Theoretical Profile for Heat Capacity Peaks of Phase-Change Materials. In: Thermophysics 2018: Proceedings of 23rd International Meeting of Thermophysics. Smolenice, SR, 7-9 Nov. 2018. 1st edition. Melville: AIP Publishing, 2018, online, Art. No. 020031, 5 pp. ISBN 978-0-7354-1704-5 (in English)

PAVLEDOVÁ, Alžbeta - PAVLEDOVÁ, Gabriela - ŠUJANOVÁ, Jana - NOVÁKOVÁ, Renáta. New Perspectives of the Application of Wood Based Building Materials. In: Increasing the Use of Wood in the Global Bio-Economy: 11th Annual International Scientific Conference on Increasing the Use of Wood in the Global Bio-Economy, WoodEMA 2018, 26-28 Sept. 2018, Belgrade, Serbia. 1st edition. Belgrade: University of Belgrade, 2018, online, 334-341. ISBN 978-86-7299-277-9 (in English)

PAVLEDOVÁ, Gabriela - BOHÁČ, Vlastimil - ŠÍN, Peter. Testing Thermophysical and Mechanical Properties of Cement-Based Composites with Plastic and Horse Manure. In: SIČÁKOVÁ, Alena. Construmat 2018: Herľany, SR, 13-15 June 2018. 1st edition. London: IOP Publishing, 2018, online, Art. No. 012041, 7 pp. ISSN 1757-8981 (in English)

PAVLEDOVÁ, Gabriela - ŠÍN, Peter - LUKOVIČOVÁ, Jozefa - KOPČOK, Michal. Thermophysical Properties of Cement Based Composites with Addition of Plastic Fibers and Horse Manure. In: Rehabilitation and Reconstruction of Buildings: proceedings of the 19th Conference on the Rehabilitation and Reconstruction of Buildings. Praha, ČR, 23-24 Nov. 2017. 1st edition. Zurich: Trans Tech Publications, 2018, pp. 92-97. ISSN 1013-9826, ISBN 978-3-0357-1361-9 (in English)

PETŘÍKOVÁ, Michaela - FIALA, Lukáš - MEDVEĎ, Igor - ČERNÝ, Robert. Hygro-Thermo-Electrical Modeling of Transport Phenomena in Aluminosilicate Composites. In: Proceedings of the International Conference of Numerical Analysis and Applied Mathematics 2017 (ICNAAM 2017): 25-30 September 2017, Thessaloniki, Greece. 1st edition. Melville, New York: AIP Publishing, 2018, CD-ROM, Art. No. 080006, 4 pp. ISBN 978-0-7354-1690-1 (in English)

URBÁN, Daniel. Sound Reduction Index Decrease Due to ETICS Prediction. In: Sborník 97. akustického semináře: 21-31 Oct. 2018, Seč, ČR. 1st edition. Praha: ČVUT v Praze, 2018, pp. 13-19. ISBN 978-80-01-06500-6 (in Slovak)

URBÁN, Daniel - HÁTAŠ, Dominik - RAFAJDUS, Patrik - BISKUPIČOVÁ, Andrea - DAUBNEROVÁ, Ingrid - LEDEREROVÁ, Miriam. Composite Material Sound Absorption Determination by Means of Standing Wave Tube Measurement. In: ATF 2018: Book of proceedings from 6th International Conference on Building Physics and Applied Technology in Architecture and Building Structures. 11-13 Oct. 2018, Leuven, Belgium. 1st edition. Leuven: Katholieke Universiteit Leuven, 2018, pp. 188-192. ISBN 978-909-031-441-9 (in English)

## Others

TRNÍK, Anton (ed.) - MATIAŠOVSKÝ, Peter (ed.) - MEDVEĎ, Igor (ed.). Thermophysics 2018: Proceedings of 23rd International Meeting of Thermophysics. Smolenice, SR, 7-9 Nov. 2018. 1st edition. Melville: AIP Publishing, 2018. 292 pp. AIP Conference Proceedings, vol. 1988. ISBN 978-0-7354-1704-5 (in English)

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# DEPARTMENT OF STRUCTURAL MECHANICS

Head of Department

Prof. Ing. Norbert Jendželovský, PhD.

Tel.: +421 2 592 74 364

E-mail: norbert.jendzelovsky@stuba.sk

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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 5 works.

### 2.2 Graduate theses

DUDA, P.: Static and Dynamic Analysis of a Cycling Bridge

Supervisor: IVÁNKOVÁ, O.

IBOLYA, G.: Analysis of a High-Rise Building Having an Irregular Ground Plan

Supervisor: JENDŽELOVSKÝ, N.

PITORÁK, M.: Static and Dynamic Analysis of a High-Rise Hotel Building

Supervisor: IVÁNKOVÁ, O.

SCHLOSÁRIKOVÁ, L.: Analysis of a High-Rise Building Having an Irregular Shape

Supervisor: TVRDÁ, K.

ŠTECH, M.: Analysis of Foundation Structures of a High-Rise Building

Supervisor: JENDŽELOVSKÝ, N.

### 2.3 Doctoral theses

MEDVECKÁ, S.: Experimental and Numerical Analysis of the External Pressure Coefficient on High-Rise Buildings

Supervisor: IVÁNKOVÁ, O.

TJEŠŠOVÁ, M.: Mechanical Model of a Human Spine in FEM

Supervisor: SOKOL, M.

VENGLÁR, M.: Dynamic Tests for the System Identification of Bridges

Supervisor: SOKOL, M.

## 3. RESEARCH

### 3.1 Research projects

Response Analysis of Building Structures Loaded by Dynamic Loads with Respect to the Interaction of the Structure and Subsoil  
(2018 – 2021, JENDŽELOVSKÝ, N.), VEGA 1/0412/18

Resistance of Elements from Various Construction Materials under Eccentric Transverse and Compression Loads  
(2017 – 2019, KOLEKOVÁ, Y.), VEGA 1/0603/17

Probabilistic Analysis of the Reliability of Structures under Extreme Climatic and Emergency Conditions. Safety and Reliability of Nuclear Power Plants (2016 – 2019, KRÁLIK, J.), VEGA 1/0265/16

### 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

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

## 4. PUBLICATIONS

#### Textbooks

KOLEKOVÁ, Y: Elementary Theory of Structural Systems (Chapter 3.1).

Textbook for Welding Engineers, Bratislava, 2018, pp. 5-27. ISBN 978-80-88734-86-4 (in Slovak)

PSOTNÝ, M.: Statics of Structures. Solution Manual I. Theoretical Mechanics. Bratislava, Spektrum STU, 2018. 72 pp. ISBN 978-80-227-4807-0 (in English)

#### Journals

MEDVEČKÁ, S. – IVÁNKOVÁ, O. – MACÁK, M. – MICHALCOVÁ, V.:

Determination of Pressure Coefficient for a High-Rise Building with Atypical Ground Plan. Civil and Environmental Engineering, Vol. 14, No. 2/2018, pp. 138-145. ISSN 1336-5835 (in English)

VENGLÁR, M. – SOKOL, M. – ÁROCH, R.: Ambient Vibration Measurements of Steel Truss Bridges. Journal of Measurements in Engineering, Dec. 2018, Vol. 6, No. 4, pp. 234-239. ISSN 2424-4635 (in English)

VENGLÁR, M. – SOKOL, M. – LAMPEROVÁ, K.: Operational Modal Analysis of the SNP Bridge in Bratislava. In TzB-info.cz., Vol. 20, No. 20 (2018), 4 pp. ISSN 1801-4399 (in Slovak)

VOJTEKOVÁ, E. – IVÁNKOVÁ, O.: Co-Operation between Study Programs within Architecture and Civil Engineering. World Transactions on Engineering and Technology Education, Vol. 16, No. 3, 2018, pp. 287-291. ISSN 1446-2257 (in English)

#### Conference Proceedings

ANTAL, R. – JENDŽELOVSKÝ, N.: Comparison of Two Calculation Methods Used for Determination of External Pressure Coefficient for Atypically Shaped Structure. In: New Trends in the Statics and Dynamics of Buildings, 18-19 Oct. 2018, SvF STU Bratislava, 7 pp. ISBN 978-80-227-4845-2 (in English)

ANTAL, R.: Comparison of the Computer and Analytical Analyses of a Wind Pressure Coefficient of a Stadium-Shaped Building. In: 28th Annual PhD Student Conference, SvF STU Bratislava, Oct. 24, 2018, pp. 44-49. ISBN 978-80-227-4864-3 (in Slovak)

BALÁŽ, I. – KOLEKOVÁ, Y. – MOROCZOVÁ, L.: Analysis of Internal Forces in Aluminium Laced Built-Up Column with Bow Imperfection under Combination of Actions. In: ESaT 2018, 3rd International Conference on Engineering Sciences and Technologies, Tatranské Matliare, Slovak Republic, Sept. 12-14, 2018, 5 pp. ISBN 978-80-553-2982-6 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y. – MOROCZOVÁ, L.: Analysis of Internal Forces in Aluminium Laced Built-Up Column with Sway Imperfection under Combination of Actions. In: ESaT 2018, 3rd International Conference on Engineering Sciences and Technologies, Tatranské Matliare, Slovak Republic, Sept. 12-14, 2018, 5 pp. ISBN 978-80-553-2982-6 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y. – MOROCZOVÁ, L.: Behaviour of Built-Up Members under General Loading. In: 42nd Workshop on Steel Structures, Bešeňová, Slovak Republic, Oct. 18-19, 2018. pp. 11-16, ISBN 978-80-89838-07-3 (in Slovak)

BALÁŽ, I. – KOLEKOVÁ, Y.: Resistances of Metal I-Sections under Bending and Torsion. In: WMCAUS 2018, World Multidisciplinary Civil Engineering-Architecture-Urban Planning Symposium. Prague, Czech Republic, June 18-22, 2018. 1 p. (in English)

BALÁŽ, I. – KOLEKOVÁ, Y. – MOROCZOVÁ, L.: Shear Resistance and Its Influences in Eurocodes EN 1993-1-1 and EN 1999-1-1. In: Engineering Mechanics 2018, Svratka, Czech Republic, May 14-17, 2018, pp. 37-40. ISSN 1805-8248, ISBN 978-80-86246-88-8 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y.: Behaviour of Laced Built-Up Columns Made of Aluminium Alloy. In CMSE 2018, 7th Global Conference on Materials Science and Engineering. Nov. 1-4, 2018, Xi'an, China. pp 27 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y. – MOROCZOVÁ, L.: Analysis of Metal Built-Up Members. In: Computational Mechanics 2018, Plzeň, Czech Republic, pp. 1-2, ISBN 978-80-261-0819-1 (in English)



- FRANEK, M. – MACÁK, M. – HUBOVÁ, O.: Evaluation of the Power Spectral Density Function in BLWT in Bratislava. In: ATF 2018, Leuven, Belgium, Oct. 11-13, 2018, pp. 40-44. ISBN 978-909-031-441-9 (in English)
- FRANEK, M. – MACÁK, M. – HUBOVÁ, O.: A CFD Approach as Preliminary Study of the Wind Effects before the Experiment. In: 26th SVSFEM ANSYS Users' Group Meeting and Conference 2018, Nový Smokovec, Slovak Republic, 6-8 June 2018, pp. 25-31. ISBN 978-80-905525-5-5 (in English)
- FRANEK, M. – MACÁK, M. – HUBOVÁ, O.: Numerical Simulation of the External Pressure on Complex of Buildings. In: APABD 2018, Architectural and Physical Aspects of Building Design. June 25, 2018, Mikulov, Czech Republic, pp. 98-102. ISBN 978-80-7204-999-8 (in English)
- HUBOVÁ, O. – FRANEK, M. – VÉGHOVÁ, I.: Interference Effects of Cylinders in Steady Wind Flow. In: ATF 2018, Leuven, Belgium, Oct. 11-13, 2018. pp. 87-90. ISBN 978-909-031-441-9 (in English)
- HUBOVÁ, O. – MACÁK, M.: Numerical and Experimental Investigation of Wind Flow in Urban Area. In: Engineering Mechanics 2018, Svratka, Czech Republic, May 14-17, 2018, pp. 317-320. ISBN 978-80-86246-88-8. ISSN 1805-8248 (in English)
- HUBOVÁ, O. – MACÁK, M.: Numerical and Experimental Investigation of the Energy Potential of a High-Rise Building Using IRWES System. In: WINERCOST 2018, International Conference on Wind Energy Harvesting 2018, 21-23 March 2018, Catanzaro Lido, Italy, pp. 99-106 (in English)
- IVÁNKOVÁ, O. – VOJTEKOVÁ, E. – MÉRI, D.: Architectonic and Static Study of Various Designs of the External Load Bearing Structure of a High-Rise Building. In: Architecture in Perspective 2018, Ostrava, Czech Republic, Nov. 29-30, 2018, pp. 150-152. ISBN 978-80-248-4236-3 (in Slovak)
- IVÁNKOVÁ, O. – KALESNÝ, F. – SÁSIKOVÁ, K.: Structural and Static Analysis of Selected Architectural Designs of a Roofing Structure for Tracking in the Bratislava Transport Museum. In: Architecture in Perspective 2018, Ostrava, Czech Republic, Nov. 29-30, 2018, pp. 153-155. ISBN 978-80-248-4236-3 (in Slovak)
- JENDŽELOVSKÝ, N.: Analysis of Strain of Reinforced Concrete Beams with Respect to the Stiffness of Subsoil. In: Concrete Days 2018, Nov. 8-9, 2018, Bratislava, Slovakia, pp. 197-200. ISBN 978-80-227-4852-0 (in Slovak)
- JENDŽELOVSKÝ, N.: Numerical Modeling of a Subsoil below a Foundation Plate. In: New Trends in the Statics and Dynamics of Buildings, 18-19 Oct. 2018, SvF STU Bratislava, 5 pp. ISBN 978-80-227-4845-2 (in Slovak)
- KOLEKOVÁ, Y. – BALÁŽ, I. – MOROCZOVÁ, L.: Bimoment and Its Influence in the Draft of prEN 1993-1-1: 2017. In: Engineering Mechanics 2018, Svratka, Czech Republic, May 14-17, 2018, pp. 385-388. ISSN 1805-8248. ISBN 978-80-86246-88-8 (in English)
- KRÁLIK, J. – KRÁLIK, J. Jr.: Analysis of SSI Effects upon NPP VVER 1200 Using 1D and 3D FE Model of Nonhomogeneous Subsoil. In: Modeling Mechanics. Ostrava, Czech Republic, May 24-25, 2018. 14 pp. ISBN 978-80-248-4175-5 (in English)
- KRÁLIK, J. – KRÁLIK, J. Jr.: Deterministic and Probability Analysis of the Paper Machine Vibration Impact on the Structural Safety and Human Comfort. In: Modeling in Mechanics. Ostrava, Czech Republic, May 24-25, 2018. 2 pp. ISBN 978-80-248-4175-5 (in English)
- KRÁLIK, J. – KRÁLIK, J. Jr.: Probabilistic Nonlinear Analysis of Failure of a Reactor Hermetic Cover Due to Extreme Pressure and Temperature. In: Engineering Mechanics 2018, Svratka, Czech Republic, May 14-17, 2018, pp. 421-424. ISBN 978-80-86246-88-8. ISSN 1805-8248 (in English)
- KRÁLIK, J. – KRÁLIK, J. Jr.: Probabilistic Nonlinear Analysis of Extreme Wind Impact to the Steel Hall Collapse. In: International Conference on Numerical Analysis and Applied Mathematics 2017 (ICNAAM 2017), Thessaloniki, Greece, Sept. 25-30, 2017. AIP Conf. Proc. 1978, 4 pp. ISBN 978-0-7354-1690-1 (in English)
- KRÁLIK, J. – ROŠKO, P. – KRÁLIK, J. Jr.: Effectiveness of Probabilistic Methods to Analyse Probability of Structural Failure Using ANSYS Software. In: International Conference on Numerical Analysis and Applied Mathematics 2017 (ICNAAM 2017), Thessaloniki, Greece, Sept. 25-30, 2017. AIP Conf. Proc. 1978, 4 pp. ISBN 978-0-7354-1690-1 (in English)
- KRÁLIK, J. – ROŠKO, P. – KRÁLIK, J. Jr.: Analysis of the Impedance Functions Using 3D Finite Element Model of Subsoil. In: Engineering Mechanics 2018, Svratka, Czech Republic, May 14-17, 2018, pp. 425-428. ISBN 978-80-86246-88-8. ISSN 1805-8248 (in English)
- KRÁLIK, J.: Probabilistic Assessment of Failure Analysis of the NPP Hermetic Technology Segments. In: 26th SVSFEM ANSYS Users' Group Meeting and Conference 2018, Nový Smokovec, Slovak Republic, 6-8 June 2018, pp. 32-47. ISBN 978-80-905525-5-5 (in English)
- KRÁLIK, J.: Risk Assessment of NPP Safety Due to Technology Accident and Extreme Climatic Actions. In: International Conference on Numerical Analysis and Applied Mathematics 2017 (ICNAAM 2017), Thessaloniki, Greece, Sept. 25-30, 2017. AIP Conf. Proc. 1978, 4 pp. ISBN 978-0-7354-1690-1 (in English)
- LAMPEROVÁ, K. – VENGLÁR, M. – SOKOL, M.: Initial Dynamic Displacement Measurement of a Bridge. In: Juniorstav 2018. Brno, FAST VUT, Jan. 25, 2018. pp. 587-591. ISBN 978-80-86433-69-1 (in Slovak)
- LAMPEROVÁ, K.: Advantages and Drawbacks of Radar Interferometry in a Dynamic Loading Test. In: 28th Annual PhD Student Conference, SvF STU Bratislava, Oct. 24, 2018, pp. 50-55. ISBN 978-80-227-4864-3 (in Slovak)
- MÁRFÖLDI, M. – BALLINAS-GONZÁLEZ, R. – VENGLÁR, M. – SOKOL, M. – RODRÍGUEZ-PAZ, M. X.: Beginning of Cracking of Masonry Walls Due to Vibrating and Noise Effects of Machines. Vibroengineering PROCEDIA, Vol. 21 (2018), pp. 184-189. ISSN 2345-0533 (in English)
- MÁRFÖLDI, M. – SOKOL, M. – LAMPEROVÁ, K. – VENGLÁR, M.: Quantifying the Benefit of Structural Health Monitoring. SNP Bridge in Bratislava, Slovakia. In: Beton- und Stahlbetonbau Spezial 2018 – 16th International Probabilistic Workshop. Sept. 2018. pp. 143 (in English)

- MÁRFÖLDI, M.: Value of SHM Information: Monitoring of the SNP Bridge in Bratislava. In: 28th Annual PhD Student Conference, SvF STU Bratislava, Oct. 24, 2018, pp. 56-61. ISBN 978-80-227-4864-3 (in English)
- MEDVEČKÁ, S. – IVÁNKOVÁ, O. – MACÁK, M.: External Pressure Coefficient of a Building with an Atypical Cross-Section. In: Modeling Mechanics. Ostrava, Czech Republic, May 24-25, 2018. 6 pp. ISBN 978-80-248-4175-5 (in Slovak)
- MÉRI, D.: Static and Dynamic Analysis of the Exoskeleton Bearing Structure of a High-Rise Building. In: 28th Annual PhD Student Conference, SvF STU Bratislava, Oct. 24, 2018, pp. 62-68. ISBN 978-80-227-4864-3 (in Slovak)
- MOROČZOVÁ, L.: Built-Up Member with Lacings and Battens. In: 28th Annual PhD Student Conference, SvF STU Bratislava, Oct. 24, 2018, pp. 69-74. ISBN 978-80-227-4864-3 (in Slovak)
- PREKOP, L. – TVRDÁ, K.: Probability Analysis in Calculations of a Pile Foundation. In: 26th SVSFEM ANSYS Users' Group Meeting and Conference 2018, Nový Smokovec, Slovak Republic, 6-8 June 2018, pp. 99-103. ISBN 978-80-905525-5-5 (in Slovak)
- PSOTNÝ, M.: Effect of the Number of Nodal Parameters upon the Pace of Convergence in the Stability Analysis of a Wall Using FEM. In: New Trends in the Statics and Dynamics of Buildings, 18-19 Oct. 2018, SvF STU Bratislava, 6 pp. ISBN 978-80-227-4845-2 (in Slovak)
- PSOTNÝ, M.: Snap-Through of a Shallow Cylindrical Shell under External Pressure. In: International Conference on Numerical Analysis and Applied Mathematics 2017 (ICNAAM 2017), Thessaloniki, Greece, Sept. 25-30, 2017. AIP Conf. Proc. 1978, 4 pp. ISBN 978-0-7354-1690-1 (in English)
- PSOTNÝ, M.: Setting of the Base Functions in Geometrically Nonlinear Problems of FEM Rods. In: New Trends in the Statics and Dynamics of Buildings, 18-19 Oct. 2018, SvF STU Bratislava, 5 pp. ISBN 978-80-227-4845-2 (in Slovak)
- RAVINGER, J. – GRMANOVÁ, A.: Dynamic Post-Buckling Behaviour of Plate Girders. In: 18th Anniversary International Scientific Conference „Construction and Architecture“ VSU 2018, Sofia, Bulgaria, Oct. 18-20, 2018. 9 pp. ISSN 1314-071X (in English)
- RAVINGER, J. – GRMANOVÁ, A.: Snap-Through of a Slender Web. In: Modeling Mechanics. Ostrava, May 24-25, 2018. 12 pp. ISBN 978-80-248-4175-5 (in Slovak)
- RAVINGER, J. – GRMANOVÁ, A.: Statics of the Reconstruction of an Apartment in a Prefabricated Apartment Building. In: Statics of Structures 2018. Piešťany, March 15-16, 2018. pp. 33-38. ISBN 978-80-89842-02-5 (in Slovak)
- ROŠKO, P. – KRÁLIK, J. – VOJTEKOVÁ, E.: Vienna Stadium Roof Structure – Insights into Statics and Dynamics. In: 6th Annual International Conference on Architecture and Civil Engineering ACE 2018, May 14-15, 2018, Singapore. pp. 168-172. ISSN 2301-394X (in English)
- RUBINT, J.: Time Dependent Analysis of the Additionally Prestressed Structure of a Bridge near Svrčinovec. In: New Trends in the Statics and Dynamics of Buildings, 18-19 Oct. 2018, SvF STU Bratislava, 5 pp. ISBN 978-80-227-4845-2 (in Slovak)
- SOKOL, M. – ÁROCH, R. – VENGLÁR, M. – LAMPEROVÁ, K. – ŠIŠMIŠOVÁ, Z.: Fatigue Effects on a Tower Structure Based on Dynamic Tests and More Precise Assessment of the Load. In: ESaT 2018, 3rd International Conference on Engineering Sciences and Technologies, Tatranské Matliare, Slovak Republic, Sept. 12-14, 2018. 4 pp. ISBN 978-80-553-2982-6 (in English)
- SUCHARDA, O. – GRMANOVÁ, A. – RAVINGER, J.: FEM Amended by a Transformation via Eigen Modes for Dynamic Post-Buckling Behaviour of Thin-Walled Structures. In: New Trends in the Statics and Dynamics of Buildings, 18-19 Oct. 2018, SvF STU Bratislava, 6 pp. ISBN 978-80-227-4845-2 (in English)
- ŠIŠMIŠOVÁ, Z. – SOKOL, M. – VENGLÁR, M. – LAMPEROVÁ, K.: Dynamic Tests of Two Large-Span Bridges for SHM. In: Engineering Mechanics 2018, Svatka, Czech Republic, May 14-17, 2018, pp. 749-752. ISSN 1805-8248. ISBN 978-80-86246-88-8 (in English)
- TJEŠŠOVÁ, M. – SOKOL, M. – VELÍSKOVÁ, P.: Assessment of Dynamic Effects on Spine Due to Different Dynamic Loading or Various Seating Positions in a Car. In: Vibroengineering PROCEDIA, Vol. 18 (2018), pp. 164-169. ISSN 2345-0533 (in English)
- TURIS, M. – IVÁNKOVÁ, O.: Calculation of the Intensity Stress Factor of a Central Inclined Crack. In: New Trends in the Statics and Dynamics of Buildings, 18-19 Oct. 2018, SvF STU Bratislava, 7 pp. ISBN 978-80-227-4845-2 (in Slovak)
- TURIS, M. – IVÁNKOVÁ, O.: Modeling of Construction Phases and Their Comparison with a Linear Finite Element Model. In: Juniorstav 2018. Brno, FAST VUT, Jan. 25, 2018. pp. 633-637. ISBN 978-80-86433-69-1 (in Slovak)
- TURIS, M.: Determination of the Fracture Parameters on the Tip of a Triangle-Shaped Hole. In: 28th Annual PhD Student Conference, SvF STU Bratislava, Oct. 24, 2018, pp. 75-83. ISBN 978-80-227-4864-3 (in Slovak)
- TVRDÁ, K. – PREKOP, L.: Deterministic and Probabilistic Calculation of a Pile. In: SGEM 2018, pp. 207-212. ISBN 978-619-7408-36-2 (in English)
- TVRDÁ, K.: A High-Rise Building Subjected to Dynamic Effects. In: 18th of Anniversary International Scientific Conference on Construction and Architecture VSU 2018, Sofia, Bulgaria, Oct. 18-20, 2018, 6 pp. ISSN 1314-071X (in English)
- TVRDÁ, K.: Foundation Slab in Interaction with an Elastic Half-Space. In: International Conference on Numerical Analysis and Applied Mathematics 2017 (ICNAAM 2017), Thessaloniki, Greece, Sept. 25-30, 2017. AIP Conf. Proc. 1978, 4 pp. ISBN 978-0-7354-1690-1 (in English)
- UHLÍŘOVÁ, L. – JENDŽELOVSKÝ, N.: Analysis of a Tank Used for the Purposes of Ecological Purification of Water. In: SGEM 2018, Vol. 18, pp. 613-619. ISBN 978-619-7408-71-3 (in English)

UHLÍŘOVÁ, L. – JENDŽELOVSKÝ, N.: Analysis of Natural Frequencies of a Rectangular Tank Considering Interaction between Subsoil and Structure. In: SGEM 2018, pp. 19-25. ISBN 978-619-7408-36-2 (in English)

UHLÍŘOVÁ, L.: Effects of Filling of a Water Tank upon Its Frequency. In: New Trends in the Statics and Dynamics of Buildings, 18-19 Oct. 2018, SvF STU Bratislava, 5 pp. ISBN 978-80-227-4845-2 (in Slovak)

UHLÍŘOVÁ, L.: Effects of a Thickness of the Wall upon the Frequency of a Tank. In: 28th Annual PhD Student Conference, SvF STU Bratislava, Oct. 24, 2018, pp. 84-88. ISBN 978-80-227-4864-3 (in Slovak)

UHLÍŘOVÁ, L.: Fluid-Structure Interaction in a Rectangular Tank. In: 18th of Anniversary International Scientific Conference on Construction and Architecture VSU 2018, Sofia, Bulgaria, Oct. 18-20, 2018, 6 pp. ISSN 1314-071X (in English)

UHLÍŘOVÁ, L.: Using 3D Elements in Modeling of a Rectangular Tank. In: 18th Anniversary International Scientific Conference "Construction and Architecture" VSU 2018, Sofia, Bulgaria, Oct. 18-20, 2018. 6 pp. ISSN 1314-071X (in English)

VĚGHOVÁ, I. – PSOTNÝ, M.: Shape Functions Effect in Geometric Nonlinear Finite Element Analysis of Rod Systems. In: 18th Anniversary of International Scientific Conference on Construction and Architecture VSU 2018, Sofia, Bulgaria, Oct. 18-20, 2018. 6 pp. ISSN 1314-071X (in English)

VĚGHOVÁ, I. – SUMEC J.: Stress-Strain Relations of Periodically Loaded Viscoelastic Material with Constant Circular Frequency. In: New Trends in the Statics and Dynamics of Buildings, 18-19 Oct. 2018, SvF STU Bratislava, 4 pp. ISBN 978-80-227-4845-2 (in English)

VĚGHOVÁ, I. – SUMEC, J.: Basic Linear Viscoelastic Model under Oscillatory Load in Isothermal Surroundings. In: 18th Anniversary International Scientific Conference "Construction and Architecture" VSU 2018, Sofia, Bulgaria, Oct. 18-20, 2018, 5 pp. ISSN 1314-071X (in English)

VĚGHOVÁ, I.: Nonlinear Response of the Frame Structure to Seismic Effects. In: International Conference on Numerical Analysis and Applied Mathematics 2017 (ICNAAM 2017), Thessaloniki, Greece, Sept. 25-30, 2017. AIP Conf. Proc. 1978, 4 pp. ISBN 978-0-7354-1690-1 (in English)

VENGLÁR, M. – LAMPEROVÁ, K. – SOKOL, M.: Numerical and Experimental Analysis of Some Mode-Shapes of a Bridge. In: Juniorstav 2018. Brno, FAST VUT, Jan. 25, 2018, pp. 638-641. ISBN 978-80-86433-69-1 (in Slovak)

VENGLÁR, M. – SOKOL, M. – LAMPEROVÁ, K. – MÁRFOLDI, M.: Simply Supported Composite Beam – Preparation for Damage Assessment. In: Engineering Mechanics 2018, Svatka, Czech Republic, May 14-17, 2018, pp. 901-904. ISBN 978-80-86246-88-8. ISSN 1805-8248 (in English)

VOJTEKOVÁ, E. – SÁSIKOVÁ, K. – IVÁNKOVÁ, O. – GREGOROVÁ, J.: Interdisciplinary Approach in Designing of the Roofing of Romanesque Palace Ruin at Spiš Castle in Slovakia. In: ATF 2018, Leuven, Belgium, Oct. 11-13, 2018, pp. 206-213. ISBN 978-909-031-441-9 (in English)

## Others

JENDŽELOVSKÝ, N – GRMANOVÁ, A. (Eds.): New Trends in the Statics and Dynamics of Buildings. 16th International Conference. Bratislava, Slovakia, Oct. 18-19, 2018. CD-ROM, 200 pp. ISBN 978-80-227-4732-5 (in English)

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# DEPARTMENT OF MATERIAL ENGINEERING

**Prof. Ing. Stanislav Uncík, PhD.**

Tel.: +421 2 592 74 686

Fax: +421 2 524 94 357

E-mail: stanislav.uncik@stuba.sk

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory or obligatory elective subjects

Technological Project I

Technological Project II

Concrete Technology I

Structure of Building Materials

Ceramics

Lightweight Concrete

Building Mortars

Technology of Precast Units

Testing

Binders

### 1.2 Postgraduate courses

Building Materials

Selected Chapters from Chemistry II

## 2. THESES

#### Graduate theses

BAŇÁK, R.: Monitoring of the Physico-Mechanical Properties of Lightweight Polymer Concrete Using Recycled Plastic Materials and Wood Chips  
Supervisor: LEDEREROVÁ, M.

BLADOVÁ, D.: Effect of Moisture Parameters on the External Walls of Ecological Wooden Houses Composed of Various Materials  
Supervisor: STRUHÁROVÁ, A.

ČENTÉŠ, M.: Comparison of the Thermal Properties of Hemp Concretes with Different Binder Combinations  
Supervisor: ŠTEFUNKOVÁ, Z.

JACENKO, P.: Monitoring of the Mechanical Properties of Hemp Concrete with Different Binders  
Supervisor: LEDEREROVÁ, M.

KALMAN, P.: Comparison of the Effects of Glass Reinforcement Used in the Form of Fibers and Mats on the Properties of Cement Composites  
Supervisor: ŠTEFUNKOVÁ, Z.

KAPRAL, M.: Physical-Mechanical Properties of Materials Based on Recycled Plastics and Wood Chips  
Supervisor: LEDEREROVÁ, M.

KMEŤ, M.: Design of a Plant for the Production of Precast Concrete Building Components for the Load-Bearing System of Factories  
Supervisor: UNČÍK, S.

KOCZKA, L.: Monitoring the Effect of the Length of Glass Fibers on the Properties of Cement Mortars  
Supervisor: ŠTEFUNKOVÁ, Z.

KOŽUŠKO, P.: Materials for the Construction of Buildings with a 3D Printing Technology  
Supervisor: UNČÍK, S.

KUBIŠ, P.: Monitoring of the Physical Properties of a Hemp Concrete with Various Binder Doses  
Supervisor: ŠTEFUNKOVÁ, Z.

LAJOŠOVÁ, T.: Assessment of the Thermo-Technical Characteristics of External Walls of Low-Energy Buildings with Various Material Compositions  
Supervisor: STRUHÁROVÁ, A.

LIGAČ, M.: Technological Design of a Plant for the Production of Precast Concrete Elements for Factories  
Supervisor: UNČÍK, S.

MOKOŠÁKOVÁ, N.: Preparation of Mortars from an Expanded Perlite Pre-Soaked in Water  
Supervisor: PAVLÍK, V.

ŠTEVAŇÁK, B.: Use of Environmentally Acceptable Plastic Materials and Wood Chips for Construction Purposes with Consideration of Their Physical-Mechanical Properties  
Supervisor: LEDEREROVÁ, M.

TOMÁŠKOVÁ, K.: Comparison of the Basic Physico-Mechanical Properties of Cement Composites Containing Different Doses and Types of Fibers  
Supervisor: ŠTEFUNKOVÁ, Z.

TRNKOVÁ, S.: The Effect of Changes in Pore Structure on the Sorption and Thermal Properties of Autoclaved Aerated Concrete  
Supervisor: STRUHÁROVÁ, A.

## 3. RESEARCH

### 3.1 Research projects

Investigation of Hygrothermal and Mechanical Properties Linked to the Consistency and Structure of Porous Building Materials Based on Mathematical Modeling.  
(2016-2020 KAČUR, J.) APVW-15-0681

### 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

MAJER, R. - GREGOROVÁ, V.: Analysis of the Impact of the Selection of a Technology of a Roof Truss Assembly with Respect to Time and the Financial Costs Expended. In: Czech Journal of Civil Engineering, ISSN 2336-7148. Vol. 4, No. 1 (2018), pp. 65-71 (in Slovak)

ŠTEFUNKOVÁ, Z. - GREGOROVÁ, V. – LEDEREROVÁ, M.: A Comeback to Traditional Materials – Hempcrete. In: Czech Journal of Civil Engineering, ISSN 2336-7148. Vol. 4, No. 1 (2018), pp. 43-49 (in Slovak)

GREGOROVÁ, V. - BLADOVÁ, D. - ŠTEFUNKOVÁ, Z.: Investigation of the Impact of Selected Plasticizing Agents on the Properties of Cement Mortars. In: Czech Journal of Civil Engineering, ISSN 2336-7148. Vol. 4, No. 2 (2018), pp. 50-56 (in Slovak)

ŠTEFUNKOVÁ, Z. - GREGOROVÁ, V. - BLADOVÁ, D. - TOMÁŠKOVÁ, K.: Application of Glass and Polymeric Fibers and Their Effect on the Shrinkage of Cement Mortars. In: Czech Journal of Civil Engineering, ISSN 2336-7148. Vol. 4, No. 2 (2018), pp. 133-139 (in Slovak)

BISKUPIČOVÁ, A. - UNČÍK, S. - LEDEREROVÁ, M.: Monitoring the Impact of a Binder on Lightweight Concrete Properties. In: Czech Journal of Civil Engineering, ISSN 2336-7148. Vol. 4, No. 2 (2018), pp. 14-19 (in English)

BISKUPIČOVÁ, ANDREA: Affecting the Properties of Lightweight Concrete with Various Types of Binder. In: Young Science, ISSN 1339-3189. Vol. 6, No. 5 (2018), pp. 1-6 (in Slovak)

CÁPAYOVÁ, S. - UNČÍK, S. - CIHLÁŘOVÁ, D.: Experience with the Use of Warm Mix Asphalt Additives in Bitumen Binders. In: Slovak Journal of Civil Engineering, ISSN 1210-3896. Vol. 26, No. 1 (2018), pp. 33-39 (in English)

GREGOROVÁ, V. - MAJER, R.: Industrial Floors and Causes of Their Failures. In: Almanach Znalca (Almanach of Experts), ISSN 1336-3174. Vol. 18, No. 2 (2018), pp. 12-15 (in Slovak)

#### Conference Proceedings

GREGOROVÁ, V. - LEDEREROVÁ, M. - ŠTEFUNKOVÁ, Z.: Modification of Hempcrete Binder by Zeolite Additive. In: Sustainable Housing and Human Settlement: Monograph, 1 ed. Dnipro: SHEE - Prydniprovskaya State Academy of Civil Engineering and Architecture, ISBN 978-966-323-182-2. 2018, pp. 177-187 (in English)

SAVYTSKYI, M. - KONOPLANIK, O. - UNČÍK, S. - DUKAT, S. - SAVYTSKYI, A.: Materials for 3D Construction Printing. In: Sustainable Housing and Human Settlement: Monograph, 1. ed. Dnipro : SHEE - Prydniprovskaya State Academy of Civil Engineering and Architecture, ISBN 978-966-323-182-2. 2018, pp. 208-214 (in English)

DAUBNEROVÁ, A. - UNČÍK, S.: Verification of the Selected Properties of Concrete Composites Based on Foam Plastics. In: Juniorstav 2018: Proceedings of 20th International Conference of Postgraduate Students. Brno, CR, 25. 1. 2018. Brno: ECON Publishing, 2018, ISBN 978-80-86433-69-1. pp. 914-919 (in Slovak)

HELLOVÁ, K. - STRUHÁROVÁ, A. - KOSTELECKÁ, M.: The Comparison of Moisture Balance of Diffusion-Open and Diffusion-Closed Structure of a Building Envelope. In: Rehabilitation and Reconstruction of Buildings: Proceedings of the 19th Conference on the Rehabilitation and Reconstruction of Buildings. Prague, CR, 23. - 24. 11. 2017. 1. ed. Zurich: Trans Tech Publications, 2018, ISBN 978-3-0357-1361-9. pp. 23-28 (in English)

LEDEREROVÁ, M.: Kunststoff-Abfälle wie Körnung in hellem Beton. In: RECYCLING 2017: Possibilities and Future of Waste Recycling from Buildings as a Source of Valuable Raw Materials. Proceedings of 23rd Conference, Brno, CR, 19. - 20. April 2018. Brno University of Technology – Faculty of Mechanical Engineering, 2018. ISBN 978-80-214-5602-0. pp. 119-124 (in German)

GREGOROVÁ, V. - LEDEREROVÁ, M. - ŠTEFUNKOVÁ, Z.: The Shrinkage Reduction of Cement Composites by Expansive Additives. In: ATF 2018: Book of proceedings from 6th International Conference on Building Physics and Applied Technology in Architecture and Building Structures. 11-13 Oct. 2018, Leuven, Belgium. 1. ed. Leuven: Katholieke Universiteit Leuven, 2018, ISBN 978-909-031-441-9. pp. 56-61 (in English)

ŠTEFUNKOVÁ, Z. - LEDEREROVÁ, M. - GREGOROVÁ, V.: Comparison of the Efficiency of Glass and Polymer Fibers against the Shrinkage of Cement Composites. In: ATF 2018: Book of proceedings from 6th International Conference on Building Physics and Applied Technology in Architecture and Building Structures. 11-13 Oct. 2018, Leuven, Belgium. 1. ed. Leuven: Katholieke Universiteit Leuven, 2018, ISBN 978-909-031-441-9. pp. 177-182 (in English)

- LEDEREROVÁ, M. - GREGOROVÁ, V. - ŠTEFUNKOVÁ, Z. - DAUBNEROVÁ, A.: Utilization of Waste Plastics as a Filler in Lightweight Concrete and Their Possible Application in Construction. In: ATF 2018: Book of proceedings from 6th International Conference on Building Physics and Applied Technology in Architecture and Building Structures. 11-13 Oct. 2018, Leuven, Belgium. 1. ed. Leuven: Katholieke Universiteit Leuven, 2018, ISBN 978-909-031-441-9. pp. 133-137 (in English)
- URBÁN, D. - HÁTAŠ, D. - RAFAJDUS, P. - BISKUPIČOVÁ, A. - LEDEREROVÁ, M.: Determination of Sound Absorption of a Composite Material by Means of Standing Wave Tube Measurement. In: ATF 2018: Book of proceedings from 6th International Conference on Building Physics and Applied Technology in Architecture and Building Structures. 11-13 Oct. 2018, Leuven, Belgium. 1. ed. Leuven: Katholieke Universiteit Leuven, 2018, ISBN 978-909-031-441-9. pp. 188-192 (in English)
- PAVLÍK, V. - BISAHA, J.: Lightweight Mortars Based on Expanded Perlite. In: Rehabilitation and Reconstruction of Buildings: Proceedings of the 19th Conference on the Rehabilitation and Reconstruction of Buildings. Prague, CR, 23. - 24. 11. 2017, 1. ed. Zurich: Trans Tech Publications, 2018. ISBN 978-3-0357-1361-9. pp. 104-117 (in English)
- DAUBNEROVÁ, A. - UNČÍK, S.: Monitoring of Selected Physical and Thermal Properties of Lightweight Concrete Based on Recycled Foam Plastics. In: Rehabilitation and Reconstruction of Buildings: Proceedings of the 19th Conference on the Rehabilitation and Reconstruction of Buildings. Prague, CR, 23. - 24. 11. 2017, 1. ed. Zurich: Trans Tech Publications, 2018. ISBN 978-3-0357-1361-9. pp. 45-50 (in English)
- GREGOROVÁ, V. - ŠTEFUNKOVÁ, Z. - LEDEREROVÁ, M.: Effects of an Expansive Additive on the Cement Composite Properties. In: Construmat 2018, Herľany, SR, 13. - 15. 6. 2018. IOP Publishing, IOP Conf. Series: Materials Science and Engineering, Vol. 385 (2018), Article No. 012015. doi:10.1088/1757-899X/385/1/012015 (in English)
- LEDEREROVÁ, M. - ŠTEFUNKOVÁ, Z. - GREGOROVÁ, V.: The Use of Environmentally Acceptable Plastic Materials Based on Cement and Polymer Composites Without Consideration to Their Physical Properties. In: Construmat 2018, Herľany, SR, 13. - 15. 6. 2018. IOP Publishing, IOP Conf. Series: Materials Science and Engineering, Vol. 385 (2018), Article No. 012033. doi:10.1088/1757-899X/385/1/012033 (in English)
- ŠTEFUNKOVÁ, Z. - LEDEREROVÁ, M. - GREGOROVÁ, V.: Degradation of Composites Containing Alkali-Resistant Glass Fibers by Ammonium Nitrate Solutions. In: Construmat 2018, Herľany, SR, 13. - 15. 6. 2018. IOP Publishing, IOP Conf. Series: Materials Science and Engineering, Vol. 385 (2018), Article No. 012054. doi:10.1088/1757-899X/385/1/012054 (in English)
- UNČÍK, S. - BLADOVÁ, D.: 3d Printing - The Future of Building Constructions? In: Concrete Days 2018: Proceedings of conference. Bratislava, SR, 8. - 9. 11. 2018. 1. ed. Bratislava: Spectrum STU, 2018. ISBN 978-80-227-4852-0. pp. 153-158 (in Slovak)
- HELLOVÁ, K. - STRUHÁROVÁ, A.: Optimization of Thermal Insulation of External Walls of Wooden Frame Constructions. In: Construmat 2018, Herľany, SR, 13. - 15. 6. 2018. IOP Publishing, IOP Conf. Series: Materials Science and Engineering, Vol. 385 (2018), Article No. 012017. doi:10.1088/1757-899X/385/1/012017 (in English)
- PAVLÍK, V.: Cementitious and Pozzolanic Behaviour of Fly Ash. In: Construmat 2018, Herľany, SR, 13. - 15. 6. 2018. IOP Publishing, IOP Conf. Series: Materials Science and Engineering, Vol. 385 (2018), Article No. 012042. doi:10.1088/1757-899X/385/1/012042 (in English)
- BISKUPIČOVÁ, A. - UNČÍK, S.: History and Development of Lightweight Concrete. In: Advances in Architectural, Civil and Environmental Engineering: 28th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Building Technology, Geodesy and Cartography, Landscaping, Theory and Environmental Technology of Buildings, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Water Resources Engineering, Oct. 24th, 2018, Bratislava. 1. ed. Bratislava: Spektrum STU, 2018. CD-ROM, ISBN 978-80-227-4864-3. pp. 110-114 (in Slovak)
- DAUBNEROVÁ, A. - UNČÍK, S.: The Influence of Binder Dilution on the Properties of Lightweight Composites. In: Construmat 2018, Herľany, SR, 13. - 15. 6. 2018. IOP Publishing, IOP Conf. Series: Materials Science and Engineering, Vol. 385 (2018), Article No. 012010. doi:10.1088/1757-899X/385/1/012010 (in English)
- HELLOVÁ, K.: Comparison of the Amount of Condensed Water Vapor in the External Walls of a Timber Structure by Modeling. In: Advances in Architectural, Civil and Environmental Engineering: 28th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Building Technology, Geodesy and Cartography, Landscaping, Theory and Environmental Technology of Buildings, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Water Resources Engineering, Oct. 24th, 2018, Bratislava. 1. ed. Bratislava: Spectrum STU, 2018, CD-ROM. ISBN 978-80-227-4864-3. pp. 123-128 (in Slovak)

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# DEPARTMENT OF BUILDING TECHNOLOGY

Head of Department

Prof. Ing. Jozef Gašparík, PhD.

Tel.: +421 2 522 74 590

Fax: +421 2 529 68 811

E-mail: [jozef.gasparik@stuba.sk](mailto:jozef.gasparik@stuba.sk)

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Building Technology and Management  
Building Economy (English)  
Building Technology (English)  
Technology of Construction Processes 1,2,3  
Building Realization  
Construction Economics  
Environmental Protection  
Occupational Safety and Health During the Realization of Construction Processes  
Technological Project  
Excursion (Bachelor degree)  
Professional Training (bachelor degree)  
Bachelor Thesis  
State exam (bachelor degree)  
Quality Management in Civil Engineering (English)  
Facility Management (English)  
Financial Management (English)  
Building Planning and Realization (English)  
Technology of Building Renovation (English)  
Building Site Management (English)  
Facility Management in Construction  
Pre-Construction Design  
Modelling of Construction Processes  
Technology of Building Renovation 1  
Application of Information Technology in Pre-Construction Design  
Financial Management  
Professional Training (Master's degree)  
Building Site Management  
Excursion (Master's degree)  
Quality Management in Construction  
Thesis (Master's degree)

Environmental Management System  
Occupational Safety and Health Management for Buildings  
Technological Project 1,2  
Forensic Activities  
State Exam (Master's degree)  
Costs and Prices in the Building Industry

#### Obligatory elective subjects

Information Technology in Building Technology  
Managers in Construction  
Civil Engineering in Practice  
Technology of Finished Processes  
Building Pathology  
Non-Destructive Testing  
Technology of Building Renovation 2  
Technological Processes in Technical Facilities  
Technology of Historical Buildings  
Ethics of an Undertaking

#### Recommended subjects

Building Information Modelling

### 1.2 Postgraduate courses

Building Technology  
Dissertation Project 1,2,3,4,5,6,7  
Scientific and Publication Activities 1,2,3,4,5  
Internship Abroad  
Dissertation Exam  
Dissertation Work

## 2. THESES

### 2.1 Bachelor theses

There were 62 works.

## 2.2 Graduate theses

BABÁL, J.: Zlate kridlo Residential Complex, Rača.

Supervisor: MATÚŠEK, R.

BUČEK, M.: Construction-Technology Project, " Industrial Area - SO 520, IKEA Components".

Supervisor: CHAMULOVÁ, B.

BUGRIOVÁ G.: Reconstruction and Superstructure of Bezručova 3 and 5.

Supervisor: FUNTÍK, T.

ČAUDER, A.: Construction - Technological Project: Residential Houses - Idanská ul. Košice.

Supervisor: SOMOROVÁ, V.

DEÁK, T.: Selected Parts of the Construction and Technological Preparation of Buildings.

Supervisor: ANTOŠOVÁ, N.

DOBAIEŠ, P.: Mixed-Use Development.

Supervisor: FUNTÍK, T.

DŮMÉNY, G.: Construction - Technological Project: Complex of Residential Houses – Vrakúň.

Supervisor: JANKOVICHOVÁ, E.

FROLO, M.: The Višňové Tunnel.

Supervisor: FUNTÍK, T.

GÁL, K.: Residential Complex, Bratislava.

Supervisor: SZALAYOVÁ, S.

GÁNYOVICS, L.: Construction-Technology Project " Multifunctional Building on Kláštoriná Street, Šamorín".

Supervisor: PROKOPČÁKOVÁ, K.

GRÁČIK, A.: Construction - Technological Project: TUJETOIN Multifunctional Apartment Building.

Supervisor: ĎUBEK, M.

HODOSIOVÁ, R.: Construction - Technological Project - Dunajský rad Complex of Apartment Buildings in Šamorín.

Supervisor: ĎUBEK, S.

HOLLÁ, A.: Construction - Technological Project: PANSKÉ Apartment Building.

Supervisor: ĎUBEK, M.

HUDEC, B.: Construction-Technology Project " Multifunctional Complex Bosáková - Part II. - ALBERO Residential House, Bratislava".

Supervisor: PROKOPČÁKOVÁ, K.

HUDEC, M.: Apartment Building "4" - 22 b.j., Nedožery-Brezany.

Supervisor: PROKOPČÁKOVÁ, K.

JAHELKA, D.: Construction - Technological Project: Nový Háj Multifunctional Residential House.

Supervisor: JANKOVICHOVÁ, E.

JAHELKA, M.: Construction - Technological Project: Multifunctional Building in Live Center.

Supervisor: JANKOVICHOVÁ, E.

JAVORSKÝ, D.: Residential Complex, Bratislava.

Supervisor: SZALAYOVÁ, S.

JURICA, M.: Multifunctional Complex in Bratislava.

Supervisor: SZALAYOVÁ, S.

KADERA, L.: Construction-Technology project " Residential project - Pod Krásnou Hôrkou".

Supervisor: PROKOPČÁKOVÁ, K.

KAJAN, D.: Construction-Technology Project and Corso Karlín II-B (Corso Court).

Supervisor: MATÚŠEK, R.

KALAFUT, S.: Construction-Technology Project – Mendelsohn.

Supervisor: PETRO, M.

KAŠPAR, M.: OC Forum Shopping Center, Prešov.

Supervisor: FUNTÍK, T.

KOLLÁR, P.: Construction - Technological Project - Hajpark1, Kutlíkova Street, Bratislava.

Supervisor: ĎUBEK, S.

KOTULIČ, M.: Construction-Technology Project for the Given Construction " Nobelova Residential Zone

Bratislava, Building A".

Supervisor: CHAMULOVÁ, B.

KOVÁCSOVÁ, N.: Construction-Technology Project " Apartment Buildings Set in Gercenová Centrum

– 3. Building, Bratislava".

Supervisor: PROKOPČÁKOVÁ, K.

KRIŠTOFIČ, Š.: Selected Parts of the Construction and Technological Preparation of Buildings.

Supervisor: ANTOŠOVÁ, N.

KUBIRITOVÁ, K.: Construction-Technology Project for a Multifunctional Complex.

Supervisor: BOŽÍK, M.

KÜRTIOVÁ, M.: Construction-Technological Project - Krasňany I. Residential House, Bratislava.

Supervisor: GAŠPARÍK, J.

LEHOTSKÁ, D.: Selected Parts of the Construction and Technological Preparation of Buildings.

Supervisor: ANTOŠOVÁ, N.



LŐRINCOVÁ, K.: Residential House on Vajnorská.

Supervisor: FUNTÍK, T.

MAJER, R.: Construction-Technology Project: Apartment Building in Bratislava.

Supervisor: PETRO, M.

MOŠKO, M.: Construction Technology Project of Hospital Extension.

Supervisor: BOŽÍK, M.

MURÁNYI, M.: Construction - Residential Project: Mýtna Multifunctional Building, Bratislava.

Supervisor: SOMOROVÁ, V.

PALKOVIČ, M.: Construction-Technology Project " Residential Complex - REZIDENCIA na Kolibe".

Supervisor: CHAMULOVÁ, B.

PASTÍRIK, D.: Construction - Technological Project: TUJETOIN multifunctional Apartment Building, Part 2.

Supervisor: ĎUBEK, M.

POLJAKOVÁ, Z.: Multifunctional Bus Station Structure, Mlynské Nivy.

Supervisor: MAKÝŠ, P.

RAJKOVIČ, T.: Commercial and Administrative Center.

Supervisor: SZALAYOVÁ, S.

RYCHTÁRIK, J.: Selected Parts of the Construction and Technological Preparation of the Building:

Zelená Stráň Residential Park, Košická Nová Ves.

Supervisor: BRIATKA, P.

SEDMÁKOVÁ, M.: Building Technology Project.

Supervisor: GAŠPARÍK, J.

SIVÁK, P.: Construction-Technology Project " Multifunctional Einsteinova Centre, Bratislava – Petržalka".

Supervisor: CHAMULOVÁ, B.

SLOVÁK, J.: Multifunctional House, Bratislava V.

Supervisor: SZALAYOVÁ, S.

SLOVÍKOVÁ, J.: Construction-Technological Project - Čapajevova Residential House -Bratislava,

Petržalka.

Supervisor: GAŠPARÍK, J.

SLUŠŇÁK, M.: Construction - Technological Project of Residential Houses, Jurska Street, Bratislava.

Supervisor: JURÍČEK, I.

STIGLICZ, M.: Construction - Technological Project: Smile Multifunctional Building.

Supervisor: JANKOVICHOVÁ, E.

STRAŇÁKOVÁ, G.: Selected Parts of the Construction and Technological Preparation of Buildings.

Supervisor: ANTOŠOVÁ, N.

ŠTASTNÝ, P.: Construction-Technology Project "SKC Foundry in Štúrovo".

Supervisor: CHAMULOVÁ, B.

TAKÁCS, G.: Construction - Technological Project: Hotel Galanta.

Supervisor: JANKOVICHOVÁ, E.

TURČÁNI, S.: Construction-Technology Project: Beluša Apartment Building.

Supervisor: PETRO, M.

TYROLOVÁ, M.: Building Technology Project.

Supervisor: GAŠPARÍK, J.

VARGOVÁ, A.: Construction-Technology Project " Apartment Buildings Set at the Gala Residence, Galanta".

Supervisor: PROKOPČÁKOVÁ, K.

VÉGHOVÁ, M.: Construction-Technological Project - Krasňany II. Residential House, Bratislava.

Supervisor: GAŠPARÍK, J.

ŽIAČIK, M.: Construction-Technology Project: Domanžanka.

Supervisor: PETRO, M.

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BAŽÍK, P.: Information Infrastructure in the Process of Planning a Building.

Supervisor: GAŠPARÍK, J.

HULINOVÁ, J.: Effectiveness of Costs Incurred to Protect Construction Workers.

Supervisor: HULÍNOVÁ, Z.

LACO, V.: Quality Monitoring of Selected Concrete Elements by the Application of Non-Destructive Testing Methods. \*\*\*\*

Supervisor: GAŠPARÍK, J.

NGUYEN TIEN, M.: The Proposed Use of a Selected Renewable Energy Source for Site Equipment

During the Construction of Buildings

Supervisor: JANKOVICHOVÁ, E.

## 3. RESEARCH

### 3.1 Research projects

TAP - Transforming Assessment Practices in Large Enrollment, First Year of

#### Education

(2016-2019, GAŠPARÍK, J.), ERASMUS+ KA2 573738 – EPP-1-2016-1-PS-EPPKA2-CBHE-SP

MIND - Management - Innovation -Development

(2015-2017, JANKOVICHOVÁ, E.), Project 561539-EPP-1-2015-1-ES-EPPKA2-CBHE-JP, ERASMUS+ KA2,

### 3.2 International cooperation

#### Cooperating institutions

TU Vienna, Austria

TU Munich, Germany

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

International Association on Automation and Robotics in Construction (IAARC), Bratislava, Slovakia

#### Membership in international professional organizations

GAŠPARÍK, J.: Board of Directors (BOD) member of International Association for Automation and Robotics in Construction (IAARC)

GAŠPARÍK, J.: General Secretary of International Association for Automation and Robotics in Construction (IAARC)

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

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- GRINČ, M. - ĎUBEK, M. - BEDERKA, M.: Non-Destructive Detection of Steel Reinforcement in Concrete. In: Eurostav. Vol. 24, No. 4 (2018), pp. 22-25. ISSN 1335-1249 (in Slovak)
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- KRUŠINSKÝ, P. - MAKÝŠ, O.: Investigation of the Durability of Wooden Poles Placed in Concrete. In: *Betonárske dni 2018: zborník príspevkov*. Bratislava, SR, 8. - 9. 11. 2018. 1. ed. Bratislava: Spektrum STU, 2018, pp. 343-348. ISBN 978-80-227-4852-0 (in Slovak)
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MAKÝŠ, O.: Instructions to Prepare Hypothetical Reconstructions of Ruined Monuments. 1. ed. Pezinok: Renesans, 2018. 56 pp. ISBN 978-80-89983-06-3 (in Slovak)

PETRÁŠ, D. (ed.) - SOMOROVÁ, V. (ed.) - ŠVECOVÁ, Z. (ed.): Facility Management 2018. Pracovníci + Prostredie = Prosperita: zborník prednášok zo 16. vedecko-odbornej konferencie so zahraničnou účasťou. Štrbské Pleso, SR, 1 - 2. Oct. 2018. 1. ed. Bratislava: SSTP, 2018. CD-ROM, 100 pp. ISBN 978-80-89878-28-4 (in Slovak)

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FUNTÍK, T. (trans.): STN EN ISO 29481-1 Building Information Models. Information Delivery Manual: Part 1: Methodology and Format. 1. ed. Bratislava: Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2018. 36 pp. (in Slovak)

FUNTÍK, T. (trans.): STN EN ISO 12003-3 Building Construction. Organization of Information about Construction Works Part 3: Framework for Object-Oriented Information. 1. ed. Bratislava: Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2018. 40 pp. (in Slovak)

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# DEPARTMENT OF SANITARY AND ENVIRONMENTAL ENGINEERING

Head of Department

Prof. RNDr. Ivona Škultétyová, PhD.

Tel.: +421 2 592 74 702

Fax: +421 2 592 74 602

E-mail: ivona.skultetyova@stuba.sk

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Environmental Technology  
Environmental Engineering  
Water Chemistry and Hydrobiology  
Chemistry of Water, Soil, Air and Waste  
Environmental Hygiene  
Landscape Engineering  
Infrastructure of Urban Regions  
Landscape Engineering and Infrastructure 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 6 works

### 2.2 Graduate theses

BALÁTOVÁ, A.: Stormwater Surface Runoff in Urbanised Area of the Municipality of Terchová  
Supervisor: HOLUBEC, M.

BOLEŠOVÁ M.: Optimal Management System with Biodegradable Waste  
Supervisor: GALBOVÁ, K.



BORÁK, A.: Analysis of the Effectiveness of Regulatory Objects in a Sewer Network and Their Effect on the Environment

Supervisor: HRUDKA, J.

BRESTOVANSKÝ, J.: Assessment of the Hydraulic Capacity of the Sewerage Network of Trnava

Supervisor: HRUDKA, J.

JAKUBČIAK, J.J.: Drinking Water for the Recreational Area of the Demänovská Dolina

Supervisor: BARLOKOVÁ, D.

JAVOREKOVÁ, Z.: Conceptual Design and Assessment of the Sewerage Network in an Environment of Large Urban Settlements

Supervisor: HRUDKA, J.

LETKO, J.: Utilization of Membrane Filtration in Water Treatment

Supervisor: ILAVSKÝ, J.

MASÁR, M.: Proposal for Biodegradable Solid Waste Management in Bratislava - Minicipal District of Rača

Supervisor: ŠKULTÉTYOVÁ, I.

RÓZSA, G.: Smart City - Effective Waste Management.

Supervisor: GALBOVÁ, K.

SLNEKOVÁ, L.: Design of a Waste Collection Center for a Municipal District of Bratislava – Dúbravka

Supervisor: GALBOVÁ, K.

SVRČEK, R.: Stormwater Surface Runoff in an Urbanised Area of the Municipality of Pezinok Supervisor: HOLUBEC, M.

VAVRO, M.: Design and Hydrodynamic Assessment of a Wastewater Treatment Plant Using Mathematical Models

Supervisor: HRUDKA, J.

## 2.3 Doctoral theses

CSICSAIOVÁ, R.: CFD Simulation of Objects in a Sewer Network

Supervisor: STANKO, Š.

DUBCOVÁ, M.: Use of Multi-Criterial Analysis for the Sustainability of Water Management Systems

Supervisor: ŠKULTÉTYOVÁ, I.

GREGUŠOVÁ, V.: Mathematical Simulation of WWTP Structures

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.

KUNŠTEK, M.: Pharmaceuticals in Water and Possibilities for Their Removal

Supervisor: BARLOKOVÁ, D.

MARKO, I.: Application of Regulatory Objects in a Sewer Network and Their Environmental Impact

Supervisor: STANKO, Š.

MARTON, M.: Identification and Removal of Micropollutants from Water

Supervisor: ILAVSKÝ, J.

RUSNÁK, D.: Significance of Boundary Conditions in a Hydraulic Assessment of a Sewage Network

Supervisor: STANKO, Š.

TROŠANOVÁ, M.: Reverse Logistics in Waste Management

Supervisor: ŠKULTÉTYOVÁ, I.

## 3. RESEARCH

### 3.1 Research projects

Localisation of Accidental Point Sources of Pollution in Watercourses Based on On-Line Monitoring Data (2016-2019, SOKÁČ, M.) VEGA 1/0805/16

Development of Methods for the Correct Application of Disinfectants for Healthy and Safe Drinking Water (2016-2019, Ilavský, J.) APVV-15-0379

Analysis of the Impact of a Green Infrastructure for Qualitative and Quantitative Indicators of Surface Water and Their Impact on Groundwater in an Urban Area (2017-2018, HRUDKA, J.) STU Grant for Excellence Team of Young Researchers

Analysis of Rainfall - Runoff Process and Assessment of Combined Sewer Network with the Design of Ecological Stormwater Management in an Urbanized Area (2018, Csicsaiová, R.) STU Grant for 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

American University of Armenia, Yerevan, Armenia

Engineering Academy of Armenia, Yerevan, Armenia

Kaunas University of Technology, Kaunas, Lithuania

Kazakh National Agrarian University, Almaty, Republic of Kazakhstan

National Polytechnic University of Armenia, Yerevan, Armenia  
 Peter the Great St.Petersburg Polytechnic University, St. Petersburg, Russia  
 Satbayev Kazakh National Technical University, Almaty, Republic of Kazakhstan  
 Second University of Naples, Caserta, Italy  
 South Ural State University, Chelyabinsk, Russia  
 Tambov State Technical University, Tambov, Russia  
 Technical University of Iasi, Iasi, Romania  
 University of Genoa, Genoa, Italy  
 University of Rzeszów, Rzeszów, Poland  
 Ural Federal University, Ekaterinburg, Russia  
 Voronezh State University of Architecture and Civil Engineering, Voronezh, Russia

### Membership in international professional organizations

BARLOKOVÁ, d.: Member of The Czech Water Association  
 ILAVSKÝ, J.: Member of The Czech Water Association  
 STANKO, Š: Member of International Association of Hydrological Sciences, IAHS  
 STANKO, Š: Member of International Water Association, IWA, Chairman of the National Board Committee  
 ŠKULTÉTYOVÁ, I.: Member of International Water Association, IWA, member of the National Board Committee  
 ŠKULTÉTYOVÁ, I.: Member of International Solid Waste Association, ISWA

## 4. PUBLICATIONS

### Books

GREGUŠOVÁ, V.: Mathematical Modeling of Sedimentation Basins in Wastewater Treatment Plants. 1. ed. Bratislava : Spektrum STU, 2018. CD-ROM, Ed. of Scientific Papers, No. 173rd. ISBN 978-80-227-4860-5, 81 pp. (in Slovak)  
 RUSNÁK, D.: The Significance of the Boundary Conditions of a Hydraulic Sewer Assessment. 1. ed. Bratislava : Spektrum STU, 2018. CD-ROM, Ed. of Scientific Papers, No. 174th. ISBN 978-80-227-4861-2, 105 pp. (in Slovak)

### Journals

BARLOKOVÁ, D. – ILAVSKÝ, J. – ŠAMAJ, A. – KAPUSTA, O. – ŠIMKO, V.: Calcium and Magnesium in Drinking Water. In: Plynár - vodár - kúrenár + klimatizácia. Vol. 16, No. 5 (2018), ISSN 1335-9614, pp. 8-11 (in Slovak)  
 BOŽÍKOVÁ, J. – VANDROVÁ, G.: Hydrogeological Structures and Sources of Natural Mineral Water in Nimnica and Their Protection. In: Podzemná voda. Vol. 24, No. 1 (2018), ISSN 1335-1052, pp. 1-18 (in Slovak)

DUBCOVÁ, M. – GALBOVÁ, K. – ŠKULTÉTYOVÁ, I.: Environmental Assessment of the Operation of Wastewater Treatment Plants. In: Pollack Periodica. Vol. 13, No. 1 (2018), ISSN 1788-1994, pp. 113-124 (in English)

HRUDKA, J. – MARKO, I. – CSICSAIOVÁ, R.: Analysis of the Suitability of Decentralized and Centralized Wastewater Management in Large Area. In: Czech Journal of Civil Engineering. Vol. 4, No. 2 (2018), online, ISSN 2336-7148, pp. 63-68 (in English)

HRUDKA, J. – CSICSAIOVÁ, R. – MARKO, I.: Assessment of Existing Stormwater Network by Application Extreme Rain Intensity. In: Czech Journal of Civil Engineering. Vol. 4, No. 2 (2018), online, ISSN 2336-7148, pp. 57-62 (in English)

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MARKO, I. – BARLOKOVÁ, D. – ILAVSKÝ, J.: Removal of Bromates from Drinking Water with Seven Types of Sorbent Materials. In: Pollack Periodica. Vol. 13, No. 3 (2018), ISSN 1788-1994, pp. 231-240 (in English)

RUSNÁK, D. – STANKO, Š. – TROŠANOVÁ, M.: Design Rainfall Analysis Tool for Urbanized Areas in Slovak Republic. In: Pollack Periodica. Vol. 13, No. 2 (2018), ISSN 1788-1994, pp. 107-116 (in English)

SOKÁČ, M.: Quo Vadis, Urban Drainage? In: Gaz, voda i tehnika sanitarna. Vol. 92, No. 3 (2018), ISSN 0016-5352, pp. 95-98, 104 (in English)

SOKÁČ, M. – VELÍSKOVÁ, Y. – GUALTIERI, C.: An Approximate Method for 1-D Simulation of Pollution Transport in Streams with Dead Zones. In: Journal of Hydrology and Hydromechanics. Vol. 66, No. 4 (2018), ISSN 0042-790X, p. 437-447 (in English)

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# DEPARTMENT OF BUILDING SERVICES

Head of Department

Prof. Ing. Dušan Petráš, PhD.

Tel.: +421 2 592 74 711

Fax: +421 2 529 61 137

E-mail: dusan.petras@stuba.sk

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Building Services 1, 2, 3 (Slovak)

Building Services 1, 2 (English)

Thermomechanics

Sanitary Techniques 1 (Water Supply, Sewerage)

Sanitary Techniques 2 (Gas Mains)

Heating

Ventilation, Air-Conditioning - Cooling 1,2

Hydraulics of Heating Systems

Design Studio 1 - Sanitary Techniques

Design Studio 2 - Heating

Design Studio 3 - Ventilation, Air-Conditioning and Cooling

Measurement and Control of Building Services

Energy Audit of Buildings

Renewable Energy Sources

Building Control Systems

Energy Supply of Buildings

Excursions

Practice

Special Seminar

Diploma Seminar

#### Obligatory elective subjects

Heat and Mass Transfer

Indoor Environment

Fire-Fighting Equipment of Industrial Air Conditioning Systems Buildings

Environmental Engineering of Intelligent Buildings

Heating Systems

Sanitary Facilities

Theory and Technology of Combustion

Ventilation, Air-Conditioning and Cooling Systems

Methods of Research in Sanitary Techniques

Methods of Research in Heating

Methods of Research in Ventilation and Air Conditioning

Operation of Sanitary Facilities

Operation of Heating Systems

Operation of Ventilation and Air Conditioning Systems

#### Optional subjects

Energy Audit of Buildings

## 2. THESES

### 2.2 Graduate theses

BARBORÁK, M.: Solar Energy System Design for Heating Domestic Hot Water With Year-Round Use in an Apartment Building.

Supervisor: KOUDELKOVÁ, D.

BEHŮŇOVÁ, S.: Design of Condensing Gas Boilers in Flats and Gas Piping in an Apartment Building.

Supervisor: VÍCHOVÁ, K.

BEZÁK, P.: Reduction of Solar Thermal Load in a Family House with an Indoor Pool Hall, Influence on Ventilation System.

Supervisor: MASARYK, M.

BIES, D.: Design of Selected HVAC Spaces in the Reconstruction of a Historical Building – a Castle.

Supervisor: FÜRI, B.

ČERNÁ, Z.: Biomass Heat Source Design for a Complex of Apartment Buildings.

Supervisor: KOUDELKOVÁ, D.:

ČIČMANCOVÁ, V.: Design of the Sanitary Equipment for the Wellness Center.

Supervisor: PERÁČKOVÁ, J.

DRÁBEKOVÁ, Z.: HVAC Design in a Factory with Large Spaces.

Supervisor: FÜRI, B.

DŽAMBA, P.: Application of a Heat Pump for the Heating and Cooling of a Building with the Support of Photovoltaic Panels.

Supervisor: KALÚS, D.

FABIÁNOVÁ, S.: Design of Low-Temperature Heating for Buildings with Zero Energy Requirements.

Supervisor: PETRÁŠ, D.

FERKO, L.: Design of the Water Supply and Drainage of a Multi-Functional Apartment Building Using BIM Software.

Supervisor: PERÁČKOVÁ, J.

FRIEDL, M.: Design of Low Temperature Heating with a Heat Pump.

Supervisor: PETRÁŠ, D.

GOLIÁŠ, M. Design of Space Heating and Cooling for an Administrative Building with a Reversible Heat Pump.

Supervisor: FÜRI, B.

GOMBOŠOVÁ, V.: Design of a Solar Energy System for Hot Water Heating with Year-Round Use in an Apartment Building in Trenčín.

Supervisor: SKALÍK, L.

HANZLÍK, O.: Design of the Water Supply for a Fire Station.

Supervisor: JÁNOŠKOVÁ, T.

HOLUBJÁK, L.: Partial Air-Conditioning of an Office Building Using Decentralized Heat Recovery Units.

Supervisor: STRAKOVÁ, Z.

CHALÁNYOVÁ, Z.: Energy Audit of a Public Building.

Supervisor: PETRÁŠ, D.

IZAKOVIČOVÁ, B.: Design of a Gas Boiler Room up to 50 kW in a Residential Building.

Supervisor: VÍCHOVÁ, K.

IZSMÁN, V.: Calculation and Design of a Heat Source Based on Biomass for a Primary School in Horná Potôň.

Supervisor: TAKÁCS, J.

JENDRICHOVSKÁ, A.: Design of a Source of Heat and Cold Using Renewable Energy Sources.

Supervisor: KALÚS, D.

JUHOŠOVÁ, D.: Recovery of Heat from Waste Heat from a Sewer System.

Supervisor: PERÁČKOVÁ, J.

KISS, K.: Analysis of Hot Water Consumption in Dwelling Houses.

Supervisor: JÁNOŠKOVÁ, T.

KONTRÓŠ, J.: Electric Heating Design for a Hotel.

Supervisor: KOUDELKOVÁ, D.

KOVÁCSIOVÁ, R.: Calculation and Design of a Heat Source Based on Biomass for a Primary School in Horná Potôň.

Supervisor: TAKÁCS, J.

KOVÁČIK, P.: Realization Project of the Heating and Cooling of an Apartment Building.

Supervisor: KOUDELKOVÁ, D.

KOZMON, M.: Calculation and Design of a Wood Chip Heat Source for a Primary School in Svätý Jur.

Supervisor: TAKÁCS, J.

KRAJČÍROVÁ, S.: Evaluation of the Use of Geothermal Energy for the Heat Source of the Residential District in Veľký Meder.

Supervisor: TAKÁCS, J.

KUČERÍK, J.: Design of Heat and Cold Sources for a Rehabilitation and Relaxation Center.

Supervisor: KURČOVÁ, M.

KUSÝ, M.: Design of Sanitary Technology with the Reuse of Rainwater for a Dwelling House Using TECHCON Software.

Supervisor: PERÁČKOVÁ, J.

KUVIKOVÁ, Z.: Implementation Project of Heating for a Kindergarten.

Supervisor: KURČOVÁ, M.

KVASNICA, R.: Design of a Gas Boiler Room with a Power Output Over 50 kW in an Apartment Building.

Supervisor: VÍCHOVÁ, K.

LAUBERTOVÁ, L.: Design of Alternative Systems for Hot Water Preparation in a Residential Building.

Supervisor: VÍCHOVÁ, K.

MAJCHRÁKOVÁ, M.: Design of the Ventilation in Selected Spaces of a Library Building.

Supervisor: FÜRI, B.

MARTIŠOVÁ, A.: Design of Technical Equipment for a Restaurant.

Supervisor: JÁNOŠKOVÁ, T.

MASKALÍK, M. Ventilation and Air-Conditioning of an Office Building Using a Heat Pump.

Supervisor: HURTÍKOVÁ, D.

MATEJÍKOVÁ, M.: Design of Low-Temperature Heating and High-Temperature Cooling in a Residential Building.

Supervisor: KALÚS, D.

MAŤOVÁ, M.: Calculation and Optimization of the Energy Demands of an Apartment Building by Computer Simulation.

Supervisor: KRAJČÍK, M.

MEŇOVČÍK, M.: Reconstruction of a Heat Source – a Gas Boiler Room.

Supervisor: KALÚS, D.

MEŠTÁNEKOVÁ, D.: Ventilation and Warm-Air Heating of a Factory.

Supervisor: STRAKOVÁ, Z.

MLYNÁROVÁ, S.: Ventilation of an Office Building in Combination with Passive Solar Cooling.

Supervisor: ŠABÍKOVÁ, J.

NAGYOVÁ, B.: Energy Audits of Office Buildings.

Supervisor: PETRÁŠ, D.

ONDREK, M.: Calculation and Design of a Heat Source in Combination with a Cogeneration Unit and a Water Heat Pump for a Residential District.

Supervisor: TAKÁCS, J.

PALEČKOVÁ, E.: Design of a Split Sewage System with Vacuum Drainage of the Roof of a Multifunctional Building.

Supervisor: PERÁČKOVÁ, J.

PAPANOVÁ, M.: Ventilation of Theater Spaces with the Application of a Recuperation Unit.

Supervisor: HURTÍKOVÁ, D.

RAJNOHOVÁ, S.: Energy Audit of an Office Building.

Supervisor: KRAJČÍK, M.

SMALÍK, S.: Central Ventilation of an Apartment Building with the Application of a Recuperation Unit. Supervisor: HURTÍKOVÁ, D.

SOKOLOVÁ, Z.: Energy Audit of an Office Building.

Supervisor: KRAJČÍK, M.

ŠEVČÍKOVÁ, N.: Decentralized Ventilation of Logistical Centre Storage.

Supervisor: STRAKOVÁ, Z.

ŠIKO, J.: Reduction of the Solar Thermal Load at a Factory, Effect on Ventilation System.

Supervisor: MASARYK, M.

ŠURÁŇOVÁ, M.: Realization Project of a Low Pressure Gas Boiler Room.

Supervisor: KOUDELKOVÁ, D.

TAMAŠKOVIČ, M.: Design of a Water Supply for a Multifunctional Building.

Supervisor: JÁNOŠKOVÁ, T.

TATARKA, T.: Alternatives to Rainwater Soaking for an Old Age Home.

Supervisor: PERÁČKOVÁ, J.

ŤAPAJ, J.: Application of Active Thermal Protection for Heating and Cooling Buildings with Almost Zero Energy Needs.

Supervisor: KALÚS, D.

ULEHLOVÁ, M.: Alternative Solution for the Complex Renovation of a Basic School.

Supervisor: PETRÁŠ, D.

VNAD, M.: Design of a Drainage System in an Office Building.

Supervisor: JÁNOŠKOVÁ, T.

ZAHOREC, M.: Design of a Water Supply, Wastewater and Rainwater Drainage in a Museum Using BIM Software.

Supervisor: VÍCHOVÁ, K.

ZATKOVIČ, P.: Design of the Heating and Cooling System of a Rehabilitation and Relaxation Center:

Supervisor: KURČOVÁ, M.

ZÁVIŠ, P.: Design and Optimization of Technical Systems for a Low-Energy Apartment Building.

Supervisor: KRAJČÍK, M.

## 2.3 Doctoral theses

BARTOŠOVÁ KMEŤKOVÁ, J.: Technical and Economic Assessment of the Complex Renovation of Apartment Buildings and Their Life Cycle.

Supervisor: PETRÁŠ, D.

## 3. RESEARCH

### 3.1 Research projects

Energy Efficiency and Indoor Environments in Buildings with Near Zero Energy Consumption

Danube Strategy Project No. DS-2016-0030

Low Energy Systems for Indoor Environments – Alternative Energy Base  
VEGA1/0847/18

Intelligent Building Service Control – Predictive Model and Computer Simulation Support

VEGA1/0807/17

Energy Audits and Energy Certification of Buildings

KEGA 044STU-4/2018

### 3.2 International cooperation

#### Cooperating institutions

Danmarks Tekniske Universitet, Lyngby, Denmark

Fachhochschule Burgenland, Pinkafeld, Austria

Ensi – Energy Saving International AS, Oslo, Norway

Budapest University of Technology and Economics, Budapest, Hungary

#### Membership in international professional organizations

PETRÁŠ, D.: ASHRAE, Atlanta, USA

PETRÁŠ, D.: ISIAQ, Austin, USA

PETRÁŠ, D.: REHVA, Brussels, Belgium



## 4. PUBLICATIONS

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- VÍCHOVÁ, K.: New When Running Classic Heat Sources. In: *Vykurovanie 2018 : zborník prednášok z 26. medzinárodnej vedecko-odbornej konferencie na tému Nové trendy v zásobovaní budov teplom*. Podbanské, SR, 12. - 16. 2. 2018. 1. ed. Bratislava : SSTP, 2018, CD-ROM, pp. 95-98. ISBN 978-80-89878-20-8 (in Slovak)
- VÍCHOVÁ, K.: Biomass - Current State and New Trends. In: *Obnoviteľné zdroje energie 2018 : zborník prednášok z 18. vedecko-odbornej konferencie so zahraničnou účasťou na tému "Nízkoteplotné systémy zásobovania teplom"*. Nový Smokovec, SR, 16. - 17. 5. 2018. 1. ed. Bratislava : SSTP, 2018, CD-ROM, pp. 79-81. ISBN 978-80-89878-24-6 (in Slovak)

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VÍCHOVÁ, K.: Revisions and Capabilities for the Operation of Apartment Buildings within an Offshore Gas Installation. In: Komplexná obnova bytových domov 2018. Budovy s takmer nulovou potrebou energie : zborník prednášok z XII. medzinárodnej odbornej konferencie. Podbanské, SR, 21. - 23. 11. 2018. 1. ed. Bratislava : Združenie pre podporu obnovy bytových domov, 2018, pp. 143-147. ISBN 978-80-972493-6-6 (in Slovak)

## Patents and Standards

VÍCHOVÁ, K.- GULÁŠ, P.- KOVAČKOVÁ, Z.: Box of an Incandescent/Snap-on Portable Focal Point and an Insulated/Reconnaissance Portable Focal Point : Utility Model No. 8339. Banská Bystrica : Úrad priemyselného vlastníctva Slovenskej republiky, 2018. 9 pp. (in Slovak)

VÍCHOVÁ, K.- GULÁŠ, P.- KOVAČKOVÁ, Z.: Box of Portable Heater/Stove, Box of Portable Heater/Bathing Hearth and Portable Heater/Bathing Hearth : Utility Model no. 31 951. Brno : Úřad průmyslového vlastnictví, 2018. 9 pp. (in Czech)

## Others

JÁNOŠKOVÁ, T.: Measurement and Heat Cost Allocations 2018. 1. ed. Bratislava : SSTP, 2018. CD-ROM, 162 pp. ISBN 978-80-89878-35-2 (in Slovak)

PERÁČKOVÁ, J.: Sanhyga 2018 : Zborník prednášok z 23. vedecko-technickej konferencie zdravotnej techniky. Piešťany, SR, 11. - 12. 10. 2018. 1. ed. Bratislava : SSTP, 2018. CD-ROM, 219 pp. ISBN 978-80-89878-30-7 (in Slovak)

PETRÁŠ, D.: ŠVECOVÁ, Z.: Heating 2018. 1. ed. Bratislava : SSTP, 2018. CD-ROM, 487 pp. ISBN 978-80-89878-20-8 (in Slovak)

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PETRÁŠ, D.- SOMOROVÁ, V.- ŠVECOVÁ, Z.: Facility Management 2018. Pracovníci + Prostředie = Prosperita : zborník prednášok zo 16. vedecko-odbornej konferencie so zahraničnou účasťou. Štrbské Pleso, SR, 1 - 2. Oct. 2018. 1. ed. Bratislava : SSTP, 2018. CD-ROM, 100 pp. ISBN 978-80-89878-28-4 (in Slovak)

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# DEPARTMENT OF ARCHITECTURE

## Head of Department

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

Tel.: +421 2 592 74 545

Fax: +421 2 529 61 448

E-mail: jarmila.huseniceva@stuba.sk

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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 a Built Environment

### 1.2 Postgraduate courses

Doctoral Degree Study: Theory and Construction of Building Structures

## 2. THESES

### 2.1 Bachelor theses

There were 23 works.

### 2.2 Graduate theses

ARNOULD, M. M. J.: Downtown Kerling - Banská Štiavnica

Supervisor: NÁDASKÁ, Z.

BAHNA, R.: Centre of STU University

Supervisor: HÚSENICOVÁ, J.

BAKŮŠ, M.: Passenger Port in Bratislava

Supervisor: BORECKÁ, E.

BLAHOVÁ, Z.: Passenger Port in Bratislava

Supervisor: BORECKÁ, E.

FABIANOVÁ, M.: Mountain Hotel

Supervisor: MELLNER, D.

FÖLDESIOVÁ, A.: Cultural Centre in Levice

Supervisor: HÚSENICOVÁ, J.

GUBELOVÁ, V.: Downtown Kerling, Banská Štiavnica  
Supervisor: NÁDASKÁ, Z.

CHMELÁR, Š.: Residential Area, Dubai  
Supervisor: KURÁŇ, J.

KMEŤKO, M.: Winery  
Supervisor: MELLNER, D.

MAKOVNÍKOVÁ, S.: Presentation of the Archeological Site and Building Visitor Centre in Budmerice  
Supervisor: BORECKÁ, E.

KOPIAR, L.: MultiComfort House, Dubai  
Supervisor: PAŇÁK, P.

MATOUŠEK, J.: Residential Area, Dubai  
Supervisor: KURÁŇ, J.

MINÁRECHOVÁ, S.: Adaptation of Oponice Castle for Cultural and Social Activities  
Supervisor: GREGOROVÁ, J.

MUŠKOVÁ, L.: Archo Open Air Museum and Visitor Centre, Havránok  
Supervisor: HÚSENICOVÁ, J.

OLEJ, V.: Adaptation of Oponice Castle for Cultural and Social Activities  
Supervisor: GREGOROVÁ, J.

ONDRÁŠIKOVÁ, K.: Student Residence in Bratislava  
Supervisor: MELLNER, D.

PRÁŠILOVÁ, M.: Passenger Port in Bratislava  
Supervisor: BORECKÁ, E.

RELL, J.: Winery in Viničky  
Supervisor: PAŇÁK, P.

SKORŠEPOVÁ, S.: Residential Area, Dubai  
Supervisor: KURÁŇ, J.

SLAVKOVSKÝ, M.: Residential Area, Dubai  
Supervisor: HÚSENICOVÁ, J.

ŠKODAK, A.: Archo Open Air Museum and Visitor Centre, Havránok  
Supervisor: HÚSENICOVÁ, J.

ŠTULRAJTER, L.: Multicomfort House, Dubai  
Supervisor: PAŇÁK, P.

ZETOCHOVÁ, J.: Downtown Kerling, Banská Štiavnica  
Supervisor: NÁDASKÁ, Z.

## 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

## 4. PUBLICATIONS

### Books

BORECKÁ, Eva. Traditional Modern in Slovakia : Architects Franz Wimmer and Endre Szönyi. 1. ed. Brno : CERM, 2018. 126 pp. ISBN 978-80-7204-987-5 (in Slovak)

PILAŘ, Pavol. Handbook of Slovak Cultural Policy III. In: Rukoväť slovenskej kultúrnej politiky I. - III.1. ed. Bratislava: Hercool, 2018, pp. 49-65 [1, 12 AH]. ISBN 978-80-97305-40-6 (in Slovak)

### Journals

BORECKÁ, Eva. Modern Architecture – Part of National Cultural Heritage? In: Kultúrny kyslík. Vol. 5, No: 4A (2018), online, pp. 20-22. ISSN 1339-6919 (in Slovak)

ROOZEN, Nicolaas Bernardus - LECLÈRE, Quentin - URBÁN, Daniel - ECHENAGUCIA, T. Mendez - BLOCK, Philippe - RYCHTÁRIKOVÁ, Monika - GLORIEUX, Christ. Assessment of the Airborne Sound Insulation from Mobility Vibration Measurements; a Hybrid Experimental Numerical Approach. In: Journal of Sound and Vibration. Vol. 432, (2018), pp. 680-698. ISSN 0022-460X (in English)

RYCHTÁRIKOVÁ, Monika - CHMELÍK, Vojtech - URBÁN, Daniel. New Trends in Building and Room Acoustics. In: Eurostav. Vol. 24, pp. 7-8 (2018), pp. 40-44. ISSN 1335-1249 (in Slovak)

ŠIMKO, Martin - ŠIMKO, Peter. Accumulation Capacity of Reinforced Concrete Wall With Active Thermal Protection, part II. In: TzB Haustechnik. Vol. 11, 2018, pp. 48-51. ISSN 1803-4802 (in Czech)

VOJTEKOVÁ, Eva - GREGOROVÁ, Jana - POLOMOVÁ, Beata - SÁSIKOVÁ, Karolína. Monument Restoration: A Controlled Task Does Not Limit Creativity. In: World Transactions in Engineering and Technology Education. Vol. 16, No. 3 (2018), pp. 269-274. ISSN 1446-2257 (in English)

### Conference Proceedings

BENKLEWSKI, Jakub - MUELLNER, Herbert - HORVAT, Marko - JAMBROSIĆ, Kristian - CHMELIK, Vojtech - ZELEM, Lukas - RYCHTÁRIKOVA, Monika - GLORIEUX, Christ. The Influence of the Reproduction System on the Results of Listening Tests in Building Acoustics. In: Euronoise 2018: Conference Proceedings. May 27-31, Heraklion - Crete, Greece. 1. ed. Madrid: European



Acoustics Association, 2018, USB Flash, pp. 1593-1599. ISSN 2226-5147 (in English)

BORECKÁ, Eva. Between Traditional and Modern: Architects Franz Wimmer and Endre Szönyi. In: Forum & Czech-Slovak Modernism. International Scientific Conference Proceedings. Brno, Czech Republic, 13 Nov. 2018. 1st ed. Brno: Akademické nakladatelství CERM, 2018, pp. 60-70. ISBN 978-80-7204-992-9 (in Slovak)

BRÁNICKÝ, Filip. Family House in Orava Region. In: Architecture in Perspective 2018. Proceedings of International Conference. Ostrava, CR, 29. - 30. Nov. 2018 Architecture in Perspective 2018. Ostrava, VŠB - Technical University of Ostrava, 2018, pp. 161-163. ISBN 978-80-248-4236-3 (in Slovak)

GREGOROVÁ, Jana - VARGIC, Lukáš - KIABOVÁ, Ema. Interdisciplinarity in Planning Restoration of Monuments (case studies). In: CSTI 2018 Conservation Science, Technology and Industry. Bridging Disciplines and Heritage Types - Effective Heritage Protection in the 21st Century, Bratislava, 7-9. March 2018: Proceedings. 1. ed. Bratislava: FCHPT STU in Bratislava, 2018, pp. 103-116. ISBN 978-80-8060-435-6 (in English)

HÚSENICOVÁ, Jarmila - CHMELÍK, Vojtech - RYCHTÁRIKOVÁ, Monika. Influence of Traffic on the Acoustic Comfort of Public Spaces. In XIX. Traffic-Engineering Days. Public Space - Design, Restoration, Utilization and Revitalization, including Transport Engineering Measures: International Seminar, 6th - 7th June 2018, Mikulov, Czech Republic. Czech Road Society, 2018, CD-ROM, pp. 138-141. ISBN 978-80-270-3445-1 (in Slovak)

CHMELÍK, Vojtech - RYCHTÁRIKOVÁ, Monika - MUELLNER, Herbert - JAMBROŠIĆ, Kristian - ZELEM, Lukas - BENKLEWSKI, Jakub - GLORIEUX, Christ - EXEL, Rudolf. Frequency Spectra Discrimination of Broadband Stimuli. In: Euronoise 2018 Conference Proceedings. May 27-31, Heraklion - Crete, Greece. 1. ed. Madrid: European Acoustics Association, 2018, USB Flash, pp. 1503-1506. ISSN 2226-5147 (in English)

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PILAŘ, Pavol. Theater Infrastructures in Slovakia Nowadays Built on the Foundations of National and Cultural Houses. In: Architecture in Perspective 2018: Proceedings from International Conference. Ostrava, CR, 29. - 30. Nov. 2018 Architecture in Perspective 2018. Ostrava: VŠB - Technical University of Ostrava, 2018, pp. 140-143. ISBN 978-80-248-4236-3 (in Slovak)

RYCHTÁRIKOVÁ, Monika. Echolocation of People - What We Know Until Now. 8th Congress of the Alps Adria Acoustics Association: Conference Proceedings. 20-21 Sept. 2018 Zagreb, Croatia. 1. ed. Zagreb: Hrvatsko akustičko društvo, 2018, USB Flash, p. 12. ISBN 978-953-95097-2-7 (in English)

SLUYTS, Yannick - RYCHTÁRIKOVÁ, Monika. Designing Building Interior by Means of Room Acoustic Simulation. In: ATF 2018: Book of Proceedings of 6th International Conference on Building Physics and Applied Technology in Architecture and Building Structures. Oct. 11, 2018, Leuven, Belgium. 1. ed. Leuven: Katholieke Universiteit Leuven, 2018, USB Flash, pp. 165-170. ISBN 978-909-031-441-9 (in English)

ŠIMKOVIČOVÁ, Vladimíra. Emil Belluš and his Work. In: Forum & Czech-Slovak Modernism, International Scientific Conference Proceedings. Brno, Czech Republic, 13 Nov. 2018. 1st ed. Brno: Akademické nakladatelství CERM, 2018, pp. 71-74. ISBN 978-80-7204-992-9 (in Slovak)

VARGIC, Lukáš - GREGOROVÁ, Jana. Reversible Interventions in Introducing New Thermal Insulation Constructions into Modern Monuments. In: ATF 2018: Book of Proceedings of 6th International Conference on Building Physics and Applied Technology in Architecture and Building Structures. Oct. 11, 2018, Leuven, Belgium. 1. ed. Leuven: Katholieke Universiteit Leuven, 2018, USB Flash, pp. 200-205. ISBN 978-909-031-441-9 (in English)

ZELEM, Lukáš - KRITLY, Léopold - CHMELÍK, Vojtech - MUELLNER, Herbert - RYCHTÁRIKOVÁ, Monika. Impact of Late Sound Reflections on Acoustic Conditions in a Restaurant Integrated in a Large Shopping Mall. In: Euronoise 2018: Conference Proceedings. May 27-31, Heraklion - Crete, Greece. 1. ed. Madrid: European Acoustics Association, 2018, USB Flash, pp. 1983-1987. ISSN 2226-5147 (in English)

## Others

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KIABOVÁ, Ema. Opening the ARCHTRIP 2017 Exhibition. In: Spektrum. Vol. 24, No. 7 (2018), p. 23. ISSN 1336-2593 (in Slovak)

RUHIG, Roman. Salon of Architects - Two Exhibitions and the Golden Leonard Award for a Creative Approach. In: Spektrum. Vol. 24, No: 5 (2018), p. 23. ISSN 1336-2593 (in Slovak)

## 5 ACTIVITY IN THE FIELD OF ART

Řehák Ivan: Commemorative Medal – 80th Anniversary of the Beginning of the Education in Construction and Geodesy 5, design and realisation, Trenčín Zlatá huta, Dec. 2018

Řehák Ivan: Tahiti - Collector's Coin in Nominal 10€ for the 100th Anniversary of the Death of Milan Rastislav Štefánik, Slovak National Bank, Bratislava

Řehák Ivan: participation, 2018 XXXV FIDEM Art Medal Congress and Medal Exhibition, Ottawa, Canada

Mellner Dušan: Life in Bratislava in the 4th Millennium BC, design of the exhibition, curatorship, Slovak National Museum, 20. Oct – 31. Dec. 2018, Bratislava

Mellner Dušan: Svojdomev Exhibition in Villa Tugendhat, curator, 13. Sept – 23. Oct. 2018 Brno, Czech Republic

Bránický Filip, Kiabová Ema, Ruhig Roman: Exhibition - Archtrip 2017 – Curatorship, SAS Architecture Gallery, Balassa Palace, Bratislava 2018

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# INSTITUTE OF FORENSIC ENGINEERING

Head of Department

Assoc. Prof. Ing. Zora Petránková, PhD.

Tel.: +421 2 592 74 701

E-mail: zora.petrakova@stuba.sk

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Building Projects Management

Project Management

Obligatory elective subjects

Forensic Engineering

Property Valuation

Financial Management

DVORSKÝ, Ján - SCHÖNFELD, Jaroslav - KOTÁSKOVÁ, Anna - PETRÁKOVÁ, Zora. Evaluation of Important Credit Risk Factors in the SME Segment. In: Journal of International Studies. Vol. 11, No. 3 (2018), pp. 204-216. ISSN 2071-8330 (in English)

DVORSKÝ, Ján - RÓZSA, Zoltán - PETRÁKOVÁ, Zora - KOTÁSKOVÁ, Anna. Evaluation of State Aid for Entrepreneurs and Their Access to Financial Resources: Students' Attitudes in Czech Republic, Poland and Slovakia. In: Marketing and Management of Innovations. Vol. 9, No. 3 (2018), pp. 11-20. ISSN 2218-4511 (in English)

GREGUŠOVÁ, Silvia - ANTOŠOVÁ, Naďa. Methodological Approach for the Valuation of Land under Burial Grounds. In: Almanach znalca. Vol. 18, No. 1 (2018), CD-ROM, pp. 3-8. ISSN 1336-3174 (in Slovak)

GREGUŠOVÁ, Silvia. Legislative Changes in the Field of Expert Activities. In: Almanach znalca. Vol. 18, No. 3 (2018), CD-ROM, pp. 3-7. ISSN 1336-3174 (in Slovak)

### 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 the "Improvement of Experts"

Specialized courses on the "Technical Aspects of Real Estate"

#### Conference Proceedings

ČURPEK, Jakub - JURIGOVÁ, Martina. Current Resonances about Roof Defects. In: Strechy 2018 : zborník prednášok z 25. Bratislavského sympózia. Bratislava, SR, 21. - 22. 11. 2018. 1. ed. Bratislava : Cech strechárov Slovenska, 2018, pp. 160-165. ISBN 978-80-570-0397-7 (in Slovak)

DVORSKÝ, Ján - RÓZSA, Zoltán - PETRÁKOVÁ, Zora - KOTÁSKOVÁ, Anna. Evaluation of State Aid for Entrepreneurs and Their Access to Financial Resources. In: Economics, Management, Finance and Social Attributes of Economic System (EMFSA 2018) : proceedings of international scientific conference. July, 4-7, 2018, Pula. 1. ed. Považská Bystrica : BCSS, 2018, online, p. 30. ISBN 978-80-8154-236-7 (in English)

GREGUŠOVÁ, Silvia. Rights and Obligations of the Expert in Relation to Ensuring the Analysability of an Expert Opinion. In: Oceňovacie prístupy a ich aplikácia v Slovenskej republike a v medzinárodnom prostredí : zborník príspevkov. II. ročník medzinárodnej odbornej konferencie, Bratislava, SR, 30. 5. 2018. Bratislava : Mlpress, 2018, pp. 16-22. ISBN 978-80-971021-3-5 (in Slovak)

HOLLÝ, Ján - JURIGOVÁ, Martina. Moisture Issues in the Roof of an Apartment Building. In: Sborník příspěvků konference Junior Forensic Science Brno 2018 (JuFoS) : 10. odborná konference doktorského studia. Brno, ČR, 26. 4. 2018. 1. ed. Brno : Vysoké učení technické v Brně, Ústav soudního inženýrství, 2018, CD-ROM, pp. 169-173. ISBN 978-80-214-5621-1 (in Slovak)

## 3. RESEARCH

### 3.2 International cooperation

#### Cooperating institutions

VUT Brno, Czech Republic,

VŠB Ostrava, Czech Republic

## 4. PUBLICATIONS

#### Journals

ČURPEK, Jakub - JURIGOVÁ, Martina. Unreliable Solutions of Metal Works During the Realization of Smooth Sheet Metal Roof Coverings. In: Almanach znalca. Vol. 18, No. 1 (2018), CD-ROM, pp. 13-15. ISSN 1336-3174 (in Slovak)

ČURPEK, Jakub - JURIGOVÁ, Martina. Unreliable Construction Solutions of Waterproof Membranes on Flat Roofs. In: Almanach znalca. Vol. 18, No. 3 (2018), CD-ROM, pp. 8-10. ISSN 1336-3174 (in Slovak)

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# DEPARTMENT OF LANGUAGES

Head of Department

PhDr. Dagmar Špíldová

Tel.: +421 2 592 74 262

E-mail: dagmar.spildova@stuba.sk

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## 1. EDUCATION

### 1.1 Graduate study

English

German

### 1.2 Postgraduate courses

Ph.D. courses in Advanced English

## 2. RESEARCH

### 2.1 International cooperation

British Council, Bratislava, Slovakia

Institute of Technology, Tralee, Ireland

## 3. PUBLICATIONS

### Books

ŠPILDOVÁ, Dagmar. English for Civil Engineers. 2nd Ed. (revised) Bratislava : Spektrum STU, 2018. 153 pp. ISBN 978-80-227-4863-6 (in English)

### Textbooks

PÁLOVÁ, Alžbeta. Communication Schemes in the Construction industry - Key. 1st Ed. Bratislava : Spektrum STU, 2018. CD-ROM, 145 pp. ISBN 978-80-227-4797-4 (in German)

### Reviewing

GAMBRILL, D.: Annual Report 2017

GAMBRILL, D.: Journal of Civil Engineering

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# DEPARTMENT OF PHYSICAL EDUCATION

**Head of Department** Mgr. Zuzana Híkl, PhD.  
Tel.: +421 2 592 74 252  
E-mail: zuzana.hikl@stuba.sk

**The Deputy Head of Department**  
Mgr. Marián Decký  
Tel.: + 421 2 59274 556  
E-mail: marian.decky@stuba.sk

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## 1. EDUCATION

### 1.1 Graduate study

#### Optional Subjects

Fitness  
Fitball  
Basketball  
Swimming  
Volleyball  
Beach Volleyball  
Football  
Skiing  
Tennis  
Table Tennis  
Floorball  
Hiking  
Aquagymnastics  
Badminton  
Sport Climbing

#### Conference Proceedings

DECKÝ, Marián - MESIAR, Radko - STUPŇANOVÁ, Andrea. Aggregation Functions Based on Deviations. In: Information Processing and Management of Uncertainty in Knowledge-Based Systems. Theory and Foundations : 17th International Conference, IPMU 2018, Cádiz, Spain, June 11–15, 2018, Proceedings, Part I. [s.l.] : Springer, 2018, USB key, pp. 151-159. ISSN 1865-0937. ISBN 978-3-319-91473-2 (in English)

## 2. RESEARCH

#### Cooperation

The Faculty of Physical Education and Sports, Comenius University,  
Bratislava, Slovakia

## 3. PUBLICATIONS

#### Journals

DECKÝ, Marián - MESIAR, Radko - STUPŇANOVÁ, Andrea. Deviation-Based Aggregation Functions. In: Fuzzy Sets and Systems. Vol. 332, (2018), pp. 29-36. ISSN 0165-0114 (in English)

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# DEPARTMENT OF HUMANE SCIENCES

Head of Department

JUDr. Jana Zajacová, PhD.

Tel.: +421 2 592 74 215, 220

E-mail: janka.zajacova@stuba.sk

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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

History of Architecture and Civil Engineering

Land Law

Law

Legal Forms of Entrepreneurship

Sociology

Practice and Ethics of Architects

#### Obligatory elective subjects

Commercial Law

Construction Law

Engineering Ethics

Environmental Law

Globalization

Macroeconomics

Political Science

#### Optional subjects

Geocology

Philosophy

### 3.2 International cooperation

Czech Technical University, Prague, Czech Republic

## 4. PUBLICATIONS

#### Textbooks

GAJNIAK, Ján Florián: Examples of Building Law. 1. ed. Bratislava : Spektrum STU, 2018. 103 pp. ISBN 978-80-227-4873-5 (in Slovak)

#### Journals

GAJNIAK, Ján Florián: Legal view of the Graduation of the Faculty of Civil Engineering of STU in Bratislava. In: Buildustry. Vol. 2, No. 2 (2018), CD-ROM, pp. 9-15. ISSN 2454-0382 (in Slovak)

GAJNIAK, Ján Florián - GAJNIAK, Ondrej: Remedies against a lawful decision of the building office. In: Almanach znalca. Vol. 18, No. 1 (2018), pp. 28-33. ISSN 1336-3174 (in Slovak)

GAJNIAK, Ján Florián: Comparison of the specificities of Slovak and Czech legislation for the offence of false expertise. In: Almanach znalca. Vol. 18, No. 3 (2018), CD-ROM, pp. 11-14. ISSN 1336-3174 (in Slovak)

GAJNIAK, Ondrej - BARANOVÁ, Júlia: Duplication of names and different meanings of legal institutes in construction law. In: Almanach znalca. Vol. 18, No. 3 (2018), CD-ROM, pp. 34-36. ISSN 1336-3174 (in Slovak)

#### Conference Proceedings

BARANOVÁ, Júlia: Building and environmental legislation. In: The effectiveness of the technical and social sciences in education at technical universities. Bratislava, SR, 28. 6. 2018. 1. ed. Bratislava : Spektrum STU, 2018, CD ROM, pp. 4-11. ISBN 978-80-227-4813-1 (in Slovak)

BARANOVÁ, Júlia - FERÓ, Martin: Development of work competences of young people within the context of the industry 4.0 through non-formal education. In: The effectiveness of technical and social sciences in education at technical universities. Bratislava, SR, 28. 6. 2018. 1. ed. Bratislava : Spektrum STU, 2018, CD ROM, pp. 12-18. ISBN 978-80-227-4813-1 (in Slovak)

GAJNIAK, Ján Florián: Passenger tests in SCHBE in context of education at FCE STU in Bratislava. In: The effectiveness of technical and social sciences in education at technical universities. Bratislava, SR, 28. 6. 2018. 1. ed. Bratislava : Spektrum STU, 2018, CD ROM, pp. 26-31. ISBN 978-80-227-4813-1 (in Slovak)

GAJNIAK, Ondrej - GAJNIAK, Ján Florián: Binding opinion of the capital city of Bratislava for investment activity as an institution of the construction law of SR. In: The effectiveness of the technical and social sciences in education

at technical universities. Bratislava, SR, 28. 6. 2018. 1. ed. Bratislava : Spektrum STU, 2018, CD ROM, pp. 32-38. ISBN 978-80-227-4813-1 (in Slovak)

HERETIKOVÁ, Katarína - GAJNIAK, Ján Florián: Ethical principles of an authorized civil engineer. In: The effectiveness of the technical and social sciences in education at technical universities. Bratislava, SR, 28. 6. 2018. 1. ed. Bratislava : Spektrum STU, 2018, CD ROM, pp. 39-43. ISBN 978-80-227-4813-1 (in Slovak)

## **Others**

ZAJACOVÁ, Jana (ed.). The effectiveness of the technical and social sciences in education at technical universities. 1. ed. Bratislava : Spektrum STU, 2018. CD ROM, 103 pp. ISBN 978-80-227-4813-1 (in Slovak)

# CONTACTS

Faculty of Civil Engineering  
Slovak University of Technology in Bratislava

Radlinského 11  
810 05 Bratislava, Slovak Republic

[www.svf.stuba.sk](http://www.svf.stuba.sk)

GPS: 48.152237, 17.115669 +48° 9' 8.05", +17° 6' 56.41"

## Dean's Office:

+421 2 529 25 791

+421 2 529 25 471

## Registrar's Office:

+421 2 592 74 478

+421 2 592 74 483

+421 2 592 74 725

## Foreign Affairs Department:

+421 2 592 74 587

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