

#### SLOVAK UNIVERSITY OF TECHNOLOGY IN BRATISLAVA FACULTY OF CIVIL ENGINEERING



## ANNUAL REPORT

2016

# 2016 ANNUAL REPORT

of the Faculty of Civil Engineering

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## INTRODUCTION

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: 8 at the bachelor level, 11 at the engineering level and 9 at the doctoral level.

In the admissions process of students for bachelor studies, the entrance examination has been omitted since the academic year 2012/13. In addition, the Faculty of Civil Engineering organized a second round of the entrance examinations for bachelor and engineering studies in the assessed year. In spite of this fact, we again noticed a slight decline in students enrolled in the first year of the bachelor as well as the engineering studies. The number of graduates at the bachelor, 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 approximately 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.

In 2016, research teams of the Faculty submitted a total of 54 new projects. The Faculty has been working on 67 projects – out of that number, 33 were VEGA, 1 KEGA, 17 APVV, and 2 grant project from the Ministry of Culture. The total amount of funding from the national budget for these projects was 880 000 Euros.

Within the framework of the Operational Research and Development Program, the Faculty is involved in a number of university projects aimed at the field of diagnostics of deformations of the Earth's surface in Slovakia by the application of satellites, gravimetric and tropospheric measurements, the development of methods for the excavation of high-volume energy wells, the development of accumulative vacuum tanks, and the creation and development of environmental technologies in the flood protection of settlements in the region of the Small Carpathians. Projects are also aimed at the development of integration systems for the simulation of drain processes, the applied research of methods for the determination of climate and hydrological design variables, and the development of 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 TEMPUS, SOCRATES, and ERASMUS+, but we also have to mention other international activities, especially the CEEPUS II program and bilateral programs based on our employees' contacts with foreign partner universities. A total of 27 research and educational projects within various forms of EU framework programs were submitted in 2016. In 2016, the Faculty obtained 174,000 Euros for international projects.

The Faculty has to vigorously present its activities, even within our own country. Year by year the role of **Public Relations** has become more important

in informing the public about the range of study programs at the Faculty, our graduates' job prospects, and the promotion of the civil engineering professions. In accordance with the Long-Term Goals of the Development of the Faculty of Civil Engineering, the Faculty's Public Relations activities cover the most fundamental areas, including the promotion of studying at STU, student life, representing the Faculty at trade fairs and professional and scientific events, activities of the Industrial Board, competitions, media activities, social events, and the care of its employees.

In the previous year the Presidium of the Faculty continued in its effort to improve not only the teaching process but also the standard services provided to the students. As a result, many classrooms were renovated and equipped with data projectors, and the network's infrastructure was upgraded. The students can also consult on a daily basis with the professionals from the Centre of Information Technologies of the Faculty. The computer classrooms are visited by an average of 1,500 students per week, i.e., more than 40,000 students per year.

The arrangement of specialized zones in the library for notebooks to be connected to the Internet has enhanced the capacity of the reading room and the comfort of its users. This has resulted in higher attendance at the Library and Information Centre of the FCE, STU, with students spending longer periods

of time there on average. The modernization of the library and its higher quality services has had a positive impact on attendance in the library's reading room. In the year 2016 the number of visitors has reached more than 62,000 per year. The attendance at the library proves that the realization of the modernization project of the academic library at the Faculty of Civil Engineering STU has been successful and that the library has become a vital centre for education and the meaningful use of free time during breaks between classes.

From the point of view of investment activities in the year 2016, the Faculty is aiming at basic repair work and maintenance of the premises of the FCE, including the reconstruction of the Centre of Information Technologies, repairing of facade of main lecture hall, repairing of balconies around this hall etc.

The above-mentioned activities represent just a small part of the measures aimed at a common effort of improving the standard of our pedagogical and research infrastructure and improving the quality of the rooms where our lecturers have to work and where our students learn.

In 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.

## **BODIES OF THE FACULTY**

## 1. THE DEAN OF THE FACULTY

Prof. Ing. Stanislav Unčík, PhD.

## 2. PRESIDIUM OF THE FACULTY

Prof. Ing. Stanislav Unčík, PhD.

Prof. Ing. Ján Szolgay, PhD.

Assoc. Prof. Ing. Peter Makýš, PhD.

Prof. Ing. Vladimír Benko, PhD.

Ing. Peter Kyrinovič, PhD.

Ing. Tomáš Šatura

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

Michal Karpel / Bc. Barbora Junasová

Ing. Miloslav Štujber

- The Dean

 The First Deputy Dean, Vice-Dean for Science, Research and Foreign Relations

- Vice-Dean for Education

- Vice-Dean for Public Relations

- Vice-Dean for Development of the Faculty

- Financial Manager

- Chairman of the Academic Senate FCE STU

- Chairperson of the Students' Association, FCE STU

- Chairman of the Trade Union Organisation

## 3. THE DEAN'S COUNCIL

Prof. Ing. Stanislav Unčík, PhD.

Prof. Ing. Ján Szolgay, PhD.

Assoc. Prof. Ing. Peter Makýš, PhD.

Prof. Ing. Vladimír Benko, PhD.

Ing. Peter Kyrinovič, PhD.

Ing. Tomáš Šatura

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

Michal Karpel/ Bc. Barbora Junasová

Ing. Miloslav Štujber

Prof. Ing. Juraj Bilčík, PhD. Ing. Tibor Schlosser, PhD.

- The Dean

 The First Deputy Dean, Vice-Dean for Science, Research and Foreign Relations

- Vice-Dean for Education

- Vice-Dean for Public Relations

- Vice-Dean for Development of the Faculty

- Financial Manager

- Chairman of the Academic Senate FCE STU

- Chairperson of the Students' Association, FCE STU

- Chairman of the Trade Union Organization

- Head of Department of Concrete Construction and Bridges

- Head of Department of Transportation Engineering

Assoc. Prof. Ing. Juraj Janák, PhD.

Prof. Ing. Alojz Kopáčik, PhD.

Prof. Ing. Alojz Kopáčik, PhD.

Prof. Ing. Viliam Macura, PhD.

Prof. Ing. Peter Dušička, PhD.

Prof. Ing. Boris Bielek, PhD.

Prof. Ing. Ján Brodniansky, PhD.

Prof. RNDr. Radko Mesiar, DrSc.

Assoc. Prof. RNDr. Jozefa Lukovičová, PhD.

Prof. Ing. Norbert Jendželovský, PhD.

Ing. Alena Struhárová, PhD.

Prof. Ing. Jozef Gašparík, PhD.

doc. RNDr. Ivona Škultétyová, PhD.

Prof. Ing. Dušan Petráš, PhD.

PhDr. Dagmar Špildová

Mgr. Zuzana Hikl/Mgr. Marián Decký

JUDr. Janka Zajacová, PhD.

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

Assoc. Prof. Ing. Zora Petráková, PhD.

- Head of Department of Theoretical Geodesy

- Head of Department of Surveying

- Head of Department of Geotechnics

- Head of Department of Land and Water Resources Management

- Head of Department of Hydraulic Engineering

- Head of Department of Building Construction

- Head of Department of Steel and Timber Structures

- Head of Department of Mathematics and Descriptive Geometry

- Head of Department of Physics

- Head of Department of Structural Mechanics

- Head of Department of Material Engineering

- Head of Department of Building Technology

- Head of Department of Sanitary and Environmental Engineering

- Head of Department of Building Services

- Head of Department of Languages

- Head of Department of Physical Education

- Head of Department of Humanities

- Head of Department of Architecture

- Head of Institute of Forensic Engineering

## 4. SCIENTIFIC BOARD OF THE FACULTY

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

**Chair man:** Prof. Ing. Stanislav Unčík, PhD.

Vice-Chair man: Prof. Ing. Ján Szolgay, PhD.

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

Prof. prof. Ing. Vladimír Benko, PhD., Vice-Dean for Public Relations

Prof. Ing. 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. Boris Bielek, PhD., Department of Building Structures

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

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

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

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

Assoc. Prof. Ing. Arch. L'ubica Vítková, PhD., Dean of the Faculty of Architecture, STU

## Members of the Scientific Board (full members from exter nal 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 Halai, 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. Rostislav Drochytka, CSc., Dean of the Faculty of Civil Engineering VUT Brno,

Prof. Ing. Radim Čajka, CSc., Dean of the Faculty of Civil Engineering VSB TU Ostrava,

Prof. Ing. Josef Vičan, CSc., Dean of the Faculty of Civil Engineering ŽU Žilina,

Prof. Ing. Vincent Kvočák, PhD., Dean of the Faculty of Civil Engineering TU Košice,

Ing. Mária Frindrichová, Head of the Geodesy, Cartography and Cadastre Authority of the Slovak Republic,

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

Ing. Ján Hardoš, Chairman of the Board of the Chamber of Surveyors and Cartographers,

Ing. arch. Imrich Pleidel, Chairman of the Slovak Chamber of Architects,

Prof. Ing. Vladimír Benko, PhD., Chairman of the Slovak Chamber of Civil Engineers (he is also a regular member of the Scientific Board).

### 5. THE FACULTY'S ACADEMIC SENATE

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

#### **Presiding Officers:**

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

JUDr. Jana Zajacová, PhD.

Prof. RNDr. Radko Mesiar, DrSc.

Prof. Ing. Ľudovít Fillo, PhD.

Petra Danišová

Bc. Kristína Vaňová

- Chairman of the AS

- Deputy Chairman of the AS

- Presiding Officers

#### **Committees**

The Academic Senate Member committee

Assoc.Prof. Ing. Ľudovít Možiešik, PhD. - chair

Assoc. Prof. Ing. Ladislav Husár, PhD.

Prof. Ing. Ivan Baláž, PhD.

Ing. Mária Kurčová, PhD.

Ing. Alena Struhárová, PhD.

Ing. Peter Buday, PhD.

Monika Pračková

Ondrej Bruncko

Jozef Kováč

Assoc.Prof Ing. Ľuboš Hruštinec, PhD. - chair

PhDr. Alžbeta Pálová, PhD.

Ing. Marek Fraštia, PhD.

Assoc.Prof. RNDr. Ivona Škultétyová, PhD.

Bc. Monika Csehová

Bc. Matúš Mlynarčík

Assoc. Prof. Ing. Naďa Antošová, PhD. - chair

Prof. Ing. Silvia Kohnová, PhD.

Mgr. Zita Herzánová

Bc. Anna Kosíková

Andrea Dobiašová

Assoc.Prof. Ing. Gabriela Pavlendová, PhD. - chair

Assoc.Prof. Ing. Katarína Bačová, PhD.

Assoc. Prof. Ing. Oľga Ivánková, PhD.

Pedagogy, science and research

economics

organizational and social

legislation

Assoc. Prof. Ing. Zora Petráková, PhD.

Bc. Maroš Kamenský/ Bc. Miroslav Kováčik

Bc. Barbora Junasová

#### 6. THE INDUSTRY BOARD

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

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

#### Members of the Industry Board:

Prof. Ing. Vladimír Benko, PhD., Faculty of Civil Engineering STU, Vice-Dean for PR, Chair of the Slovak Chamber of Civil Engineers

Ing. Igor Beroun, Director General of JOHNSON CONTROLS CR and SR

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

Mgr. Magdaléna Dobišová, Chairman of the Board and GeneralDirector of Skanska SK a.s.

Prof. Ing. Ľudovít Fillo, PhD., Faculty of Civil Engineering STU Bratislava

Ing. Ľuboš Fussek, Director of BAUMIT, Ltd.

Ing. Peter Glaus, Hydroconsulting, Ltd.

Ing. Martin Greguš, Saint-Gobain Construction Products, Ltd.

Ing. Peter Halász, Director of Jaga Group, Ltd.

Ing. Ján Hardoš, Chairman of the Chamber of Surveyors and Cartographers, Director of fy SIGEO

Ing. Juraj Hirner, Executive Manager and Director of STRABAG Corporation — Building and Civil Engineering Constructions, Ltd.

Ing. Oto Hornáček, General Director of HORNEX, a.s.

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

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

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

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

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

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

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

Ing. Miroslav Leško, Director, Premac

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

Ing. Ján Majerský, Director of PROMA, Ltd.

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

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

Ing. Ladislav Piršel, Slovak Council for Green Buildings

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

Ing. Peter Pochaba, T-Klíma, Ltd.

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

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

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

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

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

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

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

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

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

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

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

Ing. František Zvrškovec, President of Divident Group Sk



## DEPARTMENT OF CONCRETE STRUCTURES AND BRIDGES

**Head of Department** 

Prof. Ing. Juraj Bilčík, PhD.

Tel.: +421 2 592 74 546 Fax: +421 2 529 26 213

E-mail: juraj.bilcik@stuba.sk

#### 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)

Concrete Load-Bearing Members

Concrete Members (Slovak and English)

Concrete Structures I, II (Slovak and English)

Concrete Structures of Civil Engineering Works

Design and Execution of Civil Engineering Works

High - Rise Concrete Structures

Masonry Structures and Renovations

Prestressed Concrete

Structural Design Studio 1, 2, 3

#### **Obligatory elective subjects**

Repair of Concrete Structures

Special Problems of Concrete Structures

#### **Obligatory elective subjects**

Repair of Concrete Structures

Special Problems of Concrete Structures

#### 1.2 Postgraduate courses

Experimental Testing of Concrete Structures

Modelling of Civil Engineering Works

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 9 works.

#### 2.2 Graduate theses

ÁCS, Z.: Office Building / Part B - Rožňavská, Bratislava: Cast-in-Situ Reinforced Concrete Structure with Flat Slabs and Stiffening Cores

Supervisor: ABRAHOIM, I.

BAĎO, L.: Hotel: Cast-in-Situ Reinforced Concrete Structure

Supervisor: BORZOVIČ, V.

BAJI, C.: Staré Grunty - Bratislava Hotel \*\*\*: Combined Cast-in-Situ

Reinforced Concrete Structure with Stiffening Cores

Supervisor: ABRAHOIM, I.

BELICOVÁ, G.: 20-Storey Cast-in-Situ High-Rise Multifunctional Building

Supervisor: BENKO, V.

BENDÍK, P.: Road Bridge: Post-Tensioned Cast-in-Situ Concrete Structure

Supervisor: BORZOVIČ, V.

BOŠIAK, P.: Box Cast-in-Situ Reinforced Concrete Tank of a Cooling Tower

Supervisor: HUDOBA, I.

BRIATKA, P.: Bridge Structure No.219 on the Highway D3 near Čadca: Design

and Assessment of the Lower Construction

Supervisor: PAULÍK, P.

BUČEK, F.: 24-Storey Cast-in-Situ High-Rise Building

Supervisor: BENKO, V.

CIBULKA, Š.: Load-Bearing Structure of a High-Rise Building

Supervisor: GRAMBLIČKA, Š.

ČERVENKA, T.: High-Rise Smokestack

Supervisor: ŠOLTÉSZ, J.

DANEKOVÁ, M.: Load-Bearing Structure of a Multifunctional High-Rise

Building

Supervisor: GRAMBLIČKA, Š.

DEKRÉT, N.: Radar Tower: Reinforced Concrete Variant

Supervisor: ŠOLTÉSZ, J.

DINGA, B.: Office Building - Generali, Bratislava: Cast-in-Situ Combined Reinforced Concrete Structure with a Stiffening Core

Supervisor: ABRAHOIM, I.

FILLO, M.: Prestressed Concrete Bridge on Highway D1

Supervisor: HALVONÍK, J.

 ${\sf FIŠ\acute{A}REK,\,R.:\,33-Storey\,\,High-Rise\,\,Residential\,\,Building:\,\,Cast-in-Situ\,\,RC}$ 

Structure with Flat Slabs and a Stiffening Core

Supervisor: HARVAN, I.

FRAŇO, P.: Factory Building with Social Services: Precast Concrete Structure

Supervisor: HARVAN, I.

FÚSKA, T.: Bridge Structure No.219 on the Highway D3 near Čadca: Design

and Assessment of the Upper Construction

Supervisor: PAULÍK, P.

GENCS, G.: Multifunctional High-Rise Building: Cast-in-Situ RC Bearing Structure

Supervisor: BARTÓK, A.

HALOVÁ, B.: Multifunctional Building: Cast-in-Situ Reinforced Concrete

Structure

Supervisor: BORZOVIČ, V.

HAŠTO, T.: Social and Operational Building - Jablonec Glass Works: Cast-in-

Situ RC Structure with Stiffening Cores

Supervisor: HARVAN, I.

HAVLÍČEK, P.: Design of Terminal Supporting System for a Bus Centre in

Banská Bystrica

Supervisor: ŠOLTÉSZ, J.

HOLLÝ, P.: Load-Bearing Structure of a Multifunctional Building

Supervisor: GRAMBLIČKA, Š.

HOREČNÁ, M.: High-Rise Residential Building: Cast in-Situ Reinforced

Concrete Structure

Supervisor: BARTÓK, A.

IRSÁKOVÁ, C.: Office Building: Cast in-Situ Reinforced Concrete Structure

Supervisor: BORZOVIČ, V.

JAGELKOVÁ, M.: Roman Catholic Church: Cast in-Situ Reinforced Concrete

Bearing Structure

Supervisor: BARTÓK, A.

JAKÚBEKOVÁ, K.: Concrete Bridge on D4 over the Danube River

Supervisor: HALVONÍK, J.

KIRKA, J.: Multi-Storey Parking Garage: Pre-Cast Concrete Structure

Supervisor: HOLLÝ, I.

KOCSISOVÁ, E.: Green Park - Vinohradis, Bratislava Apartment Building: Cast-

in-Situ Reinforced Concrete Structure with Stiffening Cores

Supervisor: ABRAHOIM, I.

KOHÚT, M.: Incremental Bridge at Svrčinovec: Alternative Solution with

Corrugated Steel Webs Supervisor: PAULÍK, P.

KRAVEC, J.: Multifunctional Building: Cast-in-Situ RC Bearing Structure

Supervisor: BARTÓK, A.

LEPÁČEK, D.: Radar Tower: Reinforced Concrete Variant

Supervisor: ŠOLTÉSZ, J.

LIPTAI, P.: Egg-Shaped Prestressed Concrete Digestion Tank

Supervisor: ŠOLTÉSZ, J.

LUTTEROVÁ, P.: Use of Strengthening in a Multi-Storey Building

Supervisor: GAJDOŠOVÁ, K.

MAJERČÍK, J.: Incremental Bridge at Svrčinovec: Alternative Solution with

Modified Geometry of the External Tendons After the Final Launch

Supervisor: PAULÍK, P.

MELEG, D.: Multifunctional Building: Cast-in-Situ Reinforced Concrete

Structure

Supervisor: BORZOVIČ, V.

MIKULÁŠ, J.: Central Police Office in Bratislava: Multi-Storey RC Skeleton

Structure with Stiffening Cores

Supervisor: HARVAN, I.

NÉMETH, Á.: Petržalka, Bratislava - Multifunctional Residential Building: Cast-

in-Situ Reinforced Concrete Structure with Stiffening Cores

Supervisor: ABRAHOIM, I.

PAUHOF, L.: 3D Cinema: Cast-in-Situ Reinforced Concrete Structure

Supervisor: BARTÓK, A.

PLICOVÁ, M.: Multifunctional Building: Cast-in-Situ Reinforced Concrete

Structure

Supervisor: BARTÓK, A.

RADOŠ, L.: Office Block: Suspended Structure

Supervisor: BENKO, V.

SALANCI, P.: Multifunctional Building: Cast-in-Situ Reinforced Concrete

Structure

Supervisor: BORZOVIČ, V.

SALAY, F.: Integral Bridge on Highway D1, Section: Sverepec - Višňové

Supervisor: PAULÍK, P.

STOKLASOVÁ, M.: Concrete Bridge on D4 above Danube

Supervisor: HALVONÍK, J.

ŠTODER, M.: Multifunctional Building of a Circular Floor Plan Made from

Concrete

Supervisor: BENKO, V.

ŠÚTHOVÁ, K.: Load-Bearing Structure of a Multifunctional Building Supervisor: GRAMBLIČKA, Š.

TARČÁK, M.: 26-Storey High-Rise Building of an Administration Centre: Castin-Situ RC Structure with Flat Slabs and a Stiffening Core Supervisor: HARVAN, I.

TEKÁČ, P.: Road Bridge: Post-Tensioned Cast-in-Situ Concrete Structure Supervisor: BORZOVIČ, V.

TINKA, P.: High-Rise Building of a Residential Complex: Bearing Structure Supervisor: GRAMBLIČKA, Š.

TODOROV, D.: 23-Storey High-Rise Residential Building: Cast-in-Situ RC Structure with Flat Slabs and a Stiffening Core Supervisor: HARVAN, I.

#### 2.3 Doctoral theses

FRÓLO, J.: Resistance of Composite Steel-Concrete Columns with a Solid

Steel Core

Supervisor: GRAMBLIČKA, Š.

HRUŠOVSKÁ, A.: The Usage of a Plain Open-Shaped Profiled Sheet in a Composite Steel - Concrete Slabs Supervisor: GRAMBLIČKA, Š.

PAŽMA, P.: Secondary Effects Due to Prestressing on Statically Indeterminate Structures at ULS Supervisor: HALVONÍK, J.

## 3. RESEARCH

#### 3.1 Research projects

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

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

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

Punching Resistance of Flat and Foundation Slabs and Footings (2016-18, HALVONÍK, J.), APVV 15-0658

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

#### 3.2 International cooperation

#### Cooperating institutions

Klokner Institute ČVUT Prague, Czech Republic

ETH - Laboratory for Building Materials, ETH Zurich, Switzerland

Baustoffinstitut, TU Munich, Germany

Institut für Baustatik und Konstruktion, ETH Zurich, Switzerland

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

RIB Bausoftware, Stuttgart, Germany

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

European Commission, DG Research, Brussels, Belgium

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

St. Paul University, Brussels, Belgium

Fachhochschule Braunschweig – Wolfenbütel, Germany

Institut für Massivbau, TU Darmstadt, Germany

Fachhochschule Coburg, Germany

#### Membership in international professional organizations

BENKO, V.: Austrian Standard Institut. Standard Commitees — ON-AG 01301, ON-AG 1011 01, ON-AG 010 01, ON-AG 176 02. ON-K 176, ON-K 010

BENKO, V.: ECEC European Council of Engineers Chamber

BENKO, V.: ECCE European Council of Civil Engineers

BENKO, V.: ASCE American Society of Civil Engineers

BILČÍK, J.: American Concrete Institute

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

FILLO, Ľ.: CEN TC 250 - SC2 Eurocode: Design of Concrete Structures

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

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

HALVONÍK, J: CEN TC 250 SC1 Eurocodes

HALVONÍK, J: CEN TC 250 Eurocodes

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BILČÍK, J. – ŠOLTÉSZ, J.: Causes of Failures in Concrete Tanks for a Biogas Plant. In: Konstrukce, ISSN 1213-8762. - Vol. 15, No. 6 (2016), pp. 56-58 (in Slovak)

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BORZOVIČ, V. – GAJDOŠOVÁ, K. – PECNÍK, M. – LACO, J.: The Cracking of Two-Span Girders Influenced by Decreased Bond of Prestressing Reinforcement. In: Interdisciplinarity in Theory and Practice, ISSN 2344-2409. - No. 11 (2016), (on-line), pp. 18-25 (in English)

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ABRAHOIM, I. – HARVAN, I.: Calculating Wind Effects When Designing Multi-Storey and High-Rise Concrete Buildings. In: Proceedings of 23rd Concrete Days 2016 Conference, Litomyšl, Czech Republic, 30.11.- 1.12. 2016, 1. ed. Prague: Czech Concrete Society ČSSI, 2016, [Electronic Source], ISBN 978-80-906097-6-1, p. 8 (in Slovak)

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KESELI, O.: Strengthening of Flat Slabs Against Punching Shear Using Concrete Screws. In: Advances in Architectural, Civil and Environmental Engineering: 26th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, Slovak Republic, Oct. 26, 2016, 1. ed. Bratislava: Slovak University of Technology in Bratislava, 2016.-[CD-ROM], ISBN 978-80-227-4645-8. - pp. 347-352 (in Slovak)

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MATIAŠKOVÁ, L. – IGNAČÁK, M. – ŠOLTÉSZ, J.: Thermodynamic Analysis of a Selected Detail in a Waterproof Concrete Basement Structure Using an Experimentally Verified Computing Model. In: Proceedings of 11th Concrete Days 2016 Conference, Bratislava, Slovak Republic, Oct. 20-21, 2016, 1. ed. Bratislava: Slovak University of Technology in Bratislava, 2016.- ISBN 978-80-227-4622-9.- pp. 319-324 (in Slovak)

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PAŽMA, P. – LABUDKOVÁ, J. – HALVONÍK, J.: Experimental Verification of Secondary Effects of Prestressed Beam at ULS. In: Proceedings of the 1st international Czech-China scientific conference on Perspectives in Science 2015, Ostrava, Czech Republic, 7. 10. 2015. Vol. 7.- [online] 2016, ISSN 2213-0209. - pp. 282-286 (in English)

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SONNENSCHEIN, R. – GAJDOŠOVÁ, K. – HOLLÝ, I.: FRP Composites and Their Using in the Construction of Bridges. In: Procedia Engineering: World Multidisciplinary Civil Engineering-Architecture-Urban Planning Symposium 2016, WMCAUS 2016. Prague, Czech Republic, 13. - 17. 6. 2016, Vol. 161.-[online] 2016, ISSN 1877-7058. - pp. 477-482 (in English)

VALAŠÍK, A.: Preliminary Design of Pre-Tensioned Concrete Slabs with GFRP Reinforcement. In: Advances in Architectural, Civil and Environmental Engineering: 26th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, Slovak Republic, October 26, 2016, 1. ed. Bratislava: Slovak University of Technology in Bratislava, 2016.-[CD-ROM], ISBN 978-80-227-4645-8. - pp. 412-416 (in Slovak)

VIDA, R. – HALVONÍK, J.: Shear Resistance of Bridge Slabs with Concentrated Loads. In: Proceedings of 11th Concrete Days 2016 Conference, Bratislava, Slovak Republic, Oct. 20-21, 2016, 1. ed. Bratislava: Slovak University of Technology in Bratislava, 2016.- ISBN 978-80-227-4622-9. - pp. 261-296 (in Slovak)

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## DEPARTMENT OF TRANSPORTATION ENGINEERING

**Head of Department** 

Ing. Tibor SCHLOSSER, PhD.

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## 1. EDUCATION

#### 1.1 Graduate study

#### **Obligatory subjects**

Airport Planning and Design

**Bachelor Thesis** 

Design and Realization of 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

Road Construction Quality Assessing

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 I

#### 2. THESES

#### 2.1 Bachelor theses

There were 8 works.

#### 2.2 Graduate theses

RICHARD, L.: The Need to Modify the Characteristics of a Temperature

Regime for Road Calculations Supervisor: BAČOVÁ, K.

TRENCSÍK, J.: Study of R7 Expressway in the Holice - Dunajská Streda Section

Supervisor: BAČOVÁ, K.

PETROVIČ, M.: The Effect of Congestion and Its Effect on the Structural

Design of a Pavement Supervisor: BAČOVÁ, K.

ŠTAFFEN, J.: Assessment of Road Safety in the Trenčín Region

Supervisor: KAPUSTA, V.

STANČÍK, P.: The Impact of an Aggregate Type on the Mechanical Properties

of CBGM

Supervisor: CÁPAYOVÁ, S.

BRANIŠ, M.: Technical Requirements of an Airport's Paved Movement Areas

Supervisor: ZUZULOVÁ, A.

BRČÁK, L.: The Structural Design of Concrete Pavements on the I/65

Turčianske Teplice - Príbovce Road

Supervisor: ZUZULOVÁ, A.

BUDINSKÝ, Ľ: Effects of the Climatic Conditions in the Design of Road

Constructions

Supervisor: ZUZULOVÁ, A.

RAJT, S.: Reconstruction of the Road Traffic from Kostolná pri Dunaji – Hrubá Borša

Supervisor: ZUZULOVÁ, A.

CMEROVÁ, D.: Design of a Transport Model for an Industrial Park in Nitra Supervisor: SCHLOSSER, T.

DROBNÝ, L.: Kollárova - Hospodárska overpass Intersection in Trnava Supervisor: NEMČEK, M.

JELÍNEK, F.: Effect of Vision from a Motor Vehicle on Projection Parameters Supervisor: NEMČEK, M.

## 3. RESEARCH

## 3.1 International cooperation

Bauhaus-University Weimar, Weimar, Germany

Cologne University of Applied Science, Cologne, Germany

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

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

Hellenic Institute of Transport, Thessaloniki, Greece

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

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

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

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

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

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

Vilnius Gediminads Technical University, Faculty of Transport Engineering, Vilnius. Lithuania

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

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

#### Membership in international professional organizations

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

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

CÁPAYOVÁ, S.: Member of the Editorial Board – Drogownictwo, ISSN: 0012-6357, Warsaw, Poland

CÁPAYOVÁ, S.: Member of the Scientific Committee - International Journal of Advanced Information Science and Technology (IJAIST), 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.: Member of the Scientific Committee - International Journal of Advanced Information Science and Technology (IJAIST), ISSN 2319-2682, online magazine

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, Wrocław, Poland

ZUZULOVÁ, A.: Member of the PIARC - TC D.2 Pavements, Paris, France

## 4. PUBLICATIONS

#### Journals

SCHLOSSER, T. - SCHLOSSER, P. - ZUZULOVÁ, A. - CÁPAYOVÁ,S.: Traffic Model for PPP Project in Bratislava. In: International Journal of Advanced Information Science and Technology. Vol. 5, June issue (2016), online magazine, pp. 42-49. ISSN 2319-2682

ZUZULOVÁ, A. - MÚDRY, P.: Paving Traffic Areas in an Urban Space. In: Silniční obzor. Vol. 77, Nos. 7-8 (2016), pp. 190-193. ISSN 0322-7154 (in Slovak)

BAČOVÁ, K.: Unbound and Bound Base Layers of Road Constructions. In: Magazín stroje a mechanizácia (Journal of Building Mechanism and Mechanization). Vol. 11, No. 1 (2016), pp. 30-32. ISSN 2453-7500 (in Slovak)

BAČOVÁ, K.: Traffic Engineering and Road Construction as a System. In: Magazín stroje a mechanizácia (Journal of Building Mechanism and Mechanization). Vol. 11, No. 6 (2016), pp. 28-29. ISSN 2453-7500 (in Slovak)

#### **Conference Proceedings**

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BACHRATÁ, M. - JEVÍNOVÁ, A. - CÁPAYOVÁ, S.: Comparison of the Effects of Various Additives on Asphalt Binder Properties. In: TRINfra 2016. Prague, Czech Republic, 20. 6. 2016. Trends and Innovations in Transport Infrastructure, proceedings of the International Students' Scientific

Conference. 1st. ed. Prague: Czech Technical University in Prague, Faculty of Civil Emgineering, 2016, USB key, pp. 140-146. ISBN 978-80-01-05973-9.

CÁPAYOVÁ, S. - GSCHWENDT, I. - ZUZULOVÁ, A.: Asphalt Mix Properties and Pavement Structure Mechanics. In: Proceedings of 6th Eurasphalt & Eurobitume Congress 2016: Prague, Czech Republic, 1st - 3rd June 2016. 1st ed. Prague: Czech Technical University in Prague, 2016, CD-ROM, ISBN 978-80-01-05962-3.

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GSCHWENDT, I. - ZUZULOVÁ, A.: The Influence of Climate Condition Changes on Road Pavement Dimensions. In: Dopravné stavby a dopravné inžinierstvo ako systémové riešenie (Transportation Structures and Traffic Engineering as a System Solution). Proceedings of the 21th Seminar of Ivan Poliaček with international participation. Jasná, Slovak Republic, 14. - 16. 11. 2016. 1st ed. Bratislava: Kongres STUDIO, 2016, pp. 124-130. ISBN 978-80-89565-27-6.

SCHLOSSER, T.: The Impact of Land Use and Traffic Engineering
Documentation on Road Network Development in Rural Areas. In: Dopravné
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Structures and Traffic Engineering as a System Solution). Proceedings of the
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## DEPARTMENT OF THEORETICAL GEODESY

**Head of Department** 

Assoc. Prof. Ing. Juraj Janák, PhD.

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## 1. EDUCATION

## 1.1 Graduate study

#### **Obligatory subjects**

Information Technologies

Cartographic Techniques and Norms

Processing and Analysis of Measurements 1

Interactive Graphics Systems

Geoinformatics

Processing and Analysis of Measurements 2

Global Geodesy 1

Local Geodetic Networks

CAD Systems in Surveying 1

Physical Geodesy 1

Cartographic Creation and Reproduction

Programming

Spherical Astronomy and Space Geodesy

Global Navigation Systems

Field Education in Geodetic Controls

Global Geodesy 2

Space Geodesy 2

Physical Geodesy 2

Spatial Data Management

Processing and Analysis of Measurements 3

Database Systems in GIS

Satellite Geodesy

Specialized Field Education

Metrology in Geodesy

Mathematical Models in Geodesy

GIS in Building Sciences

Geodesy in Spatial Planning (Institute of Management)

#### **Obligatory elective subjects**

Gravimetry

Web Technologies in GIS

Geodynamics

GIS Design and Implementation

#### Optional subjects

Quality Analysis of Geodata

Geometry and Relativity in Geodesy

Object-Oriented Programming in C#

Programming Websites Using PHP and JavaScript

#### 1.2 Postgraduate courses

Processing and Analysis of Measurements

Global Geodesy

Geodynamics

Geographic Information Systems

## 2. THESES

#### 2.1 Bachelor theses

There were 11 works.

## 2.2 GRADUATE THESES

BULLA. B.: Modeling of Spruce Forest Damage Using Spatio-Temporal Model

of Bark Beetle Attack TANABBO Supervisor: ĎURAČIOVÁ, R.

ČIČKA, F.: Processing Measurements of Very Long Baseline Interferometry

(VLBI)

Supervisor: HUSÁR, L.

DUFALOVÁ, E.: Analysis of Precision of Global Geopotential Models of Current

Satellite Missions and New Possibilities for Their Application

Supervisor: JANÁK, J.

HOREČNÝ, J.: Assess the Potential of Terrestrial Laser Scanning Method in

the Domain of Forest Protection

Supervisor: FAIXOVÁ CHALACHANOVÁ, J.

HURAJOVÁ, M.: Modelling of Covariance Functions from Gradiometric

Measurements from Satellite Mission GOCE

Supervisor: HÁBEL, B.

IGONDOVÁ, M.: Spatial Data Integration Based on Determining Similarity Measures

Supervisor: ĎURAČIOVÁ, R.

JURKASOVÁ, K.: Usage of Modern Surveying Methods in Microgravimetry Research

Supervisor: PAPČO, J.

KELLNEROVÁ, R.: Assessment of GOCE Satellite Missions

Supervisor: JANÁK, J.

LEŠKO, M.: Exploitation Satellite Mission Sentinel-1 in Radar Interferometry

Supervisor: PAPČO, J.

HARNOŠOVÁ, V.: Analysis of Data Flow and Processes in the Domain of

Cultural Heritage

Supervisor: FAIXOVÁ CHALACHANOVÁ, J.

 $\hbox{MOJŠOV\'A, D.: Optimizing the Distortion of a Territory in Simple Cartography}$ 

Map Projections

Supervisor: VAJSÁBLOVÁ, M.

REICHEL, R.: Data Usage of Airborne Laser Scanning for Mapping of Forests

Supervisor: FENCÍK, R.

SERES, C.: Design and Creation of Web-Map Application for Indoor Navigation

Supervisor: ĎURAČIOVÁ, R.

SUĽOVÁ, A.: Design and Realization of Database for Supporting Forest

Protection

Supervisor: ĎURAČIOVÁ, R.

#### 2.3 Graduate theses

BUCHA, B.: Gravity Field Modelling in Terms of Spherical Radial Basis

**Functions** 

Supervisor: JANÁK, J.

## 3. RESEARCH

#### 3.1 Research projects

COST - Advanced Tropospheric Products of Global Navigation Satellite Systems for Monitoring Severe Events and the Climate (GNSS4SWEC) (2013-2017, HEFTY, J.), ES1206

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

Detection of Underground Cavities in Environmental and Archaelogical Applications Using Satellite Radar Interferometry (2016, PAPČO, J.), COSMOSkyMed Constellation Open Call For Science 00016/8/416/182

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

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

#### 3.2 International cooperation

#### **Cooperating institutions**

CEGRN - Central European Geodynamic Regional Network Consortium

EPN - EUREF Permanent Network

Freie Universität Berlin - Tell Fecheriye Research Project, Germany

Chinese University of Hong Kong, Institute of Space and Earth Information

Science, China SAR

Italian National Research Council, Institute for Marine Sciences, Italy

Kiel University, Institute of Geosciences, Germany

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

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

Research Institute of Geodesy, Topography and Cartography, Czech Republic

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

Technical University of Ostrava, Institute of Geoinformatics, Czech Republic

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

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

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

University of Stuttgart, Institute of Navigation, Germany

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

University of Trieste, Department of Earth Sciences, Italy

University of Trieste, Department of Mathematics and Geosciences, Italy

University of Vienna, Department of Meteorology and Geophysics, Austria

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

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

#### Membership in international professional organizations

HEFTY, J.: American Geophysical Union

HEFTY, J.: European Geosciences Union

HEFTY, J.: International Association of Geodesy

HEFTY, J.: International Astronomical Union

JANÁK, J.: European Geosciences Union

MOJZEŠ, M.: American Geophysical Union

MOJZEŠ, M.: CEGRN Consortium

MOJZEŠ, M.: European Geosciences Union

MOJZEŠ, M.: International Association of Geodesy

## 4. PUBLICATIONS

#### Parts of Books

DRÁPELA, T. – KOVÁČ, M. – LIESKOVSKÝ, T.: Field Survey of Uaxactun and Its Surroundings. In: Nuevas Excavaciones en Uaxactun VII.: Temporada de Campo 2015. Bratislava: Center for Mesoamerican Studies (CMS), Comenius University - Chronos, ISBN 978-80-89027-45-3, 2016, online, pp. 476-519 (in Spanish)

LIESKOVSKÝ, T. – STRAKA, J. – PESCHL, R. – DRÁPELA, T.: Mapping of Uaxactun. In: Nuevas Excavaciones en Uaxactun VII.: Temporada de Campo 2015. Bratislava: Center for Mesoamerican Studies (CMS), Comenius University - Chronos, ISBN 978-80-89027-45-3, 2016, online, pp. 520-527 (in Spanish)

#### **Journals**

BEDNÁRIK, M. – PAPČO, J. – POHÁNKA, V. – BEZÁK, V. – KOHÚT, I. – BRIMICH, L.: Surface Strain Rate Colour Map of the Tatra Mountains Region (Slovakia) Based on GNSS Data. In: Geologica Carpathica, ISSN 1335-0552. - Vol. 67, No. 6 (2016), pp. 509-524 (in English)

BUCHA, B. – JANÁK, J. – PAPČO, J. – BEZDĚK, A.: High-Resolution Regional Gravity Field Modelling in a Mountainous Area from Terrestrial Gravity Data. In: Geophysical Journal International, ISSN 0956-540X. - Vol. 207, No. 2 (2016), pp. 949-966 (in English)

ĎURÍČKOVÁ, Z. – JANÁK, J.: RTM-Based Omission Error Corrections for Global Geopotential Models: Case Study in Central Europe. In: Studia Geophysica et Geodaetica, ISSN 0039-3169. - Vol. 60, No. 4 (2016), pp. 622-643 (in English)

GERHÁTOVÁ, Ľ. – HEFTY, J. – ŠPÁNIK, P.: Short-Term and Long-Term Variability of Antenna Position Due to Thermal Bending of Pillar Monument at Permanent GNSS Station. In: Reports on Geodesy and Geoinformatics, ISSN 2391-8365. - Vol. 100, No. 1 (2016), pp. 67-77 (in English)

JANÁK, J.: Research Activities and Projects of Department of Theoretical Geodesy, Faculty of Civil Engineering, Slovak University of Technology in Bratislava. In: Slovenský geodet a kartograf, ISSN 1335-4019. - Vol. 21, No. 4 (2016), pp. 12-18 (in Slovak)

LIESKOVSKÝ, T.: Digital Non-Destructive Methods in Archaeology. In: Informácie SvF STU. - Vol. 16, No. 2 (2016), p. 8 (in Slovak)

MAJKRÁKOVÁ, M. – PAPČO, J. – ZAHOREC, P. – DROŠČÁK, B. – MIKUŠKA, J. – MARUŠIAK, I.: An Analysis of Methods for Gravity Determination and Their Utilization for the Calculation of Geopotential Numbers in the Slovak

National Levelling Network. In: Contributions to Geophysics and Geodesy, ISSN 1335-2806. - Vol. 46, No. 3 (2016), pp. 179-202 (in English)

ONDREJKA, P. – BAKOŇ, M. – PAPČO, J. – LIŠČÁK, P. – ŽILKA, A.: Monitoring the Activity of the Prievidza-Hradec Landslide Area. In: Geotechnika, ISSN 1211-913X. - Vol. 19, No. 1 (2016), pp. 3-12 (in Slovak)

PÁNISOVÁ, J. – MURIN, I. – PAŠTEKA, R. – HALIČKOVÁ, J. – BRUNČÁK, P. – POHÁNKA, V. – PAPČO, J. – MILO, P.: Geophysical Fingerprints of Shallow Cultural Structures from Microgravity and GPR Measurements in the Church of St. George, Svätý Jur, Slovakia. In: Journal of Applied Geophysics, ISSN 0926-9851. - Vol. 127 (2016), pp. 102-111 (in English)

RÁŠOVÁ, A. – LIESKOVSKÝ, T.: Surveyors from STU Help to Discover the Secrets of the Maya Civilization. In: Informácie SvF STU. - Vol. 16, No. 3 (2016), p. 5 (in Slovak)

ŠPÁNIK, P. – GERHÁTOVÁ, Ľ. – JANÁK, J.: Visualization of Geodetic Measurements Using a Generic Mapping Tool Software Package. In: Kartografické listy, ISSN 1336-5274. - Vol. 24, No. 1 (2016), pp. 23-34 (in Slovak)

ZAHOREC, P. – VAJDA, P. – PAPČO, J. – SAINZ-MAZA APARICIO, S. – PEREDA DE PABLO, J.: Prediction of Vertical Gradient of Gravity and Its Significance for Volcano Monitoring – Example from Teide Volcano. In: Contributions to Geophysics and Geodesy, ISSN 1335-2806. - Vol. 46, No. 3 (2016), pp. 203-220 (in English)

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BAKOŇ, M. – OLIVEIRA, I. – PERISSIN, D. – SOUSA, J.J. – PAPČO, J.: A Data Mining Approach for Multivariate Outlier Detection in Heterogeneous 2D Point Clouds: An Application to Post-Processing of Multi-Temporal InSAR Results. In: IGARSS 2016 - Advancing the Understanding of Our Living Planet: Proceedings of 2016 IEEE International Geoscience & Remote Sensing Symposium. Beijing, China, 10.-15.7.2016. - New York: IEEE - Institute of Electrical and Electronics Engineers, 2016. - ISBN 978-1-5090-3332-4. - pp. 56-59 (in English)

BAKOŇ, M. – PAPČO, J. – PERISSIN, D. – SOUSA, J.J. – LAZECKÝ, M.: Multi-Sensor InSAR Deformation Monitoring over Urban Area of Bratislava (Slovakia). In: Procedia Computer Science: CENTERIS 2016 / ProjMAN 2016/ HCist 2016. Porto, Portugal, 5.-7.10.2016. - 2016, online. - ISSN 1877-0509. - Vol. 100. - pp. 1127-1134 (in English)

BAKOŇ, M. – MARCHAMALO, M. – QIN, Y. – GARCÍA-SÁNCHEZ, A.J. – ALVAREZ, S. – PERISSIN, D. – PAPČO, J. – MARTÍNEZ, R.: Madrid As Seen from Sentinel-1: Preliminary Results. In: Procedia Computer Science: CENTERIS 2016 / ProjMAN 2016 / HCist 2016. Porto, Portugal, 5.-7.10.2016. - 2016, online. - ISSN 1877-0509. - Vol. 100. - pp. 1155-1162 (in English)

BAKOŇ, M. – PAPČO, J. – PERISSIN, D. – SOUSA, J.J.: Multi-Sensor InSAR Deformation Monitoring Over Buildings and Infrastructures in Bratislava (Slovakia). In: Living Planet Symposium 2016: Interactive Abstract Book. Prague, Czech Republic, 9.-13.5.2016. - European Space Agency, 2016, USB. - ISBN 978-92-9221-305-3. - p. 1 (in English)

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DROŠČÁK, B. – BUBLAVÝ, J. – MAJKRÁKOVÁ, M.: Preparations for New Realizations of Vertical Reference Systems in Slovakia. In: EUREF Symposium 2016. San Sebastian, Spain, 25.-27.5.2016. - Donostia: Sociedad de Ciencias Aranzadi, 2016. - p. 1 (in English)

ĎURAČIOVÁ, R. – MUŇKO, M. – KARELL, L.: Validation of Reclassified Predictive Maps. In: Cartographic Activities Devoted to Ján Pravda 2016. Bratislava, Slovakia, 20.-21.10.2016. - Košice: Pavol Jozef Šafárik University in Košice, 2016. - ISBN 978-80-8152-433-2. - p. 10 (in Slovak)

ĎURÍČKOVÁ, Z.: A Comparison of Different Methods to Evaluate the Gravitational Effect of Residual Topography. In: Advances in Architectural, Civil and Environmental Engineering: 26th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, Slovakia, 26.10.2016. - Bratislava: Slovak University of Technology in Bratislava, 2016, CD-ROM. - ISBN 978-80-227-4645-8. - pp. 140-146 (in Slovak)

ĎURÍČKOVÁ, Z. – JANÁK, J. – PAPČO, J. – ZAHOREC, P.: Residual Terrain Model and Its Application for Testing of Gravity Field Models. In: GGHS 2016: 1st Joint Commission 2 and IGFS Meeting International Symposium on Gravity, Geoid and Height Systems 2016. Thessaloniki, Greece, 19.-23.9.2016. - Thessaloniki: Aristotle University of Thessaloniki, 2016, online. - p. 1 (in English)

GERHÁTOVÁ, Ľ. – ŠPÁNIK, P. – HEFTY, J.: Possibilities for the Visualisation of an Earthquake's Effects on a Map. In: Cartographic Activities Devoted to Ján Pravda 2016. Bratislava, Slovakia, 20.-21.10.2016. - Košice: Pavol Jozef Šafárik University in Košice, 2016. - ISBN 978-80-8152-433-2. - p. 16 (in Slovak)

CHALACHANOVÁ FAIXOVÁ, J. – HOREČNÝ, J.: Representation of Objects with Complicated Structures Obtained by Terrestrial Laser Scanning Methods. In: Cartographic Activities Devoted to Ján Pravda 2016. Bratislava, Slovakia, 20.-21.10.2016. - Košice: Pavol Jozef Šafárik University in Košice, 2016. - ISBN 978-80-8152-433-2. - p. 11 (in Slovak)

IMRIŠEK, M.: Comparison of the Forecasted Properties for the Decomposition of a Time-Series and the Seasonal ARIMA Modelling of a Precipitable Water Vapour Time-Series. In: Advances in Architectural, Civil and Environmental

Engineering: 26th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, Slovakia, 26.10.2016. - Bratislava: Slovak University of Technology in Bratislava, 2016, CD-ROM. - ISBN 978-80-227-4645-8. - pp. 147-156 (in Slovak)

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KOVÁČ, M. – NAJARRO, S.A. – DRÁPELA, T. – VÁZQUEZ LÓPEZ, V. – SAVCHENKO, I. – LIESKOVSKÝ, T. – KUPPRAT, F.: Petnal, an Unknown City in the Northeast of Uaxactun: Preliminary Investigations. In: 29th Simposio de Investigaciones Arqueológicas en Guatemala. Ciudad de Guatemala: Ministerio de Cultura y Deportes, 2016. - ISBN 978-9929-48-004-9. - pp. 273-284 (in Spanish)

KOVÁČ, M. – JOBBOVÁ, E. – NAJARRO, S.A. – DÍAZ, M. – ALVAREZ, C. – LIESKOVSKÝ, T. – KREMPEL, G.: The Centre of Uaxactun: Recent Archaeological Findings and the Written Message in the Paraphernalia of a Preclassic King. In: 29th Simposio de Investigaciones Arqueológicas en Guatemala. Ciudad de Guatemala: Ministerio de Cultura y Deportes, 2016. - ISBN 978-9929-48-004-9. - pp. 63-78 (in Spanish)

LAZECKÝ, M. – CANASLAN-COMUT, F. – NIKOLAEVA, E. – BAKOŇ, M. – PAPČO, J. – RUIZ-ARMENTEROS, A.M – QIN, Y. – SOUSA, J.J. – ONDREJKA, P.: Potential of Sentinel-1A for Nation-Wide Routine Updates of Active Landslide Maps. In: The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences (ISPRS Archives): ISPRS Congress, Commission VII. Prague, Czech Republic, 12.-19.7.2016. - online, 2016. - ISSN 2194-9034. - Vol. XLI-B7. - pp. 775-781 (in English)

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STRAKA, J. – SOJČÁKOVÁ, M. – FENCÍK, R.: Model of the Dynamic Labelling of Populated Places in Slovakia for the Purposes of the State Map Series. In: Progress in Cartography: EuroCarto 2015, 1st ICA European Symposium on Cartography. Vienna, Austria, 10.–12.11.2015. – Springer: 2016. – ISSN 1863-2246, ISBN 978-3-319-19601-5. – pp. 31-45 (in English)

ŠPÁNIK, P.: Phase Multipath Effect on GNSS Measurements. In: Advances in Architectural, Civil and Environmental Engineering: 26th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. Bratislava, Slovakia, 26.10.2016. - Bratislava: Slovak University of Technology in Bratislava, 2016, CD-ROM. - ISBN 978-80-227-4645-8. - pp. 193-201 (in English)

ŠPÁNIK, P. – GERHÁTOVÁ, Ľ.: Detection of Multipath Effects in GNSS Measurements. In: Družicové metody v geodézii a katastru: sborník referátů ze semináře s medzinárodní účastí. Brno, Czech Republic, 4.2.2016. - Brno: ECON, 2016. - ISBN 978-80-86433-60-8. - pp. 56-63 (in Slovak)

ŠTEFANIČKA, T. – ĎURAČIOVÁ, R. – SERES, C.: Web Mapping Application for Indoor Navigation in the Complex of the Faculty of Natural Sciences of Comenius University. In: Cartographic Activities Devoted to Ján Pravda 2016. Bratislava, Slovakia, 20.-21.10.2016. - Košice: Pavol Jozef Šafárik University in Košice, 2016. - ISBN 978-80-8152-433-2. - p. 35 (in Slovak)

## DEPARTMENT OF SURVEYING

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## 1. EDUCATION

### 1.1 Graduate study

#### **Obligatory subjects**

**Bachelor Thesis** 

Cadastral Mapping

Cadastre

Cartometry and Analysis of Cadastral Data

Diploma Seminar

Diploma Thesis

Engineering Surveying I, II

Environmental Modelling and Landscape Evaluations

Field Practice in Surveying

Field Practice in Cadastral Mapping and the Cadastre

Field Practice in Engineering Surveying

History of Surveying

Industrial Surveying

Land Consolidation I, II

Legislation of Geodetic Activities

Photogrammetry I, II

Professional Practice

Remote Sensing

Special Seminar

Staking and Monitoring of Construction Objects

Surveying I, II, III

Surveying

Surveying, Cartography and Cadastre

Surveying in Civil Engineering (English)

Practice in Cadastre

#### Obligatory elective subjects

Applied Close–Range Photogrammetry

Surveying in Underground Areas

#### Optional subjects

Application of Information Technology to the Cadastre of Real Estate and Land Consolidation

Measurement Systems in Engineering Surveying

## 1.2 Postgraduate courses

Cadastre and Land Consolidation

**Engineering Surveying** 

Photogrammetry

## 2. THESES

#### 2.1 Bachelor theses

There were 15 works.

#### 2.2 Graduate theses

BADŽGOŇ, J.: Geodetic Measurements for Healts Care Monitoring a Bridge

Supervisor: KYRINOVIČ, P.

FRÁTRIKOVÁ, E.: Modelling Anti-Erosion Structures Against Water Erosion in

a Land Consolidation Project

Supervisor: GEISSE, R.

GORIDKOVÁ, L.: Monitoring of Drifts and Deformations of a Structure Using

Sensors Based on Optical Fibers

Supervisor: LIPTÁK, I.

HARENČÁKOVÁ, V.: Terrestrial Laser Scanning Application in a National

Cultural Monument Documentation

Supervisor: SOKOL, Š.

KAPOLKA, J.: Analysis of Vibrations of Bridge Structures

Supervisor: LIPTÁK, I.

KAPUSTA, J.: Geodetic Monitoring of a Store's Construction Framework

Supervisor: BAJTALA, M.

KLEMPA, B.: Integrated Cadastral Map

Supervisor: HUDECOVÁ, Ľ.

KOŽÍKOVÁ, L.: Measurement of Deformations by Videogrammetry Supervisor: MARČIŠ, M.

MRUZEKOVÁ, M.: Point Classifications of Laser Scanning and Image-Based

Modelling

Supervisor: FRAŠTIA, M.

OKRES, V.: Determination of the Volume of a Landfill Using Terrestrial and

Satellite Measurement Methods

Supervisor: JEŽKO, J.

RADVÁNYI, R.: Project of Simple Adjustment of Property

Supervisor: GEISSE, R.

REISINGER M.: Creation of 3D Land Models by Means of Geodetic Data

Collection

Supervisor: JEŽKO, J.

ŠILLE, M.: Geodetic Monitoring of a Reinforced Concrete Roof Structure Using

TLS

Supervisor: ERDÉLYI, J.

ŠVANCARA, R.: Optimization of the Location of Control Points Used in Image

Triangulation

Supervisor: MARČIŠ, M.

TÓTH, K.: Frequency Analysis of the Movement of a Chemical Reactor

Supervisor: KOPÁČIK, A.

TYBOROVÁ, S.: Measurement of Displacements Using Picture Element

Detection

Supervisor: FRAŠTIA, M.

VARDŽÁKOVÁ, M.: Land Fragmentation

Supervisor: HUDECOVÁ, Ľ.

## 3. RESEARCH

#### 3.1 Research projects

Modernisation and Development of the Technical Skills in the Teaching of Geodesy and Photogrammetry (2016–2018, SOKOL, Š. – JEŽKO, J. – FRAŠTIA, M. – BAJTALA, M. – MARČIŠ, M. – HUDECOVÁ, Ľ.), 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

Detection of an Area and Discrete Shifts in a Fragile Territory Using Low–Cost Photogrammetry, Terrestrial and Satellite Technologies (2014–2016, SOKOL, Š. – FRAŠTIA, M. – JEŽKO, J. – BAJTALA, M. – MARČIŠ, M. – TRHAN, O.), VEGA 1/0133/14

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

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

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

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

## 4. PUBLICATIONS

#### Books

HUDECOVÁ, Ľ.: Cadastre of Real Estates, 1st Part. Bratislava: Slovak University of Technology, 2016. ISBN 978-80-8152-433-2 (in Slovak)

KOPÁČIK, A. – ERDÉLYI, J. – KYRINOVIČ, P. – LIPTÁK, I. – LUKÁČ, Š.: Industrial Surveying. Bratislava: Slovak University of Technology, 2016, ISBN 978–80–227–4661–8 (in Slovak)

#### **Journals**

FÁBRY, M. – ÁROCH, R. – LIPTÁK, I.: System Identification of Bridges and Modal Models. In: Interdisciplinarity Theory and Practice. ISSN 2344–2409. No. 11 (2016), online, pp. 79–84 (in English)

FUNTÍK, T. – ĎUBEK, M. – ERDÉLYI, J.: Geometric Tolerance Verification – Innovative Evaluation of Facade Surface Flatness Using TLS (Terrestrial Laser Scanning). In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. ISSN 1660–9336. Vol. 820 (2016), pp. 81–89 (in English)

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HUDECOVÁ, Ľ.: The Future of a Cadastre from a Multinational Point-View. In: Slovak Surveyor and Cartographer. ISSN 1335–4019. Vol. 21, No. 1 (2016), pp. 5–9 (in Slovak)

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ILKOVIČOVÁ, Ľ. – KAJÁNEK, P. – KOPÁČIK, A.: Pedestrian Indoor Positioning and Tracking Using Smartphones Sensors, Step Detection and Map Matching Algorithm. In: Surveying Journal. ISSN 0016–710X. Vol. 70 (93), No. 1 (2016), pp. 1–24 (in English)

JEŽKO, J.: Development and Visualisation of a 3D Industrial Plant Map. In: Czech Journal of Civil Engineering. ISSN 2336–7148. Vol. 2, No. 1 (2016), online, pp. 56–63 (in Slovak)

JEŽKO, J.: Control and Testing of Rotary Laser Devices. In: Czech Journal of Civil Engineering. ISSN 2336–7148. Vol. 2, No. 2 (2016), online, pp. 60–69 (in Slovak)

LIPTÁK, I.: Software for Displacement Determination from Accelerometer Data. In: Interdisciplinarity in Theory and Practice. ISSN 2344–2409. No. 10 (2016), online, pp. 81–83 (in English)

KOPÁČIK, A. – KAJÁNEK, P. – LIPTÁK, I.: Systematic Error Elimination Using Additive Measurements and Combination of Two Low Cost IMSs. In: IEEE Sensors Journal. ISSN 1530–437X. Vol. 16, No. 16 (2016), pp. 6239–6248 (in English)

KOPÁČIK, A. – KYRINOVIČ, P. – ERDÉLYI, J. – FRAŠTIA, M.: Research Activities and Projects of the Department of Surveying, Faculty of Civil Engineering STU Bratislava. In: Slovak Surveyor and Cartographer. ISSN 1335–4019. Vol. 21, No. 4 (2016), pp. 5–11 (in Slovak)

SOKOL, Š. – BAJTALA, M. – ČERNOTA, P.: Estimation of a Horizontal Refraction in a Geodetic Network. In: Mineral Engineering. ISSN 1640–4920. Vol. 16, No. 1 (37), pp. 201–212 (in English)

#### **Conference Proceedings**

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BAJTALA, M. – SOKOL, Š. – FRAŠTIA, M. – MARČIŠ, M.: Use the Method of Least Squares and Robust Statistical Methods for the Estimation of Horizontal Refraction in Control Network. In: Geodesy, Cartography and Geographical Information Systems 2016: Proceedings. Demänovská dolina, SR, Sep. 21–23, 2016, Košice: Technical University of Košice, 2016. CD. ISBN 978–80–553–2603–0 (in English)

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FÁBRY, M. – ÁROCH, R. – LIPTÁK, I.: Measurement of a Suspension Footbridge in Bratislava. In: ESaT 2016: Proceedings. Tatranské Matliare, SR, 29 June – 1 July, 2016. Košice: Technical University of Košice, 2016. CD. ISBN 978–80–553–2564–4 (in English)

FRAŠTIA, M. – MARČIŠ, M. – JEŽKO, J.: Teaching Photogrammetry and Remote Sensing at the Faculty of Civil Engineering STU Bratislava. In: Geodesy and Mining Surveying 2016: 23rd Conference of the Society of Mining Surveyors and Geologists. Karolinka, CR, Oct. 19 – 21, 2016. Ostrava: University of Technology in Ostrava, 2016, USB. ISBN 978–80–248–3977–6 (in Slovak)

FRAŠTIA, M. – MARČIŠ, M. – BAJTALA, M. – TRHAN, O.: Measurement of Building Components Deformations by the Methods of Digital Photogrammetry. In: SGEM 2016. 16th International Multidisciplinary Scientific GeoConference. Book 2. Informatics, Geoinformatics and Remote Sensing: Conference Proceedings. Albena, Bulgaria, 30 June – 6 July 2016. Sofia: STEF 92 Technology, 2016, pp. 955 – 962. ISSN 1314–2704. ISBN 978–619–7105–59–9 (in English)

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ILKOVIČOVÁ, Ľ.: Estimating Indoor Positions Using Radio—Frequency Technology. In: Juniorstav 2016: 18th Professional Conference of Postgraduate Students. Brno, CR, Jan. 28, 2016. Brno: Brno University of Technology, 2016. CD. ISBN 978–80–214–5311–1 (in Slovak)

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ILKOVIČOVÁ, Ľ. – KOPÁČIK, A.: Development of an Indoor Navigation System Using NFC Technology. In: Advances and Trends in Engineering Sciences and Technologies: Proceedings. Tatranská Štrba, SR, May 27–29, 2015. London: Taylor & Francis Group, 2016. pp. 275–280. ISBN 978–1–138–02907–1 (in English)

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MARČIŠ, M. – FRAŠTIA, M. – TRHAN, O. – HRUŠOVSKÁ, A.: Digital Photogrammetry in the Testing of Construction Elements. In: Surveying in Construction and Industry: Proceedings, Brno, CR, April 21, 2016. Prague: Czech Union of Surveyors and Cartographers, 2016, pp. 32–38. ISBN 978–80–02–02656–3 (in Slovak)

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# DEPARTMENT OF GEOTECHNICS

## **Head of Department**

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# 1. EDUCATION

# 1.1 Graduate study

## **Obligatory subjects**

**Engineering Geology** 

Engineering Geology and Rock Mechanics

Soil Mechanics

Foundation Engineering

Soil Mechanics and Foundations

**Geotechnical Structures** 

Geotechnical Constructions

Geology

**Underground Constructions** 

Properties of Rocks and Soils

Spread and Deep Foundations

Foundation Pits

Water Reservoirs and Dams

Landfills and Ponds

Special Problems of Geotechnical Engineering

Geology and Geomorphology

Geomechanics

Soil Construction

### **Optional subjects**

Spread and Deep Foundations

Basics of the Design of Geotechnical Structures

**Engineering Geology** 

Reconstruction in Geotechnics

Geotechnical Structures

Dumps, Tailing Ponds and Waste Recycling

Engineering Geology and Hydrogeology

**Underground Constructions** 

Hydrogeology

Complex Project of Geotechnical Constructions

Filtration and Stability Tasks

Foundation of Hydraulic Structures

Water Management Systems

Dams and Water Reservoirs

Soil Construction

## Recommended subjects

Spread and Deep Foundations

Diploma Seminar

Roads and Highway Tunnels

Laboratories of Soil Mechanics

Urban Underground Construction

The Aging and Reconstruction of Dams

**Underground Water Management Constructions** 

Construction, Maintenance and Reconstruction of Railway Tunnels

### 1.2 Postgraduate courses

Engineering Geology and Hydrogeology

Soil Mechanics

Foundation Engineering

**Geotechnical Structures** 

Filtration and Stability Tasks of Embankment Dikes

Dams and Water Reservoirs - Selected Topics

# 2. THESES

# 2.1 Bachelor theses

There were 8 works.

### 2.2 Graduate theses

BLAHOVÁ, E.: Effect of the Long-Term Operation of the Palcmanska Maša

Water Project on the Safety of the Dam.

Supervisor: BEDNÁROVÁ, E.

ALAMRO, B. I.M.: Instability Problems of Slopes in Difficult Ground Conditions.

Supervisor: TURČEK, P.

SMETANOVÁ, I.: Alternative Proposal of Bridge 200 Foundation Through

Danube on D4. Supervisor: TURČEK, P.

Supervisor. TORIOLIN, 1.

GALLUSOVÁ, Z.: Stabilization of a Landslide, Which is Endangering a Railway

Line.

Supervisor: SLÁVIK, I.

HRIVA, J.: Foundation Design of Nitrification Reserviors in Complex Base

Conditions.

Supervisor: SLÁVIK, I.

BOROVSKÁ, P.: Numerical Modeling of Bored Piles.

Supervisor: STACHO, J.

DURMEK, M.: Stabilization of Cutting on Highway D1.

Supervisor: FRANKOVSKÁ, J.

HACURA, L.: Foundation Design of the Bridge on Highway D4.

Supervisor: FRANKOVSKÁ, J.

REJDUGA, M.: Foundation Design for Railway Bridge over River Váh.

Supervisor: FRANKOVSKÁ, J.

FORTUNA, F.: Design for Excavation Security by Nailing.

Supervisor: SÚĽOVSKÁ, M.

JANČOVIČ, F.: Design of Reinforced Retaining Wall with a Parking Area in

Nitra.

Supervisor: SÚĽOVSKÁ, M.

LENHARD, M.: Foundation of an Apartment Building in Cramped Conditions

in Bratislava.

Supervisor: SÚĽOVSKÁ, M.

MACHO, P.: The Stabilization Measures of the D3 Highway in Čadca.

Supervisor: SÚĽOVSKÁ, M.

SZABÓOVÁ, N.: Improving Subsoil for the Foundation of a Production Hall for

the Engineering Industry. Supervisor: SÚĽOVSKÁ, M.

SPARGIA, A.: Slope Stability Analysis in a Flysch Environment.

Supervisor: ONDRÁŠIK, M.

ZIMANOVÁ, M.: Influence of Properties of Rocks on the Excavation of

Underground Structures. Supervisor: KOPECKÝ, M.

# 3. RESEARCH

## 3.1 Research projects

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

Determination of Critical Parameters of the Activation of Landslide Areas That Threaten Transport Construction and Water Works (2014-2016 KOPECKÝ, M.), VEGA 1/0533/14

## 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.: Representative of the Slovak Republic on the Regional Committee of the Czech and Slovak Society for Soil Mechanics and Geotechnical Engineering of the International Society (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, Ľ.: 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)

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)

SÚĽOVSKÁ, 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

CHABROŇOVÁ, J.: Underground Structure: Exercises. 1. ed. Slovak University of Technology in Bratislava, Script edition, 2016, 187 pp. ISBN 978-80-227-4526-0 (in Slovak)

TURČEK, P. – SÚĽOVSKÁ, M. – STACHO, J.: Foundation Engineering: Excavations, Retaining Structures and Soil Improvement. 1. ed. Slovak University of Technology in Bratislava, Script edition, 2016, 203 pp. ISBN 978-80-227-4558-1 (in Slovak)

### **Journals**

KOTULOVÁ, J. – KORČÁK, M. – ŠÁLY, B. – ZAVADA, R. – PAVLÍK, V. – KUPKA, D. – FRANKOVSKÁ, J. – KYŠKA–PIPÍK, R.: Large Capacity Energy Storage Based on Hydrogen as a Future Solution. In: SLOVGAS. Vol. 25, No. 4 (2016), pp. 8 – 12. ISSN 1335-3853 (in Slovak)

ŠUJAN, M. – SLÁVIK, I. – GALLIKOVÁ, Z. – DOVIČIN, P. – ŠUJAN, M.: Pre—Quaternary Basement of Bratislava (part 1): Genetic vs. Geotechnical Characteristics of the Neogene Foundation Soils. In: Acta Geologica Slovaca. Vol. 8, No. 1 (2016), pp. 71 – 86. ISSN 1338-0044 (in English)

# **Conference Proceedings**

BALIAK, F. – BRČEK, M. In: In Remembrance of Assoc. Prof. Nemčok on the Occasion of His 90th Birthday. In: Geo - Engineering 2016: Engineering Geology and Geotechnical Engineering in Civil Engineering Practice. Proceedings of the 8th Slovak Conference. Nový Smokovec, Slovakia, June 16 - 17, 2016, Slovak University of Technology in Bratislava, 2016, 10 pp. ISBN 978-80-227-4573-4 (in Slovak)

BEDNÁROVÁ, E. – ŠKVARKA, J. – GRAMBLIČKOVÁ, D. – MACKOVJAK, P.: Experience Gained from Designing Remedial Actions on Levees in Slovakia. In: SGEM 2016. 16th International Multidisciplinary Scientific GeoConference. Book 1. Science and Technologies in Geology, Exploration and Mining: conference proceedings. Albena, Bulgaria, 30 June - 6 July 2016. 1. ed., Sofia: STEF 92 Technology, 2016, pp. 101 – 108. ISBN 978-619-7105-57-5 (in English)

BEDNÁROVÁ, E. – GRAMBLIČKOVÁ, D. – ŠKVARKA, J. – PÍSEČNÁ, B. – UHORŠČÁK, Ľ.: The Starina Dam Interacts with the Environment. In: 35th Dam Days 2016 – Conference proceedings, Vol. 2, Ostrava, Czech Republic, June 21 – 23, 1. ed., Prague: Czech Technical University in Prague, 2016, pp. 4 – 13. ISBN 978-80-01-05970-8 (in Slovak)

BEDNÁROVÁ, E. – GRAMBLIČKOVÁ, D. – MINÁRIK, M. – ŠKVARKA, J. – KOPČÁKOVÁ, B.: The Filtration Stability Safety Assessment of the Dam Liptovská Mara After Grouting Curtain Reconstruction. In: Appropriate Technology to Ensure proper Development, Operation and Maintenance of Dams in Developing Countries: proceedings of International Symposium. Johannesburg, South Africa, May 18, 2016, 1. ed., Pretoria (South Africa): South African National Committee on Large Dams (SANCOLD), 2016, 9 pp. ISBN 978-0-620-71042-8 (in English)

BEDNÁROVÁ, E. – HULLA, J.: Elements of the Sealing Barriers at the Dams at the Liptovska Mara and Čierny Vah Reservoirs. In: Geotechnics 2016.

Advanced Methods and Traditions in Geotechnics: conference proceedings of the 15th International Conference. Horný Smokovec, Slovakia, Sep. 21 – 22, 2016, 1. ed., Ostrava: Faculty of Civil Engineering VŠB – Technical University of Ostrava, 2016, pp. 60 – 67. ISBN 978-80-248-3935-6 (in Slovak)

BEDNÁROVÁ, E.: Effect of Long – Term Operation of the Vičia dolina Reservoir concerning the Dam's Safety. In 20th District Water Day: Reviewed conference proceedings. Michalovce, Slovakia, April 14 – 15, 2016, 1. ed., Michalovce: East Slovak Water Company, a.s., Košice, The Michalovce factory, 2016, pp. 15 – 20. ISBN 978-80-89139-37-8 (in Slovak)

BEDNÁROVÁ, E.: The Role of Water Reservoirs in the Extreme Hydrological Conditions in Slovakia. In: Adolf Patera Seminar 2016: The Role of Dams in Coping with Extreme Hydrological Events and Floods. Conference proceedings, Prague, Czech Republic, Nov. 16, 2016, 1. ed., Prague: Czech Technical University in Prague, 2016, pp. 45 – 48. ISBN 978-80-01-06048-3 (in Slovak)

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FRANKOVSKÁ, J.: European Standardization in Geotechnics. In: Geo – Engineering 2016, Engineering Geology and Geotechnical Engineering in Civil Engeneering Practice. Proceedings of the 8th Slovak Conference. Nový Smokovec, Slovakia, June 16 – 17, 2016, Slovak University of Technology in Bratislava, 2016, 8 pp. ISBN 978-80-227-4573-4 (in Slovak)

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FRANKOVSKÁ, J.: Collapsibility of Loess Evaluated from Field and Laboratory Tests. In: SGEM 2016. 16th International Multidisciplinary Scientific

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HULLA, J. – BEDNÁROVÁ, E.: Developing the Effectiveness of Sealing Elements in Quarternary Soils and Neovolcanites. In: Reinforcement, Sealing and Anchoring of Rock Massif and Building Structures 2016, proceedings of

the 21st International Seminar. Ostrava, Czech Republic, Feb. 18 – 19, 2016, 1. ed., Ostrava: Faculty of Civil Engineering VŠB – Technical University of Ostrava, 2016, pp. 52 – 57. ISBN 978-80-248-3890-8 (in Slovak)

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KOPECKÝ, M. – TURINIČ, Ľ. – BRČEK, M. – ONDRÁŠIK, M.: Geotechnical Problems during Construction of a Railway Cut. In: Geotechnics 2016. Advanced Methods and Traditions in Geotechnics: the conference proceedings of the 15th International Conference. Horný Smokovec, Slovakia, Sep. 21 – 22, 2016, 1. ed., Ostrava: Faculty of Civil Engineering VŠB – Technical University of Ostrava, 2016, pp. 117 – 124. ISBN 978-80-248-3935-6 (in Slovak)

ONDRÁŠIK, M. – KOPECKÝ, M. - BRČEK, M.: Indirect Identification and Importance of the Pore Structure of Rocks Used in Slovakia in the Building Industry. In: Geo – Engineering 2016: Engineering Geology and Geotechnical Engineering in Civil Engineering Practice. Proceedings of the 8th Slovak Conference. Nový Smokovec, Slovakia, June 16 – 17, 2016, Slovak University of Technology in Bratislava, 2016, 6 pp. ISBN 978-80-227-4573-4 (in Slovak)

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PANUŠKA, J. – FRANKOVSKÁ, J.: Effect of a Void Ratio on the Small Strain Shear Modulus Gmax for Coarse – Grained Soils. In: Procedia Engineering: World Multidisciplinary Civil Engineering-Architecture-Urban Planning Symposium 2016, WMCAUS 2016. Prague, Czech Republic, June 13 – 17, 2016, Vol. 161, 2016, pp. 1235 – 1239. ISSN 1877-7058 (in English)

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SÚĽOVSKÁ, M. – TURČEK, P. - ŠTEFUNKOVÁ, Z.: Quality Control of a Base Course Below a Hall Floor. In: Foundation Engineering - Brno 2016: 44th conference with international participation. Foundation Engineering – Brno 2016, Brno, Czech Republic, Nov. 14 – 15, 2016, 1. ed., Prague: Czech Geotechnical Society, 2016, pp. 57 – 62. ISBN 978-80-87920-04-6 (in Slovak)

SUMEC, J. – HRUŠTINEC, Ľ.: Time – Dependent Response of Mass Continuous Solid Phase Media by Integral Form of Constitutive Equations – Mathematical Modeling. In: Applied Mechanics and Materials: Trends in Statics and Dynamics of Construction II. Selected, peer reviewed papers from the 13th International Conference on New Trends in Statics and Dynamics of Buildings, Bratislava, Slovakia, Oct. 15 – 16, 2015, Vol. 837, 2016, pp. 163 – 166. ISSN 1660-9336 (in English)

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TURČEK, P.: Influence of the Quality of Engineering-Geological Investigation on Realised Construction. In: Geo — Engineering 2016: Engineering Geology and Geotechnical Engineering in Civil Engineering Practice. Proceedings of the 8th Slovak Conference. Nový Smokovec, Slovakia, June 16 — 17, 2016, Slovak University of Technology in Bratislava, 2016, pp. 300 — 307. ISBN 978-80-227-4573-4 (in Slovak)

TURČEK, P. – SÚĽOVSKÁ, M.: Dynamic Load Tests on Bored Piles. In: Polní geotechnické metody 2016: sborník příspěvků. 33. mezinárodní konference, Ústí nad Labem, Czech Republic, Sep. 8 – 9, 2016, 1. ed., Ústí nad Labem: AZ Consult, 2016, pp. 77 – 82. ISSN 1213-1237 (in Slovak)

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ZLATINSKÁ, L. – SLÁVIK, I.: Compactibility and Its Influence on the Shear Strength of Selected Geomaterials Deposited into the Impoundments. In: SGEM 2016. 16th International Multidisciplinary Scientific GeoConference. Book 1. Science and Technologies in Geology, Exploration and Mining: conference proceedings. Albena, Bulgaria, 30 June - 6 July 2016. 1. ed., Sofia: STEF 92 Technology, 2016, pp. 739 – 745. ISBN 978-619-7105-55-1 (in English)

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# DEPARTMENT OF LAND AND WATER RESOURCES MANAGEMENT

**Head of Department** 

Prof. Ing. Viliam Macura, PhD.

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# 1. EDUCATION

# 1.1 Graduate study

# **Obligatory subjects**

Hydrology

Landscape Ecology

Landscape Ecology and Bioecology

Meteorology and Hydrology

Landscape Engineering

Engineering Structures in a Landscape

River Training

Pedology

River Restoration

Integrated River Basin Management

Water Management

Hydrological Field Measurements

CAD Systems in Landscape Engineering

Water Regime of a Landscape

Irrigation and Drainage

GIS in Water Management

### Optional subjects

Project 1 - Sustainable Landscape Development

Basics of the Design of Landscape Structures

CAD Systems in Water Management

Project Work

Computer Modelling in Water Management

Design of Small Water Reservoirs

Revitalization of Wetlands

CAD Systems in Environmental Engineering

## 1.2 Postgraduate courses

Hydrology

Hydrology of Surface Waters

Hydrology of Sub-Surface Waters

Hydrodynamics of Porous Media

Methods of Field and Laboratory Experiments in Hydrology

Mathematical Modelling of Hydrological and Hydraulic Processes

Simulation Methods, Algorithms and Programming

Evaluation of the Risk of Extreme Hydrological Processes

Geoinformatics

Methods and Models of Hydrological Balance

Methods of Hydrological Forecasting

Deterministic and Stochastic Models of Hydrological Processes

Landscape Planning

Revitalization of Rivers

Soil Water Regime

Hydrochemistry and Hydrobiology

# 2. THESES

### 2.1 Bachelor theses

There were 12 works.

### 2.2 Graduate theses

BEHAN, Š.: Analysis of Changes in Land Use and Their Impact on Runoff in a River Basin

Supervisor: VÝLETA, R.

BEREC, A: Proposals for Landscape Engineering Measures in a Selected River

**Basin** 

Supervisor: HLAVČOVÁ, K.

CELLER, M.: Proposals for Erosion Control and Evaluation of Their

Effectiveness in the Sobotište Cadastral Area

Supervisor: VÝLETA, R.

HABURAJÓVÁ, M.: Application of a Rainfall Simulator for the Solution of Tasks

in Water Management

Supervisor: DANÁČOVÁ, M.

HORDÓSI, G.: Design of the Garden of a Family House, Including Irrigation

Supervisor: BAJTEK, Z.

HUDCOVIČ, L.: Design of Erosion Contorol in the Turá Lúka Region

Supervisor: HLAVČOVÁ, K.

HUDEC, A.: Design of Drip Irrigation for Vineyards Supervisor: BAJTEK, Z.

LISOVSZKI, E.: The Potential of Flood Risk Reduction through Changing the Land Use in Mid-Sized Catchments in the Myjava Region of Slovakia Supervisor: SZOLGAY, J.

REŠUTÍKOVÁ, I.: Analysis of Soil Erosion in the Svacenický Jarok Catchment Supervisor: KOHNOVÁ, S.

ŠAJERMANOVÁ, B.: Restoration of the River Channel and Adjacent Landscape Near a Former Water Mill Supervisor: ŠKRINÁR, A.

VASILAKI, M.: Analysis of Projected Changes of Short-Term Rainfall Characteristics for Selected Stations in Slovakia Supervisor: KOHNOVÁ, S.

### 2.3 Doctoral theses

IVAN, P.: Evaluating Quality of Aquatic Habitat of Mountainous Rivers Supervisor: MACURA, V.

JARABICOVÁ, M.: Soil Water Regime Predictions Supervisor: SKALOVÁ, J.

RONČÁK, P.: Parameterization of Rainfall-Runoff Models for Modelling Runoff under Climate Change
Supervisor: HLAVČOVÁ, K.

SZÖEKEOVÁ, D.: Application of Multi-Regime Models for Analysis of Discharge Series
Supervisor: KOHNOVÁ, S.

VOJTKOVÁ, J.: Vegetation Effect on Erosion-Sedimentation Processes in the Floodplain Soils of the Schwechat River, Austria

Supervisor: MACURA, V.

# 3. RESEARCH

# 3.1 Research projects

Sensitivity of Flood Generation to Intensive Precipitation and Land Use in Headwater Catchments (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 APW-15-0489

Preventing and Remediating Degradation of Soils in Europe through Land Care (RECARE). (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

Study of Local and Spatial Properties of Hydrometeorological Extremes in the Conditions of Nonstationarity by Copulas (2013-2016, SZOLGAY, J.), VEGA 1/0776/13

## 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 Thesally, Volos, Greece

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

#### Membership in international professional organizations

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

HLAVČOVÁ, K.: Member of the European Geosciences Union

KOHNOVÁ, S.: Member of the European Geosciences Union

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

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

SZOLGAY, J: Member of the Editorial Board of Water Resources Management

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

SZOLGAY, J: Member of the Editorial Board of the Journal of Hydrological Sciences

SZOLGAY, J: National Correspondent of IAHS for Water Management Systems

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

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

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

# 4. PUBLICATIONS

### **Books**

NÁNÁSIOVÁ, O. – KOHNOVÁ, S.: Statistics and Probability. 1. ed. Bratislava: STU, 2016, 199 pp. University Textbook Edition. ISBN 978-80-227-4527-7 (in Slovak)

### Parts of Books

MACURA, V. – IVAN, P.: Effect of Land Use Changes on the Length of Surface Runoff. In: AQUA 2016: Proceedings. 1. ed. Bratislava: STU Bratislava, 2016, CD-ROM, pp. 217-225. ISBN 978-80-227-4612-0 (in Slovak)

SZOLGAY, J. – CAMERRA, C. – SKARBOVIK, E. – HLAVČOVÁ, K.: Flooding and Landslides. In: Soil Threats in Europe: Status, Methods, Drivers and Effects on Ecosystem Services. 1. ed. Luxembourg: European Union, 2016, pp. 128-144. ISSN 1018-5593, ISBN 978-92-79-54018-9 (in English)

### **Journals**

AL-BEYROUTIOVÁ, M. – SABO, M. – SLEZIAK, P. – DUŠINSKÝ, R. – BIRČÁK, E. – HAUPTVOGEL, P. – KILIAN, A. – ŠVEC, M.: Evolutionary Relationships in the Genus Secale Revealed by DArTseq DNA Polymorphism. In: Plant Systematics and Evolution. Vol. 302, No. 8 (2016), pp. 1083-1091. ISSN 0378-2697 (in English)

BLÖSCHL, G. – SZOLGAY, J. – PARAJKA, J. – KOHNOVÁ, S. – MIKLÁNEK, P.: Thematic Issue on Floods In the Danube Basin - Processes, Patterns, Predictions. In: Journal of hydrology and hydromechanics. Vol. 64, No. 4 (2016), pp. 301-303. ISSN 0042-790X. (in English)

ČISTÝ, M. – BECOVÁ, A. – ČELÁR, Ľ.: Analysis of Irrigation Needs Using an Approach Based on a Bivariate Copula Methodology. In: Water Resources Management. Vol. 30, No. 1 (2016), pp. 167-182. ISSN 0920-4741 (in English)

ČISTÝ, M. – ČELÁR, Ľ.: Conversion of the Time Series of Measured Soil Moisture Data to a Daily Time Step - A Case Study Utilizing the Random Forests Algorithm. In: Journal of Sustainable Development of Energy, Water

and Environment Systems. Vol. 4, No. 2 (2016), online, pp. 183-192. ISSN 1848-9257 (in English)

DANÁČOVÁ, M. – ĎURIGOVÁ, M. – MALIARIKOVÁ, M. – HLAVČOVÁ, K.: Experimental Measurements of a Surface Runoff Formation Using a Rainfall Simulator in Laboratory Conditions. In: Acta Hydrologica Slovaca. Vol. 17, No. 2 (2016), pp. 252-259. ISSN 1335-6291 (in Slovak)

GAÁL, L. – SZOLGAY, J. – BACIGÁL, T. – KOHNOVÁ, S. – HLAVČOVÁ, K. – VÝLETA, R. – PARAJKA, J. – BLÖSCHL, G.: Similarity of Empirical Copulas of Flood Peak-volume Relationships: a Regional Case Study of North-West Austria. In: Contributions to Geophysics and Geodesy. Vol. 46, No. 3 (2016), pp. 155-178. ISSN 1335-2806 (in English)

HLAVČOVÁ, K. – KOHNOVÁ, S. – BORGA, M. – HORVÁT, O. – ŠŤASTNÝ, P. – PEKÁROVÁ, P. – MAJERČÁKOVÁ, O. – DANÁČOVÁ, Z.: Post-Event Analysis and Flash Flood Hydrology in Slovakia. In: Journal of Hydrology and Hydromechanics. Vol. 64, No. 4 (2016), pp. 304-315. ISSN 0042-790X (in English)

IVAN, P. – CHEBEŇOVÁ, T.: Assessment of the Ecological Stability of the Village of Bielovce as a Result of Changes in Land Use. In: Slovak Journal of Civil Engineering. Vol. 24, No. 2 (2016), pp. 1-6. ISSN 1210-3896 (in English)

JARABICOVÁ, M. – MINARIČ, P.: Soil-Water Storage Predictions for Cultivated Crops on the Záhorská Lowlands. In: Slovak Journal of Civil Engineering. Vol. 24, No. 2 (2016), pp. 31-40. ISSN 1210-3896 (in English)

JENEIOVÁ, K. – KOHNOVÁ, S. – HALL, J. – PARAJKA, J.: Variability of Seasonal Floods in the Upper Danube River Basin. In: Journal of Hydrology and Hydromechanics. Vol. 64, No. 4 (2016), pp. 357-366. ISSN 0042-790X (in English)

KOHNOVÁ, S. – BOHDALOVÁ, M. – BOHDAL, R. – OCHABOVÁ, K. [Zechelová, K.].: Applicability of Basic Radial Functions for the Interpolation of Short-Term Rainfall Scaling Exponents in Slovakia. In: Acta Hydrologica Slovaca. Vol. 17, No. 2 (2016), pp. 243-251. ISSN 1335-6291 (in Slovak)

KOHNOVÁ, S. – GAÁL, L. – BACIGÁL, T. – SZOLGAY, J. – HLAVČOVÁ, K. – VALENT, P. – PARAJKA, J. – BLÖSCHL, G.: Process-Based Selection of Copula Types for Flood Peak-volume Relationships in Northwest Austria: a Case Study. In: Contributions to Geophysics and Geodesy. Vol. 46, No. 4 (2016), pp. 245-268. ISSN 1335-2806 (in English)

MACURA, V. – ŠTEFUNKOVÁ, Z. – ŠKRINÁR, A.: Determination of the Effect of Water Depth and Flow Velocity on the Quality of an In-Stream Habitat in Terms of Climate Change. In: Advances in Meteorology. Vol. 2016, (2016), [17] pp. ISSN 1687-9309 (in English)

MAJOROŠOVÁ, M.: DPSIR Framework - A Decision-Making Tool for Municipalities. In: Slovak Journal of Civil Engineering. Vol. 24, No. 4 (2016), pp. 45-50. ISSN 1210-3896 (in English)

MALIARIKOVÁ, M. – NOSKO, R. – LÁTKOVÁ, T. – SKALOVÁ, J. – MINARIČ, P.: The Determination of Options Provided for Water Retention Curves of the Myjava River Basin. In: Acta Hydrologica Slovaca. Vol. 17, No. 2 (2016), pp. 313-321. ISSN 1335-6291 (in Slovak)

MARKOVÁ, R. – XHAJA, A. – KOHNOVÁ, S.: Trend and Seasonality Analysis of the Maximum Annual Discharges in Selected Gauging Stations at the Hron River Basin. In Acta Hydrologica Slovaca. Vol. 17, No. 2 (2016), pp. 224-234. ISSN 1335-6291 (in Slovak)

PAPAIOANNOU, G. J. – KOHNOVÁ, S. – BACIGÁL, T. – SZOLGAY, J. – HLAVČOVÁ, K. – LOUKAS, A.: Joint Modelling of Flood Peaks and Volumes: A Copula Application for the Danube River. In: Journal of Hydrology and Hydromechanics. Vol. 64, No. 4 (2016), pp. 382-392. ISSN 0042-790X (in English)

RONČÁK, P. – HLAVČOVÁ, K. – LÁTKOVÁ, T.: Estimation of the Effect of Changes in Forest Associations on Runoff Processes in Basins: Case Study in the Hron and Topl'a River Basins. In: Slovak Journal of Civil Engineering. Vol. 24, no. 3 (2016), pp. 1-7. ISSN 1210-3896 (in English)

SLEZIAK, P. – SZOLGAY, J. – HLAVČOVÁ, K. – PARAJKA, J.: The Impact of the Variability of Precipitation and Temperatures on the Efficiency of a Conceptual Rainfall-Runoff Model. In Slovak Journal of Civil Engineering. Vol. 24, No. 4 (2016), pp. 1-7. ISSN 1210-3896 (in English)

SOČUVKA, V. – IVAN, P. – HLAVČOVÁ, K. – KOHNOVÁ, S. – VELÍSKOVÁ, Y.: Clogging Analysis of the Svacenický Jarok Polder. In Acta Hydrologica Slovaca. Vol. 17, No. 1 (2016), pp. 117-124. ISSN 1335-6291 (in Slovak)

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VALACH, J. – VIDO, J. – ŠKVARENINA, J.: Occurrences of Drought in the Horné Požitavie Region over the Period 1966-2013. In: Acta Hydrologica Slovaca. Vol. 17, No. 1 (2016), pp. 30-36. ISSN 1335-6291 (in Slovak)

VALENT, P. – RONČÁK, P. – MALIARIKOVÁ, M. – BEHAN, Š.: Utilization of Historical Maps in the Land Use Change Impact Studies: a Case Study from Myjava River Basin. In: Slovak Journal of Civil Engineering. Vol. 24, No. 4 (2016), pp. 15-26. ISSN 1210-3896 (in English)

VÝLETA, R. – CELLER, M. – DANÁČOVÁ, M.: Effect of Erosion Control Protections on Water Erosion and Sediment Transport in the Village of Sobotište. In: Czech Journal of Civil Engineering. Vol. 2, No. 2 (2016), online, pp. 162-168. ISSN 2336-7148 (in Slovak)

### **Conference Proceedings**

ČELÁR, Ľ. – ČISTÝ, M.: RIRR – New Open-Source Model for the Design, Analysis and Modelling of Irrigation Systems. In: SGEM 2016. 16th International Multidisciplinary Scientific GeoConference. Book 3. Water Resources. Forest, Marine and Ocean Ecosystems: Conference Proceedings. Extended Scientific Sessions. Vienna, Austria, 2 - 5 Nov. 2016. 1. ed. Sofia: STEF 92 Technology, 2016, pp. 251-258. ISSN 1314-2704. ISBN 978-619-7105-81-0 (in English)

ČELÁR, Ľ.: Two-Phase Optimization for the Design of an Irrigation System. In: Advances in Architectural, Civil and Environmental Engineering: 26th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. 26. Oct. 2016, Bratislava. Bratislava: STU Bratislava, 2016, CD-ROM, pp. 613-618. ISBN 978-80-227-4645-8 (in Slovak)

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VÝLETA, R.: Modelling a Runoff Regime Depending on the Method of Calculation of the Potential Evapotranspiration. In: HydroCarpath 2016. Catchment Processes in Regional Hydrology: From Plot to Regional Scales - Monitoring Catchment Processes and Hydrological Modelling: Abstracts of the Conference. Vienna/Bratislava/Sopron, 27. 10. 2016. Sopron: University of West Hungary Press, 2016, p. 28. ISBN 978-963-334-296-1 (in English)

# DEPARTMENT OF HYDRAULIC ENGINEERING

**Head of Department** 

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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 in 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

## Obligatory elective 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 14 works.

### 2.2 Graduate theses

BAĎURA, J.: The Use of a Combined 1D and 2D Hydrodynamic Model for

Simulation of a Flood in the City of Bratislava

Supervisor: ORFÁNUS, M.

BAGI, M.: Assessment of the Existing Design of Flood Protection of the City

District of Rača

Supervisor: ŠOLTÉSZ, A.

KOPÁČOVÁ, A.: Design of Water Management Measures and Utilization of

Hydropower in the Area of Trstie

Supervisor: DUŠIČKA, P

MIČKALÍKOVÁ, I.: The Sered Water Works on the Váh River – Assessment of Flow Conditions with Respect to Navigation

Supervisor: MOŽIEŠIK, Ľ.

VRÁBEL, M.: Design of a Small Hydropower Plant

Supervisor: ŠULEK, P.

ZINAW, D.S.: Design and Verification of the Groundwater Control for a Planned Industrial Park near Nitra

Supervisor: BAROKOVÁ, D.

# 3. RESEARCH

# 3.1 Research projects

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

ENHANCE - Strengthening National Research and Innovation Capacities in Vietnam (2015–2017, ŠOLTÉSZ, A.), 561749-EPP-1-2015-1-ES-EPPKA2-CBHE-SP

New Possibilities for the Utilization of Drainage Channel Systems with Respect to the Protection and Utilization of Land (2015–2019, ŠOLTÉSZ, A.), APVV-14-3799

# 3.2 International cooperation

### **Cooperating institutions**

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

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

## Membership in international professional organizations

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

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

# 4. PUBLICATIONS

#### Parts of Books

ČERVEŇANSKÁ, M. – BAROKOVÁ, D. – ŠOLTÉSZ, A.: Analysis of the Groundwater Flow on Waterwork Islands in Bratislava. In: AQUA 2016: Collection of Works. 1st. ed., Bratislava, Slovak University of Technology in Bratislava, Faculty of Civil Engineering, 2016, CD–ROM, pp. 1–9, ISBN 978–80–227–4612–0 (in Slovak)

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### **Patents and Standards**

DUŠIČKA, P. – RUMANN, J. – ŠULEK, P. – MOŽIEŠIK, Ľ.: PÚV 5053-2016, Folding Rail for Hydrometry, Industrial Property Office of the Slovak Republic, 2016 (in Slovak)

DUŠIČKA, P. – RUMANN, J. – ŠULEK, P. – MOŽIEŠIK, Ľ.: PÚV 5038-2016 Bridge Deflector and Bridge, Industrial Property Office of the Slovak Republic, 2016 (in Slovak)

DUŠIČKA, P. – HRUBÍK, J. – RUMANN, J. – ŠULEK, P. – MOŽIEŠIK, Ľ.: PÚV 00070-2016 Dynamic Dynamometer for Measuring Tensile Forces, Industrial Property Office of the Slovak Republic, 2016 (in Slovak)

DUŠIČKA, P. – HRUBÍK, J. – RUMANN, J. – ŠULEK, P. – MOŽIEŠIK, Ľ.: ÚV-7692 Dynamic Force Sensor with Mechanically Recorded Maximum, Industrial Property Office of the Slovak Republic, 2016 (in Slovak)

# DEPARTMENT OF BUILDING CONSTRUCTION

### **Head of Department**

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# 1. EDUCATION

# 1.1 Graduate study

## **Obligatory subjects**

**Building Acoustics and Illumination** 

**Building and Energy** 

**Building Constructions 1** 

**Building Constructions 2** 

**Building Constructions 3** 

**Building Constructions 4** 

**Building Constructions 5** 

**Building Constructions V** 

Building Energy and Environmental Simulation

Building Energy and Indoor Environment Simulation

**Building Pathology** 

Building Physics (in English)

Constructions in Architecture 1 (in English)

Constructions in Architecture 2 (in English)

Constructions in Architecture 3 (in English)

Design Basics

Design of Architectural Constructions

Design Studio

Design Studio 3

Design Studio 4

Ecological Architecture

Excursion

Final Thesis

Fire Engineering of Buildings

Fire Safety of Buildings

Master's Seminar

Master's Thesis

Methodology of Scientific Experiments

Modelling of Climatic Processes

Physics of Indoor Environments

**Practical Training** 

Professional Practice

Project 1 – Low-Energy Buildings

Reconstruction of Buildings and Preservation of Monuments 1

Renovation of Buildings

Selected Problems of Building Constructions

Special Architectural Structures

Special Building Constructions

Studio of Building Design I

Studio of Building Design II

Studio of Building Design III

**Technical Drawing** 

Thermal Performance of Buildings

# Obligatory elective subjects

Acoustics in Architecture

Advanced Building Materials and Constructions

Aerodynamics and Hydrodynamics of Buildings

Facade Techniques of Intelligent Buildings

Solar Technology and Illumination of Buildings

Thermal Protection of Buildings

### Optional subjects

**Building-Physical Construction** 

Computer Graphics

Computer Graphics and Visualization

Computer Graphics and Visualization I

Information Technologies

**Building Design** 

# 1.2 Postgraduate courses

Aerodynamics and Hydrodynamics of Buildings

**Buildings and Energy** 

**Buildings and Urban Acoustics** 

**Building Climatology** 

Building Constructions - Selected Essays

**Building Simulations** 

Fire Safety Engineering

Renewal and Protection of Historic Buildings

Selected Essays from Building Constructions

Thermal Performance of Buildings

# 2. THESES

### 2.1 Bachelor theses

There were 181 works.

# 2.2 Graduate theses

ÁRENDÁS, J.: House of Culture

Supervisor: DLHÝ, D.

BALÁŽ, A.: Sport Hall Supervisor: BUDAY, P.

BANDÍK, J.: Parking Garage Supervisor: DRŽKA, M.

BELEJ, M.: Church with a Pastoral Centre

Supervisor: OLÁH, J.

BOĎO, R.: Forester's Lodge Supervisor: JAMNICKÝ, M.

BORSOVÁ, B.: Office Building Supervisor: VAVROVIČ, B.

ČAMBORA, A.: House of Music Structure

Supervisor: DLHÝ, D.

ČOPÁKOVÁ, S.: Retirement Home

Supervisor: PUŠKÁR, A.

DEVEČKA, M.: Marketplace Supervisor: JAKEŠ, E.

DOMONKOSOVÁ, T.: Hotel Supervisor: VAVROVIČ, B.

FEDOR, M.: Nursery School with Creche: Standards of Ultra Low Energy

Building

Supervisor: RABENSEIFER, R.

GAŠPAR, M.: Visitor Center Supervisor: RABENSEIFER, R.

GAVORNÍK, M.: Gallery Supervisor: PUŠKÁR, A. GONDA, M.: Recording Studio with Accommodation

Supervisor: TOMAŠOVIČ, P.

HANUSOVÁ, M: Kindergarten Supervisor: ŽILINSKÝ, J.

HLADEJ, J.: Wellness Hotel Supervisor: ŽILINSKÝ, J.

HOLUB, P.: Library Supervisor: DRŽKA, M.

KADLEČÍK, S.: The Family Farm - Beer Production with a Restaurant

Supervisor: MIKOLAI, I.

KANDRAVÁ, N.: Equestrian Center with an Indoor Riding Hall

Supervisor: BIELEK, B.

KATUŠČAKOVÁ, M.: Folklore Centre

Supervisor: JAKEŠ, E.

KIC, M.: Veterinary Hospital Supervisor: MIKLÓSIOVÁ, T.

KOSÍKOVÁ, A.: Ultra Low-Energy Apartment Building

Supervisor: MENĎAN, R.

KOVAĽ, J.: Elementary School Supervisor: PALKOVÁ, A.

KUKUČKA, P.: Office Building with the Production of Microscopes

Supervisor: PALKO, M.

LAŠŠÁK, J.: Administrative Building

Supervisor: PALKOVÁ, A.

LAŠŠÁK, K.: Wellness Hotel Supervisor: CHMÚRNY, I.

LIETAVOVÁ, J.: Dental Clinic Supervisor: PERNIŠOVÁ, A.

MICHL, M.: Spa Building Supervisor: BIELEK, B.

NÁDASKÝ, M.: Main Regional Integrated Fire and Rescue Station in Trnava

Supervisor: OLBŘÍMEK, J.

NÝBLOVÁ, J.: Ski Jump Supervisor: PALKO, M.

PETRÍK, T.: Pension Dwelling Supervisor: MINAROVIČOVÁ, K.

PODHOREC, J.: Reconstruction of Manor House

Supervisor: INGELI, R.

SIMONDELOVÁ, M.: Mountain Hotel

Supervisor: HRAŠKA, J.

SIVČÁKOVÁ, Z.: Building with a Pharmacy

Supervisor: BUDAY, P.

ŠANOBA, J.: Furniture Store Supervisor: PERNIŠOVÁ. A.

VACEK, Š.: Winery in Svätý Jur Supervisor: JAMNICKÝ, M.

VIKUKELOVÁ, M.: Bowling Center

Supervisor: INGELI, R.

VYDRA, J.: Mountain Cableway Station

Supervisor: HANULIAK, P.

ZACHAROVÁ, J.: Office Building

Supervisor: HRAŠKA, J.

ZEMAN, J.: Railway Station Supervisor: VARGOVÁ, A.

#### 2.3 Doctoral theses

ČEHEĽOVÁ, D.: Aerodynamic Quantification of Buildings for Their Physical

Problems

Supervisor: BIELEK, B.

HARTMAN, P.: Daylighting of Buildings Based on Chronobiology and Circadian

Photometry

Supervisor: HRAŠKA, J.

JAVORČEK, M.: Analysis of Air Exchange in Elementary School Building

Classrooms

Supervisor: STERNOVÁ, Z.

ZRNEKOVÁ, J.: Sound Absorption of Space Elements and Optimalization of

Their Modeling in Algorithms Based on the Ray Tracing Method

Supervisor: RYCHTÁRIKOVÁ, M.

# 3. RESEARCH

## 3.1 Research projects

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

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

Novel Structural Skins: Improving Sustainability and Efficiency through New Structural Textile Materials and Designs

(2013-2017, RYCHTÁRIKOVÁ, M., VARGOVÁ, A.) COST Action TU1303

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

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

Mobility Between Higher Education Institutions. EEA Scholarship Programme,

(2015-2016 RABENSEIFER, R.), EHP-26/SK06-II-01-004/2015

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

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

Advanced Physical-Acoustic and Psycho-Acoustic Diagnostic Methods for Innovations in Building Acoustics - Papabuild (2015-2020, RYCHTÁRIKOVÁ, M.) H2020 MSCA – 690970

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

Energy, SEP-210174191

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 the Project Strategy in 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.) COST Action CA15125

## 3.2 International cooperation

### Cooperating institutions

TU Vienna, Austria

Wolfin 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 Kharcow, Ukraine

University of Strathclyde, United Kingdom

Chungnam National University, Daejeon, Korea

### Membership in international professional organizations

CHMELÍK, V.: YAN - Young Acoustician Network - representative of the Slovak Republic

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

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

RYCHTÁRIKOVÁ, M., CHMELÍK, V.: EAA - European Acoustic Association RYCHTÁRIKOVÁ, M.: ICA International Commission on Acoustics (ICA)

# 4. PUBLICATIONS

## **Books**

PUŠKÁR, A. – PETRÁŠ, D. – SANDANUS, J. – SÓGEL, K. – DRŽKA, M.: Reducing the Energy Consumption of Buildings for the Profession of Bricklayer. 1st ed. Bratislava: Institute for Adult Education and Services, 2016. 191 pp. ISBN 978-80-89073-20-7 (in Slovak)

### Journals

BIELEK, B.: Strategy for cooling Green buildings. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 105-114. ISSN 1660-9336 (in English)

BIELEK, B. – CHMÚRNY, I.: Facade building systems and Their thermal quantifications. In: Eurostav. Vol. 22, No. 3 (2016), pp. 26-28. ISSN 1335-1249 (in Slovak)

BIELEK, B. – SZABÓ, D.: Laboratory experimental verification of the effectiveness of acoustical treatment of facade element frame profiles. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 431-436. ISSN 1660-9336 (in English)

BINEK, K.: Microwave radiation-like instrument for drying moisture from masonry. In: Almanach znalca. Vol. 16, No. 1 (2016), CD-ROM, pp. 6-8. ISSN 1336-3174 (in Slovak)

BUDAY, P.: The most significant factor affecting the calculation of specific heat consumption for heating for family houses according to STN 73 0540. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 171-176. ISSN 1660-9336 (in English)

ČEHEĽOVÁ, D. – JANÁK, M. – BIELEK, B.: The impact of relative position of the high-rise buildings on the wind flow. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 320-325. ISSN 1660-9336 (in English)

ČURPEK, J. – OLÁH, J.: Pilot analysis of waterproof properties of roof membranes according to their mechanical damage. In: Střechy, fasády, izolace. Vol. 23, No. 6 (2016), pp. 19-21. ISSN 1212-0111 (in Slovak)

DLHÝ, D. – TOMAŠOVIČ, P.: The Use of Simulation Tools in the Assessment of External Stationary Sources in Terms of Noise. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 448-453. ISSN 1660-9336 (in English)

DLHÝ, D. – ZRNEKOVÁ, J.: Experimental Measurements of Effects of Occupancy Class on Reverberation Time. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 466-471. ISSN 1660-9336 (in English)

DLHÝ, D. – TOMAŠOVIČ, P. – ZAŤKO, P. – URBÁN, D.: Analysis of thermal insulation systems and sound insulation of enclosing constructions of buildings. In: Fyzikálne faktory prostredia. Vol. 6, No. 1 (2016), pp. 12-15. ISSN 1338-3922 (in Slovak)

DLHÝ, D. – TOMAŠOVIČ, P. – ZAŤKO, P.: The noise inside residential buildings - stairs and stair areas. In: Fyzikálne faktory prostredia. Vol. 6, No. 1, Special issue - June (2016), pp. 17-20. ISSN 1338-3922 (in Slovak)

DRŽKA, M.: Analysis and evaluation of moisture factor, reliability, effectivity and durability of sanation methods used to treat damp masonry. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 299-304. ISSN 1660-9336 (in English)

HARTMAN, P. – HANULIAK, P. – FABIAN, M. – DARULA, S.: Daylighting for Buildings: influence of the solar eclipse on its spectral characteristics. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 417-422. ISSN 1660-9336 (in English)

HÉPAL, M. – PUŠKÁR, A.: Impact wind turbines implementation in municipalities in the context of sustainable urbanism with focus on dynamic pedestrian comfort. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 326-331. ISSN 1660-9336 (in English)

HRAŠKA, J.: Facades with Photovoltaic Elements: A Review. In: Applied Mechanics and Materials: Energy Saving and Environmentally Friendly Technologies - Concepts of Sustainable Building. Vol. 824, (2016), pp. 770-778. ISSN 1660-9336 (in English)

HÝSEK, P. Methods to Reduce the Operating Temperature of Photovoltaic Cells. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 224-229. ISSN 1660-9336 (in English)

CHMELÍK, V. – ZELEM, L. – VARGOVÁ, A. – PETRÁŠOVÁ, B. – RYCHTÁRIKOVÁ, M.: Voice effort of people present in different acoustic environments (an overview). In: Akustické listy. Vol. 22, Nos. 1-4 (2016), pp. 9-14. ISSN 1212-4702 (in English)

CHMÚRNY, I.: Triple or Quadruple Glazing? In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 242-247. ISSN 1660-9336 (in English)

CHMÚRNY, I.: Influence of External Surface Resistance and Thermal Insulation Level on Energy Need for Cooling. In: Applied Mechanics and Materials: Energy Saving and Environmentally Friendly Technologies - Concepts of Sustainable Building. Vol. 824, (2016), pp. 445-452. ISSN 1660-9336 (in English)

INGELI, R. – ČEKON, M.: Analysis of Energy Consumption in Building with NZEB Concept. In: Applied Mechanics and Materials: Energy Saving and Environmentally Friendly Technologies - Concepts of Sustainable Building. Vol. 824, (2016), pp. 347-354. ISSN 1660-9336 (in English)

JAKEŠ, E.: Glass fibre reinforced concrete products for construction industry and architecture. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 75-80. ISSN 1660-9336 (in English)

JAMNICKÝ, M.: BIM and Prediction of Thermal Stability in Underroof Spaces. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 127-132. ISSN 1660-9336 (in English)

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MINAROVIČOVÁ, K.: Entrances of Residential Buildings after Renovation. In: Advanced Architectural Design and Construction 2016 (AADC 2016): proceedings of scientific conference with international participation. June 23, 2016, Lednice, Czech Republic. 1st ed. Brno: VUT - Brno University of Technology, Faculty of Civil Engineering, 2016, CD-ROM, pp. 196-199. ISBN 978-80-214-5445-3 (in English)

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SZABÓ, D.: Large Rain Chamber After Reconstruction within the Project UVP STU. In: Advanced Building Construction and Materials 2016 (ABCM 2016):

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VARGOVÁ, A. – RYCHTÁRIKOVÁ, M.: Is the sound insulation of a facade a relevant factor in price estimation of an apartment? In: DAGA 2016. Fortschritte der Akustik: 42. Jahrestagung für Akustik. Aachen, Germany, 14. - 17. März 2016. 1st ed. Berlin: Deutsche Gesellschaft für Akustik, 2016, CD-ROM, pp. 1362-1365. ISBN 978-3-939296-10-2 (in English)

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ZELEM, L. – CHMELÍK, V. – RYCHTÁRIKOVÁ, M. – GLORIEUX, C.: Analysis of the acoustic behavior of people in a restaurant. In: EuroRegio 2016: proceedings. Porto, Portugal, June 11-15 2016. 1st ed. Lisbon: Sociedade Portuguesa de Acústica (SPA), 2016, CD-ROM, [8] pp. ISSN 2340-7441. ISBN 978-84-87985-27-0 (in English)

ZRNEKOVÁ, J. – PAVČEKOVÁ, M. – RYCHTÁRIKOVÁ, M.: Subjective Assessment of Classrooms at the Faculty of Civil Engineering - Preliminary Study. In: ATF 2016: proceedings from 4th International Conference on Applied Technology. 15 - 17 Sept. 2016, Leuven, Belgium. 1st ed. Leuven: The Katholieke Universiteit Leuven, 2016, USB key, pp. 307-312. ISBN 9789086497966 (in English)

# DEPARTMENT OF STEEL AND TIMBER STRUCTURES

**Head of Department** 

Assoc. Prof. Rudolf Ároch, PhD.

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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 3 works.

#### 2.2 Graduate theses

DEDÁČEK, M.: Bridge No. 214 on Highway D1 in the Hubová – Ivachnová

Section

Supervisor: ŽIVNER, T.

FAJBIK, M.: Basic School Supervisor: SÓGEL, K.

FEHERPATAKY, T.: Theoretical and Experimental Verification of Selected Roofs

on the Krásna Hôrka Castle Supervisor: SANDANUS, J.

CHABAN, T.: A Car Showroom in Martin

Supervisor: VANÍK, ZS.

JANIGLOŠOVÁ, J.: Multifunctional Sport Hall

Supervisor: SLIVANSKÝ, M.

KELČÍK, Ľ.: Football Stadium in Banská Bystrica

Supervisor: SLIVANSKÝ, M.

KOŠARIŠŤAN, F.: Velodrome Supervisor: MAGURA, M.

LUPTÁKOVÁ, I.: Highway Bridge over the Danube on Bypass D4

Supervisor: ÁROCH, R.

MATIAŠOVÁ, L.: An Office Building in Bratislava

Supervisor: SÓGEL, K.

MÉSZÁROS, R.: Design of Strengthening of Sport Hall in Žilina

Supervisor: SÓGEL, K.

MIKUŠ, O.: Volvo Showroom Supervisor: MAGURA, M.

MOTYČÁKOVÁ, K.: An Information Centre in Zuberec

Supervisor: SANDANUS, J.

ORAVEC, D.: Road Bridge over the River Dunajec in Červený Kláštor

Supervisor: ŽIVNER, T.

PALUŠÁKOVÁ, S.: Refurbishment of Gym T18

Supervisor: SÓGEL, K.

RUSKO, M.: Bridge No. 201-00 on Highway D4 in the Ivanka pri Dunaji -

Rača Section over the Vajnorská Brook

Supervisor: ŽIVNER, T.

SMÄDO, F.: Sport Hall in Brezno Supervisor: SANDANUS, J.

SUROVEC, E.: Mountain Hotel in Terchová

Supervisor: SANDANUS, J.

VARGA, A.: Sport Hall in Banská Bystrica

Supervisor: VANÍK, ZS.

VRÁBEL, M.: Comparison of the Resistance of Elements Subjected to Combined Loadings According to EN 1993-1-1 and EN 1999-1-1

Supervisor: BALÁŽ, I.

ZAČKA, A.: Footbridge over the Biskupický Channel in Piešťany

Supervisor: SLIVANSKÝ, M.

ZBOJA, M.: Design of Road Bridge with Innovative Steel-Concrete Composite

Structure

Supervisor: ÁROCH, R.

## 2.3 Doctoral theses

BRODNIANSKY, J.: Resistance of Thin-Walled Members and Structures Using Imperfections in the Shape of the Elastic Buckling Mode Supervisor: ÁROCH, R.

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BALCIERÁK, Ľ.: Experimental and Theoretical Analysis of Glass Boards Subjected to Impacts

Supervisor: BRODNIANSKY, J.

KATONA, O.: Design Methods for Determination of the Resistance of

Elements Made of Cross-Laminated Timber

Supervisor: SANDANUS, J.

DUCHOŇ, V.: Theoretical and Experimental Analysis of Joints with Glued-in

Rods

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

Resistance of Metal Cross-Sections and Members under Combination of Internal Forces and Moments

(2015-2017, BALÁŽ, I.), VEGA 1/0819/15

Measuring the State of Load-Bearing Structures of Bridges by the Use of Dynamic Features

(2015, FÁBRY, M.) Fund of STU BA: Program for the Support of Young Researchers

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

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)

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

# 4. PUBLICATIONS

#### **Books**

PUŠKÁR, A. – PETRÁŠ, D. – SANDANUS, J. – SÓGEL, K. – DRŽKA, M.: Reducing the Energy Consumption of Buildings for the Profession Bricklayer. 1. Edition. Institute for Adult Education and Services, 2016, ISBN 978-80-89073-20-7, 191 pp. (in Slovak)

### Parts of books

PAVLÁSEK, J. – ŠTUJBEROVÁ, M. – VAVROVIČ, B. – PUŠKÁR, A. – PETRÁŠ, D.: Reducing the Energy Consumption of Buildings for the Profession: Assembly of Concrete and Steel Structures and Claddings. Bratislava 2016, ISBN 978-80-89073-19-1

#### **Journals**

BALÁŽ, I. – KOVÁČ, M. – ŽIVNER, T. - KOLEKOVÁ, Y.: Plastic Resistance of H-section to Interaction of Bending Internal Forces MyEd, VzEd and Torsion Internal Forces BEd, Tomega,Ed and TtEd. In: Interdisciplinarity in Theory and Practice. No. 10 (2016), ISSN 2344-2409, pp. 311-315 (in English)

BALÁŽ, I. – KOVÁČ, M. – ŽIVNER, T. – KOLEKOVÁ, Y.: Elastic and Plastic St. Venant Torsion in Metal Eurocodes. In: Interdisciplinarity in Theory and Practice. No. 11 (2016), ISSN 2344-2409, pp. 44-48 (in English)

BALCIERÁK, Ľ. – BRODNIANSKY, J. – KLAS, T. – DUCHOŇ, V. – BRODNIANSKY, J. – KATONA, O.: Laboratory Pendulum Tests of Different Types of Glass Plates. In: Interdisciplinarity in Theory and Practice. No. 10 (2016), ISSN 2344-2409, pp. 299-304 (in English)

BALCIERÁK, Ľ. – BRODNIANSKY, J. – KLAS, T. – BRODNIANSKY, J.: Experimental Analysis of Glass Plates by Impact. In: Konstrukce. Vol. 15, No. 5 (2016), ISSN 1213-8762, pp. 45-53 (in Slovak)

BRODNIANSKY, J. – BALCIERÁK, Ľ. – DUCHOŇ, V. – KATONA, O.: Numerical Validation of EUGLI Imperfection Method for Columns with Varying Cross-Sectional Parameters. In: Interdisciplinarity in Theory and Practice. No. 10 (2016), ISSN 2344-2409, pp. 321-326 (in English)

DUCHOŇ, V. – KLAS, T. – BRODNIANSKY, J.: Bending Test of Timber Beam Bonded with Glued-in Threaded Rods. In: Konstrukce. Vol. 15, No. 2 (2016), ISSN 1213-8762, pp. 99-104 (in Slovak)

DUCHOŇ, V. – KLAS, T. – KATONA, O. – BRODNIANSKY, J. – BALCIERÁK, Ľ. – SANDANUS, J. – SÓGEL, K.: Experimental Tests of Timber Connections with Glued-in Rods in Bending. In: Wood Research. Vol. 61, No. 4 (2016), ISSN 1336-4561, pp. 565-572 (in English)

FÁBRY, M. – ÁROCH, R. – LIPTÁK, I.: System Identification of Bridges and Models. In: Interdisciplinarity in Theory and Practice. No. 11 (2016), ISSN 2344-2409, pp. 79-84 (in English)

KAMENICKÁ, Z. – BOTLÓ, M.: Mechanical Resistance of Timber Structures in Fire. In: Interdisciplinarity in Theory and Practice. No. 11 (2016), ISSN 2344-2409, pp. 85-90 (in English)

KATONA, O. – KLAS, T. – DUCHOŇ, V. – BRODNIANSKY, J. – BALCIERÁK, Ľ. – SANDANUS, J.: Experimental Study of Behaviour of CLT Deep Beams. In: Interdisciplinarity in Theory and Practice. No. 11 (2016), ISSN 2344-2409, pp. 195-199 (in English)

KLAS, T. – MAGURA, M. – BRODNIANSKY, J.: Laboratory Tests of Tubes with Defects and Imperfections. In: Konstrukce. Vol. 15, No. 1 (2016), ISSN 1213-8762, pp. 94-95 (in Slovak)

KOVÁČ, M. – VANÍK, ZS. – MAGURA, M.: Simplified Analysis for Frames with Laced Built-up Members. In: Interdisciplinarity in Theory and Practice. No. 11 (2016), ISSN 2344-2409, pp. 222-226 (in English)

MAGURA, M.: Interaction of Buried Pipeline with Soil under Different Loading Cases. In: Slovak Journal of Civil Engineering. Vol. 24, No. 3 (2016), ISSN 1210-3896, pp. 29-35 (in English)

NITTMANNOVÁ, Ľ. – MAGURA, M.: Interaction of Reinforced Elastomeric Bearings in Bridge Construction. In: Slovak Journal of Civil Engineering. Vol. 24, No. 1 (2016), ISSN 1210-3896, pp. 34-40 (in English)

SANDANUS, J. – SÓGEL, K. – SLIVANSKÝ, M.: Results of Rheological Test on Timber Trusses. In: Wood Research. Vol. 61, No. 2 (2016), ISSN 1336-4561, pp. 235-242 (in English)

SÓGEL, K. – SANDANUS, J.: Massive Timber for Clever Heads. In: Bauen mit Holz. Vol. 118, No. 9 (2016), ISSN 0005-6545, pp. 10-13 (in German)

SUROVEC, L. – SLIVANSKÝ, M.: Experimental and Numerical Tests of Composite Timber-Concrete Floor. In: Interdisciplinarity in Theory and Practice. No. 11 (2016), ISSN 2344-2409, pp. 162-167 (in English)

VANÍK, ZS. – MAGURA, M.: Modern Lightweight Structures. In: Applied Mechanics and Materials, Energy Saving and Environmentally Friendly Technologies - Concepts of Sustainable Building. Vol. 824, (2016), ISSN 1660-9336, pp. 42-49 (in English)

ŽIVNER, T. – ÁROCH, R. – FÁBRY, M.: The Influence of Slab Concreting Sequence on a Continuous Composite Girder Bridge. In: Key Engineering Materials. Vol. 691, (2016), ISSN 1013-9826, pp. 96-107 (in English)

ŽIVNER, T. – ÁROCH, R. – FÁBRY, M.: Elastic Buckling Moment of Continuous Composite Beams. In: Key Engineering Materials. Vol. 691, (2016), ISSN 1013-9826, pp. 86-95 (in English)

## **Conference Proceedings**

ABRAHOIM, I. – BOČEK, J. – BAJI, CS. – VARGA, Á.: Static Analysis of Structural Modifications of a Panel House in Ružinov. In: Concrete Days 2016. Proceedings of Conference. Bratislava, Slovak Republic, 20. - 21. 10. 2016. 1. Slovak University of Technology in Bratislava, 2016, ISBN 978-80-227-4622-9, pp. 345-350 (in Slovak)

AGÓCS, Z. – BRODNIANSKY, J. – SLIVANSKÝ, M. – SÓGEL, K. – VANKO, M.: New Bridges over the River Ipel. In: Procedia Engineering. 9th International Conference "Bridges in Danube Basin 2016". Žilina, Slovak Republic, 30. 9. - 1. 10. 2016. Vol. 156 (2016), ISSN 1877-7058, pp. 2-7 (in English)

ÁROCH, R. – BRODNIANSKY, J.: Comparison of Different Eurocode Verifications of a Thin-Walled Member Portal Frame. In: SDSS 2016. Proceedings of International Colloquium on Stability and Ductility of Steel Structures. Timisoara, Romania, 30. 5. - 1. 6. 2016. ECCS - European Convention for Constructional Steelwork, 2016, ISBN 978-92-9147-133-1, pp. 275-282 (in English)

ÁROCH, R. – SOKOL, M. – VENGLÁR, M.: Structural Health Monitoring of Major Danube Bridges in Bratislava. In: Procedia Engineering. 9th International Conference "Bridges in Danube Basin 2016". Žilina, Slovak Republic, 30. 9. - 1. 10. 2016. Vol. 156 (2016), ISSN 1877-7058, pp. 24-31 (in English)

BALÁŽ, I. – ŽIVNER, T. – KOLEKOVÁ, Y.: Critical Moment of Timber Cantilever under Uniform Load q. In: Advances and Trends in Engineering Sciences and Technologies. Proceedings of the International Conference on Engineering Sciences and Technologies. Tatranská Štrba, Slovak Republic, 27. - 29. 5. 2015. Taylor & Francis Group, London, United Kingdom, 2016, ISBN 978-1-138-02907-1, pp. 27-32 (in English)

BALÁŽ, I. – ŽIVNER, T. – KOLEKOVÁ, Y.: Critical Moment of Timber Cantilever under Point End Load F. In: Advances and Trends in Engineering Sciences and Technologies. Proceedings of the International Conference on Engineering Sciences and Technologies. Tatranská Štrba, Slovak Republic, 27. - 29. 5. 2015. Taylor & Francis Group, London, U. K., 2016, ISBN 978-1-138-02907-1, pp. 21-26 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y.: Limit States Design and Partial Factors Gamma M0 and Gamma M1 in Metal Eurocodes. In: Applied Mechanics and Materials. Selected, peer reviewed papers from the Engineering Mechanics 2015. Svratka, Czech Republic, 11. - 14. 5. 2015. Vol. 821, (2016), ISSN 1660-9336, pp. 774-781 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y.: New Generation of Eurocodes. In: Production Management and Engineering Sciences. 1. Edition. CRC Press. Taylor & Francis Group, London, United Kingdom, 2016, ISBN 978-1-138-02856-2, pp. 345-350 (in English)

BALÁŽ, I. – KAMENICKÁ, Z. – KOLEKOVÁ, Y.: Historical Covered Timber Bridges in Slovakia. In: Statika stavieb 2016. Proceedings of 21st Conference. Piešťany, Slovak Republic, 10. - 11. 3. 2016. Spolok statikov Slovenska, Bratislava, 2016, ISBN 978-80-89842-00-1, pp. 250-257 (in Slovak)

BALÁŽ, I. – KOLEKOVÁ, Y. – KOVÁČ, M. – ŽIVNER, T.: Behaviour of Box-Girder under Symmetrical Action. In: Engineering Mechanics 2016. Book of full texts. 22nd International Conference. Svratka, Czech Republic, 9. - 12. 5. 2016. Institute of Thermomechanics, Academy of Sciences of the Czech Republic, Prague, 2016, ISSN 1805-8248, ISBN 978-80-87012-59-8, pp. 37-42 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y.: Distortion and Torsion of Experimental Box-Girder Calculated Using Analogy with Bending. In: SDSS 2016. Proceedings of International Colloquium on Stability and Ductility of Steel Structures. Timisoara, Romania, 30. 5. - 1. 6. 2016. ECCS - European Convention for Constructional Steelwork, 2016, ISBN 978-92-9147-133-1, pp. 591-598 (in English)

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# DEPARTMENT OF MATHEMATICS AND DESCRIPTIVE GEOMETRY

**Head of Department** 

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## 1. EDUCATION

## 1.1 Graduate study

### **Obligatory subjects**

Descriptive Geometry

Mathematics I

Mathematics II

Mathematics III

Mathematics IV

Informatics

**Mathematical Statistics** 

Mathematical Cartography

Mathematical Analysis I

Engineering Geometry and AutoCAD I

Engineering Geometry and AutoCAD II

Geometry

Algebraic Structures and Mathematical Logic

Programming in C Language

**Probability Theory** 

**Numerical Mathematics** 

Modelling and Data Analysis

Finite Element Methods

Functional Analysis and Variational Methods

Stochastic and Differential Equations

Fluid Flow

Time Series Analysis

**Financial Mathematics** 

Software (ANSYS)

**Applied Statistics** 

**Projection Methods** 

**Applied Mathematics** 

## **Optional subjects**

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 11 works.

#### 2.2 Graduate theses

BLASCHKE, R.: Numerical Computation of First Arrival Time Function for

Forest Fire Propagation Supervisor: FROLKOVIČ, P.

KRAKOVSKÝ, M.: Algorithmic Trading Methods

Supervisor: MIKULA, K.

MESZÁROŠOVÁ, R.: Finite Difference Method for the Solution of Unsaturated

Groundwater Flow Problems Supervisor: FROLKOVIČ, P.

MOJŠOVÁ, D.: Optimizing the Distortion of a Territory in Developing Map

Projections

Supervisor: VAJSÁBLOVÁ, M.

ROŽNOVJÁK, R.: Graph Algorithms for Finding the Shortest Paths in Graphs

and Their Application in Image Segmentation

Supervisor: ŽDÍMALOVÁ, M.

SZELLEOVÁ, E.: Evaluation of the Parameters of Elliptical Curves over Prime

Power Order Fields Supervisor: ŠIRÁŇ, J.

#### 2.3 Doctoral theses

HUCÍKOVÁ, V.: Regular Maps and Map Operators

Supervisor: ŠIRÁŇ, J.

HRIŇÁKOVÁ, K.: Regular Maps on a Linear Fractional Group

Supervisor: ŠIRÁŇ, J.

SMREK, P.: Non-Additive Measures and Integrals and Their Applications

Supervisor: MESIAR, R.

ŠIPEKY, L.: Aggregation Functions: Some New Methods and New Approaches

Supervisor: MESIAR, R.

URBÁN, J.: New Improvements of Atlas-Based Image Segmentations

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 Categorial 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.), APW-15-0220

Determination of the Geometric Characteristics of Objects on Images

Obtained from Relevant Criminal Records (2013-2017, MIKULA, K.), APVV 0161-12

Graphs as Network Models with Given Metric Properties and a Given Level of

Symmetry

(2013-2017, ŠIRÁŇ, J.), APVV 0136-12

Modern Methods of Information Aggregation and Applications

(2015-2018, MESIAR, R.), VEGA 1/0420/15

Numerical Methods for the 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

Symmetric Maps

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

### 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 Polytecnica 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://minetwork.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

#### **Books**

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# **DEPARTMENT OF PHYSICS**

## **Head of Department**

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## 1. EDUCATION

## 1.1 Graduate study

## **Obligatory subjects**

Physics I

Physics II

Physics (English)

**Engineering Thermodynamics** 

## 1.2 Postgraduate courses

Physical Principles of Measurements

Special Aspects of Physics

Heat and Moisture Transport in Building Materials

## 2. THESES

#### 2.2 Graduate theses

MÉSZÁROSOVÁ, T.: Thermal Properties of Cement Samples with Communal Waste on the Basis of Plastic.

Supervisor: ŠÍN, P.

## 3. RESEARCH

### 3.1 Research projects

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

### 3.2 International cooperation

#### **Cooperating institutions**

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

Silesian University of Technology, Gliwice, Poland

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

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

Cracow University of Technology, Poland

Military University of Technology, Warsaw, Poland

Katholieke Universiteiteit Leuven, Belgium

Academy of Science of the Czech Republic, Prague

### Membership in international professional organizations

BANÍK I., LUKOVIČOVÁ J., ŠÍN P.: European Physical Society

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

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

## 4. PUBLICATIONS

#### Journals

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BANÍK, I., BANÍK, R.: Optical Absorption, Exponential Tails and Urbach's Rule in Disordered Semiconductors. In ADEPT 2016, Tatranská Lomnica, Slovakia, 20.-23.06.2016, ISBN 987-80-554-1226-9, pp. 175-178

BANÍK, I., KUBLIHA, M.: The Photoluminescence Fatigue Process in Chalcogenide Glasses. In ADEPT 2016, Tatranská Lomnica, Slovakia, 20.-23.06.2016, ISBN 987-80-554-1226-9, pp. 171-174

# DEPARTMENT OF STRUCTURAL MECHANICS

**Head of Department** 

Prof. Ing. Norbert Jendželovský, PhD.

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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 13 works.

#### 2.2 Graduate theses

MOROCZOVÁ, L.: Analysis of the Seismic Resistance of a High-Rise Building Supervisor: KRÁLIK, J.

WALTERA, R.: Analysis the of Seismic Resistance of a High-Rise Building

Supervisor: KRÁLIK, J.

ŠIŠMIŠOVÁ, Z.: Study of the System Identification of a Load-Carrying

Capacity of a Bridge Structure Supervisor: SOKOL, M.

PILCH, M.: Analysis of the Foundation Structure of an Office Building

Supervisor: JENDŽELOVSKÝ, N.

LAMPEROVÁ, K.: Design of an Automatic System for the Reduction of

Vibrations of a High-Rise Building

Supervisor: SOKOL, M.

GURA, L.: Static and Dynamic Analysis of an Engineering Construction

Supervisor: IVÁNKOVÁ, O.

VAŠEČKA, M.: Analysis of the Ceiling Plate of an Office Building (Use of

Modern Technologies) Supervisor: TVRDÁ, K.

SEKÁČOVÁ, I.: Analysis of a Building with an Irregular Ground Plan

Considering the Wind Effects Supervisor: JENDŽELOVSKÝ, N.

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

Supervisor: IVÁNKOVÁ, O.

TONGEL, D.: Analysis of a Structure Loaded by Wind

Supervisor: TVRDÁ, K.

UHLÍŘOVÁ, L.: Static and Dynamic Analysis of a High-Rise Building

Supervisor: JENDŽELOVSKÝ, N.

PÓŠA, A.: Static and Dynamic Analysis of a High-Rise Building

Supervisor: IVÁNKOVÁ, O.

### 2.3 Doctoral theses

BALÁŽ, Ľ.: Static and Dynamic Analysis of Cylindrical Tanks Supervisor: JENDŽELOVSKÝ, N.

KOVÁČIKOVÁ, J.: Contribution to the Analysis of Fracture Characteristics Supervisor: IVÁNKOVÁ. O.

OLEKŠÁKOVÁ, I.: Analysis of Wind Effects and Model Tests in the BLWT STU Wind Tunnel

Supervisor: HUBOVÁ, O.

## 3. RESEARCH

## 3.1 Research projects

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

Prediction of the Behavior of Building Structures under Special Dynamic Loading

(2015 – 2017, JENDŽELOVSKÝ, N.), VEGA 1/0544/15

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

Monitoring of Bearing Structures of Bridges by Multiple Dynamic Tests (2013 – 2017, SOKOL, M.), APVV-0236-12

## 3.2 International cooperation

## **Cooperating institutions**

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

Technical University of Opole, Poland

Silesian University of Technology, Gliwice, Poland

Cracow University of Technology, Poland

Fakultät der Bauingenieurwesen Ruhr-Universität, Bochum, Germany

Bundesformschung und Prufzentrum, Arsenal, Vienna, Austria

Czech Academy of Sciences, Prague, Czech Republic

Technical University of Ostrava, Czech Republic

Brno University of Technology, Czech Republic

Czech Technical University in Prague, Czech Republic

Budapest University of Technology and Economics, Budapest, Hungary

#### Membership in international professional organizations

KOLEKOVÁ, Y.: Member of ÖGE Bridges and Building Structures, TU Vienna RAVINGER, J.: Member of Polish – Slovak Commission for Civil Engineering, Polish Academy of Sciences

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

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

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

SOKOL, M.: Member of European Society of Biomechanics

## 4. PUBLICATIONS

#### Parts of books

KRÁLIK, J.: Seismic Effects on Bridges. In: MELCER, J. – LAJČÁKOVÁ, G. – MARTINICKÁ, I. – KRÁLIK, J.: Dynamics of Transport Structures. 1st ed. Žilina, EDIS, 2016, pp 309-367. ISBN 978-80-554-1178-1 (in Slovak)

RAVINGER, J.: Stability and Vibration of Imperfect Structures. In: Statics, Dynamics and Stability of Structures. Vol. 5. Selected Problems of Solid Mechanics. 1st ed. Lodz University of Technology Press, 2016, pp. 319-343. ISBN 978-83-7283-758-5 (in English)

#### **Textbooks**

DICKÝ, J. – PREKOP, Ľ. – TVRDÁ, K.: Elasticity and Strength. Exercises. 3rd ed. Bratislava STU, 2016. 193 pp. ISBN 978-80-227-4631-1 (in Slovak)

PSOTNÝ, M. – VÉGHOVÁ, I.: Structural Mechanics. Exercises. 3rd ed. Bratislava, STU, 2016. 133 pp. ISBN 978-80-227-4629-8 (in Slovak)

#### Journals

BALÁŽ, I. – KOVÁČ, M. – ŽIVNER, T. – KOLEKOVÁ, Y.: Plastic Resistance of H-Section to Interaction of Bending Internal Forces MyEd, VzEd and Torsion Internal Forces BEd, Tomega, Ed and TtEd. In: Interdisciplinarity in Theory and Practice. No. 10 (2016), pp. 311-315. ISSN 2344-2409 (in English)

BALÁŽ, I. – KOVÁČ, M. – ŽIVNER, T. – KOLEKOVÁ, Y.: Elastic and Plastic St. Venant Torsion in Metal Eurocodes. In: Interdisciplinarity in Theory and Practice. No. 11 (2016), pp. 44-48. ISSN 2344-2409 (in English)

FRANEK, M. – KONEČNÁ, L. – HUBOVÁ, O. – ŽILINSKÝ, J.: Experimental Pressure Measurement on Elliptic Cylinder. In: Applied Mechanics and Materials. Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 332-337. ISSN 1660-9336 (in English)

HAVRAN, J. – PSOTNÝ, M.: Postbuckling of an Imperfect Plate Loaded in Compression. In: Mechanics and Mechanical Engineering. Vol. 20, No. 2 (2016), pp. 143-149. ISSN 1428-1511 (in English)

HAVRAN, J. – PSOTNÝ, M.: Snap-Through of a Very Shallow Shell with Initial Imperfection. In: Transactions of the VŠB – Technical University of Ostrava, Civil Engineering Series. Vol. 16, No. 2 (2016), pp. 43-48. ISSN 1804-4824 (in English)

JENDŽELOVSKÝ, N. – BALÁŽ, Ľ.: Analysis of Cylindrical Tanks under the Seismic Load. In: Key Engineering Materials. Vol. 691, (2016), pp. 285-296. ISSN 1013-9826 (in English)

JENDŽELOVSKÝ, N. – BALÁŽ, Ľ.: Modeling of the Dynamic Load of Cylindrical Tanks. In: Transactions of the VŠB – Technical University of Ostrava, Civil Engineering Series. Vol. 16, No. 1 (2016), pp. 13-18. ISSN 1213-1962 (in Slovak)

KLABNÍK, M. – KRÁLIK, J.: Heat Transfer in a Concrete Composite Cross-Section. In: Transactions of the VŠB – Technical University of Ostrava, Civil Engineering Series. Vol. 16, No. 2 (2016), pp. 61-66. ISSN 1804-4824 (in English)

KRÁLIK, J.: Risk Assessment of Safety Analysis of Nuclear Power Plant Structures in the Earthquake Active Zones. In: Modern Environmental Science and Engineering. Vol. 2, No. 3 (2016), pp. 158-167. ISSN 2333-2581 (in English)

KRÁLIK, J. – KRÁLIK, J. Jr.: Nonlinear Dynamic Analysis of the Aircraft Impact to the NPP Structures. In: Manufacturing Technology. Vol. 16, No. 4 (2016), pp. 720-726. ISSN 1213-2489 (in English)

KRÁLIK, J. – KRÁLIK, J. Jr. – KLABNÍK, M.: Nonlinear Analysis of Failure of a Nuclear Hermetic Reinforced Concrete Structure Due to Extreme Pressure and Temperature. In: Transactions of the VŠB – Technical University of Ostrava, Civil Engineering Series. Vol. 16, No. 2 (2016), pp. 72-84. ISSN 1804-4824 (in English)

MAGÁT, M. – OLEKŠÁKOVÁ, I. – ŽILINSKÝ, J.: Development of Boundary Layer in CRIACIV in Florence (Prato) and Comparison with CFD. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 359-364. ISSN 1660-9336 (in English)

MEDVECKÁ, S. – IVÁNKOVÁ, O. – KONEČNÁ, L.: Impact of Columns' Inclination on a High-Rise Building Subjected to Wind Load. In: Interdisciplinarity in Theory and Practice. No. 11 (2016), pp. 158-161. ISSN 2344-2409 (in English)

OLEKŠÁKOVÁ, I. – MAGÁT, M.: Influence of the Wind in Passages. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 365-370. ISSN 1660-9336 (in English)

POKORNÝ, M. – JENDŽELOVSKÝ, N. – KONEČNÁ, L.: Determination of the Dynamic Modulus of Elasticity and the Thickness of Concrete Structures by Non-Destructive Methods. In: Key Engineering Materials. Vol. 691, (2016), pp. 344-355. ISSN 1013-9826 (in English)

PSOTNÝ, M.: Postbuckling of an Imperfect Plate Subjected to the Shear Load. In: Mechanics and Mechanical Engineering. Vol. 20, No. 2 (2016), pp. 177-184. ISSN 1428-1511 (in English)

RAVINGER, J. – ŠNIRC, Ľ.: Axial Force and Bending of a Beam. In: Konstrukce. Vol. 15, No. 2 (2016), pp. 89-96. ISSN 1213-8762 (in Slovak)

#### **Conference Proceedings**

ANTAL, R. – MÉRI, D.: Comparison of Wind Effects on a High-Rise Building Using CFD Software and 3D Wind Generator Integrated in Structural FEM Software. In: 16th International Scientific Conference VSU 2016. Sofia, Bulgaria, 9.-10. 6. 2016. pp. 99-103. ISSN 1314-071X (in English)

ANTAL, R. – JENDŽELOVSKÝ, N.: CFD Simulation of Wind Flow Effects upon a High-Rise Buildings Complex. 16th International Scientific Conference VSU 2016. Sofia, Bulgaria, 9.-10. 6. 2016. pp. 104-109. ISSN 1314-071X (in English)

ANTAL, R.: CFD Analysis and Aerodynamic Shape Design of High-Rise Buildings with Integrated Wind Turbines. In: New Trends in the Statics and Dynamics of Buildings. Bratislava, Slovakia, 13.-14. 10. 2016. 12 pp. ISBN 978-80-227-4613-7 (in Slovak)

ANTAL, R.: Design of a High-Rise Building Complex with Horizontal Wind Turbines Using CFD Software Simulation. In: Proceedings of 26th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. 26 Oct. 2016, Bratislava. pp. 87-92. ISBN 978-80-227-4645-8 (in Slovak)

ÁROCH, R. – SOKOL, M. – VENGLÁR, M.: Structural Health Monitoring of Major Danube Bridges in Bratislava. In: Procedia Engineering: 9th International Conference on Bridges in the Danube Basin 2016, Žilina, Slovakia. Vol. 156, (2016), pp. 24-31. ISSN 1877-7058 (in English)

BALÁŽ, I. – ŽIVNER, T. – KOLEKOVÁ, Y.: Critical Moment of Timber Cantilever under Uniform Load q. In: Advances and Trends in Engineering Sciences and Technologies. Tatranská Štrba, Slovakia, 2015. Taylor & Francis Group, 2016, pp. 27-32. ISBN 978-1-138-02907-1 (in English)

BALÁŽ, I. – ŽIVNER, T. – KOLEKOVÁ, Y.: Critical Moment of Timber Cantilever under Point End Load F. In: Advances and Trends in Engineering Sciences and Technologies. Tatranská Štrba, Slovakia, 2015. Taylor & Francis Group, 2016, pp. 21-26. ISBN 978-1-138-02907-1 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y.: Limit States Design and Partial Factors Gamma m0 and Gamma m1 in Metal Eurocodes. In: Applied Mechanics and Materials, Papers from the Conference on Engineering Mechanics 2015, Svratka, Czech Republic. Vol. 821, (2016), pp. 774-781. ISSN 1660-9336 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y.: New Generation of Eurocodes. In: Production Management and Engineering Sciences. Taylor & Francis Group, 2016, pp. 345-350. ISBN 978-1-138-02856-2 (in English)

BALÁŽ, I. – KAMENICKÁ, Z. – KOLEKOVÁ, Y.: Slovak Historical Covered Timber Bridges. In: Statics of Structures 2016. Piešťany, Slovakia, pp. 250-257. ISBN 978-80-89842-00-1 (in Slovak)

BALÁŽ, I. – KOLEKOVÁ, Y. – KOVÁČ, M. – ŽIVNER, T.: Behaviour of Box-Girder under Symmetrical Action. In: Engineering Mechanics 2016, 22nd International Conference. Svratka, Czech Republic, pp. 37-42. ISSN 1805-8248. ISBN 978-80-87012-59-8 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y. – KOVÁČ, M. – ŽIVNER, T.: Behaviour of Box-Girder under Antisymmetrical Action. In: Engineering Mechanics 2016, 22nd International Conference. Svratka, Czech Republic, pp. 43-48. ISSN 1805-8248. ISBN 978-80-87012-59-8 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y.: Distortion and Torsion of Experimental Box-Girder Calculated Using Analogy with Bending. In: SDSS 2016, Proceedings of the International Colloquium on the Stability and Ductility of Steel Structures. Timisoara, Romania. pp. 591-598. ISBN 978-92-9147-133-1 (in English)

BALÁŽ, I. – KOVÁČ, M. – ŽIVNER, T. – KOLEKOVÁ, Y.: Warping Torsion and Mixed Torsion in Metal Eurocodes. In: ESaT 2016, Proceedings of the 2nd International Conference on Engineering Sciences and Technologies. Tatranské Matliare, Slovak Republic. 4 pp. ISBN 978-80-553-2564-4 (in English)

BALÁŽ, I. – KOVÁČ, M. – ŽIVNER, T. – KOLEKOVÁ, Y.: Plastic Resistance of I-Section to Interaction of Bending and Torsion in Current and Future Metal Eurocodes. In: ESaT 2016, Proceedings of the 2nd International Conference on Engineering Sciences and Technologies. Tatranské Matliare, Slovak Republic. 4 pp. ISBN 978-80-553-2564-4 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y. – KOVÁČ, M. – ŽIVNER, T.: Torsion at SNP Bridge in Bratislava. In: Procedia Engineering: 9th International Conference on Bridges in the Danube Basin 2016, Žilina, Slovakia. Vol. 156, (2016), pp. 40-47. ISSN 1877-7058 (in English)

BALÁŽ, I. – KOVÁČ, M. – ŽIVNER, T. – KOLEKOVÁ, Y.: Torsional-Flexural Critical Force for Various Boundary Conditions. In: Key Engineering Materials: Aluminium Constructions: Sustainability, Durability and Structural Advantages. Papers from the 13th International Aluminium Conference INALCO 2016, Sept. 21-23, 2016, Naples, Italy. Vol. 710, (2016), pp. 303-308. ISSN 1013-9826 (in English)

BALÁŽ, I. – KOVÁČ, M. – ŽIVNER, T. – KOLEKOVÁ, Y.: Resistances of I-Section to Internal Forces Interactions. In: Key Engineering Materials: Aluminium Constructions: Sustainability, Durability and Structural Advantages. Papers from the INALCO 13th International Aluminium Conference 2016, Sept. 21-23, 2016, Naples, Italy. Vol. 710, (2016), pp. 309-314. ISSN 1013-9826 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y. – KOVÁČ, M. – ŽIVNER, T.: Influence Lines of Bimoment at Intermediate Support of SNP Bridge. In: Bridges in Danube Basin: New Trends in Bridge Engineering and Efficient Solution for Large and Medium Span Bridges. Extended abstracts from the 9th International Conference. Žilina, Slovakia, Sept. 30 – Oct. 01, 2016. pp. 23-24. ISBN 978-80-554-1249-8 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y. – KOVÁČ, M. – VÉGHOVÁ, I.: Influence Lines of Torsional Bimoments of Large Box-Girder Steel and Concrete Bridges. In: 41st Workshop of Steel Structure Experts. Štrbské Pleso, Slovakia, 2016. pp. 21-28. ISBN 978-80-553-2612-2 (in Slovak)

BALÁŽ, I. – KOLEKOVÁ, Y. – KOVÁČ, M. – VÉGHOVÁ, I.: Influence Lines of Distortional Bimoments of Large Steel and Concrete Bridges. In: 41st Workshop of Steel Structure Experts. Štrbské Pleso, Slovakia, 2016. pp. 29-36. ISBN 978-80-553-2612-2 (in Slovak)

BALÁŽ, I. – KOLEKOVÁ, Y. – KOVÁČ, M. – ŽIVNER, T.: Generalization of Unique Global and Local Initial Imperfection Used in EN 1993-1-1 and EN 1999-1-1. In: Steel and Aluminium Structures, Proceedings of the 8th International Conference. Hong Kong, China, 7-9 Dec. 2016. pp. 1398-1411. ISBN 978-962-8014-26-2 (in English)

BALÁŽ, I. – KOLEKOVÁ, Y.: Two Historical Covered Timber Bridges in Gelnica. In: BASA 2016, Proceedings of the International Scientific Conference. 23-25 Nov. 2016, Sofia, Bulgaria. pp. 331-338. ISBN 978-954-8931-50-2 (in English)

BALÁŽ, I. – KAMENICKÁ, Z. – KOLEKOVÁ, Y.: Historical Covered Timber Bridge in Gelnica Near Station. In: Applied Mechanics and Materials: Papers from the 13th International Conference on New Trends in the Statics and Dynamics of Buildings, Bratislava, 2015. Vol. 837, (2016), pp. 44-51. ISSN 1660-9336 (in English)

DRIENOVSKÁ, J. – TVRDÁ, K.: Analysis of Creep of a Simple Beam. In: 16th International Scientific Conference VSU 2016. Sofia, Bulgaria, 9.-10. 6. 2016. pp. 130-133. ISSN 1314-071X (in English)

DRIENOVSKÁ, J. – TVRDÁ, K.: Deflection of a Beam Considering Creep. In: SPACE 2016. Structural and Physical Aspects of Construction Engineering, 3rd International Conference. Štrbské Pleso, Slovakia, Nov. 9 – 11, 2016, 2 pp. ISBN 978-80-553-2643-6 (in English)

DRIENOVSKÁ, J. – TVRDÁ, K.: Assessment of Creep Effects by Time-Dependent Functions. In: New Trends in the Statics and Dynamics of Buildings. Bratislava, Slovakia, 13.-14. 10. 2016. 5 pp. ISBN 978-80-227-4613-7 (in Slovak)

DRIENOVSKÁ, J.: Calculations of the Displacement of a Beam Due to Creep – Comparison of Results Obtained by Various Calculation Methods. In: Proceedings of 26th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. 26. Oct. 2016, Bratislava. pp. 93-98. ISBN 978-80-227-4645-8 (in Slovak)

FRANEK, M. – KONEČNÁ, L. – MACÁK, M.: Experimental and Numerical Evaluation of the External Pressure Coefficients on the Elliptic Cylinder. In: Proceedings of 24th SVSFEM ANSYS Users' Group Meeting and Conference 2016, Dolní Morava, Czech Republic. pp. 53-62. ISBN 978-80-905525-3-1 (in English)

HAVRAN, J. – PSOTNÝ, M.: Non-Linear Analysis of a Slender Web Loaded in Compression. In: Juniorstav 2016. Brno, Czech Republic, 28. 1. 2016. 7 pp. ISBN 978-80-214-5311-1 (in Slovak)

HAVRAN, J. – PSOTNÝ, M.: Stable Paths in Postbuckling of an Imperfect Slender Web Loaded in Compression. In: Applied Mechanics and Materials: Papers from the 13th International Conference on New Trends in the Statics and Dynamics of Buildings, Bratislava, 2015. Vol. 837, (2016), pp. 28-33. ISSN 1660-9336 (in English)

HAVRAN, J. – PSOTNÝ, M.: Snap-Through of a Shallow Shell with Initial Imperfection. In: Modeling Mechanics 2016, Ostrava, Czech Republic. 7 pp. ISBN 978-80-248-3918-9 (in English)

HAVRAN, J. – PSOTNÝ, M.: Stability Analysis of a Shallow Shell. In: SPACE 2016. Structural and Physical Aspects of Construction Engineering, 3rd International Conference. Štrbské Pleso, Slovakia, Nov. 9 – 11, 2016, 2 pp. ISBN 978-80-553-2643-6 (in English)

HAVRAN, J. – PSOTNÝ, M.: Snap-Through of a Shallow Shell with an Initial Imperfection. In: New Trends in the Statics and Dynamics of Buildings. Bratislava, Slovakia, 13.-14. 10. 2016. 6 pp. ISBN 978-80-227-4613-7 (in Slovak)

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HUBOVÁ, O. – KONEČNÁ, L.: Wind Flow around an Atypical Building and Building Configurations. In: Engineering Mechanics 2016. 22nd International Conference. Svratka, Czech Republic. pp. 225-228. ISSN 1805-8248. ISBN 978-80-87012-59-8 (in English)

HUBOVÁ, O. – KONEČNÁ, L.: Experimental Determination of Wind Flowing Around a Building Configuration. In: Procedia Engineering: World Multidisciplinary Civil Engineering-Architecture-Urban Planning Symposium 2016, WMCAUS 2016. Prague, Czech Republic. Vol. 161, (2016), pp. 1845-1851. ISSN 1877-7058 (in English)

HUBOVÁ, O. – MACÁK, M. – KONEČNÁ, L. – CIGLAN, G.: High-Rise Building with an Atypical Cross-Section: External Wind Pressure Coefficients Determined by CFD and BLWT. In: SPACE 2016. Structural and Physical Aspects of Construction Engineering, 3rd International Conference. Štrbské Pleso, Slovakia, Nov. 9–11, 2016, 2 pp. ISBN 978-80-553-2643-6 (in English)

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JENDŽELOVSKÝ, N. – ZABÁKOVÁ VRÁBLOVÁ, K.: Analysis of the Natural Frequencies of Voided Reinforced Concrete Plates. In: Concrete Days 2016. Bratislava, Slovakia, pp. 297-300. ISBN 978-80-227-4622-9 (in Slovak)

JENDŽELOVSKÝ, N. – ANTAL, R.: Wind Effects on the Triangular High-Rise Structure with Curved Corners. In: SPACE 2016. Structural and Physical Aspects of Construction Engineering, 3rd International Conference. Štrbské Pleso, Slovakia, Nov. 9–11, 2016, 2 pp. ISBN 978-80-553-2643-6 (in English)

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KLABNÍK, M. – KRÁLIK, J.: Nonlinear Analysis of Composite Columns Fire Resistance. In: Young Scientist 2016: 8th International Scientific Conference of Civil Engineering and Architecture for PhD. Students and Young Scientists Under 35 Years Old. Štrbské Pleso, Slovakia, 14.-15. 4. 2016. 11 pp. ISBN 978-80-553-2537-8 (in English)

KLABNÍK, M. – KRÁLIK, J.: Equivalent Stress and Strain of Composite Column under Fire. In: SPACE 2016. Structural and Physical Aspects of Construction Engineering, 3rd International Conference. Štrbské Pleso, Slovakia, Nov. 9–11, 2016, 2 pp. ISBN 978-80-553-2643-6 (in English)

KLABNÍK, M. – KRÁLIK, J.: Non-Stationary Heat Transfer in the PHP Programming Language. In: New Trends in the Statics and Dynamics of Buildings. Bratislava, Slovakia, 13.-14. 10. 2016. 6 pp. ISBN 978-80-227-4613-7 (in Slovak)

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VSU 2016. Sofia, Bulgaria, 9.-10. 6. 2016. pp. 336-341. ISSN 1314-071X (in English)

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ZABÁKOVÁ VRÁBLOVÁ, K.: Tuned Rolling Mass Dampers and Their Use in Voided Biaxial Slabs. In: Proceedings of 26th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. 26. Oct. 2016, Bratislava, pp. 134-138. ISBN 978-80-227-4645-8 (in Slovak)

# DEPARTMENT OF MATERIAL ENGINEERING

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## 1. EDUCATION

## 1.1 Graduate study

### **Obligatory subjects**

Technological Project I

Technological Project II

Concrete Technology I

Structure of Building Materials

Ceramics

Lightweight Concrete

**Building Mortars** 

Technology of Precast Units

Testing

### 1.2 Postgraduate courses

**Building Materials** 

Selected Chapters from Chemistry II

## 2. THESES

#### 2.1 Bachelor theses

There was 1 work.

#### 2.2 Graduate theses

RÁCZOVÁ, A.: Effect of Glass Fibers on Changes in Volume of Cement Pastes Supervisor: ŠTEFUNKOVÁ, Z.

OLŠOVÁ, J.: Resistance of the Bond Between the Base Course and the Wearing Course of a Roadway Reinforced by a Geogrid made of Fiberglass Supervisor: ŠTEFUNKOVÁ, Z.

OKÁL, D.: Effect of Glass Fiber Dosage on the Properties of Cement

Composites

Supervisor: ŠTEFUNKOVÁ, Z.

KUBA, L.: Comparison of Selected Physical-Mechanical Properties of

Autoclaved Aerated Concrete Based on Sand

Supervisor: STRUHÁROVÁ, A.

KOLLÁROVÁ, I.: Cement COMPOSITES BASED ON RECYCLED PLASTERS

Supervisor: LEDEREROVÁ, M.

ADÁMEK, D.: Recycled Building Materials and Their Use as a Worthwhile Raw

Materia

Supervisor: LEDEREROVÁ, M.

DAUBNEROVÁ, A.: Lightweight Concrete Based on Recycled Foam Plastics

Supervisor: UNČÍK, S.

#### 2.3 Doctoral theses

MATULOVÁ, K: Influencing the Changes in the Volume of Cement Composites Supervisor: UNČÍK, S.

## 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.) APVV-15-0681

Reducing the Energy Demands of Buildings During the Use of Secondary Raw Materials from the Chemical and Food Industries in the Manufacture of Brick Products

(2015-2017, ŠVEDA, M.), VEGA 1/0045/15

## 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

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GREGOROVÁ, V.: Use of Polystyrene and Polypropylene Waste as a Filler for Lightweight Concrete and Effects on Its Properties. In: Mladá veda, ISSN 1339-3189. Vol. 4, No. 1 (2016), online, pp. 59-66 (in Slovak)

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PAVLÍK, V. - UŽÁKOVÁ, M.: Effect of Curing Conditions on the Properties of Lime, Lime-Metakaolin and Lime-Zeolite Mortars. In: Construction and Building Materials, ISSN 0950-0618. Vol. 102, (2016), pp. 14-25 (in English)

Petro, M. - Gregorová, V.: Determination of the Cause of Damage on Exterior Paving Placed on the Terrace of an Apartment Building. In: Almanach znalca, ISSN 1336-3174. Vol. 16, No. 2 (2016), CD-ROM, pp. 9-13 (in Slovak)

PROKOPČÁKOVÁ, K. - LEDEREROVÁ, M.: The Impact of the Implementation of Concrete Structures on the Environment. In: Czech Journal of Civil Engineering, ISSN 2336-7148. Vol. 2, No. 1 (2016), online, pp. 90-94 (in Slovak)

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STRUHÁROVÁ, A.: Measuring the Thermo-Technical Parameters of Autoclaved Aerated Concrete. In: Applied Mechanics and Materials: Energy Saving and Environmentally Friendly Technologies - Concepts of Sustainable Building, ISSN 1660-9336. Vol. 824 (2016), pp. 100-107 (in English)

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

### **Conference Proceedings**

GREGOROVÁ, V.: The Heat-Insulating Lightweight Concrete Based on Polyethylene Waste. In: Construmat 2016: Conference on Structural Materials: Stará Živohošť, CR, 1. - 3. 6. 2016. [USB memory stick]: Prague: Czech Technical University in Prague, 2016. ISBN 978-80-01-05958-6. pp. 61-68 (in English)

GREGOROVÁ, V. - ŠTEFUNKOVÁ, Z.: Properties of Lightweight Concrete Made from Waste Polystyrene and Polypropylene. In: Construmat 2016: Conference on Structural Materials: Stará Živohošť, CR, 1. - 3. 6. 2016. [USB memory stick]: Prague: Czech Technical University in Prague, 2016. ISBN 978-80-01-05958-6. pp. 69-76 (in English)

GREGOROVÁ, V. - UNČÍK, S.: Use of Recycled Foam Plastic to Produce Lightweight Concrete. In: Concrete Days 2016: Bratislava, SR, 20. - 21. 10. 2016. Bratislava: Slovak University of Technology in Bratislava, 2016. ISBN 978-80-227-4622-9. pp. 245-250 (in Slovak)

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LEDEREROVÁ, M:. Possibilities for the Effective Utilization of Construction and Demolition Waste in Construction and the Amendment to the Act on Waste. In: RECYCLING 2016: Possibilities and Future of Waste Recycling from Buildings as a Source of Valuable Raw Materials. Proceedings of 21st Conference, Brno, CR, 7. - 8. 4. 2016. Brno: University of Technology in Brno, 2016, ISBN 978-80-214-5331-9 pp. 66-69 (in German)

MATULOVÁ, K. - UNČÍK, S.: Effect of Shrinkage-Reducing Admixture on the Properties of Cement Composites. In: Advances and Trends in Engineering Sciences and Technologies: Proceedings of the International Conference on Engineering Sciences and Technologies. Tatranská Štrba, Slovakia, 27. - 29. 5. 2015. London: Taylor & Francis Group, 2016. ISBN 978-1-138-02907-1. pp. 329-334 (in English)

OLŠOVÁ, J. - BRIATKA, P. - GAŠPARÍK, J. - ŠTEFUNKOVÁ, Z.: Cohesion of Mesh Reinforced Binder- and Wearing Course. In: ESaT 2016: Proceedings of the 2nd International Conference on Engineering Sciences and Technologies. Tatranské Matliare, Slovak Republic, 29 June — 1 July 2016. [CD-ROM]. Košice: Technical University of Košice, Faculty of Civil Engineering, 2016, ISBN 978-80-553-2564-4 (in English)

PAVLÍK, V.: Development of Microstructure in Lime-Metakaolin Pastes. In: Construmat 2016: Conference on Structural Materials: Stará Živohošť, CR, 1. - 3. 6. 2016. [USB memory stick]: Prague: Czech Technical University in Prague, 2016. ISBN 978-80-01-05958-6. pp. 404-413 (in English)

SOKOLÁŘ, R. - ŠVEDA, M.: Utilization of Nanofibers in Sintered Ceramic Body Based on Calcium Aluminate Cement. In: Materials Science Forum: Binders, Materials and Technologies in Modern Construction II. Selected, peer reviewed papers from the International Conference on Silicate Binders 2015, Dec. 3, 2015, Brno, Czech Republic. Vol. 865, (2016), ISSN 0255-5476. pp. 62-66 (in English)

SOKOLÁŘ, R. - ŠVEDA, M.: The Use of Zeolite as a Fluxing Agent for Whiteware. In: Procedia Engineering: ICEBMP 2016 - International Conference on Ecology and New Building Materials and Products, Černá Hora, CR, 31. 5. - 2. 6. 2016. Vol. 151 (2016). ISSN 1877-7058. pp. 229-235 (in English)

STRUHÁROVÁ, A.: Use of Siloconate Hydroinsulation in Autoclaved Aerated Concrete Masonry. In: Construmat 2016: Conference on Structural Materials: Stará Živohošť, CR, 1. - 3. 6. 2016. [USB memory stick]: Prague: Czech Technical University in Prague, 2016. ISBN 978-80-01-05958-6. pp. 453-456 (in English)

SÚĽOVSKÁ, M. - TURČEK, P. - ŠTEFUNKOVÁ, Z.: Quality Control of a Base Course Below a Factory Floor. In: Proceedings of 44th Conference with international participation: Foundation Engineering, Brno, 14. - 15. 11. 2016. Prague, CR: Czech Geotechnical Society, 2016. ISBN 978-80-87920-04-6. pp. 57-62 (in Slovak)

ŠTEFUNKOVÁ, Z. - GREGOROVÁ, V.: Properties and Types of Fibers Used in Fiber Reinforced Concrete. In: Construmat 2016: Conference on Structural Materials: Stará Živohošť, CR, 1. - 3. 6. 2016. [USB memory stick]: Prague: Czech Technical University in Prague, 2016. ISBN 978-80-01-05958-6. pp. 150-160 (in English)

ŠTEFUNKOVÁ, Z.: Alkali Resistant Glass Fibers. In: Construmat 2016: Conference on Structural Materials: Stará Živohošť, CR, 1. - 3. 6. 2016. [USB memory stick]: Prague: Czech Technical University in Prague, 2016. ISBN 978-80-01-05958-6. pp. 140-149 (in English)

ŠVEDA, M. - JANÍK, B. - ŠTEFUNKOVÁ, Z.: Reduction of Production Costs and CO2 Emissions in the Brick Manufacture. In: RECYCLING 2016: Possibilities and Future of Waste Recycling from Buildings as a Source of Valuable Raw Materials. Proceedings of 21th Conference. Brno, CR, 7. - 8. 4. 2016. Brno: University of Technology in Brno, 2016, ISBN 978-80-214-5331-9. pp. 86-91 (in English)

ŠVEDA, M. - ŠTEFUNKOVÁ, Z.: The Production of Bricks: Reduction of CO2 Emissions and Production Costs. In: Construmat 2016: Conference on Structural Materials: Stará Živohošť, CR, 1. - 3. 6. 2016. [USB memory stick]: Prague: Czech Technical University in Prague, 2016. ISBN 978-80-01-05958-6. pp. 161-169 (in English)

ŠVEDA, M. - JANÍK, B. - ŠTEFUNKOVÁ, Z.: Influence of Pore Diameter on Thermal Conductivity of Fired Clay Body. In: Construmat 2016: Conference on Structural Materials: Stará Živohošť, CR, 1. - 3. 6. 2016. [USB memory stick]: Prague: Czech Technical University in Prague, 2016. ISBN 978-80-01-05958-6. pp. 170-177 (in English)

UNČÍK, S. - MATULOVÁ, K.: Effect of SRA Admixture on the Shrinkage and Other Properties of Cement Composites. In: ACF 2016. Sustainable Concrete for Now and the Future: Conference proceedings: 7th International Conference of Asian Concrete Federation. Hanoi, Vietnam, Oct 30 - Nov 2, 2016. Hanoi: Construction Publishing House, 2016. ISBN 978-604-82-1993-2. pp. 120-126 (in English)

# DEPARTMENT OF BUILDING TECHNOLOGY

**Head of Department** 

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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 Construction Processes

Realization

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

Manager 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 subject**

**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 73 works

#### 2.2 Graduate theses

ADAMEC, F.: Multifunctional Building on Fedinova Street, Bratislava.

Supervisor: PETRO, M.

ÁLLÓ, I.: RUBICON Residential Houses in Puchov.

Supervisor: HULÍNOVÁ, Z.

ANDROVICS, A.: Identical Residential Buildings - Panonský Háj.

Supervisor: JANKOVICHOVÁ, E.

BALOGH, L.: Residential Complex of Apartment Buildings Set II. - Phase I,

Nové Zámky.

Supervisor: JANKOVICHOVÁ, E.

BARCZI, R.: Multifunctional Building on Dunajska Street, Bratislava.

Supervisor: JANKOVICHOVÁ, E.

BELÁNIOVÁ, B.: Selected Parts of Construction-Technological Preparation for

unclear building: The Wooden Administrative Buildings in Martin.

Supervisor: ANTOŠOVÁ, N.

BIKSADSKÝ, T.: Using a Multidimensional Approach for the Reconstruction of

the Faculty of Civil Engineering STU Bratislava.

Supervisor: FUNTÍK, T.

BISKUPIČ, L.: Use of a Multidimensional Approach for the Reconstruction of

the Faculty of Civil Engineering STU Bratislava.

Supervisor : FUNTÍK, T.

BOŠKO, M.: Selected Parts of Construction-Technological Preparation for

unclear building: Multifunctional Building in Bratislava.

Supervisor: JURÍČEK, I.

BUGÁR, L.: Hurbanovo Multifunctional Center.

Supervisor: HULÍNOVÁ, Z.

CSEHOVÁ, M.: Multifunctional Center, Staromestská Office, Bratislava.

Supervisor: SOMOROVÁ, V.

ČAČKO, A.: Fresh Market.

Supervisor: OROSI, P.

ČENDULA, M.: Hotel, Poprad.

Supervisor: SZALAYOVÁ, S.

DRÁBOVÁ, Z.: Rača Tower Multifunctional Apartment Building.

Supervisor: PETRO, M.

FUSATÁ, L.: Building Technology Project, Capajevova Residential Dwelling,

Bratislava-Petržalka

Supervisor: GAŠPARÍK, J.

GAJDOŠ, J.: Selected Parts of Construction and Technological Preparation.

Supervisor: JURÍČEK, I.

GALKO, M.: Multifunctional Apartment House in the City-Center.

Supervisor: JANKOVICHOVÁ, E.

GALETA, L.: HIPO Arena Samorin - Riding Hall and Club Stables.

Supervisor: CHAMULOVÁ, B.

HEGYIOVÁ, A.: SYLEX Construction-Operational Area, Bratislava.

Supervisor: SOMOROVÁ, V.

HERINEKOVÁ, S.: PANORAMA CITY II Administrative Building

Supervisor: ĎUBEK, M.

HLUBOCKÁ, Z.: Selected Parts of Construction and Technological Preparation

for a Specified Construction.

Supervisor: JURÍČEK, I.

HRIC, J.: Production Storage Hall.

Supervisor: MATÚŠEK, R.

CHOVANCOVÁ, M.: Hotel Borec, Bratislava.

Supervisor: MAKÝŠ, P.

JANDURA, R.: RINZLE Multifunctional Building.

Supervisor: PETRO, M.

JÁNOŠOVÁ, B.: Selected Parts of a Building and Technological Preparation

the Back Build PARK ANIČKA Residential Complex

Supervisor: CHAMULOVÁ, B.

JONIS, T.: Rental Apartments, Čadca.

Supervisor: SZALAYOVÁ, S.

JURÁŠEK, F.: Recovery Realization of Fermentation Room at the Stein

Brewery.

Supervisor: MAKÝŠ, O.

KAJANOVÁ, M.: Implementation od Recovery of Castle in Bernolákovo.

Supervisor: MAKÝŠ, O.

KALNOVIČ, R.: Use of Multi-Dimensional Approach in the Reconstruction of

the Faculty of Civil Engineering.

Supervisor: FUNTÍK, T.

KAMENSKÝ, M.: Preservation of the Revište Castle - Preparation for

Implementation.

Supervisor: MAKÝŠ, O.

KAPRÁL, P.: Ensemble of Building Objects for the Jantár Apartment Buildings.

Supervisor: ANTOŠOVÁ, N.

KASPEROVÁ, N.: Selected Parts of the Building and Technological preparation

for Staromestská Offices, Bratislava.

Supervisor: JURÍČEK, I.

KISS, D.: Residential Complex.

Supervisor: SZALAYOVÁ, S.

KOBETIČOVÁ, D.: Multifunctional Building, Nové Zámky.

Supervisor: PROKOPČÁKOVÁ, K.

KOLLÁRIKOVÁ, T.: Construction Technology Project, TATRA RESIDENCE Multifunctional Building Complex, Bratislava, phase 1, SO 01 and SO 02.

Supervisor: HULÍNOVÁ, Z.

KOTRÍKOVÁ, B.: DAEJUNG Industrial Area, Nová Dubnica,

Supervisor: ĎUBEK, M.

KOTULIAKOVÁ, M.: Dúbravka Apartment Complex.

Supervisor: GAŠPARÍK, J.

KOVÁCS, G.: Apartment Building.

Supervisor: SZALAYOVÁ, S.

KOVÁCSOVÁ, S.: RUSTAVELIHO Multifunctional Building, Bratislava-Rača.

Supervisor: GAŠPARÍK, J.

KRALOVIČOVÁ, V.: Implementation of Recovery of Mansion in Malinovo.

Supervisor: MAKÝŠ, O.

KRISTIN, M.: Selected Parts of the Building-Technological Preparation of

a Building: Residential House on Vlárska street

Supervisor: BRIATKA, P.

KUSTRA, L.: Parking Garage

Supervisor: MATÚŠEK, R.

KYSEL, J.: Regenerative Boiler

Supervisor: ANTOŠOVÁ, N.

LAJČÁKOVÁ, M.: Residential Machnáč Complex, Bratislava.

Supervisor: JURÍČEK, I.

LAMI, J.: Selected parts of the Building - Technological Preparation of the

Stará Vajnorská Logistics Centre, Bratislava.

Supervisor: CHAMULOVÁ, B.

LAVIČKA, M.: Multifunctional Building on STARÉ GRUNTY.

Supervisor: ĎUBEK, M.

MANÓ, G.: Selected Parts of the Building - Technological Preparation of the

Gala Rezidencia, Galanta. Supervisor: GAŠPARÍK, J.

MAZÁŇ, J.: Residential Dwelling: a 3D model.

Supervisor: MATÚŠEK, R.

MESTICKÁ, K.: Swimming Pool, Bratislava – Petržalka.

Supervisor: ĎUBEK, M.

MIKLA, B.: Residential Dwelling. Supervisor: SZALAYOVÁ, S. MIKLOVIČOVÁ, J.: Arboria Trnava Residential Complex, Apartment Building B 02.

Supervisor: PETRO, M.

MINÁRIK, D.: Selected Parts of a Building - Technological Preparation of

Safran Garden Multifunctional Building.

Supervisor: BRIATKA, P.

MOJŽIŠOVÁ, A.: Na Vrátkach Residentia Building, Bratislava.

Supervisor: PROKOPČÁKOVÁ, K.

MORAVČÍKOVÁ, A.: Pajštúnska Multifunctional Building.

Supervisor: GAŠPARÍK, J.

NOVOTNÝ, D.: Selected Parts of a Building - Technological Preparation of

Račanov, apartment buildings SO 01 a SO 02

Supervisor: ANTOŠOVÁ, N.

OKKEI, P.: Residential House.

Supervisor: BOŽÍK, M.

ONDREJKA, M.: Selected Parts of a Building - Technological Preparation of

Dunajské Predmestie Multifunctional Building – 1st stage.

Supervisor: CHAMULOVÁ, B.

PASKALEVA, I.: Multifunctional Building.

Supervisor: PETRO, M.

PITEĽOVÁ, F.: CASCA Administrative Building, Bratislava.

Supervisor: SOMOROVÁ, V.

POLIAKOVÁ, M.: REZIDENCIA HRON Residential Complex.

Supervisor: PROKOPČÁKOVÁ, K.

PRIBULA, T.: Selected Parts of Construction and Technological Preparation for

the Construction of STEIN 2 Housing Complex - Stage 1, Bratislava.

Supervisor: JURÍČEK, I.

PROKOPOVÁ, S.: CASSOVAR Residence.

Supervisor: ĎUBEK, M.

RAGAN, M.: Residential TRI VODY Buildings, Malinovo.

Supervisor: SOMOROVÁ, V.

ROSÍKOVÁ, D.: Residence Tower, Ružinov, Bratislava

Supervisor: MAKÝŠ,P.

SLOVÁČIK, A.: Use of Multi-Dimensional Approach in the Reconstruction of

the Faculty of Civil Engineering.

Supervisor: FUNTÍK, T.

SPIŠIAK, J.: Dúbravka Apartment Buildings - 1st Stage.

Supervisor: JANKOVICHOVÁ, E.

ŠRANKOVÁ, L.: SLNEČNICE JUŽNÉ MESTO Apartment Buildings, Zone C2",

2nd stage.

Supervisor: CHAMULOVÁ, B.

ŠROBA, J.: Apartment building.

Supervisor: BOŽÍK, M.

TARČÁK, L.: Areal Omnia 2000. Supervisor: BRIATKA, P.

TOLNAY, M.: PRI MÝTE Apartment building, Bratislava.

Supervisor: SOMOROVÁ, V.

TOMANOVÁ, E.: GAGARINOVA Administrative Building, Bratislava.

Supervisor: SOMOROVÁ, V.

TÓTH, T.: Residential building BD3, BD4 - Triangel, Chorvátsky Grob.

Supervisor: PROKOPČÁKOVÁ, K.

ŽUPA, S.: LODGE Residential House.

Supervisor: ANTOŠOVÁ, N.

#### 2.3 Doctoral theses

PAULOVIČOVÁ, L.: Multicriteria Optimization of Mechanized Earthwork

**Processes** 

Supervisor: GAŠPARÍK, J.

CÚCIKOVÁ, Z.: Assessment of Building Maintenance Using Facility

Management Application Supervisor: SOMOROVÁ, V.

IVANKO, M.: Choice of Technology for Waterproofing of Buildings

Supervisor: BOŽÍK, M.

## 3. RESEARCH

## 3.1 Research projects

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

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

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

Documentation for the Quality Assurance of Study Programmes (2011-2016, JANKOVICHOVÁ, E.: Project 517340-TEMPUS-1-2011-1-IT-SMGR. DOQUP.

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**

BOŽÍK, M. - BOŽÍKOVÁ, J.: Design and Technology of Engineering Networks Construction: Water Supplies and Sewerage Systems. 1. ed. Brno: Tribun EU, 2016. 132 pp. ISBN 978-80-263-1126-3 (in Slovak)

BRIATKA, P. - MAKÝŠ, P.: (Self)curing of Concrete. 1. ed. Prešov : D.A.H., 2016. 72 pp. ISBN 978-80-89682-11-9 (in Slovak)

BRIATKA, P. - OLŠOVÁ, J.: Hidden Reserves of Companies ...and Their Use. 1. ed. Prešov : D.A.H., 2016. 86 pp. ISBN 978-80-89682-12-6 (in Slovak)

GAŠPARÍK, J. - GAŠPARÍK, M.: Quality Management System: According to STN EN ISO 9001:2016. 1. ed. Brno: Tribun EU, 2016. 110 pp. ISBN 978-80-263-1125-6 (in Slovak)

GAŠPARÍK, J.- GAŠPARÍK, M.: Quality Management in Organizations. 1. ed. Brno: Tribun EU, 2016. 128 pp. ISBN 978-80-263-1136-2 (in English)

CHAMULOVÁ, B..: Scheduling Incorporating Project Priorities and Changes. 1. ed. Brno: Tribun EU, 2016. 65 pp. ISBN 978-80-263-1148-5 (in English)

IŠTVANOVÁ, I.- BRIATKA, P.- GAŠPARÍK, J.: Striking of Concrete Structures - Development and Determination of Actual Strength. 1. ed. Brno: Tribun EU, 2016. 166 pp. ISBN 978-80-263-1071-6 (in Slovak)

JANKOVICHOVÁ, E.- CHODASOVÁ, Z. - ELLINGEROVÁ, H. - ĎUBEK, S. [Hajduchová, S.]. Construction Economics I. 1. ed. Brno : Tribun EU, 2016. 165 pp. ISBN 978-80-263-1129-4 (in Slovak)

JANKOVICHOVÁ, E.: Business Ethics in Construction Industry. 1. ed. Brno: Tribun EU, 2016. 95 pp. ISBN 978-80-263-1146-1 (in English)

MAKÝŠ, O.- NÉMETH, A.: Military Construction Engineering of Bastion Fortresses in the Late 19th Century. 1. ed. Pezinok: Renesans, 2016. 318 pp. ISBN 978-80-89402-87-8 (in Slovak)

MAKÝŠ, O.- HRČKA, M.. Education in Traditional Handcrafts. 1. ed. Pezinok: Renesans, 2016. 60 pp. ISBN 978-80-89402-88-5 (in Slovak)

MAKÝŠ, P. - ŠLÚCH, M..: Quality Management System According to ISO 9001:2015 and Its Internal Audits. 1. ed. Žilina : M KREO, 2016. 96 pp. ISBN 987-80-971299-1-0 (in Slovak)

MEČIAR, A. - BOŽÍK, M.- IVANKO, M.: Fabrication Technology of Selected Types of Foil Roof Coverings. 1. ed. Bratislava : Slovenská technická univerzita v Bratislave, 2016. 132 pp. ISBN 978-80-227-4646-5 (in Slovak)

PAULOVIČOVÁ, L.: Protection of Excavations. 1. ed. Brno : Tribun EU, 2016. 69 pp. ISBN 978-80-263-1143-0 (in Slovak)

PAULOVIČOVÁ, L.: Mechanized Earthwork Processes I.: Technology of excavation. 1. ed. Brno: Tribun EU, 2016. 66 pp. ISBN 978-80-263-1135-5 (in Slovak)

SOMOROVÁ, V.: Facility Management. Effective Management of Supporting Services. 1. ed. Brno: Tribun EU, 2016. 106 pp. ISBN 978-80-263-1106-5 (in English)

SZALAYOVÁ, S.: Environmental Management in Constructions in Accordance with Current Legislation. 1. ed. Brno: Tribun EU, 2016. CD-ROM, 74 pp. ISBN 978-80-263-1115-7 (in Slovak)

ŠMOTLÁK, M.- CHAMULOVÁ, B.: Modelling Technological Gaps After Wet Processes. 1. ed. Brno: Tribun EU, 2016. 83 pp. ISBN 978-80-263-1149-2 (in Slovak)

#### **Textbooks**

BAŽÍK, P.: Information Technologies in Construction Technology 1st part. 1. ed. Brno: Tribun EU, 2016. CD-ROM, 95 pp. ISBN 978-80-263-1101-0 (in Slovak)

BRIATKA, P.- OLŠOVÁ, J.: Technology of Building Processes II: Guidelines for Exercises - Part. 1. 1. ed. Brno: Tribun EU, 2016. CD-ROM, 94 pp. ISBN 978-80-263-1124-9 (in Slovak)

PROKOPČÁKOVÁ, K. - GAŠPARÍK, J.: Implementation of Earth Processes : Selected Parts. 1. ed. Brno : Truibun EU, 2016. CD-ROM, 71 pp. ISBN 978-80-263-1139-3 (in Slovak)

SZALAYOVÁ, S.: Management of Construction Waste and Possibilities for Its Recycling. 1. ed. Brno: Tribun EU, 2016. CD-ROM, 117 pp. ISBN 978-80-263-1121-8 (in Slovak)

#### Journals

ANTOŠOVÁ, N. - MINAROVIČOVÁ, K.: The Methodology for the Selection of Technologies for the Removal of Microorganisms from ETICS. In : Applied Mechanics and Materials : Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 200-205. ISSN 1660-9336 (in English)

ANTOŠOVÁ, N. - PETRO, M.: Verification of the Method for Assessing the Severity of the Condition ETICS with Biocorrosion. In: Czech Journal of Civil Engineering. Vol. 2, No. 1 (2016), online, pp. 7-13. ISSN 2336-7148 (in English)

ANTOŠOVÁ, N. - STETULIČ, PP.: The Effect of a Facade's Aesthetics on Technological Preparation for Construction. In : Czech Journal of Civil Engineering. Vol. 2, No. 2 (2016), pp. 8-19. ISSN 2336-7148 (in Slovak)

ANTOŠOVÁ, N.: An Investigation of the Insulating Structures subject to a Microbiological Attack. In: Almanach znalca. Vol. 16, No. 2 (2016), CD-ROM, pp. 5-8. ISSN 1336-3174 (in Slovak)

ANTOŠOVÁ, N. - ĎUBEK, M. - PETRO, M.: Insulation Faults and Process of Fault Solution at the Stage of Durability the ETICS. In : Interdisciplinarity in Theory and Practice. No. 11 (2016), online, pp. 26-29. ISSN 2344-2409 (in English)

ANTOŠOVÁ, N. - BELÁNIOVÁ, B.: Diagnosis and Renewal of ETICS with Biocorrosion. In : Almanach znalca. Vol. 16, No. 3 (2016), CD-ROM, pp. 21-25. ISSN 1336-3174 (in Slovak)

BISTÁK, A. - HULÍNOVÁ, Z.: The Use of Helicopters in the Construction of Buildings. In: Eurostav. Vol. 22, No. 3 (2016), pp. 40-42. ISSN 1335-1249 (in Slovak)

BISTÁK, A. - HULÍNOVÁ, Z.: Modelling Construction Processes Carried Out by Helicopters. In: Konstrukce. Vol. 15, No. 4 (2016), pp. 35-38. ISSN 1213-8762 (print) (in Slovak)

BISTÁK, A.: Helicopters and the First Beginnings of Their Use in the Construction of Ropeways. In: LAVEX info. Vol. 43, No. 2 (2016), pp. 19-20. ISSN 1336-1953 (in Slovak)

BOŽÍK, M. - IVANKO, M. - MEČIAR, A. - PETRO, M.: Waterproofing Membranes Based on mPVC and the Quality of Their Joints. In : Interdisciplinarity in Theory and Practice. No. 11 (2016), online, pp. 148-152. ISSN 2344-2409 (in English)

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NGUYEN TIEN, M.: Analysis of the Potential Uses of Renewable Energy Sources in Slovakia and Selected Countries. In: Juniorstav 2016: 18. odborná konference doktorského studia. Brno, ČR, 28. 1. 2016. 1. ed. Brno: Vysoké učení technické v Brně, 2016, CD-ROM, [8] pp. ISBN 978-80-214-5311-1 (in Slovak)

NGUYEN TIEN, M.: Choosing the Right Renewable Energy Concept to Meet the Energy Consumption for the Design of Residential Buildings with Requirements for 2021. In: Advances in Architectural, Civil and Environmental Engineering: 26th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. 26 Oct. 2016, Bratislava. 1. ed. Bratislava: Slovenská technická univerzita v Bratislave, 2016, CD-ROM, pp. 293-298. ISBN 978-80-227-4645-8 (in Slovak)

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PETRO, M.: Determining the Cause of Insulation Failure on Base Mineral Wool. In: Komplexná obnova bytových domov 2016. Zelená úsporám energie pri kvalitnej obnove: zborník prednášok. Podbanské, SR, 23. - 25. 11. 2016. 1. ed. Bratislava: Združenie pre podporu obnovy bytových domov, 2016, USB kľúč, pp. 91-96. ISBN 978-80-972493-1-1 (in Slovak)

PETRO, M.: Optimization of choice for ETICS repairs. In: Vykurovanie 2016: zborník prednášok z 24. medzinárodnej vedecko-odbornej konferencie na tému Zelená úsporám energie v budovách. Stará Ľubovňa, SR, 7. - 11. 3. 2016. 1. ed. Bratislava: SSTP, 2016, CD-ROM, pp. 453-458. ISBN 978-80-89216-87-1 (in Slovak)

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ŠIMKO, V. - BRIATKA, PP. - OLŠOVÁ, J.: Utilization of Crushed Aggregate in Ready-Mix Concrete. In: Výroba betónu 2016: zborník príspevkov zo seminára. Štrbské Pleso, SR, 5. - 6. 10. 2016. 1. ed. Bratislava: Slovenská asociácia výrobcov transportbetónu, 2016, pp. 36-41. ISBN 978-80-89682-09-6 (in Slovak)

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#### Other

SOMOROVÁ, Viera (ed.). Facility Management 2016. Outsourcing in Building Maintenance: Proceedings from 14th. International scientific conference at Štrbské Pleso, Slovakia. 6. - 7. Oct. 2016. 1. ed. Bratislava: SSTP, 2016. 115 pp. ISBN 978-80-89216-98-7 (in Slovak)

# DEPARTMENT OF SANITARY AND ENVIRONMENTAL ENGINEERING

**Head of Department** 

Assoc. Prof. RNDr. Ivona Škultétyová, PhD.

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## 1. EDUCATION

## 1.1 Graduate study

### **Obligatory subjects**

Environmental Technology VHVS

**Environmental Technology** 

Water Chemistry and Hydrobiology

Chemistry of Water, Soil, Air and Waste

Environmental Hygiene

Landscape Engineering

Infrastructure of Urban Regions

Landscape 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 7 works

#### 2.2 Graduate theses

BALOGOVÁ, Z.: Utilization of Activated Carbon in Water Treatment

Supervisor: BARLOKOVÁ, D.

HANZLÍKOVÁ S.: The Recovery of Biodegradable Waste

Supervisor: GALBOVÁ, K.

HENČ, M: Design of the Water Supply for the Village of Dubovec

Supervisor: BOŽÍKOVÁ, J.

 $\label{eq:hlubocky} \textbf{HLUBOCKY}, \, \textbf{M.:} \, \textbf{Extension of the Water Supply Network of the Village of}$ 

Radošovce

Supervisor: BARLOKOVÁ, D.

JURÍK, T : Assessment of the Water Supply of Selected Towns Connected to

Rimavska Sobota's Water Duct System

Supervisor: BOŽÍKOVÁ, J.

KOREŇ, M.: Design of Recycling Center

Supervisor: HOLUBEC, M.

LUPTÁKOVÁ, N.: The Use of Biomass for Energy Purposes

Supervisor: ŠKULTÉTYOVÁ, I.

VAVRO, J.: A Variant System of Wastewater Management in the Village of

Borský Svätý Jur Supervisor: STANKO, Š.

VETRÍK, M.: Water Supply System of the Village of Ducové - Design of

Extension and Operational Documents

Supervisor: TÓTHOVÁ, K.

 $\ensuremath{\mathsf{SUCH\acute{Y}}}$  P.: The Impact of Climate Change on Rain Waste Water Totals in the

Village of Vráble

Supervisor: HOLUBEC, M.

### 2.3 Doctoral theses

DUBCOVÁ, M.: Use of Multi-Criteria Analysis for the Sustainability of Water

Management Systems

Supervisor:

GREGUŠOVÁ, V.: Mathematical Simulation of WWTP Structures

Supervisor: STANKO, Š.

HANUSOVÁ, A.: Occurrence and Possibilities for the Removal of Selected

Micropollutants from Municipal Waste Water

Supervisor: ILAVSKÝ, J.

HRUDKA, J.: Dynamic Modelling of WWTP Structures

Supervisor: STANKO, Š.

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

Removal

Supervisor: BARLOKOVÁ, D.

MOLNÁROVÁ, L: Optimization of the Operation of a Sewage System

Supervisor: STANKO, Š.

RUSNÁK, D.: Significance of Boundary Conditions in the Hydraulic

Assessment of a Sewage Network

Supervisor: STANKO, Š.

KAPUSTA, O.: Optimization of the Filtration Process of a Small Surface Water

Treatment Plant to Obtain Safe Drinking Water

Supervisor: BARLOKOVÁ, D.

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-Line Monitoring Data

(2016-2019, SOKÁČ, M.) VEGA 1/0805/16

Experimental Research on Reducing the Impacts of Sewer Network Floods on

(2013-2017, STANKO, Š.) APVV-0372-12

Experimental Research of Combined and Storm Sewage - Determined for the Protection of Receiving Water and Possibilities of Alternative Rainfall Runoff Regulations

(2015-2017, STANKO, Š.) VEGA 1/0631/15

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

Development of Methods for the Correct Application of Disinfectants for Healthy and Safe Drinking Water

(2016-2019, Ilavský, J.) APVV-15-0379

Analysis of Factors in the Cleaning Frequency of Weather Stations. (2015 RUSNÁK, D.) STU Grant for Excellence Team of Young Researchers

Implementation of Mathematical Models for Optimization of the Design Process and Operation of Sanitary-Engineering Structures, (2015-2016, Hrudka, J.) STU Grant for Excellence Team of Young Researchers

Analysis of Impacts of Wastewater from Wastewater Treatment Plants on the Environment

(2016, DUBCOVÁ, M.) STU Grant for Excellence Team of Young Researchers

## 3.2 International cooperation

#### Cooperating institutions

Technical University, Prague, Czech Republic

Technical University, Brno, Czech Republic

Technical University, Vienna, Austria

Universität für Bodenkultur, Vienna, Austria

Danish Hydraulic Institute, Horsholm, Denmark, and Prague, Czech Republic

National Water Research Institute, Burlington, Canada

Instytut Inžynierii Sanitarnej i Ochrany Šrodowiska, Politechnika

Czestochowska, Czestochowa, Poland

University of Pavia, Pavia, Italy

## Membership in international professional organizations

BARLOKOVÁ, D.: Member of The Czech Water Association

ILAVSKÝ, J.: Member of The Czech Water Association

KRIŠ, J.: Member of International Water Association, London, official member of National Board Committee

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

MAHRÍKOVÁ, I: International Member of Engineering Academy of Armenia STANKO, Š: Member of International Association of Hydrological Sciences, IWA ŠKULTÉTYOVÁ. I.: Member of International Solid Waste Association. IWA

# 4. PUBLICATIONS

#### **Books**

BOŽÍK, M. - BOŽÍKOVÁ, J.: Design and Technology of Engineering Network Constructions: Water Supplies and Sewerage Systems. 1st. ed. Brno: Tribun EU, 2016. ISBN 978-80-263-1126-3, 132 pp. (in Slovak)

#### Parts of Books

BARLOKOVÁ, D. - ILAVSKÝ, J.: Modified Zeolit Klinopur in Water Treatment. In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp. 92-98 (in Slovak)

BARLOKOVÁ, D. - ILAVSKÝ, J.- KAPUSTA, O.: Removal of Natural Organic Contaminants from Water by Coagulation. In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp.158-164 (in English)

BOŽÍKOVÁ, J.: Can we Create a New Spa in Slovakia? In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp. 112-116 (in Slovak)

DUBCOVÁ, M. - MOLNÁROVÁ, L. - HOLUBEC, M. - GALBOVÁ, K. - STANKO, Š.: Design of the Greens and Tees of Golf Course in Hrubá Borša. In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp.33-39 (in English)

GALBOVÁ, K. - DUBCOVÁ, M. - RUSNÁK, D. - ŠKULTÉTYOVÁ, I. - HOLUBEC, M.: Methods for the Sealing of Landfills. In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp. 183-187 (in Slovak)

GALBOVÁ, K. - GREGUŠOVÁ, V. - ŠKULTÉTYOVÁ, I. - HOLUBEC, M. - MOLNÁROVÁ, L.: Drainage of Landfills. In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp. 148-153 (in Slovak)

GREGUŠOVÁ, V. - HRUDKA, J. - GALBOVÁ, K. - STANKO, Š.: Influence of CSO Chamber Construction on the Flow Division. In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp. 62-66 (in English)

HOLUBEC, M. - ŠKULTÉTYOVÁ, I. - HRUDKA, J. - GALBOVÁ, K. - STANKO, Š.: Field Measurements as a Source of Verification Data for a CFD Simulation. In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp. 188-194. (in Slovak)

HOLUBEC, M. - STANKO, Š. - GREGUŠOVÁ, V. - DUBCOVÁ, M. - RUSNÁK, D.: CFD as a Part of Flood Impact Analysis. In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp. 10-14 (in Slovak)

HRUDKA, J. - GREGUŠOVÁ, V. - MOLNÁROVÁ, L. - HOLUBEC, M. - ŠKULTÉTYOVÁ, I.: CFD as a Tool to Analyze Sewer Objects. In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp. 15-21 (in Slovak)

ILAVSKÝ, J. - BARLOKOVÁ, D. - KUNŠTEK, M.: Occurrence of Antimony in Water and Its Removal by Coagulation. In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp. 125-134 (in English)

ILAVSKÝ, J. - BARLOKOVÁ, D. - MUNKA, K.: Removal of Antimony from Water Supply Sources in Dúbrava. In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp. 135-139 (in Slovak)

KRIŠ, J. - ILAVSKÝ, J.: Corrosion Test at the Water Treatment Jakubany. In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp. 22-32 (in English)

MOLNÁROVÁ, L. - HOLUBEC, M. - DUBCOVÁ, M. STANKO, Š. - GALBOVÁ, K.: Measurement of Infiltrated Water Quantities in Field Conditions. In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp. 79-86 (in Slovak)

RUSNÁK, D. - DUBCOVÁ, M. - HOLUBEC, M. - ŠKULTÉTYOVÁ, I.: Map Precision and It's Importance in Sewer System Assessments. In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp. 67-73 (in English)

RUSNÁK, D. - ŠKULTÉTYOVÁ, I. - GREGUŠOVÁ, V. - STANKO, Š.: Choice of Rain Model in Sewer Assessment. In: AQUA 2016: Proceedings of Works. Bratislava: STU Bratislava, Faculty of Civil Engineering, 2016. CD-ROM, ISBN 978-80-227-4612-0, pp. 50-56 (in English)

SOKÁČ, M.: Integrated Protection of Water Sources. In: Current Problems and Damages in Fisheries. Žilina: Publishing House, 2016. ISBN 978-80-971363-1-4. pp. 31-37 (in Slovak)

SOKÁČ, M.: Waste Water and Its Impact on Fisheries and Aquatic Habitats. In: Current Problems and Damages in Fisheries. Žilina: Publishing House, 2016. ISBN 978-80-971363-1-4. pp. 87-98 (in Slovak)

#### Textbooks

STANKO, Š.: Design of Sewer Systems Using SeWaCAD Software. STU in Bratislava, 2016. ISBN 978-80-227-4620-5, 77 pp. (in Slovak)

#### Journals

BARLOKOVÁ, D. - ILAVSKÝ, J.: Occurrence of Fluorides in Waters and Their Removal. In: Acta Hydrologica Slovaca. Vol. 17, No. 2 (2016), ISSN 1335-6291, pp.166-174 (in Slovak)

DUBCOVÁ, M. - GREGUŠOVÁ, V. - CSICSAIOVÁ, R.: Analysis of Impact of Sludge from Sewage Treatment Plants Using the LCA Method. In: Vodohospodársky spravodajca. Vol. 59, Nos. 11-12 (2016), ISSN 0322-886X, pp. 20-22 (in Slovak)

HANUSOVÁ, A. - MACKUĽAK, T.: The Ability of Wood - Decaying Fungi to Remove Hormones and Drugs from Waste Water. In: Vodní hospodářství. Vol. 66, No. 3 (2016), ISSN 1211-0760, pp. 11-13 (in Slovak)

HRUDKA, J. - HOLUBEC, M. - STANKO, Š. - ŠKULTÉTYOVÁ, I. - GALBOVÁ, K.: Calibration Parameters Which are Entering into the Process of the Mathematical Modelling of Sanitary-Water Management Structures. In: Vodohospodársky spravodajca. Vol. 59, Nos. 1-2 (2016), ISSN 0322-886X, pp. 25-28 (in Slovak)

ILAVSKÝ, J. - BARLOKOVÁ, D. - MUNKA, K.: Removal of Antimony from Water Using GEH Sorption Material at Different Filtermedia Heights. In: SOVAK. Vol. 25, Nos. 7-8 (2016), ISSN 1210-3039, pp. 13-16 (in Slovak)

JERKOVIĆ, M. - SOKÁČ, M. - TADIĆ, L.: Analysis of the Effects of a Wastewater Treatment Plant Failure on the Drava River Water Quality. In: e-GFOS Electronic Journal of the Faculty of Civil Engineering Osijek. Nos. 12 (2016), ISSN 1847-8948, pp. 57—65 (in English)

MACKUĽAK, T. - BIROŠOVÁ, L. - BODÍK, I. - GRABIC, R. - TAKÁČOVÁ, A. - SMOLINSKÁ, M. - HANUSOVÁ, A. - HÍVEŠ, J. - GÁL, M.: Zerovalent Iron and Iron(VI): Effective Means for the Removal of Psychoactive Pharmaceuticals and Illicit Drugs from Wastewaters. In: Science of the Total Environment. Vol. 539, (2016), ISSN 0048-9697, pp. 420-426 (in English)

RUSNÁK, D. - STANKO, Š. - ŠKULTÉTYOVÁ, I.: Rain Model - Boundary Condition in Sewer Network Appraisal. In: Pollack Periodica. Vol. 11, No. 2 (2016), ISSN 1788-1994, pp. 105-112 (in English)

SOKÁČ, M. - VELÍSKOVÁ, Y.: Dispersion Process in Urban Sewer Networks Under Dry Weather Conditions. In: Gaz, woda i technika sanitarna. Vol. 90, No. 4 (2016), ISSN 0016-5352, pp. 152-155 (in English)

STANKO, Š. - ŠKULTÉTYOVÁ, I. - HRUDKA, J. - HOLUBEC, M. - GALBOVÁ, K.: Numerical Mathematical Modelling of Sewer System Structures. In: Vodní hospodářství. Vol.66, Nos. 12 (2016), ISSN 1211-0760, pp. 10-12 (in Slovak)

### **Conference Proceedings**

BARLOKOVÁ, D. - ILAVSKÝ, J. - BUCHLOVIČOVÁ, J. - PELIKÁN, P.: Modernization of Water Treatment Plant for Surface Water of Klenovec and Málinec. In: Drinking Water 2016: 13th Conference. Tábor, Czech Republic 23. - 26. 5. 2016 - České Budějovice : W&ET Team, 2016- ISBN 978-80-905238-2-1 - pp. 211-216 (in Slovak)

BARLOKOVÁ, D. - ILAVSKÝ, J.: Removal of Fluoride from Water. In: Water Zlín 2016: 20th International Conference. Zlín, Czech Republic 17. - 18. 3. 2016 - Olomouc: Moravská vodárenská, 2016 - ISBN 978-80-905716-2-4 - pp. 73-78 (in Slovak)

BOŽÍKOVÁ, J.: Protection of Water with Healing Effects in Slovakia. In: 48th Conference of Water Managers in Industry. Liptovský Ján, Slovak Republic, 7. - 9. 11. 2016 - Bratislava: HEKAS, 2016 - ISBN 978-80-971819-2-5 - pp. 113-122 (in Slovak)

BOŽÍKOVÁ, J.- ŠTEFANKA, P.- VANDROVÁ, G.: Hydrogeological Structure of Mineral Waters in Lúčky. In: 18th Slovak Hydrogeological Conference. Demänovská dolina, Slovak Republic 18. - 21. 10. 2016 - Bratislava: Slovak Association of Hydrogeologists, 2016 - ISBN 978-80-971126-9-1 - pp. 11-24 (in Slovak)

CSICSAIOVÁ, R. - STANKO, Š.: Proposed Wastewater Collection in the Village of Ohrady. In: Conference of Young Researchers - KOMVY 2016. Duchonka, Slovak Republic, 15. - 16. 11. 2016 - Bratislava: STU Bratislava, 2016, CD-ROM - ISBN 978-80-227-4654-0 - pp. 8-13 (in Slovak)

DUBCOVÁ, M.: Environmental Analysis to Review the Functions of a WWTP. In: Advances in Architectural, Civil and Environmental Engineering: 26th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics, Bratislava, Slovak Republic, 26. 10. 2016 - Bratislava: STU Bratislava, 2016, CD-ROM - ISBN 978-80-227-4645-8 - pp. 624-629 (in Slovak)

GALBOVÁ, K. - HRUDKA, J. - HOLUBEC, M. - ŠKULTÉTYOVÁ, I. - STANKO, Š.: Analysis of the Quality and Quantity Parameters of Treated Waste Water at the Outlet from Wastewater Treatment Plant. In: TOP 2016: Proceedings of Abstracts. 22nd Annual International Scientific Conference Engineering for Environment Protection. Častá - Papiernička, Slovak Republic, 7. - 9. 6. 2016 - Bratislava: STU Bratislava, 2016 - ISBN 978-80-227-4568-0 - p. 31 (in English)

GALBOVÁ, K. - DUBCOVÁ, M. - TROŠANOVÁ, M.: The Production and Use of Sewage Sludge. In: Conference of Young Researchers. Duchonka, Slovak Republic, 15. - 16. 11. 2016 - Bratislava: STU Bratislava, 2016, CD-ROM - ISBN 978-80-227-4654-0 - pp. 18-23 (in Slovak)

GREGUŠOVÁ, V. - DUBCOVÁ, M. - HRUDKA, J. - GALBOVÁ, K. - ŠKULTÉTYOVÁ, I.: Use of Gas Chromatography in the Analysis of Pesticides in Wastewater. In: GV-CONF 2016: Proceedings of Global Virtual Conference. Slovak Republic, 18. - 22. April 2016 - Žilina: EDIS, 2016, ISSN 1339-2778. ISBN 978-80-554-1197-2 - pp. 251-254 (in English)

HANUSOVÁ, A.: Application of Boron Doped Diamond Electrodes by Hospital Wastewater Treatment. In: Juniorstav 2016: 18th PhD. Students International Conference. Brno, Czech Republic, 28. 1. 2016 - Brno University of Technology, 2016, CD-ROM - ISBN 978-80-214-5311-1 (in Slovak)

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MOLNÁROVÁ, L. - HOLUBEC, M. - RUSNÁK, D. - STANKO, Š.: Ground Water Infiltration Measurement in Sewer Systems. In: GV-CONF 2016: Proceedings of Virtual Global Conference. Slovak Republic, 18. - 22. April 2016 - Žilina: EDIS, 2016, ISSN 1339-2778. ISBN 978-80-554-1197-2 - pp. 240-244 (in English)

PELIKÁN, P. - BUCHLOVIČOVÁ, J. - ILAVSKÝ, J. - BARLOKOVÁ, D.: Pilot Plant Tests of the Water Treatment Plant in Hriňová. In: Drinking Water 2016: 13th Conference. Tábor, Czech Republic 23. - 26. 5. 2016 - České Budějovice : W&ET Team, 2016 - ISBN 978-80-905238-2-1 - pp. 217-222 (in Slovak)

RUSNÁK, D. - STANKO, Š: - GREGUŠOVÁ, V. - GALBOVÁ, K.: The Precision of Maps - Their Impact on the Determination of Design Flows in Sewers. In: Městské vody 2016 = Urban Water 2016 : Conference with international participation. Velké Bílovice, Czech Republic, 6. - 7. 10. 2016 - Brno : ARDEC, 2016 - ISBN 978-80-86020-83-9 - pp. 235-242 (in Slovak)

SOKÁČ, M. - VELÍSKOVÁ, Y.: Tracer Experiments in Lowland Channel with Transient Storage Zones. In: SGEM 2016. 16th International Multidisciplinary Scientific GeoConference. Book 3. Water Resources. Forest, Marine and Ocean Ecosystems. Albena, Bulgaria, 30 June - 6 July 2016 - Sofia: STEF 92 Technology, 2016 - ISSN 1314-2704. ISBN 978-619-7105-61-2 - pp. 781-787 (in English)

SOKÁČ, M.: Detection of Accidental Pollution of Watercourses on the Basis of On-line Monitoring. In: Wastewater 2016, 9th Biennial Conference with international participation. Štrbské Pleso, Slovak Republic, 19.-21. 10. 2016 - Bratislava: NOI, 2016 - ISBN 978-80-89882-00-7 - pp. 181-186 (in Slovak)

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TROŠANOVÁ, M. - ŠKULTÉTYOVÁ, I.: Projection of Measures to Mitigate Negative Effects and Conditions of the EIA Process in the Conditions of Territorial Decisions and Their Resulting Effectiveness in the District of Levoča. In: Conference of Young Researchers - KOMVY 2016. Duchonka, Slovak Republic, 15. - 16. 11. 2016 - Bratislava: STU Bratislava, 2016, CD-ROM - ISBN 978-80-227-4654-0 - pp. 63-70 (in Slovak)

# DEPARTMENT OF BUILDING SERVICES

**Head of Department** 

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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 in Building Services

**Energy Audit of Bulidings** 

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 in Building Industrial Air Conditioning Systems

Industrial Air Conditioning Systems

**Environment 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 Cinditioning Systems

### Optional subjects

**Energy Audit of Bulidings** 

# 2. THESES

## 2.1 Bachelor theses

There were 2 works.

#### 2.2 Graduate theses

ČAJKOVÁ, M.: Underfloor Heating Design

Supervisor: PETRÁŠ, D.

FARAGÓ, Z.: Technical and Economical Evaluation of Dwelling Renovations

Supervisor: PETRÁŠ D.

FOLTÁN, M.: Ventilation in Dwellings

Supervisor: ŠABÍKOVÁ, J.

HRČKA, M.: Ventilation and Cooling System for a Restaurant

Supervisor: ŠABÍKOVÁ, J.

HÝSEK, M.: Design and Comparison of Dwelling Renovations

Supervisor: KRAJČÍK, M.

CHMELÍČEK, P.: Energy Certification / Energy, Economical and Environmental

Aspect Analysis Supervisor: KALÚS, D.

KOLÁRIK, M.: Energy Efficiency of Building and Energy Certification

Supervisor: KALÚS, D.

MATULA, L.: Energy System for a Family House - Conception and Design

Supervisor: KOUDELKOVÁ, D.

PÓDA, M.: Drainage and Rain Water System Design

Supervisor: KRAJĆÍK, M.

POLÁKOVÁ, S.: Alternative Solutions for Heat Source and Heating Systems

Supervisor: KURČOVÁ, M.

REJDOVJANOVÁ, S.: Heat Pump Analysis - Bratislava County

Supervisor: SKALÍK, L.

RIGO, M.: Energy Balance and Evaluation of Indoor Climates in Dwellings

Supervisor: KRAJČÍK, M.

SÁNKA, I.: Energy Certification for Dwellings and Indoor Air Quality

Supervisor: PETRÁŠ, D.

BAHNOVÁ, Z.: Design of Alternative Hot Water Preparation System for an

Apartment Building Supervisor: VÍCHOVÁ, K.

BÍROVÁ, M.: Design of Gas Heating Boiler Room and Internal Gas Supply in

an Apartment Building Supervisor: VÍCHOVÁ, K.

ČASO, P.: Design of Alternative Shower Systems for a Guest House and

Adjoining Areas

Supervisor: PERÁČKOVÁ, J.

ČERVENEC, O.: Design for the Realization of a Separate Drainage System

Supervisor: TONHAUZER, I.

DUCHON, R.: Design of an Alternative Internal Water Supply in an Apartment

Building

Supervisor: PERÁČKOVÁ, J.

IVANOVSKÁ, M.: Design for the Realization of Sanitary Technology in a Multifunctional Building with a Siphonic Rainwater Drainage System

Supervisor: PERÁČKOVÁ, J.

KONTIŠ, J.: Design of a Gas Heating Boiler Room in a Lodging House

Supervisor: VÍCHOVÁ, K.

MEČÁROVÁ, M.: Progressive Wastewater Treatment Systems for

a Multifunctional Building

Supervisor: PERÁČKOVÁ, J.

PAVLOVIČOVÁ, V.: Design of a System for Reusing Grey Water and Rainwater

in a Lodging House

Supervisor: JÁNOŠKOVÁ, T.

ŠPENDLA, M.: Design for Foul Water and Rainwater Drainage in a Shopping

Centre

Supervisor: JÁNOŠKOVÁ, T.

FERENCZ, P.: Ventilation and Cooling of a Residential Building with the

Application of an Air Handling Recovery Unit

Supervisor: STRAKOVÁ, Z.

GREŠTIAK, R.: Design of Ventilation for an Office Building and Design of

Heating and Cooling Sources

Supervisor: FÜRI, B.

JAŠEKOVÁ, K.: Air Conditioning of a Factory and the Technical Base of an Ice

Stadium

Supervisor: STRAKOVÁ, Z.

KMECOVÁ, M.: Ventilation and Fire Ventilation of an Underground Garage

Supervisor: STRAKOVÁ, Z.

KOCANDOVÁ, L.: Warm Air Ventilation and Heating of the Manufacturing and

Storage Spaces of a Factory

Supervisor: STRAKOVÁ, Z.

KUBINA, L.: Design of Ventilation and Heating and Cooling Sources for

a Factory

Supervisor: FÜRI, B.

KVASNICOVÁ, K.: Air Conditioning of Clean Rooms in a Hospital

Supervisor: STRAKOVÁ, Z.

NOSKO, A.: Mechanical Ventilation of a Library

Supervisor: ŠABÍKOVÁ, J.

SEDLÁK, P.: Hygienic Ventilation Combined with the Radiant Heating of

a Factory with an Industrial Type of Operation

Supervisor: STRAKOVÁ, Z.

TOPOR, M.: Design of Ventilation and Heating and Cooling Sources for a Factory

Supervisor: FÜRI, B.

BARBORIAK, P.: Combined Heat Source for a Dwelling

Supervisor: LULKOVIČOVÁ, O.

GABÍKOVÁ, H.: Application of Active Thermal Protection for Heating and

Cooling in Dwellings Supervisor: KALÚS, D.

GAJDOŠ, Ľ.: Hydronic Balancing of Heating Systems in Administrative

Buildings

Supervisor: KURČOVÁ, M.:

GOGOVÁ. S: Solar Energy System for a Dwelling

Supervisor: LULKOVIČOVÁ, O.

GYÖRI, K.: Combined Heat Source for a Dwelling

Supervisor: LULKOVIČOVÁ, O.

IZÁKOVÁ, P.: Design and Calculation of Heat Source for a Resort: Biomass

Base

Supervisor: LULKOVIČOVÁ, O.

KLVÁČ, R.: Combined Heating Sources for an Energy - Efficient Building:

Renewable Energy Base

Supervisor: KALÚS, D.

KRÁTKY, M.: Energy Audit, Certification and Monitoring of Office Building Supervisor: PETRÁŠ, D.

KRNÁČ, J.: Analysis of Energy System for Heating and Cooling: Ventilation and Hot Water Preparation for a Building with Near - Zero Energy Consumption

Supervisor: KALÚS, D.

MADLEŇÁK, F.: Energy Audit of a Building and Hydronic Balancing for a Dwelling After Renovation Supervisor: PETRÁŠ, D.

NAGY, Á.: Alternative Energy Source for a Dwelling

Supervisor: TAKÁCS, J.

SLÁVIK, B.: Warm Water Heating System in a Hotel

Supervisor: TAKÁCS, J.

SZOMOLAY, V.: Calculation and Selection of a Heat Source for a Hotel

Supervisor: TAKÁCS, J.

ŠEFČÍKOVÁ, A.: Energy Saving Systems for Heating in a Dwelling: Renewable

Energy Base

Supervisor: KALÚS, D.

ŠUGAREK, D.: Use of Waste Heat from a Heat Plant for Delivery to an Office

Building

Supervisor: TAKÁCS, J.

ŠVANCARA, M.: Biomass Heat Source and Its Use in Myjava: Calculations and

Layouts

Supervisor: KOUDELKOVÁ, D.

VOJTKO, P.: Design of Source Systems for Hot Water Preparation in the

County of Prešov Supervisor: SKALÍK, L.

#### 2.3 Doctoral theses

FÖLDVÁRY, V.: Assessment of Indoor Environmental Quality in Residential Buildings Before and After Renovation

Supervisor: PETRÁŠ, D.

HARGAŠ, M.: Analysis of Operation of Micro Cogeneration Units in a Building Supervisor: TAKÁCS, J.

KOVÁČOVÁ, D.: Analysis of the Energy Efficiency of a Solar Energy System for Dwelling Stock Renovations

Supervisor: LULKOVIČOVÁ, O.

THURZA, R.: Analysis and Design of Hot Air Ventilation and Dehumidification

Systems in Covered Swimming Pools

Supervisor: FÜRI, B.

# 3. RESEARCH

## 3.1 Research projects

Health and Energy Aspects of a Building's Integrated Photovoltiaic Facades (2015-2016, KRAJČÍK, M.), Grant scheme to support Excellence Teams of Young Researchers at the Slovak University of Technology in Bratislava

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

## 3.2 International cooperation

## **Cooperating institutions**

Danmarks Tekniske Universitet, Lyngby, Danmark

Fachhochschule Burgenland, Pinkafeld, Austria

Ensi – Energy Saving International AS, Oslo, Norway

Budapest University of Technology and Economics, Budapest, Hungary

## Membership in international professional organizations

PETRÁŠ, D.: ASHRAE, Atlanta, USA

PETRÁŠ, D.: ISIAQ, Austin, USA

PETRÁŠ, D.: REHVA, Brussels, Belgium

# 4. PUBLICATIONS

#### **Books**

ČÍK, G. - PETRÁŠ, D. - FÖLDVÁRY, V.: Green Engineering and Green Chemistry. 1. ed. Bratislava Vydavateľstvo STU 2016. 167 pp. ISBN 978-80-227-4610-6 (in Slovak)

PERÁČKOVÁ, J. - VÍCHOVÁ, K.- STRAKOVÁ, Z.- KURČOVÁ, M. - TAKÁCS, J. - PETRÁŠ, D.: Energy Efficiency in Building Service Installations. 1. ed. Bratislava: Ústav vzdelávania a služieb (ÚVS), 2016. 198 pp. ISBN 978-80-89073-21-4 (in Slovak)

PUŠKÁR, A - PETRÁŠ, D. - SANDANUS, J. - SÓGEL, K. - DRŽKA, M.: Reducing the Energy Consumption of Buildings for the Profession of Bricklayer. 1. ed. Bratislava: Ústav vzdelávania a služieb, 2016. 191 p. ISBN 978-80-89073-20-7 (in Slovak)

#### **Journals**

BARTOŠOVÁ KMEŤKOVÁ, J. [Kmeťková, J.]: Life Cycle and Technical and Economical Assessment of an Apartment Building. In: TZB Haustechnik. Vol. 24, No. 1 (2016), pp. 32-35. ISSN 1210-356X (in Slovak)

BUKOVIANSKA, H. [Pustayová, H.] - FÖLDVÁRY, V. - PETRÁŠ, D.: Evaluation of Indoor Environment and Energy Consumption in Dwellings Before and

After Their Refurbishment. In: REHVA European HVAC Journal. Vol. 53, No. 2 (2016), pp. 13-20. ISSN 1307-3729 (in English)

ČERMANOVÁ, Z. [Krippelová, Z.] - PERÁČKOVÁ, J.: Warm Water Preparation in Households. In: TZB Haustechnik. Vol. 24, No. 4 (2016), pp. 50-53. ISSN 1210-356X (in Slovak)

DERZSI, I. - TAKÁCS, J.: Optimization of Heating Systems in High-Rise Buildings. In: Magyar Épületgépészet. Vol. 65, No. 4 (2016), pp. 19-22. ISSN 1215-9913 (in Hungarian)

EHRENWALD, P. - KURČOVÁ, M.: Automatic Control of Environmental Technology in Nearly Zero Energy Buildings. In: TZB Haustechnik. Vol. 24, No. 5 (2016), pp. 34-35. ISSN 1210-356X (in Slovak)

GAŠPARIK, M.: Heat Storage in Solar Thermal System Engineering. In: TZB Haustechnik. Vol. 24, No. 3 (2016), pp. 18-20. ISSN 1210-356X (in Slovak)

JÁGERSKÁ, L. [Laščeková, L.] - PERÁČKOVÁ, J.: Design Principles of Siphonic Roof Drainage System Based on VDI 3806. In: Magyar Épületgépészet. Vol. 65, Nos. 1-2 (2016), pp. 32-35. ISSN 1215-9913 (in English)

JÁGERSKÁ, L. [Laščeková, L.] - PERÁČKOVÁ, J.: Sizing the Vacuum Drainage of Flat Roofs. In: TZB Haustechnik. Vol. 24, No. 3 (2016), pp. 49-54. ISSN 1210-356X (in Slovak)

JÁGERSKÁ, L. [Laščeková, L.] - PERÁČKOVÁ, J.: An Example of Calculating a Siphonic Roof Drainage System and Its Dimensioning in Calculation Software. In: TechCON. Vol. 12, No. 1 (2016), pp. 14-19. ISSN 1337-3013 (in Slovak)

JÁGERSKÁ, L. [Laščeková, L.] - PERÁČKOVÁ, J.: Characteristic of Siphonic Roof Drainage System: Principles and Design Conditions. In: Czech Journal of Civil Engineering. Vol. 2, No. 1 (2016), online, pp. 50-55. ISSN 2336-7148 (in English)

KALÚS, D.: Thermally Activated Interior Panels with an Integrated Active Area, Part I: Currently under Experimental Verification of Building and Energy Systems. In: TZB Haustechnik. Vol. 24, No. 2 (2016), pp. 14-17. ISSN 1210-356X (in Slovak)

KALÚS, D.: Thermally Activated Interior Panels with an Integrated Active Area, Part II: Methodology and Research Methods. In: TZB Haustechnik. Vol. 24, No. 3 (2016), pp. 22-25. ISSN 1210-356X (in Slovak)

KALÚS, D.: Interior Thermally Active Panels with an Integrated Active Area. In: TZB Haustechnik. Vol. 9, No. 4 (2016), pp. 38-41. ISSN 1803-4802 (in Czech)

KALÚS, D.: Interior of Thermally Active Panels with an Integrated Active Surface, Part III: Heating and Cooling Capacity ITAP Panels. In: TZB Haustechnik. Vol. 24, No. 4 (2016), pp. 36-38. ISSN 1210-356X (in Slovak)

KOUDELKOVÁ, D.: Outside Air Temperature Sensor and Its Location in a District's Equithermal Control Circuit. In: TZB Haustechnik. Vol. 24, No. 5 (2016), pp. 28-31. ISSN 1210-356X (in Slovak)

KOVÁČOVÁ, D. - LULKOVIČOVÁ, O.: Using of Hybrid Photovoltaic Thermal Solar Collectors. In: Magyar Épületgépészet. Vol. 65, No. 3 (2016), pp. 11-15. ISSN 1215-9913 (in English)

KOVÁČOVÁ, D.: Analysis of the Summer Use of Solar Energy Systems in Residential Buildings. In: TZB Haustechnik. Vol. 24, No. 1 (2016), pp. 42-45. ISSN 1210-356X (in Slovak)

KRAFČÍK, M. - PERÁČKOVÁ, J.: Measurement of the Volume Flow of Water in an Apartment Building. In: TZB Haustechnik. Vol. 24, No. 5 (2016), pp. 50-53. ISSN 1210-356X (in Slovak)

KRAFČÍK, M. - PERÁČKOVÁ, J.: Hot Water Storage Tanks. In: TechCON. Vol. 12, No. 2 (2016), pp. 4-5. ISSN 1337-3013 (in Slovak)

KRAJČÍK, M. - TAKÁCS, J.: Ventilation Intensity in a High-Rise Building After Complete Retrofit of Its Envelope. In: Pollack Periodica. Vol. 11, No. 1 (2016), pp. 91-100. ISSN 1788-1994 (in English)

KRAJČÍK, M. - TOMASI, R. - SIMONE, A. - OLESEN, B. W.: Thermal Comfort and Ventilation Effectiveness in an Office Room with Radiant Floor Cooling and Displacement Ventilation. In: Science and Technology for the Built Environment. Vol. 22, No. 3 (2016), pp. 317-327. ISSN 2374-4731 (print) (in English)

KUDIVÁNI, L. [Hrčková, L.]: Proposed Heat Resources for Burning Biomass. In: TZB Haustechnik. Vol. 24, No. 4 (2016), pp. 16-18. ISSN 1210-356X (in Slovak)

KURČOVÁ, M.: Heating Control with Different Types of Heat Sources. In: TZB Haustechnik. Vol. 24, No. 5 (2016), pp. 36-38. ISSN 1210-356X (in Slovak)

NÉMETHOVÁ, E. - KRAJČÍK, M.: Building with a Radiant Heating/Cooling Ceiling: How Does the Reconstruction of a Building Affect the Indoor Environment? In: TZB Haustechnik. Vol. 24, No. 2 (2016), pp. 28-32. ISSN 1210-356X (in Slovak)

NÉMETHOVÁ, E. - PETRÁŠ, D. - KRAJČÍK, M.: Operation of a Building with a Heating/Cooling Ceiling After a Retrofit: How Does the Retrofit of a Building at SVF STU Affect the Indoor Environment? In: TZB Haustechnik. Vol. 9, No. 2 (2016), pp. 30-34. ISSN 1803-4802 (in Czech)

NÉMETHOVÁ, E. - STUTTERECKER, W. - SCHOBERER, T. - KRAJČÍK, M.: Deficiencies in the HVAC Systems Operation in a Modern Office Building and Their Solutions. In: Magyar Épületgépészet. Vol. 65, No. 12 (2016), pp. 19-23. ISSN 1215-9913 (in English)

NÉMETHOVÁ, E. - STUTTERECKER, W". - SCHOBERER, T.: Thermal Comfort and HVAC Systems Operation Challenges in a Modern Office Building — Case Study. In: SSP - Journal of Civil Engineering. Vol. 11, No. 2 (2016), pp. 103-114. ISSN 1338-9024 (in English)

NIKOVÁ, I.: Nearly-Zero Energy Buildings (nZEB): The Only Solution. In: Dom a byt. Vol. 22, No. 3 (2016), pp. 12-13. ISSN 1335-6615 (in Slovak)

OLBŘÍMEK, J. - STRAKOVÁ, Z.: Design of Central Ventilation of Block of Flats in Accordance with the Requirements of a Fire Protection Specialist. In: TZB Haustechnik. Vol. 9, No. 4 (2016), pp. 42-45. ISSN 1803-4802 (in Czech)

PERÁČKOVÁ, J.: Safety Drainage of Roof, Balconies and Loggias. In: TZB Haustechnik. Vol. 24, No. 2 (2016), pp. 51-54. ISSN 1210-356X (in Slovak)

PERÁČKOVÁ, J.: Design of the Safety Drainage of Roofs. In: TZB Haustechnik. Vol. 9, No. 2 (2016), pp. 46-49. ISSN 1803-4802 (in Czech)

PERÁČKOVÁ, J.: How to Ensure Roof Drainage During Torrential Rain? In: Správa budov. Vol. 10, No. 4 (2016), pp. 36-39. ISSN 1337-6233 (in Slovak)

PERÁČKOVÁ, J.: Commentary on Decree MH SR No. 240/2016 Z. z. Establishing the Hot Water Temperature at the Point of Delivery: the Rules of Allocations for Heat Output for Domestic Hot Water and Allocations Made of Heat. In: TechCON. Vol. 12, No. 2 (2016), p. 6. ISSN 1337-3013 (in Slovak)

PETRÁŠ, D. - ILLITH, R.: Energy Performance of Buildings with Natural Gas: Usage of Gas in Family Houses with a Heating Supply by 2020. In: SLOVGAS. Vol. 25, No. 5 (2016), pp. 9-13. ISSN 1335-3853 (in Slovak)

PETRÁŠ, D.: Energy Efficiency of Buildings versus Indoor Environmental Quality. In: Eurostav. Vol. 22, No. 9 (2016), pp. 22-25. ISSN 1335-1249 (in Slovak)

PETRÁŠ, D. - KRAJČOVIČ, J.: ZSVTS and Its Action in the Preparation of Euroengineers Slovakia. In: US-China Foreign Language. Vol. 14, No. 11 (2016), pp. 813-819. ISSN 1539-8080 (in English)

SÁNKA, I. - FÖLDVÁRY, V. - PETRÁŠ, D.: Experimental Measurements of  ${\rm CO_2}$  Concentrations and Air Exchange Rates in Residential Buildings. In: TZB Haustechnik. Vol. 24, No. 4 (2016), pp. 46-49. ISSN 1210-356X (in Slovak)

STRAKOVÁ, Z.: The Interaction of a Heating and Ventilation System in the Development of an Internal Environment. In: TZB Haustechnik. Vol. 24, No. 3 (2016), pp. 42-44. ISSN 1210-356X (in Slovak)

SZÁNTHÓ, Z. - TAKÁCS, J.: Hot Water within a District Heating System in Hungary. In: TZB Haustechnik. Vol. 24, No. 6 (2016), pp. 30-33. ISSN 1210-356X (in Slovak)

SZÁNTHÓ, Z. - TAKÁCS, J.: Experience of Hot Water within a District Heating System in Hungary. In: TZB Haustechnik. Vol. 9, No. 3 (2016), pp. 26-29. ISSN 1803-4802 (in Czech)

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VÍCHOVÁ, K. [Malinová, K.]: On the Disrepair of the Pipelines of an Apartment SVB Report Building. In: Komplexná obnova bytových domov 2016. Zelená úsporám energie pri kvalitnej obnove : zborník prednášok. Podbanské, SR, 23. - 25. 11. 2016. 1. ed. Bratislava : Združenie pre podporu obnovy bytových domov, 2016, USB kľúč, pp. 139-142. ISBN 978-80-972493-1-1 (in Slovak)

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#### **Others**

JÁNOŠKOVÁ, T. (ed.): Measurement and Heat Cost Allocation 2016. 1. ed. Bratislava: SSTP, 2016. CD-ROM, 139 pp. ISBN 978-80-89878-02-4 (in Slovak)

PERÁČKOVÁ, J. (ed.). Sanhyga 2016 : zborník prednášok z 21. vedecko - technickej konferencie. Piešťany, SR, 13. - 14. 10. 2016. 1. ed. Bratislava : SSTP, 2016. 222 pp. ISBN 978-80-89216-99-4 (in Slovak)

PETRÁŠ, D. (ed.) - ŠVECOVÁ, Z. (ed.). Heating 2016. 1. ed. Bratislava : SSTP, 2016. CD-ROM. 519 pp. ISBN 978-80-89216-87-1 (in Slovak)

PETRÁŠ, D. (ed.) - ŠVECOVÁ, Z. (ed.). Renewable energy 2016. 1. ed. Bratislava : SSTP, 2016. CD-ROM, 147 pp. ISBN 978-80-89216-91-8 (in Slovak)

STRAKOVÁ, Z. (ed.). Ventilation and Air Conditioning 2016. Green for Energy Savings. 1. ed. Bratislava: Slovenská spoločnosť pre techniku prostredia, 2016. 131 pp. ISBN 978-80-89216-92-5 (in Slovak)

#### Unknown

ČERMANOVÁ, Z. [Krippelová, Z.]: The Consumption of Hot Water and the Energy Balance of Hot Water Preparation in Apartment Houses. 1. ed. Bratislava: Slovenská technická univerzita v Bratislave, 2016. 208 pp. ISBN 978-80-227-4624-3 (in Slovak)

KRAJČÍK, M.: Energy Balance and Indoor Environment of Buildings with Low-Energy Heating and Cooling Systems. 1. ed. Bratislava: Slovenská technická univerzita v Bratislave, 2016. 164 pp. Edícia vedeckých prác. ISBN 978-80-227-4614-4 (in English)

KURČOVÁ, M.: The Influence of Dwelling Renovation on Hydronics in Heating Systems. 1. ed. Bratislava: Slovenská technická univerzita v Bratislave, 2016. 132 pp. Edícia vedeckých prác. ISBN 978-80-227-4626-7 (in Slovak)

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1. ed. Bratislava : Slovenská technická univerzita v Bratislave, 2016. 185 pp. ISBN 978-80-227-4625-0 (in Slovak)

# DEPARTMENT OF ARCHITECTURE

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# 1. EDUCATION

## 1.1 Graduate study

## **Obligatory subjects**

History of Architecture and Civil Engineering

History of Architecture and Art 1

Typology 1

**Drawing and Composition** 

Design Studio 1

History of Architecture and Art 2

Design Studio 2

Composition and Colour in Architecture

Typology 2

Typology 3

Bachelor's Work

Urbanism

Renovation of Buildings and Preservation of Monuments 1

Typology 5

Design Studio 4

Urbanism 2

Design Studio 5

History of Architecture and Art 3

Restoration and Preservation of Monuments 2

Design Studio 6

Urbanism 3

Interior Design 1

Design Studio 7

Design Studio 8

Design Studio 9

Special Seminar

Thesis

Design Studio 10

Internship

### Obligatory elective subjects

Drawing and Modelling

Typology 4

Philosophical, Aesthetic and Compositional Principles in Architectural Design

History of Urban and Rural Settlements

History of Drawing and Sketching

### **Optional subjects**

Interior Design 2

Landscape Design

Humanization and Revitalization of the Built Environment

## 1.2 Postgraduate courses

Doctoral Degree Study: Theory and Construction of Building Structures

# 2. THESES

#### 2.1 Bachelor theses

There were 26 works.

### 2.2 Graduate theses

VAJDULÁK, M.: Winery Supervisor: BORECKÁ, E.

CHLAŇ, M.: Winery Supervisor: BORECKÁ, E.

MARIANKOVÁ, L.: Wellness Centrum Supervisor: HÚSENICOVÁ, J.

PAULECHOVÁ, A.: Hotel in the Mountains

Supervisor: HÚSENICOVÁ, J.

MARTVOŇ, M.: Community Development in Brest, Belarus

Supervisor: HÚSENICOVÁ, J.

VAŇOVÁ, K.: Revitalisation of a Cultural Centre

Supervisor: PAŇÁK,P.

KIABOVÁ, E.: Community Development in Brest, Belarus

Supervisor: PAŇÁK,P.

RUHIG, R.: Community Development in Brest, Belarus

Supervisor: PAŇÁK,P.

PETROVÁ, J.: Winery Supervisor: PAŇÁK,P.

JURKOVIČOVÁ, J.: Leisure and Sports Centre, Stupava

Supervisor: NÁDASKÁ, Z.

REČLOVÁ, M.: Community Centre - Prochoť

Supervisor: DOHŇANSKÁ, E.

GREGUSSOVÁ, J.: Žiar Goat Farm Supervisor: DOHŇANSKÁ, E.

KRUPOVÁ, B.: Student Centre Supervisor: KUBIŠOVÁ, M.

IVOROVÁ, M.: Residential Complex

Supervisor: KURÁŇ, J.

HAJSTER, S.: Amphitheatre Supervisor: BAUER, P.

HODÁKOVÁ, N.: Roman Catholic Church

Supervisor: BAUER, P.

HURŇANSKÝ, Š.: Cottage in the Mountains

Supervisor: BAUER, P.

KAÁNOVÁ, V.: Cultural Centre

Supervisor: BAUER, P.

OGURČÁK, D.: Winery Supervisor: GÜRTLER, I.

MECELE, M.: Winery Supervisor: GÜRTLER, I.

BEŇOVÁ, N.: Winery Supervisor: GÜRTLER, I.

# 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, E. [20 %] - KURÁŇ, Jozef [12 %] - NÁDASKÁ, Z. [12 %] - ŠIMKOVIČOVÁ, V. [12 %] - DOHŇANSKÁ, Z. [12 %] - PILAŘ, P. [12 %] - RUHIG, R. [10 %] - KIABOVÁ, E. [10 %]. Winery Architecture. 1. ed. Bratislava : Pre-um, 2016. 82 pp. ISBN 978-80-972192-4-6.

BRÁNICKÝ, F. [25 %] - KIABOVÁ, E. [30 %] - RUHIG, R. [25 %] - PAŇÁKOVÁ, B. [10 %] - BOJDOVÁ, Z. [10 %]. Archtrip 2016. 1. ed. Bratislava : Pre-um, 2016. 70 pp. ISBN 978-80-972192-77.

KUBIŠOVÁ, M. [64 %] - GÜRTLER, I. [1 %] - BAUER, P. [10 %] - NÁDASKÁ, Z. [15 %] - RUHIG, R. [10 %]. Architecture in the Mountains. 1. ed. Bratislava: Pre-um, 2016. 85 pp. ISBN 978-80-972192-6-0.

KURÁŇ, J. [53 %] - BAUER, P. [3 %] - BORECKÁ, E. [3 %] - BRÁNICKÝ, F. [3 %] - DOHŇANSKÁ, E. [7 %] - GÜRTLER, I. [3 %] - HÚSENICOVÁ, Jarmila [3 %] - KUBIŠOVÁ, M. [3 %] - MUDRONČÍK, M. [3 %] - MELLNER, D. [3 %] - NÁDASKÁ, Z. [3 %] - PILAŘ, P. [7 %] - STRUHAŘOVÁ, P. [3 %] - ŠIMKOVIČOVÁ, V. [3 %]. Design Studio 2016. 1. ed. Bratislava: Pre-um 2016. 77 pp. ISBN 978-80-972192-3-9.

NÁDASKÁ, Z. [90 %] - PILAŘ, P. [10 %]. Architecture and Outdoor Activities . 1. ed. Bratislava : Pre-um, 2016. 73 pp. ISBN 978-80-972192-5-3.

KURÁŇ, J. [54 %] - BAUER, P. [3 %] - BORECKÁ, E. [3 %] - BRÁNICKÝ, F. [3 %] DOHŇANSKÁ, E. [8 %] - GÜRTLER, I. [3 %] - HÚSENICOVÁ, J. [3 %] - KUBIŠOVÁ, M. [3 %] - MUDRONČÍK, M. [3 %] - NÁDASKÁ, Z. [3 %] - PAŇÁK, P. [3 %] - PILAŘ, P. [8 %] - ŠIMKOVIČOVÁ, V. [3 %]. Graduates 2016. 1. ed. Bratislava: Pre-um, 2016. 63 pp. ISBN 978-80-972192-2-2.

## Journals

BORECKÁ, E. [100 %]. Notes on the Activities of the Emil Brüll Construction Company in Bratislava. In: Architecture and Urbanism. Vol 50, Nos. 1-2 (2016), pp. 104-109. ISSN 0044-8680.

BORECKÁ, E. [50 %] - MELLNER, D. [50 %]. The Progressive Constructions in the Works of the Architects of Classical Modernism, Slovakia 1919-1939. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 21-26. ISSN 1660-9336.

HÚSENICOVÁ, J. [50 %] - DOHŇANSKÁ, Z. [50 %]. Selected Aspects of Territorial Development Visions of the Slovak Republic. In: Applied Mechanics and Materials: Advanced Architectural Design and Construction. Vol. 820, (2016), pp. 15-20. ISSN 1660-9336.

SZÁNTOVÁ, G. [95 %] - RYCHTÁRIKOVÁ, M. [5 %]. Indoor Architectural Environment as a Healing Factor for Depression and Seasonal Affective Disorders. In: Applied Mechanics and Materials: Energy Saving and Environmentally Friendly Technologies - Concepts of Sustainable Building. Vol. 824, (2016), pp. 210-217. ISSN 1660-9336.

BORECKÁ, E. [100 %]. New Information about the Manor House in Častá. In: Monuments and Museums. Vol. 65, No. 4 (2016), pp. 40-41. ISSN 1335-4353

MUDRONČÍK, M. [100 %]. Footprints of the Functionalist Architect Juraj Tvarožek in Bratislava. In: Cultural Oxigen. Vol. 3, No. 3 (2016), online, pp. 20-22. ISSN 1339-6919.

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### **Conference Proceedings**

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KIABOVÁ, E. [100 %]. The Importance of Innovation in the Energy Sector. In: Advanced Building Construction and Materials 2016 (ABCM 2016): Proceedings of the Scientific Conference with international participation. Dec. 10th, 2016, Luhačovice, Czech Republic. 1. ed. Ostrava: VŠB - Technical University of Ostrava, Faculty of Safety Engineering, 2016, CD-ROM, pp. 24-28. ISBN 978-80-248-4003-1.

KURÁŇ, J. [100 %]. Multi-storey Car-Parks as Development Infrastructure. In: Advanced Architectural Design and Construction 2016 (AADC 2016): Proceedings of the Scientific Conference with international participation. June 23rd, 2016, Lednice, Czech Republic. 1. ed. Brno: VUT - Brno University of Technology, Faculty of Civil Engineering, 2016, CD-ROM, pp. 55-59. ISBN 978-80-214-5445-3.

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MEŠINA, M. [100 %]. COHOUSING. In: Juniorstav 2016: 18. Proceedings of the Scientific Conference of PHD Students. Brno, ČR, 28. 1. 2016. 1. ed. Brno: VUT Brno, 2016, CD-ROM, [8] pp. ISBN 978-80-214-5311-1.

NÁDASKÁ, Z. [50 %] - SVITEK, J. [50 %]. Revitalization of the Former Train Station Area in Stupava. In: Advanced Building Construction and Materials 2016 (ABCM 2016): Proceedings of the Scientific Conference with international participation. Dec. 10th, 2016, Luhačovice, Czech Republic. 1. ed. Ostrava: VŠB - Technical University of Ostrava, Faculty of Safety Engineering, 2016, CD-ROM, pp. 53-56. ISBN 978-80-248-4003-1.

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RUHIG, R. [100 %]. Functionalism, Disguised Formalism - Reflections on a Conversation with Jan Michal. In: Advanced Building Construction and Materials 2016 (ABCM 2016): Proceedings of the Scientific Conference with international participation. Dec. 10, 2016, Luhačovice, Czech Republic. 1. ed. Ostrava: VŠB - Technical University of Ostrava, Faculty of Safety Engineering, 2016, CD-ROM, pp. 40-47. ISBN 978-80-248-4003-1.

STRUHAŘOVÁ, P. [100 %]. Future of the Educational and Adventure
Areas Oriented Towards Science and Technology. In: Advanced Building
Construction and Materials 2016 (ABCM 2016): Proceedings of the Scientific
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Czech Republic. 1. ed. Ostrava: VŠB - Technical University Ostrava, Faculty of
Safety Engineering, 2016, CD-ROM, pp. 34-39. ISBN 978-80-248-4003-1

ŽJAKOVÁ, D. [Varga, Daniela] [100 %]. Rainwater Infiltration in Urban Areas. In: Advanced Architectural Design and Construction 2016 (AADC 2016): Proceedings of the Scientific Conference with international participation. June 23rd, 2016, Lednice, Czech Republic. 1. ed. Brno: VUT - Brno University of Technology, Faculty of Civil Engineering, 2016, CD-ROM, pp. 34-38. ISBN 978-80-214-5445-3

BRÁNICKÝ, F. [100 %]. Inspiration from the Orava Tradition. In: Advances in Architectural, Civil and Environmental Engineering: 26th Annual PhD Student Conference on Architecture and Construction Engineering, Building Materials, Structural Engineering, Water and Environmental Engineering, Transportation Engineering, Surveying, Geodesy, and Applied Mathematics. 26th Oct. 2016, Bratislava. 1. ed. Bratislava: STU Bratislava, 2016, CD-ROM, pp. 455-462. ISBN 978-80-227-4645-8.

### **Others**

RUHIG, R.: Inspireli Awards 2016., National Slovak Stage, 3rd place.

RUHIG. R. – Kiabová. E.: Isover Multicomfort House: Student Contest, 12th International Stage – Minsk 2016, Participation and Presentation, May 2016.

# 5. ACTIVITY IN THE FIELD OF ART

MELLNER, D. - BORECKÁ, E.: Curators of Exhibition in Trenčianske Teplice : Architecture of the Modern Era. June – July 2016.

PILAŘ, P. - BRÁNICKÝ, F.: Exhibition Pavilion of SvF STU Bratislava International Fair CONECO 2016 Bratislava. April 2016.

PRIBIŠ, M.: Exhibition XXV. Salón 2016 – Participation, Bratislava Gallery SVÚ. April 2016.

ŘEHÁK, I.: Bohemian Chronicle of Václav Hájek from Libočany, 475th Anniversary in print. Silver commemorative medal. Prague Mint. Mar. 2016.

ŘEHÁK, I.: Bohemian Chronicle of Václav Hájek from Libočany, 475th Anniversary in print. Gold coomemorative medal. Prague Mint. Mar. 2016.

ŘEHÁK, I.: Exhibition - Art Medalworld Congress FIDEM XXXIV 2016 – Participation. Driebergen-Rijsenburg (The Netherlands), Sept. 2016.

ŽJAKOVÁ (VARGA), D.: Conversion of Old Hops Storage Building, Báčsky Petrovec, Exhibition in Báčsky Petrovec, Serbia, April 2016.

# INSTITUTE OF FORENSIC ENGINEERING

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# 1. EDUCATION

# 1.1 Graduate study

## **Optional subjects**

Forensic Engineering

Real Estate Valuation

## 1.2 Postgraduate courses

Specialized courses for experts in the Building Industry field

Specialized courses concerning the performance method of expert activities

Specialized courses on "Improvement of Experts"

Specialized courses on "Technical Aspects of Real Estate"

# 3. RESEARCH

## 3.2 International cooperation

Cooperating institutions

VUT Brno, Czech Republic,

VŠB Ostrava, Czech Republic

# 4. PUBLICATIONS

#### **Journals**

GREGUŠOVÁ, S.: Technical Aspects of Working with Real Estate. In Almanach znalca. Vol. 16, No. 1 (2016), pp. 34-35. ISSN 1336-3174 (in Slovak)

GREGUŠOVÁ, S.: Land Valuation Designed for Compensatory Measures. In Almanach znalca. Vol. 16, No. 3 (2016), CD-ROM, pp. 31-34. ISSN 1336-3174 (in Slovak)

KALINOVÁ, G. - PETRÁKOVÁ, Z.: Project Pipeline Management. In Terra Spectra STU. Planning Studies. Vol. 8, No. 2 (2016), pp.3-6. ISSN 1338-0370 (in English)

PETRÁKOVÁ, Z. - JURIGOVÁ, M. - DVORSKÝ, J.: Comparison of Development of Housing Construction in Regions of Slovakia and Czech Republic. In Chinese Business Review. Vol. 15, no. 6 (2016), pp. 282-289. ISSN 1537-1506 (in English)

## **Conference Proceedings**

NIČ, M.: Valuation of Real Estate Abroad - The Slovak Republic. In Teorie a praxe oceňování nemovitých věcí. 1. ed. Brno : Akademické nakladatelství CERM, 2016, pp. 698-714. ISBN 978-80-7204-930-1 (in Slovak)

# **DEPARTMENT OF LANGUAGES**

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# 1. EDUCATION

# 1.1 Graduate study

English

German

## 1.2 Postgraduate courses

Ph.D. courses in Advanced English

# 3. RESEARCH

## 3.1 International cooperation

British Council, Bratislava, Slovakia Institute of Technology, Tralee, Ireland

### 3.2 Educational project

Lifelong Learning Programme

Vocationally Oriented Culture and Language in the Medical Emergency Sector 2014 - 2016

(ŠPILDOVÁ, D.), VOCAL - Medical LLP/LdV/TOI/2013/IRL-506

# 3. PUBLICATIONS

#### **Books**

HOBOTH KRALINA, K.: Water Management and Water Structures: Textbook with Exercises. Vol. 1. Bratislava: Slovak University of Technology, 2016. Edition of university textbooks. 126 pp., ISBN 978-80-227-4528-4 (in German)

PÁLOVÁ, A.: Communication Schemata in Civil Engineering. Part 1 [CD-ROM]. Vol. 1, Bratislava: Slovak University of Technology, 2016, Edition of university textbooks, 99 pp., ISBN 978-80-227-4621-2 (in German)

### **Conference Proceedings**

HOBOTH KRALINA, K.: University Education and Employment in the Labour Market in Slovakia. In: Gondolkodási struktúrák és kreativitás [electronic source]: XIX. Apáczai-napok Nemzetközi Tudományos Konferencia. Tanulmánykötet. Győr, Magyarország, Oct. 2015, Vol.1, Győr: Széchenyi István Egyetem Apáczai Csere János Kar, 2016, CD-ROM, pp. 63-70. ISBN 978-615-5391-80-4 (in Hungarian)

KORBAŠOVÁ, M.: Evaluation of Quality of Teaching Technical English Using Aggregation Operators. In: Gondolkodási struktúrák és kreativitás [electronic source]: XIX. Apáczai-napok Nemzetközi Tudományos Konferencia. Tanulmánykötet. Győr, Magyarország, Oct. 2015, Vol.1, Győr: Széchenyi István Egyetem Apáczai Csere János Kar, 2016, CD-ROM, pp. 179-185. ISBN 978-615-5391-80-4 (in English)

KORBAŠOVÁ, M.: Using Applied Mathematics for Evaluations of the Quality of Teaching the English Language. In MAGIA 2015: Mathematics, Geometry and Their Applications. Proceedings. Kočovce, SR, Oct. 2015, Vol.1, Bratislava: Slovak University of Technology in Bratislava, 2016, pp. 20-30. ISBN 978-80-227-4611-3 (in Slovak)

ŠPILDOVÁ, D.: Multilingual E-Learning Projects. In: Gondolkodási struktúrák és kreativitás [electronic source]: XIX. Apáczai-napok Nemzetközi Tudományos Konferencia. Tanulmánykötet. Győr, Magyarország, Oct. 2015, Vol.1, Győr: Széchenyi István Egyetem Apáczai Csere János Kar, 2016, CD-ROM, pp. 214-218. ISBN 978-615-5391-80-4 (in English)

ŠPILDOVÁ, D.: Problems in the Methodology of Teaching Foreign Languages at the Master's Degree Level. In: La porte des langues s'ouvre aux hommes VI.: actes des publications scientifiques internationales (Gateway of Languages to People Opened VI.: International Scientific Proceedings), Vol 1., Paris: Association Amitié Franco-Slovaque, 2016, pp. 225-234. ISBN 978-2-9536153-7-1 (in Slovak)

#### Reviewing

GAMBRILL, D.: Annual Report 2015

GAMBRILL, D.: Journal of Civil Engineering

GAMBRILL, D.: Papers for Sopron Conference, Oct. 2016

# DEPARTMENT OF PHYSICAL EDUCATION

**Head of Department** 

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# 1. EDUCATION

# 1.1 Graduate study

# **Optional Subjects**

Aerobics

Basketball

Swimming

Volleyball

Football

Skiing

Water Sports /Kayaking, Canoeing/

Tennis

Squash

Floorball

Hiking

Aquagymnastics

Badminton

# 3. RESEARCH

## Cooperation

The Faculty of Physical Education and Sports, Comenius University, Bratislava, Slovakia .

# DEPARTMENT OF HUMANE SCIENCES

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## 1. EDUCATION

## 1.1 Graduate study

## **Obligatory subjects**

Construction and Commercial Law

Construction and Land Law

Construction Law

Basic Law

Enterpreneurship Law

Environmentalism

History of Architecture and Civil Engineering

Land Law

Law

Legal Forms of Enterpreneurships

Sociology

#### Obligatory elective subjects

Commercial Law

Construction Law

**Engineering Ethics** 

**Environmental Law** 

Geoecology

Globalization

Macroeconomics

Philosophy

Political Science

Sociology

# 3. RESEARCH

### 3.2 International cooperation

Czech Technical University, Prague, Czech Republic

# 4. PUBLICATIONS

#### Parts of Books

HERETIKOVÁ, K.: Globalization and Sustainable Development. In: Human-Technology-Culture. Prešov: Technická univerzita v Košiciach, Fakulta výrobných technológií, 2016, CD-ROM, pp. 92-96. ISBN 978-80-553-2598-9 (in English)

#### **Journals**

GAJDIČIAR, V. - GAJNIAK, J. F.: Presumptive Principle of Innocence and the Right Not to Incriminate: Strasbourg Case Law in Selected Jurisdictions. In: Corpus Delicti. No. 2 (2016), pp. 26-28. ISSN 1338-6603 (in Slovak)

HERETIKOVÁ, K.: - PILCH, Ctibor. Introduction to the Questions of Ethics in Finance. In: FOR FIN. Vol. 3, No. 5 (2016), online, [4]. ISSN 1339-5416 (in Slovak)

HERETIKOVÁ, K. - PILCH, C.: Code of Ethics in Financial Institutions. In: FOR FIN. Vol. 3. No. 5 (2016), online, [5] ISSN 1339-5416 (in Slovak)

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HERETIKOVÁ, K.: The Issue of Codes of Ethics in Banking Subjects. In: FOR FIN. Vol. 3, no. 11 (2016), online, [7] ISSN 1339-5416 (in Slovak)

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BERNÁT, L. - ZAJACOVÁ, J.: The importance of Human Communication for Students of Technical Universities. In: Humanities Education at Technical Universities. Bratislava, SR, 29. 11. 2016. Bratislava: Slovenská technická univerzita v Bratislave, 2016, CD-ROM, pp. 5-11. ISBN 978-80-227-4637-3 (in Slovak)

FRANKOVSKÁ, J. - ZAJACOVÁ, J.: Development of Integrated EU Wide Registration System of Ground Engineering. problémy v inžinierskej geológii a geotechnike. 16. -17. 6. 2016 = Geo - Engineering 2016, Engineering Geology and Geotechnical Engineering in Civil Engineering Practice. Proceedings of the 8th Slovak Conference. Bratislava: Slovenská technická univerzita v Bratislave, 2016, CD-ROM, [9] ISBN 978-80-227-4573-4 (in Slovak)

FRANKOVSKÁ, J. - ZAJACOVÁ, J. - DURMEKOVÁ, T.: Legislative Aspects of Landslides Stabilization Design in Slovakia. In: SGEM 2016. 16th International Multidisciplinary Scientific GeoConference. Book 1. Science and Technologies in Geology, Exploration and Mining: conference proceedings. Albena, Bulgaria, 30 June - 6 July 2016. 1. ed. Sofia: STEF 92 Technology, 2016, pp. 887-892. ISSN 1314-2704. ISBN 978-619-7105-55-1 (in English)

GAJNIAK, J. F.: Changes in Construction Legislation in 2016. In: Science, Technology and Social Studies in Education at Technical Universities. Bratislava, SR, 30. 6. 2016. Slovenská technická univerzita v Bratislave, Stavebná fakulta, 2016, CD-ROM, pp. 71-75. ISBN 978-80-227-4576-5. (in Slovak)

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GAJNIAK, J. F. - GAJNIAK, O.: Structure of the Humanities Education for Selected Technical Universities in Selected V4 Countries and Austria. In: Humanities Education at Technical Universities Bratislava, SR, 29. 11. 2016. Bratislava: Slovenská technická univerzita v Bratislave, 2016, CD-ROM, pp. 59-64. ISBN 978-80-227-4637-3 (in Slovak)

HERETIKOVÁ, K.: Social Sciences as a Part of the Humanization of Education at Technical Universities. In: Science, Technology and Social Studies in Education at Technical Universities. Bratislava, SR, 30. 6. 2016. Bratislava : Slovenská technická univerzita v Bratislave, Stavebná fakulta, 2016, CD-ROM, pp. 79-84. ISBN 978-80-227-4576-5 (in Slovak)

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#### **Others**

ZAJACOVÁ, J. (ed.): Science, Technology and Social Studies in Education at Technical Universities . Bratislava : Slovenská technická univerzita v Bratislave, Stavebná fakulta, 2016. CD-ROM, 159 pp. ISBN 978-80-227-4576-5 (in Slovak)

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