



SLOVAK UNIVERSITY OF  
TECHNOLOGY IN BRATISLAVA  
FACULTY OF CIVIL ENGINEERING

# 2017

# ANNUAL REPORT

of the Faculty of Civil Engineering

Bratislava

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# INTRODUCTION

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

In accordance with the Bologna Declaration, **the studies** at the Faculty of Civil Engineering have three levels that implement the credit system for assessments. The instruction is realized in 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 more than 50% of the students took part in this anonymous survey. We require the lecturers to consider this information and respond to the students by an email sent to all of them. The students said they appreciated this activity at several meetings.

In compliance with the provisions of the Act on Higher Education, creative scientific and research work is an integral part of the university's educational activities. Over the long run **the strategy of the scientific-research work** of FCE, STU in Bratislava is based on the national policy on science as well as predicted European and world trends in civil engineering and geodesy. The bodies of the Faculty have discussed, and the Scientific Board has approved, a new principal research orientation, while considering the condition of the experimental bases of the departments, the development of which was a priority for achieving a higher standard of outcomes. In the field of scientific-research activities, the Faculty of Civil Engineering will aim at intelligent construction and transportation systems, modern materials and constructions, modelling the processes of the internal environments of buildings, protection of the environment and renewable energy sources, automatic control systems

in civil engineering, the safety and reliability of constructions, optimization of planning, exploitation of hydraulic structures and their interactions with the environment, and integrated protection from hydrospheric extremes, including the monitoring of global and regional changes to the environment.

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

Within the framework of **the Operational Research and Development Program**, the Faculty 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.

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

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

The 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. 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 2017, 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 roof on A block etc.

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

In the future it will be possible to continue this trend only through a higher degree of quality, not only in the Faculty's pedagogy and research, but also by focusing on international cooperation.

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# BODIES OF THE FACULTY

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## 1. THE DEAN OF THE FACULTY

Prof. Ing. Stanislav Unčák, PhD.

## 2. THE PRESIDIUM OF THE FACULTY

Prof. Ing. Stanislav Unčák, PhD.

Prof. Ing. Ján Szolgay, PhD.

Assoc. Prof. Ing. Peter Makýš, PhD.

Prof. Ing. Vladimír Benko, PhD.

Ing. Peter Kyrinovič, PhD.

Ing. Tomáš Šatura

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

Adam Beneš

Ing. Miloslav Štujber

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

## 3. THE DEAN'S COUNCIL

Prof. Ing. Stanislav Unčák, PhD.

Prof. Ing. Ján Szolgay, PhD.

Assoc. Prof. Ing. Peter Makýš, PhD.

Prof. Ing. Vladimír Benko, PhD.

Ing. Peter Kyrinovič, PhD.

Ing. Tomáš Šatura

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

Adam Beneš

Ing. Miloslav Štujber

Prof. Ing. Juraj Bilčík, PhD.

Ing. Tibor Schlosser, PhD.

Assoc. Prof. Ing. Juraj Janák, PhD.

Prof. Ing. Alojz Kopáčik, PhD.

Assoc. Prof. Ing. Ivan Slávik, PhD.,

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

Prof. Ing. Viliam Macura, PhD.	– Head of Department of Land and Water Resources Management
Prof. Ing. Peter Dušička, PhD.	– Head of Department of Hydraulic Engineering
Prof. Ing. Boris Bielek, PhD.	– Head of Department of Building Construction
Assoc. Prof. Ing. Rudolf Ároch, PhD.	– Head of Department of Steel and Timber Structures
Prof. RNDr. Radko Mesiar, DrSc.	– Head of Department of Mathematics and Descriptive Geometry
Prof. RNDr. Igor Medved', PhD.	– Head of Department of Physics
Prof. Ing. Norbert Jendželovský, PhD.	– Head of Department of Structural Mechanics
Ing. Alena Struhárová, PhD.	– Head of Department of Material Engineering
Prof. Ing. Jozef Gašparík, PhD.	– Head of Department of Building Technology
Assoc. Prof. RNDr. Ivona Škultétyová, PhD.	– Head of Department of Sanitary and Environmental Engineering
Prof. Ing. Dušan Petráš, PhD.	– Head of Department of Building Services
PhDr. Dagmar Špíldová	– Head of Department of Languages
Mgr. Zuzana Híkl	– Head of Department of Physical Education
JUDr. Janka Zajacová, PhD.	– Head of Department of Humanities
Assoc. Prof. Ing. arch. Jarmila Húsenicová, PhD.	– Head of Department of Architecture
Assoc. Prof. Ing. Zora Petráková, PhD.	– Head of Institute of Forensic Engineering

## 4. THE 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. Norbert Jendželovský, PhD.	– Department of Structural Mechanics
Prof. Ing. Milan Sokol, PhD.	– Department of Structural Mechanics
Prof. Ing. Andrej Šoltész, PhD.	– Department of Hydraulic Engineering
Assoc. Prof. Ing. Arch. Ľubica Vítková, PhD.	– Dean of the Faculty of Architecture, STU



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

Prof. Ing. Ján Čelko, PhD., Faculty of Civil Engineering	– University of Žilina
Assoc. Prof. Ing. Peter Černík, PhD.	– STRABAG Development Slovakia, Ltd.
Assoc. Prof. RNDr. Ján Feranec, DrSc.	– Geographical Institute SAS Bratislava
Prof. Ing. Mária Kozlovská, PhD.	– Faculty of Civil Engineering, Technical University of Košice
Ing. Peter Matiašovský, CSc.	– Institute of Construction and Architecture SAS Bratislava
Prof. RNDr. Daniel Ševčovič, CSc.	– Faculty of Mathematics, Physics and Informatics, Comenius University Bratislava
Assoc. Prof. Ing. Peter Halaj, CSc.	– Faculty of Horticulture and Landscape Engineering, Slovak University of Agriculture in Nitra
RNDr. Pavla Pekárová, DrSc.	– Slovak Academy Of Sciences, Bratislava

## Members of the Scientific Board (honorary members)

Prof. Ing. Alena Kohoutková, CSc.	– Dean of the Faculty of Civil Engineering ČVUT Prague
Prof. Ing. Miroslav Bajer, CSc.	– Dean of the Faculty of Civil Engineering VUT Brno
Prof. Ing. Radim Čajka, CSc.	– Dean of the Faculty of Civil Engineering VŠB TU Ostrava
Prof. Ing. Josef Vičan, CSc.	– Dean of the Faculty of Civil Engineering ŽU Žilina
Prof. Ing. Vincent Kvočák, PhD.	– Dean of the Faculty of Civil Engineering TU Košice
Ing. Mária Frindrichová	– Head of the Geodesy, Cartography and Cadastre Authority of the Slovak Republic
Ing. Pavol Kováčik, PhD.	– MBA, President of the Association of Construction Entrepreneurs in Slovakia
Ing. Ján Hardoš	– Chairman of the Board of the Chamber of Surveyors and Cartographers
Ing. arch. Imrich Pleidel	– Chairman of the Slovak Chamber of Architects

## 5. THE FACULTY'S ACADEMIC SENATE

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.

### Presiding Officers:

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

## Employees

Assoc. Prof. Ing. Nad'a Antošová, PhD.  
 Assoc. Prof. Ing. Katarína Bačová, PhD.  
 prof. Ing. Ivan Baláž, PhD.  
 Ing. Peter Buday, PhD.  
 Ing. Marek Fraštia, PhD.  
 Mgr. Zita Herzánová  
 Assoc. Prof. Ing. arch. Jarmila Húsenicová, PhD.  
 Assoc. Prof. Ing. Ľuboš Hruštinec, PhD.  
 Assoc. Prof. Ing. Ladislav Husár, PhD.  
 Assoc. Prof. Ing. Oľga Ivánková, PhD.  
 prof. Ing. Silvia Kohnová, PhD.  
 Ing. Mária Kurčová, PhD.  
 Assoc. Prof. Ing. Ľudovít Možiešik, PhD.  
 PhDr. Alžbeta Pálová, PhD.  
 Assoc. Prof. Ing. Gabriela Pavlendová, PhD.  
 Assoc. Prof. Ing. Zora Petráková, PhD.  
 Ing. Alena Struhárová, PhD.  
 Assoc. Prof. RNDr. Ivona Škultétyová, PhD.

## Students

Lucia Barborková  
 Bc. Miroslav Kováčik  
 Juraj Ledecký  
 Adam Mackovčín  
 Bc. Nora Naddourová  
 Tomáš Šaliga  
 Bc. Michaela Štefanovičová  
 Milan Švolík  
 Nina Velická

## 6. THE INDUSTRY BOARD

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

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

### Members of the Industry Board:

Prof. Ing. Vladimír Benko, PhD., Faculty of Civil Engineering STU, Vice-Dean for PR, Chair of the Slovak Chamber of Civil Engineers  
 Ing. Igor Beroun, Director General of JOHNSON CONTROLS CR and SR  
 Ing. Mikuláš Bobik, Director of Applied Precision, Ltd.  
 Mgr. Magdaléna Dobišová, Chairman of the Board and General Director of Skanska SK a. s.  
 Prof. Ing. Ľudovít Fillo, PhD., Faculty of Civil Engineering STU Bratislava  
 Ing. Ľuboš Fúsek, Director of BAUMIT, Ltd.  
 Ing. Stanislav Gáborík, General Director of the Slovak Water Management Enterprise  
 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 Kopáček, PhD., President of the Association ABF Slovakia, Faculty of Civil Engineering STU Bratislava
- Ing. Lubica Kopčová, General Director of the Research Institute for Water Management, Chairman of the Executive Board of the Association of Employers in Water Management in Slovakia
- Ing. Arch. Ivan Kubík, Ateliér Ivan Kubík, Ltd.
- Ing. Peter Kyrinovič, PhD., Vice-Dean for Faculty Development, Faculty of Civil Engineering STU Bratislava
- Ing. Miroslav Leško, Director, Premac
- Ing. Pavol Kováčik, PhD., MBA, President of the Association of Construction Entrepreneurs in Slovakia
- Ing. Zsolt Lukáč, EMBA, Chairman of the Board of Directors, Bratislava Water Company
- Ing. Ján Majerský, Director of PROMA, Ltd.
- Assoc. Prof. Ing. Peter Makýš, PhD., Vice-Dean for Education, FCE STU Bratislava
- Prof. Ing. Dušan Petráš, PhD., President of ZSVTS, FCE STU Bratislava
- Ing. Ladislav Piršel, Slovak Council for Green Buildings
- Ing. Slavomír Podmanický, General Director of REMING Consult, a.s.
- Ing. Peter Pochaba, T-Klíma, Ltd.
- Ing. Jozef Ružanský, General Director of Drevona, a.s.
- Ing. Vladimír Stromček, Director of Geodézia, a.s. Žilina, member of the Board of the Chamber of Surveyors and Cartographers
- Assoc. Prof. Ing. Peter Suchánek, PhD., procurement officer, head of the branch of window and façade systems, REHAU, Ltd.
- Prof. Ing. Ján Szolgay, PhD., Vice-Dean for Science, Research and International Relations, FCE STU Bratislava
- Ing. Ján Šedivý, Chairman of the Board and Director of the company, SCS UNI&Co., a.s.
- Ing. Róbert Šinály, General Director EUROVIA SK, a.s.
- Prof. Ing. Andrej Šoltész, PhD., Alumni Chairman of FCE STU Bratislava
- Ing. Vladimír Uhlík, General Director of Geodézia a.s.
- Prof. Ing. Stanislav Unčík, PhD., Dean of FCE STU Bratislava
- Ing. Ján Záhradník, Sales Director of Doprastav, a.s. Directorate General
- Ing. František Zvrškovec, President of Divident Group Sk



# DEPARTMENTS



# DEPARTMENT OF CONCRETE STRUCTURES AND BRIDGES

Head of Department

Prof. Ing. Juraj Bilčík, PhD.

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Fax: +421 2 529 26 213

E-mail: juraj.bilcik@stuba.sk

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Advanced Topics of Concrete Structures (Slovak and English)

Concrete and Masonry Members

Concrete Bridges I, II (Slovak and English)

Concrete Load-Bearing Members

Concrete Members (Slovak and English)

Concrete Structures I, II (Slovak and English)

Concrete Structures of Civil Engineering Works

Design Realization of Civil Engineering Works

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

### 1.2 Postgraduate courses

Experimental Assessment of Concrete Structures

Modelling of Concrete Structures

Reliability and Strengthening of Concrete Structures

Special Problems of Concrete and Masonry Structures

Special Problems of Concrete Bridges

Structural Materials and Systems

## 2. THESES

### 2.1 Bachelor theses

There was 1 work.

### 2.2 Graduate theses

BABULIAK, J.: Shopping Center – Precast Reinforced Concrete Structure  
Supervisor: SONNENSCHNEIDER, R.

BEREŠÍKOVÁ, M.: Office Building – Monolithic Reinforced Concrete  
Construction  
Supervisor: SONNENSCHNEIDER, R.

BRIGANT, E.: Office and Multifunctional Building, Kolbenova, Prague –  
Building A. Reinforced Concrete Structure with Flat Slabs and Reinforcing  
Cores  
Supervisor: ABRAHOIM, I.

BUBELÍNÝ, L.: Residential Dwelling – Monolithic Reinforced Concrete  
Structure  
Supervisor: HOLLÝ, I.

ČIČMANEC, M.: High-Rise 22-Storey Multifunctional Building  
Supervisor: BENKO, V.

DOBŘÝ, J.: High-Rise Hotel Building  
Supervisor: BARTÓK, A.

DRINKA, J.: Prestressed Concrete Bridge Across the River Morava  
Supervisor: FILLO, L.

FEDÁK, M.: Student Dormitory – Monolithic Reinforced Concrete Construction  
Supervisor: HOLLÝ, I.

FODOR, G.: High – Rise Building with a Twisted Shape  
Supervisor: FILLO, L.

GRIČOVÁ, D.: The Bridge on Highway R1 Above the Nitra River  
Supervisor: HALVONIK, J.

HÖRMANN, T.: High Rise Monolithic Construction  
Supervisor: HOLLÝ, I.

HULINI, P.: Bus Station with an Office Building – 5-Storey Tall Suspended  
Structure  
Supervisor: BENKO, V.

JÉGEROVÁ, V.: Multifunctional Building – Monolithic Reinforced Concrete  
Structure  
Supervisor: HOLLÝ, I.

KRAMARČÍK, A.: Footbridge over Nitra in Topoľčany – Extradosed Alternative  
Supervisor: PAULÍK, P.

LIŠKOVÁ, A.: Suspended 5-Storey Administrative Building  
Supervisor: BENKO, V.

LUKÁČ, P.: Administrative Building – Monolithic Reinforced Concrete Structure  
Supervisor: BORZOVIČ, V.

MIKULÁŠ, P.: Bus Terminal in Banská Bystrica  
Supervisor: ŠOLTÉSZ, J.

MILOVÁ, E.: Bridge on Highway D4 over the Danube in Nitra  
Supervisor: HALVONIK, J.

ONDRUŠ, P.: Multifunctional Residential Building in Petržalka, Rusovská cesta,  
Bratislava, Monolithic Reinforced Concrete Structure with Stiffening  
Supervisor: ABRAHOIM, I.

PETRO, R.: Hotel\*\*\*, Staré Grunty, Bratislava – Monolithic Reinforced  
Concrete Combined Structure with Reinforcement  
Supervisor: ABRAHOIM, I.

RYBECKÁ, D.: Leisure Center – Precast Reinforced Concrete Structure  
Supervisor: HOLLÝ, I.

SIVČÁK, A.: High-Rise Residential Building. Monolithic Reinforced Concrete  
Construction.  
Supervisor: BARTÓK, A.

STAŇO, T.: Load – Bearing Structure of a High – Rise Building in an Office  
Center  
Supervisor: GRAMBLIČKA, Š.

STRÁSKY, J.: Multifunctional High-Rise Building. Monolithic Reinforced  
Concrete Construction.  
Supervisor: BARTÓK, A.

SŮLIOVÁ, O.: Office Building – Monolithic Reinforced Concrete Structure  
Supervisor: BORZOVIČ, V.

VARGA, G.: Reinforced Concrete Silo for Malt  
Supervisor: HUDOBA, I.

VIDAKOVIČ, A.: Construction of Prestressed Biogas Plant  
Supervisor: ŠOLTÉSZ, J.

## 2.3 Doctoral theses

KENDICKÝ, P.: Numerical and Experimental Analysis of Slender Concrete  
Columns  
Supervisor: BANKO, V.

MAJTÁNOVÁ, L.: The Maximum Punching Shear Resistance of Flat Slabs with  
Shear Reinforcement  
Supervisor: HALVONIK, J.

## 3. RESEARCH

### 3.1 Research projects

Analysis of Reliability Risks in the Design and Execution of Concrete Structures  
(2015-2017, BILČÍK, J.), VEGA 1/0583/15

Punching Resistance of Flat and Foundation Slabs and Footings  
(2016-2018, HALVONÍK, J.), VEGA 1/0810/16

Non-Metallic Reinforcement for Concrete Structures Made in Slovakia and  
Innovative Design Methods to Prevent the Progressive Collapse of Concrete  
Structures  
(2016-2020, BENSKO, V.), APVV-15-0658

Non-Linear Analysis of Concrete and Composite Structures  
(2017-2019, FILLO, L.), VEGA 1/0456/17

### 3.2 International cooperation

#### Cooperating institutions

Klokner Institute ČVUT Prague, Czech Republic

ETH – Laboratory for Building Materials, ETH Zurich, Switzerland

Baustoffinstitut, TU Munich, Germany

Institut für Baustatik und Konstruktion, ETH Zurich, Switzerland

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

RIB Bausoftware, Stuttgart, Germany

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

European Commission, DG Research, Brussels, Belgium

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

St. Paul University, Brussels, Belgium

Fachhochschule Braunschweig – Wolfenbütel, Germany

Institut für Massivbau, TU Darmstadt, Germany

Fachhochschule Coburg, Germany

#### Membership in international professional organizations

BENKO, V.: Austrian Standard Institute. Member of Standard Committees –  
ON-K 010, ON-AG 010 01, ON-K 176, ON-AG 176 02

BENKO, V.: American Society of Civil Engineers

BENKO, V.: ECEC European Council of Engineers Chamber – Delegate

BENKO, V.: ECCE European Council of Civil Engineers – Delegate

BENKO, V.: CEN TC 2520 – SC2 Eurocodes – Design of Concrete Structures  
WG1 Group

BILČÍK, J.: American Concrete Institute – Delegate

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



BORZOVIČ, V.: PIARC –World Road Company – Task Group STD Committee D.3 Bridges

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

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

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

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

GAJDOŠOVÁ, K: CEN TC 250 Eurocodes

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

PAULÍK, P.: FIB International- deputy of Slovakia

PAULÍK, P.: Task Group FIB: TG 1.1 Bridges, WP1.1.5 Management of Prestressed Concrete Bridges

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PAŽMA, P. – HALVONÍK, J. – BORZOVIČ, V.: Analysis of Secondary Effects Due to Prestressing at Continuous Concrete Beams at Ultimate Limit State. *Advances and Trends in Engineering Sciences and Technologies II: proceedings of the 2nd International Conference on Engineering Sciences and Technologies*. High Tatras Mountains, Tatranské Matliare, Slovak Republic, 29 June - 1 July 2016. 1. ed. London: Taylor & Francis Group, 2017, pp. 219-224. ISBN 978-1-138-03224-8 (in English)

PECNÍK, M. – BORZOVIČ, V. – LACO, K.: Non-Linear FEM Analysis of Integral Bridges Transition Area. *Solid State Phenomena: 23rd Concrete Days 2016*. Nov. 30 and Dec. 1, 2016, Litomyšl, Czech Republic. Vol. 259, (2017), pp. 152-157. ISSN 1012-0394 (in English)

PECNÍK, M.: Specifics of Integral Bridge Design. *Advances in Architectural, Civil and Environmental Engineering : 27th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Geodesy and Cartography, Landscaping, Building Technology, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Theory and Environmental Technology of Buildings, Water Resources Engineering*. 25. Oct. 2017, Bratislava, Slovakia. 1. ed. Bratislava: Spektrum STU, 2017, CD-ROM, pp. 353-357. ISBN 978-80-227-4751-6 (in Slovak)

UNČÍK, S. – BENKO, V.: Utilization of Expansion Cement for the Remediation of Reinforced Concrete. *Sanácia betónových konštrukcií: zborník príspevkov z 10. seminára*. Smolenice, SR, 7. - 8. 12. 2017. Bratislava: IRIS, 2017, pp. 111-116. ISBN 978-80-8200-014-9 (in Slovak)

VALAŠÍK, A.: Pre-Tensioned Concrete Slabs with a GFRP Reinforcement. In *Juniorstav 2017: 19<sup>th</sup> International Conference of PhD Students*. 1. Ed. Brno: Vysoké učení technické v Brně, 2017, USB key, [6] p. ISBN 978-80-214-5473-6 (in Slovak)

VALAŠÍK, A.: Experimental Examination of Strains in GFRP Rebars for Pretensioned Elements. *Advances in Architectural, Civil and Environmental Engineering : 27th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Geodesy and Cartography, Landscaping, Building Technology, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Theory and Environmental Technology of Buildings, Water Resources Engineering*. 25. Oct. 2017, Bratislava, Slovakia. 1. ed. Bratislava: Spektrum STU, 2017, CD-ROM, pp. 358-362. ISBN 978-80-227-4751-6 (in Slovak)

VIDA, R. – HALVONÍK, J.: Influence of Compressive Stress on Shear Force Distribution. *Engineering Mechanics 2017: book of full texts*. 23rd International Conference. May 15-18, 2017, Svatka, Czech Republic. 1. ed. Brno: Brno University of Technology, 2017, pp. 1026-1029. ISSN 1805-8248. ISBN 978-80-214-5497-2 (in English)

VIDA, R. – HALVONÍK, J.: Shear Resistance of Slabs Subjected to Concentrated Loads. *Solid State Phenomena: 23rd Concrete Days 2016*. Nov.30 and Dec. 1, 2016, Litomyšl, Czech Republic. Vol. 259, (2017), pp. 135-139. ISSN 1012-0394 (in English)

VIDA, R.: Experimental Verification of Local Load Transverse Redistribution on Cantilever Slabs. *Advances in Architectural, Civil and Environmental Engineering : 27th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Geodesy and Cartography, Landscaping, Building Technology, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Theory and Environmental Technology of Buildings, Water Resources Engineering*. 25. Oct. 2017, Bratislava, Slovakia. 1. ed. Bratislava: Spektrum STU, 2017, CD-ROM, pp. 363-368. ISBN 978-80-227-4751-6 (in Slovak)

# DEPARTMENT OF TRANSPORTATION ENGINEERING

Head of Department

Ing. Tibor SCHLOSSER, CSc.

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Airport Planning and Design

Bachelor Thesis

Design and Realization of a Road

Design Studio of Urban Planning I

Design Studio of Urban Planning II

Design Studio of Spatial Planning

Diploma Thesis

Ecology of Urban Settlements and Urban Transportation Design

Environmental Transport

Excursion

Modeling of Transport Structures

Pavement Diagnosis and Reconstruction

Pavement Mechanics

Project: Road Constructions

Railway

Road Construction

Assessing the Quality of Road Construction

Roads and Motorways

Roads in Urban Areas

Road Intersections

Territorial Transport Systems

Town and Land Use Planning

Traffic Management

Transport Structure Engineering

Transportation Planning

Urban Roads and Infrastructure

#### Obligatory elective subjects

Design and Realization of a Transport Infrastructure

Ecology of Urban Settlements and Urban Transportation Planning

Project II

Project II: Transport Infrastructure

Selected Chapters on Roads and Motorways

Special Lectures of Transportation Structures

Technology of Engineering Construction

Transport Construction

Urban Transportation Planning

Urban Planning I

## 2. THESES

### 2.1 Bachelor theses

There were 12 works.

### 2.2 Graduate theses

BORŠ, M.: Design of Urban Tram Line Route L. Štúr Sq.– Pribinova Karadzicova in the Metropolitan Area of Bratislava  
Supervisor: SCHLOSSER, T.

HASÁK, M.: Design of Boulevard at Jantárová Street in Bratislava – Petržalka  
Supervisor: SCHLOSSER, T.

JANČÁR, T.: Design of Station Gridiron of Bratislava – Filiálka Railway Station with a Connection to the Bratislava Predmestie Station  
Supervisor: SCHLOSSER, T.

JEVIŇOVÁ, A.: Impact of Cellulose Fiber Pellets with Rubberized Asphalt Material on the Properties of Asphalt Mixtures  
Supervisor: ČÁPAYOVÁ, S.

KOŠTIAL, M.: Principles for the Assessment of a Public Transport Carrying System in the New Structure of a Settlement – an Example from Bratislava  
Supervisor: SCHLOSSER, T.

KOZÁK, O.: Road Design – Ring Road of Vranov nad Topľou  
Supervisor: BAČOVÁ, K.

KOVALÍK, M.: Road Design – Sabinov Bypass  
Supervisor: BAČOVÁ, K.

LALÍK, M.: Photovoltaic Road Covers  
Supervisor: GSCHWENDT, I

MINAROVIECH, R.: Study for Rebuilding the D1 Express Highway Intersection with the I/61 Roadway  
Supervisor: BAČOVÁ, K.

NEMEC, N.: Proposed Traffic Service in the Area of the Riverbank Near the SNP Bridge in Bratislava  
Supervisor: SCHLOSSER, T.

POMICHAL, E.: Design of an Urban Street with a Tram Line in the Urban Region of Bratislava  
Supervisor: SCHLOSSER, T.

STRAŠÍK, P.: Study of the Road Connection Between Jasenica and Udiča  
Supervisor: KAPUSTA, V.

## 3. RESEARCH

### 3.1 International cooperation

Bauhaus-University Weimar, Weimar, Germany

City University of Hong Kong, Department of System Engineering and Engineering Management

Cologne University of Applied Science, Cologne, Germany

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

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

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

HAMK University of Applied Sciences, Finland

Hellenic Institute of Transport, Thessaloniki, Greece

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

Moscow State University of Civil Engineering, Moscow, Russia

O. M. Beketov National University of Urban Economy in Kharkiv, Department of Transport System and Logistics, Kharkiv, Ukraine

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

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

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

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

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

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

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

### Membership in international professional organizations

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 (JAIST), ISSN 2319-2682, online magazine

CÁPAYOVÁ, S.: Member of the PIARC – TC D.2 Pavements, Paris, France

GSCHWENDT, I.: Member of the PIARC – TC D.2 Pavements, Paris, France

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

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

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

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

GSCHWENDT, I.: Slovak Chamber of Civil Engineers, Slovakia

SCHLOSSER T.: Corresponding Member of the PIARC – TC B.1 TC B.1 Road Network Operations/ Intelligent Transportation Systems, Paris, France

SCHLOSSER T.: Member of the Scientific Committee – International Journal of Advanced Information Science and Technology (JAIST), ISSN 2319-2682, online magazine

SCHLOSSER T.: Member of the Editorial Board – Journal of Advanced Engineering, IGRPS – International Gazette Of Research and ePublishers, California, USA

SCHLOSSER T.: Deputy of Slovak Chamber of Civil Engineers in IFME (International Federation of Municipal Engineering), Slovakia

ZUZULOVÁ, A.: Member of the Editorial Board – Przegląd komunikacyjny, ISSN 0033-22-32, Wrocław, Poland

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

## 4. PUBLICATIONS

### Journals

BAČOVÁ, Katarína. Quality of Road Constructions in the Urban Agglomeration of Bratislava. In: *Magazín stroje a mechanizácia*. Vol. 12, No. 2 (2017), pp. 28-31. ISSN 2453-7500. (in Slovak)

BAČOVÁ, Katarína. Use of Recycled Materials in Road Construction. In: *Magazín stroje a mechanizácia*. Vol. 12, No. 5 (2017), pp. 42-44. ISSN 2453-7500 (in Slovak)

BAČOVÁ, Katarína. Restoring Road Communications. In: *Magazín stroje a mechanizácia*. Vol. 12, No. 6 (2017), pp. 42-43. ISSN 2453-7500 (in Slovak)

BAČOVÁ, Katarína. Reinforcement of a Road Body. In: *Magazín stroje a mechanizácia*. Vol. 12, No. 6 (2017), pp. 34-35. ISSN 2453-7500 (in Slovak)

CÁPAYOVÁ, Silvia – GSCHWENDT, Ivan. Asphalt Mixes for Road Construction with References to Environmental Conditions, Part I. In: *Inžinierske stavby*. Vol. 65, No. 1 (2017), pp. 5-7. ISSN 1335-0846 (in Slovak)

CÁPAYOVÁ, Silvia – GSCHWENDT, Ivan. Asphalt Mixes for Road Construction with References to Environmental Conditions, Part II. In: *Inžinierske stavby*. Vol. 65, No. 2 (2017), pp. 50-53. ISSN 1335-0846 (in Slovak)

KOŽÁK, Petr – BALCIERÁKOVÁ, Monika [Orthová, Monika]. Low-Noise Wearing Courses in Urban Areas of Pardubice City. In: *International Journal of Advanced Information Science and Technology*. Vol. 6, No. 3 (2017), online, pp. 9-14. ISSN 2319-2682 (in English)

SCHLOSSER, Tibor – POMICHAL, Enikő – BÁLINT, Gabriel. The New Tram Line Design in the Urban Area of Bratislava. In: *International Journal of Advanced Information Science and Technology*. Vol. 6, No. 5 (2017), online, pp. 17-22. ISSN 2319-2682 (in English)

SCHLOSSER, Tibor – NEMEC, Norbert – BORŠ, Matúš. Tram Track Layout Options in the Area of Danube Riverbank – Pribinova – Karadžičova in Bratislava. In: *International Journal of Advanced Information Science and Technology*. Vol. 6, No. 5 (2017), online, pp. 11-16. ISSN 2319-2682 (in English)

## Conference Proceedings

BAČOVÁ, Katarína. The Quality of Road Constructions and Its Impact on the Environment. In: *Dopravná infraštruktúra v mestách : zborník príspevkov*. Žilina, SR, 3. – 4. Oct. 2017. 1. ed. Žilina : EDIS, 2017, USB key, [8] p. ISBN 978-80-554-1370-9 (in Slovak)

BAČOVÁ, Katarína. Changes in Climatic Conditions and Their Impact on Road Drainage. In: *Obnova cestných komunikácií : zborník z 22nd seminára Ivana Poliačka s medzinárodnou účasťou*. Jasná, SR, 14. – 16. Nov. 2017, Rehabilitation of a Road Network, proceedings of the 22nd Seminar of Ivan Poliaček with International Participation. 1. ed. Bratislava : Kongres STUDIO, 2017, pp. 49-57. ISBN 978-80-89565-32-0 (in Slovak)

BACHRATÁ, Michaela – BAČOVÁ, Katarína – CÁPAYOVÁ, Silvia. Reconstruction of Local Roads in Bratislava. In: *Výstavba a rehabilitácia asfaltových vozoviek : zborník prednášok z konferencie*. Podbanské, SR, 5. – 7. 4. 2017. 1. ed. Košice : Etela Bačenková – Dom techniky, 2017, pp. 60-65. ISBN 978-80-232-0333-2 (in Slovak)

BORŠ, Matúš – NEMEC, Norbert – SCHLOSSER, Tibor. Possibilities for the Tram Line Located Near the Fajnorovo Embankment – Pribinova – Karadžičova in Bratislava. In: *18th Dopravně – inženýrské dny. Inteligentní systémy – doprava, parkování, veřejná doprava : mezinárodní seminář*. Mikulov, ČR, 24. – 25. 5. 2017. 1. ed. Brno : Česká silniční společnost, 2017, USB key, pp. 147-153 (in Slovak)

CÁPAYOVÁ, Silvia – ZUZULOVÁ, Andrea – HODÁKOVÁ, Dominika – SCHLOSSER, Tibor. Influence of Chemical Additives on Asphalt Binder Properties. In: *SGEM 2017. 17th International Multidisciplinary Scientific GeoConference*. Volume 17. Energy and Clean Technologies : conference proceedings. Albena, Bulgaria, 29 June – 5 July 2017. 1. ed. Sofia : STEF 92 Technology, 2017, pp. 487-493 ISSN 1314-2704 ISBN 978-619-7408-06-5 (in English)

CÁPAYOVÁ, Silvia. Effect of Sasobit and Cecabase Additives on Bituminous Binder Properties. In: *Asfaltové vozovky 2017 : zborník príspevků*. České Budějovice, ČR, 28. – 29. 11. 2017 = Asphalt Pavements 2017, proceedings. 1. ed. Prague : PRAGOPROJEKT, 2017, USB key, [7] p. ISBN 978-80-906809-0-6 (in Slovak)

HODÁKOVÁ, Dominika – ZUZULOVÁ, Andrea – CÁPAYOVÁ, Silvia – SCHLOSSER, Tibor. Impact of Climate Characteristics on Cement Concrete Pavements. In: *SGEM 2017. 17th International Multidisciplinary Scientific GeoConference*. Vol. 17. Energy and Clean Technologies : conference proceedings. Albena, Bulgaria, 29 June – 5 July 2017. 1. ed. Sofia : STEF 92 Technology, 2017, pp. 467-472. ISSN 1314-2704. ISBN 978-619-7408-06-5 (in English)

HODÁKOVÁ, Dominika. Experience from Rehabilitation of Cement Concrete Pavements. In: *Obnova cestných komunikácií : zborník z 22nd seminára Ivana Poliačka s medzinárodnou účasťou*. Jasná, SR, 14. – 16. Nov. 2017, Rehabilitation of a Road Network, proceedings of the 22nd Seminar of Ivan Poliaček with International Participation. 1. ed. Bratislava : Kongres STUDIO, 2017, pp. 145-150. ISBN 978-80-89565-32-0 (in Slovak)

KOŠTIAL, Matej – SCHLOSSER, Tibor – SCHLOSSER, Peter. Development of Public Rail Track Transport in Nord-Western Area of Bratislava. In: *IOP Conference Series: Materials Science and Engineering*. Vol. 245, (2017), online, [8] p. ISSN 1757-8981 (in English)

KUKUČKOVÁ, Katarína – LISICKÝ, Richard. Analysis of the Interaction of Pedestrian Traffic with Bicycle Traffic on the Promenade of the Danube Embankment in Bratislava. In: *Bezpečnosť cestnej premávky 2017 : zborník z konferencie s medzinárodnou účasťou*. 18. – 20. Sept. 2017, Vysoké Tatry, SR. 1. ed. Bratislava : Kongres STUDIO, 2017, pp. 80-86. ISBN 978-80-89565-29-0 (in Slovak)

LISICKÝ, Richard. Traffic Safety and Analysis of Dynamic Driving with the Use of Innovative Technology. In: *RDIT 2017 – Research, Development and Innovation in Transport : zborník odborného seminára*. Vysoké Mýto, ČR, 18. 10. 2017. 1. ed. Ostrava : Vysoká škola báňská – Technická univerzita Ostrava, 2017, CD-ROM, pp. 20-25. ISBN 978-80-248-4111-3 (in Slovak)

LISICKÝ, Richard. Optimization of Road Safety. In: *Bezpečnosť cestnej premávky 2017 : zborník z konferencie s medzinárodnou účasťou*. 18. – 20. Sept. 2017, Vysoké Tatry, SR. 1. ed. Bratislava : Kongres STUDIO, 2017, pp. 102-109. ISBN 978-80-89565-29-0 (in Slovak)



- LISICKÝ, Richard. Changes in the Characteristics of Temperature Regimes and Their Effect on the Assessment and Design of Roads. In: Transfer technológií na Slovensku a v zahraničí 2017 : zborník abstraktov z konferencie s medzinárodnou účasťou = Technology Transfer in Slovakia and Abroad 2017, book of abstracts from the conference. 1. ed. Bratislava : Centrum vedecko-technických informácií SR, 2017, pp. 46-47. ISBN 978-80-89354-84-9 (in Slovak)
- LISICKÝ, Richard. Traffic Analysis of Public Bus Transport in Bratislava and Its Metropolitan Region. In: Verejná osobná doprava 2017 : zborník prednášok z medzinárodnej konferencie. 23. – 24. Oct. 2017, Bratislava, SR. 1. ed. Bratislava : Kongres STUDIO, 2017, CD-ROM, pp. 72-79. ISBN 978-80-89565-33-7 (in Slovak)
- LISICKÝ, Richard. Optimization of Traffic Safety Through the Use of Innovative Eye Tracking Technology. In: Advances in Architectural, Civil and Environmental Engineering : 27th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Geodesy and Cartography, Landscaping, Building Technology, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Theory and Environmental Technology of Buildings, Water Resources Engineering. 25. Oct. 2017, Bratislava, Slovakia. 1. ed. Bratislava : Spektrum STU, 2017, CD-ROM, pp. 328-332. ISBN 978-80-227-4751-6 (in Slovak)
- POMICHAL, Enikő – SCHLOSSER, Tibor – BÁLINT, Gabriel. Design of the Tram Line of a Tramway in an Urban Area of Bratislava from the City Center to Mlynské Nivy. In: 18th Dopravně – inženýrské dny. Inteligentní systémy – doprava, parkování, veřejná doprava : mezinárodní seminář. Mikulov, ČR, 24. – 25. 5. 2017. 1. ed. Brno : Česká silniční společnost, 2017, USB key, pp. 154-160 (in Slovak)
- SCHLOSSER, Tibor – SCHLOSSER, Peter – CÁPAYOVÁ, Silvia – HODÁKOVÁ, Dominika. Complex Traffic Analysis of New Down Town of Bratislava for Environmental Assessment. In: SGEM 2017. 17th International Multidisciplinary Scientific GeoConference. Vol. 17. Energy and Clean Technologies : conference proceedings. Albena, Bulgaria, 29 June – 5 July 2017. 1. ed. Sofia : STEF 92 Technology, 2017, pp. 399-407. ISSN 1314-2704. ISBN 978-619-7408-06-5 (in English)
- SCHLOSSER, Tibor – SCHLOSSER, Peter – SCHLOSSER, Michael. Experience from the Creation of a Transport Model for the Decision Making Process of the Design of Tram Lines in the New Center of Bratislava. In: Dopravná infrastruktúra v mestách : zborník príspevkov. Žilina, SR, 3. – 4. Oct. 2017. 1. ed. Žilina : EDIS, 2017, USB key, [9] p. ISBN 978-80-554-1370-9 (in Slovak)
- SCHLOSSER, Tibor – KOŠTIAL, Matej – SCHLOSSER, Peter. New Northwestern Development Area of Bratislava with a Solution for Rail Track Transport. In: Verejná osobná doprava 2017 : zborník prednášok z medzinárodnej konferencie. 23. – 24. Oct. 2017, Bratislava, SR. 1. ed. Bratislava : Kongres STUDIO, 2017, CD-ROM, pp. 63-71. ISBN 978-80-89565-33-7 (in Slovak)
- SCHLOSSER, Tibor – POMICHAL, Enikő – BORŠ, Matúš – BÁLINT, Gabriel. Possibilities for the Deployment of a Primary System of Public Urban Transport in Downtown Bratislava. In: 13. Fórum koľajovej dopravy : zborník príspevkov. Bratislava, SR, 14. – 15. 3. 2017 = 13. Forum of Rail Transport, book of contributions. 1. ed. Bratislava : FO ART, 2017, pp. 20-24. ISBN 978-80-89664-59-7 (in Slovak)
- SCHLOSSER, Tibor – SCHLOSSER, Peter. Traffic Engineering Analysis in the Preparation and Reconstruction of Urban Roads. In: Obnova cestných komunikácií : zborník z 22nd seminára Ivana Poliačka s medzinárodnou účasťou. Jasná, SR, 14. – 16. november 2017 = Rehabilitation of Road Network, proceedings of the XXIIth Seminar of Ivan Poliaček with International Participation. 1. ed. Bratislava : Kongres STUDIO, 2017, pp. 17-23. ISBN 978-80-89565-32-0 (in Slovak)
- SCHLOSSER, Tibor – SCHLOSSER, Peter – CÁPAYOVÁ, Silvia – HODÁKOVÁ, Dominika. Terminals for Suburb Bus Transport in Bratislava. In: IOP Conference Series: Materials Science and Engineering. Vol. 245, (2017), online, [9] p. ISSN 1757-8981 (in English)
- SCHLOSSER, Tibor – SCHLOSSER, Peter – SCHLOSSER, Michael. Will IDS Applications Help in the New Center of Bratislava? In: 18th Dopravně – inženýrské dny. Inteligentní systémy – doprava, parkování, veřejná doprava : mezinárodní seminář. Mikulov, ČR, 24. – 25. 5. 2017. 1. ed. Brno : Česká silniční společnost, 2017, USB key, pp. 105-111 (in Slovak)

# 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

Interactive Graphics Systems  
 Processing and Analysis of Measurements 1  
 Information Technologies  
 Cartographic Techniques and Norms  
 Geoinformatics  
 Global Geodesy 1  
 Local Geodetic Networks  
 CAD Systems in Surveying 1  
 Processing and Analysis of Measurements 2  
 Global Navigation Systems  
 Cartographic Creation and Reproduction  
 Field Education in Geodetic Controls  
 Physical Geodesy 1  
 Space Geodesy 1  
 Spatial Modeling in GIS  
 Programming  
 Physical Geodesy 2  
 Spatial Data Management  
 Processing and Analysis of Measurements 3  
 Global Geodesy 2  
 Space Geodesy 2  
 Metrology in Geodesy  
 Database Systems in GIS  
 Satellite Geodesy  
 Specialized Field Education  
 GIS in Building Sciences  
 Geodesy in Spatial Planning (Institute of Management)

#### Obligatory elective subjects

Geodynamics  
 GIS Design and Implementation

Gravimetry  
 Web Technologies in GIS

#### Optional subjects

Object-Oriented Programming in Geodesy  
 Quality Analysis of Geodata  
 Geometry and Relativity in Geodesy

### 1.2 Postgraduate courses

Geodynamics  
 Geographic Information Systems  
 Global Geodesy  
 Processing and Analysis of Measurements

## 2. THESES

### 2.1 Bachelor theses

There were 10 works.

### 2.2 Graduate theses

CZIKHARDT, R.: Utilization of Satellite Radar Interferometry for Monitoring the Ground Stability of a Geologically Active Area  
 Supervisor: PAPČO, J.

DIEN, B.: Collection and Processing of Data for the Documentation of Local Roads  
 Supervisor: ĎURAČIOVÁ, R.

FERIANC, M.: Galileo Global Navigation Satellite System and Possibilities for Its Use in Geodetic Applications  
 Supervisor: GERHÁTOVÁ, L.

GMITTEROVÁ, D.: Integrating ZBGIS® Data with Attributes of a Spatial Object from External Data Sources  
 Supervisor: ĎURAČIOVÁ, R.

JAVORKOVÁ, E.: Calculation and Analysis of Gravitational Acceleration from Absolute Gravimetric Measurements  
 Supervisor: JANÁK, J.

KOSORÍNOVÁ, Ž.: Creation and Validation of Predictive Models in GIS: Model of the Susceptibility of a Spruce Forest to a Bark Beetle Attack  
Supervisor: ĎURAČIOVÁ, R.

KUBICOVÁ, M.: Optimization of the Registration and Use of Data for Archeological Structures  
Supervisor: FAIXOVÁ CHALACHANOVÁ, J.

LESSOVÁ, L.: Detection of Archeological Structures by Remote Sensing Methods  
Supervisor: LIESKOVSKÝ, T.

PEKÁROVÁ, S.: Methods for the Visualization of a Relief Using Shading in a GIS Environment  
Supervisor: LIESKOVSKÝ, T.

PIAČKOVÁ, D.: Geoscientific Contribution of Satellite Altimetry  
Supervisor: JANÁK, J.

ŠEBEŇ, D.: Reconstruction of the Digital Model of a Terrain of a Historic Landscape  
Supervisor: FENCÍK, R.

ŠTEVANKOVÁ, N.: Topographic Mapping of an Agricultural Landscape  
Supervisor: FENCÍK, R.

ŤAPAJNOVÁ, K.: Representation of Objects with a Complex Structure Expressed by Point Cloud Data  
Supervisor: FAIXOVÁ CHALACHANOVÁ, J.

VRÁBLOVÁ, T.: Creation of a Cartographic Model of a Web Map Service for Visually Impaired People  
Supervisor: FAIXOVÁ CHALACHANOVÁ, J.

### 2.3 Doctoral theses

BAKOŇ, M.: Monitoring the Ground Stability of Selected Sites in Slovakia Using InSAR Technology  
Supervisor: HEFTY, 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

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

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

InSAR Monitoring of Landslides with an Assessment of Surface Dynamics Due to Changes in Groundwater Levels (2017, KOPECKÝ, M.), COSMO-SkyMed ID 655

## 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

Italian Space Agency, 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 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

BUCHA, B.: International Association of Geodesy

HEFTY, J.: American Geophysical Union

HEFTY, J.: European Geosciences Union

HEFTY, J.: International Astronomical Union

JANÁK, J.: International Association of Geodesy

JANÁK, J.: European Geosciences Union

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. – LIESKOVSKÝ, T. – KOVÁČ, M.: Survey of Uaxactun. In: *Nuevas Excavaciones en Uaxactun VIII.: Temporada de Campo 2016*. Bratislava, Center for Mesoamerican Studies (CMS), Comenius University - Chronos, ISBN 978-80-89027-46-0, 2017, online, pp. 75-109 (in Spanish)

LIESKOVSKÝ, T. – RÁŠOVÁ, A. – DRÁPELA, T.: Mapping of Uaxactun. In: *Nuevas Excavaciones en Uaxactun VIII.: Temporada de Campo 2016*. Bratislava, Center for Mesoamerican Studies (CMS), Comenius University - Chronos, ISBN 978-80-89027-46-0, 2017, online, pp. 127-150 (in Spanish)

LIESKOVSKÝ, T.: Photogrammetric Documentation of Restored Structures - Monitoring Methods. In: *Nuevas Excavaciones en Uaxactun VIII.: Temporada de Campo 2016*. Bratislava, Center for Mesoamerican Studies (CMS), Comenius University - Chronos, ISBN 978-80-89027-46-0, 2017, online, pp. 168-180 (in Spanish)

LIESKOVSKÝ, T. – KOVÁČ, M. – DRÁPELA, T.: Analyses of Usability of LiDAR in the Region of Uaxactun. In: *Nuevas Excavaciones en Uaxactun VIII.: Temporada de Campo 2016*. Bratislava, Center for Mesoamerican Studies (CMS), Comenius University - Chronos, ISBN 978-80-89027-46-0, 2017, online, pp. 214-244 (in Spanish)

MIKUŠKA, J. – PAŠTEKA, R. – ZAHOREC, P. – PAPČO, J. – MARUŠIAK, I. – KRAJNÁK, M.: Some Remarks on the Early History of the Bouguer Anomaly. In: *PAŠTEKA, R. – MIKUŠKA, J. – MEURERS, B.: Understanding the Bouguer Anomaly: A Gravimetry Puzzle*. Amsterdam, Elsevier, ISBN 978-0-12-812913-5, 2017, pp. 31-61 (in English)

ZAHOREC, P. – MARUŠIAK, I. – MIKUŠKA, J. – PAŠTEKA, R. – PAPČO, J.: Numerical Calculation of Terrain Correction within the Bouguer Anomaly Evaluation (Program Toposk). In: *PAŠTEKA, R. – MIKUŠKA, J. – MEURERS, B.: Understanding the Bouguer Anomaly: A Gravimetry Puzzle*. Amsterdam, Elsevier, ISBN 978-0-12-812913-5, 2017, pp. 79-92 (in English)

ZAHOREC, P. – PAŠTEKA, R. – MIKUŠKA, J. – SZALAI OVÁ, V. – PAPČO, J. – KUŠNIRÁK, D. – PÁNISOVÁ, J. – KRAJNÁK, M. – VAJDA, P. – BIELIK, M. – MARUŠIAK, I.: National Gravimetric Database of the Slovak Republic. In: *PAŠTEKA, R. – MIKUŠKA, J. – MEURERS, B.: Understanding the Bouguer Anomaly: A Gravimetry Puzzle*. Amsterdam, Elsevier, 978-0-12-812913-5, 2017, pp. 113-125 (in English)

### Journals

BAKOŇ, M. – OLIVEIRA, I. – PERISSIN, D. – SOUSA, J.J. – PAPČO, J.: A Data Mining Approach for Multivariate Outlier Detection in Post-Processing of Multi-Temporal InSAR Results. In: *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, ISSN 1939-1404. - Vol. 10, No. 6 (2017), online, pp. 2791-2798 (in English)

CZIKHARDT, R. – PAPČO, J. – BAKOŇ, M. – LIŠČÁK, P. – ONDREJKA, P. – ZLOCHA, M.: Ground Stability Monitoring of Undermined and Landslide Prone Areas by Means of Sentinel-1 Multi-Temporal InSAR, Case Study from Slovakia. In: *Geosciences*, ISSN 2076-3263. - Vol. 7, No. 3 (2017), online, p. 17 (in English)

ĎURAČIOVÁ, R. – IGONDOVÁ, M.: Integration of Spatial Data Representing Buildings by Determining the Degree of Similarity. In: *Czech Journal of Civil Engineering*, ISSN 2336-7148. - Vol. 3, No. 1 (2017), online, pp. 29-35 (in English)

ĎURAČIOVÁ, R. – RÁŠOVÁ, A. – LIESKOVSKÝ, T.: Fuzzy Similarity and Fuzzy Inclusion Measures in Polyline Matching: A Case Study of Potential Streams Identification for Archaeological Modelling in GIS. In: *Reports on Geodesy and Geoinformatics*, ISSN 2391-8365. - Vol. 104, No. 1 (2017), pp. 115-130 (in English)

ĎURAČIOVÁ, R. – JAKÓC SOVÁ, V. – VEREŠOVÁ, S.: Updating and Creation of a Navigation Map in a Map Creator Software Environment. In: *Kartografické listy*, ISSN 1336-5274. - Vol. 25, No. 1 (2017), pp. 12-21 (in Slovak)

HORÁČKOVÁ, Š. – LEHOTSKÝ, M. – ŠTEFANIČKA, T. – VICZIÁN, I.: Sedimentary-Vegetation Response to the Channel By-Pass: A Case Study of the Danube River. In: *Ecology*, ISSN 1335-342X. - Vol. 36, No. 2 (2017), pp. 172-183 (in English)

HULÍNEK, D. – LIESKOVSKÝ, T.: Excavated Sumerian City of Umma: Results of the First Season of the Archaeological Research at the Tell Jokha Site in Iraq. In: *Historická revue*, ISSN 1335-6550. - Vol. 28, No. 2 (2017), pp. 38-45 (in Slovak)

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LAZECKÝ, M. – HLAVÁČOVÁ, I. – BAKOŇ, M. – SOUSA, J.J. – PERISSIN, D. – PATRICIO, G.: Bridge Displacements Monitoring Using Space-Borne X-Band SAR Interferometry. In: IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, ISSN 1939-1404. - Vol. 10, No. 1 (2017), online, pp. 205-210 (in English)

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## Conference Proceedings

BUBLAVÝ, J. – MAJKRÁKOVÁ, M. – DROŠČÁK, B.: Status of New National Realization of the Bpv Vertical System. In: Geodesy, Cartography and Geoinformatics 2017: 10th International Scientific and Professional Conference. Demänovská dolina, Slovakia, 10.-13.10.2017. - Košice: Technical University of Košice, 2017, CD-ROM. - ISBN 978-80-553-2814-0. - p. 10 (in Slovak)

CZIKHARDT, R.: Simulation of Geometric Distortions InSAR Images Implemented in Matlab and Published Online. In: Proceedings of Student V4 Geoscience Conference and Scientific Meeting GISáček 2017. Ostrava, Czech Republic, 22.3.2017. - Ostrava: VŠB - Technical University of Ostrava, 2017. - ISBN 978-80-248-4033-8. - pp. 112-119 (in English)

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GERHÁTOVÁ, L. – MUŇKO, M. – HROŠŠO, B. – ĎURAČIOVÁ, R. – CHALACHANOVÁ FAIXOVÁ, J.: The Main Principles of Sunlight Analysis Based on Point Cloud Data. In: SGEM 2017. Vol. 17: 17th International Multidisciplinary Scientific GeoConference on Informatics, Geoinformatics and Remote Sensing: Conference Proceedings. Albena, Bulgaria, 29.6.-5.7.2017. - Sofia: STEF 92 Technology, 2017. - ISSN 1314-2704, ISBN 978-619-7408-01-0. - pp. 1085-1092 (in English)

GREGOVÁ, E. – ŠLIKOVÁ, S. – MENDEL, L. – MINÁRIKOVÁ, M.: Diversity of Storage Proteins in Registered Varieties of Triticale in Slovakia. In: Osivo a sadba: sborník referátů: 13. národní odborný a vědecký seminář. Prague, Czech Republic, 2.2.2017. - Prague: Czech University of Life Sciences Prague, 2017. - ISBN 978-80-213-2732-0. - pp. 118-123 (in Slovak)

HÁBEL, B. – JANÁK, J.: Continental Grids of Disturbing Gravity Tensor Components over North America. In: Fourth Swarm Science Meeting & Geodetic Missions Workshop: Abstract Book. Banff, Alberta, Canada, 20.-24.3.2017. - Paris: European Space Agency, 2017, online. - p. 71 (in English)

HÁBEL, B. – PAPČO, J. – JANÁK, J. – VALKO, M.: First Results of Monitoring Changes in Gravity Using the gPhoneX 108 Gravimeter. In: Geodesy, Cartography and Geoinformatics 2017: 10th International Scientific and Professional Conference. Demänovská dolina, Slovakia, 10.-13.10.2017. - Košice: Technical University of Košice, 2017, CD-ROM. - ISBN 978-80-553-2814-0. - p. 11 (in Slovak)

CHALACHANOVÁ FAIXOVÁ, J. – ĎURAČIOVÁ, R. – PAPČO, J. – JAKUŠ, R. – BLAŽENEC, M.: Integration of Heterogeneous Data in the Support of the Forest Protection: Structural Concept. In: The Rise of Big Spatial Data: Proceedings of the Symposium GIS Ostrava 2016. Ostrava, Czech Republic, 16.-18.3.2016. - Springer: 2017. - ISSN 1863-2246, ISBN 978-3-319-45122-0. - pp. 387-405 (in English)

CHALACHANOVÁ FAIXOVÁ, J. – MÉSŽÁROSOVÁ, K.: Fractal Dimension and Its Implementation in GIS Software. In: Geometria a jej aplikácie 2017: geometrické modelovanie prvkov krajiny. Zvolen, Slovakia, 19.1.2017. - Bratislava: SPEKTRUM STU, 2017, online. - ISBN 978-80-227-4676-2. - p. 1 (in Slovak)

CHALACHANOVÁ FAIXOVÁ, J. – ĎURAČIOVÁ, R. – ŤAPAJNOVÁ, K.: Optimization of Point Cloud Data for Surface Representation of Objects with Complicated Structure. In: SGEM 2017. Vol. 17: 17th International Multidisciplinary Scientific GeoConference on Informatics, Geoinformatics and Remote Sensing: Conference Proceedings. Albena, Bulgaria, 29.6.-5.7.2017. - Sofia: STEF 92 Technology, 2017. - ISSN 1314-2704, ISBN 978-619-7408-01-0. - pp. 1021-1028 (in English)

- IMRIŠEK, M.: Monitoring Changes in Atmospheric Moisture Using Global Navigation Satellite Systems. In: *Geodesy, Cartography and Geoinformatics 2017: 10th International Scientific and Professional Conference*. Demänovská dolina, Slovakia, 10.-13.10.2017. - Košice: Technical University of Košice, 2017, CD-ROM. - ISBN 978-80-553-2814-0. - p. 8 (in Slovak)
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- IMRIŠEK, M.: Processing and Assimilation of GNSS Data for SHMU Purposes: 18. konferencia mladých meteorológov a klimatológov. Bratislava, Slovakia, 9.11.2017. - Bratislava: Slovak Hydrometeorological Institute, 2017, CD-ROM. - ISBN 978-80-88907-95-4. - p. 13 (in Slovak)
- JANÁK, J. – MOJZEŠ, M. – PAPČO, J. – JAVORKOVÁ, E.: A Closer Look at Ballistic Absolute Gravimeters. In: *Geodesy, Cartography and Geoinformatics 2017: 10th International Scientific and Professional Conference*. Demänovská dolina, Slovakia, 10.-13.10.2017. - Košice: Technical University of Košice, 2017, CD-ROM. - ISBN 978-80-553-2814-0. - p. 14 (in Slovak)
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- LAZECKÝ, M. – BAKOŇ, M. – PERISSIN, D. – PAPČO, J. – GAMSE, S.: Analysis of Dam Displacements by Spaceborne SAR Interferometry. In: *Knowledge-Based Dam Engineering: Proceedings*. Prague, Czech Republic, 5.7.2017. - Prague: GUARANT International, 2017, USB. - ISBN 978-80-906662-2-1. - p. 9 (in English)
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- LEŠKO, M.: Monitoring Natural Hazards in Slovakia Using Satellite Radar Interferometry. In: *Advances in Architectural, Civil and Environmental Engineering: 27th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Geodesy and Cartography, Landscaping, Building Technology, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Theory and Environmental Technology of Buildings, Water Resources Engineering*. Bratislava, Slovakia, 25.10.2017. - Bratislava: Spektrum STU, 2017, CD-ROM. - ISBN 978-80-227-4751-6. - pp. 126-135 (in Slovak)
- MOJZEŠ, M. – HÁBEL, B.: Modeling Earth Surface Deformations in the Area of the Liptovská Mara Dam. In: *Družicové metody v geodézii a katastru: sborník referátů ze semináře s mezinárodní účastí*. Brno, Czech Republic, 2.2.2017. - Brno: ECON Publishing, 2017. - ISBN 978-80-86433-64-6. - pp. 71-76 (in Slovak)
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- MUŇKO, M.: Effect of Reduction of Dimensions of Input Data on the Learning Effectivity of Neural Networks. In: *Advances in Architectural, Civil and Environmental Engineering: 27th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Geodesy and Cartography, Landscaping, Building Technology, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Theory and Environmental Technology of Buildings, Water Resources Engineering*. Bratislava, Slovakia, 25.10.2017. - Bratislava: Spektrum STU, 2017, CD-ROM. - ISBN 978-80-227-4751-6. - pp. 143-148 (in Slovak)
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- ŠLIKOVÁ, S. – GREGOVÁ, E. – MINÁRIKOVÁ, M.: Monitoring the Purity of Cultivars of Spring Barley in Slovakia. In: *Osivo a sadba: sborník referátů: 13. národní odborný a vědecký seminar*. Prague, Czech Republic, 2.2.2017. - Prague: Czech University of Life Sciences Prague, 2017. - ISBN 978-80-213-2732-0. - pp. 107-111 (in Slovak)
- ŠLIKOVÁ, S. – GREGOVÁ, E. – MINÁRIKOVÁ, M. – GÁLOVÁ, Z. – KUŤKA-HLOZÁKOVÁ, T.: Application of Chip Electrophoresis for the Verification of Oat Cultivars. In: *Osivo a sadba: sborník referátů: 13. národní odborný a vědecký seminar*. Prague, Czech Republic, 2.2.2017. - Prague: Czech University of Life Sciences Prague, 2017. - ISBN 978-80-213-2732-0. - pp. 112-117 (in Slovak)
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ŠPÁNIK, P. – GERHÁTOVÁ, L. – HEFTY, J.: GNSS Remote Sensing - Alternative Application of Satellite Observations. In: Družicové metody v geodézii a katastru: sborník referátů ze semináře s mezinárodní účastí. Brno, Czech Republic, 2.2.2017. - Brno: ECON Publishing, 2017. - ISBN 978-80-86433-64-6. - pp. 55-63 (in Slovak)

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# DEPARTMENT OF SURVEYING

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Bachelor Thesis

Cadastral Mapping

Cadastrre of Real Estate

Cartometry and Data Analysis of Cadastral Data

Diploma Seminar

Diploma Thesis

Engineering Surveying I, II

Environmental Modelling and Landscape Evaluations

Field Practice in Engineering Surveying

Field Practice in Surveying

Field Practice in Cadastral Mapping and Cadastre of Real Estate

History of Surveying

Industrial Surveying

Land Consolidation I, II

Legislation of Geodetic Activities

Photogrammetry I, II

Professional Practice

Remote Sensing

Special Seminar

Surveying I, II, III

Surveying in Building Construction

Surveying in Civil Engineering (English)

Vocational Practice

Obligatory elective subjects

Applied Close Range Photogrammetry

Surveying in Underground Areas

Map Collection and Cadastre of Real Estate

Modern Technologies for the Creation of Geodetic Data

#### Optional subjects

Application of Information Technologies in Cadastre of Real Estate and Land Consolidation

Measuring Systems in Engineering Surveying

Stakeout and Monitoring of Structures

Surveying Methods for Structure Monitoring (English)

### 1.2 Postgraduate courses

Cadastrre of Real Estate and Land Consolidation

Engineering Surveying

Photogrammetry

## 2. THESES

### 2.1 Bachelor theses

There were 11 works.

### 2.2 Graduate theses

BARTALOS, A.: Update of Geometrical Plan for Measuring Documentation  
Supervisor: HUDECOVÁ, Ľ.

CMARKO, P.: Determination of Displacements of Bridge Structures Using GNSS Technology  
Supervisor: KOPÁČIK, A.

FERANCOVÁ, D.: The Quality of Cadastre Data  
Supervisor: HUDECOVÁ, Ľ.

HENDRICHOVSKÝ, J.: Correction of Errors in Cadastral Documentation  
Supervisor: GEISSE R.

HONTI, R.: Segmentation of Point Clouds  
Supervisor: ERDÉLYI, J.

KASALA, M.: Creating a BIM Model of an Administration Building  
Supervisor: ERDÉLYI, J.

LIPTÁK, I.: Application of Geodetic Methods for Documenting a National Cultural Monument  
Supervisor: SOKOL, Š.



MELICH, M.: Monitoring Landscape Changes Due to Subsurface Mining  
Supervisor: FRAŠTIA, M.

ŠTÍTNA, M.: Evaluation of the Quality of 3D Models Created by TLS  
Technology  
Supervisor: KOPÁČIK, A.

ŠVIGÁROVÁ, S.: The Reclassification of VKMt to VKMi  
Supervisor: GEISSE, R.

VAVRUŠ, V.: Estimation of Horizontal Refraction by the LSM Method and Its  
Verification by Robust Statistical Methods  
Supervisor: BAJTALA, M.

ŽIGMUNDOVÁ, V.: Quantification of Changes in the Shapes and Dimensions of  
Parcels during Land Consolidation  
Supervisor: GEISSE, R.

ŽILINEC, L.: Determination of Vertical Displacements by Trigonometric  
Leveling  
Supervisor: KYRINOVIČ, P.

## 2.3 Doctoral theses

ERDÉLYIOVÁ, L.: Navigation of Pedestrians in an Indoor Environment  
Supervisor: KOPÁČIK, A.

KAJÁNEK, P.: Indoor Navigation Using Inertial Measurement Systems  
Supervisor: KOPÁČIK, A.

TRHAN, O.: Improvement of the Accuracy of a Digital Surface Model Obtained  
by Photogrammetry  
Supervisor: KOPÁČIK, A.

## 3. RESEARCH

### 3.1 Research projects

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

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

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

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

## 3.2 International cooperation

### Cooperating institutions

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

Institute of Geodesy, Brno University of Technology, Czech Republic

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

Chair of Geodesy, Technical University of Munich, Germany

Faculty of Geodesy, University of Zagreb, Croatia

Geodetic and Geophysical Institute, Hungarian Academy of Science, Hungary

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

Kavala Institute of Technology, Greece

“1 Decembrie 1918” University of Alba Iulia, Romania

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

“Politehnica” University of Timisoara, Romania

### Membership in international professional organizations

ERDÉLYI, J.: National Delegate to International Federation of Surveyors (FIG),  
WG 10.2: BIM

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

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

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

## 4. PUBLICATIONS

### Books

KAJÁNEK, P. Modeling of Systematic Errors of Inertial Measurement Systems.  
1. ed. Bratislava: Spektrum STU, 2017. CD-ROM, 114 pp. ISBN 978-80-227-  
4755-4 (in Slovak)

### Textbooks

SOKOL, Š. – JEŽKO, J. – BAJTALA, M. Field Practice in Surveying. 1. ed.  
Bratislava: Spektrum STU, 2017. 189 pp. ISBN 978-80-227-4708-0 (in  
Slovak)

SOKOL, Š. – BAJTALA, M. Geodesy: Height Measurement. 1. ed. Bratislava:  
Spektrum STU, 2017. 187 pp. ISBN 978-80-227-4741-7 (in Slovak)

## Journals

ĎUBEK, M. – ERDÉLYI, J. – FUNTÍK, T. Utilization of Terrestrial Laser Scanning in the Verification of Ground Works. In: Almanach znalca. Vol. 17, No. 2 (2017), CD-ROM, pp. 25-28. ISSN 1336-3174 (in Slovak)

ERDÉLYI, J. – KOPÁČIK, A. – LIPTÁK, I. – KYRINOVIČ, P. Automation of Point Cloud Processing to Increase the Deformation Monitoring Accuracy. In: Applied Geomatics. Vol. 9, No. 2 (2017), pp. 105-113. ISSN 1866-9298 (in English)

ERDÉLYI, J. – FUNTÍK, T. The Current State of BIM Implementation in Slovakia. In: Slovenský geodet a kartograf. Vol. 22, No. 4 (2017), pp. 5-10. ISSN 1335-4019 (in Slovak)

FRAŠTIA, M. – MARČIŠ, M. Concerning Drones from the Viewpoint of a Surveyor. In: Slovenský geodet a kartograf. Vol. 22, No. 1 (2017), pp. 5-10. ISSN 1335-4019 (in Slovak)

HUDECOVÁ, Ľ. Survey Sketches: Historical Review. In: Kartografické listy. Vol. 25, No. 1 (2017), pp. 22-36. ISSN 1336-5274 (in Slovak)

JEŽKO, J. Testing of Selected Surveying Instruments. In: Czech Journal of Civil Engineering. Vol. 3, No. 1 (2017), online, pp. 65-72. ISSN 2336-7148 (in Slovak)

KAJÁNEK, P. Localization System Based on the Use of a Pair of Counter-Rotating IMSs Placed on a Common Baseline. In: Geodetický a kartografický obzor. Vol. 63 (105), No. 12 (2017), online, pp. 241-250. ISSN 1805-7446 (in Slovak)

KAJÁNEK, P. – KOPÁČIK, A. Improvement of the Accuracy of the Orientation of an Object by Using a Pair of Rotating IMS. In: Slovak Journal of Civil Engineering. Vol. 25, No. 4 (2017), pp. 26-33. ISSN 1210-3896 (in English)

MARČIŠ, M. – FRAŠTIA, M. Applications of RPAS Not Only in Geodesy. In: Slovenský geodet a kartograf. Vol. 22, No. 1 (2017), pp. 11-16. ISSN 1335-4019 (in Slovak)

MARČIŠ, M. – FRAŠTIA, M. – AUGUSTÍN, T. Measurement of Flat Slab Deformations by the Multi-Image Photogrammetry Method. In: Slovak Journal of Civil Engineering. Vol. 25, No. 4 (2017), pp. 19-25. ISSN 1210-3896 (in English)

TRHAN, O. The Creation of Space Vector Models of Buildings from RPAS Photogrammetry Data. In: Slovak Journal of Civil Engineering. Vol. 25, No. 2 (2017), pp. 7-14. ISSN 1210-3896 (in English)

## Conference Proceedings

BAJTALA, M. – HUDECOVÁ, Ľ. – SOKOL, Š. The Reliability of Parcel Area. In: SGEM 2017. 17th International Multidisciplinary Scientific GeoConference. Vol. 17. Informatics, Geoinformatics and Remote Sensing: conference proceedings. Albena, Bulgaria, 29 June - 5 July 2017. 1. ed. Sofia: STEF 92 Technology, 2017, pp. 689-696. ISSN 1314-2704. ISBN 978-619-7408-02-7 (in English)

ERDÉLYI, J. – KYRINOVIČ, P. – ONDRIŠÁK, M. – KOPÁČIK, A. Testing of Levelling Instruments. In: Geodézie ve stavebnictví a průmyslu: Proceedings. Brno, CR, 27. 4. 2017. 1. ed. Brno: Brno University of Technology, 2017, pp. 62-70. ISBN 978-80-02-02722-5 (in Slovak)

ERDÉLYI, J. – KOPÁČIK, A. – KYRINOVIČ, P. – SOKOL, M. – VENGLÁR, M. Long-term Monitoring of the Slovak National Uprising Bridge. In: SGEM 2017. 17th International Multidisciplinary Scientific GeoConference. Vol. 17. Informatics, Geoinformatics and Remote Sensing: conference proceedings. Albena, Bulgaria, 29 June - 5 July 2017. 1. ed. Sofia: STEF 92 Technology, 2017, pp. 389-396. ISSN 1314-2704. ISBN 978-619-7408-02-7 (in English)

ERDÉLYI, J. – KOPÁČIK, A. – KYRINOVIČ, P. Complex Monitoring of a Steel Bridge Structure. In: Proceedings of Geodesy, Cartography and Geoinformatics 2017, 10th International Scientific and Professional Conference. Demänovská dolina, SR, 10. - 13. Oct. 2017. 1. ed. Košice: Technical University of Košice, 2017, CD-ROM, [9] p. ISBN 978-80-553-2814-0 (in Slovak)

ERDÉLYI, J. – KOPÁČIK, A. – KYRINOVIČ, P. As-Built Documentation of Anchor Blocks of Facade Elements Using TLS. In: INGENEO 2017: proceedings of the 7th International Conference on Engineering Surveying. Lisbon, Portugal, Oct. 18 - 20, 2017. 1. ed. Lisbon: Laboratório Nacional de Engenharia Civil, 2017, pp. 3-10. ISBN 978-972-49-2300-0 (in English)

ERDÉLYI, J. The Current State of BIM Implementation. In: Proceedings of 25. Slovak Geodetic Days. Trnava, SR, 9. - 10. Nov. 2017. 1. ed. Bratislava: Komora geodetov a kartografov, 2017. ISBN 978-80-89623-13-6 (in Slovak)

ERDÉLYIOVÁ, Ľ. [Ilkovičová, Ľ.]. Determination of Trajectory in an Indoor Environment Using Ultrasound Technology. In: Juniorstav 2017, 19th International Conference of PhD Students. Brno, CR, 26. 1. 2017. 1. ed. Brno: Brno University of Technology, 2017, USB, [9] p. ISBN 978-80-214-5473-6. (in Slovak)

ERDÉLYIOVÁ, Ľ. [Ilkovičová, Ľ.] – KAJÁNEK, P. – KOPÁČIK, A. A New Approach for the Elimination of Systematic Errors of Gyroscopes for Positioning Pedestrians Based on Inertial Sensors. In: Proceedings of Geodesy, Cartography and Geoinformatics 2017, 10th International Scientific and Professional Conference. Demänovská dolina, SR, 10. - 13. Oct. 2017. 1. ed. Košice: Technical University of Košice, 2017, CD-ROM, [9] p. ISBN 978-80-553-2814-0 (in Slovak)

ERDÉLYIOVÁ, Ľ. [Ilkovičová, Ľ.] – KAJÁNEK, P. – KOPÁČIK, A. Systematic Error Elimination of Inertial Sensors Using Rotating Platforms. In: INGENEO 2017: proceedings of the 7th International Conference on Engineering Surveying. Lisbon, Portugal, Oct. 18 - 20, 2017. 1. ed. Lisbon: Laboratório Nacional de Engenharia Civil, 2017, pp. 339-346. ISBN 978-972-49-2300-0 (in English)

- FÁBRY, M. – ÁROCH, R. – LIPTÁK, I. Application of System Identification on a Steel Footbridge Across the Little Danube River. In: *Advances and Trends in Engineering Sciences and Technologies II: Proceedings of the 2nd International Conference on Engineering Sciences and Technologies*. High Tatras Mountains, Tatranské Matliare, Slovak Republic, 29 June - 1 July 2016. 1. ed. London: Taylor & Francis Group, 2017, pp. 69-74. ISBN 978-1-138-03224-8 (in English)
- HONTI, R. Automated Plane Segmentation from Laser Scanner Data. In: *Architectural, Engineering and Information Sciences: Proceedings of 13th Miklós Iványi International PhD & DLA Symposium*. Nov. 3-4, 2017, Pécs, Hungary. Pécs: Pollack Press, 2017, p. 56. ISBN 978-963-642-780-1 (in English)
- HUDECOVÁ, Ľ. – GEISSE, R. Survey Sketch in Terms of Digital Processing and Control. In: *SGEM 2017. 17th International Multidisciplinary Scientific GeoConference*. Vol. 17. Informatics, Geoinformatics and Remote Sensing: conference proceedings. Albena, Bulgaria, 29 June - 5 July 2017. 1. ed. Sofia: STEF 92 Technology, 2017, pp. 247-254. ISSN 1314-2704. ISBN 978-619-7408-03-4 (in English)
- JEŽKO, J. Methods for the Creation of Geodetic Documentation for the Reconstruction of Objects. In: *SANACE 2017: proceedings of 27. International Symposium*. Brno, ČR, 18. - 19. 5. 2017. Brno: Sdružení pro sanace betonových konstrukcí, 2017, pp. 55-64. ISBN 978-80-214-5499-6 (in Slovak)
- JEŽKO, J. Universal Measuring Station Testing in Accordance with International Technical Standards. In: *SGEM 2017. 17th International Multidisciplinary Scientific GeoConference*. Vol. 17. Informatics, Geoinformatics and Remote Sensing: conference proceedings. Albena, Bulgaria, 29 June - 5 July 2017. 1. ed. Sofia: STEF 92 Technology, 2017, pp. 741-748. ISSN 1314-2704. ISBN 978-619-7408-02-7 (in English)
- JEŽKO, J. – SOKOL, Š. Historical Reminiscences of the Water Equipment System of Banská Štiavnica from a Geodetic Perspective. In: *Geodézie a Důlní měřictví 2017: Proceedings*. 24th SDMG conference, Ostrava, CR, 18. - 20. Oct. 2017. 1. ed. Ostrava: VŠB - Technical University of Ostrava, 2017, USB, [7] p. ISBN 978-80-248-4114-4 (in Slovak)
- JEŽKO, J. Creation of a 3D Model of the Počúvadlo Lake's Surroundings. In: *Geodézie a Důlní měřictví 2017: Proceedings*. 24th SDMG conference, Ostrava, CR, 18. - 20. Oct. 2017. 1. ed. Ostrava: VŠB - Technical University of Ostrava, 2017, USB, [7] p. ISBN 978-80-248-4114-4 (in Slovak)
- KAJÁNEK, P. Effect of a Rotation Platform on Systematic Errors in a Signal from IMS. *Juniorstav 2017, 19th International Conference of PhD Students*. Brno, CR, 26. 1. 2017. 1. ed. Brno: Brno University of Technology, 2017, USB, [9] p. ISBN 978-80-214-5473-6 (in Slovak)
- KAJÁNEK, P. – KOPÁČIK, A. Proposal Positioning System Based on the Use of Two IMS Placed on Common Baseline and Optical Encoder. In: *SGEM 2017. 17th International Multidisciplinary Scientific GeoConference*. Vol. 17. Informatics, Geoinformatics and Remote Sensing: conference proceedings. Albena, Bulgaria, 29 June - 5 July 2017. 1. ed. Sofia: STEF 92 Technology, 2017, pp. 477-484. ISSN 1314-2704. ISBN 978-619-7408-02-7 (in English)
- KOPÁČIK, A. – LIPTÁK, I. – ERDÉLYI, J. – KYRINOVIČ, P. Deformation Monitoring of Danube Bridges in Slovakia by Integrated Measurement System. In: *FIG Working Week 2017: technical programme and proceedings*. Helsinki, Finland, 29 May - 2. June 2017. 1. ed. Copenhagen: International Federation of Surveyors, FIG, 2017, online, [16] p. ISSN 2307-4086. ISBN 978-87-92853-61-5 (in English)
- KOPÁČIK, A. – KYRINOVIČ, P. – ERDÉLYI, J. Long-Term Monitoring of Bridge Structures: Expectations and Possibilities. In: *Geodesy and Cartography in Transport: 13. International Conference*. Košice, SR, 21. - 22. 9. 2017. 1. ed. Bratislava: Slovenská spoločnosť geodetov a kartografov, 2017, USB, [8] p. (in Slovak)
- KYRINOVIČ, P. – HELIENEK, Ľ. – ERDÉLYI, J. – KOPÁČIK, A. Positional Accuracy of GNSS Technology Point in the SKPOS and SmartNet Network. In: *52nd Geodetic Information Days: proceedings*. Brno, CR, 1. - 2. 3. 2017. 1. ed. Brno: Český svaz geodetů a kartografů - Spolek zeměměřičů Brno, 2017, CD-ROM, [8] p. ISBN 978-80-02-02715-7 (in Slovak)
- MARČIŠ, M. – FRAŠTIA, M. – AUGUSTÍN, T. Photogrammetric Measurement of Concrete Panel Deformations during Load Test. In: *SGEM 2017. 17th International Multidisciplinary Scientific GeoConference*. Vol. 17. Informatics, Geoinformatics and Remote Sensing: conference proceedings. Albena, Bulgaria, 29 June - 5 July 2017. 1. ed. Sofia: STEF 92 Technology, 2017, pp. 195-202. ISSN 1314-2704. ISBN 978-619-7408-03-4 (in English)
- MARČIŠ, M. – FRAŠTIA, M. – AUGUSTÍN, T. Photogrammetric Measurement of Flat Slab Deformations. In: *Proceedings of Geodesy, Cartography and Geoinformatics 2017. 10th International Scientific and Professional Conference*. Demänovská dolina, SR, 10. - 13. Oct. 2017. 1. ed. Košice: Technical University of Košice, 2017, CD-ROM, [7] p. ISBN 978-80-553-2814-0 (in Slovak)
- SOKOL, M. – VENGLÁR, M. – ÁROCH, R. – KOPÁČIK, A. – KYRINOVIČ, P. – ERDÉLYI, J. – ŠIŠMIŠOVÁ, Z. – LAMPEROVÁ, K. Traffic Response Pattern of Cable-Stayed Bridge as a Comparison Tool for SHM. In: *Engineering the Future, proceedings*. 39th IABSE Symposium, Sept. 21-23, 2017, Vancouver, Canada. 1. ed. Zurich: International Association for Bridge and Structural Engineering, 2017, USB, pp. 191-197. ISBN 978-3-85748-153-6 (in English)
- TRHAN, O. The Creation of Space Vector Models of Buildings from UAV Photogrammetry Data. In: *Juniorstav 2017, 19th International Conference of PhD Students*. Brno, CR, 26. 1. 2017. 1. ed. Brno: Brno University of Technology, 2017, USB, [11] p. ISBN 978-80-214-5473-6 (in Slovak)

TRHAN, O. Modifying Data Obtained by UAV Photogrammetry. In: XXIII Międzynarodowe Polsko-Czesko-Słowackie Dni Geodezji. Warszawa: Zarząd Główny Stowarzyszenia Geodetów Polskich, 2017, p. 39. ISBN 978-83-61576-34-1 (in Slovak)

# DEPARTMENT OF GEOTECHNICS

Head of Department

Assoc. Prof. Ing. Ivan Slávik, PhD.

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Engineering Geology

Engineering Geology and Rock Mechanics

Soil Mechanics

Foundation Engineering

Soil Mechanics and Foundations

Geotechnical Structures

Geotechnical Constructions

Geology

Properties of Rocks and Soils

Spread and Deep Foundations

Water Reservoirs and Dams

Landfills and Ponds

Environmental Geotechnics

#### Optional subjects

Spread and Deep Foundations

Engineering Geology

Geology and Geomorphology

Numerical Modelling in Geotechnics

Reconstruction in Geotechnics

Geotechnical Structures

Dumps, Tailing Ponds and Waste Recycling

Engineering Geology and Hydrogeology

Underground Constructions

Foundation Pits

Underground Structures and Trenchless Methods

Filtration and Stability Tasks

Foundation of Hydraulic Structures

Water Management Systems

Dams and Water Reservoirs

Special Foundation Problems

Design and Realization of Geotechnical Constructions

Atelier Design – Geotechnics

Special Problems of Geotechnical Engineering

Design and Operation of Dams

#### Recommended subjects

Spread and Deep Foundations

Diploma Seminar

Roads and Highway Tunnels

Laboratories of Soil Mechanics

Urban Underground Construction

The Aging and Reconstruction of Dams

Underground Water Management Constructions

Construction, Maintenance and Reconstruction of Railway Tunnels

Engineering Geology and Rock Mechanics

Soil Mechanics

Foundation Engineering

Properties of Rocks and Soils

Water Reservoirs and Dams

Landfills and Ponds

### 1.2 Postgraduate courses

Engineering Geology and Hydrogeology

Soil Mechanics

Foundation Engineering

Underground Constructions

Geotechnical Structures

Filtration and Stability Tasks of Embankment Dikes

Dams and Water Reservoirs – Selected Topics

Selected states in Geotechnics

## 2. THESES

### 2.1 Graduate theses

ADAMIDIS, G.: Identification of a Variety of Mechanical and Physical Properties of Rocks from the Višňové Tunnel.

Supervisor: ONDRÁŠIK, M.

HLAVÁČ M.: Impact of Model of Material on Primary Lining Calculations.

Supervisor: CHABROŇOVÁ, J.

HLUBINA, P.: Analysis of Dam Problems of Small Water Reservoirs.

Supervisor: BEDNÁROVÁ, E.

JABBOUR, E.: Laboratory Testing of Soil Deformation Properties.

Supervisor: FRANKOVSKÁ, J.

KARATZOUDIS, D.: Assessment of Landslide Areas on a Motorway Route.

Supervisor: KOPECKÝ, M.

KVAŠŠAY, M.: Safety Assessment of the Vyšná Rybnica Dam.

Supervisor: BEDNÁROVÁ, E.

LIDAY, D.: Experimental Research of Coarse-Grained Soils.

Supervisor: FRANKOVSKÁ, J.

MALIARIK, M.: Impact of the Quality of a Rock Mass on the Stability of a Center Pillar between Two Tunnel Tubes.

Supervisor: CHABROŇOVÁ, J.

MIHÁLIK, J.: Ensuring the Stability of an Unstable Slope at the Portal of the Višňové Tunnel.

Supervisor: TURČEK, P.

MOSKAL, M.: Safety of the Ružín I Water Structure under Long-Term Operations.

Supervisor: BEDNÁROVÁ, E.

Palúchová, M.: Alternative Design of a Retaining Structure.

Supervisor: STACHO, J.

SELIS, N.: Experimental Investigation of Soil Properties.

Supervisor: FRANKOVSKÁ, J.

ŠVEJDOVÁ, S.: Optimization of the Foundation of Factories in Quaternary Subsoil.

Supervisor: SÚLOVSKÁ, M.

ŠVUB, M.: Determination of the Characteristic Values of Soil Properties.

Supervisor: FRANKOVSKÁ, J.

### 2.2 Doctoral theses

LADICSOVÁ, E.: Deformations of Retaining Structures.

Supervisor: TURČEK, P.

POLLÁK, P.: Interaction of Upper Structure Foundation and Subsoil.

Supervisor: HRUŠTINEC, Ľ.

ZLATINSKÁ, L.: Geotechnical Problems of Tailing Impoundments of Industrial Waste.

Supervisor: SLÁVIK, I.

## 3. RESEARCH

### 3.1 Research projects

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

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

### 3.2 International cooperation

#### Membership in international professional organizations

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

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

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

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

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

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

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

HRUŠTINEC, 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)

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

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

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

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

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

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

## 4. PUBLICATIONS

### Parts of Books

CHABROŇOVÁ, J. – BEDNÁR, M. – SNOPKO, J.: Analysis of Permanent Lining of Branisko Tunnel. In: Static and Dynamic Analysis of Reinforced Concrete Structures, Zurich: Trans Tech Publications, 2017, ISSN 1013-9826, ISBN 978-3-0357-1114-1, pp. 249 – 260 (in English)

### Journals

BEDNÁROVÁ, E. – GRAMBLIČKOVÁ, D.: Technical Measures – Part of the Flood Protection of Bratislava. In: Acta Hydrologica Slovaca, Vol. 18, No. 2, 2017, ISSN 1335-6291, pp. 210 – 216 (in Slovak)

BEDNÁROVÁ, E.: Extreme Hydrological Water and Water Construction. In: Water Management in the East Slovak Lowland, Vol. 20, No. 1, 2017, ISSN 1339-4096, pp. 11 – 12 (in Slovak)

GRAMBLIČKOVÁ, D. – BEDNÁROVÁ, E. – ŠKVARKA, J. – CHROBÁK, V.: Design, Assessment and Remediation of the Left Flood Protection Dike of the Váh River in KM 23.040 – 27.075. In: Acta Hydrologica Slovaca, Vol. 18, No. 1, 2017, ISSN 1335-6291, pp. 31 – 38 (in Slovak)

GREIF, V. – BRČEK, M. – VLČKO, J. – VARILOVÁ, Z. – ZVELEBIL, J.: Thermomechanical Behavior of Pravcicka Brana Rock Arch (Czech Republic). In: Landslides, Vol. 14, No. 4, 2017, ISSN 1612-510X, pp. 1441 – 1455 (in English)

KASANA, A. – BEDNÁROVÁ, E. – MAJERČÁKOVÁ, O. – NOVÁK, V.: Safety of Dams, Weirs and Levees During Flood Discharges in Slovakia. In: Acta Hydrologica Slovaca, Vol. 18, No. 2, 2017, ISSN 1335-6291, pp. 202 – 209 (in Slovak)

SNOPKO, J. – CHABROŇOVÁ, J. – ORAVCOVÁ, Z. – KLÚZ, M.: D4 Motorway, Karpaty Tunnel. In: Engineering Constructions, Vol. 65, No. 5, 2017, ISSN 1335-0846, pp. 30 – 32 (in Slovak)

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# DEPARTMENT OF LAND AND WATER RESOURCES MANAGEMENT

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Computer – Aided Design

Hydrology

Dendrology

Land Consolidation in Landscape Planning

River Restoration

Ecological Landscape Planning

Water Resources Management (Hlavčová)

Landscape Engineering

Landscape Architecture

Rural Landscaping

Landscape Ecology

River Training

Hydraulic and Water Management Structures

Design Studio Project – Water Management of Landscape

Design Studio Project 1

Biotechnology in Landscape Greenery

Historical Landscape Structures

River and Wetlands Restoration

Design Studio Project 2

Pedology and Soil Evaluation

Introduction to the Legislation of Landscaping and Landscape Planning

Design Studio Project 3

Landscape Planning

Diploma Seminar

Integrated Management of Catchments

GIS in Water Resources Management

#### Obligatory elective subjects

Project 1 – Sustainable Use of a Landscape

Project 2 – Introduction to the Design of Landscape Architecture

Studio Design Project in Landscape Planning

Mathematical Modelling in Hydrology

Ponds and Detention Reservoirs

EIA – Environmental Impact Assessment

Erosion and Transport Processes in a Landscape

3D Rendering

Information Technologies in Landscape Engineering and Hydroinformatics

Landscape Revitalisation

Water Management

Geographic Information Systems

Rural Areas

Morphological and Hydraulic Aspects of River Basins

Restoration of Historic Landscapes

Flood Risk Management

Technical and Art Works in Landscapes

Water Regime Treatment of a Landscape

Open Public Spaces

CAD and GIS in Landscape Engineering

Flood and Erosion Protection

River Regulation and River Restoration

CAD System in Landscape Engineering

Project 2

Water Resources Management

Flood Risk Management

Small Water Reservoirs

River and Wetlands Restoration

Landscape Water Regime Treatment

### 1.2 Postgraduate courses

Dissertation Project 1

Dissertation Project 2

Dissertation Project 3

Dissertation Project 4

Dissertation Project 5

Dissertation Project 6

Dissertation Project 7	BLAŽIČKOVÁ, T.: Proposal for the Revitalization of the River Malina and the Adjacent Area Supervisor: ŠKRINÁR, A.
Methodology of Science Work 1	
Methodology of Science Work 2	
Theory and Methodology of Landscape Architecture	BORÁROŠ, T.: Measurement of Discharges with a Mobile ADCP Ultrasonic Device in Open Channels in Slovakia Supervisor: VÝLETA, R.
Hydrodynamics of Porous Media	
Hydrology – Selected Chapters	
Landscape Ecology	DEMOVIČOVÁ, Z.: The Position and Potential of Green in Cities Supervisor: BELČÁKOVÁ, I.
River Restoration	
Deterministic Models of Hydrological Processes	DOBROCKÝ, M.: Diagnosis of a Soil Water Regime Supervisor: SKALOVÁ, J.
Hydropedology and Soil Assessment	
Landscape Planning	FÖLDES G.: Analysis of Future Changes in the Intensity of Short-Term Rainfall in a Southwestern Region Supervisor: KOHNOVÁ, S.
Systematics of Creative Activities in a Region	
Geoinformatics	
Risk Assessment of Extreme Hydrological Events	
Basics of the Design of Landscape Structures	GALBAVÁ, P.: Healing and Therapeutic Landscape Design Supervisor: BELČÁKOVÁ, I.
Restoration of Wetland Ecosystems	
Soil Water Regime	JURČI, M.: Analysis of Changes in the Retention Capacity of the Vrbovce Water Reservoir Supervisor: VÝLETA, R.
Chapters from Landscape Ecology and Landscape Planning	
Geoinformatics in Hydrology and Water Management	
Geostatistical Methods in Hydrology	KRAJČOVIČ, M.: Modelling the Impact of Climate Change on Catchment Runoff Supervisor: VALENT, P.
Landscape – Engineering Structures -Selected Chapters	
Methods and Models of Water Resources Assessments	
Hydrological Forecasting	LABAT, M. M.: Design of Landscape Engineering Measures for the Myjava River Basin Supervisor: HLAVČOVÁ, K.
Methods of Laboratory Research of Hydrodynamics Processes	
Simulation and Optimisation of Water Resources Systems	
Stochastic Models of Hydrological Processes	LEHOCZKÁ, M.: The Green Infrastructure of the Town of Komarno and Its Background Supervisor: REHÁČKOVÁ, T.

## 2. THESES

### 2.1 Bachelor theses

There were 12 works.

### 2.2 Graduate theses

ANDREJKO, J.: The Design of an Irrigation Solution for the Garden of a Family Dwelling  
Supervisor: Bajtek, Z.

BARNA, E.: Comparison of Selected Deterministic and Geostatistical Interpolation Methods of Daily Rainfall  
Supervisor: Valent, P.

BEŤKO, P.: Experimental Measurements of Surface Runoff with a Rainfall Simulator  
Supervisor: DANÁČOVÁ, M.

MAJTÁNOVÁ, N.: Flood Protection Draft for the Area of Myjava  
Supervisor: KOHNOVÁ, S.

MARTIŠKOVÁ, P.: Determination of Moisture Retention Curves for the Soil in the Myjava Area  
Supervisor: SKALOVÁ, J.

MIKLÓS, N.: Revitalisation of an Agricultural Landscape – Galanta and Its Surrounding  
Supervisor: BELČÁKOVÁ, I.

MIZIOVÁ, H.: Revitalisation of a Calvary  
Supervisor: BELČÁKOVÁ, I.

MOCHŇACKÁ, A.: Revitalization of the Calvary in Banská Štiavnica  
Supervisor: BELČÁKOVÁ, I.

NOVOTNÁ, M.: Revitalisation of the Calvary in Bratislava  
Supervisor: MACURA, V.

PEKLOVÁ, B.: Revitalization of Waterfront Zones: Case Study of Zvolen  
Supervisor: HLAVČOVÁ, K.

RAJKOVICS, D.: Prediction of the Transformation of Flood Routing on  
Designated Rivers of Slovakia  
Supervisor: SZOLGAY, J.

SEBŔOVÁ, K.: Design of a Irrigation System in the Village of Ohrady  
Supervisor: Bajtek, Z.

SCHREINEROVÁ, S.: Design of Landscape and Engineering Measures in the  
Locality of Vrbovce  
Supervisor: HLAVČOVÁ, K.

STANISLAVOVÁ, K.: The Influence of the Roma Community on the Landscape  
Supervisor: BELČÁKOVÁ, I.

STRIEBORNÁ, B.: Revitalization of the Recreational Area of the Town of  
Dudince  
Supervisor: REHÁČKOVÁ, T.

TIPULOVÁ, V.: Adaptation Measures for Towns Affected by Climate Change  
(Rehabilitation of an Internal Block on Hlboká Street in Trnava)  
Supervisor: REHÁČKOVÁ, T.

UHLIAROVA, E.: Regional Frequency Analysis of Rainfall Events  
Supervisor: DANÁČOVÁ, M.

VALENTOVIČ, L.: Revitalization of a Brownfield in a Neighborhood of  
Bratislava – Nové Mesto  
Supervisor: MACURA, V.

## 2.3 Doctoral theses

ČELÁR, L.: Optimization and Analysis of the Distribution System of an  
Irrigation System  
Supervisor: ČISTÝ, M.

KRAJČÍ, P.: Variability of Snow Accumulation and Melting in a Mountain  
Catchment  
Supervisor: HOLKO, L.

SLEZIAK, P.: Modeling of Rainfall-Runoff Processes under a Changing Climate  
Supervisor: SZOLGAY, J.

SOČUVKA, V.: Impact of Bed Sediment on the Interaction Between Surface  
Water and Groundwater  
Supervisor: VELÍSKOVÁ, Y.

STUDVOVÁ, Z.: Modeling of Erosion and Transport Processes in the Basins of  
Slovakia  
Supervisor: HLAVČOVÁ, K.

VALACH, J.: Assessment of the Impact of Climate on the Phenology of Woody  
Plants in an Arboretum Mlyňany SAS (Slovak Academy of Sciences)  
Supervisor: KOHNOVÁ, S.

## 3. RESEARCH

### 3.1 Research projects

Sensitivity of Flood Generation to Intensive Precipitation and Land Use in  
Headwaters 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 APVV-15-0489

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

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

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

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

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

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

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

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

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

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

## 3.2 International cooperation

### Cooperating institutions

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

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

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

Department of Hydraulic Structures, Warsaw Agricultural University, Poland  
University of Uppsala, Sweden

Delft Hydraulics, Delft, The Netherlands

Wageningen University, Wageningen, The Netherlands

European Joint Research Centre, ISPRA, Italy

University of Bologna, Italy

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

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

University of Jean Moulin Lyon 3, Lyon, France

University of Thessaly, Volos, Greece

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

### Membership in international professional organizations

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

HLAVČOVÁ, K.: Member of the Accreditation Commission, working group 10-Environmentalism and Ecology

HLAVČOVÁ, K.: Member of the Slovak Ramsar Committee – advisory body of the MoE SR

HLAVČOVÁ, K.: Member of the European Geosciences Union

HLAVČOVÁ, K.: Member of Technical Committee of Hydrotechnic Engineering and Hydromelioration

KOHNŮVÁ, S.: Member of Programm Committee for the HydroCarpath Conference

KOHNŮVÁ, S.: Member of TK 4 Hydrology and Meteorology

KOHNŮVÁ, S.: Member of the Editorial Board of the Austin Journal of Hydrology

KOHNŮVÁ, S.: Member of the European Geosciences Union

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

SZOLGAY, J.: Member of TK 4 Hydrology and Meteorology

SZOLGAY, J.: Member of the Program Committee for Hydrological Extremes of the Hydrological Division of the EGU

SZOLGAY, J.: Member of the Program Committee for Operational Forecasting and Warning Systems for Natural Hazards of the Hydrological Division of the EGU

SZOLGAY, J.: Conference Guarantor for the Hydrocarpath Conference

SZOLGAY, J.: Member of the Program Committee for River Basin Management and Extreme Hydrological Phenomena Conference

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

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

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

SZOLGAY, J.: Member of the Editorial Board of the Meteorological Journal

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

SZOLGAY, J.: Vice-chairman for the Slovak National Committee for the International Union of Geodesy and Geophysics

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

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

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 Representative of the International Association for Hydrological Sciences

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

ČISTÝ, M.: Member of Committee of TK 2 – Hydrotechnics and melioration

MACURA, V.: Member of Committee of TK 2 – Hydrotechnics and melioration

## 4. PUBLICATIONS

### Books

ČELÁR, L.: Improvement of the Irrigation Water Distribution System Design Using Reduction of the Search Space of the NSGA-II algorithm. 1. ed. Bratislava : Spektrum STU, 2017. CD, 49 pp.; 25. ISBN 978-80-227-4740-0 (in English)

SLEZIÁK, P.: Parametrization of Rainfall-Runoff Models Under a Changing Climate. 1. ed. Bratislava : Spektrum STU, 2017. CD, 73 pp. Editions of scientific works No. 171. ISBN 978-80-227-4756-1 (in Slovak)

### Journals

BLÖSCHL, G. – HALL, J. – PARAJKA, J. – PERDIGAO, R. A. P. – MERZ, B. – KOHNŮVÁ, S. – SZOLGAY, J.: Changing Climate Shifts Timing of European Floods. In: Science. Vol. 357, No. 6351 (2017), pp. 588-590. ISSN 0036-8075 (in English)

- ČISTÝ, Milan – BAJTEK, Zbyněk – ČELÁR, Lubomír. A Two-Stage Evolutionary Optimization Approach for An Irrigation System Design. In: *Journal of Hydroinformatics*. Vol. 19, No. 1 (2017), pp. 115-122. ISSN 1464-7141 (in English)
- HRUDKA, J. – ČERVEŇANSKÁ, M. [Nahálková, M.] – RUSNÁK, D. – CZÖLDEROVÁ, M. – SOLDÁNOVÁ, V.: Regulation Facilities at the Sewer Network as a Tool in Reducing the Effects of Heat Islands in Urban Areas. In: *Czech Journal of Civil Engineering*. Vol. 3, No. 2 (2017), online, pp. 66-72. ISSN 2336-7148 (in English)
- KALETOVÁ, T. – NÉMETOVÁ, Z.: Determination of Surface Runoff from the Modelled Area. In: *Environment, Earth and Ecology*. Vol. 1, No. 1 (2017), pp. 61-66. ISSN 2451-4225 (in English)
- KORBĚLOVÁ, L. – KOHNOVÁ, S.: Methods for Improvement of the Ecosystem Services of Soil by Sustainable Land Management in the Myjava River Basin. In: *Slovak Journal of Civil Engineering*. Vol. 25, No. 1 (2017), pp. 29-36. ISSN 1210-3896 (in English)
- MARKOVÁ, R. – KOHNOVÁ, S. – FÖLDES, G.: Seasonality and Decadal Change Analysis of the Maximum Annual Peak-Discharge Series in Gauging Stations Located in the Slovak-Polish Area of the Carpathian Mountains. In: *Acta Hydrologica Slovaca*. Vol. 18, No. 1 (2017), pp. 15-22. ISSN 1335-6291 (in Slovak)
- NOSKO, R. – MALIARIKOVÁ, M. – HLAVČOVÁ, K.: The Impact of Land Use Changes on the Ecological Stability of the Myjava River Basin. In: *Czech Journal of Civil Engineering*. Vol. 3, No. 2 (2017), online, pp. 136-142. ISSN 2336-7148 (in Slovak)
- PEKSOVÁ SZOLGAYOVÁ, E. – DANÁČOVÁ, M. – KOMORNÍKOVÁ, M. – SZOLGAY, J.: Hybrid Forecasting of Daily River Discharges Considering Autoregressive Heteroscedasticity. In: *Slovak Journal of Civil Engineering*. Vol. 25, No. 2 (2017), pp. 39-48. ISSN 1210-3896 (in English)
- ROGGER, M. – AGNOLETTI, M. – ALAOUI, A. – BATHURST, J. C. – BODNER, G. – KOHNOVÁ, S. – SZOLGAY, J.: Land Use Change Impacts on Floods at the Catchment Scale: Challenges and Opportunities for Future Research. In: *Water Resources Research*. Vol. 53, No. 7 (2017), pp. 5209-5219. ISSN 0043-1397 (in English)
- RONČÁK, P.- HLAVČOVÁ, K. – KOHNOVÁ, S. – SZOLGAY, J.: Changes in Design Discharges in Selected Catchments in Slovakia in Future Decades. In: *Acta Hydrologica Slovaca*. Vol. 18, No. 2 (2017), pp. 174-182. ISSN 1335-6291 (in Slovak)
- RONČÁK, P. – LISOVSKI, E. – SZOLGAY, J. – HLAVČOVÁ, K. – KOHNOVÁ, S. – CSOMA, R. – POÓROVÁ, J.: The Potential for Land Use Change to Reduce Flood Risk in Mid-Sized Catchments in the Myjava Region of Slovakia. In: *Contributions to Geophysics and Geodesy*. Vol. 47, No. 2 (2017), pp. 95-112. ISSN 1335-2806 (in English)
- RUTKOWSKA, A. – ŻELAZNY, M.- KOHNOVÁ, S. – ŁYP, M. – BANASIK, K.: Regional L-Moment-Based Flood Frequency Analysis in the Upper Vistula River Basin, Poland. In: *Pure and Applied Geophysics*. Vol. 174, No. 2 (2017), pp. 701-721. ISSN 0033-4553 (in English)
- SLEZIAK, P. – HLAVČOVÁ, K. – SZOLGAY, J. – PARAJKA, J.: Dependence of the Quality of a Runoff-Simulation by a Rainfall-Runoff Model on the Differences in the Hydroclimatic Conditions of Calibration and Validation Periods. In: *Acta Hydrologica Slovaca*. Vol. 18, No. 1 (2017), pp. 23-30. ISSN 1335-6291 (in Slovak)
- SZÖKEOVÁ, D. – KOHNOVÁ, S.: Modelling of Mean Monthly Discharges Using the SETAR and LSTAR Regime – Switching Models. In: *Acta hydrologica Slovaca*. Vol. 18, No. 1 (2017), pp. 3-14. ISSN 1335-6291 (in Slovak)
- ŠKVARENINOVÁ, J. – BABÁLOVÁ, D. – VALACH, J.- SNOPOKOVÁ, Z.: Impact of Temperature and Wetness of Summer Months on Autumn Vegetative Phenological Phases of Selected Species in Fageto-Quercetum in the Years 2011-2015. In: *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*. Vol. 65, No. 3 (2017), pp. 939-946. ISSN 1211-8516 (in English)
- VALENT, P. – PAQUET, E.: An Application of a Stochastic Semi-Continuous Simulation Method for Flood Frequency Analysis: A Case Study in Slovakia. In: *Slovak Journal of Civil Engineering*. Vol. 25, No. 3 (2017), pp. 33-44. ISSN 1210-3896 (in English)
- VALENT, P. – RONČÁK, P. – MALIARIKOVÁ, M. – KOHNOVÁ, S. – SZOLGAY, J. – HLAVČOVÁ, K.: Assessment of the Impact of Land Use and Management on the Generation of Runoff from the Myjava River Basin. In: *Acta Hydrologica Slovaca*. Vol. 18, No. 2 (2017), pp. 165-173. ISSN 1335-6291 (in Slovak)
- VASILAKI, M. – KOHNOVÁ, S. – HANEL, M. – SZOLGAY, J. – HLAVČOVÁ, K. – LOUKAS, A. – RONČÁK, P.: Detection of Future Changes in Seasonality in Extreme Short-Term Rainfall in Selected Stations of Slovakia. In: *Contributions to Geophysics and Geodesy*. Vol. 47, No. 2 (2017), pp. 133-148. ISSN 1335-2806 (in English)
- VÝLETA, R. – SPÁL, P. – DANÁČOVÁ, M.: Measurement of the Bathymetry of a Small Water Reservoir Using an Ultrasonic Acoustic Doppler Current Profiler. In: *Czech Journal of Civil Engineering*. Vol. 3, No. 2 (2017), online, pp. 191-196. ISSN 2336-7148 (in Slovak)

## Conference Proceedings

- BOHDAL, R. – BOHDALOVÁ, M. – KOHNOVÁ, S.: Using Genetic Algorithms to Estimate Local Shape Parameters of RBFs. In: *Computer Science Research Notes: Proceedings. WSCG 2017, Pízen, Czech Republic, May 29 – June 2, 2017*. Vol. 2702, (2017), pp. 59-66. ISSN 2464-4617 (in English)
- CYPRICH, F.: The Assessment of Changes in Land Use in the Village of Podhorany in the Monitored 1949-2012 Time Horizon. In: *29th Conference of Young Hydrologists, 16 th Conference of Young Water Managers, 18 th Conference of Young Meteorologists and Climatologists. Bratislava, SR, 9. 11. 2017*. 1. ed. Bratislava: Slovak Hydrometeorological Institution, 2017, CD, [10] p. ISBN 978-80-88907-95-4 (in Slovak)
- ČISTÝ, M. – SOLDÁNOVÁ, V.: Comparison of the Hydrologic and Data Driven River Flow Generators. In: *SGEM 2017. 17 th International Multidisciplinary Scientific GeoConference*. Vol. 17. Water Resources. Forest, Marine and Ocean Ecosystems: Conference Proceedings. Vienna, Austria, 27 – 29 Nov. 2017. 1. ed. Sofia: STEF 92 Technology, 2017, pp.111-118. ISSN 1314-2704. ISBN 978-619-7408-27-0 (in English)

- ČISTÝ, M. – BAJTEK, Z. – ČELÁR, L. – SOLDÁNOVÁ, V.: New Methods Versus the Smart Application of Existing Tools in the Design of Water Distribution Network. In: Geophysical Research Abstracts. Vol. 19/2017: the Open-Access Abstracts of the EGU General Assemblies. Göttingen: Copernicus Publications, 2017, online, [1] p. ISSN 1607-7962 (in English)
- DANÁČOVÁ, M. – VÝLETA, R. – VALENT, P. – HLAVČOVÁ, K.: The Impact of Slope Gradients on the Generation of Surface Runoff in Laboratory Conditions. In: SGEM 2017. 17 th International Multidisciplinary Scientific GeoConference. Vol. 17. Water Resources. Forest, Marine and Ocean Ecosystems: Conference Proceedings. Albena, Bulgaria, 29 June – 5 July 2017. 1. ed. Sofia : STEF 92 Technology, 2017, pp. 677-684. ISSN 1314-2704. ISBN 978-619-7408-04-1 (in English)
- DANÁČOVÁ, M. – VALENT, P. – VÝLETA, R. – HLAVČOVÁ, K.: The Effects of Rainfall on Surface Runoff and Soil Erosion from Forest Areas. In: SGEM 2017. 17 th International Multidisciplinary Scientific GeoConference. Vol. 17. Water Resources. Forest, Marine and Ocean Ecosystems: Conference Proceedings. Vienna, Austria, 27 – 29 Nov.r 2017. 1. ed. Sofia : STEF 92 Technology, 2017, pp. 641-648. ISSN 1314-2704. ISBN 978-619-7408-27-0 (in English)
- DANÁČOVÁ, M. – VALENT, P. – VÝLETA, R.: Evaluation of Surface Runoff Generation Processes Using a Rainfall Simulator: A Small Scale Laboratory Experiment. In IOP Conference Series: Earth and Environmental Science. Vol. 95, (2017), [8] p. ISSN 1755-1307 (in English)
- ĎURIGOVÁ, M. [Haburajová, M.]: Detection of Changes in Monthly Discharges for Selected Stage-Discharge Gauging Stations. In: Advances in Architectural, Civil and Environmental Engineering : 27 th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Geodesy and Cartography, Landscaping, Building Technology, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Theory and Environmental Technology of Buildings, Water Resources Engineering. 25. Oct. 2017, Bratislava, Slovakia. 1. ed. Bratislava : Spektrum STU, 2017, CD, pp. 536-542. ISBN 978-80-227-4751-6 (in Slovak)
- FÖLDES, G. – KOHNOVÁ, S.: Analysis of Future Changes in Trends and Scaling Coefficients in Short-Term Rainfall in Southwestern Slovakia. In: Architectural, Engineering and Information Sciences : Abstract Book. 13 th Miklós Iványi International PhD & DLA Symposium. Nov. 3-4, 2017, Pécs, Hungary. Pécs : Pollack Press, 2017, p. 40. ISBN 978-963-642-780-1 (in English)
- FÖLDES, G.: Analysis of Future Changes in the Seasonality and Trends in Short-Term Rainfall at the Bratislava-Koliba Climatological Station. In: 29 th Conference of Young Hydrologists, 16 th Conference of Young Water Managers, 18 th Conference of Young Meteorologists and Climatologists. Bratislava, SR, 9. 11. 2017. 1. ed. Bratislava: Slovak Hydrometeorologica Institute, 2017, CD, [10] p. ISBN 978-80-88907-95-4 (in Slovak)
- HLAVČOVÁ, K. – KOHNOVÁ, S. – VELÍSKOVÁ, Y. – STUDVOVÁ, Z. – SOČUVKA, V. – NÉMETOVÁ, Z. – ĎURIGOVÁ, M. [Haburajová, M.]: Quantification of Soil Erosion and Transport Processes in the Myjava Hill Land. In: Geophysical Research Abstracts. Vol. 19/2017: the Open-Access Abstracts of the EGU General Assemblies. Göttingen: Copernicus Publications, 2017, online, [1] p. ISSN 1607-7962 (in English)
- HLAVČOVÁ, K. – STUDVOVÁ, Z. – KOHNOVÁ, S. – SZOLGAY, J.: Estimating Effectiveness of Crop Management for Reduction of Soil Erosion and Runoff. In: IOP Conference Series: Earth and Environmental Science. Vol. 92, (2017), [5] p. ISSN 1755-1307 (in English)
- HLAVČOVÁ, K. – KOHNOVÁ, S. – SZOLGAY, J.: The RECARE Project – Preventing and Remediating Degradation of Soils in Europe Through Land Care: The Myjava River Basin Case Study. In: HydroCarpath 2017. Catchment Processes in Regional Hydrology: Experiments, Patterns and Predictions: Abstracts of the Conference. Vienna/Bratislava/Sopron, 1. 12. 2017. 1. ed. Sopron: University of Sopron Press, 2017, pp. 15-16. ISBN 978-963-359-092-8 (in English)
- HRUDKA, J. – ČERVEŇANSKÁ, M. [Nahálková, M.] – RUSNÁK, D. – CZÖLDEROVÁ, M. – SOLDÁNOVÁ, V.: Regulation of Stormwater Surface Runoff from Urbanized Areas as a Tool for Elimination of the UHI Effect. In: Conference of Young Researchers – KOMVY 2017. Chvojnica, SR, 20. – 22. 11. 2017. 1. ed. Bratislava: Spektrum STU, 2017, CD, pp. 40-48. ISBN 978-80-227-4749-3 (in Slovak)
- KESZELIOVÁ, A.: Selected Functional Traits of Populus Alba L in Various Ecological Conditions. In: 29 th Conference of Young Hydrologists, 16 th Conference of Young Water Managers, 18 th Conference of Young Meteorologists and Climatologists. Bratislava, SR, 9. 11. 2017. 1. ed. Bratislava: Slovak Hydrometeorological Institute, 2017, CD, [12] p. ISBN 978-80-88907-95-4 (in Slovak)
- KESZELIOVÁ, A. Parameterizing Mathematical Models of Runoff Based on Site Conditions and Ecological Indicators. In: Conference of Young Researchers – KOMVY 2017. Chvojnica, SR, 20. – 22. 11. 2017. 1. ed. Bratislava : Spektrum STU, 2017, CD, pp. 56-62. ISBN 978-80-227-4749-3 (in Slovak)
- KOHNOVÁ, S. – JENEIOVÁ, K. – PARAJKA, J. – HALL, J. – MARKOVÁ, R.: Detecting Seasonal Flood Changes in The Upper Danube River Basin. In: Geophysical Research Abstracts. Vol. 19/2017: the Open-Access Abstracts of the EGU General Assemblies. Göttingen: Copernicus Publications, 2017, online, [1] p. ISSN 1607-7962 (in English)
- KOHNOVÁ, S. – PAPAIOANNOU, G. J. – BACIGÁL, T. – SZOLGAY, J. – HLAVČOVÁ, K. – LOUKAS, A. – VÝLETA, R.: On the Suitability of The Copula Types for the Joint Modelling of Flood Peaks and Volumes Along the Danube River. In: Geophysical Research Abstracts. Vol. 19/2017 : the Open-Access Abstracts of the EGU General Assemblies. Göttingen: Copernicus Publications, 2017, online, [1] p. ISSN 1607-7962 (in English)
- KOHNOVÁ, S. – HLAVČOVÁ, K. – VELÍSKOVÁ, Y. – SOČUVKA, V. – STUDVOVÁ, Z.: Comparison of Erosion Modelling and Bathymetry Measurements of Sediment Transport in the Svacenicny Creek Basin in Slovakia. In: WMHE 2017: Proceedings of the 15th International Symposium on Water Management and Hydraulic Engineering, Sep. 6 th – 8 th, 2017, Primošten, Croatia. 1. ed. Zagreb : Faculty of Civil Engineering Zagreb, Croatia, University of Zagreb, 2017, USB key, pp. 52-59. ISSN 2410-5910. ISBN 978-953-8168-17-8 (in English)



LABAT, M. M. – HLAVČOVÁ, K.: Design of Soil Erosion Control Measures and Assessment of Their Effect on Peak Flow Reduction. In: Architectural, Engineering and Information Sciences: Abstract Book. 13 th Miklós Iványi International PhD & DLA Symposium. Nov. 3-4, 2017, Pécs, Hungary. Pécs : Pollack Press, 2017, p. 83. ISBN 978-963-642-780-1 (in English)

LABAT, M. M.: Design of Landscape Engineering Measures for the Myjava River Basin. In: 29 th Conference of Young Hydrologists, 16 th Conference of Young Water Managers, 1 th. Conference of Young Meteorologists and Climatologists. Bratislava, SR, 9. 11. 2017. 1. ed. Bratislava : Slovak Hydrometeorological Institute, 2017, CD, [12] p. ISBN 978-80-88907-95-4 (in Slovak)

MACURA, V. – ŠKRINÁR, A. – ŠTEFUNKOVÁ, Z. – MUCHOVÁ, Z. – MAJOROŠOVÁ, M.: Designing the Alluvial Riverbeds in Curved Paths. In: IOP Conference Series: Materials Science and Engineering. Vol. 245, (2017), [7] p. ISSN 1757-8981 (in English)

MAJOROŠOVÁ, M. – VASEKOVÁ, B.: Positive Aspects of the Presence of Invasive Plants in the Riverbank Vegetation. In: Science of Youth 2017: Proceedings. June 26 – 28, 2017, Ráztočno, Slovakia. 1. ed. Nitra: Slovak University of Agriculture in Nitra, 2017, online, pp. 64-70. ISBN 978-80-552-1688-1 (in English)

MAJOROŠOVÁ, M. – VASEKOVÁ, B.: Steps in the Process of Eradicating Fallopia Japonica in Areas Close to Rivers. In: HydroCarpath 2017. Catchment Processes in Regional Hydrology: Experiments, Patterns and Predictions: Abstracts of the Conference. Vienna/Bratislava/Sopron, 1. 12. 2017. 1. ed. Sopron: University of Sopron Press, 2017, p. 26. ISBN 978-963-359-092-8 (in English)

MALIARIKOVÁ, M.: Changes In the Land Use and Ecological Stability of the Landscape in the Myjava River Basin. In: Advances in Architectural, Civil and Environmental Engineering: 27 th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Geodesy and Cartography, Landscaping, Building Technology, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Theory and Environmental Technology of Buildings, Water Resources Engineering. 25. Oct.2017, Bratislava, Slovakia. 1. ed. Bratislava: Spektrum STU, 2017, CD, pp. 179-185. ISBN 978-80-227-4751-6 (in Slovak)

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- VÝLETA, R. – DANÁČOVÁ, M. – VALENT, P.: Analysis of Change of Retention Capacity of a Small Water Reservoir. In: IOP Conference Series: Earth and Environmental Science. Vol. 92, (2017), [5] p. ISSN 1755-1307 (in English)
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### **Others**

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Staromestské noviny. Vol. 9, No. 10 (2017), p. 2. ISSN 1338-886X (in Slovak)

MAJOROŠOVÁ, M.: Inhabitants Contribute to a City's Appearance. In:  
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# 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 on Land  
Hydraulics  
Hydrodynamics of a Porous Environment  
Hydroinformatics  
Hydromechanics  
Project 1  
Project 2  
Project 3  
Structures for the Protection and Utilization of Land  
Studio Work – Hydraulic Engineering  
Utilization of Water Power  
Waterways  
Weir Structures  
Weirs and Waterways

#### Obligatory elective subjects

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

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

#### 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 10 works.

### 2.2 Graduate theses

BAŠTUGOVÁ, N.: Design of the Intake Structure of a Low-Head Small Hydropower Plant  
Supervisor: ŠULEK, P.

BUČEK, D.: 2D Hydrodynamic Model of Flow with Sediment Transport in the Morava River  
Supervisor: ORFÁNUS, M.

KALABOVÁ, B.: Possibilities of the Use of Hydropower at the Planned Kolárovo Water Structure  
Supervisor: ŠULEK, P.

KOLEŠÁR, M.: Hydraulic Assessment of the Tice Wetland System  
Supervisor: ŠOLTÉSZ, A.

KOLOS, O.: Design and Optimization of a Hydraulic System for Decreasing the Piezometric Head in Selected Region  
Supervisor: BAROKOVÁ, D.

KUPA, J.: Hydraulic Assessment of the Flood Protection of the Town of Bardejov  
Supervisor: ŠOLTÉSZ, A.

MACO, S.: Hydraulic Assessment of the Flow in the Intake Structure of the Trenčianske Biskupice I SHPP  
Supervisor: RUMANN, J.

MAJZLÍK, E.: Design of the Reconstruction and Modernization of a SHPP in Liptovská Kokava  
Supervisor: DUŠIČKA, P.

MARTINÁK, J.: Design of the Reconstruction of a SHPP in Liptovská Kokava  
Supervisor: DUŠIČKA, P.

MILAN, J.: Design of the Reconstruction and Modernization of the Veľké Bielice SHPP  
Supervisor: DUŠIČKA, P.

NASIR, S.: Assessment of the Flood Protection of a Residential Area of Bratislava – Rača  
Supervisor: ŠOLTÉSZ, A.

PETERKOVÁ, P.: Design of the Fish Pass for the Planned Kolárovo Water Structure  
Supervisor: RUMANN, J.

PUŠKÁČ, M.: 3D Hydrodynamic Model of the Flow in the Surroundings of a Water Structure  
Supervisor: ORFÁNUS, M.

ŠILLE, A.: Assessment of the Effects of Underground Sealing Walls on a Groundwater Regime Supervisor: BAROKOVÁ, D.

ŠIMO, F.: Design and Hydraulic Modelling of a Fish Pass at the Sečovská Polianka Water Structure on the Topľa River  
Supervisor: CABADAJ, R.

TIMKOVÁ, N.: Possibilities for Additional Irrigation of Fruit Orchards in the Bánovce nad Bebravou Region  
Supervisor: ŠOLTÉSZ, A.

VICIANOVÁ, M.: Optimization of the Typical Navigation Project of the VIa Class with Respect to the Water Flow Parameters  
Supervisor: MOŽIEŠIK, L.

VICIANOVÁ, S.: Study of Temporary Damming of Weirs  
Supervisor: GRAMBLIČKA, M.

## 2.3 Doctoral theses

DUŠEK, P.: Fluctuation of the Groundwater Level According to the Fluctuations of Water Levels in Surrounding Surface Channels  
Supervisor: VELÍSKOVÁ, Y.

KRÁLOVIČ, O.: Optimization of Navigation Project Designs by Means of Mathematical Modelling  
Supervisor: MOŽIEŠIK, L.

TVRDOŇ, M.: Research on the Effects of Geometric Characteristics of Flat Bar Screenings on Their Self-Cleaning Ability  
Supervisor: DUŠIČKA, P.

## 3. RESEARCH

### 3.1 Research projects

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

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

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

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

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

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

### 3.2 International cooperation

#### Cooperating institutions

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

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

## Membership in international professional organizations

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

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

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

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

## 4. PUBLICATIONS

### Journals

BAROKOVÁ, D. – ČERVEŇANSKÁ, M. – SHENGA, Z. D. – ŠOLTÉSZ, A.: Groundwater Resources Control During Extreme Situations. In: *Journal of Landscape Management*. Vol. 8, No. 2, 2017, pp. 15-21, ISSN 1804-2821 (in English)

BAROKOVÁ, D. – ŠOLTÉSZ, A. – SHENGA, Z. D.: Numerical Modelling of Groundwater to Assess the Impact of Proposed Railway Construction on Groundwater Regime. In: *Journal of Landscape Management*. Vol. 8, No. 2, 2017, pp. 22-28, ISSN 1804-2821 (in English)

BUČEK, D. – ORFÁNUS, M. – DUŠIČKA, P.: Numerical Modelling of Hydromorphodynamic Development of River Restoration Scenario. In: *Journal of Landscape Management*. Vol. 8, No. 2, 2017, pp. 33-36, ISSN 1804-2821 (in English)

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# DEPARTMENT OF BUILDING CONSTRUCTION

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Building Acoustics and Illumination

Building and Energy

Building Constructions 1

Building Constructions 2

Building Constructions 3

Building Constructions 4

Building Constructions 5

Building Energy and Environmental Simulations

Building Energy and Indoor Environment Simulations

Building Pathology

Building Physics (in English)

Constructions in Architecture 1 (in English)

Constructions in Architecture 2 (in English)

Constructions in Architecture 3 (in English)

Design Basics

Design of Architectural Constructions

Design Studio

Design Studio 3

Design Studio 4

Ecological Architecture

Excursion

Final Thesis

Fire Engineering of Buildings

Fire Safety of Buildings

Master's Seminar

Master's Thesis

Methodology of Scientific Experiments

Modelling of Climatic Processes

Physics of Indoor Environments

Practical Training

Professional Practice

Project 1 – Low-Energy Buildings

Reconstruction of Buildings and Preservation of Monuments 1

Renovation of Buildings

Selected Problems of Building Constructions

Special Architectural Structures

Special Building Constructions

Studio of Building Design I

Studio of Building Design II

Studio of Building Design III

Technical Drawing

Thermal Performance of Buildings

#### Obligatory elective subjects

Acoustics in Architecture

Advanced Building Materials and Constructions

Aerodynamics and Hydrodynamics of Buildings

Facade Techniques of Intelligent Buildings

Solar Technology and Illumination of Buildings

Thermal Protection of Buildings

#### Optional subjects

Building-Physical Construction

Computer Graphics

Computer Graphics and Visualization

Computer Graphics and Visualization I

Information Technologies

Building Design

### 1.2 Postgraduate courses

Aerodynamics and Hydrodynamics of Buildings

Buildings and Energy

Buildings and Urban Acoustics

Building Climatology

Building Constructions – Selected Essays

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

Guričan, P.: Administrative building  
 Supervisor: HRAŠKA, J.

Holova, M.: Town library  
 Supervisor: RABENSEIFER, R.

Hudcovský, A.: Administrative building  
 Supervisor: BUDAY, P.

Chimič, J.: drugs and nutritional supplements Store  
 Supervisor: CHMÚRNÝ, I.

Jedinák, D.: Library  
 Supervisor: CHMÚRNÝ, I.

Jelínková, Z.: Shopping mall – reconstruction  
 Supervisor: DRŽKA, M.

Kántorová, V.: Hotel  
 Supervisor: DRŽKA, M.

Klučárová, L.: Art School  
 Supervisor: JAKEŠ, E.

Kmošena, M.: Recovery and adaptation of a multifunctional Building  
 Supervisor: VARGOVÁ, A.

Koday, L.: Health Center  
 Supervisor: INGELI, R.

Kopčeková, N.: Wellness center  
 Supervisor: RABENSEIFER, R.

Kostelanský, A.: Family farm: the breeding of cold-blooded horses  
 Supervisor: MIKOLAI, I.

Kováčsová, L.: Mountain Hotel  
 Supervisor: DRŽKA, M.

Kováč, J.: Museum and photograph gallery  
 Supervisor: PALKO, M.

Kováčová, V.: Mountain hotel  
 Supervisor: HRAŠKA, J.

Krak, F.: Conference center  
 Supervisor: PUŠKÁR, A.

Krutý, M.: Hotel  
 Supervisor: VAVROVIČ, B.

Lešková, M.: Renovation and Modernization of a Cultural Center  
 Supervisor: RABENSEIFER, R.

Malachovská, J.: Art gallery  
 Supervisor: INGELI, R.

## 2. THESES

### 2.1 Bachelor theses

There were 117 works.

### 2.2 Graduate theses

ANDRÁŠIK, M.: Reconstruction of a Manor House  
 Supervisor: MENĎAN, R.

BAJUS, J.: Observatory and Planetarium  
 Supervisor: HANULIAK, P.

BALLOVÁ, R.: Embassy  
 Supervisor: JAKEŠ, E.

BELEŠOVÁ, V.: Faculty  
 Supervisor: MAŇKOVÁ, L.

BLAŠKOVÁ, M.: Church  
 Supervisor: PALKOVÁ, A.

BLAŽO, A.: Bus Station  
 Supervisor: PALKOVÁ, A.

BOČKAJ, J.: Auto Showroom  
 Supervisor: ŽILINSKÝ, J.

BUKOVČÁK, J.: Shopping Mall  
 Supervisor: DLHÝ, D.

BULLA, O.: Elementary School  
 Supervisor: PUŠKÁR, A.

GAÁLOVÁ, Ž.: High-Rise Administrative Building with a Double  
 Transparent Facade  
 Supervisor: BIELEK, B.

GÁBRIŠOVÁ, L.: Pension  
 Supervisor: MINAROVÍČOVÁ, K.

GARAJ, T.: Administrative Building  
 Supervisor: JAMNICKÝ, M.

GENDIAR, J.: The White Mill  
 Supervisor: JAKEŠ, E.

Matus, K.: Family Farm – Wine Production  
Supervisor: MIKOLAI, I.

Mészárosóvá, A.: Family winery – production of wine  
Supervisor: MIKOLAI, I.

Mikuš, M.: Bus station  
Supervisor: MENĎAN, R.

Miškovičová, V.: Main integrated district Fire and rescue station in Námestovo  
Supervisor: OLBŘÍMEK, J.

Mišún, M.: Company Headquarters  
Supervisor: JAMNICKÝ, M.

Mókušová, A.: University library  
Supervisor: HANULIAK, P.

Nagy, M.: Rehabilitation and relaxation center  
Supervisor: JAMNICKÝ, M.

Ondrkál, O.: Manor house  
Supervisor: PALKO, M.

Papan, P.: District Police Department with Client Center  
Supervisor: MAŇKOVÁ, L.

Pastierik, M.: City Hotel  
Supervisor: MINAROVÍČOVÁ, K.

Plošický, M.: Administrative centre  
Supervisor: HRAŠKA, J.

Podmanincová, V.: Nursery school  
Supervisor: CHMELÍK, V.

Polkorábová, N.: Guest house  
Supervisor: CHMELÍK, V.

Pračková, M.: Winery  
Supervisor: PALKOVÁ, A.

Rusnák, P.: Water Tower – recovery and adaptation  
Supervisor: VARGOVÁ, A.

Sianta, E.: Film studio  
Supervisor: VARGOVÁ, A.

Skladany, T.: Cultural center  
Supervisor: MINAROVÍČOVÁ, K.

Sonnek, T.: Multifunctional sport gym  
Supervisor: PUŠKÁR, A.

Stanek, P.: Hotel 3\*  
Supervisor: DLHÝ, D.

Surma, P.: Tribune of a football stadium  
Supervisor: ŽILINSKÝ, J.

Špetko, A.: Prison  
Supervisor: PALKO, M.

Štefanovičová, M.: Dance Studio  
Supervisor: ŽILINSKÝ, J.

Vnuk, P.: Reconstruction of the Ludwig mill  
Supervisor: MAŇKOVÁ, L.

## 2.3 Doctoral theses

Ferenčíková, M.: Availability of Daylight in Buildings during Working Hours  
Supervisor: DARULA, S.

Franek, M.: Impact of the effects of interference on the distribution of the external pressure coefficient for elliptical high-rise buildings  
Supervisor: ŽILINSKÝ, J.

Leitnerová, S.: Effect of fire barriers on the spreading of fire in cavities in timber structures  
Supervisor: OLBŘÍMEK, J.

## 3. RESEARCH

### 3.1 Research projects

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

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 Energy, SEP-210174191

Advanced Physical-Acoustic and Psycho-Acoustic Diagnostic Methods for Innovations in Building Acoustics – Papabuild (MSCA – 690970)  
(2016-2020, CHMELÍK, V.) H2020: Excellence: Action Marie Skłodowska-Curie (MSCA)

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

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

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

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

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

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

### 3.2 International cooperation

#### Cooperating institutions

TU Vienna, Austria

Wolfen WIRN, Austria

ČVUT Prague, Czech Republic

VUT Brno, Czech Republic

KEB Berlin, Germany

IFT Rosenheim, Germany

Planungsinstitut für ländliche Siedlung, Stuttgart, Germany

TU Budapest, Hungary

TU Győr, Hungary

CE Haifa, Israel

TU Eindhoven, The Netherlands

TU Delft, The Netherlands

KU Leuven, Belgium

MISI Moscow, Russia

TU Kharkov, Ukraine

University of Strathclyde, United Kingdom

Chungnam National University, Daejeon, Korea

#### Membership in international professional organizations

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

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

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

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

Rychtáriková, M., Chmelík, V., Szabó, D., Zelem, L.: EAA – European Acoustic  
Association

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

## 4. PUBLICATIONS

### Books

HRAŠKA, J.: Comfortable Indoor Environments in Buildings: Thermal Comfort,  
Daylighting and Sunlight, Indoor Air Quality. 1. ed. Brno: Tribun EU, 2017.  
76 pp. ISBN 978-80-263-1349-6 (in Slovak)

CHMÚRNÝ, I.: Thermal Protection of Buildings: Selected Chapters. 1. ed. Brno:  
Tribun EU, 2017. 105 pp. ISBN 978-80-263-1339-7 (in Slovak)

INGELI, R.: Energy performance of buildings: Impact of preparation of project,  
realization of construction and operation of building energy performance.  
1. ed. Brno: Tribun EU, 2017. 81 pp. ISBN 978-80-263-1350-2 (in Slovak)

INGELI, R.: Manual on the Energy Efficiency of Buildings: Thermal Engineering  
Assessment. 1. ed. Brno: Tribun EU, 2017. 85 pp. ISBN 978-80-263-1377-9  
(in Slovak)

KURÁŇ, J. – BAUER, P. – BORECKÁ, E. – DOHŇANSKÁ, E. – DOHŇANSKÁ, Z.  
– HÉPAL, M. – HÚSENICOVÁ, J. – KUBIŠOVÁ, M. – MELLNER, D. –  
MUDRONČÍK, M. – NÁDASKÁ, Z. – PAŇÁK, P. – PILAŘ, P. – PUŠKÁR, A.  
– ŘEHÁK, I. – ŠIMKOVIČOVÁ, V.: Continuum. 1. ed. Brno: Tribun EU, 2017.  
110 pp. ISBN 978-80-263-1383-0 (in Slovak)

PALKO, M. – BOSÁK, L. – BOHUNICKÝ, B. – HOLLÝ, J. – PALKOVÁ, A. – CRUZ,  
S. – BLAŽO, A. – KOVÁČ, J. – VAVROVIČ, B. – FRANEK, M. – RABENSEIFER,  
R. – PAVČEKOVÁ, M. – MAŇKOVÁ, L. – MINAROVÍČOVÁ, K. – HANULIAK,  
P. – SZABÓ, D. – VARGOVÁ, A. – ŠUJANOVÁ, P. – ČEHELOVÁ, D. – BIELEK,  
B. – TOMAŠOVIČ, P. – DRŽKA, M. – DEÁKOVÁ, K.: Selected laboratory  
instrumentation of building physics. 1. ed. Brno: Academic publisher CERM,  
2017. CD-ROM, 130 pp. ISBN 978-80-7204-968-4 (in English)

PALKOVÁ, A. – PALKO, M.: Architectural and construction design 1: Bachelor  
Thesis. 1. ed. Bratislava: Spektrum STU 2017. CD-ROM, 164 pp. University  
textbooks edition. ISBN 978-80-227-4760-8 (in English)

PALKOVÁ, A. – PALKO, M. – BOSÁK, L.: Architectural and construction design  
2 : Diploma thesis. 1. ed. Bratislava: Spektrum STU, 2017. CD-ROM, 141 pp.  
University textbooks edition. ISBN 978-80-227-4761-5 (in English)

RABENSEIFER, R.: Introduction to Building Physics Study: Thermal Protection  
and Energy Efficiency of Buildings. 1. ed. Brno: Tribun EU, 2017. 67 pp. ISBN  
978-80-263-1351-9 (in Slovak)

## Textbooks

DLHÝ, D. – MINAROVÍČOVÁ, K.: Constructions in Architecture I: Introduction. 1. ed. Bratislava: Spektrum STU, 2017. CD-ROM, 86 pp. ISBN 978-80-227-4763-9 (in English)

HRAŠKA, J.: Structures of Buildings: Basic terminology and classification of building structures, Building requirements and design principles, Standards and standardization. 1. ed. Bratislava: Spektrum STU, 2017. 120 pp. Textbooks edition. ISBN 978-80-227-4748-6 (in Slovak)

HRAŠKA, J.: Special building structures: Architectural and constructional principles of building protection against earthquakes, Health hazards of buildings. 1. ed. Bratislava: Spektrum STU, 2017. 60 pp. Textbooks edition. ISBN 978-80-227-4752-3 (in Slovak)

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MAJDÚCH, D. – GREGUŠOVÁ, S. – HOLLÝ, J.: Real Estate Valuation – Exercises. 1. ed. Bratislava: Spektrum STU, 2017. 121 pp. Textbooks edition. ISBN 978-80-227-4747-9 (in Slovak)

## Journals

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BIELEK, B. – SZABÓ, D.: The effect of acoustical treatment of facade element frame profiles on its sound insulation properties. In: Akustika. Vol. 27, (2017), pp. 2-11. ISSN 1801-9064 (in English)

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BUDAY, P. – INGELI, R.: The relationship between the need for heat and cold and the size of transparent structures of a family house. In: TZB-info.cz. Vol. 19, No. 48 (2017), online, pp. ISSN 1801-4399 (in Slovak)

ČEHELOVÁ, D. – URBÁN, D. – BIELEK, B. – CHMELÍK, V. – RYCHTÁRIKOVÁ, M. – ROOZEN, N. B.: Literature review on wind induced sound on buildings. In: Akustika. Vol. 27, (2017), pp. 43-48. ISSN 1801-9064 (in English)

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MINAROVÍČOVÁ, Katarína. Diagnosis of the technical condition of ETICS with biocorrosion – prospects for the future. In: Almanach znalca. Vol. 17, No. 1 (2017), CD-ROM, pp. 16-18. ISSN 1336-3174 (in Slovak)

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PETRÁKOVÁ, Z. – DVORSKÝ, J. – JURIGOVÁ, M.: Comparison of development of housing construction in regions of SR. In: Global Journal of Business, Economics and Management: Current Issues. Vol. 7, No. 1 (2017), online, pp. 42-48. ISSN 2301-2579 (in English)

RYCHTÁRIKOVÁ, M. – URBÁN, D. – KAŠŠÁKOVÁ, M. – MAYWALD, C. – GLORIEUX, C.: Perception of acoustic comfort in large halls covered by transparent structural skins. In: The Journal of the Acoustical Society of America. Vol. 141, No. 5 (2017), pp. 3597. ISSN 0001-4966 (in English)

RYCHTÁRIKOVÁ, M. – ZELEM, L. – KRITLY, L. – GARCIA, D. P. – CHMELÍK, V. – GLORIEUX, C.: Auditory recognition of surface texture with various scattering coefficients. In: The Journal of the Acoustical Society of America. Vol. 141, No. 5 (2017), pp. 3452. ISSN 0001-4966 (in English)

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## Conference Proceedings

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BINEK, K. – ŽILINSKÝ, J.: Preparation of the experiment for dehumidification of the autoclaved aerated concrete by microwaves. In: ATF 2017: book of proceedings from 5th International Conference on Building Physics and Applied Technology in Architecture and Building Structures. 14-16 Sept. 2017, Zagreb, Croatia. 1. ed. Zagreb: The University of Zagreb, 2017, USB key, pp. 20-24. ISBN 978-953-184-229-7 (in English)

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# DEPARTMENT OF STEEL AND TIMBER STRUCTURES

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Load-Bearing Metal Elements

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 10 works.

### 2.2 Graduate theses

BOGYO, M.: Highway Bridge over the River Danube between Komárno and Komárom

Supervisor: ÁROCH, R.

COMPEL, D.: Multifunctional Sport Hall

Supervisor: SLIVANSKÝ, M.

DOMORÁK, S.: Structural Design of a Car Showroom

Supervisor: SANDANUS, J.

DURČÁK, D.: Mountain Hotel with Timber Structure

Supervisor: SÓGEL, K.

FODOROVÁ, T.: Sport Hall in Ružomberok

Supervisor: VANÍK, ZS.

GAŠPÁRKOVÁ, M.: A Culture Centre

Supervisor: SANDANUS, J.

HLUBINOVÁ, A.: Bus Station

Supervisor: VANÍK, ZS.

JANKOVÁ, V.: Multifunctional Sport Hall

Supervisor: VANÍK, ZS.

KATLER, R.: Sport Hall in Šamorín

Supervisor: SÓGEL, K.

KAZDOVÁ, J.: Sport Hall in Púchov

Supervisor: MAGURA, M.

LATIKA, T.: Footbridge in Piešťany

Supervisor: SLIVANSKÝ, M.

MICHÁLIK, M.: Sightseeing Tower at the Krasín Hill

Supervisor: SANDANUS, J.

PROKOP, B.: Dobrohošť – Dunakiliti Footbridge

Supervisor: ÁROCH, R.

RACEK, Š.: Footbridge over the Hron River

Supervisor: SLIVANSKÝ, M.

RÁCZ, A.: Theoretical and Experimental Verification of Semirigid Joints in Timber Structures

Supervisor: SÓGEL, K.

SABAKA, P.: Audi Showroom in Bratislava  
Supervisor: BRODNIANSKY, J.

SLOBODOVÁ, J.: Swimming Pool in Brezno  
Supervisor: VANÍK, ZS.

STACHO, P.: Footbridge with Timber Structure  
Supervisor: SÓGEL, K.

ŠABOVÁ, Z.: Passporting, Diagnostics and Structural Analysis of Historical Structures  
Supervisor: SLIVANSKÝ, M.

ŠKULTÉTY, P.: Airplane Hangar in Bratislava  
Supervisor: BRODNIANSKY, J.

## 2.3 Doctoral theses

BOTLO, M.: Slip–Joint Connection of Conical Towers  
Supervisor: BRODNIANSKY, J.

FÁBRY, M.: Special Problems of the System Identification of Bridge Structures  
Supervisor: ÁROCH, R.

SUROVEC, L.: Special Problems of Composite Timber–Concrete Structures  
Supervisor: SANDANUS, J.

# 3. RESEARCH

## 3.1 Research projects

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

Resistance of Metal Cross–Sections and Members under a 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  
(2017 ÁROCH, R.), APVV-0236-12

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

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

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

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

## 3.2 International cooperation

### Cooperating institutions

Brno University of Technology, Czech Republic

Czech Technical University in Prague, Czech Republic

Technical University of Ostrava, Czech Republic

Vienna University of Technology, Austria

Budapest University of Technology and Economics, Hungary

Graz University of Technology, Austria

Brandenburg University of Technology, Cottbus, Germany

### Membership in international professional organizations

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- BALÁŽ, I.: P.E., M.ASCE, Member of ASCE (American Society of Civil Engineering) since 1997
- BRODNIANSKY, J.: IASS (International Association for Shell and Spatial Structures)
- MAGURA, M.: IASS (International Association for Shell and Spatial Structures)
- SLIVANSKÝ, M.: IASS (International Association for Shell and Spatial Structures)
- SLIVANSKÝ, M.: CEN/TC 250/SC 11 (Structural Glass, European Committee for Standardisation)
- SANDANUS, J.: IASS (International Association for Shell and Spatial Structures)
- CSÖLLEOVÁ, ZS.: EMT (Hungarian Technical Scientific Society of Transylvania)
- SÓGEL, K.: EMT (Hungarian Technical Scientific Society of Transylvania)

## 4. PUBLICATIONS

### Books

- BALÁŽ, I. – BALÁŽOVÁ, P. – KOLEKOVÁ, Y.: Civil Engineering : Terms Orbis Pictus 1 – TOP 1. 1. ed. Bratislava : Eurostav, 2017. 93 pp. ISBN 978–80–89228–52–2 (in Slovak)

### Parts of books

- BALÁŽ, I. – KOLEKOVÁ, Y. – KOVÁČ, M. – VÉGHOVÁ, I.: Influence of Antisymmetrical Actions at Reinforced Concrete Cable–Stayed Bridge. In: Static and Dynamic Analysis of Reinforced Concrete Structures. 1. ed. Zurich : Trans Tech Publications, 2017, pp. 3–14. ISSN 1013–9826. ISBN 978–3–0357–1114–1 (in English)
- BALÁŽ, I. – KOLEKOVÁ, Y.: Plastic Resistance of I– and U–sections under Bending and Torsion. In: Stahlbau, Holzbau und Verbundbau : Festschrift zum 60. Geburtstag von Univ.–Prof. Dr.–Ing. Ulrike Kuhlmann. 1. ed. Berlin : Wilhelm Ernst & Sohn, 2017, pp. 203–208. ISBN 978–3–433–03246–6 (in English)

### Journals

- BRODNIANSKY, J.: Equivalent Unique Global and Local Initial Imperfection – Imperfection in EN 1993–1–1 and EN 1999–1–1 Clause 5.3.2 (11) – Calculation Procedure and Discovered Obstacles. In: Pollack Periodica. Vol. 12, No. 3 (2017), pp. 33–42. ISSN 1788–1994 (in English)
- KAMENICKÁ, Z. – SANDANUS, J.: Comparison of Simplified and Advanced Design Methods for Determining Mechanical Resistance of Timber Structures Exposed to Fire. In: International Wood Products Journal. Vol. 8, No. 2 (2017), pp. 88–93. ISSN 2042–6445 (in English)
- NIKO, I.: Resistance of Members Subjected to Combined Loads According to EC3 and EC9. In: Pollack Periodica. Vol. 12, No. 3 (2017), pp. 23–32. ISSN 1788–1994 (in English)

- SUROVEC, L. – SLIVANSKÝ, M. – SÓGEL, K. – SANDANUS, J.: Composite Timber–Concrete Slabs 4S – Development, Testing and Realization. In: Materiály pro stavbu. Vol. 23, No. 7 (2017), pp. 22–24. ISSN 1213–0311 (in Slovak)

### Conference Proceedings

- ÁROCH, R. – SOKOL, M. – VENGLÁR, M.: Measurement of Ambient Vibrations of Steel Bridges. In: Proceedings of 42nd Meeting of Experts on Steel Structures. Kočovce, SR, 4. – 6. 10. 2017. 1. ed. Bratislava : Spektrum STU, 2017, pp. 37–46. ISBN 978–80–227–4734–9 (in Slovak)
- BALÁŽ, I. – KOVÁČ, M. – ŽIVNER, T. – KOLEKOVÁ, Y.: Plastic Resistance of H–Section to Interaction of Bending Moment MyEd and Bimoment BEd. In: Advances and Trends in Engineering Sciences and Technologies II : Proceedings of the 2nd International Conference on Engineering Sciences and Technologies. High Tatras Mountains, Tatranské Matliare, Slovak Republic, 29 June – 1 July 2016. 1. ed. London : Taylor & Francis Group, 2017, pp. 33–38. ISBN 978–1–138–03224–8 (in English)
- BALÁŽ, I. – KOVÁČ, M. – ŽIVNER, T. – KOLEKOVÁ, Y.: Plastic Resistance of IPE–Section to Interaction of Bending Internal Forces MyEd, VzEd and Torsion Internal Forces BEd, TwEd and TtEd. In: Advances and Trends in Engineering Sciences and Technologies II : Proceedings of the 2nd International Conference on Engineering Sciences and Technologies. High Tatras Mountains, Tatranské Matliare, Slovak Republic, 29 June – 1 July 2016. 1. ed. London : Taylor & Francis Group, 2017, pp. 27–32. ISBN 978–1–138–03224–8 (in English)
- BALÁŽ, I. – KOLEKOVÁ, Y.: Plastic Resistance of Aluminum I–Profile under Bending and Torsion According to Continuous Strength Method. In: Engineering Mechanics 2017 : Book of full texts. 23rd International Conference. May, 15–18, 2017, Svratka, Czech Republic. 1. ed. Brno : Brno University of Technology, 2017, pp. 102–105. ISSN 1805–8248. ISBN 978–80–214–5497–2 (in English)
- BALÁŽ, I. – KOLEKOVÁ, Y.: Cable–Stayed SNP Bridge in Bratislava. In: Book of abstracts of the 2nd International Conference on Structural Integrity : Funchal, Madeira, Portugal, 4 – 7 Sept., 2017. 1. ed. Porto : INEGI, 2017, online, pp. 267. ISBN 978–972–8826–33–8 (in English)
- BALÁŽ, I. – KOLEKOVÁ, Y.: 45 Years of Cable–Stayed SNP Bridge in Bratislava. In: Procedia Structural Integrity : 2nd International Conference on Structural Integrity, ICSI 2017, 4–7 Sept. 2017, Funchal, Madeira, Portugal. Vol. 5, (2017), online, pp. 1057–1064. ISSN 2452–3216 (in English)
- BALÁŽ, I.: Resistance of I– and U–Sections Using the CSM Method. In: Statika stavieb 2017. Proceedings of 22nd Conference. Piešťany, SR, 16. – 17. 3. 2017. 1. ed. Bratislava : Spolok statikov Slovenska, 2017, pp. 169–172. ISBN 978–80–89655–09–0 (in Slovak)
- BALÁŽ, I. – KOLEKOVÁ, Y.: Design of Welds of Steel Structures According to New Generation of EN 1993. In: National Welding days 2017 : Proceedings of Conference. Jasná, SR, 20. – 22. Sept. 2017. 1. ed. Bratislava : Research Institute of Welding, 2017, USB stick, pp. 4–9. ISBN 978–80–88734–80–2 (in English)



BALÁŽ, I. – KOLEKOVÁ, Y.: Resistances of I- and U-Sections : Combined Bending and Torsion Internal Forces. In: CE/PAPERS : Eurosteel 2017. 8th European Conference on Steel and Composite Structures. Copenhagen, Denmark, Sept. 13–15, 2017. Vol. 1, No. 2–3 (2017), online, pp. 3791–3800. ISSN 2509–7075 (in English)

BALCIERÁK, Ľ. – BRODNIANSKY, J. – KLAS, T. – DUCHOŇ, V. – BRODNIANSKY, J. – KATONA, O.: Experimental Investigations of Glass Plates. In: Advances and Trends in Engineering Sciences and Technologies II : Proceedings of the 2nd International Conference on Engineering Sciences and Technologies. High Tatras Mountains, Tatranské Matliare, Slovak Republic, 29 June – 1 July 2016. 1. ed. London : Taylor & Francis Group, 2017, pp. 39–44. ISBN 978–1–138–03224–8 (in English)

BOTLÓ, M.: Experimental Verification of Stress Distribution in a Slip–Joint Connection. In: Juniorstav 2017. Proceedings of 19th Scientific PhD Conference. Brno, ČR, 26. 1. 2017 = Juniorstav 2017, 19th International Conference of PhD Students. 1. ed. Brno : University of Technology, 2017, USB stick, ISBN 978–80–214–5473–6 (in Slovak)

BOTLÓ, M. – BRODNIANSKY, J. – MAGURA, M. – BRODNIANSKY, J.: Slip–Joint Connection of Conical Tower Segments – Experimental and Numerical Analysis. In: SGEM 2017. 17th International Multidisciplinary Scientific Geoconference. Vol. 17. Nano, Bio and Green – technologies for a sustainable future. Conference Proceedings. Sofia, Bulgaria : STEF92 Technology, 2017, pp. 651–658. ISSN 1314–2704. ISBN 978–619–7408–29–4 (in English)

BRODNIANSKY, J.: 75 Years of the Department of Steel and Timber Structures. In: Proceedings of 42nd Meeting of Experts on Steel Structures. Kočovce, SR, 4. – 6. 10. 2017. 1. ed. Bratislava : Spektrum STU, 2017, pp. 8–20. ISBN 978–80–227–4734–9 (in Slovak)

BRODNIANSKY, J. – MAGURA, M. – BRODNIANSKY, J.: Solving Operational Problems of the Transit Gas–Pipeline System in the Year 2017. In: Proceedings of 42nd Meeting of Experts on Steel Structures. Kočovce, SR, 4. – 6. 10. 2017. 1. ed. Bratislava : Spektrum STU, 2017, pp. 61–64. ISBN 978–80–227–4734–9 (in Slovak)

BRODNIANSKY, J. – BALCIERÁK, Ľ. – DUCHOŇ, V. – KATONA, O.: EUGLI Imperfection Method for Columns with Varying Cross–Sectional Parameters – Numerical Solution. In: Advances and Trends in Engineering Sciences and Technologies II : Proceedings of the 2nd International Conference on Engineering Sciences and Technologies. High Tatras Mountains, Tatranské Matliare, Slovak Republic, 29 June – 1 July 2016. 1. ed. London : Taylor & Francis Group, 2017, pp. 57–62. ISBN 978–1–138–03224–8 (in English)

BRODNIANSKY, J. – MAGURA, M. – BRODNIANSKY, J.: Modelling of Gas–Pipeline Structural Components. In: SGEM 2017. 17th International Multidisciplinary Scientific GeoConference. Vol. 17. Science and Technologies in Geology, Exploration and Mining : conference Proceedings. Vienna, Austria, 27 – 29 Nov. 2017. 1. ed. Sofia : STEF 92 Technology, 2017, pp. 349–356. ISSN 1314–2704. ISBN 978–619–7408–26–3 (in English)

BRODNIANSKY, J. – BALCIERÁK, Ľ. – BRODNIANSKY, J. – KLAS, T.: Experimental Pendulum Tests of Laminated and Float Glass Plates. In: INTERFACES – architecture, engineering, science – IASS 2017 : Proceedings of the IASS Annual Symposium. Sept. 25th–28th, 2017, Hamburg, Germany. Hamburg : HafenCity University, 2017, USB stick (in English)

BRODNIANSKY, J. – MAGURA, M. – BRODNIANSKY, J.: Modeling Selected Technological Parts of a Transit Gas–Pipeline. In: Proceedings of 42nd Meeting of Experts on Steel Structures. Kočovce, SR, 4. – 6. 10. 2017. 1. ed. Bratislava : Spektrum STU, 2017, pp. 55–60. ISBN 978–80–227–4734–9 (in Slovak)

BRODNIANSKY, J. – RECKÝ, J.: Problematics of Strengthening Diagonal Members of Telecommunication Masts from Angular Profiles. In: Proceedings of 42nd Meeting of Experts on Steel Structures. Kočovce, SR, 4. – 6. 10. 2017. 1. ed. Bratislava : Spektrum STU, 2017, pp. 65–74. ISBN 978–80–227–4734–9 (in Slovak)

ĐUREJOVÁ, J.: Overview of Cable Roofs Built in Czechoslovakia. In: Juniorstav 2017. Proceedings of 19th Scientific PhD Conference. Brno, ČR, 26. 1. 2017 = Juniorstav 2017, 19th International Conference of PhD Students. 1. ed. Brno : University of Technology, 2017, USB stick, [7] pp. ISBN 978–80–214–5473–6 (in Slovak)

ĐUREJOVÁ, J. – SLIVANSKÝ, M.: Cable Roof Types Built in Former Czechoslovakia Toward the End of 20th Century. In: INTERFACES – architecture, engineering, science – IASS 2017 : Proceedings of the IASS Annual Symposium. Sept. 25th–28th, 2017, Hamburg, Germany. Hamburg : HafenCity University, 2017, USB stick, [7] pp (in English)

FÁBRY, M.: Diagnostics of Bridges by Dynamic Measurements. In: Juniorstav 2017. Proceedings of 19th Scientific PhD Conference. Brno, ČR, 26. 1. 2017 = Juniorstav 2017, 19th International Conference of PhD Students. 1. ed. Brno : University of Technology, 2017, USB stick, [8] pp. ISBN 978–80–214–5473–6 (in Slovak)

FÁBRY, M. – ÁROCH, R. – LIPTÁK, I.: Application of System Identification on a Steel Footbridge Across the Little Danube River. In: Advances and Trends in Engineering Sciences and Technologies II : Proceedings of the 2nd International Conference on Engineering Sciences and Technologies. High Tatras Mountains, Tatranské Matliare, Slovak Republic, 29 June – 1 July 2016. 1. ed. London : Taylor & Francis Group, 2017, pp. 69–74. ISBN 978–1–138–03224–8 (in English)

KAMENICKÁ, Z.: Analytical and Numerical Models for Timber Structures Exposed to Fire. In: Juniorstav 2017. Proceedings of 19th Scientific PhD Conference. Brno, ČR, 26. 1. 2017 = Juniorstav 2017, 19th International Conference of PhD Students. 1. ed. Brno : University of Technology, 2017, USB stick, [8] pp. ISBN 978–80–214–5473–6 (in Slovak)

KAMENICKÁ, Z. – BOTLÓ, M.: Resistance of Timber Structures Exposed to Fire. In: Advances and Trends in Engineering Sciences and Technologies II : Proceedings of the 2nd International Conference on Engineering Sciences and Technologies. High Tatras Mountains, Tatranské Matliare, Slovak Republic, 29 June – 1 July 2016. 1. ed. London : Taylor & Francis Group, 2017, pp. 135–140. ISBN 978–1–138–03224–8 (in English)

- KAMENICKÁ, Z. – SANDANUS, J.: Determination of the Charring Rate and Depth of Timber Members Using Methods According to Eurocode 5, Part 2. In: *Advances in Fire and Safety Engineering 2017: Proceedings of 6th Conference*. Trnava, 19. – 20. oct. 2017. 1. ed. Trnava : SUT in Bratislava, Faculty of Materials Science in Trnava, Alumni Press, 2017, CD-ROM, pp. 232–239. ISBN 978–80–8096–245–6 (in Slovak)
- KAMENICKÁ, Z.: Influence of Fissures on the Charring Rate of Timber Members. In: *Advances in Architectural, Civil and Environmental Engineering : 27th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Geodesy and Cartography, Landscaping, Building Technology, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Theory and Environmental Technology of Buildings, Water Resources Engineering*. 25. Oct. 2017, Bratislava, Slovakia. 1. ed. Bratislava : Spektrum STU, 2017, CD-ROM, pp. 308–314. ISBN 978–80–227–4751–6 (in Slovak)
- KAMENICKÁ, Z. – SANDANUS, J.: Charring Rate of Timber Structures in Fire. In: *INTERFACES – architecture, engineering, science – IASS 2017 : Proceedings of the IASS Annual Symposium*. Sept. 25th–28th, 2017, Hamburg, Germany. Hamburg : HafenCity University, 2017, USB stick, [10] pp. (in English)
- KAMENICKÁ, Z.: Speed of Charring of Timber Members. In: *Proceedings of 42nd Meeting of Experts on Steel Structures*. Kočovce, SR, 4. – 6. 10. 2017. 1. ed. Bratislava : Spektrum STU, 2017, pp. 101–106. ISBN 978–80–227–4734–9 (in Slovak)
- KATONA, O. – KLAS, T. – DUCHOŇ, V. – BRODNIANSKY, J. – BALCIERÁK, Ľ. – SANDANUS, J.: Experimental Study of a Four-Point Bending Test on CLT Deep Beams. In: *Advances and Trends in Engineering Sciences and Technologies II : Proceedings of the 2nd International Conference on Engineering Sciences and Technologies*. High Tatras Mountains, Tatranské Matliare, Slovak Republic, 29 June – 1 July 2016. 1. ed. London : Taylor & Francis Group, 2017, pp. 147–152. ISBN 978–1–138–03224–8 (in English)
- KLAS, T.: Experiments Realized by the Department of Steel and Timber Structures for PhD Theses in the Years 2016–2017. In: *Proceedings of 42nd Meeting of Experts on Steel Structures*. Kočovce, SR, 4. – 6. 10. 2017. 1. ed. Bratislava : Spektrum STU, 2017, pp. 107–114. ISBN 978–80–227–4734–9 (in Slovak)
- KOLEKOVÁ, Y. – BALÁŽ, I.: Design of Welds of Aluminium Structures According to New Generation of EN 1999. In: *National Welding Days 2017 : Proceedings of Conference*. Jasná, SR, 20. – 22. Sept. 2017. 1. ed. Bratislava : Research Institute of Welding, 2017, USB stick, pp. 10–17. ISBN 978–80–88734–80–2 (in English)
- KOLEKOVÁ, Y. – KOVÁČ, M. – BALÁŽ, I.: Influence Lines of Bridges with Box-Girder Cross-Section under Torsion and Distortion. In: *Procedia Engineering : Structural and Physical Aspects of Construction Engineering*. Vol. 190, (2017), online, pp. 603–610. ISSN 1877–7058 (in English)
- KOVÁČ, M. – VANÍK, ZS. – MAGURA, M.: In Plane Buckling of Frames with Laced Built-Up Members. In: *Advances and Trends in Engineering Sciences and Technologies II : Proceedings of the 2nd International Conference on Engineering Sciences and Technologies*. High Tatras Mountains, Tatranské Matliare, Slovak Republic, 29 June – 1 July 2016. 1. ed. London : Taylor & Francis Group, 2017, pp. 165–170. ISBN 978–1–138–03224–8 (in English)
- MAGURA, M. – BRODNIANSKY, J. – BRODNIANSKY, J.: Gas-Pipeline Behavior and Interaction with Soil by Landslides. In: *SGEM 2017. 17th International Multidisciplinary Scientific GeoConference*. Vol. 17. Science and Technologies in Geology, Exploration and Mining : conference Proceedings. Vienna, Austria, 27 – 29 Nov. 2017. 1. ed. Sofia : STEF 92 Technology, 2017, pp. 203–210. ISSN 1314–2704. ISBN 978–619–7408–26–3 (in English)
- NIKO, I.: Design of Members Subjected to Biaxial Bending and Axial Force. In: *Juniorstav 2017. Proceedings of 19th Scientific PhD Conference*. Brno, ČR, 26. 1. 2017 = Juniorstav 2017, 19th International Conference of PhD Students. 1. ed. Brno : University of Technology, 2017, USB stick, [8] pp. ISBN 978–80–214–5473–6 (in Slovak)
- NIKO, I.: Calculation of the Member Resistance of Beams and Columns According to EN 1999–1–1. In: *Advances in Architectural, Civil and Environmental Engineering : 27th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Geodesy and Cartography, Landscaping, Building Technology, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Theory and Environmental Technology of Buildings, Water Resources Engineering*. 25. Oct. 2017, Bratislava, Slovakia. 1. ed. Bratislava : Spektrum STU, 2017, CD-ROM, pp. 341–346. ISBN 978–80–227–4751–6 (in Slovak)
- SOKOL, M. – VENGLÁR, M. – ÁROCH, R. – KOPÁČIK, A. – KYRINOVIČ, P. – ERDÉLYI, J. – ŠIŠMIŠOVÁ, Z. – LAMPEROVÁ, K.: Traffic Response Pattern of Cable-Stayed Bridge as a Comparison Tool for SHM. In: *Engineering the Future : Proceedings*. 39th IABSE Symposium, Sept. 21–23, 2017, Vancouver, Canada. 1. ed. Zurich : International Association for Bridge and Structural Engineering, 2017, USB stick, pp. 191–197. ISBN 978–3–85748–153–6 (in English)
- SUROVEC, L.: Laboratory Test of Composite Timber-Concrete Beams – Specimen No. 1. In: *Juniorstav 2017. Proceedings of 19th Scientific PhD Conference*. Brno, ČR, 26. 1. 2017 = Juniorstav 2017, 19th International Conference of PhD Students. 1. ed. Brno : University of Technology, 2017, USB stick, [6] pp. ISBN 978–80–214–5473–6 (in Slovak)
- SUROVEC, L. – SLIVANSKÝ, M.: Composite Timber-Concrete Floor of a Family House. In: *Advances and Trends in Engineering Sciences and Technologies II : Proceedings of the 2nd International Conference on Engineering Sciences and Technologies*. High Tatras Mountains, Tatranské Matliare, Slovak Republic, 29 June – 1 July 2016. 1. ed. London : Taylor & Francis Group, 2017, pp. 255–260. ISBN 978–1–138–03224–8 (in English)
- SUROVEC, L. – SLIVANSKÝ, M. – SÓGEL, K. – SANDANUS, J.: Development, Testing and Realization of Composite Timber-Concrete Slabs 4S. In: *Proceedings of 42nd Meeting of Experts on Steel Structures*. Kočovce, SR, 4. – 6. 10. 2017. 1. ed. Bratislava : Spektrum STU, 2017, pp. 185–190. ISBN 978–80–227–4734–9 (in Slovak)

# DEPARTMENT OF MATHEMATICS AND DESCRIPTIVE GEOMETRY

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Descriptive Geometry

Mathematics I

Mathematics II

Mathematics III

Mathematics IV

Informatics

Mathematical Statistics

Mathematical Cartography

Mathematical Analysis I

Engineering Geometry and AutoCAD I

Engineering Geometry and AutoCAD II

Geometry

Algebraic Structures and Mathematical Logic

Programming in C Language

Probability Theory

Numerical Mathematics

Modelling and Data Analysis

Finite Element Methods

Functional Analysis and Variational Methods

Stochastic and Differential Equations

Fluid Flow

Time Series Analysis

Financial Mathematics

Software (ANSYS)

Applied Statistics

Projection Methods

Applied Mathematics

#### Optional subjects

Architectural Mathematics

Foundations of Mathematics

Informatics and Statistics

Mathematical Statistics

Numerical and Stochastic Methods

Recommended subjects

Computer Graphics

Fuzzy Management

### 1.2 Postgraduate courses

Aggregation Functions

Decision Theory

Discrete Mathematics

Dynamic and Stochastic Optimisation

Graph Theory

Linear Models of Time Series

Mathematical Basis of the Finite Element Method I

Mathematical Basis of the Finite Element Method II

Mathematical Methods in Fluid Flow, Diffusion and Heat Transfer

Mathematical Models of Fluid Dynamics

Mathematics

Multicriteria Decision Support

Multidimensional Statistics

Nonlinear Models of Time Series

Numerical Methods in Fluid Flow, Diffusion and Heat Transfer

Probability and Statistical Estimation

Proposed Experiment in Optimization

Statistical Methods in Geodesy

Stochastic Processes I

Time Series Analysis in Civil Engineering

## 2. THESES

### 2.1 Bachelor theses

There were 9 works.

## 2.2 Graduate theses

CRUZ, S.: Fluent and Its Capabilities for Modeling the Impact of Wind  
Supervisor: MACÁK, M.

LAZÍKOVÁ, K.: Multi-Mode Models with Switching Aggregate Function and Their Applications  
Supervisor: KOMORNÍKOVÁ, M.

BERANOVÁ, N.: Numerical methods for Reconstructing 3D Scenes from Two Camera Photos  
Supervisor: MIKULA, K.

HORNÁČEK, T.: Numerical Methods for 4D Image Segmentation  
Supervisor: MIKULA, K.

HAJDINOVÁ, K.: SAR (radar) Filtering Using Statistics  
Supervisor: KRIVÁ, Z.

BRÁDŇANSKÁ, N.: Processing of Polarimetric Satellite Data  
Supervisor: KRIVÁ, Z.

MAZÚCH, J.: The Direct and Inverse Role of River Diffusion and Its Numerical Solution  
Supervisor: FROLKOVIČ, P.

GAÁLOVÁ, Z.: Mathematical Modeling of Growth and Interaction of Plant Roots  
Supervisor: REMEŠÍKOVÁ, M.

ŠELIGA, A.: Quasi-Conform Images on Riemann Surfaces  
Supervisor: SARKOCI, P.

MAJOR, J.: Graph Algorithmus and Their Use When Handling Biomedical Data  
Supervisor: ŽDÍMALOVÁ, M.

OBOŇOVÁ, Ž.: Application of Multi-Criteria Game Theory in Multidimensional Transport Tasks  
Supervisor: ŠIPOŠOVÁ, A.

## 2.3 Doctoral theses

ŠMÁTRALOVÁ SOSA, M.: Cutting Edge in Risk Management: New Developments  
Supervisor: KOMORNÍKOVÁ, M.

TOMEK, L.: Finite Vol. Methods for the Mean Curvature Flow of Surfaces  
Supervisor: MIKULA, K.

## 3. RESEARCH

### 3.1 Research projects

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

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

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

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

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

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

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

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

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

### 3.2 International cooperation

#### Cooperating institutions

AVL LIST GmbH Graz, Austria

Beijing Institute of Technology, China

CINECA – Supercomputing Centre, Bologna, Italy

CNRS, Paris, France  
 Communication University of China, Beijing, China  
 Complutense University, Madrid, Spain  
 Czech Academy of Sciences, Czech Republic  
 Czech Technical University in Prague, Czech Republic  
 Faculty of Information Studies, Novo Mesto, Slovenia  
 Goethe Center for Scientific Computing, University of Frankfurt, Germany  
 Goethe University, Frankfurt, Germany  
 Charles University in Prague, Czech Republic  
 ICS, Paris, France  
 Karadeniz Technical University in Trabzon, Turkey  
 La Sapienza University, Rome, Italy  
 Open UNI London, Great Britain  
 Pohang University of Science and Technology, South Korea  
 The Open University, Milton Keynes, United Kingdom  
 TU Budapest, Hungary  
 TU Cracow, Poland  
 Universita Autonoma, Mexico City, Queretaro, Mexico  
 Universidad Nacional Autónoma de México, Mexico City, Distrito Federal, Mexico  
 Universitat Polytechnica e Catalunya in Barcelona, Spain  
 Universita de Roma, Italy  
 University of Auckland, New Zealand  
 University of Bologna, Italy  
 University of Bremen, Germany  
 University of Catania, Italy  
 University of Dortmund, Germany  
 University of Erlangen-Nürnberg, Germany  
 University of Freiburg, Germany  
 University of Ghent, Belgium  
 University of Groningen, The Netherlands  
 University of Haifa, Israel  
 University of Heidelberg, Germany  
 University of Latvia, Latvia  
 University of Lleida, Spain  
 University of Liberec, Czech Republic  
 University of Linz, Austria  
 University of Ljubljana, Slovenia  
 University of Newcastle, Australia  
 University of Novi Sad, Serbia  
 University of Ostrava, Czech Republic  
 University of Pamplona, Spain  
 University of Sannio, Benevento, Italy  
 University of the Balearic Islands, Palma de Mallorca, Spain

University of Waterloo, Canada  
 UPC University in Barcelona, Spain  
 WB University, Plzeň, Czech Republic  
 Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany  
 Western Australia University, Perth, Australia  
 Western Washington University, Bellingham, WA, USA

## Membership in international professional organizations

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)  
 ČUNDERLÍK, R.: European Geosciences Union (EGU)  
 ČUNDERLÍK, R.: 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  
 MACÁK, M.: European Geosciences Union (EGU)  
 MESIAR, R.: European Society for Fuzzy Logic and Technology (EUSFLAT)  
 MIKULA, K.: European Research Council (ERC)  
 MIKULA, K.: European Cooperation in Science and Technology (COST) Action: Mathematics of Industry (Management Committee)  
 MIKULA, K. – ČUNDERLÍK, R.: Joint Study Group 0.7: Computational Methods for High-Resolution Gravity Field Modelling and Nonlinear Diffusion Filtering within the Inter-Commission on Theory (ICCT) of the International Association of Geodesy (IAG)  
 MIKULA, K. – Frolkovič, P.: Mathematics for Industry Network <http://mi-network.org/>  
 STUPŇANOVÁ, A.: European Society for Fuzzy Logic and Technology (EUSFLAT)  
 ŠIRÁŇ, J.: London Mathematical Society  
 ŠIRÁŇ, J.: American Mathematical Society  
 ŽDÍMALOVÁ, M.: European Women in Mathematics  
 ŽDÍMALOVÁ, M.: Indonesian Journal of Combinatorics (Editorial Board)

## 4. PUBLICATIONS

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URBÁN, J. – MIKULA, K.: Atlas Based Image Segmentation. In: ACOMEN 2017: Book of Abstracts. Sept. 18-22, Ghent, Belgium. 1st Ed. Ghent: Ghent University, 2017.- ISBN 978-94-6197-560-7.- p. 79 (in English)

URBÁN, J. – MIKULA, K.: Atlas Based Segmentation. In: Equadiff 2017: Book of Abstracts. July 24-28, 2017, Bratislava, Slovakia. 1st Ed. Bratislava: Spektrum STU, 2017.- ISBN 978-80-227-4710-3.- p. 451 (in English)

VAJSÁBLOVÁ, M.: Geometric Tools in a Precision of Image Elements on Maps. In: Slovak-Czech Conference on Geometry and Graphics 2017: Proceedings of the 37th Conference on Geometry and Graphics, Vršatské Podhradie, Slovakia, Sept. 11. – 14., 2017. 1st Ed. Bratislava: SCHK Publisher, 2017.- ISBN 978-80-89597-78-9.- pp. 25-36 (in English)

VAJSÁBLOVÁ, M.: Descriptive Geometry Open for Applications in Engineering and Geodetic Practice. In: Descriptive Geometry Today and Tomorrow: Proceedings. Žilina, Slovakia, June 22., 2017. 1st Ed. Žilina: EDIS, 2017.- CD-ROM.- ISBN 978-80-554-1409-6.- pp. 59-68 (in Slovak)

ŽDÍMALOVÁ, M. – VAVŘÍKOVÁ, L.: Mathematics, Garden and Landscape Architecture. In: Aplimat 2017: Proceedings of the 16th Conference on Applied Mathematics. Bratislava, 31.1. -2.2. 2017. 1st Ed. Bratislava: Spektrum STU, 2017.- CD ROM.- ISBN 978-80-227-4650-2.- pp. 1753-1778 (in English)

ŽDÍMALOVÁ, M.: Mathematics and Its Applications in the Architecture and Urban Design of Selected Parts of Mexico. In: Aplimat 2017: Proceedings of the 16th Conference on Applied Mathematics. Bratislava, 31.1. – 2.2. 2017. 1st Ed. Bratislava: Spektrum STU, 2017.- CD ROM.- ISBN 978-80-227-4650-2.- pp. 1728-1752 (in English)

ŽDÍMALOVÁ, M. – ROŽNOVJAK, R. – BOHUMEL, T. – EL FALOUGY, H. – WEISSMAN, P. – KUBÍKOVÁ, E. – KOPÁNYI, M.: Graph Algorithms in Image Processing. In: PRASTAN 2017: Book of Abstracts. Oščadnica, Slovakia, Oct. 5. – 8., 2017. 1st Ed. Bratislava: Unity of Slovak Matematicians and Physicists, 2017.- ISBN 978-80-89829-04-0.- p. 25 (in English)

# 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

Construction Technology

### 1.2 Postgraduate courses

Physical Principles of Measurements

Special Aspects of Physics

Heat and Moisture Transport

## 2. THESES

### 2.2 Graduate theses

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

Supervisor: ŠÍN, P.

## 3. RESEARCH

### 3.1 Research projects

Investigation of the Hygrothermal and Mechanical Properties of Porous Building Materials Based on 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 Universiteit Leuven, Belgium

Academy of Science of the Czech Republic, Prague

#### Membership in international professional organizations

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

KAČUR, J. – MINÁR, J. – BABUŠÍKOVÁ, J.: A Remark To the Numerical Modelling of 2D Geosynthetic Tubes. In *Journal of Mathematical Sciences: Advances and Applications*. Vol. 44, (2017), pp. 27-50. ISSN 0974-5750 (in English)

KAČUR, J. – MIHALA, P. – TÓTH, M.: Determination of Soil Parameters in Hydraulic Flow Model for Porous Media. In *International Journal of Mechanics*. Vol. 11, (2017), pp. 34-42. ISSN 1998-4448 (in English)

KAČUR, J. – MINÁR, J.: Flow of Water Suspension in Unsaturated-Saturated Porous Media and Determination of Its Filtration Property. In *Inverse Problems in Science and Engineering*. Vol. 25, No. 3 (2017), pp. 453-470. ISSN 1741-5977 (in English)

KAČUR, J. – KOPČOK, M. – LUKOVIČOVÁ, J. – STRUHÁROVÁ, A.: Numerical Quantification of Thermal Properties of Insulation Coating. In *International Journal of Mechanical Engineering*. Vol. 2, (2017), online, [5] p. ISSN 2367-8968 (in English)

ŠVEDA, M. – JANÍK, B. – PAVLÍK, V. – ŠTEFUNKOVÁ, Z. – PAVLENDOVÁ, G. – ŠÍN, P. – SOKOLÁŘ, R.: Pore-Size Distribution Effects On the Thermal Conductivity Of the Fired Clay Body From Lightweight Bricks. In *Journal of Building Physics*. Vol. 41, No. 1 (2017), pp. 78-94. ISSN 1744-2591 (in English)

## Conference Proceedings

KOPČOK, M. – LUKOVIČOVÁ, J. – KAČUR, J. – PAVLENDOVÁ, G.:

Investigation of Thermo-Physical Properties of Thermal Insulation Coating. In AIP Conference Proceedings: 22nd International Meeting of Thermophysics 2017. Terchova, Slovakia, 12-14 Sep. 2017. Vol. 1866, (2017), online, [7] p. ISSN 0094-243X. (in English)

ŠÍN, P. – PAVLENDOVÁ, G. – LUKOVIČOVÁ, J. – KOPČOK, M.: Thermophysical Properties of Cement Based Composites and Their Changes after Artificial Ageing. In AIP Conference Proceedings [electronic source]: 22nd International Meeting of Thermophysics 2017. Terchová, Slovakia, 12-14 Sep. 2017. Vol. 1866, (2017) online, ISSN 0094-243X (in English)

PAVLENDOVÁ, G. – ŠÍN, P. – LUKOVIČOVÁ, J. – KOPČOK, M.: Thermophysical Properties of Cement Based Composites with Addition of Plastic Fibers and Horse Manure. In Sanace a rekonstrukce staveb 2017 a CRRB - 19th International Conference on Rehabilitation and Reconstruction of Buildings : sborník odborných příspěvků a abstraktů. Prague, ČR, 23. - 24 11. 2017. 1. ed. Prague : České vysoké učení technické v Praze, 2017, pp. 119-120. ISBN 978-80-01-06347-7 (in English)



# DEPARTMENT OF STRUCTURAL MECHANICS

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

Building Analysis

Shell Structures

Special Problems in Dynamics and Statics

Statics

Statics (English)

Structural Analysis

Structural Dynamics

Structural Mechanics

Structural Mechanics (English)

Theory of Elasticity

Theory of Elasticity (English)

Theory of Elasticity and Plasticity

#### Optional subjects

Aeroelastics

Interaction of Structures and Foundations

Life Span and Reliability of Structures

Modeling Subgrades

Non-Linear Mechanics

Seismic Engineering

#### Recommended subjects

Automation in Non-Linear Structural Analysis

Automation in Structural Dynamics

Automation in the Statics of Structures

Plasticity Analysis of Structures

Stability of Structures

Structural Modeling Using FEM

Viscoelasticity of Structural Systems

## 2. THESES

### 2.1 Bachelor theses

There were 7 works.

### 2.2 Graduate theses

BRLÁŽOVÁ, M.: Truss Bridge Structure – Possibilities of the Detection of Selected Structural Failures

Supervisor: SOKOL, M.

KUBIŠOVÁ, L.: Static and Dynamic Analysis of a Steel Load-Bearing Structure

Supervisor: VÉGHOVÁ, I.

PILIAROVÁ, D.: Analysis of a High-Rise Office Building Considering the Wind Effects

Supervisor: TVRDÁ, K.

REPKA, T.: Roofing Structure of a Cinema Hall

Supervisor: JENDŽELOVSKÝ, N.

SÁDECKÝ, D.: Static and Dynamic Analysis of a Tall Building

Supervisor: JENDŽELOVSKÝ, N.

### 2.3 Doctoral theses

HAVRAN, J.: Snap-Through Effect of a Slender Web and a Shallow Shell

Supervisor: PSOTNÝ, M.

KLABNÍK, M.: Thermomechanic Safety and Reliability Analysis of Composite Reinforced Concrete Structures

Supervisor: KRÁLÍK, J.

ŠNIRC, L.: Stability and Vibration of Structures

Supervisor: RAVINGER, J.

ZABÁKOVÁ VRÁBLOVÁ, K.: Static and Dynamic Analysis of Voided Slabs

Supervisor: JENDŽELOVSKÝ, N.

## 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, KRÁLÍK, J.), VEGA 1/0265/16

Prediction of the Behaviour 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

Bundesforschung und Prufzentrum, Arsenal, Vienna, Austria

Czech Academy of Sciences, Prague, Czech Republic

Technical University of Ostrava, Czech Republic

Brno University of Technology, Czech Republic

Czech Technical University in Prague, Czech Republic

Budapest University of Technology and Economics, Budapest, Hungary

### Membership in international professional organizations

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

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

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

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

## 4. PUBLICATIONS

### Books

BALÁŽ, I. – BALÁŽOVÁ, P. – KOLEKOVÁ, Y.: Civil Engineering: Terms Orbis Pictus 1 (TOP 1). Bratislava, Eurostav, 2017, ISBN 978-80-89228-52-2, 93 pp. (in Slovak)

### Parts of books

BALÁŽ, I. – KOLEKOVÁ, Y.: Plastic Resistance of I- and U-sections under Bending and Torsion. In: Stahlbau, Holzbau und Verbundbau: Festschrift zum 60. Geburtstag von Univ.-Prof. Dr.-Ing. Ulrike Kuhlmann. Berlin, Wilhelm Ernst & Sohn, 2017, pp. 203-208, ISBN 978-3-433-03246-6 (in English)

KRÁLIK, J. – KRÁLIK, J. Jr.: Deterministic and Probabilistic Analysis of the Seismic Resistance of Symmetrical Multi-Storey Buildings. In: Contemporary Problems of Construction, Practical and Numerical Solutions. Czestochowa, Wydawnictwo Politechniki Czestochowskiej, 2017, pp. 143-155, ISSN 0860-5017, ISBN 978-83-7193-670-8 (in English)

KRÁLIK, J.: Risk Assessment of NPP Safety in Case of Emergency Situations on Technology. In: Recent Improvements of Power Plants Management and Technology. Rijeka, InTech, 2017, pp. 69-95, ISBN 978-953-51-3357-5 (in English)

TVRDÁ, K.: Selected Problems of a Foundation Slab under the Residential Building. In: Research and Modeling in Civil Engineering 2017. Koszalin, Koszalin University of Technology Publishing House, 2017, pp. 145-156, ISSN 0239-7129, ISBN 978-83-7365-474-7 (in English)

### Textbooks

PSOTNÝ, M. – VÉGHOVÁ, I.: Statics. Solved Examples. Bratislava, Spektrum STU, 2017, 138 pp. ISBN 978-80-227-4692-2 (in Slovak)

### Journals

BALÁŽ, I. – KOLEKOVÁ, Y. – KOVÁČ, M. – VÉGHOVÁ, I.: Influence of Antisymmetrical Actions at Reinforced Concrete Cable-Stayed Bridge. Key Engineering Materials, Vol. 738, 2017, pp. 3-14. ISSN 1013-9826 (in English)

HUBOVÁ, O. – KONEČNÁ, L. – MACÁK, M. – CIGLAN, G.: Pedestrian Wind Comfort around a Reinforced-Concrete Atypical Structure. Key Engineering Materials, Vol. 738, 2017, pp. 153-163. ISSN 1013-9826 (in English)

HUBOVÁ, O.: Wind Tunnel in Bratislava and Possibilities of Its Utilization. E-mosty, International, Interactive Magazine about Bridges. Vol. 3, No. 3, 2017, pp. 38-44. ISSN 2336-8179 (in English)

IVÁNKOVÁ, O. – ŠTELLMACH, M. – KONEČNÁ, L.: Analysis of an Asymmetric High-Rise Building. Key Engineering Materials, Vol. 738, 2017, pp. 120-129. ISSN 1013-9826 (in English)

IVÁNKOVÁ, O. – ŠTELLMACH, M. – KONEČNÁ, L.: Dilatation of a High-Rise Building by the Inserted Field. Key Engineering Materials, Vol. 738, 2017, pp. 130-139. ISSN 1013-9826 (in English)

JENDŽELOVSKÝ, N. – ZABÁKOVÁ VRÁBLOVÁ, K.: Analysis of Natural Frequencies of Voided Biaxial Concrete Slabs. Key Engineering Materials, Vol. 738, 2017, pp. 15-24. ISSN 1013-9826 (in English)

KRÁLIK, J.: Actual Problems of Safety and Reliability of NPP Structures in Slovakia. Key Engineering Materials, Vol. 738, 2017, pp. 261-272. ISSN 1013-9826 (in English)

KRÁLIK, J.: Nonlinear Analysis of the Hermetic Postament Safety During Technology Accident in the Nuclear Power Plant. Transactions of the VŠB – Technical University of Ostrava, Civil Engineering Series, Vol. 17, No. 1, 2017, pp. 112-121. ISSN 1804-4824 (in English)

KRÁLIK, J.: Probabilistic Nonlinear Analysis of the NPP Hermetic Cover Failure Due to Extreme Pressure and Temperature. Transactions of the VŠB – Technical University of Ostrava, Civil Engineering Series, Vol. 17, No. 1, 2017, pp. 81-95. ISSN 1804-4824 (in English)

KRÁLIK, J.: Probability and Sensitivity Nonlinear Analysis of the Hermetic Cover of Main Shut-off Valve Under Extreme Pressure and Temperature. Transactions of the VŠB – Technical University of Ostrava, Civil Engineering Series, Vol. 17, No. 1, pp. 96-111, 2017, ISSN 1804-4824 (in English)

MARTON, P.: Response of a Reinforced Concrete Slab to the Suddenly Applied Load. Key Engineering Materials, Vol. 738, 2017, pp. 36-46. ISSN 1013-9826 (in English)

MEDVEČKÁ, S. – IVÁNKOVÁ, O. – MACÁK, M.: Pressure Coefficients Acting upon the Cylinder Obtained by Numerical and Experimental Analysis. Civil and Environmental Engineering Vol. 13, No. 2/2017, pp. 149-155. ISSN (Online) 2199-6512 (in English)

PREKOP, L.: Modeling the Load Test of Vertical Resistance of a Pile. Key Engineering Materials, Vol. 738, 2017, pp. 310-318. ISSN 1013-9826 (in English)

SOKOL, M. – KOMORNÍKOVÁ, M. – BACIGÁL, T. – RODRÍGUEZ, M. R.: The Approximation Function of Bridge Deck Vibration Derived from the Measured Eigenmodes. International Journal of Applied Mathematics and Computer Science, 2017, Vol. 27, No. 4, pp. 799–814. ISSN: 1641-876X (print), 2083-8492 (online) (in English)

SOKOL, M. – VENGLÁR, M.: System Identification of a Composite Beam. Pollack Periodica, Vol. 12, No. 3 (2017), pp. 43-54. ISSN 1788-1994 (in English)

ŠNIRC, L. – GRMANOVÁ, A. – RAVINGER, J.: Dynamic Post-Buckling Behaviour. Transactions of the VŠB – Technical University of Ostrava, Civil Engineering Series, Vol. 17, No. 2, pp. 131-150, ISSN (Online) 1804-4824 (in English)

TVRDÁ, K. – DRIENOVSKÁ, J.: Analysis of Creep Effects in a Concrete Beam Using Various Software. Key Engineering Materials, Vol. 738, 2017, pp. 79-88. ISSN 1013-9826 (in English)

TVRDÁ, K. – VAŠEČKA, M.: Analysis of a Ceiling Slab of the Office Centre. Key Engineering Materials, Vol. 738, 2017, pp. 89-99. ISSN 1013-9826 (in English)

VĚGHOVÁ, I.: Numerical and Experimental Analysis of the Nonlinear Response of a Reinforced Concrete Frame Structure to Seismic Effects. Key Engineering Materials, Vol. 738, 2017, pp. 205-215. ISSN 1013-9826 (in English)

VENGLÁR, M. – SOKOL, M.: Choice of Appropriate Control Values for Effective Analyses of Damage Detection. Slovak Journal of Civil Engineering, Vol. 25, No.1, 2017, pp. 24-28. ISSN 1210-3896 (in English)

VITKOVÁ, Z. – OREMUSOVÁ, J. – HERDOVÁ, P. – IVÁNKOVÁ, O. – VITKO, A.: Association, Distribution, Liberation, and Rheological Balances of Alkyldimethylbenzylammonium Chlorides (C12–C16). Molecules, Vol. 22, No. 10 (2017), Art. No. 1802, 15 pp. ISSN 1420-3049 (in English)

## Conference Proceedings

ANTAL, R. – JENDŽELOVSKÝ, N. – HUBOVÁ, O.: Design of Aerodynamically Shaped High-Rise Buildings with Integrated Turbines. In: International Conference on Wind Energy Harvesting, Coimbra, Portugal, April 20-21, 2017, pp. 91-95, ISBN 978-989-9926-4-8 (in English)

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- UHLÍŘOVÁ, L.: Static Configuration of Liquid in a Rectangular Tank. In: *27<sup>th</sup> Annual PhD Student Conference, SvF STU Bratislava*, Oct. 25, 2017, pp. 107-112. ISBN 978-80-227-4751-6 (in Slovak)
- VÉGHOVÁ, I. – SUMEC, J.: Mathematical Modeling of Time-Depended Effects in the Linear Theory of Viscoelasticity. In: *17<sup>th</sup> International Scientific Conference VSU 2017*, Sofia, Bulgaria, June 8-9, 2017. Vol. I, pp. 136-141, ISSN 1314-071X (in English)
- VÉGHOVÁ, I.: Analysis of Reinforced Concrete Frame Structure Using the Capacity Spectrum Method. In: *New Trends in the Statics and Dynamics of Buildings, 19-20 Oct. 2017, SvF STU Bratislava*, 3 pp. ISBN 978-80-227-4732-5 (in English)
- VENGLÁR, M. – SOKOL, M.: Impact Analysis of Input Parameter for the Damage Detection Code. In: *MATEC Web of Conferences 107, 00048 (2017), DYN-WIND 2017, Dynamics of Civil Engineering and Transport Structures and Wind Engineering, Trstená, Slovakia, May 21-25, 2017*. 5 pp. ISSN 2261-236X (in English)
- VENGLÁR, M. – SOKOL, M.: Parametric Study of the Detection of Damage. In: *Juniorstav 2017. Brno, FAST VUT*, Jan. 26, 2017. 4 pp. ISBN 978-80-214-5473-6 (in Slovak)
- VENGLÁR, M. – ZABÁKOVÁ VRÁBLOVÁ, K. – JENDŽELOVSKÝ, N. – SOKOL, M.: Experimental and Finite Element Vibration Analysis of a Biaxial Voided Flat Slab. *Vibroengineering PROCEDIA*, Sept. 2017, Vol. 13, pp. 148-152. ISSN 2345-0533 (in English)
- VENGLÁR, M. – ZABÁKOVÁ VRÁBLOVÁ, K.: Modal Analysis of a Biaxial Voided Flat Slab. In: *27<sup>th</sup> Annual PhD Student Conference, SvF STU Bratislava*, Oct. 25, 2017, pp. 113-117. ISBN 978-80-227-4751-6 (in Slovak)

## Others

JENDŽELOVSKÝ, N. – KONEČNÁ, L. – GRMANOVÁ, A.: Static and Dynamic Analysis of Reinforced Concrete Structures. Zurich, Trans Tech Publications, 2017, 330 pp. Key Engineering Materials, Vol. 738, ISBN 978-3-0357-1114-1, ISSN 1013-9826 (in English)

JENDŽELOVSKÝ, N. – GRMANOVÁ, A.: New Trends in the Statics and Dynamics of Buildings. 15th International Conference. Bratislava, Slovakia, Oct. 19-20, 2017. CD-ROM, 208 pp. ISBN 978-80-227-4732-5 (in English)

# DEPARTMENT OF MATERIAL ENGINEERING

**Prof. Ing. Stanislav Unčík, PhD.**

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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

Binders

### 1.2 Postgraduate courses

Building Materials

Selected Chapters from Chemistry II

## 2. THESES

### 2.1 Graduate theses

DRAGOMIROVÁ, J.: Use of Recycled EVA Plastics for the Manufacture of Thermoinsulating Concrete.

Supervisor: UNČÍK, S.

SIVOŇ, P.: Verification of the Possibility of Using Recycled Cable Insulators for the Production of Lightweight Concrete

Supervisor: UNČÍK, S.

KRCHNÁROVÁ, P.: Utilization of a Fine Fraction of Natural Perlite in the Manufacture of Bricks.

Supervisor: ŠVEDA, M.

HAVELKOVÁ, P.: The Effect of Sodium Carbonate on the Thermal Conductivity of Fired Brick

Supervisor: ŠVEDA, M.

HELÍK, D.: Testing of Lime Mortars and Pastes with the Addition of Fly Ash from the Classic and Fluid Combustion of Coal.

Supervisor: PAVLÍK, V.

BISAHA, J.: Preparation of Low Density Composites Based on Expanded Perlite

Supervisor: PAVLÍK, V.

HRIŇÁK, D.: Verification of the Properties of Lime-Puzzolan Mortars That Were Stored Several Years in a Laboratory Environment.

Supervisor: PAVLÍK, V.

KOVÁCS, A.: Monitoring the Effect of a Binder on the Thermal Properties of Hemp Concrete.

Supervisor: LEDEREROVÁ, M.

PUCHER, Š.: Potential Use of Cement Composites Based on Recycled Plastics

Supervisor: LEDEREROVÁ, M.

SLOSARČIKOVÁ, Z.: Recycled Plastics – Their Use as a Source of Full-Value Raw Materials

Supervisor: LEDEREROVÁ, M.

HUDECOVÁ, A.: Use of Plastic Waste Materials as a Filler in Lightweight Concrete

Supervisor: LEDEREROVÁ, M.

HELLOVÁ, K. E.: Comparison of the Moisture Balance of Various Ecological External Walls of Wooden Houses Depending on the Composition of the Material

Supervisor: STRUHÁROVÁ, A.

GUSTIŇÁKOVÁ, Z.: Optimization of the Material Composition of Various Ecological Exterior Walls of Wood Buildings in Terms of Thermo-Technical Characteristics.

Supervisor: STRUHÁROVÁ, A.

ŠČASNÝ, J.: Temperature and Moisture-Induced Deformation of Porous Building Materials

Supervisor: STRUHÁROVÁ, A.

KRCHNAVÝ, D.: Monitoring the Effect of Binder on the Frost Resistance of Hemp Concrete

Supervisor: ŠTEFUNKOVÁ, Z.

JUHÁSOVÁ, D.: Monitoring the Effect of Binder on the Shrinkage of Hemp Concrete

Supervisor: ŠTEFUNKOVÁ, Z.



PODŠIVKA, A.: X-Ray Diffraction Analysis of Cement Composites from a Modified Binder.

Supervisor: ŠTEFUNKOVÁ, Z.

LÚČANOVÁ, M.: Differential Thermal Analysis of Cement Composites from a Modified Binder

Supervisor: ŠTEFUNKOVÁ, Z.

DAMAŠKOVÁ, Z.: Return to Traditional Materials – Hemp Concrete

Supervisor: ŠTEFUNKOVÁ, Z.

MÉSZÁROSOVÁ, T.: Thermal Properties of Cementitious Samples from Municipal Waste Based on Plastics

Supervisor: ŠÍN, P.

## 2.2 Doctoral theses

GREGOROVÁ, V.: Lightweight Concretes Based on Waste Plastics

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

DAUBNEROVÁ, A. – GREGOROVÁ, V.: A New Type of Lightweight Concrete? In: Eurostav, ISSN 1335-1249. Vol. 23, No. 3 (2017), pp. 42-43 (in Slovak)

KAČUR, J. – KOPČOK, M. – LUKOVIČOVÁ, J. – STRUHÁROVÁ, A.: Numerical Quantification of Thermal Properties of Insulation Coating. In: International Journal of Mechanical Engineering, ISSN 2367-8968. Vol. 2 (2017) (in English)

SOKOLÁŘ, R. – KERŠNEROVÁ, L. – ŠVEDA, M.: The Effect of Different Fluxing Agents on the Sintering of Dry Pressed Porcelain Bodies. In: Journal of Asian Ceramic Societies, ISSN 2187-0764. Vol. 5, No. 3 (2017), pp. 290-294 (in English)

ŠVEDA, M. – JANÍK, B. – PAVLÍK, V. – ŠTEFUNKOVÁ, Z. – PAVLENDOVÁ, G. – ŠÍN, P. – SOKOLÁŘ, R.: In: Pore-Size Distribution Effects on the Thermal Conductivity of the Fired Clay Body from Lightweight Bricks. In: Journal of Building Physics, ISSN 1744-2591. Vol. 41, No. 1 (2017), pp. 78-94 (in English)

ŠVEDA, M. – SOKOLÁŘ, R. – JANÍK, B. – ŠTEFUNKOVÁ, Z.: Reducing CO<sub>2</sub> Emissions in the Production of Porous Fired Clay Bricks. In: Materials Science = Medziagotyra, ISSN 1392-1320. Vol. 23, No. 2 (2017), pp. 139-143 (in English)

### Conference Proceedings

DAUBNEROVÁ, A.: Monitoring the Physical-Mechanical Properties of Lightweight Concrete Using EVA Plastic as a Filler. In: Construmat 2017: 23rd International Conference on Structural Materials: Kočovce, SR, 31. 5. – 2. 6. 2017 (1. ed.). Bratislava: Slovak Technical University in Bratislava, 2017 [CD-ROM]. ISBN 978-80-227-4689-2. pp. 8-11 (in Slovak)

DAUBNEROVÁ, A.: Basic Properties of Lightweight Concrete Using Organic-Based Binder and Foamed Plastics. In: Advances in Architectural, Civil and Environmental Engineering: 27th Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Geodesy and Cartography, Landscaping, Building Technology, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Theory and Environmental Technology of Buildings, Water Resources Engineering. Bratislava, 25. Oct. 2017. Bratislava: Spektrum STU, 2017. [CD-ROM]. ISBN 978-80-227-4751-6. pp. 232-237 (in Slovak)

GREGOROVÁ, V. – UNČÍK, S.: Characterization of Lightweight Concrete Produced from Plastics Wastes – Polystyrene and EVA. In: Applied Mechanics and Materials: Selected, peer reviewed papers from the international conference on Buildings and Environment enviBUILD 2016, Sept. 22-23, 2016, Brno, Czech Republic. Vol. 861 (2017). ISSN 1660-9336. pp. 24-31 (in English)

GREGOROVÁ, V.: Monitoring the Impact of Waste Polystyrene and EVA Plastic on the Properties of Lightweight Concrete. In: Construmat 2017: 23rd International Conference on Structural Materials: Kočovce, SR, 31. 5. – 2. 6. 2017 (1. ed.). Bratislava: Slovak Technical University in Bratislava, 2017 [CD-ROM]. ISBN 978-80-227-4689-2. ISBN 978-80-227-4689-2. pp. 12-18 (in Slovak)

GREGOROVÁ, V. – LEDEREROVÁ, M. – ŠTEFUNKOVÁ, Z.: Use of Waste Materials Based on Plastics as Fillers for Lightweight Concrete. In: RECYCLING 2017: Possibilities and Future of Waste Recycling from Buildings as a Source of Valuable Raw Materials. Proceedings of 22nd Conference, Brno, CR, 6. – 7. 4. 2017. Brno University of Technology – Faculty of Mechanical Engineering, 2017, ISBN 978-80-214-5485-9. pp. 40-45 (in German)

- GREGOROVÁ, V. – LEDEREROVÁ, M. – ŠTEFUNKOVÁ, Z.: Investigation of Effect of Recycled Plastics from Cable, Ethylene Vinyl Acetate and Polystyrene Waste on Lightweight Concrete Properties. In: *Procedia Engineering: 18th International Conference on Rehabilitation and Reconstruction of Buildings, CRRB 2016*. Brno, Czech Republic, 24 – 25 Nov. 2016. Vol. 195 (2017), online. ISSN 1877-7058. pp. 127-133 (in English)
- LEDEREROVÁ, M. – PROKOPČÁKOVÁ, K.: Effect of Constructions on the Environment. In: *Construmat 2017: 23rd International Conference on Structural Materials: Kočovce, SR, 31. 5. – 2. 6. 2017 (1. ed.)*. Bratislava: Slovak Technical University in Bratislava, 2017 [CD-ROM]. ISBN 978-80-227-4689-2. ISBN 978-80-227-4689-2. pp. 25-29 (in German)
- LEDEREROVÁ, M.: The Use of Materials from Synthetic Plastic Waste as a Filler for Lightweight Concrete. In: *Construmat 2017: 23rd International Conference on Structural Materials: Kočovce, SR, 31. 5. – 2. 6. 2017 (1. ed.)*. Bratislava: Slovak Technical University in Bratislava, 2017 [CD-ROM]. ISBN 978-80-227-4689-2. ISBN 978-80-227-4689-2. pp. 19-24 (in German)
- OLŠOVÁ, J. – GAŠPARIK, J. – ŠTEFUNKOVÁ, Z. – BRIATKA, P.: Interaction of the Asphalt Layers Reinforced By Glass-Fiber Mesh. In: *Advances and Trends in Engineering Sciences and Technologies II: Proceedings of the 2nd International Conference on Engineering Sciences and Technologies*. High Tatras Mountains, Tatranské Matliare, Slovak Republic, 29 June – 1 July 2016. 1. ed. London: Taylor & Francis Group (2017). ISBN 978-1-138-03224-8. pp. 803-808. (in English)
- PAVLÍK, V.: The Microstructure and Compressive Strength of Lime-Fly Ash Mortars. In: *Construmat 2017: 23rd International Conference on Structural Materials: Kočovce, SR, 31. 5. – 2. 6. 2017 (1. ed.)*. Bratislava: Slovak Technical University in Bratislava, 2017 [CD-ROM]. ISBN 978-80-227-4689-2. ISBN 978-80-227-4689-2. pp. 30-38 (in Slovak)
- STRUHÁROVÁ, A. – HELLOVÁ, K. E.: Effect of Hydrophobisation on the Moisture Content in Masonry Made from Autoclaved Aerated Concrete. In: *Construmat 2017: 23rd International Conference on Structural Materials: Kočovce, SR, 31. 5. – 2. 6. 2017 (1. ed.)*. Bratislava: Slovak Technical University in Bratislava, 2017 [CD-ROM]. ISBN 978-80-227-4689-2. ISBN 978-80-227-4689-2. pp. 39-43 (in Slovak)
- SÚLOVSKÁ, M. – TURČEK, P. – ŠTEFUNKOVÁ, Z.: Quality Control of Cement-Improved Soil. In: *ICSMGE 2017 & iYGEC6 2017: Proceedings of the 19th International Conference on Soil Mechanics and Geotechnical Engineering and Proceedings of the 6th International Young Geotechnical Engineers' Conference*, Sept. 16-22, 2017, Seoul, Korea. 1. ed. Seoul: Korean Geotechnical Society, 2017 [USB memory stick]. ISBN 978-89-952197-5-1. pp. 35-38 (in English)
- ŠTEFUNKOVÁ, Z.: Monitoring the Impact of a Shrinkage Reducing Agent on the Properties of Cement Composites. In: *Construmat 2017: 23rd International Conference on Structural Materials: Kočovce, SR, 31. 5. – 2. 6. 2017 (1. ed.)*. Bratislava: Slovak Technical University in Bratislava, 2017 [CD-ROM]. ISBN 978-80-227-4689-2. ISBN 978-80-227-4689-2. pp. 44-50 (in Slovak)
- ŠVEDA, M. – ŠTEFUNKOVÁ, Z.: Verifying the Validity of Correlation Relationships for Porous Brick with a Reduced Number of Input Data. In: *Construmat 2017: 23rd International Conference on Structural Materials: Kočovce, SR, 31. 5. – 2. 6. 2017 (1. ed.)*. Bratislava: Slovak Technical University in Bratislava, 2017 [CD-ROM]. ISBN 978-80-227-4689-2. ISBN 978-80-227-4689-2. pp. 67-74 (in Slovak)
- ŠVEDA, M. – KRCHNÁROVÁ, P. – ŠTEFUNKOVÁ, Z.: The Use of Natural Perlite in Brickmaking. In: *Construmat 2017: 23rd International Conference on Structural Materials: Kočovce, SR, 31. 5. – 2. 6. 2017 (1. ed.)*. Bratislava: Slovak Technical University in Bratislava, 2017 [CD-ROM]. ISBN 978-80-227-4689-2. ISBN 978-80-227-4689-2. pp. 59-66 (in Slovak)
- ŠVEDA, M. – HAVELKOVÁ, K. – ŠTEFUNKOVÁ, Z.: The Effect of Sodium Carbonate on the Properties of a Fired Clay Body. In: *Construmat 2017: 23rd International Conference on Structural Materials: Kočovce, SR, 31. 5. – 2. 6. 2017 (1. ed.)*. Bratislava: Slovak Technical University in Bratislava, 2017 [CD-ROM]. ISBN 978-80-227-4689-2. ISBN 978-80-227-4689-2. pp. 51-58 (in Slovak)
- UNČÍK, S. – BENKO, V.: Utilization of Expansion Cement for the Remediation of Reinforced Concrete. In: *Rehabilitation of Concrete Structures: Proceedings of 10th Conference*. Smolenice, SR, 7. – 8. 12. 2017. Bratislava: IRIS, 2017, ISBN 978-80-8200-014-9. pp. 111-116 (in Slovak)
- ŠTEFUNKOVÁ, Z.: Editor: *Construmat 2017: Proceedings of 23th International Conference on Structural Materials: Kočovce, SR, 31. 5. – 2. 6. 2017 (1. ed.)*. Bratislava: Slovak Technical University in Bratislava, 2017 [CD-ROM]. ISBN 978-80-227-4689-2. 373 pp. (in Slovak)

# DEPARTMENT OF BUILDING TECHNOLOGY

Head of Department

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## 1. EDUCATION

### 1.1 Graduate study

#### Obligatory subjects

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

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

#### Obligatory elective subjects

Information Technology in Building Technology  
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 subjects

Building Information Modelling

### 1.2 Postgraduate courses

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

## 2. THESES

### 2.1 Bachelor theses

There were 83 works

## 2.2 Graduate theses

BAČÍK, M.: Apartment Building, Jeséniova, Bratislava.  
Supervisor: SOMOROVÁ, V.

BAJNOK, A.: Multifunctional Apartment Building, Augustus.  
Supervisor: JANKOVICHOVÁ, E.

BALÁŽ, A.: Multifunctional Building, Krásna Hôrka, Bratislava.  
Supervisor: SOMOROVÁ, V.

BARUS, T.: Multifunctional Apartment Building, Panenská 5.  
Supervisor: BOŽÍK, M.

BEŇADIK, F.: Factory – Village of Kriváň.  
Supervisor : SOMOROVÁ, V.

BEŇUŠ, M.: ECOPOINT Administrative Building, Košice.  
Supervisor: SOMOROVÁ, V.

BLAŠKOVIČ, M.: Selected Parts of Construction-Technological Preparation for Building – Apartment Building – Dúbravka.  
Supervisor: ANTOŠOVÁ, N.

BRIŠOVÁ, J.: Selected Parts of Construction-Technological Preparation for Building – Multifunctional Building, Petržalka, Panónska cesta  
Supervisor: JURÍČEK, I.

BROZMAN, M.: Planning of Reconstruction of NKP Ďumbier Hotel in Brezno  
Supervisor: MAKÝŠ, O.

CVOLIGA, T.: Multifunctional Apartment Building – TAMMI Dúbravka.  
Supervisor: SOMOROVÁ, V.

CZAJLIK, P.: Construction-Technological Project – PERI Administrative Building.  
Supervisor: ĎUBEK, M.

DANIŠOVÁ, P.: Multifunctional Building, Záhorská Bystrica.  
Supervisor: SOMOROVÁ, V.

DOJČANOVÁ, N.: Construction-Technological Project – Nobelova Residential Zone  
Supervisor: PETRO, M.

DRINÓCZI, T.: Construction-Technological Project – Galandia Accommodation Building.  
Supervisor: PETRO, M.

ĎURICOVÁ, L.: NEW STEIN Multifunctional Apartment Building, Bratislava.  
Supervisor: ELLINGEROVÁ, H.

FLIMEL, D.: Selected Parts of Construction-Technological Preparation for Building – Multifunctional Building on Račianska in Bratislava.  
Supervisor: ANTOŠOVÁ, N.

GODÁL, M.: Complex Multifunctional Apartment Building in Stupava.  
Supervisor: JAKOVICHOVÁ, E.

HOLUBANSKÁ, M.: Construction-Technological Project for Nová Terasa Residential Complex on Ondavská Street, Košice II, Košice”  
Supervisor: CHAMULOVÁ, B.

HORVÁTH, Á.: Construction-Technological Project – QUATTRO Apartment Building.  
Supervisor: PETRO, M.

HOSTAČNÁ, R.: Construction-Technological Project – Apartment Building – Ružinov, Mierová Street, Bratislava.  
Supervisor: CHAMULOVÁ, B.

HRABČÁKOVÁ, J.: Selected Parts of Construction-Technological Preparation for Building – A Set of Multifunctional Buildings on Bajkalská.  
Supervisor: ANTOŠOVÁ, N.

HRIAGYELOVÁ, A.: Residential Complex.  
Supervisor: BOŽÍK, M.

HRIC, M.: Planning of Reconstruction of Saint Nicholas Church in Handlova-Nová Lehota  
Supervisor: MAKÝŠ, O.

HRICOVÁ, A.: Construction-Technological Project – AUGUSTUS Multifunctional Building.  
Supervisor: ĎUBEK, M.

JACKULIAK, M.: Apartment Building.  
Supervisor: BOŽÍK, M.

JANOVIČOVÁ P.: Slovaftská Multifunctional Building.  
Supervisor: FUNTÍK, T.

JANÚCHOVÁ, V.: Selected Parts of Construction-Technological Preparation for Building – Apartment Building in Krasňany.  
Supervisor: ANTOŠOVÁ, N.

JESENSKÝ, R.: Construction-Technological Project – Multifunctional Apartment Building at Ružinovská 44 in Bratislava.  
Supervisor: GAŠPARÍK, J.

JUCHA, P.: JARABINY Residential Complex.  
Supervisor: MATÚŠEK, R.

JURČA, M.: Construction-Technological Project – Multifunctional Dwelling House in Trnava.  
Supervisor: GAŠPARÍK, J.

JURÍK, R.: Zuckermandel – Blocks AB, AE.  
Supervisor: FUNTÍK, T.

KANKOVÁ, E.: Multifunctional Administrative Building, Bratislava.  
Supervisor: SZALAYOVÁ, S.

- KITANOVIČ, M.: Planning of Reconstruction of Manor House in Moravany nad Vahom.  
Supervisor: MAKÝŠ, O.
- KLEMOVÁ, E.: Selected Parts of Construction-Technological Preparation for Building – Belaria Residential Complex, Koliba, Bratislava.  
Supervisor: JURÍČEK, I.
- KOLLÁROVÁ, V.: Weinbauerhaus Multifunctional Apartment Building.  
Supervisor: JANKOVICHOVÁ, E.
- KOVÁČ, M.: Selected Parts of Construction-Technological Preparation for Building – KIVIKO Residential Complex, Bratislava.  
Supervisor: JURÍČEK, I.
- KOVÁČIK, T.: Construction-Technological Project – CARPATHIA, Prievidza.  
Supervisor: HULÍNOVÁ, Z.
- KRAJČÍK, P.: St. Michael's Hospital.  
Supervisor: BOŽÍK, M.
- KRAJČOVIČ, S.: Planning of Reconstruction of Hieromit Monastery in Piarg.  
Supervisor: MAKÝŠ, O.
- KUCEJ, V.: # Kramáre Multifunctional Apartment Building.  
Supervisor: JANKOVICHOVÁ, E.
- KUDLÁČ, O.: Selected Parts of Construction-Technological Preparation for Building – Reconstruction of PR-L Eissmann s.r.o. Factory, Lesná 880, Holíč.  
Supervisor: BRIATKA, P.
- KUDLÁČ, R.: Selected Parts of Construction-Technological Preparation for Building – Južné mesto – Apartment Building AI, Bratislava – Petržalka, Panónska cesta  
Supervisor: BRIATKA, P.
- KURKIN, R.: Construction-Technological Project – LDPE4-LT, Bratislava.  
Supervisor: HULÍNOVÁ, Z.
- LENČEŠ, J.: Freshmarket, Rožňavská ul., Bratislava.  
Supervisor: PROKOPČÁKOVÁ, K.
- LENKOVÁ, J.: Construction-Technological Project – MEDIC PARK II Multifunctional Building.  
Supervisor: ĎUBEK, M.
- LIBANT, T.: Selected Parts of Construction-Technological Preparation for Building – Reconstruction of Stará Pošta, Pezinok.  
Supervisor: ANTOŠOVÁ, N.
- MADLIAKOVÁ, P.: Apartment Building.  
Supervisor: BOŽÍK, M.
- MALOVCOVÁ, D.: Construction-Technological Project – Blumenthal Residence – 2nd stage.  
Supervisor: ĎUBEK, M.
- MARINČÁK, Z.: Construction-Technological Project – Apartment Building, Kráľovská Street, Šaľa.  
Supervisor: CHAMULOVÁ, B.
- MAYER, P.: Multifunctional Building Complex, Polianky.  
Supervisor: FUNTÍK, T.
- MOJŽIŠ, P.: Planning of Reconstruction of Palace on Gorkeho Street 4 in Bratislava.  
Supervisor: MAKÝŠ, O.
- MOLNÁR, L.: Construction-Technological Project – Čapajeva Apartment Building, Petržalka – FLAT 75.  
Supervisor: ĎUBEK, M.
- NAGY, B.: Construction-Technological Project – ARBORIA Residential Complex, Trnava.  
Supervisor: HULÍNOVÁ, Z.
- NÉMETHOVÁ, Z.: Construction-Technological Project – Slnéčnice Vila domy Apartment Building, Bratislava.  
Supervisor: GAŠPARÍK, J.
- ORAVEC, P.: Selected Parts of Construction-Technological Preparation for Building – Belvedere Multifunctional Building, Banská Bystrica.  
Supervisor: JURÍČEK, I.
- PALÁSTI, P.: Construction-Technological Project – Metropolitan STAR Multifunctional Building.  
Supervisor: PETRO, M.
- PAPCÚN, Š.: Majerniková Apartment Building.  
Supervisor: JANKOVICHOVÁ, E.
- PETRUŠOVÁ, K.: Construction-Technological Project – Shop LIDL Spišská Nová Ves.  
Supervisor: GAŠPARÍK, J.
- PINDIAK, M.: Selected Parts of Construction-Technological Preparation for Building – Residential Complex – Floriánska St., Košice.  
Supervisor: BRIATKA, P.
- PÓCS, D.: Construction-Technological Project – Factory in Štúrovo.  
Supervisor: HULÍNOVÁ, Z.
- PROKOP, F.: Construction-Technological Project – Hall Bratislava – DC 9.  
Supervisor: GAŠPARÍK, J.
- RÓZSAOVÁ, B.: Typical Apartment Building – Kráľa Žigmunda Residential Complex  
Supervisor: MATÚŠEK, R.
- SÁNDOR, D.: Malé Krasňany Residential area (BD4, BD5).  
Supervisor: FUNTÍK, T.

SCHRAMKO, D.: Selected Parts of Construction-Technological Preparation for Building – VILLINKI Residential Complex, Staré Grunty.

Supervisor: JURÍČEK, I.

SLÁDEČEK, R.: Selected Parts of Construction-Technological Preparation for Building – Šišková Residential Building.

Supervisor: ANTOŠOVÁ, N.

SOJKA, P.: Multifunctional Building on Theater Alley .

Supervisor: MAKÝŠ, P.

SROGONČÍK, J.: Apartment Building.

Supervisor: BOŽÍK, M.

ŠKRABALOVÁ, P.: Selected Parts of Construction-Technological Preparation for Building – Fuxova Residential Complex, Bratislava, Petržalka.

Supervisor: JURÍČEK, I.

ŠPICOVÁ, I.: Selected Parts of Construction-Technological Preparation for Building – Zelené Vinohrady – Residential Complex.

Supervisor: ANTOŠOVÁ, N.

ŠTEINHUBEL, M.: NIDO Residential Complex.

Supervisor: FUNTÍK, T.

UHER, E.: Apartment Building.

Supervisor: BOŽÍK, M.

VARGA, T.: Južné mesto Multifunctional Building, Panónska cesta, Bratislava.

Supervisor: PROKOPČÁKOVÁ, K.

VILKUS, R.: Zájarčie Apartment Building.

Supervisor: FUNTÍK, T.

VINCZEOVÁ, J.: Selected Parts of Construction-Technological Preparation for Building – Lužanky Residence, Multifunctional Building, Brno.

Supervisor: JURÍČEK, I.

VÖRÖSOVÁ, A.: Construction-Technological Project – Panoráma Apartment Building.

Supervisor: PETRO, M.

VRÁBLOVÁ, L.: Selected Parts of Construction-Technological Preparation for Building – Lodenica Residential and Recreational Complex.

Supervisor: ANTOŠOVÁ, N.

WALLNER, T.: Dúbravčice – East, 2ND stage.

Supervisor: FUNTÍK, T.

VRÁBLOVÁ, L.: Selected Parts of Construction-Technological Preparation for Building – Nejedlého ul. Multifunctional Building, Na Vrátkach, Bratislava.

Supervisor: CHAMULOVÁ, B.

## 2.3 Doctoral theses

PROKOPČÁK, L.: Optimization in Modeling of Off-Site Concrete Transportation in Terms of Efficiency of the Construction

Supervisor: GAŠPARÍK, J.

HANKO, M.: Streamlining Maintenance of Building Structures According to FM

Supervisor: SOMOROVÁ, V.

ŽUBEK, S.: Proposal of a Model for the Cost Evaluation of Construction Site Equipment

Supervisor: JANKOVICHOVÁ, E.

## 3. RESEARCH

### 3.1 Research projects

TAP – Transforming Assessment Practices for Large Enrollments, First Year of Education

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

MIND – Management – Innovation – Development

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

### 3.2 International cooperation

#### Cooperating institutions

TU Vienna, Austria

TU Munich, Germany

CONTEC, Kralupy nad Vltavou, Czech Republic

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

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

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

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

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

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

Department of Building Technology, Brno, Czech Republic

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

## Membership in international professional organizations

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

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

MAKÝŠ, O.: International Council on Monuments and Sites – Slovak branch, Bratislava, SK.

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

## 4. PUBLICATIONS

### Books

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GAŠPARÍK, J. – GAŠPARÍK, M.: Internal Audit of a Quality Management System: According to STN EN ISO 9001:2016 and STN EN ISO 19011:2012. 1. ed. Brno: Tribun EU, 2017. 67 pp. ISBN 978-80-263-1167-6 (in Slovak)

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MATÚŠEK, R.: The Recovery and Revitalization of the Buildings in Facility Management. 1. ed. Brno: Tribun EU, 2017. 68 pp. ISBN 978-80-263-1372-4 (in English)

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# DEPARTMENT OF SANITARY AND ENVIRONMENTAL ENGINEERING

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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

BELICOVÁ, M.: Reconstruction of a Pool  
Supervisor: BOŽÍKOVÁ, J.

CIPOVOVÁ, E.: Stabilization of Treated Water at the Kúty Treatment Plant  
Supervisor: ILAVSKÝ, J.

CSICSAIOVÁ, R.: LCA Analysis of the Waste Water Treatment Plant in Dunajská Streda – Kútники  
Supervisor: STANKO, Š.

ERNEKOVÁ, A.: Design of a Municipal Waste Collection Yard  
Supervisor: ŠKULTÉTYOVÁ, I.

GÓRA P.: Design of Efficient Waste Management in Štúrovo.  
Supervisor: GALBOVÁ, K.

IVANOV, L.: Design of an IBV Utility Conveyance System  
Supervisor: BOŽÍKOVÁ, J.

KAPUSTOVÁ, A.: Stormwater Runoff Management in an Urbanized Area  
Supervisor: HOLUBEC, M.

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Supervisor: HOLUBEC, M.

MARKO, I.: Removal of Bromates from Drinking Water  
Supervisor: BARLOKOVÁ, D.

STAŇOVÁ, A.: Variant Methods of Wastewater Management in Urban Areas  
Supervisor: HRUDKA, J.

ŠAMAJ, A.: Verification of the Possibility of Improving Water with Calcium and Magnesium at the Turček Water Treatment Plant  
Supervisor: ILAVSKÝ, J.

ŠOPÁKOVÁ, S.: Water Supply for the 2nd Pressure Zone of the Village of Veličná  
Supervisor: BARLOKOVÁ, D.

ŠÚTUŠ, M.: Proposed Extension of the Hronské Kľačany Public Water Supply  
Supervisor: TÓTHOVÁ, K.

TOMAŠTÍKOVÁ, V.: Connection of Residential Files to an Engineering Network  
Supervisor: BOŽÍKOVÁ, J.

TURZOVÁ, V.: Implementation of Infiltration Objects in the Process of Optimizing a Storm Sewer Network in an Urbanized Area  
Supervisor: HRUDKA, J.

UVÁČKOVÁ M.: Analysis of Sludge Management from a Wastewater Treatment Plant.  
Supervisor: GALBOVÁ, K.

## 2.3 Doctoral theses

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

DUBCOVÁ, M.: Use of Multi-Criteria Analysis for the Sustainability of Water Management Systems  
Supervisor: ŠKULTÉTYOVÁ, I.

GREGUŠOVÁ, V.: Mathematical Simulation of WWTP Structures  
Supervisor: STANKO, Š.

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

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

MARKO, I.: Zeolite in Water Treatment  
Supervisor: BARLOKOVÁ, D.

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

TROŠANOVÁ, M.: Reverse Logistics in Waste Management  
Supervisor: ŠKULTÉTYOVÁ, I.

## 3. RESEARCH

### 3.1 Research projects

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

Experimental Research on Reducing the Impacts of Sewer Network Floods in Areas  
(2013-2017, STANKO, Š.) APW-0372-12

Experimental Research of Combined and Storm Sewage – Determined for the Protection of Receiving Waters and Possibilities of Alternative Rainfall Runoff Regulations  
(2015-2017, STANKO, Š.) VEGA 1/0631/15

Optimization 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.) APW-15-0379

Analysis of Water Flow in the Secondary Settling Tanks of a WWTP  
(2017, GREGUŠOVÁ, V.) STU Grant for Excellence Team of Young Researchers

Analysis Tool for Design Rainfall in Slovakia  
(2017, RUSNÁK, D.) STU Grant of Excellence Team of Young Researchers

Experimental Analysis of the Impact of Extreme Rainfall on the Efficiency of CSO Chambers Supported by the Implementation of Mathematical Models  
(2017, HRUDKA, J.) STU Grant for Young Researchers.

Analysis of the Impact of Green Infrastructure for Qualitative and Quantitative Indicators of Surface Water and Their Impact on Groundwater in an Urban Area  
(2017, HRUDKA, J.) 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 Inżynierii Sanitarnej i Ochrony Środowiska, Politechnika Czeszochowska, Czeszochowa, 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

HRUDKA, J.: Analysis of Sedimentation Basins by Mathematical Modeling. 1st. ed. Bratislava : Spektrum STU, 2017. CD-ROM, Ed. of Scientific Papers, No. 168th. ISBN 978-80-227-4739-4, 112 pp. (in Slovak)

#### Journals

BARLOKOVÁ, D. – ILAVSKÝ, J. – KAPUSTA, O. – KUNŠTEK, M. – HUDEC, P.: Removal of Iron and Manganese from Water Using Filtralite Mono-Multi. In: Desalination and Water Treatment. Vol. 78 (2017), ISSN 1944-3994, pp. 155-165 (in English)

CSICSAIOVÁ, R. – HOLUBEC, M. – GREGUŠOVÁ, V. – ŠKULTÉTYOVÁ, I.: LCA Study of Environmental Impacts of WWTP. In: Czech Journal of Civil Engineering. Vol. 3, No. 2 (2017), ISSN 2336-7148, online, pp. 29-34 (in English)

DUBCOVÁ, M. – ŠKULTÉTYOVÁ, I. – GALBOVÁ, K. – TROŠANOVÁ, M.: Possibilities of Sludge Recovery from Wastewater Treatment Plant. In: Czech Journal of Civil Engineering. Vol. 3, No. 2 (2017), ISSN 2336-7148, online, pp. 35-39 (in English)

GALBOVÁ, K. – GREGUŠOVÁ, V. – HRUDKA, J. – ŠKULTÉTYOVÁ, I.: Sustainable Management of Sewage Sludge in Slovakia. In: Czech Journal of Civil Engineering. Vol. 3, No. 2 (2017), ISSN 2336-7148, online, pp. 46-51 (in Slovak)

GREGUŠOVÁ, V. – ŠKULTÉTYOVÁ, I. – HOLUBEC, M.: Measurement of Flow Velocity in Different Secondary Settling Tanks for Analysis of the Flow. In: Pollack Periodica. Vol. 12, No. 3 (2017), ISSN 1788-1994, pp. 15-22 (in English)

GREGUŠOVÁ, V. – HOLUBEC, M. – GALBOVÁ, K. – STANKO, Š.: IN-SITU Measured Velocity in Secondary Settling Tank and Its Application for the Flow Simulation. In: Czech Journal of Civil Engineering. Vol. 3, No. 2 (2017), ISSN 2336-7148, online, pp. 52-57 (in English)

HOLUBEC, M. – HRUDKA, J. – CSICSAIOVÁ, R. – STANKO, Š.: CFD Analysis of Wastewater Sedimentation Tank. In: Czech Journal of Civil Engineering. Vol. 3, No. 2 (2017), ISSN 2336-7148, online, pp. 58-65 (in English)

HRUDKA, J. – STANKO, Š. – ŠKULTÉTYOVÁ, I. – HOLUBEC, M. – GALBOVÁ, K.: The Significance of Calibration Parameters for the Mathematical Modeling of Secondary Sedimentation Tanks. In: Vodní hospodářství. Vol. 67, No. 1 (2017), ISSN 1211-0760, pp. 12-14 (in Slovak)

HRUDKA, J. – STANKO, Š. – HOLUBEC, M.: Analysis of Flow and Sedimentation Processes in Secondary Sedimentation Tank. In: Pollack Periodica. Vol. 12, No. 2 (2017), ISSN 1788-1994, pp. 79-89 (in English)

HRUDKA, J. – ČERVENĀNSKÁ, M. – RUSNÁK, D. – CZÖLDEROVÁ, M. – SOLDÁNOVÁ, V.: Regulation Facilities at the Sewer Network as a Tool in Reducing the Effects of Heat Islands in Urban Areas. In: Czech Journal of Civil Engineering. Vol. 3, No. 2 (2017), ISSN 2336-7148, online, pp. 66-72 (in English)

HRUDKA, J. – RUSNÁK, D. – CSICSAIOVÁ, R.: Increasing the Efficiency of Separating Rainwater in the CSO Chamber by Mathematical Modeling. In: Czech Journal of Civil Engineering. Vol. 3, No. 2 (2017), ISSN 2336-7148, online, pp. 73-78 (in English)

RUSNÁK, D. – DUBCOVÁ, M. – TROŠANOVÁ, M. – STANKO, Š.: Choice of the Design Rainfall for Sewerage Assessment Using Analytical Tool DATER in Slovakia. In: Czech Journal of Civil Engineering. Vol. 3, No. 2 (2017), ISSN 2336-7148, online, pp. 168-173 (in English)

SOKÁČ, M. – VELÍSKOVÁ, Y.: Localization of Pollution Sources – Inverse Task in Pollution Transport. In: Acta Hydrologica Slovaca. Vol. 18, No. 1 (2017), ISSN 1335-6291, pp. 49-56 (in English)



STANKO, Š. – HRUDKA, J. – ŠKULTÉTYOVÁ, I. – HOLUBEC, M. – GALBOVÁ, K. – MACKULAK, T.: Analysis of Seasonal Temperature Influence on Hydraulic Processes in a Waste Water Sedimentation Tank. In: Monatshefte für Chemie – Chemical Monthly : selected papers from the Conference XXXVIth Modern Electrochemical Methods, Czech Republic, 2016. Vol. 148, No. 3 (2017), ISSN 0026-9247, online, pp. 489-495 (in English)

STANKO, Š. – HRUDKA, J. – ŠKULTÉTYOVÁ, I. – HOLUBEC, M. – GALBOVÁ, K. – GREGUŠOVÁ, V. – MACKULAK, T.: CFD Analysis of Experimental Adjustments on Wastewater Treatment Sedimentation Tank Inflow Zone. In: Monatshefte für Chemie – Chemical Monthly : selected papers from the Conference 36th Modern Electrochemical Methods, Czech Republic, 2016. Vol. 148, No. 3 (2017), ISSN 0026-9247, online, pp. 585-591 (in English)

STANKO, Š. – RUSNÁK, D. – ŠKULTÉTYOVÁ, I. – HOLUBEC, M. – GALBOVÁ, K.: Impact of Topology and Map Precision on Designed Flow in Rain Sewers. In: MM Science Journal. Vol. 2017 (2017), ISSN 1803-1269(P), pp. 1806-1809 (in English)

TICHÝ, J. – TAKÁČOVÁ, A. – SMOLINSKÁ, M. – BODÍK, I. – GÁL, M. – CZÖLDEROVÁ, M. – STANKO, Š. – HOLUBEC, M. – HRUDKA, J. – VOJS STAŇOVÁ, A. – MACKULAK, T.: Treatment of Hazardous Leachate from Landfill Using Ultrasound/H<sub>2</sub>O<sub>2</sub> System. In: Monatshefte für Chemie – Chemical Monthly. Vol. 148, No. 3 (2017), ISSN 0026-9247, pp. 563-570 (in English)

TROŠANOVÁ, M. – ŠKULTÉTYOVÁ, I. – DUBCOVÁ, M. – RUSNÁK, D.: Comparison of Environmental Goals and Economic Efficiency in Waste Management at Municipal Level within Reverse Logistics. In: Czech Journal of Civil Engineering. Vol. 3, No. 2 (2017), ISSN 2336-7148, online, pp. 175-180 (in English)

## Conference Proceedings

BARLOKOVÁ, D. – ILAVSKÝ, J. – MUNKA, K.: Removal of Antimony from Water Using GEH Sorption Material at Different Filter Bed Volumes. In: ICEE 2017: 10th International Conference on Environmental Engineering, Vilnius, Lithuania 27-28. 4. 2017 – Vilnius : Vilnius Gediminas Technical University, 2017, CD-ROM – ISSN 2029-7092. ISBN 978-609-476-044-0 (in English)

BARLOKOVÁ, D. – ILAVSKÝ, J. – KAPUSTA, O. – ŠIMKO, V.: Importance of Calcium and Magnesium in Water – Water Hardening. In: IOP Conference Series: Earth and Environmental Science Vol. 92, 2017 – ISSN 1755-1307 (in English)

BARLOKOVÁ, D. – ILAVSKÝ, J. – MARKO, I. – TKÁČOVÁ, J.: Bromates in Water. In: Drinking Water 2017: 17th International Conference. Trenčianske Teplice, Slovak Republic, 19.-21. 9. 2017 – Bratislava : VodaTím, 2017 – ISBN 978-80-971272-5-1 – pp. 187-194 (in Slovak)

BARLOKOVÁ, D. – ILAVSKÝ, J. – KAPUSTA, O.: Removal of Iron and Manganese from Small Water Resources. In: SGEM 2017. 17th International Multidisciplinary Scientific GeoConference. Vol. 17. Water Resources. Forest, Marine and Ocean Ecosystems : conference proceedings. Albena, Bulgaria, 29.6.- 5.7. 2017 – Sofia : STEF 92 Technology, 2017 – ISSN 1314-2704, ISBN 978-619-7408-04-1 – pp. 535-543 (in English)

BELIŠOVÁ, N. – MACKULAK, T. – GREŇKOVÁ, A. – TAKÁČOVÁ, A. – SMOLINSKÁ, M. – STANKO, Š. – ŠKULTÉTYOVÁ, I. – CZÖLDEROVÁ, M.: The Possibility of the Decontamination of Soil Polluted by Oil Compounds by Selected Biological and Chemical Methods. In: Industrial Toxicology 2017: 36th International Conference. Svit, Slovak Republic, 14.-16. 6. 2017 – Bratislava : Spektrum STU, 2017, USB – ISBN 978-80-227-4701-1 – pp. 10-15 (in Slovak)

BODIŠ, D. – BOŽÍKOVÁ, J. – MACKOVÝCH, D.: Chemical Analysis of Mineral Waters of Spa Slovakia – History and Present. In: Balneotechnické dni 2017: Conference with international participation. Nimnica, Slovak Republic, 22. – 24. 5. 2017 – Bratislava : Spektrum STU, 2017 – ISBN 978-80-227-4695-3 – pp. 4-12 (in Slovak)

BOŽÍKOVÁ, J. – VANDROVÁ, G.: Nimnica – Natural Healing Water Sources. In: Balneotechnické dni 2017 : International Conference. Nimnica, Slovak Republic, 22. – 24. 5. 2017 – Bratislava : Spektrum STU, 2017 – ISBN 978-80-227-4695-3 – pp. 94-106 (in Slovak)

BOŽÍKOVÁ, J. – GALBOVÁ, K.: New Protected Areas of Recognized Resources. In 49th Conference of Water Managers in Industry. Liptovský Ján, Slovak Republic, 6. – 8. 11. 2017. – Bratislava : HEKAS, 2017 – ISBN 978-80-971819-3-2 – pp. 95-106 (in Slovak)

BOŽÍKOVÁ, J. – DZÚRIK, J. – TOMANA, J.: Review of Mineral Water Registration in the Slovak Republic. In: Balneotechnické dni 2017 : Conference with international participation. Nimnica, SR, 22. – 24. 5. 2017 – Bratislava : Spektrum STU, 2017 – ISBN 978-80-227-4695-3 – pp. 70-81 (in Slovak)

CSICSAIOVÁ, R. – STANKO, Š. – DUBCOVÁ, M.: Usage of the LCA Method for Environmental Impact Assessment of Wastewater Treatment Plant. In: Architectural, Engineering and Information Sciences : abstract book. 13th Miklós Iványi International PhD & DLA Symposium. 3. – 4. 11. 2017, Pécs, Hungary. – Pécs : Pollack Press, 2017 – ISBN 978-963-642-780-1 – p. 30 (in English)

CZÖLDEROVÁ, M. – BELIŠOVÁ, N. – MACKULAK, T. – TICHÝ, J. – STANKO, Š. – GRABIC, R. – GÁL, M. – HÍVEŠ, J. – VOJS STAŇOVÁ, A.: Utilization of Ferrates by Degradation of Selected Micropollutants Occurring in Wastewater. In: Industrial Toxicology 2017: 36th International Conference. Svit, Slovak Republic, 14.-16. 6. 2017 – Bratislava : Spektrum STU, 2017, USB key – ISBN 978-80-227-4701-1 – pp. 16-19 (in Slovak)

DUBCOVÁ, M. – ŠKULTÉTYOVÁ, I.: Evaluation of the WWTP Function Based on the Standard STN EN ISO 140 40. In: Juniorstav 2017 : 19th PhD. Students International Conference. Brno, Czech Republic, 26. 1. 2017 – Brno University of Technology, 2017, USB key – ISBN 978-80-214-5473-6 (in Slovak)

DUBCOVÁ, M. – GREGUŠOVÁ, V. – ŠKULTÉTYOVÁ, I. – GALBOVÁ, K. – HRUDKA, J.: Assessment of Sludge Ecotoxicity from Wastewater Treatment Plant. In: Water 2017 : 12th Biennial Conference CzWA. Poděbrady, Czech Republic, 20. – 22. 9. 2017 – Brno : Tribun EU, 2017, CD-ROM – ISBN 978-80-263-1322-9 – pp. 273-276 (in Slovak)

- DUBCOVÁ, M. – ŠKULTÉTYOVÁ, I. – TROŠANOVÁ, M.: Energy Recovery of the Sludge from Wastewater Treatment Plant and Its Impact on the Environment. In: TOP 2017 : full papers. 23rd Annual International Scientific Conference Engineering for Environmental Protection. Šamorín – Čilistov, SR, 20. -22. 9. 2017 – Bratislava : Spektrum STU, 2017, USB key – ISBN 978-80-227-4731-8 (in English)
- GALBOVÁ, K. – RUSNÁK, D. – HOLUBEC, M.: Analysis of the Current State of Sludge Production and Its Minimalization. In: Conference of Young Researchers – KOMVY 2017, Chvojnica, Slovak Republic, 20. – 22. 11. 2017 – Bratislava : Spektrum STU, 2017, CD-ROM – ISBN 978-80-227-4749-3 – pp. 18-25. (in Slovak)
- GREGUŠOVÁ, V. – STANKO, Š.: Field Measurements of Flow Velocity in Secondary Settling Tanks. In: Juniorstav 2017 : 19th PhD. Students International Conference. Brno, Czech Republic, 26. 1. 2017 – Brno University of Technology, 2017, USB key – ISBN 978-80-214-5473-6 (in Slovak)
- GREGUŠOVÁ, V. – ŠKULTÉTYOVÁ, I. – STANKO, Š.: Applying of the In-situ Measured Data on the Flow Simulation in the Sedimentation Tanks. In: TOP 2017 : 23th annual International Scientific Conference Engineering for Environmental Protection. Šamorín – Čilistov, Slovak Republic, 20. – 22. 9. 2017. – Bratislava : Spektrum STU, 2017, USB key – ISBN 978-80-227-4731-8 (in English)
- GREGUŠOVÁ, V. – TROŠANOVÁ, M. – RUSNÁK, D. – HOLUBEC, M.: Usage of Data Measured In-situ on Flow Simulation in a Secondary Sedimentation Tank. In: Water 2017 : 12th Biennial Conference CzWA. Poděbrady, Czech Republic, 20. – 22. 9. 2017 – Brno : Tribun EU, 2017, CD-ROM – ISBN 978-80-263-1322-9 – pp. 277-280 (in Slovak)
- HOLUBEC, M. – GREGUŠOVÁ, V. – HRUDKA, J.: Inlet Zone Analysis of a Rectangular Wastewater Sedimentation Tank. In: Conference of Young Researchers – KOMVY 2017, Chvojnica, Slovak Republic, 20. – 22. 11. 2017 – Bratislava : Spektrum STU, 2017, CD-ROM – ISBN 978-80-227-4749-3 – pp. 32-38 (in English)
- HRUDKA, J. – DUBCOVÁ, M. – RUSNÁK, D. – TROŠANOVÁ, M.: Analysis of Wastewater Flow in the CSO Using Mathematical Models. In: Reconstruction of Sewerage Networks and Wastewater Treatment Plants – 10th Biennial International Conference, Podbanské, Slovak Republic, 16. – 18. 10. 2017. – Bratislava : Water Research Institute, Bratislava, 2017 – ISBN 978-80-89740-15-4 – pp. 145-149 (in Slovak)
- HRUDKA, J. – STANKO, Š. – HOLUBEC, M. – ŠKULTÉTYOVÁ, I.: Assessment of the Effective Reduction of Surface Runoff from the Residential Area of the Town of Levice. In: Městské vody 2017 = Urban Water 2017 : International Conference. Velké Bílovice, Czech Republic, 5. – 6. 10. 2017. – Brno : ARDEC, 2017 – ISBN 978-80-86020-85-3 – pp. 237-244 (in Slovak)
- HRUDKA, J. – DUBCOVÁ, M. – STANKO, Š. – HOLUBEC, M. – RUSNÁK, D. – BELICA, P. – HUCKO, P.: Implementation of Regulatory Objects into the Optimisation Process of a Combined Sewer System. In: Water 2017 : 12th Biennial conference CzWA. Poděbrady, Czech Republic, 20. – 22. 9. 2017 – Brno : Tribun EU, 2017, CD-ROM – ISBN 978-80-263-1322-9 – pp. 285-288 (in Slovak)
- ILAVSKÝ, J. – BARLOKOVÁ, D. – KAPUSTA, O.: Removal of Humic Substances in Water by Granular Activated Carbon. In: ICEE 2017 : 10th International Conference Environmental Engineering, 27. – 28. 4. 2017, Vilnius, Lithuania. – Vilnius : Vilnius Gediminas Technical University, 2017, CD-ROM – ISSN 2029-7092. ISBN 978-609-476-044-0 (in English)
- ILAVSKÝ, J. – BARLOKOVÁ, D. – KAPUSTA, O. – KUNŠTEK, M.: Water Disinfection Agents and Disinfection By-products. In: IOP Conference Series: Earth and Environmental Science. Vol. 92, 2017 – ISSN 1755-1307 (in English)
- ILAVSKÝ, J. – BARLOKOVÁ, D.: Drinking Water Treatment in the Home – Yes or No. In: Sanhyga 2017 : Proceedings of 22th scientific-technical conference. Piešťany, Slovak Republic, 19. – 20. 10. 2017. – Bratislava : SSTP, 2017 – ISBN 978-80-89878-11-6 – pp. 45-52 (in Slovak)
- ILAVSKÝ, J. – BARLOKOVÁ, D. – KAPUSTA, O. – ŠIMKO, V.: Removal of Arsenic from Water. In: WMHE 2017 : book of abstracts of the 15th International Symposium on Water Management and Hydraulic Engineering, Sept. 6th – 8th, 2017, Primošten, Croatia. Zagreb : Faculty of Civil Engineering Zagreb, Croatia, University of Zagreb, 2017, USB key – ISBN 978-953-8168-16-1 – pp. 53-54 (in English)
- MARKO, I. – BARLOKOVÁ, D. – ILAVSKÝ, J.: Removal of Bromates from Drinking Water with Sorbent Materials. In: Architectural, Engineering and Information Sciences : abstract book. 13th Miklós Iványi International PhD. & DLA Symposium. 3. – 4. 11. 2017, Pécs, Hungary. – Pécs : Pollack Press, 2017 – ISBN 978-963-642-780-1 – p. 89 (in English)
- RUSNÁK, D. – ŠKULTÉTYOVÁ, I. – STANKO, Š.: Usage of Analysis Tool for Design Rainfall within Urban Areas. In: TOP 2017 : 23th Annual International Scientific Conference Engineering for Environmental Protection. Šamorín – Čilistov, Slovak Republic, 20. – 22. 9. 2017. – Bratislava : Spektrum STU, 2017, USB key – ISBN 978-80-227-4731-8 (in English)
- RUSNÁK, D. – STANKO, Š. – TROŠANOVÁ, M.: Design Rainfall Analysis Tool for Urbanized Areas in Slovak Republic. In: Architectural, Engineering and Information Sciences : abstract book. 13th Miklós Iványi International PhD & DLA Symposium. 3. – 4. 11. 2017, Pécs, Hungary. – Pécs : Pollack Press, 2017 – ISBN 978-963-642-780-1 – p. 112. (in English)
- RUSNÁK, D. – HRUDKA, J. – GALBOVÁ, K. – DUBCOVÁ, M.: Analytic Tool for Design Rainfall within Slovakia. In: Water 2017 : 12th Biennial conference CzWA. Poděbrady, Czech Republic, 20. – 22. 9. 2017 – Brno : Tribun EU, 2017, CD-ROM – ISBN 978-80-263-1322-9 – pp. 297-300 (in Slovak)
- SOKÁČ, M.: Determination of the Longitudinal Dispersion Coefficient in Lowland Streams with Occurrence of Dead Zones. In: ICEE 2017 : 10th International Conference Environmental Engineering, 27. – 28. 4. 2017, Vilnius, Lithuania – Vilnius : Vilnius Gediminas Technical University, 2017, CD-ROM – ISSN 2029-7092. ISBN 978-609-476-044-0 (in English)
- SOKÁČ, M.: Dispersion Process in Sewers under Dry Weather Discharges. In: ICUD 2017 : conference proceedings. 14th IWA/IAHR International Conference on Urban Drainage, 10. – 15. 9. 2017, Prague, Czech Republic. – Prague : Czech Water Association, 2017, USB key, pp. 359-361 (in English)

SOKÁČ, M. – VELÍSKOVÁ, Y.: Monitoring Based Localisation of Pollution Sources. In IOP Conference Series: Earth and Environmental Science. Vol. 92, 2017 – ISSN 1755-1307 (in English)

SOKÁČ, Marek – VELÍSKOVÁ, Yvetta. Inverse Task in Water Quality Modelling. In: WMHE 2017 : book of abstracts of the 15th International Symposium on Water Management and Hydraulic Engineering, Sept. 6th – 8th, 2017, Primošten, Croatia – Zagreb : Faculty of Civil Engineering Zagreb, Croatia, University of Zagreb, 2017, USB key – ISBN 978-953-8168-16-1- pp. 34-35. (in English)

TICHÝ, J. – MACKULÁK, T. – TAKÁČOVÁ, A. – SMOLINSKÁ, M. – ČACHO, F. – STANKO, Š. – ŠKULTÉTYOVÁ, I.: The Occurrence of Toxic Metals in Slovak Vineyard Soils. In: Industrial Toxicology 2017: 36th International Conference. Svät, Slovak Republic, 14.-16. 6. 2017 – Bratislava : Spektrum STU, 2017, USB key – ISBN 978-80-227-4701-1 – pp. 227-232 (in Slovak)

TROŠANOVÁ, M. – ŠKULTÉTYOVÁ, I. – RUSNÁK, D.: State of the Management of Municipal Waste in the Context of Reverse Logistics. In: Architectural, Engineering and Information Sciences : abstract book. 13th Miklós Iványi International PhD. & DLA Symposium. Nov. 3-4, 2017, Pécs, Hungary. Pécs : Pollack Press, 2017 – ISBN 978-963-642-780-1 – p. 132 (in English)

TROŠANOVÁ, M. – ŠKULTÉTYOVÁ, I. – DUBCOVÁ, M.: Reverse Logistics in Waste Management as Integral Part of Circular Economy in EU. In: TOP 2017 : 23th annual International Scientific Conference Engineering for Environment Protection. Šamorín – Čilistov, Slovak Republic, 20. – 22. 9. 2017. – Bratislava : Spektrum STU, 2017, USB key – ISBN 978-80-227-4731-8 (in English)

# 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 Buildings

Renewable Energy Sources

Building Control Systems

Energy Supply of Buildings

Excursions

Practice

Special Seminar

Diploma Seminar

#### Obligatory elective subjects

Heat and Mass Transfer

Indoor Environment

Fire-Fighting Equipment 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 Conditioning Systems

#### Optional subjects

Energy Audit of Buildings

## 2. THESES

### 2.1 Bachelor theses

### 2.2 Graduate theses

DRŠKOVÁ, D.: Alternative Water Supply Design in an Apartment Building  
Supervisor: PERÁČKOVÁ, J.

JURČAGA, M.: Design of a Gas Heating Boiler Room with a Power Output of over 50 kW  
Supervisor: VÍCHOVÁ, K.

KRALOVIČ, D.: System for Reusing Rainwater for an Apartment Building  
Supervisor: PERÁČKOVÁ, J.

LULEY, M.: Alternative Designs of a System for Hot Water Preparation for a Hotel  
Supervisor: VÍCHOVÁ, K.

MAČEJOVSKÁ, V.: Realization Project of a Sanitary Installation for a Kindergarten  
Supervisor: PERÁČKOVÁ, J.

PÁLENÍKOVÁ, M.: Sanitary Technology Design for a Low Standard Terrace House  
Supervisor: JÁNOŠKOVÁ, T.

SZÉPOVÁ, A.: Design of a System for Reusing Greywater and Rainwater  
Supervisor: JÁNOŠKOVÁ, T.

ŠTEPKOVÁ, D.: Alternative Designs of a System for Hot Water Preparation for an Apartment Building  
Supervisor: VÍCHOVÁ, K.

SVRČINA, D.: Realization Project for a Split Drainage System with the Reuse of Rainwater  
Supervisor: PERÁČKOVÁ, J.

VAJDULIAKOVÁ, M.: Realization Project for a Rainwater Drainage Vacuum System for a Church  
Supervisor: PERÁČKOVÁ, J.

GOLODŽEJOVÁ, M.: Hydraulic Regulation of the Heating System of an Apartment Building After Thermal Insulation  
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KEREPECKÁ, V.: Plan for a Heating and Cooling System of a Hotel  
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KOLARČÍK, M.: Designing Heat and Cold Sources for a Hotel  
Supervisor: KURČOVÁ, M.

BABÍKOVÁ: Combined Ventilation and Solar Cooling System for a Selected Hotel.  
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Supervisor: FÜRI, B.

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Supervisor: KALÚS, D.

NOVOTNÝ, I.: Design of the Heating / Cooling of a Building with a Nearly No Energy Requirement Using a Heat Pump in Combination with a Photovoltaic Cell  
Supervisor: KALÚS, D.

SZÚDYOVÁ, S.: Designing a Heat Source for Wood Biomass in an Accommodation Facility  
Supervisor: KALÚS, D.

BAŠKA, R.: Implementation Project of Heat source and Heating System for Multifunctional Object  
Supervisor: KOUDELKOVÁ, D.

SCHMIKAL, E.: Design of an Energy System for Heating and Hot Water Production in a Dwelling House  
Supervisor: KOUDELKOVÁ, D.

UHRIN, M.: Realization Project of Electric Heating for a Mountain Hotel  
Supervisor: KOUDELKOVÁ, D.

BLAHO, M.: Ventilation and Air Conditioning in an Office Building with a Heat Pump Application  
Supervisor: HURTÍKOVÁ, D.

HOLOŠOVÁ, L.: Central Ventilation and Cooling of a Residential Building with the Application of a Recuperative Unit  
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KELEŠI, R.: Air Conditioning of an Exhibition Gallery  
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Supervisor: PETRÁŠ, D.

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BRUNCKO, O.: Calculation and Design of a Low Temperature Heating System for a Museum Building  
Supervisor: TAKÁCS, J.

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Supervisor: PETRÁŠ, D.

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GAŽÍKOVÁ, S.: Analysis of the Use of Geothermal Energy for Greenhouse Agriculture in Horná Potôň  
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Supervisor: KRAJČÍK, M.; RUTŠEK

KARNOVÁ, R.: Design of a Solar Energy System for Hot Water Heating with Year-Round Use in an Apartment House in Košice  
Supervisor: SKALÍK,

PASTUCHOVÁ, M.: Calculation and Design of a Low-Temperature Large-Area Heating System with a Heat Pump  
Supervisor: TAKÁCS, J.

ŠKULÁŇ, M.: Energy Audit, Certificate and Monitoring of a Residential Building  
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Supervisor: HURTÍKOVÁ, D.; SZÉKYOVÁ, M.

ŠEVČÍKOVÁ, K.: Energy Audit and Certification of an Apartment Building (in English)  
Supervisor: KRAJČÍK, M.; INGELI

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JÁGERSKÁ, L.: Analysis of a Siphonic Roof Drainage System  
Supervisor: PERÁČKOVÁ, J.

ŠIMKO, M.: Energy Performance in Buildings with Active Thermal Protection Systems  
Supervisor: KALÚS, D.

MICHALIČKOVÁ, S.: Energy and Environmental Aspects of Combined Solar Heating and Cooling Systems in Buildings.  
Supervisor: LULKOVIČOVÁ, O.

## 3. RESEARCH

### 3.1 Research projects

Energy Efficiency and Indoor Environments in Buildings with Near Zero Energy Consumption  
Danube Strategy Project No. DS-2016-0030

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

Intelligent Building Service Control – Predictive Model and Computer Simulation Support  
VEGA1/0807/17

### 3.2 International cooperation

#### Cooperating institutions

Danmarks Tekniske Universitet, Lyngby, Denmark

Fachhochschule Burgenland, Pinkafeld, Austria

Ensi – Energy Saving International AS, Oslo, Norway

Budapest University of Technology and Economics, Budapest, Hungary

#### Membership in international professional organizations

PETRÁŠ, D.: ASHRAE, Atlanta, USA

PETRÁŠ, D.: ISIAQ, Austin, USA

PETRÁŠ, D.: REHVA, Brussels, Belgium

## 4. PUBLICATIONS

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Works, Theory and Environmental Technology of Buildings, Water Resources Engineering. 25. October 2017, Bratislava, Slovakia. 1. ed. Bratislava : Spektrum STU, 2017, CD-ROM, pp. 477-483. ISBN 978-80-227-4751-6 (in Slovak)

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proceedings of 15. conference so zahraničnou účasťou. Štrbské Pleso, SR,  
24. – 25. Oct. 2017. 1. ed. Bratislava : SSTP, 2017. 98 pp. ISBN 978-80-  
89878-13-0 (in Slovak)

SÁNKÁ, Imrich: Student of the year 2015/2016. In: TZB Haustechnik. Vol. 25,  
No. 1 (2017), pp. 5. ISSN 1210-356X (in Slovak)

SÁNKÁ, Imrich: Healthy Buildings Europe 2017. In: TZB Haustechnik. Vol. 25,  
No. 4 (2017), pp. 8. ISSN 1210-356X (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 31 works.

### 2.2 Graduate theses

BUCKO, D.: University Centre of STU in Bratislava

Supervisor: HÚSENICOVÁ, J.

ČINČÁROVÁ, Z.: Presentation Centre and Entrance Object for Archeological

Locality of Budmerice

Supervisor: BORECKÁ, E.

ČONTOFALSKÁ, Z.: Sports Hall in Vajnory

Supervisor: KURÁŇ, J.

DUBOVEC, T.: University Centre of STU in Bratislava

Supervisor: HÚSENICOVÁ, J.

FILIPČÍKOVÁ, E.: Community Center in Stupava

Supervisor: NÁDASKÁ, Z.

FRIVALDSKÁ, K.: A Catholic Church

Supervisor: ŠIMKOVIČOVÁ, V.

GILOVÁ, A.: Primary Art School  
Supervisor: BAUER, P.

HUSÁROVÁ, J.: University Centre of STU in Bratislava  
Supervisor: HÚSENICOVÁ, J.

JANČO, M.: Renovation of District in Madrid – Gran San Blas  
Supervisor: KURÁŇ, J.

KOSTELANSKÁ, P.: University Centre of STU in Bratislava  
Supervisor: BAUER, P.

KUBALIÁKOVÁ, J.: A Senior Centre  
Supervisor: BAUER, P.

LENČUCHOVÁ, N.: Moravian Gallery in Brno  
Supervisor: NÁDASKÁ, Z.

LEPÁČEK, M.: University Centre of STU in Bratislava  
Supervisor: HÚSENICOVÁ, J.

MARTINKOVIČOVÁ, V.: Eco-Community Centre in Stupava  
Supervisor: NÁDASKÁ, Z.

NAŠTICKÝ, M.: Dimitrovka Community Centre  
Supervisor: NÁDASKÁ, Z.

POPADIČ, T.: Presentation of an Archaeological Site and Visitor 's Centre Building  
Supervisor: BORECKÁ, E.

SLAMKA, P.: University Centre of STU in Bratislava  
Supervisor: PAŇÁK, P.

SLÁVIK, M.: Bory Multifunctional Centre  
Supervisor: PAŇÁK, P.

SMOLEJOVÁ, K.: Presentation of an Archaeological Site and Visitor 's Centre Building  
Supervisor: BORECKÁ, E.

SPODNIAKOVÁ, Z.: University Centre of STU in Bratislava  
Supervisor: PAŇÁK, P.

SUROVČÍK, J.: Moravian Gallery in Brno  
Supervisor: PAŇÁK, P.

SVITEK, J.: Eco-Community Centre in Stupava  
Supervisor: NÁDASKÁ, Z.

ŠIMEK, R.: Renovation of a 1st World War Military Centre in Banská Bystrica – Majer  
Supervisor: KURÁŇ, J.

VAŠŠOVÁ, D.: Pension  
Supervisor: ŠIMKOVIČOVÁ, V.

ŽIAČEK, L.: School Sports Facility in Košeca  
Supervisor: BAUER, P.

## 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

KURÁŇ, Jozef [60 %] – BAUER, Peter [4 %] – BORECKÁ, Eva [4 %] – BRÁNICKÝ, Filip [4 %] – DOHŇANSKÁ, Elena [4 %] – HÚSENICOVÁ, Jarmila [4 %] – MUDRONČÍK, Miloslav [4 %] – NÁDASKÁ, Zuzana [4 %] – PAŇÁK, Pavol [4 %] – ŠIMEK, Richard [4 %] – ŠIMKOVIČOVÁ, Vladimíra [4 %]: Architectural Harvest One Seven (Diploma thesis). Brno : Tribun EU, 2017. 88 pp. ISBN 978-80-263-1381-6.

BORECKÁ, Eva [20 %] – HÚSENICOVÁ, Jarmila [14 %] – DOHŇANSKÁ, Elena [14 %] – ŠIMKOVIČOVÁ, Vladimíra [14 %] – BAUER, Peter [14 %] – MELLNER, Dušan [14 %] – VARGIC, Lukáš [10 %]: "Manor House in Malinovo : Model Solutions for the Restoration of a Monumentally Protected Structure, Bratislava : Pre-Um, 2017. 79 pp. ISBN 978-80-89954-01-8.

NÁDASKÁ, Zuzana [30 %] – KUBIŠOVÁ, Margita [30 %] – PILAŘ, Pavol [40 %]: Public Space in Stupava 2017, Mesto Stupava, 2017. 63 pp. ISBN 978-80-969214-1-6.

### Journals

BORECKÁ, Eva [100 %]: Hans Karl Stark's Notes on Interwar Architectural Work In: Architektúra a urbanizmus. Vol. 51, Nos: 3-4 (2017), pp. 219-225. ISSN 0044-8680.: CC: 000418991200007, BORECKÁ, Eva [50 %] – MELLNER, Dušan [50 %].

KURÁŇ, Jozef [100 %]: Optimization of Typological Requirements for Low-Cost Detached Houses. In: Slovak Journal of Civil Engineering. Vol. 25, No. 3 (2017), pp. 23-29. ISSN 1210-3896. WOS: 000414639100004 ; DOI: 10.1515/sjce-2017-0015.

ŠIMEK, Richard [100 %]: Cemeteries as Public Spaces. In: Kultúrny kyslík. Vol. 4, No.: 4 (2017), online, pp. 4-7. ISSN 1339-6919.

## Conference Proceedings

BORECKÁ, Eva [100 %]: Identification of the Current Owners of Structures from the Interwar Period to Preserve the Original Architectural and Building Values. In *Architecture in Perspective 2017 : Proceedings of the 9th. international conference. Architecture in Perspective 2017. Ostrava, ČR, 2nd. – 3th. 11. 2017. Technical University of Ostrava, 2017, pp. 192-194. ISBN 978-80-248-4058-1.*

BRÁNICKÝ, Filip [100 %]: Revitalization of a Vacant Lot in Town. In *MABD 2017: Book of selected peer-reviewed papers from International Conference on Modern Aspects of Building Design. June 16th.-18th., 2017, Mutěnice, Czech Republic. 1st ed. Brno : Brno University of Technology, 2017, CD-ROM, pp. 27-30. ISBN 978-80-214-5566-5.*

KIABOVÁ, Ema [100 %]: Optimizing the Natural Potential of a Landscape as a Tool for Sustainable Urbanism. In: *MABD 2017: Book of selected peer-reviewed papers from International Conference on Modern Aspects of Building Design. June 16th.-18th., 2017, Mutěnice, Czech Republic. 1st ed. Brno : Brno University of Technology, 2017, CD-ROM, pp. 141-144. ISBN 978-80-214-5566-5.*

PILÁŘ, Pavol [100 %]: Theatre Architecture Creates an Ideal Space for Creativity. In *MABD 2017: Book of selected peer-reviewed papers from International Conference on Modern Aspects of Building Design. June 16th.-18th., 2017, Mutěnice, Czech Republic. 1st ed. Brno : Brno University of Technology, 2017, CD-ROM, pp. 348-352. ISBN 978-80-214-5566-5.*

ŽJAKOVÁ, Daniela [Varga, Daniela] [100 %]: Harvesting Stormwater from a Public Space Around Buildings in a City. In *MABD 2017: Book of selected peer-reviewed papers from International Conference on Modern Aspects of Building Design. June 16th.-18th., 2017, Mutěnice, Czech Republic. 1st ed. Brno : Brno University of Technology, 2017, CD-ROM, pp. 415-418. ISBN 978-80-214-5566-5.*

GREGOROVÁ, Jana [100 %]: The Possibility of Applying Monument Care as a Tool of Sustainability. In: *Cultural Heritage 2017 – Proceedings of the Conference. Banská Štiavnica : Združenie historických miest a obcí Slovenskej republiky, 2017, pp. 43-52. ISBN 978-80-972880-0-6.*

BRÁNICKÝ, Filip [100 %]: Contribution to Architecture in the Orava Region – Inspired by Tradition. In: *Advances in Architectural, Civil and Environmental Engineering : 27th. Annual PhD Student Conference on Applied Mathematics, Applied Mechanics, Geodesy and Cartography, Landscaping, Building Technology, Theory and Structures of Buildings, Theory and Structures of Civil Engineering Works, Theory and Environmental Technology of Buildings, Water Resources Engineering. 25th. October 2017, Bratislava, Slovakia. 1. Vol. In Bratislava : Spektrum STU, 2017, CD-ROM, pp. 388-404. ISBN 978-80-227-4751-6.*

RUHIG, Roman [100 %]: Calculation and Optimization of the Required Heat Demands for Heating a Restored Apartment Building in Madrid. In: *ATF 2017: Book of posters from 5th International Conference on Building Physics and Applied Technology in Architecture and Building Structures. 14th-16th September 2017, Zagreb, Croatia. 1. Vol. In Zagreb : The University of Zagreb, 2017, memory stick, pp. 18. ISBN 978-953-184-231-0.*

## Others

KIABOVÁ, E. – RUHIG, R.: ORACULAR – The Prototype of a Family House in Senegal, International competition : The Community Planning and Design Initiative Africa, honorable mention.

KIABOVÁ, E. – RUHIG, R.: Isover Student Contest 2017 – SILHOUETTE – Urban Regeneration of a Community in Madrid. April 2017, Special prize in international competition and 2nd prize in national part of competition

## 5. ACTIVITY IN THE FIELD OF ART

BORECKÁ, E.: Exhibition -.Revitalisation of a Manor House in Malinovo – curatory April 2017

BRANICKÝ, F.: Family house in Štefanov nad Oravou – architectural project, realisation. Oct 2017

GREGOROVÁ, J. : Revitalisation of the Molpir Archeological Location – design and realisation Oct 2017

GREGOROVÁ, J. : Presentation Project of an Archeological Location by the of Church St.Nicolaus in Trnava. Nov 2017

KIABOVÁ, E. – RUHIG, R.: The International Fair of Universities in Kiev: Education Abroad – Slovakian Place– design and realisation. Nov 2017

KIABOVÁ, E. – RUHIG, R.: Isover Student Contest 2017 – SILHOUETTE – Urban Regeneration of a Community in Madrid. April 2017

KIABOVÁ, E. – RUHIG, R.: ORACULAR – The Prototype of a Family House in Senegal – participation in an architectural competition. The Community Planning and Design Initiative Africa, Nov 2017

KIABOVÁ, E.: Houses of Cultural Adaptation for Children of Immigrant Minorities on a European Scale – Project. Oct 2017

KUBIŠOVÁ, M.: Facade Design of a Residential Building on Škultétyho Street in Bratislava. Nov 2017

KURÁŇ, J.: Revitalisation of a Housing Estate on Majerský rad in Krupina. July 2017

KURÁŇ, J. et al: Kindergarten in Šelpice – study and design. Feb 2017

KURÁŇ, J. et al: Kindergarten in Hviezdoslavov – study and design of an addition. Oct 2017

NÁDASKÁ, Z.: Exhibition – Revitalisation of a Public Space in Petržalka – curatory. March 2017

PILÁŘ, P.: ADIDAS Showroom in Bratislava. Interior architectural design, realisation. Nov 2017



PRIBIŠ, M.: Exhibition – 90th Anniversary of the Umelka Gallery in Bratislava  
March 2017

RUHIG, R.: THREE SISTERS – Residential Functions in a Cold Climate, Astana,  
Kazachstan – participation in architectural competition. Oct 2017

RUHIG, R.: Sacred Architecture in Tanaf, Senegal – participation in an  
architectural competition. Dec 2017

ŘEHÁK, I.: The Setting of the Foundation Stone of the St. Vitus Cathedral on  
June 2nd 1392 in Prague, Gold Commemorative Medal – Prague Mint. June  
2017

ŘEHÁK, I.: The Setting of the Foundation Stone of the St. Vitus Cathedral on  
June 2nd 1392 in Prague, Silver Commemorative Medal – Prague Mint. June  
2017

ŘEHÁK, I.: 400th Anniversary of the Coronation of Ferdinand II. in Bratislava  
– collector's golden coin in a value of 10 Euros. 2nd Prize – National Bank of  
Slovakia Dec 2017

ŘEHÁK, I.: 150th Anniversary of the Birth of Dušan Samuel Jurkovič –  
collector's silver coin in a value of 10 Euros. Award for the high quality of the  
design – National Bank of Slovakia July 2017

ŘEHÁK, I.: Non-violent Resistance of the Citizens against the Invasion of the  
Warsaw Pact in August 1968 – collector's silver coin in a value of 10 Euros.  
Award for the high quality of the design – National Bank of Slovakia Oct 2017

VARGIC, L.: Zwingerhaus Museum of the Fortification of Bratislava –  
architectural study. Dec 2017

VARGIC, L.: The Lúčnica Folklore Ensemble Headquarters in Bratislava –  
architectural study. Dec 2017

# INSTITUTE OF FORENSIC ENGINEERING

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## 1. EDUCATION

### 1.1 Graduate study

#### Optional subjects

Building Projects Management

Project Management

#### Obligatory elective subjects

Forensic Engineering

Property Valuation

Financial Management

### 1.2 Postgraduate courses

Specialized courses for experts in the Building Industry field

Specialized courses concerning the performance method of expert activities

Specialized courses on the "Improvement of Experts"

Specialized courses on the "Technical Aspects of Real Estate"

## 3. RESEARCH

### 3.2 International cooperation

#### Cooperating institutions

VUT Brno, Czech Republic,

VŠB Ostrava, Czech Republic

## 4. PUBLICATIONS

#### Textbooks

MAJDÚCH, Dušan – GREGUŠOVÁ, Silvia – HOLLÝ, Ján: Real Estate Valuation - Exercises. 1. ed. Bratislava : Spektrum STU, 2017. 121 pp. Edícia skript. ISBN 978-80-227-4747-9 (in Slovak)

#### Journals

DVORSKÝ, Ján – PETRÁKOVÁ, Zora: Evaluation of Advantages of Entrepreneurship Case Study in Czechia and Slovakia. In Journal of Multidisciplinary Engineering Science and Technology. Vol. 4, No. 10 (2017), online, pp. 8530-8533. ISSN 2458-9403 (in English)

GREGUŠOVÁ, Silvia – ANTOŠOVÁ, Naďa: The Current Problem of Determining the General Value of Land Under Future Road Communications. In Almanach znalca. Vol. 17, No. 1 (2017), CD-ROM, pp. 3-8. ISSN 1336-3174 (in Slovak)

PETRÁKOVÁ, Zora – DVORSKÝ, Ján – JURIGOVÁ, Martina: Comparison of the Development of Housing Construction in Regions of SR. In Global Journal of Business, Economics and Management: Current Issues. Vol. 7, No. 1 (2017), online, pp. 42-48. ISSN 2301-2579 (in English)

#### Conference Proceedings

ANTOŠOVÁ, Naďa – GREGUŠOVÁ, Silvia: Determining the General Value of Land for Compensatory Measures. In Oceňovacie prístupy a ich aplikácia v Slovenskej republike a v medzinárodnom prostredí : zborník príspevkov. I. ročník medzinárodnej odbornej konferencie, Bratislava, SR, 31. 5. 2017. Bratislava : Mlpress, 2017, pp. 7-13. ISBN 978-80-971021-1-1 (in Slovak)

DVORSKÝ, Ján – PETRÁKOVÁ, Zora – HOLLÝ, Ján: Comparison of a Housing Construction Development in Selected Regions of Central Europe. In IOP Conference Series: Earth and Environmental Science. Vol. 95, (2017), online, [9] p. ISSN 1755-1307 (in English)

GREGUŠOVÁ, Silvia – ANTOŠOVÁ, Naďa: Estimation of the General Value of Land for Public Line Construction. In Oceňovacie prístupy a ich aplikácia v Slovenskej republike a v medzinárodnom prostredí : zborník príspevkov. I. ročník medzinárodnej odbornej konferencie, Bratislava, SR, 31. 5. 2017. Bratislava : Mlpress, 2017, pp. 29-39. ISBN 978-80-971021-1-1 (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

## 2. RESEARCH

### 2.1 International cooperation

British Council, Bratislava, Slovakia

Institute of Technology, Tralee, Ireland

## 3. PUBLICATIONS

### Books

BALÁŽ, Ivan – BALÁŽOVÁ, Pavla – KOLEKOVÁ, Yvonna. Civil Engineering: Terms, Orbis Pictus 1 – TOP 1. Vol. 1, Bratislava: Eurostav, 2017. 93 pp. ISBN 978-80-89228-52-2 (in Slovak)

KORBAŠOVÁ, Michaela. English for Land Surveyors. Vol.1, Bratislava: Spektrum STU, 2017. 120 pp. Ed. of university books. ISBN 978-80-227-4685-4 (in English)

### Textbooks

PÁLOVÁ, Alžbeta: Communication Schemata in Civil Engineering. Part 2. Vol.1, Bratislava : Spektrum STU, 2017. CD-ROM, 108 pp. Ed. of university textbooks. ISBN 978-80-227-4694-6 (in German)

### Journals

HOBOTH KRALINA, Katalin: Modern Online Dictionaries: from Nomenclature to Online Dictionaries. In: Katedra. Vol. 24, No. 6 (2017), pp. 11-12. ISSN 1335-6445 (in Hungarian)

HOBOTH KRALINA, Katalin: The Relevance of Playing in Foreign Language Teaching in University Education. In: Katedra. Vol. 24, No. 8 (2017), pp. 15-16. ISSN 1335-6445 (in Hungarian)

### Conference Proceedings

HOBOTH KRALINA, Katalin: Slang in Civil Engineering and Its Influence on Student Approaches. In: XX. Apáczai-napok Tudományos Konferencia. Tanulmánykötet. Győr, Magyarország, Oct. 2016. Vol.1, Győr : Széchenyi István Egyetem Apáczai Csere János Kar, 2017, CD-ROM, pp. 233-240. ISBN 978-615-5391-97-2 (in Hungarian)

ŠPILDOVÁ, Dagmar: International Expressions in Professional Communication. In: Human Sciences and Humanisation of Technical University Teaching: Proceedings of Scientific Articles from International Colloquium. Vol.1, Bratislava: Spektrum STU, 2017, CD-ROM, pp. 83-88. ISBN 978-80-227-4758-5 (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

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## 1. EDUCATION

### 1.1 Graduate study

#### Optional Subjects

Fitness

Fitball

Basketball

Swimming

Volleyball

Beach Volleyball

Football

Skiing

Tennis

Table Tennis

Floorball

Hiking

Aquagymnastics

Badminton

Sport Climbing

## 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

Entrepreneurship Law

Environmental

History of Architecture and Civil Engineering

Land Law

Law

Legal Forms of Entrepreneurship

Sociology

Practice and Ethics of Architects

#### Obligatory elective subjects

Commercial Law

Construction Law

Engineering Ethics

Environmental Law

Globalization

Macroeconomics

Political Science

#### Optional subjects

Geoecology

Philosophy

### 3.2 International cooperation

Czech Technical University, Prague, Czech Republic

## 4. PUBLICATIONS

### Journals

GAJNIK, Ján Florián – GAJNIK, Ondrej: Legislative News in the Context of Expert Activity. In: Almanach znalca. Vol. 17, No. 1 (2017), CD-ROM, pp. 9-11. ISSN 1336-3174 (in Slovak)

GAJNIK, Ján Florián – GAJNIK, Ondrej: Private Expert Review – Legal and Professional Aspects. In: Almanach znalca. Vol. 17, No. 2 (2017), CD-ROM, pp. 3-6. ISSN 1336-3174 (in Slovak)

HERETIKOVÁ, Katarína: Ethical Codes and Financial Institutions : Non-Bank Entities. 1st part. In: FOR FIN. Vol. 4, No. 1 (2017), online, [8] p. ISSN 1339-5416 (in Slovak)

HERETIKOVÁ, Katarína: Ethical Codes and Financial Institutions : Non Bank Entities. 2nd part. In: FOR FIN. Vol. 4, No. 2 (2017), online, [7] p. ISSN 1339-5416 (in Slovak)

HERETIKOVÁ, Katarína: Mutual Funds in the SR. In: FOR FIN. Vol. 4, No. 3 (2017), online, [6] p. ISSN 1339-5416 (in Slovak)

HERETIKOVÁ, Katarína: Investment Limits in Pension Funds. In: FOR FIN. Vol. 4, No. 5 (2017), online, [6] p. ISSN 1339-5416 (in Slovak)

### Conference Proceedings

BERNÁT, Libor – ZAJACOVÁ, Jana: On the Role of the Social and Humane Sciences in Technical Universities. In: Social Aspects of Education and Their Importance for Technical Practice. Bratislava, SR, 14. 12. 2017. 1. ed. Bratislava : Spektrum STU, 2017, CD-ROM, pp. 5-12. ISBN 978-80-227-4758-5 (in Slovak)

BERNÁT, Libor – ZAJACOVÁ, Jana: Maps for Creative Thinking and Arguments. In: Social Sciences and the Humanization of Technical University Education. Bratislava, Slovakia, 29. 6. 2017. 1. ed. Bratislava : Spektrum STU, 2017, CD-ROM, pp. 5-10. ISBN 978-80-227-4706-6 (in Slovak)

GAJNIK, Ján Florián: Design and Concepts for a Practical Training Course. In: Social Aspects of Education and Their Importance for Technical Practice. Bratislava, Slovakia, 29. 6. 2017. 1. ed. Bratislava : Spektrum STU, 2017, CD-ROM, pp. 53-58. ISBN 978-80-227-4706-6 (in Slovak)

GAJNIAK, Ján Florián: Examples of Laws Involving Legal Institutions in Construction Law. In: Social Sciences and the Humanization of Technical University Education. Bratislava, Slovakia, 14. 12. 2017. 1. ed. Bratislava : Spektrum STU, 2017, CD-ROM, pp. 32-38. ISBN 978-80-227-4758-5 (in Slovak)

GAJNIAK, Ondrej – GAJNIAK, Ján Florián: The Importance of Practise in Humanities Education for Technical Universities. In: Social Aspects of Education and Their Importance for Technical Practice. Bratislava, Slovakia, 29. 6. 2017. 1. ed. Bratislava: Spektrum STU, 2017, CD-ROM, pp. 49-52. ISBN 978-80-227-4706-6 (in English)

GAJNIAK, Ondrej – GAJNIAK, Ján Florián: Obligatory Position as a Construction Law Institute in the Slovak Republic in a Legal Review Plan. In: Social Sciences and the Humanization of Technical University Education. Bratislava, SR, 14. 12. 2017. 1. ed. Bratislava : Spektrum STU, 2017, CD-ROM, pp. 39-43. ISBN 978-80-227-4758-5 (in Slovak)

HERETIKOVÁ, Katarína: Global Education as a Basis for Developing a Knowledge Society. In: Social Aspects of Education and Their Importance for Technical Practice. Bratislava, SK, 29. 6. 2017. 1. ed. Bratislava : Spektrum STU, 2017, CD-ROM, pp. 59-63. ISBN 978-80-227-4706-6 (in Slovak)

HERETIKOVÁ, Katarína: Effect of Information on the Dynamics of Social Development. In: Social Sciences and the Humanization of Technical University Education. Bratislava, Slovakia, 14. 12. 2017. 1. ed. Bratislava : Spektrum STU, 2017, CD-ROM, pp. 44-48. ISBN 978-80-227-4758-5 (in Slovak)

VAŠKOVÁ, Ľubica – ZAJACOVÁ, Jana: Humanization in the Educational Process at STU. In: Social Sciences and the Humanization of Technical University Education. Bratislava, SR, 14. 12. 2017. 1. ed. Bratislava : Spektrum STU, 2017, CD-ROM, pp. 112-115. ISBN 978-80-227-4758-5 (in Slovak)

VAŠKOVÁ, Ľubica – GAJNIAK, Ján Florián: Humanization of Education as a Presentation of the Quality of Student Situations in a Technical University. In: Social Aspects of Education and Their Importance for Technical Practice. Bratislava, SR, 29. 6. 2017. 1. ed. Bratislava : Spektrum STU, 2017, CD-ROM, pp. 177-180. ISBN 978-80-227-4706-6 (in Slovak)

## Others

GAJNIAK, Ján Florián – KOPŠOVÁ, Oľga: On the Jubilee of JUDr. Miroslav Hegenbart – Congratulations from Slovakia. In: Stavební právo. Vol. 21 No. 1 (2017), p. 87. ISSN 1211-6386 (in Slovak)

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