

S T U • •  
• • • • •  
• S v F •  
• • • • •

**FACULTY OF CIVIL ENGINEERING**

# **ANNUAL REPORT 2009**

**SLOVAK UNIVERSITY OF TECHNOLOGY  
BRATISLAVA**

© **FACULTY OF CIVIL ENGINEERING  
SLOVAK UNIVERSITY OF TECHNOLOGY  
BRATISLAVA**

**AUTHORIZED CONTRIBUTIONS FROM THE DEPARTMENTS  
FOREWORD TRANSLATION BY VIERA PIŠTEKOVA MA  
LANGUAGE CONSULTANTS  
Debra Gambrell JD, Viera Pišteková MA  
Dept. of Languages**

**Editor: Matej Gužík, MSc.  
Dept. of Geotechnics**

# TABLE OF CONTENTS

FOREWORD.....	5
EXECUTIVE BODIES OF FACULTY.....	7
EDUCATION.....	10
SCIENCE, TECHNOLOGY.....	20
OVERAL ACCREDITACION.....	26
HUMAN RESOURCES.....	29
INTERNATIONAL COOPERATION AND FOREIGN RELATIONS.....	31
PUBLIC RELATIONS... ..	34
INFORMATION AND COMMUNICATION TECHNOLOGIES.....	36
INVESTMENT ACTIVITIES, REPAIRS, RECONSTRUCTIONS.....	40
ECONOMIC PERFORMANCE.....	41
DEPARTMENTS.....	43



# 1. FOREWORD

The Presidium of the Faculty is submitting an evaluation of the Faculty's activities for the year 2009 in accordance with Act No. 131/2002 Coll., on universities dated 21 February, 2002, and on the changes to and amendments of other related acts in conformity with the valid Statute of the Slovak University of Technology (STU) and the Faculty of Civil Engineering (FCE). The structure of the Report is determined by the structure of the Annual Report of STU, which was made obligatory for all the bodies of STU.

The Annual Report assesses the accomplishment of the objectives formulated in the Long-Term Goals for the development of FCE for the years 2007-2011, including its precise formulation for the year 2009, which was developed and approved by a session of the Academic Senate of FCE on April 24, 2009.

In the first half of the year, the overall accreditation of the STU Faculties concluded. The final report on the accreditation procedure at STU was approved in a session of the Accreditation Commission of the Government of the SR in June, 2009; the Commission approved the final assessment of STU's ability to confer degrees in the study branches. The Faculty of Civil Engineering STU attained authorization to confer degrees in all the study programs and study branches for which it applied.

The self-reflection and self-assessment of the Faculty form an important part of its overall accreditation in all the areas of its activities. In addition, its performance parameters in the fields of science and research activities and the education of PhD students are of great importance and have come to the forefront at FCE. In accordance with the rules of the Accreditation Commission of the Government of the SR, the indicators were evaluated in the individual study branches or research fields for which the Faculty was applying for the accreditation of its habilitation and inauguration procedures. The Faculty as a whole was ranked in the "A" category with the exception of one study branch, which was ranked in the "B+" category. The Faculty's self-evaluation in all the sectors of its activities, as verified by the Accreditation Commission, points to its in-depth preparation of the data and documents and proves the correct approach of the Presidium of the Faculty concerning the self-evaluative assessment of the quality of the Faculty.

The new structure of the study programs reflects new possibilities and the interests of the Faculty as well as the needs of the civil engineering and geodesy practice. Due to its relatively good qualification structure, the Faculty does not have any problems with the guarantors for the study programs which are in the process of preparation. The next overall accreditation of the universities in Slovakia is proposed for 2013. The Presidium of the Faculty, in collaboration with the Presidium of STU, has performed an analysis of the needs of the guarantors with regard to the expected new structure of the study programs based on new principles of the personnel policy of STU and its Faculties for 2010-2012, which are in the process of being prepared.

A quality management process, which was implemented in the teaching process, was launched last year. The first versions of the basic documents, the quality management manual and policy, were drawn up. The documents were submitted to the academic community for open discussion via the Dean's Council and the Academic Senate of the Faculty. Consequently, the system was introduced into practice, that is, from the academic year 2009/2010.

The system is expected to substantially improve monitoring of the teaching process and effectively mobilize feedback, to define the competences and authority of all the levels of management of the teaching process, to develop effective tools in order to eliminate any identified deficiencies and thus to improve the quality of the teaching process. Due to the short period of its performance, no significant changes in the teaching process or the exploitation of the system tools have been noticed. Nevertheless, the Presidium of the Faculty expects a significant outcome and increase in activities in the management of the teaching process at all levels from the implementation of this system.

In accordance with the Acts on Higher Education, the main goal of universities is to provide a university education and engage in creative scientific research. The results of the scientific and research activities of the universities are reflected in the amount of subsidies from the Ministry of Education SR. This form of evaluation is expected to be more important year after year. Systematic research activity as documented by publications is fundamental to the Faculty's success and the growth in the qualifications of its employees. It is vitally important to pay attention to the appropriate conditions for creative work at each management level. We can state that there has been a considerable degree of advancement in the activities of the Faculty's creative employees. The number of new applied-for projects and grants obtained has increased. Financial support for the projects has not been insignificant. In 2009, the financial allocation to the Faculty consisted of 1,384,867 € (SKK 41,720,503). Nevertheless, we have failed to fulfill a high priority task, i.e., to be more successful in obtaining international grants, especially future projects within the 7<sup>th</sup> Framework Program. The publishing activities of the employees of the Faculty have achieved the same level when compared with previous years. Undoubtedly, FCE has a leading position in the number of publications according to an evaluation by STU; however, the amount per creative employee is much lower. This means that only teachers who have exceeded the average have maintained a high standard of publishing activity. In the future, all creative employees must be engaged in publishing activities. The preparation of the accreditation has pointed to the need for a better quality standard of our publications. We have to pay particular attention to significant journals, especially to current and international professional journals which are highly evaluated by external assessors.

At present, the Faculty of Civil Engineering is participating in significant educational programs within the European Union, thanks to the activities of its employees. We refer to EU educational programs such as TEMPUS-Tacis, SOCRATES-ERASMUS, the LEONARDO da VINCI II (incorporated in the Long-Life Learning educational programs) or the scientific 6<sup>th</sup> Framework Program. We should not forget other international activities, especially CEEPUS II, the Visegrad Scholarship Programs and the Norwegian Financial Mechanism and, thanks to the Faculty's Doctoral students, the growing interest in the scholarship programs offered by the SAIA Agency.

The Faculty of Civil Engineering has recently registered a relatively large number of students enrolled in the Civil Engineering program in the English language (CE) from countries outside the EU. Currently, we have registered a total of over 240 foreign students in the Civil Engineering program. It is gratifying that there has been an even more significant inflow of students in the CE Master's and Doctoral study programs.

We are pleased to inform you that the basis of the Faculty's network infrastructure meets the requirements of an IT area as formulated in the STU Long-Term Goals. This has significantly improved network monitoring and administrative possibilities. Currently, more than 700 active connection ports have been installed at the Faculty. During non-class time, the Faculty's information center classrooms are accessible to students of the Faculty for the purpose of individual work on PCs or the use of network services, including unlimited Internet access. A total of 20 PC workstands and a plotter centre are reserved exclusively for individual student work.

A wireless WiFi network is available in Faculty classrooms, the Atrium, the Library and Information Center, and the University Hall of Academician Bella. On these premises, network access to notebooks is allowed without the required use of a cable. This is very important in order to ensure the required comfortable access of students to the Information System of the Center of Information Technology (CIT), STU. The CIT professional employees of the Faculty provide students with counseling services on a daily basis.

In 2009, the Faculty proceeded with its activities in the reconstruction and significant repair of classrooms and seminar rooms, which were fully financed from non-subsidized resources. Due to the full backing of the Presidium of STU and the obtaining of funding for several projects dedicated to the improvement of the infrastructure of the FCE laboratories, the Faculty managed to extensively upgrade the quality of its laboratory equipment. New laboratories (an Aerodynamic Tunnel, a Hydrodynamic Laboratory, and a Metrological Laboratory for Geodesy and Cartography), which give indications of becoming leading workplaces in Slovakia, are being built.

In this same year, the Faculty also launched activities with regard to a complete reconstruction of the Faculty's buildings. The Faculty obtained the planning permission required for the execution of investment goals with regard to the general overhaul of the facades of the Faculty's central buildings, the construction of barrier-free access to the individual Faculty buildings, reconstruction of the building of the Central Laboratories of FCE, and the foundation of the Regional Technical Education Center (RTEC) in the Educational and Recreational Facility (UVZ) at Kočovce.

Over the course of the year, the Faculty, with the full backing of STU, realized competitive tendering for the following projects: reconstruction of the Block C building of FCE and barrier-free access and reconstruction of the building of the Central Laboratories of FCE. Reconstruction of the facade and the roof structure of the building of the Central Laboratories FCE was completed in October 2009 as well.

In November 2009, work started on wheelchair access to the individual Faculty buildings. The greatest and most significant project in the modern history of the Faculty is the realization of the general overhaul of the façade of the Block C building FCE. The Faculty launched this work in December 2009, which was preceded by the reconstruction of the heating in the Block C building. A maximum effort was undertaken to obtain funds for the implementation of these investment goals.

It is generally accepted that the successful implementation of future investment goals as well as the participation of the Faculty's employees in international science and research projects depends on the creation of a stable financial environment. As to this aspect, it is important to note that the Faculty has attained positive financial results in recent years. As in preceding years, making a profit was expected, thanks to the Faculty's successful performance in the business arena and increased income from foreign students in the year 2009, among its main activities.

We can state that there has been a considerable degree of advancement in a number of performance parameters that have contributed to the Faculty's success so as to maintain a permanent and continuing enhancement in ranking the Faculty among the leading faculties with a technical orientation. Moreover, the better quality of the qualification structure of the Faculty and an even more significant inflow of students interested in studying at our Faculty contribute to this positive trend. In order to maintain this trend in the future we will have to focus our attention on the improvement of qualitative parameters in the fields of education, and science and research activities. Understanding and acceptance of our actual strength and weaknesses is the only road to success in our efforts to have the Faculty rank among those institutions accepted by the academic public worldwide and among the renowned international quality assessment agencies.

In Bratislava, February, 2010

Prof. Ing. Alojz Kopáček, PhD.  
Dean of FCE STU

## 2. EXECUTIVE BODIES OF FACULTY

### 2.1 The Faculty's Administrative Bodies

#### 2.1.1 The Faculty's Academic Senate

##### Chairmanship of the AS

###### Chairman:

Prof. Ing. Viliam Macura, PhD.

###### Vice-Chairman:

Assoc. Prof. Ing. Juraj Veselský, PhD.

###### Executive Board:

Assoc. Prof. Ing. Michal Božík, PhD.

Prof. Ing. Ľudovít Fillo, PhD.

Bc. Monika Matejková

Bc. Tomáš Martiš

###### Members of the AS:

Ing. Naďa Antošová, PhD.

Assoc. Prof. Ing. Rudolf Ároch, PhD.

Assoc. Prof. Ing. Katarína Bačová, PhD.

Ing. Róbert Fencík, PhD.

Prof. Ing. Jozef Hraška, PhD.

Ing. Ľuboš Hruštinec, PhD.

Assoc. Prof. Ján Ilavský, PhD.

Ing. Juraj Janák, PhD.

Ing. Ján Ježko, PhD.

Mgr. Jozef Joštiak

Assoc. Prof. RNDr. Martin Kalina, PhD.

Assoc. Prof. Ing. Juraj Králik, PhD.

Assoc. Prof. Ing. Ľudovít Moziešik, PhD.

Assoc. Prof. Ing. Vladimír Pavlík, PhD.

Ing. arch. Peter Sedlák

Ing. Jana Šabíková, PhD.

PhDr. Soňa Vašková, PhD.

JUDr. Jana Zajacová

Ing. Ján Karel

Bc. Ladislav Balog

Eduard Bartík

Dagmara Čehelová

Bc. Mária Ďuriníková

Miroslav Kolenčík

Bc. Tomáš Kopecký

Bc. Daniel Novotný

Gabriela Szántová

Jozef Žoldák

#### 2.1.2 The Dean of the Faculty

Prof. Ing. Alojz Kopáček, PhD.

#### 2.1.3 Scientific Board of the Faculty

##### Members of the Scientific Board

Prof. Ing. Alojz Kopáček, Chairman of the SB, Dean of the Faculty, Department of Surveying

Prof. Ing. Peter Turček, PhD., Vice Dean for Science and Research, Department of Geotechnics

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

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

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

RNDr. Ladislav Brimich, CSc., Director of Geophysical Institute SAS Bratislava

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

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

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

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

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

Prof. Ing. Koloman Ivanička, PhD., Institute of Management

Prof. Ing. Jozef Kriš, PhD., Department of Sanitary and Environmental Engineering

Ing. Pavol Kusý, PhD., Director of Terraprojekt, a.s. Bratislava

Prof. Ing. Viliam Macura, PhD., Department of Land and Water Resources Management

Ing. Peter Matiašovský, CSc., Visiting Assoc. Prof. Director of ÚSTAR CH SAS Bratislava

Prof. RNDr. Radko Mesiar, DrSc., Department of Mathematics and Descriptive Geometry

Prof. Ing. Jozef Oláh, PhD., Vice Dean for Public Relations, Department of Building Construction

Prof. Ing. Dušan Petráš, PhD., Vice Rector of STU, Department of Building Services

Prof. Ing. Anton Puškár, PhD., Department of Building Construction

Prof. Ing. Ján Ravinger, DrSc., Department of Structural Mechanics

Prof. Ing. Ján Szolgay, PhD., Department of Land and Water Resources Management

Prof. Ing. arch. Štefan Šlachta, PhD., The Chief Architect of Bratislava, the capital city

Prof. Ing. Andrej Šoltész, PhD., Vice Dean for Foreign Relations, Department of Hydraulic Engineering

RNDr. Vlasta Štekauerová, CSc., Director of Hydrological Institute SAS

Assoc. Prof. Ing. Stanislav Unčik, PhD., Vice Dean for Education, Department of Material Engineering

Ing. Andrej Vojtičko, PhD.

##### Honorary members of the Scientific Board

Prof. Ing. Zdeněk Bittnar, DrSc., Dean of the Faculty of Civil Engineering, Czech University in Prague

Prof. Ing. Ján Čelko, CSc., Dean of the Faculty of Civil Engineering, University of Žilina

Ing. Andrej Ďurkovský, Mayor of Bratislava, the Capital City of Slovakia

Prof. Ing. Dušan Majdúch, PhD., Chairman of the Slovak Chamber of Civil Engineers

Ing. Zsolt Lukáč, President of the Slovak Association of Construction Entrepreneurs

Assoc. Prof. Ing. Alois Materna, CSc., MBA, Dean of the Faculty of Civil Engineering, Technical University of Ostrava

Dr.h.c. Prof. PhDr. Ľudovít Petránsky, DrSc., Dean of the Faculty of Architecture, STU Bratislava

Ing. Vladimír Stromček, Chairman of the Directorate of the Chamber of Surveyors and Cartographers

Prof. Ing. Ingrid Šenitkova, PhD., Dean of the Faculty of Civil Engineering, Technical University of Košice

Prof. RNDr. Ing. Petr Štěpánek, CSc., Dean of the Faculty of Civil Engineering, Brno University of Technology

Ing. Arch. Juraj Šujan, President of the Slovak Chamber of Architects

## 2.1.4 Disciplinary Proceedings Board for the Students

### Chairman:

Assoc. Prof. Ing. Stanislav Unčik, PhD.

### Members:

Prof. Ing. Andrej Šoltész, PhD.

Assoc. Prof. Ing. Juraj Králik, PhD.

Bc. Monika Matejková

Bc. Tomáš Martiš

Bc. Mária Ďuriníková

## 2.2 Advisory Bodies to the Dean

### 2.2.1 Presidium of the Faculty

Prof. Ing. Alojz Kopáčik, PhD., The Dean

Prof. Ing. Andrej Šoltész, PhD., The First Vice Dean,  
Vice Dean for Foreign Relations

Prof. Ing. Peter Turček, PhD., Vice Dean for Science and  
Research

Assoc. Prof. Ing. Stanislav Unčik, PhD., Vice Dean for  
Education

Prof. Ing. Jozef Oláh, PhD., Vice Dean for Public Relations

Prof. Ing. Milan Sokol, PhD., Vice Dean for the Development  
of the Faculty

Ing. Kornélia Polakovičová, Secretary

Prof. Ing. Viliam Macura, PhD., Chairman of the Academic  
Senate

Bc. Monika Matejková, Chairperson of the Students'  
Association, FCE STU

Ing. Miloslav Štujber, Chairman of the Trade Union  
Organization

### 2.2.2 The Dean's Council

Prof. Ing. Alojz Kopáčik, PhD., The Dean

Prof. Ing. Andrej Šoltész, PhD., The First Vice Dean, Vice  
Dean for Foreign Relations

Prof. Ing. Peter Turček, PhD., Vice Dean for Science and  
Research

Assoc. Prof. Ing. Stanislav Unčik, PhD., Vice Dean for  
Education

Prof. Ing. Jozef Oláh, PhD., Vice Dean for Public Relations

Prof. Ing. Milan Sokol, PhD., Vice Dean for the Development  
of the Faculty

Ing. Kornélia Polakovičová, Secretary

Prof. Ing. Viliam Macura, PhD., Chairman of the Academic  
Senate

Bc. Monika Matejková, Chairperson of the Students'  
Association FCE STU

Ing. Miloslav Štujber, Chairman of Trade Union organization

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

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

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

Prof. Ing. Štefan Sokol, PhD., Department of Surveying

Prof. RNDr. František Baliak, PhD., Department of  
Geotechnics

Prof. Ing. Ján Szolgay, PhD., Department of Land and  
Water Resources Management

Prof. Ing. Peter Dušička, PhD., Department of Hydraulic  
Engineering

Prof. Ing. Anton Puškár, PhD., Department of Building  
Construction

Assoc. Prof. Ing. Ján Brodniansky, PhD., Department of  
Steel and Timber Structures

Assoc. Prof. Ing. Jozef Čížmár, PhD., Department of  
Mapping and Land Consolidation

Prof. RNDr. Radko Mesiar, DrSc., Department of  
Mathematics and Descriptive Geometry

Assoc. Prof. RNDr. Jozefa Lukovičová, PhD., Department of  
Physics

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

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

Prof. Ing. Jozef Kriš, PhD., Department of Sanitary and  
Environmental Engineering

Assoc. Prof. Ing. Oľília Lulkovičová, PhD., Department of  
Building Services

PhDr. Dagmar Špildová, Department of Languages

PaedDr. Ján Masarovič, Department of Physical Education

Ing. Katarína Heretiková, PhD., Department of Humane  
Sciences

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

Assoc. Prof. Milan Nič, PhD., Institute of Forensic  
Engineering

Ing. Vladimír Priechodský, PhD., Central Laboratories

### 2.2.3 Industrial Board

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

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

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

Ing. Ľuboš Fúsek, Director of Baumit, Ltd.

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

Ing. Daniel Gemeran, Chairman of the Directorate and  
Managing Director of the Bratislava Water Supply a.s.  
Bratislava

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

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

Ing. Anton Holos, PREMAC, Ltd., Bratislava

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

Ing. Jozef Hric, Chairman of the Directorate and Managing  
Director of TUBAU, a.s. Žilina

Ing. Miloš Klein, Statutory of Wienerberger – The Slovak  
Brick Factory, Ltd.

Ing. Marián Kmet', Director of SOLHYDRO, Ltd., Bratislava

Ing. František Kmit', Director of PREMAC, Ltd., Bratislava

Ing. arch. Gabriel Koczkáš, Chairman of the Directorate and  
Managing Director of Dopravoprojekt a.s.

Ing. Pavol Kontra, PhD., Managing Director of VKÚ a.s.  
Harmanec

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

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

Ing. Dušan Mráz, President of Doprastav a.s. Bratislava

Ing. Peter Nemčok, CSc., Managing Director of SVP,  
National Enterprise, Banská Štiavnica

Ing. Ladislav Németh, Chairman of the Directorate of Bala  
a.s. Holice



Ing. Pavel Obenau, Assistant to the Vice President of DDP Group, DOAS a.s.  
Prof. Ing. František Ohrablo, PhD., Honorary Chairman of the Alumni Club of FCE, STU in Bratislava  
Ing. Jozef Pekarovič, Director of NP Publications, Bratislava  
Prof. Ing. Dušan Petráš, PhD., Vice Rector for Public and Foreign Relations, STU  
Ing. Ladislav Piršel, PhD., Statutory and Managing Director of Johnson Controls International, Ltd.  
Ing. Slavomír Podmanický, Managing Director of Reming Consult, Slovakia  
Ing. Peter Pochaba, Managing Director of ABC Klíma, Ltd., Bratislava  
Ing. Jozef Ružanský, Managing Director of DREVONA a.s. Bratislava  
Ing. František Stolárik, The M.R.Š. Airport in Bratislava  
Assoc. Prof. Ing. Peter Suchánek, PhD., REHAU, Ltd., Bratislava  
Vladimír Šablica, Statutory Director of TONDACH, Slovakia  
Ing. Dušan Šamudovský, PhD., Managing Director of Doprastav, a.s.

Ing. Miroslav Trnovský, Statutory of SkyBau, Ltd., Žilina  
Ing. Gabriel Tuhý, Director of Regotrans-Ritttheyer, Ltd., Bratislava  
Ing. Vladimír Uhlík, Managing Director of Geodesy a.s. Bratislava  
Ing. Anton Viazanko, Director of Durisol-Stav, Ltd.  
Roland van Wijnen, Executive Director and Chairman of the Directorate of Holcim, Slovakia  
Ing. A. František Zvrškovec, President of Divident Group Slovakia, Bratislava  
Prof. Ing. Alojz Kopáček, PhD., Dean of FCE STU Bratislava  
Prof. Ing. Jozef Oláh, PhD., Vice Dean for Public Relations FCE STU  
Prof. Ing. Peter Turček, PhD., Vice Dean for Science and Research FCE STU  
Prof. Ing. Andrej Šoltész, PhD., Vice Dean for Foreign Relations, the Chairman of the Alumni Club of FCE STU  
Assoc. Prof. Ing. Stanislav Unčík, PhD., Vice Dean for Education FCE STU  
Prof. Ing. Milan Sokol, PhD., Vice Dean for the Development of FCE STU

### 3. EDUCATION

In the academic year 2008/2009, the instruction of the students was given in the accredited study programs of the 1<sup>st</sup> and 2<sup>nd</sup> stages. Students of the Bachelor's Degree study program Building Structures and Architecture (where the length of study is 4 years) graduated from the Faculty for the first time.

In the case of the Doctoral study, instruction was predominantly given in the accredited Doctoral degree study programs. Concurrently, instruction was given in the previously existing Doctoral study branches.

One of the most important events that significantly influenced the life at the Faculty was the completion of its overall accreditation, including the accreditation of the new study programs. For that reason, the year 2008/2009 was the last one when instruction was given in the former structure of the study programs and following the original study plans.

#### **3.1 The structure of the study programs**

In the academic year 2008/09, the Faculty of Civil Engineering, STU in Bratislava, offered university-level education in eight accredited Bachelor's study programs. Fourteen study programs were offered in the Master's degree study programs; thirteen Doctoral study programs were introduced in addition to the eleven existing Doctoral study branches.

#### **Bachelor's degree study programs:**

1. Geodesy and Cartography
2. Building Structures and Architecture
3. Structural and Transportation Engineering
4. Hydraulic Engineering and Water Resources Management
5. Environmental Engineering
6. Civil Engineering (in English)
7. Building Technologies and Management
8. Mathematical and Computational Modeling

#### **Master's degree study programs:**

1. Geodesy and Cartography
2. Architectural Constructions and Design
3. Building Services
4. Technology for Building Environments
5. Building Structures and Architecture
6. Structures of Buildings
7. Structures of Civil Engineering Works
8. Transportation Engineering
9. Hydraulic Structures and Water Resources Management
10. Building Technology
11. Civil Engineering (in English)
12. Landscape Engineering
13. Mathematical and Computational Modeling
14. Economics and Building Industry Management

#### **Doctoral study programs:**

1. Geodesy and Cartography
2. Theory and Structures of Buildings
3. Theory and Technology of Building Environments
4. Theory and Structures of Civil Engineering Works
5. Sanitary Engineering
6. Engineering Hydrology
7. Hydraulic Engineering
8. Applied Mechanics
9. Building Technology

10. Landscaping
11. Applied Mathematics
12. Forensic Engineering
13. Sectoral and Branch Economics

#### **Doctoral study branches:**

1. Geodesy and Geotechnical Cartography
2. Theory and Construction of Building Structures
3. Theory and Construction of Civil Engineering Works
4. Hydrology and Water Resources Management
5. Hydraulic Engineering
6. Sanitary and Engineering Structures
7. Applied Mechanics
8. Building Technology
9. Non-Metallic Materials and Building Masses
10. Applied Mathematics
11. Sectoral and Branch Economics

In the last academic year, the overall accreditation of the Faculty along with the new structure of the study programs was accomplished. Eight Bachelor's degree study programs, eleven Master's degree study programs and nine Doctoral study programs were accredited. Their structure is as follows:

#### **Bachelor's study programs:**

1. Geodesy and Cartography
2. Building Structures and Architecture
3. Structural and Transportation Engineering
4. Hydraulic Engineering and Water Resources Management
5. Civil Engineering
6. Building Technologies and Management
7. Environmental Engineering
8. Mathematical and Computational Modeling

#### **Master's study programs:**

1. Geodesy and Cartography
2. Architectural Constructions and Design
3. Building Services
4. Environmental Technology of Buildings
5. Building Structures and Architecture
6. Structures of Buildings
7. Structural and Transportation Engineering
8. Hydraulic and Water Resources Engineering
9. Environmental Engineering
10. Building Technology
11. Mathematical and Computational Modeling

#### **Doctoral study programs:**

1. Geodesy and Cartography
2. Theory and Structures of Buildings
3. Theory and Environmental Technology of Buildings
4. Theory and Structures of Civil Engineering Works
5. Water Resources Engineering
6. Applied Mechanics
7. Building Technology
8. Landscaping
9. Applied Mathematics

The Master's degree study program Landscape Planning was accredited beyond the scope of the overall accreditation.

### 3.2 Acceptance Procedure

#### 3.2.1 Bachelor's studies

The procedure for acceptance to the Bachelor's study programs is based on many years of experience and the conditions of acceptance for studies. The terms of enrollment were announced in due time by the Faculty, the University (including on its website) and the mass media. Study at the Faculty was also promoted via an international fair of post-leaving examination education. Information materials containing details of the study programs and acceptance procedure were shipped to secondary schools across the entire Slovak territory. A General Certificate of Secondary Education Exam (GCSE) qualified a prospective student for admission to the Faculty. Those passing the GCSE examination in mathematics or physics were accepted without any entry examination. Others did not have to take the entrance examination based on the results of their study at secondary school with regard to the individual study programs. The Faculty admitted all prospective students for the Geodesy and Cartography study programs without entry exams based on their grade point average of up to 1.5. Students for the Building Structures and Architecture, Building Technology and Management, Environmental Engineering, Civil Engineering and Mathematical and Computational Modeling study programs were accepted without an entry examination based on a grade point average of up to 2.0; applicants for the other study programs with a grade point average of up to 2.5 did not have to take an entrance examination. All the other applicants were required to undertake entrance examinations in mathematics, physics and general social science knowledge. The application deadline for the Bachelor's degree study was March 31, 2009.

The examination for acceptance to the Bachelor's study at FCE STU was held on June 9 and 10, 2009. The tests were prepared by each guarantor's departments in three versions. The tests were put in sealed envelopes, which were placed in the Dean's safe. On the day of the entrance exam lots were drawn to decide the order of the envelopes containing the tests for a given exam day in the presence of the admissions committee. The maximum score achieved by the candidates on the exam was 100 (40 in mathematics, 40 in physics and 20 in general social science knowledge).

On June 11, 2009, the Faculty's admission committee certified the order of the students accepted for study at FCE. On June 12, 2009, the results of the entrance exams were displayed on a notice board next to the entrance to the FCE building and on the Faculty's website. Over the course of the following week, the letters of acceptance were distributed.

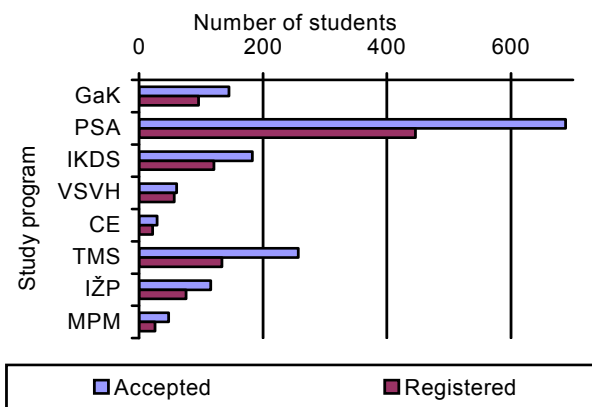
1,907 students applied for the Bachelor's study at FCE STU. 1,534 applicants fulfilled the enrolment criteria and were accepted without an entry examination. 152 applicants did not supply evidence of having passed the GCSE examinations. 352 applicants were invited to the entry exam, but only 246 of them participated. The total number of students admitted to study was 1,527. 63 unaccepted applicants appealed the decision, and the Rector of STU confirmed all the decisions.

Out of the total number of registered students in their first year of Bachelor's study, 56.5 % were high school graduates (gymnasiums), 42.9 % were from Specialized Secondary Schools and 0.6 % were graduates from Secondary Vocational Schools or other types of secondary schools.

**Table 1 - Classification of students accepted for the first year of study**

Study program	2008/2009		2009/2010	
	Accepted	Registered	Accepted	Registered
GaK	121	88	145	96
PSA	614	421	688	446
IKDS	129	75	183	121
VSVH	92	58	61	57
CE	28	9	29	22
IŽP	114	76	116	76
TMS	218	135	257	134
MPM	38	21	48	26
<b>Total number</b>	<b>1,354</b>	<b>883</b>	<b>1,527</b>	<b>978</b>

Graph 1 - Classification of students accepted for the first year of study 2009/10



### 3.2.2 Master's studies

The procedures for acceptance were conducted in accordance with the rules for acceptance to the Master's study program at FCE, STU. The application deadline for the Master's degree studies was June 30, 2009. Completion of the Bachelor's degree study and obtaining the Bachelor's degree qualified a prospective student for admission to the Master's degree study.

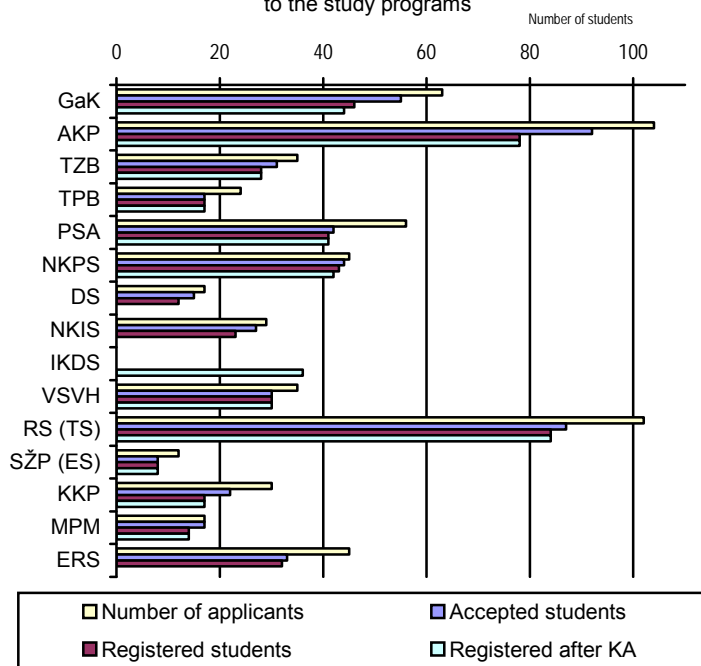
Further conditions were differentiated by following on from the Bachelor's degree study programs. Applicants following on from the study programs were accepted without any entry examination. The only exception was the study program Building Structures and Architecture.

All applicants to the study program had to successfully pass a specific requirement admission examination (they are expected to show a portfolio of recent work and their drawing skills). The candidates who showed interest in study programs which did not follow on from the Bachelor's degree study program and which form the basis for the required Master's degree study had to take an entrance exam corresponding in its entirety to the state final exam of the Bachelor's degree study. 592 applicants showed interest in the Master's degree study at FCE, STU, and 519 were accepted. Applicants who did not supply evidence of having passed the Bachelor's degree study were not accepted. One unaccepted applicant appealed the decision, but the Rector of STU confirmed the decision.

**Table 2 - Classification of applicants for the Master's degree study with regard to the study programs**

Study program	Number of	Accepted students	Registered	Registered after OA
GAK	63	55	46	44
AKP	104	92	78	78
TZB	35	31	28	28
TPB	24	17	17	17
PSA	56	42	41	41
NKPS	45	44	43	42
DS	17	15	12	-
NKIS	29	27	23	-
IKDS	-	-	-	36
VSVH	35	30	30	30
RS (TS)	102	87	84	84
SŽP (ES)	12	8	8	8
KKP	30	22	17	17
MPM	17	17	14	14
ERS	45	33	32	-
<b>Total number at FCE</b>	<b>592</b>	<b>519</b>	<b>473</b>	<b>439</b>

Graph 2 - Classification of applicants for the Master's degree study with regard to the study programs



### 3.2.3 Doctoral studies

The examination for acceptance to the Doctoral study was held on June 25 and 26, 2009. A language proficiency test formed the first part of the examination (June 25, 2009). The exam itself was oral in the form of an interview in the presence of the admission committee. 115 candidates applied for the full-time Doctoral study and twenty-four for part-time study. 107 candidates participated in the exam in the form of full-time studies and twenty-three in the form of

part-time studies and twenty-three in the form of part-time studies. All applicants met the requirements for the entrance examinations and were admitted to the doctoral study. 100 students registered for the form of full-time studies (of those, two students were accepted within the APPV project) and twenty-three for part-time studies. Three doctoral candidates applying for the full-time form at workplaces outside FCE ("external educational institutions/workplaces") were accepted.

**Table 3 - Classification of applicants for the Doctoral study**

Study program	Department	Number of applicants				Number of registered PhD students			
		Full-time form	Full-time form – EVI	Part-time form	Total	Full-time form	Full-time form – EVI	Part-time form	Total
GaK	GDE	2			2	2			2
	GZA MPU	2		1	3	2		1	3
TKPS	KPS	16			19	14			17
	ARC	14		3	14	13		3	13
TTPB	TZB	6		4	10	6		4	10
TKIS	BKM	9			10	8			9
	DOS	2		1	2	1		1	1
	KDK	6			6	6		1	6
	GTE	2			2	2			2
IH	VHK	3	2		5	3	2		5
HTE	HTE	3			3	3			3
ZDI	ZEI	7			7	6			6
TS	TES	10		2	12	10		2	12
	USZ	5		2	7	4		2	6
	MTI	4		1	5	4		1	5
AMech	SME	4	1	4	9	4	1	3	8
KR	VHK	8		1	9	7		1	8
AMat	MDG	5			5	5			5
	<b>Faculty</b>	<b>108</b>	<b>3</b>	<b>19</b>	<b>130</b>	<b>100</b>	<b>3</b>	<b>18</b>	<b>121</b>
OPE	UM	7		5	12	7		5	12
	<b>Total</b>	<b>115</b>	<b>3</b>	<b>24</b>	<b>142</b>	<b>107</b>	<b>3</b>	<b>23</b>	<b>133</b>

Explanatory notes:

EVI = external educational institution

Note: The Rector's Office, STU allocated 98 fellowship positions to the Faculty of Civil Engineering. The Faculty filled the positions. Two doctoral students were funded from other resources. 103 PhD students registered for the form of full-time studies (three of them for EVI).

### 3.3 Assessment of success in studying

The following quantitative study indicators present the number of registered students with regard to the year of study and study programs (Table 4).

We can see the most significant decrease in students in their second year of study, which represents a long-term trend. The decrease is due to the high percentage of students who cannot cope with the study requirements and who decide to leave the Faculty in their first year of study. During the last academic year, the decrease in the number of first-year students reached 12.4% after the winter

semester and 24.5% after their first-year of study. The small number of students in the Master's degree study is conditioned by the relatively low study success of the third-year students. Gradual improvement in the success of the Bachelor's degree study has been seen lately.

In 2009, out of the total number of third-year students (769 students registered in all the study programs and branches of study), 70% of the students completed their studies and obtained the BSc. degree. In 2008, the number reached 67%, while in 2007, the number of students successfully completing their studies only amounted to 51.9 %.

**Table 4 - Number of students with regard to the year of study**

Acad. year	Number of students					
	2004/05	2005/2006	2006/07	2007/08	2008/09	2009/10
1. BSc.	941+125ex	1,024+126ex	1,237	996	883	<b>845</b>
2. BSc.	491+65ex	653+50ex	654+46ex	759	696	<b>666</b>
3. BSc.	883	688+60ex	795+49ex	821+45	700+3 ex	<b>907</b>
4. BSc.	-	-	-	-	221	<b>323</b>
1. MSc.	502	550	379+35ex	456	475	<b>440</b>
2. Ing.	488	552	531	420+28	408+3 ex	<b>468+1ex</b>
Spolu	3,495	3,467+236ex	3,676	3,452 + 73	3,383+6 ex	<b>3,649+1ex</b>

The positive trends can be explained by the new organization of the third year of study and, above all, by allowing more time to write the Bachelor's dissertation and reducing the number of subjects in each semester.

345 graduates completed their Master's degree study (Ing.) in the last academic year. The qualitative study indicators leading to the commendation of students in their final year of study are actually the same as last year. Our graduates were given six awards by the Rector and 24 awards by the Dean last year.

Annually, the best students from the individual study programs closely related to a particular industrial sector have been given an award from a government minister. The award of the Minister for Construction and Regional Development was given to a graduate of the Structures of Buildings study program. The Minister of the Environment award was given to a graduate of the Environmental Technology of Buildings study program, and the Institute of

Geodesy and Cartography award was given to a graduate of the Geodesy and Cartography study program. In addition to the above commendations, 21 graduates received honorable mention in this academic year from the Dean for their outstanding dissertations; two graduates were given the Slovak Chamber of Civil Engineers Award, and one graduate was given the Slovak Chamber of Surveyors and Cartographers Award. Five graduates of the Master's degree study (Ing.) completed a certified UNICert course. Graduates of the Master's degree study received awards during the graduation ceremony from:

The IWA, Hydrologists, The Association of Employees in Water Management of the Slovak Republic, the Slovak Road Association, the Professor Arpád Tesár Award and the Slovak National Committee on Large Dams.

On International Students' Day, a reception was given by the Dean for the 32 very best students; he awarded their academic results with merit-based scholarships.

**Table 5 - Commendations**

Commendation	2004/05	2005/06	2006/07	2007/08	2008/09
<b>Bachelor's Degree Study</b>					
Award of Dean	1	2	3	2	5
Award of Rector	-	-	-	-	5
<b>Master's degree study (Ing.)</b>					
Design studio Award of Dean	5	5	2	4	4
Award of Rector	16	4	16	15	19
Award of Rector	3	3	7	6	1
Award of Govt. minister	4	4	3	3	3

The Scholarship Fund also permitted the Faculty Administration to support students working as scientific assistants (VPS) in the Departments. One of the principal goals of the VPS support has been to engage the very best students in the research activities of the Departments and to prepare prospective candidates for the Doctoral degree study. In 2009, 21 PhD students completed their studies: 13 in the full-time form of study (including one foreign PhD student, a governmental fellowship holder, and one PhD student from the Czech Republic) and eight in the part-time

form. Out of the total number of 21 PhD graduates, there were nine PhD students from the previously existing study branches (2 in the full-time and seven in the part-time forms of study).

Twelve PhD students were from the new study programs (eleven in the full-time form of study, four in the new accredited 4-year study programs and one part-time PhD student). the Czech Republic) and eight in the part-time form.

**Table 6 - Number of PhD graduates**

Study branches (O)/ Study programs(P)	Standard length		Full-time form		Part-time form	Total number of graduates at FCE
	Full- time form	Part- time form	Slovak citizens	Foreigners		
Geodesy and Geodetic Cartography (O)		5	0	0	1	1
Geodesy and Cartography (P)	3		1	0	0	
Theory and Structures of Buildings (O)	3		1	0	0	1
Theory and Structures of Buildings (P)	4		1	0	0	1
Theory and Structures of Civil Engineering Works (O)		5	0	0	3	3
Theory and Structures of Civil Engineering Works (P)	3		2	1	0	3
Theory and Structures of Civil Engineering Works (P)	4		1	0	0	1
Applied Mechanics (O)		5	0	0	1	1
Applied Mechanics (P)	3		1	0	0	1
Applied Mechanics (P)	4		2	0	0	2
Landscaping (P)	3		0	1	0	1
Hydrology and Water Resources Management (O)		5	0	0	1	1
Forensic Engineering (P)		5	0	0	1	1
Sectoral and Branch Economics (O)		5			1	1
Applied Mathematics (O)	3		1	0	0	
Sectoral and Branch Economics (P)	3		1	0	0	1
<b>Total number</b>			<b>11</b>	<b>2</b>	<b>8</b>	<b>21</b>

### **3.4 Student mobility**

Short-term exchanges of students and long-term study stays continued in the 2008-2009 academic year. FCE, STU has taken a leading position in the implementation of student mobility at our University together with the Faculty of Architecture. The greatest interest is in completing part of the study (the length is usually one semester) abroad within the EU Socrates Erasmus program as well as obtaining professional experience with companies of the EU countries within the Leonardo da Vinci II program.

In the academic year 2008/2009, 16 students left to study at foreign universities within the Socrates-Erasmus program; two students participated within the Leonardo da Vinci II program in internships with companies within the EU countries; and six students travelled abroad through the CEEPUS program. This form of study is especially offered to the very best students. It is important to select candidates both on a professional basis and on their language proficiency and to fulfill all the requirements corresponding to the criteria of the ECTS (European Credit Transfer System) so as to avoid problems at the initial stage of the study stay application.

Prospective students for study abroad would welcome greater flexibility in determining the equivalency of subjects with regard to the strenuous study delivered in a foreign language abroad. In addition, it is important to know what subjects in a course to select so that they comply with the study course at the Faculty in Slovakia. A new rule

introduced at STU, and which is obligatory for all students, is the need to obtain a minimum of 20 credits at foreign universities. Otherwise, any grant will be cut. Due to the new rule the students will be less interested in study abroad.

It is gratifying that the amount of study stays implemented has increased (within the Erasmus program) and that the number of university students from abroad who are interested in studying at our Faculty is also increasing.

The Faculty accepted a student from Bilbao, Spain, to accomplish his diploma work (Department of Theoretical Geodesy) and students from Vilnius, Latvia (CE); Ljubljana, Slovenia (Department of Land and Water Resources Management); and Olomouc, the Czech Republic (Department of Transportation Engineering). Two students from Brno, the Czech Republic, participated in a short-stay educational exchange (Department of Building Construction).

Enhancement of the Faculty's study programs in English and an improvement of the information on offer to potential foreign applicants via the Internet would help us recruit a larger number of foreign students.

### **3.5 Student scientific conference**

In the 2008/2009 academic year, the Student Scientific Conference (ŠVK) was organized concurrently with the Ninth Day of the Faculty of Civil Engineering, STU (at the CONECO international trade fair) on April 1, 2009. The Conference consisted of 16 sections, and 239 students with 199 works participated. Ninety-four distinguished experts

from the Faculty and practice were members of the professional boards. The 68 best works which won the first, second and third positions and the fourth and fifth positions in sections with more than 11 works were commended by the Faculty. 14 works were awarded the Literary Fund Prize (LF); three works were awarded the prize of the Dean of the Faculty. The order of the other works was not specified.

The general sponsor of the 9th Day of the FCE was once again the First Building Savings Bank which, in a decisive way, contributed to the financial awards of the winning works. in each of the sections and the award of the Dean.

The nominees were also allocated special incentive scholarships. The 10th annual competition of the SCC of the Czech and Slovak Faculties of Civil Engineering was held on May 21, 2009.

The host faculty was the Faculty of Civil Engineering STU in Bratislava. Students from the Faculties of Civil Engineering of ČVUT Prague, VUT Brno, VŠB TU Ostrava, ŽU Žilina, TU Košice and STU Bratislava took part in the competition. There were ten sections; two works were presented by each Faculty. The sponsor of the competition was again the First Savings Bank.

**Table 7 - SSC-Number of works**

Department	Number of works	Number of Students	Section	Number of works in the section	Number of positions awarded	Number of board members
ARC	13	20	Architecture	13	5	5
BKM	18	20	Concrete Structures and Bridges	18	5	10
DOS	9	9	Transportation Engineering	9	3	5
UM	10	10	Economics and Building Industry Management	10	3	5
FYZ	11	24	Building Physics	11	5	5
GDE	4	5	Geodesy and Cartography	8	3	5
GZA	3	4				
MPU	1	2				
HTE	15	15	Hydraulic Engineering	15	5	5
JAZ	13	17	Languages	13	5	6
KPS	13	14	Building Construction	13	5	6
KDK	10	10	Steel and Timber Structures	10	3	5
MDG	11	11	Mathematical and Computational Modeling	11	5	5
GTE	3	3	Structural Mechanics and Geotechnics	10	3	5
SME	7	12				
TZB	9	11	Building Services	9	3	5
TES	21	23	Building Technology	21	5	5
VHK	10	11	Land and Water Resources Management	11	5	5
GTE	1	1				
ZEI	16	16	Sanitary and Environmental Engineering	17	5	12
HUV	1	1				
<b>TOTAL NUMBER</b>	<b>199</b>	<b>239</b>	<b>16</b>	<b>199</b>	<b>68</b>	<b>94</b>

**Table 8 - Overview of the number of SSC works winning positions**

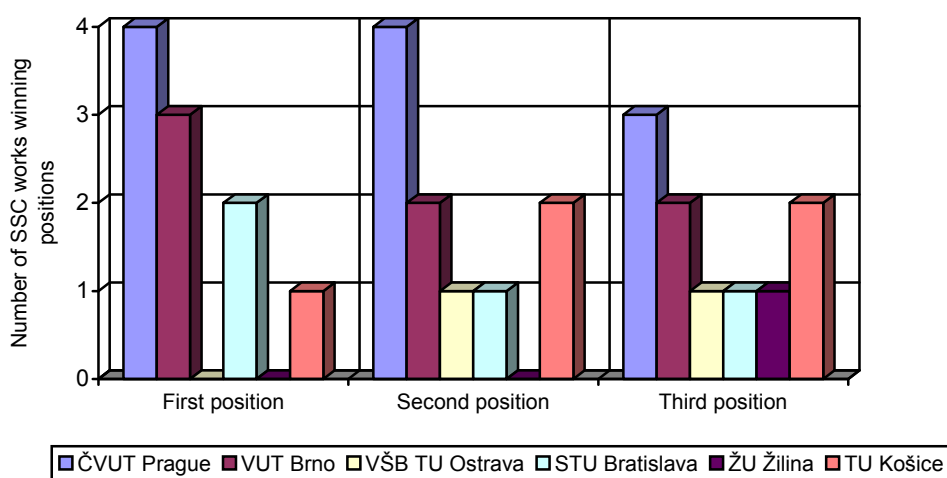
University	First position	Second position	Third position
ČVUT Prague	4	4	3
VUT Brno	3	2	2
VŠB-TU Ostrava	-	1	1
STU Bratislava	2	1	1
ŽU Žilina	-	-	1
TU Košice	1	2	2



The 10<sup>th</sup> annual student scientific competition in Mathematics and Informatics of the Slovak and Czech Republic Universities was held on May 27 and 29, 2009. The host faculty was the Faculty of Science UPJŠ in Košice

There were nine sections. Three students represented the Faculty of Civil Engineering STU. One student won the first position and one the third position.

Graph 3 - Overview of the number of SSC works winning positions



### 3.6 Managerial activities and supervision of education

The principal aim of the Faculty is to provide a high level of education. The Presidium of the Faculty fully realizes that the quality of the pedagogical process is dependent to a certain degree on the quality of the management and the supervision of such a process. Educational issues are regularly discussed at sessions of the Presidium of the Faculty and the Dean's Council. The principal and conceptual documents which are of main concern and deal with the educational process are approved by the Academic Senate and the Scientific Board of the Faculty. The basic document of the system of quality management implemented in the teaching process was approved last year.

A basic level of the management of the pedagogical process is represented by the pedagogic and scientific boards which have been set up for each Bachelor's degree study program; they control the educational process within the Bachelor's degree study program and the related Master's degree study programs (Ing). The chairperson of the pedagogic board is the guarantor of the individual Bachelor's degree study program. Students representing the individual study programs are also members.

The guarantor of a study program holds an essential position in the quality management process of education in order to execute the performance of such activities. FCE, STU, approved the Statute of the Guarantor to ensure the above activities. The Statute defines the position of the guarantor in the structure of the Faculty, as well as his competence, rights and commitments. The study results of the study program that the guarantor is in charge of and the assessment of the quality of the education from his/her students are the basic and effective tools of quality management which the guarantor of the study program maintains. Regular meetings with the students of a specific study program are among the basic duties of the guarantor of a study program. The purpose of such a meeting is the exchange of mutual information on events with regard to the

study program and the prompt resolution of possible problems. The guarantor informs students about the contents of the study program and obtains information from the students, especially about the quality of the lectures and seminars, faculty premises or program schedules, etc. Consequently, he deals with any problems in cooperation with the guarantors in charge of individual subjects or department heads and more serious problems with the relevant vice dean.

An inseparable part of the management of the educational process is its supervision via the inspection of classes. The goal of such inspections is the control of the quality of the educational process with regard to the time allowed for teaching, the content of the subject, and the performance of a teacher. This inspection also looks for easy-to-understand explanations on the one hand and tries to help novice teachers on the other hand.

Inspection of classes receives a lot of attention during discussions in the Dean's Council meetings. At the beginning of each semester, the Dean specifies the duties of the Departmental Heads. One of them is to perform an inspection of the classes of the Department's teachers and provide other inspection activity, e.g., the inspection of seminars given by lecturers.

The Dean and the Vice Deans carry out inspection activities, too. The inspection of classes by the guarantors of the individual study program plays an important role with regard to the control of the quality of the pedagogical process. This activity is among the basic duties of a guarantor of a study program.

### 3.7 Evaluating the quality of the teaching process and the assessment of teachers by students

In accordance with the Act on Higher Education, an evaluation of the quality of the pedagogical process belongs among the basic rights of students. However, the Presidium of the Faculty understands the monitoring of the educational process by students not only as a right of the students but also as an effective tool to improve the educational process.

In the academic year 2008/2009, an assessment of the pedagogical process by students was carried out via AIS. Students had access to a questionnaire from June 18, 2009 to June 30, 2009. The Student Parliament prepared the principles of the assessment. The Student Parliament, in cooperation with the Presidium of the Faculty and experienced pedagogical staff, developed the questionnaires. The questionnaire and the organization of the assessment procedure were discussed by the Presidium of the Faculty. The survey, which was undertaken during the state final examination, proved less satisfactory than expected, as the graduating students' access to AIS had terminated. Consequently, it was virtually impossible for the students of the final year of study to participate in the survey. The original plan for the days of the survey was not managed on time.

The total number of potential respondents to the survey was 2,532. 672 students took part in the assessment, which represented 26.6 % of those involved in the survey. Participation in the survey varied in the individual study programs and the year of study. 32 % of the students of the Geodesy and Cartography study program participated in the survey, which represented the largest percentage of the students. However, in some cases the participation of students in some study programs was virtually zero.

Evaluations of the pedagogical process were performed via the Academic Information System for the first time. The new experience showed both the positive and negative aspects of the method of assessment.

The positive aspects are as follows:

- Less complicated and less time-consuming organization of the assessment procedure and an evaluation of the results,
- speedy processing of the results of the survey,
- every teacher can take a look at the results of his/her assessment,
- the teaching process was not interrupted during the assessment procedure, i.e., filling in the questionnaires.

The negative aspect was the smaller number of students who participated in the assessment when compared with the form of questionnaires. In the future, assessment of the pedagogical process will have to be carried out on a more convenient date. The optimal determined date seems to be within the week preceding the beginning of the examination period when students register for exams and can concurrently fill in survey forms.

On the basis of the results, we can conclude that the overwhelming majority of the teachers assessed are perceived positively. On the other hand, very critical evaluations emerged. Members of the Presidium of the Faculty have access to the assessment results. All the guarantors of the study programs have access to the results of the assessment (within their study programs). At the same time, it is their duty to discuss any identified deficiencies in quality with the relevant Departmental head. The Departmental heads were asked by the Presidium of the Faculty to deal with such cases. The departmental heads informed the Presidium of the Faculty about any measures taken. Students expressed their opinion on the quality of the pedagogical process via their representatives in the Academic Senate and the Presidium of the Faculty and at a meeting held on the occasion of International Students' Day in the winter semester. Subsequently, objections and suggestions were dealt with by the Vice Deans in-charge or the Dean of the Faculty.

Students were allowed time to express their opinions on the quality of the pedagogical process at sessions of the Academic Senate.

### **3.8 Student grants and loans**

#### **3.8.1 Social scholarships and loans**

The Faculty Registrar's Office is in charge of social scholarships, including student loans and their regular payment. In addition, the Office follows the students' performance and related study matters. In the academic year 2008/2009, social scholarships were granted to 445 students. The scholarships ranged from 9.96 to 219.08 € (SKK 300 – 7,500). The total amount for social scholarships was 620,523,47 € (SKK 18,693,890). In the academic year 2008-2009, 39 students received loans from the Faculty of Civil Engineering.

#### **3.8.2 Merit scholarships**

In the past academic year, incentive, performance-based, as well as extraordinary scholarships were granted. In the 2008/2009 academic year, the incentive and performance-based scholarships were granted for study results to 284 students (206 Bachelor's degree students and 78 Master's degree students). The scholarships were granted only to higher-level students (not to students in their first year of study). Scholarships of 700 € were granted to 142 students (103 Bachelor's study students and 39 Master's study students), and scholarships of 350 € went to the same number of students. The candidate lists were made in accordance with the rules for awarding incentive scholarships approved by the Academic Senate of the Faculty. Separate candidate lists were compiled for each study program for the Bachelor's degree students and a joint list for all the study programs for the Master's degree students.

An extraordinary merit scholarship can be awarded for extraordinary academic performance, research activities or representing the Faculty in sports or scientific and cultural areas. Student candidates for extraordinary scholarships can be nominated by members of the academic community, and such scholarships are awarded by the Dean of the Faculty (for representation of the Faculty) or by the Rector (for representation of the University). The award of extraordinary scholarships is regulated by STU Rector Directive No. 1/2006-N: Criteria for Extraordinary Scholarships at the Slovak University of Technology in Bratislava. In the past academic year, extraordinary scholarships were awarded to successful SSC nominees in the amount of 160 € for the first position, 130 € for the second position, 100 € for the third position, 70 € for the fourth position and 50 € for the fifth position and for the Literary Fund Prize. There were 88 SSC scholarship awards. Extraordinary merit scholarships (The Dean's Award) of 250 € were awarded to 19 Master's degree program graduates (Ing) and five Bachelor's degree program graduates for their outstanding academic achievements. Six students were granted the Rector's Award based on extraordinary scholarship by the STU Rector. Excellent final theses by 13 Master's program graduates resulted in awards in the amount of 150 €, and eight Bachelor's program graduates received 100 € in extraordinary scholarships. 34 students were each awarded 350 € in extraordinary scholarships and 34 students were awarded 175 € for outstanding study results in their last year of study. Two students were awarded scholarships of 200 € for representing the Faculty in sports activities. Extraordinary scholarships of 20 to 240 € were awarded to 15 students for activities on behalf of the Faculty's development.

**Table 9 - Number of scholarship holders in the Bachelor's degree study programs**

Study program	Second year		Third year	
	Number of scholarship holders	Limit GPA	Number of scholarship holders	Limit GPA
GAK	15	1.96	14	2.00
PS	55	1.99	92	2.00
IKDS	11	2.00	8	1.86
VSVH	6	1.98	12	1.94
TMS	6	1.88	12	1.86
IŽP	5	1.89	10	1.96
MPM	4	1.76	2	1.54
<b>Total</b>	<b>102</b>		<b>150</b>	
<b>Total BSc. Degree Scholarships. 252</b>				

### **3.9 Lifelong Learning**

FCE offers courses of continuing education following its study branches or programs, the aim of which are to gradually create a complete system of lifelong learning. In the academic year 2008/2009, FCE, STU offered 47 courses to the professional public, which were attended by more than 1,000 participants. The quality of the individual courses can be rated very highly. The participants showed great interest in such courses and appreciated the high level of their preparation and the conduct of the courses as well

as the study materials. The lecturers paid a great deal of attention to the prepared texts offered in the form of CDs in many cases or in the form of printed texts. Some of the courses, mainly the accredited ones, are provided in the form of textbooks.

The lectures themselves were ranked highly, especially those presented in Power Point. The departmental facilities and seminar rooms of the Faculty of Civil Engineering were exploited for the instruction of the participants of the courses.

## 4. SCIENCE, TECHNOLOGY

The essential need to understand scientific activities as an integral part of the pedagogic process enables us to acquire the latest knowledge and its application in the publishing activities. Scientific activities also represent an important resource of the financial guarantee of the performance of the Faculty both in the process of accreditation and allocation of government subsidies. We have to bear in mind that great significance is attached to subsidies, which will be conditioned by developments in science and research from year to year. Our commitment is to maintain our position among the "research universities" in the coming years.

### 4.1 Activities of the Faculty's Scientific Board

The Scientific Board of the Faculty consists of 27 ordinary members and 11 honorary members. In the year 2009, it held four working sessions. The key topic of the January meeting was the Faculty's Annual Report for the year 2008. Habilitation procedures were commenced for Ing. Rudolf Ároch, PhD., Ing. Magdaléna Štujberová, PhD., and RNDr. Jan Šiagiová, PhD., to be appointed Assoc. Professors. The Scientific Board took into account the evaluation of the Verification Committee and commenced the habilitation procedure for Ing. Ladislav Husár, PhD., to be appointed Assoc. Professor.

At the June meeting, attention was paid to the approval of study plans for the academic year 2009/2010 and to the completion of the list of supervisors. The Scientific Board approved Ing. Ladislav Husár, PhD., to be appointed Assoc. Professor and Assoc. Prof. Ing. Juraj Králik, PhD., to be appointed Professor. The Scientific Board unanimously approved Assoc. Prof. Ing. Norbert Jendželovský, PhD., to be appointed Professor. Finally, habilitation procedures were commenced for RNDr. Miloslava Kopecký, PhD., Ing. Marek Sokáč, PhD. and Ing. Ján Ilavský, PhD.).

Approvals of qualification procedures have formed an important part of the October meeting of the Scientific Board. The Scientific Board unanimously approved Assoc. Prof. Ing. Ján Brodniansky, PhD., and Assoc. Prof. RNDr. Martin Knor, PhD., to be appointed Professors, but Assoc. Professor Ing. Karol Grünner, PhD., was not approved to be appointed Professor. Habilitation procedures for Ing. Oto Makýš, PhD., and Ing. Juraj Olbřímek, PhD., were commenced. The Scientific Board awarded the title of Distinguished Emeritus Professor to Prof. Ing. Vlastimil Staněk, PhD., and to Prof. RNDr. Ing. Ján Lovíšek, DrSc. Finally, the Scientific Board provided information on the successful accreditation of the Faculty. The key topic which dominated the December meeting of the Scientific Board was a report on the educational activities of the Faculty for the academic year 2008/2009.

Implementation of the overall accreditation results introduced into the study plans for the 2009/2010 academic year and reaccreditations of two study programs were approved. The Scientific Board approved RNDr. Miloslava Kopecký, PhD., Ing. Ján Ilavský, PhD., Ing. Marek Sokáč, PhD., and Ing. Oto Makýš, PhD., to be appointed Assoc. Professors, and habilitation procedures were commenced for Ing. Danica Barloková, PhD., RNDr. Zuzana Krivá, PhD., Ing. Monika Rychtáriková, PhD., and Ing. Belo Furi, PhD.

The year 2009 was particularly successful with regard to the qualification procedures. Over the course of the last year the Scientific Board approved awards of the PhD. degree to 15 students, and 13 students were awarded the PhD. degree in accordance with the new principles of the study programs. Nine employees were appointed Assoc. Professors, and five Assoc. Professors are waiting for the approval to be appointed Professors by the Scientific Board of STU. Two new applications for inaugural procedures and two new applications for habilitation procedures will be dealt with by the Verification Committee.

In addition to dealing with the Faculty's goals in 2009, we were delighted to learn that the Rector of STU awarded Prof. RNDr. Radko Mesiar, DrSc., the title of "Scientist of the Year" for his many years of experience and scientific work, which were crowned with the successful publication of his monograph abroad. Prof. Ing. Jozef Gašparík, PhD., FCE, was nominated "Best STU Professor," a prize which is awarded annually.

### 4.2 Science and research

All the creative Faculty employees have been notified to improve the quality of the final assessment of research activities. The VEGA, KEGA and APVV agencies are currently ranked among the leading agencies. Some other international research projects have gradually affiliated with them. Several negative indicators affected the moderately good involvement of the Faculty with a broad spectrum of grant agencies early in 2009. The indicators are seen in the particular subsidy cuts by the Ministry of Education in approved projects, which has caused serious concern to a number of project authors. Information on the restructuring of the activities of the VEGA agency or, more precisely, on the continuation of its activities in compliance with the new rules, indicates that we have to proceed with the Vega activities and apply for international versus domestic research cooperation. We cannot avoid this trend, and it is easy to understand that participation in international research projects will facilitate our integration in the current challenging and competitive research environment.

**Table 11 - The financial allocation per creative employee**

Year	Number of creative employees	Allocated financial means (in thousands of SKK)	Allocated financial means per employee (SKK)
Faculty as a whole			
2004	333.30	26,445,159	79,343
2005	323.05	34,264,330	106,065
2006	310.93	67,973,916	218,615
2007	303.04	53,097,377	175,215
2008	293.03	75,907,880	259,045
Average 2004 – 2008	312.67	51,537,732	167,657

**Table 10 – Number of ongoing projects at the Faculty in 2009**

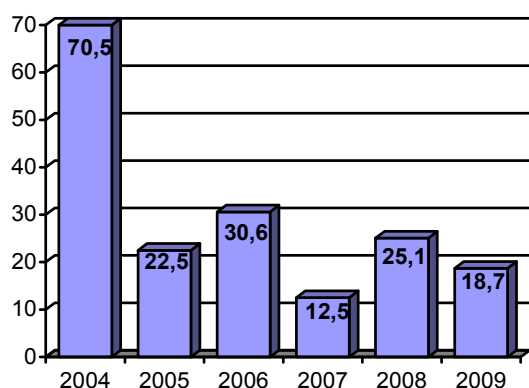
Agency	Nos.	Project duration	Funds from state budget		Funds from other sources in €
			Running funds €	Capital funds €	
VEGA	11	2007 - 2009	64,362	28,547	
	33	2008 - 2010	126,802	76,296	
	10	2009 - 2011	83,686	33,905	
	2	2008-2010 SAV and FEI	6,235	2,842	
	2	2009-2011 SAV and FEI	3,198	0	
<b>Total number:</b>	<b>48</b>		<b>284,283</b>	<b>141,590</b>	
KEGA	1	2007 - 2009	20,308		
	1	2008 - 2010	727		
	1	2009 - 2011	14,271		
	1	Cooperation	6,664		
<b>Total number:</b>	<b>4</b>		<b>41,970</b>		
Applied research	3	2007 - 2009	0		
	1	2008 - 2010	0		
<b>Total number:</b>	<b>0</b>		<b>0</b>		
State research and development programs	2	2009	21,800		
<b>Total number:</b>	<b>2</b>		<b>21,800</b>		
APVV	2	2006 - 2009	1,759		
	3	2007 - 2009	109,606		
	6	2008 - 2010	371,805	20,315	
<b>Total number:</b>	<b>11</b>		<b>483,171</b>	<b>20,315</b>	
APVV – LPP	4	2006 - 2009	44,579		
	3	2008 - 2011	82,653		
	2	2009 - 2012	27,716		
<b>Total number:</b>	<b>9</b>		<b>54,948</b>		
APVV – International cooperation-mobility	2	2008 - 2009	6,307		
	1	2009 - 2010	1,294		
<b>Total number:</b>	<b>3</b>		<b>7,601</b>		
APVV – cooperation with other agencies	1	2007 - 2009	3,120		
	3	2008 - 2010	49,492		
<b>Total number:</b>	<b>4</b>		<b>52,612</b>		
APVV – PP7RP	1	2009	2,987		
European Regional Development Fund	2	2009 - 2012	0		
	1	2009 - 2010	0		
International research projects	10				163,843
International educational projects	7				31,612

In the category of international research projects, the Faculty is participating in four ongoing projects, namely the 6<sup>th</sup> Framework program, the Norwegian Financial Mechanism project, two UNDO (United Nation Development Program) projects and the newly obtained COST project. The Faculty's international educational projects consist of two Tempus Tacos, three Leonardo da Vinci II projects, three projects within the CEEPUS II program (the three

three projects within the CEEPUS II program (the coordinator of which is the Project and External Affairs Department as well as the selected departments), and the Socrates EUCEET III project. In addition, the entire Faculty is participating in the ASIA Link project. There are Master's degree students from Afghanistan and Associate Professors from Afghan universities, who are being trained in individual Faculty departments within the project.

The ratio between the contract resources from international and domestic grants in percentages has oscillated in recent years; it seldom reaches 30% (Graph 4):

Graph 4 - The percentage ratio between international and domestic grants in % 2004 - 2009



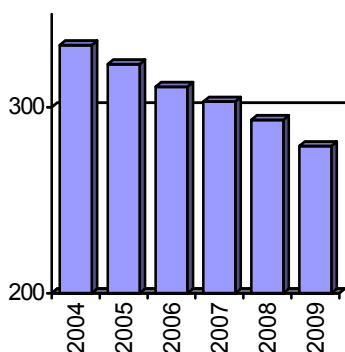
On the assumption that the projects within the Cross-Border Cooperation structural funds, which amount to 466,562 €, were added in 2009 to the above financial resources, then the proportion of the Faculty's international grants accounts for 39.2 %. It is necessary to say that only two departments are involved in the "Cross-Border Program for International Cooperation." The fact that only a few departments participate in international projects should create an incentive for most of the Faculty's employees. An overview of the Faculty's research projects (a total of 102) points to

the number of research teams, which are understaffed. It follows that we should give serious thought to the involvement of multiple research teams for projects that are newly applied for. It is not unusual for authors to work on practically identical topics on several projects. The administrative unit of the Ministry of Education SR has started identifying such duplication and has penalized any intentions to incorporate the same outcome results in several projects. For that reason, it is necessary to alert team leaders to sensitively consider following up the topics covered regarding duplication so as not to provide grounds for doubting the research plans of the Faculty. More effective cooperation on the part of the Faculty would create the conditions for the development of comprehensive project designs, which would give us a good chance to succeed more in the current challenging and competitive research environment. A summary of the basic indicators of ongoing projects at FCE is shown in Table 10. The allocation of financial means from the state budget and other resources was provided in excess of 1,384,867 € (41,720,503 SKK). The figures in Table 10 cannot capture the efficiency of the Faculty's individual employees. The calculated efficiency or allocation of financial means per person can more precisely indicate the development of their efficiency; relatively smaller workplaces could be reflected in a more favourable light. For that reason, the financial means allocated in Table 11 point to the performance of the Faculty as a whole and per person. It is becoming increasingly apparent that the decrease in the allocation of financial means in 2009 has been misrepresented: on the one hand, there was the above-stated decrease in subsidies; on the other hand, there have been newly submitted projects not included in the database of subsidies. We expect they will be funded again. We can acknowledge the overall assessment of the Faculty's research projects with satisfaction.

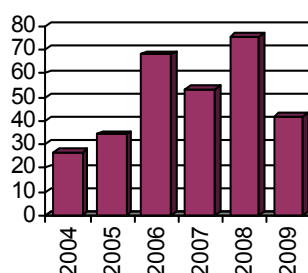
Table 11 - The financial allocation per creative employee

Year	Number of creative employees	Allocated financial means		Allocated financial means per employee.	
		€*	in thousands of SKK	€*	In thousands of SKK
2004	333.30	877,818.46	26, 445.159	2,633.71	79,343
2005	323.05	1,137,367.39	34, 264.330	3,520.71	106,065
2006	310.93	2,256,320.65	67, 973.916	7,256.69	218,615
2007	303.04	1,762,510.02	53, 097.377	5,816.07	175,215
2008	293.03	2,519,680.01	75, 907.880	8,598.72	259,045
2009	279.15	1,384,866.99	41, 720.503	4,961.00	149,455
Average 2004–09	307.08	1,656,427.26	49, 901.527	5,464.48	164,623

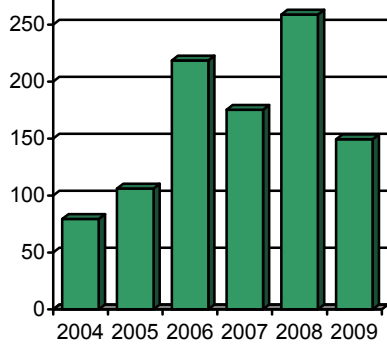
Graph 5 - Comparison of the number of creative Faculty employees in 2004-2009



Graph 6 - Comparison of allocated financial means (in thousands of SKK) in 2004-2009



Graph 7 - Allocated financial means per employee  
(in thousands of SKK) in 2004 - 2009



#### 4.3 Publishing activities

Publishing newly-acquired knowledge is directly related to the outcomes of research activities. Issues concerning the recordkeeping of publishing activities were discussed in the Dean's Council several times over the course of the year. A summary of the entire Faculty can be found in Table 12. The absolute number of publications could result in a false sense of self-satisfaction; for that reason the last two columns convert the overall numbers into publications per person

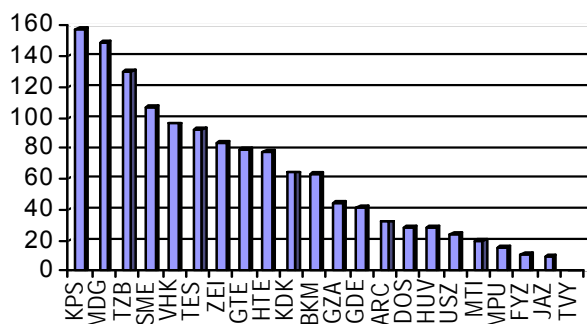
(employees, including PhD. students), while considering only the so-called "subsidized" titles. The number of subsidized publications has increased by 244 when compared with 2008. With the increased number of PhD students, the number of publications per person has maintained almost the same level (2008 – 2.87 publ/per person; 2009 – 2.93 publ/per person). We cannot express our satisfaction with results like this.

I would like to point out that in the accreditation document, the Faculty only met the requirements with regard to the number of publications of PhD students in excess of the required number. In order not to put the Faculty to great inconvenience during its evaluation in five years, it is necessary to focus our attention on the intensification of publishing activities of our PhD students in peer-reviewed journals. The total number of publications in recent years has ranged from 1,200 to 1,500 each year. If we include only those publications that the Ministry of Education SR considers when decisions are made about subsidies, it is clear that several departments need to give serious thought to the quality of their publications as well as to the standards of the journals or proceedings where their papers are published. Almost 200 titles, representing 15 percent of the total publishing activities, were not included in the database of the Ministry of Education SR in 2009. In comparison with last year, the above number has slightly decreased; on the other hand, the number cannot be considered acceptable.

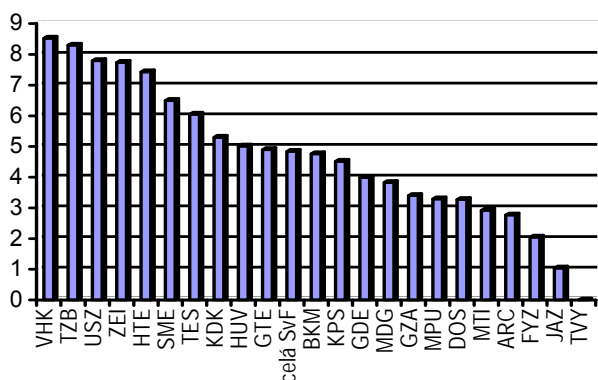
Table 12 - Evaluation of publishing activities in 2009 – subsidized publications

Department	Number of publications	Number of employees		Ratio of publications	
		Univ. teachers	Univ. teachers + PhDs	publ/univ. teachers	publ/univ. teachers+PhDs
BKM	63	13.23	29.23	4.762	<b>2.155</b>
DOS	28	8.55	11.05	3.275	<b>2.534</b>
GZA	44	12.92	19.42	3.406	<b>2.266</b>
GDE	41	10.28	15.78	3.988	<b>2.598</b>
GTE	79	16.13	26.13	4.898	<b>3.023</b>
VHK	96	11.26	32.76	8.526	<b>2.930</b>
HTE	78	10.50	15.50	7.429	<b>5.032</b>
KPS	158	34.97	57.97	4.518	<b>2.726</b>
KDK	64	12.07	21.07	5.302	<b>3.037</b>
MPU	15	4.56	8.56	3.289	<b>1.752</b>
MDG	149	38.93	48.43	3.827	<b>3.077</b>
FYZ	11	5.38	5.38	2.045	<b>2.045</b>
SME	107	16.47	21.97	6.497	<b>4.870</b>
MTI	20	6.85	9.85	2.920	<b>2.030</b>
TES	92	15.21	24.71	6.049	<b>3.723</b>
ZEI	83	10.73	18.73	7.735	<b>4.431</b>
TZB	130	15.67	34.17	8.296	<b>3.805</b>
ARC	32	11.55	31.05	2.771	<b>1.031</b>
USZ	24	3.08	8.08	7.792	<b>2.970</b>
JAZ	9	8.64	8.64	1.042	<b>1.042</b>
TVY	0	6.48	6.48	0	<b>0</b>
HUV	28	5.69	5.69	5.009	<b>5.009</b>
<b>EntireFCE</b>	<b>1,351</b>	<b>279.15</b>	<b>460.65</b>	<b>4.840</b>	<b>2.933</b>

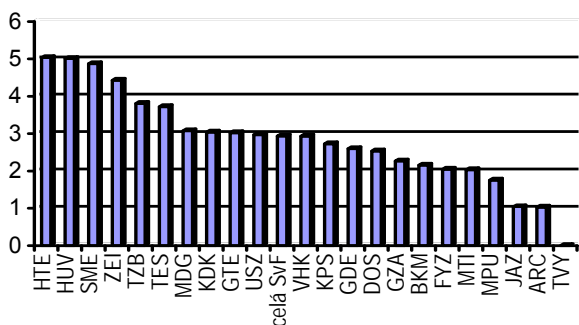
Graph 8 - Number of subsidized Departmental publications for the period from November 1, 2008 to October 31, 2009



Graph 9 - Conversion of subsidized Departmental publications for the period from November 1, 2008 to October 31, 2009 per number of employees



Graph 10 - Conversion of subsidized Departmental publications for the period from November 1, 2008 to October 31, 2009 per number of employees (Univ. teacher+PhDs)



The absolute number of publications could result in a false sense of self-satisfaction; for that reason the last two columns convert the overall numbers into publications per person (employees, including PhD. students), while considering only the so-called “subsidized” titles. The number of subsidized publications has increased by 244 when compared with 2008. With the increased number of PhD students, the number of publications per person has maintained almost the same level (2008 – 2.87 publ/per person; 2009 – 2.93 publ/per person). We cannot express our satisfaction with results like this. I would like to point out that in the accreditation document, the Faculty only met the requirements with regard to the number of publications of

PhD students in excess of the required number. In order not to put the Faculty to great inconvenience during its evaluation in five years, it is necessary to focus our attention on the intensification of publishing activities of our PhD students in peer-reviewed journals.

The total number of publications in recent years has ranged from 1,200 to 1,500 each year. If we include only those publications that the Ministry of Education SR considers when decisions are made about subsidies, it is clear that several departments need to give serious thought to the quality of their publications as well as to the standards of the journals or proceedings where their papers are published. Almost 200 titles, representing 15 percent of the total publishing activities, were not included in the database of the Ministry of Education SR in 2009. In comparison with last year, the above number has slightly decreased; on the other hand, the number cannot be considered acceptable.

#### 4.4 Specialist, expert and expert evidence activities

So-called contractual research has long been a part of the tradition at the Faculty. The Faculty has provided the latest acquired knowledge to the building practice through solutions for non-routine tasks. The proportion and resulting financial budget of the Faculty for contractual research has gradually decreased in four recent years, which is due to the fact that the Faculty’s employees to a certain extent have lost interest in it (Table 13).

However, the Faculty Administration has circumstantial evidence of the constant interest of the building practice in maintaining its collaboration with the Faculty. The Faculty Administration supports this kind of activity and is aware of its positive impact on the professional interface between the Faculty’s employees and practice, especially due to its generation of supplementary financial sources for the various Departments.

Table 13 - Overview of entrepreneurial contracts from 2004 to 2009

Year	Number	Financial budget in €*	Financial budget in SKK mils.
2004	389	1,759,277.7	53.0
2005	401	1,852,220.7	55.8
2006	393	1,636,460.2	49.3
2007	386	1,656,376.6	49.9
2008	376	1,350,992.5	40.7
2009	300	962,623.6	29.0

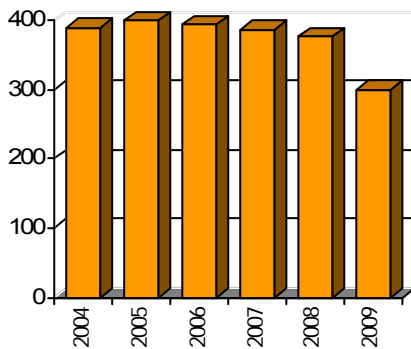
The conversion rate of 1 € = SKK 30.126

The Institute of Forensic Engineering focuses its activities on two basic fields: providing specialized expert education for applicants trying to obtain the qualification of forensic expert (based on an approved schedule) and providing expert evidence. In the above overview of business contracts, expert evidence by the Institute of Forensic Engineering is included in the financial budget of the Faculty (Table 13).

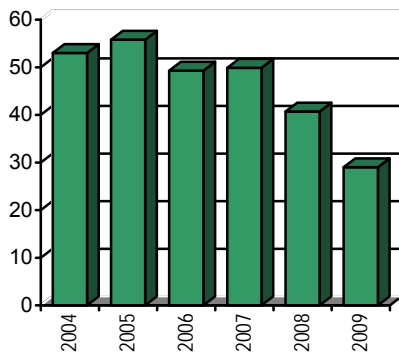
The Institute’s 20 instances of expert evidence in 2009 demonstrate its professional and organizational work. In addition, its forensic activity is ensured in collaboration with the Faculty’s expert employees, and it is expected that courts, state and public authorities will make use of its services in the future.



Graph 11 - Overview of the number of entrepreneurial contracts from 2004 to 2009



Graph 12 - Overview of the financial budget of entrepreneurial contracts from 2004 to 2009 (.in SKK mils.)



#### 4.5 Innovations in the Faculty's experimental platform

Several significant projects in the field of innovation in the Faculty's experimental platform have been launched. The Centers of Excellence (CEX), with the full backing of the SR.

Ministry of Education and the EU, as well as the STU project on "Modernization of the Infrastructure of Science and Research at STU" are among the most important projects. Reconstruction of the façade and the roof structure and reconstruction of the central building (the former building of the Laboratory of Reinforced Concrete Structures (ŽBK) of CL STU on No 5, Technická Street) have greatly contributed to the enhancement of the infrastructure of the Faculty.

##### 4.5.1 Centers of Excellence

The "Center of Excellence for the Integrated Flood Protection of Land" project was approved in excess of 1,393,526 € in the autumn of 2008. The project is in full swing in cooperation with the Research Center STU. Financial means for advance coverage of the activities were allocated for the entire approved CEx STU by the University. In October, our Faculty applied for the next CEx project, "Intelligent Buildings," with a total budget of 3,800,000 €. The project concentrates on substantial innovations in the experimental platform of the Faculty.

The project will be carried out in collaboration with the Faculty of Mechanical Engineering. The presumption is that the project will contribute to the success of innovations in the experimental platform of the Faculty.

##### 4.5.2 Modernization of the laboratories of STU's Faculties

In May 2009, the Rector's Council adopted a resolution on the basis of which the University will back modernization of the Faculty's laboratories in excess of 660,000 € for each Faculty. The Presidium of the Faculty, in collaboration with the respective Departments under the supervision of the Vice Deans, put forward a proposal to build three laboratories at FCE, which will have a nationwide scope of activity:

- Laboratory for Aerodynamic Research (CL FCE),
- Metrological Laboratory for Geodesy and Cartography (CL FCE),
- Hydrodynamic Laboratory (Block B building of FCE).

Preparatory work on all three projects is underway. The first advanced technology was purchased for the Laboratories towards the end of the year.

## 5. OVERALL ACCREDITACION

The 2008/2009 academic year was a year of great expectations with regard to the completion of the overall accreditation process, which was commenced by the end of the year 2007. The accreditation document was submitted in compliance with the timetable of works to the Rector's Office on January 31, 2008. Since then the process of verification at the level of STU and that of the Ministry of Education has been underway. The final report on the accreditation procedure at STU was approved by a session of the Accreditation Commission of the Government of the SR on June 17, 2009.

The Faculty of Civil Engineering STU was granted the right to confer degrees to students in all the degree courses on all three levels that the Faculty applied for (eight Bachelor's degree, eleven Master's degree and nine Doctoral degree programs). In addition, the Faculty was granted the right to nominate Assoc. Professors and Professors in eight study branches. In the field of research the Faculty as a whole was ranked in the "A" category. Based on the results of the accreditation, the Faculty has significantly contributed to the fact that STU has maintained its status as a University.

**Table 14 - List of accredited Bachelor's degree study programs - 8**

Study branch	Study program	Guarantors	Form of study	ŠLŠ	Period
5.1.3 GaK	Geodesy and Cartography	Sokol	F	3	BO*
5.1.4 PS a 5.1.1 AaU	Building Structures and Architecture	Puškár Dohňanská	F	4	31. 8. 2012
5.1.5 IKDS	Structural and Transportation Engineering	Halvoník	F	3	BO
			P	4	31. 8. 2013
5.1.6 VS a 6.4.1 VH	Hydraulic Engineering and Water Resources Management	Dušička, Koh- nová, Rusnák	F	3	BO
			P	4	31. 8. 2013
5.2.8 S	Civil Engineering	Dický	F	3	BO
			P	4	31. 8. 2013
5.2.8 S	Building Technologies and Management	Gašparík	F	3	BO
			P	4	31. 8. 2013
5.2.8 S a 6.4.1 VH	Environmental Engineering	Szolgay Božík	F	3	31. 8. 2012
			P	4	31. 8. 2013
9.1.9 Amat	Mathematical and Computational Modeling	Mikula, Komorníková	D	3	BO

\*BO – without time limits

**Table 15 - List of accredited Master's degree study programs - 11**

Study branch	Study program	Guarantors	Form of study	ŠLŠ	Period
5.1.3 GaK	Geodesy and Cartography	Kopáček	D	2	BO
			E	3	31. 8. 2012
5.1.4 PS	Architectural Constructions and Design	Hraška	D	2	BO
			E	3	31. 8. 2012
5.1.4 PS	Building Services	Petráš	D	2	BO
			E	3	31. 8. 2012
5.1.4 PS	Environmental Technology of Buildings	Chmúrny	D	2	BO
			E	3	31. 8. 2012
5.1.4 PS a 5.1.1 AaU	Building Structures and Architecture	Puškár Mudrončík	D	2	31. 8. 2013
			E	3	31. 8. 2013
5.1.4 PS a 5.1.5 IKDS	Structures of Buildings	Fillo Oláh	D	2	31. 8. 2011
			E	3	31. 8. 2011
5.1.5 IKDS	Structural and Transportation Engineering	Bilčík	D	2	31. 8. 2011
			E	3	31. 8. 2012
5.1.6 VS a 6.4.1 VH	Hydraulic and Water Resources Engineering	Šoltész Szolgay	D	2	BO
			E	3	31. 8. 2012
5.1.6 VS a	Environmental Engineering	Dušička	D	2	31. 8. 2011

Study branch	Study program	Guarantors	Form of study	ŠLŠ	Period
5.1.5 IKDS		Bezák	E	3	31. 8. 2012
5.2.8 S	Building Technology	Gašparík	D	2	31. 8. 2011
			E	3	31. 8. 2012
9.1.9 Amat	Mathematical and Computational Modeling	Komorníková, Širáň	D	2	BO

Table 16 - List of accredited Doctoral study programs - 9

Študy branch	Study program	Guarantor	Form of study	ŠLŠ	Period
5.1.3 GaK	Geodesy and Cartography	Hefty, Kopáček Sokol	D	4	31. 8. 2013
			E	5	BO
5.1.4 PS	Theory and Structures of Buildings	Hraška, Puškár Chmúrny	D	4	31. 8. 2013
			E	5	31. 8. 2013
5.1.4 PS	Theory and Environmental Technology of Buildings	Petráš, Lulkovičová, Peráčková	D	4	31. 8. 2013
			E	5	BO
5.1.5 IKDS	Theory and Structures of Civil Engineering Works	Baláž, Bilčík Turček	D	4	31. 8. 2012
			E	5	31. 8. 2012
5.1.6 VS a 6.4.2 HM	Water Resources Engineering	Szolgay, Šoltész, Rusnák, Hlavčová Dušička, Bednárová	E	5	31. 8. 2014
5.1.7 Amech	Applied Mechanics	Ravinger, Sokol, Králik Jendželovský	D	4	31. 8. 2010
			E	5	31. 8. 2010
5.2.8 S	Building Technology	Gašparík, Šveda, Makýš	D	4	31. 8. 2013
			E	5	BO
6.1.11 K	Landscaping	Macura, Skalová, Čistý	D	4	31. 8. 2013
			E	5	BO
9.1.9 Amat	Applied Mathematics	Mesiar, Širáň Komorníková	D	4	31. 8. 2013
			E	5	BO

The Master's degree study program accredited beyond the scope of the overall accreditation in 2009:

6.1.11 K	Landscape Planning	Macura	D	2	31. 8. 2011
----------	--------------------	--------	---	---	-------------

Table 17 - Overall accreditation – evaluation of the Faculty of Civil Engineering

	Output attribute	Setting attribute	Reward attribute	Total evaluation
<b>Research field No. 5 – Design, Engineering and Technology, and Water Resources Management</b>				
Weight	50 %	30 %	20 %	100 %
The Faculty self-evaluation	A- (3.55)	A (4.00)	A (4.00)	A (3.77)
<b>Results of evaluation by the AC of the government</b>	<b>A- (3.55)</b>	<b>A (3.90)</b>	<b>A (4.00)</b>	<b>A (3.75)</b>
<b>Research field No. 19 – Agricultural and Forestry Science</b>				
Weight	50 %	35 %	15 %	100 %
The Faculty self-evaluation	B (3.15)	A (3.79)	A (4.00)	B+ (3.45)
<b>Results of evaluation by the AC of the Government</b>	<b>B (3.15)</b>	<b>A- (3.65)</b>	<b>A (4.00)</b>	<b>B+ (3.45)</b>
<b>Research field No. 24 – Mathematics and Statistics</b>				
Weight	40 %	30 %	30 %	100 %
The Faculty self- evaluation	A (4.00)	A (4.00)	A (4.00)	A (4.00)
<b>Results of evaluation by AC of the Government</b>	<b>A (4.00)</b>	<b>A (4.00)</b>	<b>A (4.00)</b>	<b>A (4.0)</b>

The decision on suspending the right to confer the respective academic degrees to graduates of the study programs and, consequently, the decision on the granting of the right to confer academic degrees to graduates of the new study programs of all three study levels (first-study level, second study-level and third-study level), were delivered to the Faculty on September 25, 2009. Consequently, the Faculty officially entered into implementation of the results of the Accreditation Commission in the educational process for the academic year 2009/2010 in compliance with the Rector's Decree No. 4/2009, approved at the Rector's session on September 28, 2009.

The self-reflection and self-assessment of the Faculty form an important part in its overall accreditation in all areas of its activity. In addition, the performance parameters in the fields of science and research activities and in the education of PhD students are of great importance and have come to the forefront at FCE. In accordance with the rules of the Accreditation Commission of the Government of the SR, accreditation of the submitted study programs is based on the evaluation indicators of the individual fields of the research and study branches.

The Faculty as a whole was ranked in the "A" category with the exception of one study branch, which was ranked in the "B+" category. The self-evaluation in all the sectors of the Faculty's activities, as verified by the Accreditation Commission, points to its in-depth preparation of data and material and proves the correct approach of the Presidium of the Faculty in the self-evaluative assessment of the quality of the Faculty.

The new structure of the study programs reflects the new opportunities and interests of the Faculty as well as the needs of the civil engineering and geodesy practices. Due to the relatively good qualification structure, the Faculty does not have any problems with the guarantors of the study programs which are in the process of preparation. The next overall accreditation of the universities in Slovakia is proposed for 2013. The Presidium of the Faculty, in collaboration with the Presidium of the University, has performed an analysis of the needs of the guarantors with regard to the expected new structure of the study programs based on the new principles of the personnel policy of STU and its Faculties for 2010-2012, which are in the process of being prepared.

## 6. HUMAN RESOURCES

The area of human resources and the continuing development of the personnel of the Faculty and its specific workplaces are considered top priorities that will subsequently determine the further development of the Faculty in all its sectors. Therefore, requirements for the qualification and scientific structure, age structure and professional orientation of all the Faculty's employees must be clearly defined. The Faculty's basic goals must aim towards building up the research of a type of technical university that provides all levels and forms of technical education and maintains the Faculty's dominant position in the provision of education, science and research as well as the assurance of qualifications in the sectors of civil engineering, geodesy and cartography in Slovakia.

A gradual reduction in the number of staff has continued at the Faculty during the monitored period from 607 in the year 2002 to 520 in the year 2009. However, the structure of the teachers remains at almost the same level: professors account for 16 % on average, associate professors account for 25 %, senior lecturers with a PhD account for 42 %, and senior lecturers without a PhD account for 17 %. The average age of the university lecturers is 51 and significantly differs from a detailed analysis of the particular categories. For example, the average age of the professors is 60 years, associate professors 56, senior lecturers (SL) with a PhD 46, and senior lecturers without a PhD 50 (Table No.18). There is a high percentage in the category of senior lecturers without a PhD degree, the number of which is gradually decreasing; however, it is still relatively high.

The Presidium of the Faculty continues to place emphasis on the support of young employees to encourage them to remain at the Faculty; e.g., successful graduates of the Doctoral study are given preference when applying for a job at the Faculty. The average age of the research and development employees is 46. The average age of the Departmental technical staff and administration personnel is 51. There are about 72 technical and administration staff members employed in the Dean's office, the Library and Information Center, and the Center of Information Technology; their average age is 46 years (Table 19). Through its goal-minded activities, the Faculty's Presidium has succeeded in reducing the number of senior lecturers without a PhD, but the average age of this category is not satisfactory due to its significant increase. It indicates that the group of employees in this category older than 55 years of age has stagnated. Due to the offer of a greater variety in the forms of study, the Presidium of the Faculty has emphasized the need to attract visiting professors from the Institutes of the Academy of Sciences and the scientific research sector, including the leading project organizations or practice. The Scientific Board of the Faculty has dealt with and approved all the proposed hires. An inflow of distinguished personalities from abroad, who the Faculty would prefer to give instruction to students in the Master's degree (Ing.) and Doctoral degree study programs and to be involved as specialists in selected topics related to the Master's degree and Doctoral degree dissertations, has not been as significant as the Faculty had hoped.

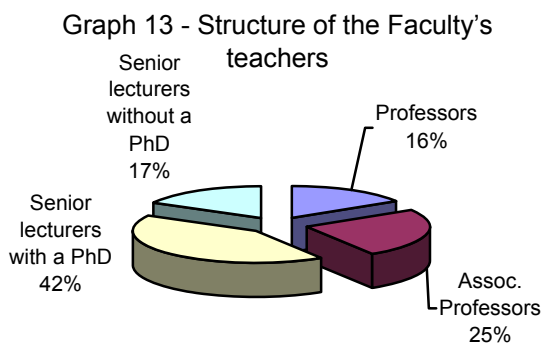


Table 18 - Developments in the age structure of the Faculty's teachers for the period 2004-2009

	2004			2005			2006			2007			2008			2009		
	Number	%	Average age	Number	%	Average age	Number	%	Average age	Number	%	Average age	Number	%	Average age	Number	%	Average age
University teachers	288	100	49	293	100	50	292	100	49	274	100	51	267	100	51	262	100	50
Out of those																		
Professors	32	11	59	39	13	58	41	14	59	37	14	60	45	17	60	41	16	60
Assoc.Prof.	88	31	54	83	28	55	79	27	56	71	25	54	63	23	56	65	25	56
SL with a PhD	85	30	46	90	31	47	96	33	45	111	41	45	106	40	46	111	42	46
SL without a PhD	83	29	43	81	28	43	76	26	43	55	20	55	51	19	48	45	17	50
Lecturers	0	0	0	0	0	0	0	0	0	0	0	0	2	1	23	0	0	0

**Table 19 - Developments in the age structure of the Faculty's employees for the period 2004-09**

	2004		2005		2006		2007		2008		2009	
	N	Aa	N	Aa	N	Aa	N	Aa	N	Aa	N	Aa
University teachers	288	49	293	50	292	49	274	51	267	51	262	50
Research and development employees	70	45	76	45	44	47	64	43	74	45	73	46
Out of those, university educated researchers	57	45	63	44	35	47	55	42	68	45	66	46
Departmental technical staff and administration	56	45	38	46	40	49	35	52	36	51	36	51
Dean's Office, Library and IC, CIT	58	46	71	43	70	43	69	45	70	46	72	46
Auxiliary personnel	71		90		89		85		85		77	
<b>Total number of employees</b>	<b>600</b>		<b>631</b>		<b>570</b>		<b>582</b>		<b>532</b>		<b>520</b>	

N - Number Aa - Average age

Not until recently did we record the first cases of "visiting" Professors and Assoc. Professors to the Faculty from abroad. The feedback on the outstanding performance of our visiting professors can be regarded as an appreciation of the high level of professional competence outside Slovakia. The Presidium of the Faculty has paid special interest to the increased number of Doctoral students and leading graduates of the Master's degree study with fluent language skills, which is due to experience gained from the students' international mobility. For this purpose, funds other than those allocated by the SR Ministry of Education have been spent. The success rate has gradually increased in the

third level of study, but still has not reached the required level. The Faculty of Civil Engineering attained authorization to provide instruction in the four-year study programs of the third stage (PhD) of study by the Accreditation Commission; consequently, the Faculty expects that the success rate of PhD students will gradually increase and that the majority of our students will complete their study in due time. It has been demonstrated that this category of future employees will become a significant resource from the perspective of eventual employee exchanges and the resulting rejuvenation of the Faculty.

## 7. INTERNATIONAL COOPERATION AND FOREIGN RELATIONS

Thanks to its employees' activities, the Faculty of Civil Engineering has been involved in the most significant EU projects. Within the frame of the educational program, namely, TEMPUS-Tacos, the year of 2009 was a year of submitting new project proposals for the following three years. The Faculty was involved in four project designs, three of which were successful and will be launched in 2010. SOCRATES, ERASMUS, and LEONARDO da VINCI II educational programs which have been joined to the Longlife Learning Program since 2007 or 2008 continue to enable students to complete part of their study abroad or participate in training with companies in the EU. In the 2009-2010 academic year, there was a great increase in interest in studying at the Faculty's partner university – the interest has more than doubled (41 students) when compared with 2008-2009. The Faculty also participates in an ongoing 6th Framework program. Along with other international activities and in addition to the above-mentioned forms of cooperation, educational programs that should be especially mentioned include the CEEPUS II, the Visegrad 4 and the Norwegian Financial Mechanism programs. We should also note the growing interest of our PhD. students in grants offered by the SAIA agency in particular.

### **7.1 Tempus-Tacis Program**

The Tempus-Tacis Program is focused on the countries of the former USSR, the Balkan states, the Mediterranean and the Asian states. In the year 2008, the Faculty's activities (three projects) within the Tempus-Tacis program were successively completed. In 2009, the Faculty concentrated all its efforts on submitting four new project proposals for this program. Three of them succeeded in the selection process and will be subsidized by the EU in 2010. Apart from the employees of the Project and External Affairs Department covering the organization and dissemination of projects within the Faculty, the employees of the Department of Humane Sciences, Department of Sanitary and Environmental Engineering, Department of Transportation Engineering and Department of Hydraulic Engineering were also involved in the project.

### **7.2 The SOCRATES-ERASMUS II Program**

The SOCRATES-ERASMUS Program refers to the most important and significant educational programs in the spirit of the Bologna Challenge addressed to the EU countries and also joined in by the Slovak Republic.

#### **7.2.1 EUCEET III – European Civil Engineering Education and Training**

The aim of the EUCEET III project (2007-2009), which is currently in progress following the first two stages of three-year projects, is dedicated to an outline of the system of European civil engineering education and the development of professional recommendations for the harmonization of study programs. The goal is to create conditions in the spirit of the Bologna Challenge, expand teacher and student mobility and obtain joint diplomas. The year 2009 was the third year of the above program. There were three working groups. Assoc. Prof. Dický, who represents the Faculty of Civil Engineering, contributed to the project in the form of questions and answers to questionnaires developed by groups dealing with aspects of the individual study programs on the Master's (Ing) and Doctoral degree levels. In addition, Assoc. Prof. Dický was an active member of the A working group, which dealt with analyzing the knowledge acquired for the implementation of a three-stage model for European faculties of civil engineering.

The core of the work was performed via the internet. He also participated in a plenary session of the program researchers, which was held at the Warsaw University of Technology in October. He presented his contribution on the results of the knowledge and experience gained at the Faculty of Civil Engineering, STU. The next item on the agenda of the session was the foundation of the Association of European Faculties of Civil Engineering (EUCEET), the mission of which is to disseminate the project within and outside the EU. The full costs were covered from the project fund.

### **7.3 Other thematic networks and intensive programs**

The Faculty of Civil Engineering is connected to other university networks on the Departmental level. One of them is, e.g., the Baltic University Program (BUP), which is coordinated by the University of Uppsala (Sweden). The program focuses on the issues of sustainable development and protection of the environment in the Baltic region. The Department of Land and Water Resources Management, FCE, is the workplace responsible for the program, and Assoc. Prof. Ing. Silvia Kohnová, PhD., is its research team leader.

In addition, the Faculty of Civil Engineering STU is a member of the Slovak Academic Association for International Cooperation (SAAIC) and an active member of the International Association of Civil Engineering Faculties (IACEF), which is located in Prague (Czech Technical University).

Moreover, the Faculty is a guest member at the Permanent Conference of the German-Speaking Countries' Civil Engineering Faculties (FTBeGV, which consists of the Federal Republic of Germany, Austria and Switzerland), a member of the LEONET network located in Vienna, and a member of the International Council for Research and Innovation in Building and Construction (CIB). The Students' Association FCE (Študentský parlament), which is an associate member of the International Association of Students of Civil Engineering Faculties (IACES), has established contacts with the Associations of Civil Engineering Students in the above countries.

### **7.4 Student mobility**

Sixteen students from the Faculty of Civil Engineering completed their mobility within the Lifelong Learning project at a foreign university in the EU countries in the academic year 2008-2009. It is gratifying that the amount of students of the Faculty of Civil Engineering interested in study abroad has increased (41 students applied for admission for 2009-2010) which can affect a key issue with regard to the volume of mobility funds allocated at the university level. In addition, the extension of bilateral agreement offers between EU universities affects the above issues of allocation of mobility grants every year.

In Table 20, we can follow the development of student mobility at STU in Bratislava within the SOCRATES-ERASMUS program from 2004 to 2009. Currently, we have an excess of students who want to study in English-speaking countries and a shortage of students who are interested in studying at German universities. The average grant per month allocated per student mobility amounted to about 336 € per month in the academic year 2008/2009. At present, students travelling within the Lifelong Learning program obtain a contribution from the Ministry of Education that amounts to about 71 € per month.

**Table 20 - Overview of the average monthly grant of an STU mobility student**

Year	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009
Average grant per month in €	320	314	257	314	336
Total number of months	345	521	594	671	623
Number of students	85	91	95	98	92

**7.5 Teacher mobility**

In the academic year 2008/2009, the Presidium of the Faculty decided on five nominations for teacher mobility recommended by the various Departments. Unfortunately, only two of them were implemented. During the academic year 2008/2009 the grant allocated to the University was extended. The administrative personnel of the faculties could also participate. One mobility was also implemented at the Faculty.

**7.6 LEONARDO da VINCI II Program**

Mobility projects under the Leonardo da Vinci II program have been completed by incorporating this program into the Lifelong Learning program, where one application is requested for University-level funding in grants for student mobility at universities and in professional companies within the EU.

The Problem Solve project, which was implemented from 2005 to 2006, thematically follows the current Multilanguage Pilot project within the Lifelong Learning program entitled "VOCAL" (2007-2009).

The Technology Institute in Tralle, Ireland, is the research workplace responsible for the project. At present, the individual language versions are being finalized. When compared with the Problem Solve project, this project has been increased in the following number of language versions: Hungarian, Bulgarian, Finnish, Lithuanian and Portuguese. In 2009, the Faculty of Civil Engineering participated in another pilot project, i.e., D/06/B/F/PP 146 454 "European Specific Qualification Design and Construction in an Existing Context." Institut Forbildung Bau GmbH (IFBau) in Stuttgart, Germany, is the research workplace responsible for the project. The project belongs among 23 projects selected out of 148 projects submitted within the Leonardo da Vinci program in Germany. The goal of the project is to develop a curriculum of lifelong education for a European civil engineer. It will provide an overview of construction issues within the "existing context." Completion of the project was planned for 2009. The UK/B/F/PP-162\_562 project within the Leonardo da Vinci program is focused on utilization of Euro Codes in accordance with the regulations of the individual member countries of the EU. The research workplace responsible for the project is the Department of Steel and Timber Structures.

**Table 21 - An overview of the annual rate of the successful implementation of teacher mobility at FCE**

Academic year	The planned number of teachers	Number of teachers implemented	Teacher mobility grants in € at FCE
2004/2005	11	9	5,808
2005/2006	9	9	6,561
2006/2007	7	10	5,600
2007/2008	5	6	3,500
2008/2009	5	2	1,400

**7.7 The CEEPUS II Program**

Two programs within the last call of the CEEPUS (2006-2009) program on "Double Diplomas for Central and East European Countries" were approved and carried out by the Department of Hydraulic Engineering (UACEG Sofia, coordinator; Prof. Šoltész represents FCE) and the Department of Building Services (Assoc. Prof. Lulkovičová). Hochschule Eisenstadt in Austria is their partner university.

**7.8 Norwegian Financial Mechanism**

It is gratifying that one of the submitted projects within the Norwegian Financial Mechanism under the guidance of Prof. Petráš has been accepted after a lengthy decision-making process and is currently in progress. The project is oriented towards the implementation of tools and software for energy certification, audits and monitoring of buildings and is planned for the years 2008-2010.

**7.9 Civil Engineering Study Program (in English)**

Currently, the English language study at the Faculty of Civil Engineering can be divided into three categories. The first category consists of self-paying students from Kuwait, who follow the study in the Bachelor's degree study program in six-week courses (trimesters). The second group consists of Slovak, Greek and Turkish full-time students. They are in the first and second years of their study in the Bachelor's degree study program. The third group consists of four registered students who attend the Civil Engineering program in the Master's degree study. The Faculty took action in providing the above forms of study based on our University's involvement in the Asia Link project. Two students who come from Afghanistan are registered. One student from Malawi is an International Relations Office fellowship holder, and there is one more student from Cairo University. Subsequently, two students within the Erasmus-



Socrates program joined the above group of students: one of them is from Slovenia and the other one from Latvia. We have registered a total of over 240 CE foreign students at the Faculty of Civil Engineering, STU. Currently, the Faculty is preparing for the re-accreditation of the Master's degree of the CE study program. The study plan for the Master's degree study program has been revised for this purpose. In addition, study information sheets have been gradually developed for the individual subjects in the English language. The Presidium of the Faculty sees the above measures as a step forward within the larger framework of the internationalization of the instruction provided by the Faculty of Civil Engineering. In recent years, four projects within the INTERRED program have been successfully completed. The program within the

following program period for 2007-2013 was renamed the "Cross-Border Program for International Cooperation Between the Neighbouring States of the SR". There have been several submission calls within the program during this programming period.

#### **7.10 The Cross -Border Program for International Cooperation**

Currently, Prof. Bezák of the Department of Transportation Engineering is involved in the "Rosman" project, a Cross-Border Cooperation program that is aimed at safety management of the road network in the cross-border area and in the AT-AK traffic load model within the cross-border cooperation between Austria and Slovakia.

## 8. PUBLIC RELATIONS

The area of public relations has gained greater importance year after year. In compliance with the long-term development goals of the Faculty of Civil Engineering, STU, the area of public relations is being structured to cover all the Faculty's fundamental activities, especially the promotion of the study programs, students, Faculty presentations at trade fairs, professional and scientific undertakings, activities of the Industrial Board, competitions, media coverage and social events.

We issue a quarterly publication on life at the Faculty of Civil Engineering under the name "Information" (Informácie). The aim is to inform students, teachers and the professional public about the Faculty's activities.

### **8.1 Promotion of the study programs and activities of the Faculty**

Promotion of the study programs at secondary schools has been fruitful for a long period. The Faculty regularly attends the international fair of post-leaving examination education as well as the AKADÉMIA and VAPAC exhibitions, which were held on October 6-8, 2009, in order to promote the Faculty and provide materials on the accredited study programs.

The Faculty organized an Open Door Day on February 10, 2009, with almost 400 participants from secondary schools on the grounds of the Faculty. Groups of students from Zvolen, Hurbanovo and Levice arrived in Bratislava by buses. We are gratified to state that in addition to students from all over Slovakia, students from the Czech Republic participated in the Open Door Day. The students present obtained detailed information on the admission procedure for the Bachelor's degree study and the study content of the selected subjects. They were also shown round the Faculty. One of the most effective means to promote the Faculty and obtain information on studying at FCE, STU, is the website of the Faculty. We have to emphasize that the information there should be as comprehensive as possible and presented in a timely fashion. On a regular basis, we present the full text of the quarterly publication "Information" on life at our Faculty on the website.

In 2009, seven visits to secondary schools across the entire Slovak territory were conducted in order to acquaint students with the Faculty's past and present. During the secondary school visits, information materials were distributed containing details of the Bachelor's degree study programs; they were also shipped to another 34 schools.

The "Improvement of High School Students' Awareness and Their Preparation for Study at the Faculty of Civil Engineering, STU" project has continued to be very successful. All secondary schools in Bratislava were addressed within the project. Nearly 200 secondary school students took part in special introductory courses to prepare them for study at the Faculty. The ESP project was completed in 2009.

The Faculty makes an effort to help the students admitted to their alma mater from the very beginning. At the start of every academic year, the Faculty issues an updated publication called "A Guide for First-Year Students of the Faculty of Civil Engineering," which contains useful information.

Exhibitions of student works are organized on a regular basis. They present all the training methodology – project information, the construction solution of designs, and finally, the design of details. The professional public that attended the exhibitions in considerable numbers as well as the

students greatly admired the works presented.

A "Job Auction" is organized on a regular basis for graduates of the Bachelor's and Master's degree studies (April 22, 2009). Twelve companies attended the latest auction and offered available jobs to the students. In this way, the Faculty helps our students to apply their knowledge to practice and find jobs after the completion of their study. The Job Auction demonstrated the principal requirements by the employers for the positions offered; the two current labour market requirements for doing well in an interview are a good command of a foreign language and holding a Master's degree. The last, but not least, important aspect of the relation between the Faculty and the labour market is the structure of the study programs – it sometimes does not correspond with the interests of prospective employers. The Job Auction attracted the attention of more than 250 students, who completed questionnaires for the companies.

Great attention has been paid to the promotion of the Lifelong Learning program. Courses of further education provided by the Faculty are published in the brochure "A Program of Courses of Further Education." Information on the courses is presented on the Internet pages of the individual departments that organize the courses. In addition, the courses are promoted via scientific journals and professional undertakings (conferences, seminars, etc.) organized by the Faculty and its Departments.

### **8.2 Student competitions**

As a part of the traditional Student Scientific Conference (SSC), which was held on April 1, 2009, 239 students of the Bachelor and Master's degree studies participated with 199 works. The conference was organized concurrently with the CONECO international trade fair. This year the Faculty of Civil Engineering organized the 10<sup>th</sup> Year of the SSC of the Czech and Slovak Faculties of Civil Engineering, which was held on May 21, 2009. Each Faculty presented its works in ten sections. The Faculty of Engineering organized a fourth annual competition of Bachelor's degree dissertations known as "ABF Slovakia," which was evaluated on the Faculty's premises on December 8, 2009. Six of our Faculty students were awarded prizes at the competition of the Bachelor's degree theses from the Faculties of Civil Engineering and the Faculty of Architecture SR (Bratislava, Košice, Žilina). They confirmed the high quality of the bachelor's degree theses at the Faculty of Civil Engineering, STU.

The Ninth Annual Sports Day of the Faculty of Civil Engineering, STU, was held on May 5-6, 2009. A total of 100 athletes, who competed in six sports disciplines, attended the competitions. Prizes were awarded at a ceremony, which was combined with a party and discussion at the Club of the Faculty of Civil Engineering, STU.

The PhD students participated in competitions, which are organized on a regular basis every year in the autumn. The winners can present their work at the JUNIORSTAV international conference in Brno, with their full costs covered. The financial awards to our students are possible due to the support from the Faculty's sponsors, the Alumni Club of FCE and, above all, the members of the FCE Industrial Board. A competition featuring designs for recreational and relaxation zones and architectural designs of buildings constructed of porous concrete is organized on an annual basis. These student competitions are under the auspices of the Xella Company and are organized with the cooperation of the Faculty. The Faculty's students were ranked at the top this year as well.

### **8.3 Accommodation of students**

The accommodation of students in dormitories is one of the most delicate social issues. The amount of accommodation spaces of STU has decreased and consequently affected the students of FCE. Our Faculty was allocated 1,472 places by STU. A list for the allocation of places in dormitories is within the competence of the Students' Association and approved by the Faculty. The main criteria for the allocation of accommodations are the student's grade point average and the distance between the student's home address and Bratislava. Accommodation with regard to distance was made available to the first-year students who were matriculated. Due to the decreased capacity in accommodation and the relatively high number of first year students admitted, problems occurred with regard to the students in the first year of study.

### **8.4 Support for the development of civil engineering and architecture**

Similarly, as in preceding years, the Faculty's experts participated in an evaluation of a Slovak competition organized by ABF Slovakia –“Construction of the Year.” As an expert guarantor and announcer of the competition, the Faculty provided “The Prize of the Faculty of Civil Engineering, STU” to the competition for the implementation of science and technology in the execution of construction work. In the year 2009, the prize of the Faculty of Civil Engineering was awarded to the “PETRŽALKA office building”, Bratislava.

The participation of the Faculty of Civil Engineering, STU, at the “CONECO-RACIOENERGIA-CLIMATHERM” trade fairs (March 31- April 4, 2009) and “DOMEXPO” in Nitra (April 16-19, 2009) is traditional. The Faculty is a coordinator of both events, which permits making the events accessible to both teachers and students. The periodic organization of various professional events, conferences and seminars significantly contributes to the successful presentation of the Faculty.

More than 70 events were organized during the previous year: Heating, Geometry Day, Low-Energy Building Facades, Aspects of Rural Area Recovery, Mobility, Stability of Geodetic Instruments, Aqua, Drinking Water, Sanhyga, Roofs, Indoor Climate, Magia, Water Management Industry, Concrete Days, Overhauling of Concrete Structures, Building Structures, etc. In this form, the Faculty presents the latest scientific and technical knowledge acquired and directly transfers it to practice.

### **8.5 Social events**

On the occasion of International Students' Day and the Day of the Struggle for Freedom and Democracy, a reception of the very best students with the Presidium of the Faculty was held on November 19, 2009. Ing. Peter Poláček, a former student and a graduate of the Faculty of Civil Engineering, accepted our invitation to this year's reception. He belonged among the students who were involved in the fight for freedom and democracy in 1989. The students were interested in his experiences and vivid recollections of the events that occurred. On the occasion, the Dean awarded 32 students for their academic results with merit-based scholarships.

The Faculty organizes social events, such as visits to theatre performances at the beginning of the academic year and within the Ninth Day of the Faculty of Civil Engineering. A reception of Jubilee employees is held (twice a year). Meetings with the Faculty's professors and retired employees were held with 137 of our former employees on January 22, 2009. The social events are held on a regular basis every year.

The Faculty follows the tradition of holding a ceremony--the 50<sup>th</sup> Jubilee of Graduation from the Faculty of Civil Engineering (red-carpet treatment). The former schoolmates and graduates of the Faculty greatly enjoyed the event.

A thematic educational excursion oriented towards “Historical and Architectural Monuments in Slovakia” was prepared for the Faculty employees in 2009.

The Faculty of Civil Engineering, STU, in cooperation with the Alumni Club of the Faculty of Civil Engineering and the Slovak Association of the Construction Entrepreneurs of Slovakia, organized its Seventh Representative Ball at the City Hotel Bratislava.

The Ball's most-honoured guests are graduates who completed their study at the Faculty of Civil Engineering 25 years ago. Additionally, important personages of Slovak civil engineering, geodesy and cartography, architecture, public life, employees of the Faculty and students participated.

### **8.6 Social services**

Most activities in the area of social services are performed in cooperation with the Independent Trade Unions (NOO) of the Faculty in compliance with the Collective Agreement of STU. The Presidium of the Faculty has a tradition of supporting active cooperation with NOO. The Faculty extended the Collective Agreement signed between the University Trade Unions (UOO) and the Presidium of STU by adding several points to its supplement.

The Faculty's employees can exploit the Faculty's sports facilities in the following sports for recreational purposes: swimming, football, basketball, tennis, aqua aerobics (exercise set to music), and yoga, along with the educational and recreational facilities at Kočovce and Nižná Boca. The educational and recreational facility at Nižná Boca has been closed for operational reasons in recent years. The renovation of this facility was performed this year. Annually, our employees can go on holiday to the Zuberec facility of Žilinská University.

The Faculty provides catering to employees and students at the refectory, along with catering and refreshments at the Employees Club, a snack bar and various types of snack machines located on the premises of the Faculty. Our Faculty enables all pensioners who are former employees of the Faculty to dine at STU refectories and contributes to the catering in excess of 55% from non-subsidized funds.

Employees can exploit the services of the Faculty GP and the dental surgery. In addition, the Faculty subsidizes its employees' spa treatments and regeneration-rehabilitation stays in spas in excess of 100 €. The Faculty provided a contribution to 15 Faculty employees.

A social fund account balance was allocated to the employees of the Faculty as of November 30, 2009, as a contribution for regeneration. It provides 90 € per full-time employee (on condition the minimum length of employment at the Faculty has been one year).

The Faculty pays remunerations to its employees on the occasion of their employment anniversaries and jubilees in excess of 50% of their contractual wage.

The Faculty grants its employees an allowance during long-term sick leaves, which represents one month's full pay. In 2009, the allowance was paid to two employees. In the case of a death in the family of one of our employees (a spouse, a child), the Faculty provides him/her with a monetary contribution. The contribution was paid to two Faculty staff members in 2009.

## 9. INFORMATION AND COMMUNICATION TECHNOLOGIES

### 9.1 Information technologies, licenses

In the area of information technologies, multiple licenses or upgrades (subscriptions) of software products of the AutoDesk, Microstation, ANSYS Companies and others were purchased for the needs of the Faculty. We can give as an example our subscription to AutoCAD Civil 3D 2009 (10 licenses), AutoCAD Architecture 2009 (30 licenses) and Autodesk Revit 2009 (30 licenses). The Faculty signed a comprehensive contract with the Microsoft Corporation (Microsoft Select, Campus Agreement), whereby licenses and products were designated only for instruction needs and University administration, and the concurrent use of licenses for business activities was eliminated. During 2009, the licenses were updated by the terms of purchase for new products. The current Campus Agreement contract was signed for the period of up to June 30, 2012. Under the contract, STU can have free-trial access to the following products:

- upgrade of OS for personal computers (or downgrade),
- all versions of MS Office and language packs,
- client licenses of the servers,
- Desktop Optimization Pack (for remote management of PCs).

The editor-in-chief of the PC Revue agreed to the free distribution of IT professional journals such as PC Revue, Digirevue, and InfoWare in the amount of one hundred copies. This gift represents a valuable contribution to the enhancement of the students' IT literacy skills at the Faculty.

### 9.2 The Faculty's PC network

The basis of the Faculty's network infrastructure in the locality of I. Karvaš meets the requirements of an IT area as formulated in the STU Long-Term Intentions. The connection of the Faculty's network to Sanet and the Internet through optical cables with a transmission speed of 10 Gbit/s is in progress. The network's central components contain a high-performance Cisco Catalyst 3560E router and Cisco Catalyst 2960 switches. During the year 2009, a software upgrade and the configuration of the most active elements of the Faculty's computer network were implemented.

This significantly contributes to their centralized and efficient management as well as their monitoring. This is particularly relevant due to the fact that there are currently more than 700 active hotspots installed.

In recent years, the network infrastructure in the Block C building has been partially upgraded. On the 15th, 16th, 19th, and 20th floors, outdated wiring was replaced, i.e., extended to Cat6 cabling. Older active network elements were replaced with high-performance switches, which enabled improvement of the network's performance, a reduction in unplanned downtime and outages, and obtaining expert assistance for proactive management of the network environment (Hewlett Packard 2626).

Since 2009, a fully operational Eduroam project has been available at the Faculty. Eduroam is a secure, world-wide roaming access service developed for the academic community and international research institutions. The main goal of the system is to enable the members of the academic community to have access to the Intranet of any academic institution directly online through all the IP addresses of the KIC Specific Database Center. The network within the Eduroam project is based on an infrastructure with 802.11b (11Mbit/s) or 802.11g (54Mbit/s), which is standard technology to provide roaming network access across research and education networks.

In the year 2009, the WiFi network in the most exposed areas of the Faculty was enhanced, especially in the Block B building. Five new Cisco access points were gradually installed. Five new Cisco access points were gradually installed. The CIT professional employees manage the WiFi signal coverage according to

current needs. In addition, they provide assistance by setting up WiFi for the students' laptops. In the year 2009, the IT professional employees installed 20 new hotspots on the premises of KIC, which are accessible to students for the purpose of individual work on laptops.

Twenty PC stands are in operation nonstop 24/7 under the regime. They are used for the individual work of students. Due to the ongoing renovation and construction work on the Faculty's premises, it was necessary to relocate them temporarily to another site to keep them in constant operation.

### 9.3 The Faculty's IT classrooms

Currently, the PC computer technology is in common use for the instruction and individual work of the students at the Faculty. There are six computer classrooms available to students within the entire Faculty. There is a specialized CAD system classroom at the Faculty. These classrooms are in operation 12-14 hours a day during the academic terms.

The PC classrooms fit into the Intel category, min. 2.4 GHz, containing 1-2 GB of operational memory with hard discs of a capacity up to 80 GB and 17-22" monitors. Basic instruction in the MS Windows operating system, MS Office programs and the AutoCAD and Micro-Station graphics programs is provided by the Faculty's Departments. Professional employees of the Center of Information Technologies regularly provide consultations to students on a daily basis. Currently, the visitor rate of the CIT computer classrooms reaches 1,500 students per week, i.e., more than 20,000 students during a semester and 40,000 students per year.

An important activity in the modernization of the Faculty's computer classes during the summer non-classroom time was the replacement of the desks, chairs, blackboards and other accessories in all the computer labs. These innovations in classroom equipment were partly covered by the Faculty's tenants. The total subsidy for innovations from the Faculty amounted to 15,600 €. A mobile PC computer technology laboratory equipped with notebooks, a data projector and PC network devices is in operation.

An agreement between the IT Department and authorized resellers of Autodesk and Nemetschek enables instruction in advanced design software for architects and civil engineers with AutoCAD Revit 2010 and Nemetschek Allplan 2009 in the Faculty's PC labs during the semester. The authorized resellers provide software and a teaching staff at their own expense. The instruction of the students is for free.

### 9.4 Library and Information Center of the STU Faculty of Civil Engineering

After the successful complete reconstruction and modernization of its technical and computer equipment, the Library and Information Center (KIC), FCE, became one of the most modern and progressive academic libraries in Slovakia. In this way, KIC FCE has inspired other libraries to make use of information technologies to promote both their services and their universities and faculties. In 2009, six

years after the official opening of KIC's modern premises, the final phase of adjusting the interior design and furnishing the KIC study room on the second floor was successfully completed. Specialized zones in the library for individual study and professional work with computers were created. The capacity and comfort of its visitors have significantly increased, which resulted in an enlarged visitor rate of the Library and Information Center of FCE STU. In addition, the average length of the individual visits of students to KIC has grown.

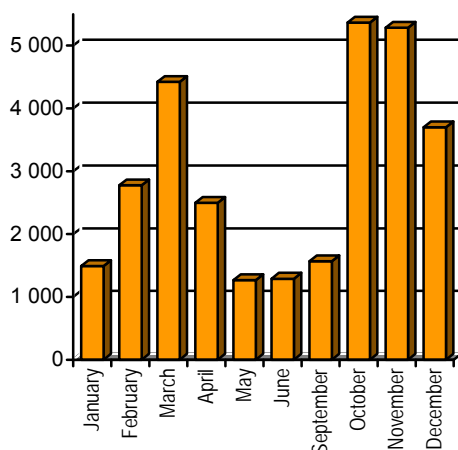
#### Visitor rate and utilization of KIC services

Due to the increased interest of students in the services of KIC, the Library and Information Center of FCE has extended the operating hours at the study room and the Borrower's Department. The extended offer of services and opening hours at the study room has resulted in increased interest in the Library and Information Center. The KIC study room's visitor rate reached record levels during 2009. A total of 29,652 visitors and even more users come with their notebooks and work with the information and scientific databases due to the WiFi zone and Internet access. Its opening hours are the longest when compared with other Slovak academic libraries. The study room is open daily from 9:00 a.m. to 6:00 p.m. The capacity and comfort of its visitors have significantly

**Table 22 - Visitor rate to the KIC study room in 2009**

2009	Visitor rate (No. of persons)
January	1,492
February	2,775
March	4,421
April	2,494
May	1,265
June	1,290
September	1,565
October	5,364
November	5,286
December	3,700
<b>Total in 2009</b>	<b>29,652</b>

Graph 14 - Visitor rate to the KIC study room in 2009



increased, which resulted in an enlarged visitor rate of the Library and Information Center of FCE STU. In addition, the average length of the individual visits of students to KIC has grown.

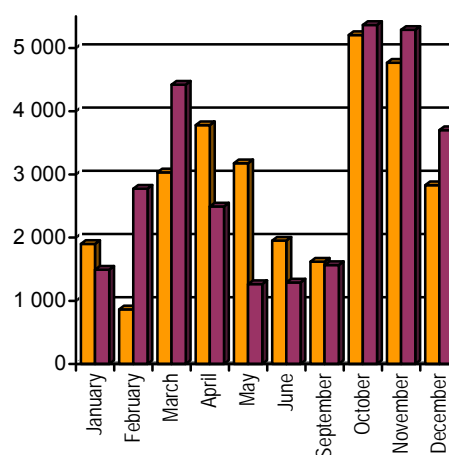
#### Visitor rate and utilization of KIC services

Due to the increased interest of students in the services of KIC, the Library and Information Center of FCE has extended the operating hours at the study room and the Borrower's Department. The extended offer of services and opening hours at the study room has resulted in increased interest in the Library and Information Center. The KIC study room's visitor rate reached record levels during 2009. A total of 29,652 visitors and even more users come with their notebooks and work with the information and scientific databases due to the WiFi zone and Internet access. Its opening hours are the longest when compared with other Slovak academic libraries. The study room is open daily from 9:00 a.m. to 6:00 p.m.

**Table 23 - 2008 vs. 2009 visitor rate to the KIC study room**

	2008	2009
January	1,898	1,492
February	865	2,775
March	3,031	4,421
April	3,777	2,494
May	3,177	1,265
June	1,952	1,290
September	1,619	1,565
October	5,204	5,364
November	4,767	5,286
December	2,830	3,700
<b>Total No.</b>	<b>29,118</b>	<b>29,652</b>

Graph 15 - 2008 vs. 2009 visitor rate to the KIC study room



#### Services of KIC for teachers and research workers in 2009

The Library and Information Center ensures the library's offerings centrally for the entire Faculty and, in addition to that help, it provides a wide range of services to teachers, research workers and PhD students. In 2009, KIC provided personalized services for these important target groups as per the following specializations:

- Safeguarding comfortable and constant access to foreign databases
- Safeguarding free trial access to foreign databases
- Monitoring citations of pedagogical and research employees in international citation databases
- Providing retrieval results for research tasks and grants and information on international projects
- Sending personalized e-mails on new expert publications, journals, databases and information resources as per specialization
- Training for PhD students and pedagogical and research employees on the possibilities of obtaining information, reviews, and full texts of publications through electronic databases and services provided by KIC to the Faculty of Civil Engineering
- Current information via the web on KIC and the KIC Newsletter
- Electronic Document Delivery Service,
- Organizing expert presentations of databases by foreign instructors

On June 1, 2009, the Library and Information Center made a new electronic reference service "Ask the Library" accessible to students, teachers and the professional public by means of web questionnaires via the Internet. The KIC staff members answered requests for information with regard to professional publications, obtaining information from professional databases, various specialized services as well as general information about the Faculty, the Library or about the services offered by other Slovak and foreign libraries.

#### **Activities of KIC STU with regard to the enhancement of information literacy/database searches**

In 2009, the Library and Information Center of FCE STU organized **the Pilot Scheme of a series of information seminars for the first-year students**. One hundred first-year students of the Bachelor's degree study showed interest in the comprehensive information seminar given by KIC. The length of the seminar, which was three hours, was held at the beginning of the academic year 2009/2010. Information seminars on "**How to Obtain Scientific Information at the University**" for registered applicants were held on October 13-15, 2009. The students became acquainted with the services of the Library and Information Centre, the services of the academic and scientific libraries and instructions on how to obtain professional literature for their study at the university. Moreover, the seminar focused on how to search the library catalogues and how to become well informed about offers from a wide range of professional electronic databases as well as about an archive of full-text journals and proceedings which is available in the ASCE (American Society of Civil Engineers) Research Library database from 1995-2009. The Faculty license has been paid from FCE STU funds for the last four years. In the winter semester 2009-2010, the Library and Information Center FCE gave a seminar on "**How to Gain and Maintain Scientific Information for the First-Year Students of the Doctoral Degree Study within the Structure of Their Study Curriculum.**" Part 1 of the instruction on the methodology of scientific work was given for the first time. The seminar in this pilot study subject, which consisted of six teaching units, was held from October 7 to December 16, 2009:

- 07.10.2009 Network of libraries, services offered by libraries and recommended libraries
- 21.10.2009 Methods of obtaining scientific and professional literature
- 04.11.2009 Methods of obtaining scientific and professional literature
- 18.11.2009 Professional databases and searching for professional information

02.12.2009 Web of Knowledge-Citation database and Current Contents and Journal Citation Report, which form an integral part of the database and journal impact factor

16.12.2009 The SCOPUS Citation Database, its tools, creation and presentation tips and a video demo focusing on different styles of presenting specialized themes.

Based on all the proposals and the overall positive evaluation of the pilot scheme of the subject "Methodology of Scientific Work, Part 1: How to Gain and Maintain Scientific Information" by the first-year Doctoral students in the winter semester 2009/2010, instruction will be carried out broadening the scope of the teaching, along with a practical part featuring active work with professional databases and electronic information resources, in the 2010/2011 academic year. The Faculty of Civil Engineering has become one of the pilot faculties in Slovakia due to the progressive incorporation of this specialized subject into the study curriculum for the PhD candidates. Moreover, it is a source of inspiration for other faculties and academic libraries in Slovakia.

#### **Databases and electronic information sources of KIC in 2009**

The Library and Information Center provides a wide range of expert database titles and electronic information resources to students, teachers and research workers directly online through all the IP addresses of the KIC Specific Database Center and through the IP addresses of all the PCs at the workplaces of the Faculty of Civil Engineering, STU. In 2009, the Library and Information Center of the Faculty of Civil Engineering STU made the following titles of databases and electronic information sources accessible:

The renewal of the annual subscription to the "ASCE Online Library" for access to the full-text scientific library of the ASCE (American Society of Civil Engineers) from the Faculty's funds represents a significant professional contribution. The ASCE Library provides for on-line access to 32 key journals from all of the Faculty's computers in the field of civil engineering; 21 are current journals. Moreover, all the full-text articles from all the periodical titles are accessible for the preceding 15 years, including the overall production of ASCE scientific proceedings, as well as the archives.

- **National Information System Supporting Research and Development in Slovakia** – since 2009, the system has provided access to electronic information resources for all Slovak universities within the project of the Ministry of Education SR.
- **ACM / Association for Computing Machinery** – nationwide license within the NISPEZ project
- **APS Journals** – nationwide license from STU funds
- **Engineering Village 2** – university license from STU
- **IEEE/IET Electronic Library (IEL)** – nationwide license within the NISPEZ project
- **Knovel** – nationwide license within the NISPEZ project
- **ProQuest Central** – nationwide license within the NISPEZ project
- **ScienceDirect** – nationwide license within the NISPEZ project
- **Scopus** – nationwide license within the NISPEZ project
- **SPRINGERLink** – nationwide license within the NISPEZ project
- **Web of Knowledge** – nationwide license within the NISPEZ project
- **Elektronische Zeitschriftenbibliothek** – access to 60,528 full-text titles (free accessible and licensed titles) of scientific electronic journals.

- **Wiley InterScience** – nationwide license within the NISPEZ project

#### Safeguarding free-trial access of KIC to databases in 2009

KIC FCE regularly addresses producers of foreign databases and publishing houses of scientific literature in electronic form with requests for free-trial access for students and teachers of the Faculty via the KIC database center or based on IP addresses assigned to workplaces for a period of one month or longer. In 2009, students and teachers of FCE STU could use the following KIC free trial access to:

- the WoK citation database **Conference Proceedings Citation Index** (February 2009),
- the EBSCO database **Polymer Library** (March 2009),
- the EBSCO database **INSPEC** and **Computer & Applied Sciences Complete** (April 2009 – May 2009),
- the database of the American Geological Institute **GeoRef** (June 2009),
- the **GREENR** database in the field of the environment (October 2009)

- online information resources in science and research **Community of Science – COS** (September 2009 – November 2009).

#### Registration of publishing activities and citations of the employees of FCE STU in 2009

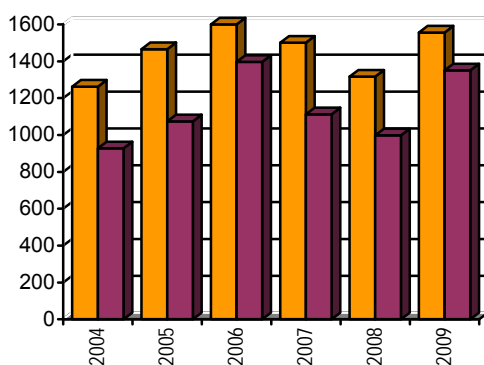
Pursuant to a Directive of the Ministry of Education of the Slovak Republic, since 2005, the scope of the expert activities of KIC has broadened through its registry and the systematic building of a database of the Publication Activity Registry and Citations of the STU employees; its data are imported into the CREPC - the Central Registry of Publication activities in Slovakia. The number of publications in the CREPC and their quality is one of the most important evaluative criteria for budget allocations to universities in Slovakia. **Among the faculties of the Slovak University of Technology, it is the Faculty of Civil Engineering that has the highest ratio of publishing activity and citations.** As the above information indicates, KIC goes “beyond the call of duty” in taking care of its visitors and making sure the latest and best scientific knowledge is available to the academic community it serves.

**Table 24 - Comparison of the publishing activity of FCE employees in 2004 - 2009**

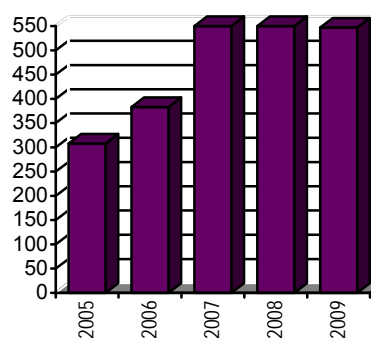
	2004	2005	2006	2007	2008	2009	2004 - 2009
<b>Number of publications in subsidized categories by ME SR</b>	928	1,074	1,397	1,112	998	1,351*	<b>5,509</b>
<b>Number of publications in all categories</b>	1,263	1,466	1,616	1,501	1,317	1,556*	<b>7,163</b>

\* Records for 2009 and for 2008, which were registered after October 31, 2008 – record as of **October 31, 2009**

Graph 16 - Comparison of the publishing activity of FCE employees in 2004 - 2009



Graph 17 - Number of citations registered in the OLIB database in 2005 – 2009



**Table 25 - Number of citations registered in the OLIB database in 2005 – 2009**

	2005	2006	2007	2008	2009	Total in 2005-2009
<b>o1</b>	290	344	446	495	348	<b>1,923</b>
<b>o2</b>	2	0	9	2	20	<b>33</b>
<b>o3</b>	5	16	121	101	104	<b>347</b>
<b>o4</b>	11	23	208	155	75	<b>472</b>
<b>Total</b>	<b>308</b>	<b>383</b>	<b>784</b>	<b>753</b>	<b>547</b>	<b>2,775</b>

- o1 - Citations in foreign publications registered in the Web of Science / SCOPUS citation indexes
- o2 - Citations in domestic publications registered in the Web of Science / SCOPUS citation indexes
- o3 - Citations in foreign unregistered citation indexes
- o4 - Citations in domestic publications unregistered in citation indexes

## 10. INVESTMENT ACTIVITIES, REPAIRS, RECONSTRUCTIONS

In 2009, the Faculty managed to obtain both a planning permit and notification of architectural designs for the reconstructed and new buildings which are under preparation. In addition to the Faculty's preparing the financing model and conducting the public procurement, several building contractors will be invited to bid for the job of constructing and reconstructing the buildings. Some of the investments were launched in 2009.

### **10.1 Additional insulation and reconstruction of the Central Laboratories building at Trnávka**

In the first half of 2009, the project for the reconstruction of the building of the Laboratory of Bearing Structures of the Central Laboratories of FCE at Trnávka was completed at a cost of 500,000 € (including VAT). The reconstruction project was successfully completed. The opening ceremony was held in the third quarter of 2009. In 2009, we did not manage the hydraulic adjustment of the heating, the realization of which has been delayed until 2010. Consequently, we will complete the design documents so as to apply for a grant from the EcoFond SPP in the amount of 116,000 €.

### **10.2 Barrier-Free Access to FCE STU**

From May through October 2009, the competitive bidding for a building contractor was in the process of preparation. The Novosedlík Company, Ltd., won the tender. The realization of the project will be completed at a total cost of 600,000 € (including VAT). The project is planned to be completed by the end of June 2010. Concurrently, the design data for the execution of a partial project – a lift for disabled persons-- have been prepared and submitted to the Tatra Bank Foundation for reimbursement. The reimbursement should be granted in the amount of 34,000 € by the end of January 2010.

### **10.3 Reconstruction of the facade of the Block C building and the pedestrian bridge connecting the Block B building with the Block C building.**

In the first half of the year a detailed design document for such a demanding project was prepared by a building contractor. There have been quite a few debates about the project and consultations between a consulting engineer and the Rector's Office (STU); suggested changes were subsequently incorporated into the final design. The public tender offer was successful. Towards the end of the summer 2009, the Ingsteel Company, a.s., won the tender. The tender offer was 5,000,000 € (including VAT). The Faculty agreed with the Rector's Office on a bridging loan to cover the major part of the costs. By the end of 2009, the contract between the Faculty and the contractor was signed. Subsequently, the work started on the conceptual design with regard to its execution, coordination of the development of the project's schedule and fabrication of the trial specimens of the façade panels. The project should be completed by the end of October 2010.

### **10.4 Regional Technical Education Center in Kočovce**

At the turn of the year the Faculty obtained a valid building permit for the construction of the RTEC in Kočovce. In the autumn of 2009, the work for the acquisition of a grant was completed for the submission of an all-University grant from EU structural funds – most of the grant is designated for the construction of a Regional Technical Education Center in Kočovce.

Within the grant the Faculty should be allocated 1,500,000 € for the execution of the project. In addition, 300,000 € are allocated for information and telecommunications technology related to the facilities of the Center.

### **10.5 Repair of the central heating system and hydraulic adjustment of the heating in the Block C building**

From August to October 2009, reconstruction and hydraulic adjustment of the heating in the Block C building was undertaken at a cost of 195,000 € (including VAT).

Within the reconstruction repairs to the central heating system were performed, and four adjustable heating zones were put into operation. This project was a prerequisite for the replacement of the façade of the Block C building, which will result in energy savings in the future.

### **10.6 Furnishing the Library and Information Center and Information and Communication Technologies Center**

Over the course of 2009, the KIC facilities were furnished at a cost of 32,400 €. Due to the lack of financial means, the Faculty unfortunately did not manage the realization of air-conditioning (technology) in KIC. 15,600 € were invested in the three Information Technologies classrooms.

### **10.7 Roof insulation of the auditorium and the design studio halls (BAT) and replacement of skylights**

In 2009, we also had to deal with the serious disrepair of the roof above the auditorium and the BAT classrooms. A new insulated roof membrane assembly was installed above the auditorium and the BAT classrooms, and the skylights were replaced at a cost of 104,200 €.

### **10.8 Educational and Recreational Facilities of the Faculty in Nižná Boca and Bezovec**

In 2009, the Faculty completely reconstructed the Educational and Recreational Facility in Nižna Boca, including replacing the furniture at a total cost of 162,500 €. The Presidium of the Faculty reached a decision to close the Educational and Recreational Facility in Bezovec, due to its unprofitability. It will be on sale within a short period of time.

### **10.9 Current repairs and maintenance at the Faculty, parking lots, enclosure**

In 2009, various repairs were carried out at the Faculty, which cost 16,700 €. In addition, constructional, technical and software adjustments for the use of the parking lots and access ramps to the Faculty and the complex of the Central Laboratories at Trnávka, including the enclosure of the complex, were implemented. A total of 32,800 € was invested.

### **10.10 Sports Center at Trnávka**

As late as last year we were preparing the development plan for a sports center at Trnávka. Two courts for tennis and one for beach volleyball should be built within the sports center. In addition, the changing rooms should be renovated. We assume instruction in the games will move to the new sports center instead of the currently rented facilities.



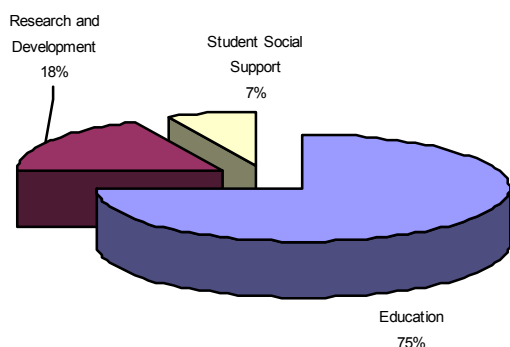
## 11. ECONOMIC PERFORMANCE

The Faculty's economic performance was in compliance with the Act on Higher Education. Its funds consisted of subsidies and non-subsidy sources for the planned 2009 budget. The Faculty planned to make a profit in the year 2009, and such an outcome is expected. As in preceding years, making a profit was expected, thanks to the Faculty's economic performance in its entrepreneurial activities and the increased income from the tuition fee of foreign students among the main activities.

Funds for the implementation of the accredited study programs were provided to the Faculty of Civil Engineering from the SR Ministry of Education's State Budget for the year 2009 from sub-program **077 11** as well as for research and development activities from sub-program **077 12** and student social support from sub-program **077 15**.

**The total subsidy** as of November 18, 2009, consisted of **11,467,307 €**; the running funds were 11,305,402 and the capital investments 161,905 €.

Graph 18 - Percentage allocation of subsidies from the SR Ministry of Education in 2009



The Faculty's economic performance was in compliance with the Act on Higher Education. Its funds consisted of subsidies and non-subsidy sources for the planned 2009 budget. The Faculty planned to make a profit in the year 2009, and such an outcome is expected. As in preceding years, making a profit was expected, thanks to the Faculty's economic performance in its entrepreneurial activities and the increased income from the tuition fee of foreign students among the main activities.

Funds for the implementation of the accredited study programs were provided to the Faculty of Civil Engineering from the SR Ministry of Education's State Budget for the year 2009 from sub-program **077 11** as well as for research and development activities from sub-program **077 12** and student social support from sub-program **077 15**.

**The total subsidy** as of November 18, 2009, consisted of **11,467,307 €**; the running funds were 11,305,402 and the capital investments 161,905 €.

Graph 19 - Overview of subsidies provided to the FCE from the SR Ministry of Education in 2007 - 2009

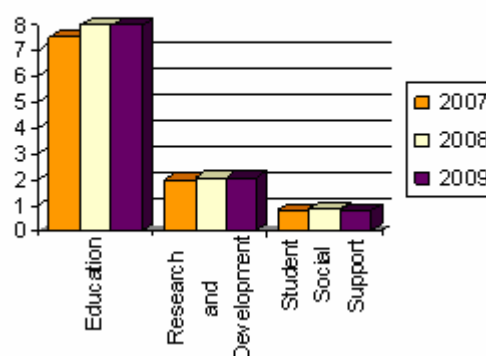


Table 26 - Overview of subsidies provided to the FCE from the SR Ministry of Education in 2007- 2009

Subsidy	2007		2008		2009	
	€	%	€	%	€	%
Education	7,508,763	73	8,093,274	73	8,642,401	75
Research and Development	1,998,671	19	2,077,541	19	2,044,877	18
Student Social Support	787,957	8	865,565	8	780,027	7
<b>Total</b>	<b>10,295,391</b>	<b>100</b>	<b>11,036,380</b>	<b>100</b>	<b>11,467,305</b>	<b>100</b>

### 11.1 Running funds

**Running funds** from sub-program **077 11** were provided to the Faculty in excess of **8,598,688 €**; the salaries were 5,079,166 €; the contribution from employment income was 1,787,866 €; goods and services were 1,009,325 €; and Doctoral student grants were 722,331 €. **Running funds** from sub-program **077 12** were provided to the Faculty in excess of **1,234,265 €**; they consisted of 0771201 **institutional research** 907,712 € **Running funds** from sub-program **077 12** were provided to the Faculty in excess of **1,234,265 €**; they consisted of 0771201 **institutional**

**research** 907,712 € (the salaries were 585,279 €; the contribution from employment income was 206,019 €; goods and services were 116,414 €); 077 02 02 **VEGA** – 284,583 €, 077 02 05 **KEGA** – 41,970 €.

**Running funds** from sub-program **077 15** were provided in excess of **780,027 €**; **social scholarships** were 600,614 €; **incentive scholarships** were 178,743 €; and the Academic Sports club was 670 €. The Ministry of Education provided a subsidy to the Faculty in excess of the Non-Subsidy Agreement to sub-program **06K11 APVV**, which was valued at **648,708 €** and to sub-program **05T0812 foreign grant-holders**, which was valued at **43,714 €**.

## **11.2 Capital funds**

**Capital funds** from **sub-program 07712** were provided to 077 1202 **VEGA** in excess of 141,590 €. **Capital funds** from sub-program **06K11** APVV were provided in excess of **20,315 €**. The need for the use of non-subsidy sources proved to be essential in covering running expenses for the energy costs, repairs, and operation of the Faculty. Based on an analysis of the Faculty's drawing of operating funds in previous years and an analysis of possible savings measures, a draft of the financial coverage of the expected Faculty operating costs within the running expenses (goods and services) was prepared and approved by the

Academic Senate. The anticipated Faculty operating costs amount to **1,573,726 €**; the energy costs amount to 963 600 €. The subsidy covered costs only in the amount of **1,009,325 €**; the anticipated costs of approximately **564,401 €** were proposed from the following resources:

- resources from entrepreneurial activities
- income from main activities-mainly income from foreign students
- 2008 profits achieved
- allocation of running funds from 0077 12 sub-program-science and development activities

More detailed information on the results of the economic performance is the subject of the Faculty Financial Report 2009.

In Bratislava, February 2010

## DEPARTMENTS

DEPARTMENT OF CONCRETE CONSTRUCTION AND BRIDGES (BKM).....	44
DEPARTMENT OF TRANSPORTATION ENGINEERING (DOS).....	48
DEPARTMENT OF THEORETICAL GEODESY (GZA).....	51
DEPARTMENT OF SURVEYING (GDE).....	54
DEPARTMENT OF GEOTECHNICS (GTE).....	57
DEPARTMENT OF LAND AND WATER RESOURCES MANAGEMENT (VHK).....	61
DEPARTMENT OF HYDRAULIC ENGINEERING (HTE).....	66
DEPARTMENT OF BUILDING STRUCTURES (KPS).....	69
DEPARTMENT OF STEEL AND TIMBER STRUCTURES (KDK).....	73
DEPARTMENT OF MAPPING AND LAND CONSOLIDATION (MPU).....	76
DEPARTMENT OF MATHEMATICS AND DESCRIPTIVE GEOMETRY (MDG).....	78
DEPARTMENT OF PHYSICS (FYZ).....	85
DEPARTMENT OF STRUCTURAL MECHANICS (SME).....	87
DEPARTMENT OF MATERIAL ENGINEERING (MTI).....	92
DEPARTMENT OF BUILDING TECHNOLOGY (TES).....	94
DEPARTMENT OF SANITARY AND ENVIROMENTAL ENGINEERING (ZEI).....	99
DEPARTMENT OF BUILDING SERVICES (TZB).....	104
DEPARTMENT OF ARCHITECTURE (ARC).....	110
INSTITUTE FOR FORENSIC ENGINEERING (USZ).....	112
DEPARTMENT OF LANGUAGES (JAZ) .....	114
DEPARTMENT OF PHYSICAL EDUCATION (TVY).....	116
DEPARTMENT OF HUMANE SCIENCES (HUV).....	117

# DEPARTMENT OF CONCRETE STRUCTURES AND BRIDGES

Department Head  
Prof. Juraj Bilčík, PhD.

Tel.: + 421 2 59274 546  
Fax: + 421 2 5292 6213  
E-mail: juraj.bilcik@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

Concrete and Masonry Members  
Reinforced and Prestressed Concrete Members  
Reinforced Concrete Structural Members  
Reinforced Concrete Structural Systems  
Concrete Structures I  
Concrete Structures  
Concrete Structures II  
Prestressed Concrete  
Concrete Bridges  
Lifespan and Repair of Concrete Structures  
High-Rise Concrete Structures  
Execution of Concrete Structures  
Special Problems in Concrete Structures II  
World Language – English: CAD–FEM Computer – Aided  
Design of Concrete and Steel Structures  
Reinforced Concrete Structures

#### Optional Subjects

Structural Analysis  
Precast Concrete Structures  
Masonry Structures  
Concrete Bridges II  
PC Structural Analysis – FEM Models  
Experimental Testing of Concrete Structures  
Composite Structures

#### Recommended subjects

Modeling of Concrete Structures

## 2. Theses

### 2.1 Bachelor theses

13

### 2.2 Graduate theses

BABUŠÍK P.: “White Angels” Apartment House: Design of Cast-in-Situ Load-Bearing RC Slab - Wall Structure  
Supervisor: Harvan, I.

BAKO M.: Office Center: Cast-in-Situ RC Structure with Flat Slabs and Stiffening Walls  
Supervisor: Harvan, I.

BEDNÁRIKOVÁ S.: “Terasy Dunajská”: Multifunctional Building, Cast-in-Situ Reinforced Concrete Structure  
Supervisor: Borzovič, V.

BERNAŤÁK D.: Multifunctional Building in Bratislava, Cast-in-Situ RC Structure  
Supervisor: Borzovič, V.

BLAHUŠIAK M.: “GREEN PARK – VTÁČNIK” Residential Building: Cast-in-Situ RC Combined Bearing Structure with Stiffening Core  
Supervisor: Abrahoim, I.

BOROS A.: “Twist Tower” High-Rise Building: Cast-in-Situ RC Structure with Bracing Cores  
Supervisor: Fillo, I.

BRAZDOVIČ M.: Hotel Senec: RC Structure with Stiffening Walls  
Supervisor: Harvan, I.

BRONDOŠ J.: Hotel “Tula” - Banská Bystrica: RC Slab-Wall Structure on a Skeleton Pedestal with a Stiffening Core  
Supervisor: Harvan, I.

ČUHÁK M.: Bank Poprad: Cast-in-Situ RC Structure with Flat Slabs and a Stiffening Core  
Supervisor: Harvan, I.

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

HABODÁSZ N.: Multifunctional Building: RC Load-Bearing Structure  
Supervisor: Bartók, A.

KONEČNÁ L.: “ART” Multifunctional Object – Part B  
Supervisor: Borzovič, V.

LACO K.: Rožňavská Automobile Center, Bratislava: Cast-in-Situ RC Combined Bearing Structure with a Stiffening Core  
Supervisor: Abrahoim, I.

LAJČÁK J.: Structural Analysis of an Office Building  
Supervisor: Abrahoim, I.

LELKES A.: High-Rise Office Building: Cast-in-Situ RC and Composite Steel RC Structure with a Stiffening Core  
Supervisor: Gramblička, Š.

MAKKY L.: Multifunctional Building: RC Load-Bearing Structure  
Supervisor: Bartók, A.

MIKUŠ J.: Cast-in-Situ RC Slab-Wall Structure on a Skeleton Pedestal with Stiffening Cores  
Supervisor: Harvan, I.

MOLNÁR M.: Hostel – Section A  
Supervisor: Čabrák, M.

PANGRÁC-ZDOLINSKÝ M.: Multifunctional Building. RC Load-Bearing Structure  
Supervisor: Bartók, A.

ROZLOŽNÍK, P.: Twist Tower. Cast-in-Situ RC Structure  
Supervisor: Borzovič, V.

SEMANOVÁ V.: Apartment House. Cast-in-Situ RC Slab-Wall Structure on the a Skeleton Pedestal  
Supervisor: Harvan, I.

SNAK M.: Multifunctional Building. Cast-in-Situ RC Load-Bearing Structure  
Supervisor: Bartók, A.

ŠIMON G.: Office Building. RC Load-Bearing Structure  
Supervisor: Bartók, A.

ŠTOFAŇÁK P.: Generali Office Building. Cast-in-Situ RC Combined Bearing Structure with Flat Slabs and a Stiffening Core

Supervisor: Bartók, A.

STREICHER M.: Hotel\*\*\*- Staré Grunty, Bratislava. Cast-in-Situ RC Combined Bearing Structure with a Stiffening Core

Supervisor: Abrahoim, I.

VERÓNÝ P.: Multifunctional Building: Cast-in-Situ RC Structure with a Stiffening Core

Supervisor: Harvan, I.

ČURNÝ M.: Precast Reinforced Concrete Underground Water Tank

Supervisor: Hudoba, I.

DOLNÁK J.: Five-Span Segmental Bridge

Supervisor: Halvoník, J.

DRDANKO G.: Three-Span Prestressed Bridge Built over a Main Road C1/51

Supervisor: Halvoník, J.

GAŠPERAN M.: Cast-in-Situ Bridge on Highway D1

Supervisor: Halvoník, J.

HARŠÁNY I.: Extradosed Prestressed Bridge over Road C I/11 and the River Kysuca

Supervisor: Halvoník, J.

IVANECKÝ R.: Water-Retaining Storm Water Tank

Supervisor: Hudoba, I.

POLAKOVIČ Ľ.: Prestressed Bridge on Road I/18 in Žilina

Supervisor: Halvoník, J.

PORUBSKÝ T.: Design of Prestressed Concrete Bridge in Dolný Hričov - km 25.3

Supervisor: Fillo, Ľ.

TIMKO M.: Three-Span Bridge Constructed Using Balanced Cantilever Concreting Method

Supervisor: Chandoga, M.

URBAN M.: Multilevel Garages

Supervisor: Chandoga, M.

VÉGH J.: Viaduct Made of I-96 Precast Beams

Supervisor: Chandoga, M.

ZÁTKO J.: RC High-Rise Building of an Office Center

Supervisor: Gramblička, Š.

### 2.3 Doctoral theses

BARTÓK A.: Effect of Non-Adhesive Prestressing on the Punching Resistance of Locally Supported Flat Slabs

MATIAŠKO S.: Design of Composite Steel and Concrete Columns with the Use of High-Strength Concrete

ROJKO Ľ.: Fibre-Reinforced Concrete Application on the Shear Capacity Increase of Locally Supported Slabs

## 3. Research

### 3.1 Research projects

ESF JPD 3 2004/4-056, Renovation of Panel Structures – Complex Solution of Structural, Technological, Sanitary and Energy Problems (2008-2011, Fillo, Ľ.)

MVTS ČR/SR/STU07 Safety Format for Non-Linear Analysis of Concrete Structures (2007-2010, Fillo, Ľ.)

AV 4/0016/07 Analysis of Slender Concrete Prefabricated Members for Alternative Sources of Energy (2007-2009, Fillo, Ľ.)

VEGA 01/0651/08, Non-Linear Design Methods for Concrete and Composite Structures (2008-2010, Fillo, Ľ.)

VEGA1/0180/08, Factors Influencing the Surface Layer Properties of a Concrete Element from the Point of View of Its Execution and Surrounding Environmental Effects (2008-2011, Hudoba, I.)

### 3.2 International cooperation

#### Visit of staff members to foreign institutions

BELLOVÁ, M.: EUROCODE 6 Background and Applications, EN 1996 Design of Masonry Structures, The Dissemination of Information for Training Workshop, Brussels, Belgium, 2-3 April 2009

BELLOVÁ, M. - BENKO, V. - BORZOVIČ, V. - FILLO, Ľ. - HALVONÍK, J. - KÓŇA, D. – PAULÍK, P. - PRÍTULA, A.: Concrete Days 2009, Hradec Králové, Czech Republic, 25.-26.11.2009

BILČÍK, J.: Conference on Testing and Quality in the Building Industry, Brno, Czech Republic, 6.-7.10.2009

FILLO, Ľ. - BILČÍK, J.: Participation in Seminars at the World of Concrete, Las Vegas, USA, 3.-6.02.2009

FILLO, Ľ. - BILČÍK, J.: Visit of Prof. Wallace at University of California, Department of Civil & Environmental Engineering, 10.02.2009

FILLO, Ľ.: 27<sup>th</sup> Session CEN TC250 SC 2, Budapest, Hungary, 7.-8.5.2009

FILLO, Ľ.: 28<sup>th</sup> Session CEN TC250 SC 2, London, UK, 12.-13.11.2009

FILLO, Ľ.: Session TG1.1 *fib*, Oslo, Norway, 5.-6.6.2009

FILLO, Ľ.: Chairman of Evaluation Commission for Best Realizations in the Czech Republic. Czech Concrete Society, Prague, Czech Republic, 2.11.2009

FILLO, Ľ. - HALVONIK, J.: Seminar: Design of Concrete Structures According to ČSN EN 1992 (Eurocode 2), Prague, Czech Republic, 21.5.2009

FILLO, Ľ. - HALVONIK, J.: Seminar: Design of Concrete Structures According to ČSN EN 1992 (Eurocode 2), Prague, Czech Republic, 5.10.2009

GRAMBLIČKA, Š. - MATIAŠKO, S.: 12<sup>th</sup> International Scientific Conference on Engineering Structures - Section 6, Brno, Czech Republic, 20.-22.4.2009

HALÁSZOVÁ, K. - BILČÍK, J.: Symposium on REPAIR 2009, Brno, Czech Republic, 13. -15.5.2009

HALVONIK, J.: Seminar: Design of Concrete Bridges According to ČSN EN 1992 (Eurocode 2), Prague, Czech Republic 11.11.2009

HALVONIK, J.: 29<sup>th</sup> Meeting of CEN/TC 250 SC1, Stockholm, Sweden, 15. – 16.6.2009

HALVONIK, J.: 36<sup>th</sup> Meeting of CEN/TC 250, Lisbon, Portugal, 16. – 17. 11. 2009

HALVONIK, J.: Conference on Structural Mechanics 2009, Bystřice nad Pernštejnem, Czech Republic, 28. – 29.5.2009

#### Membership in international professional organizations

BILČÍK, J.: American Concrete Institute

FILLO, Ľ.: Representative of the Slovak Republic in CEN TC 250 – SC2 Eurocodes – Design of Concrete Structures

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

FILLO, Ľ.: Honorary Member of Czech Concrete Society, Hradec Králové, Czech Republic, 25.11.2009

HALVONIK, J.: Representative of the Slovak Republic on CEN TC 250 – SC1 Eurocodes – Actions on Structures

HALVONIK, J.: Representative of the Slovak Republic on CEN TC 250 Eurocodes

## 4. Publications

### Books

BILČÍK, J.: Design of Load-Bearing Structures: 15. Concrete Tanks and Silos, STU Publishing Centre Bratislava, 2009, 112 pp., ISBN 978-80-227-3064-8 (in Slovak)

ČABRÁK, M.: Design of Load-Bearing Structures: 6. Masonry Structures, STU Publishing Centre, Bratislava, 2009, 106 pp., ISBN 978-80-227-3050-1 (in Slovak)

FILLO, Ľ. - BILČÍK, J. - HALVONÍK, J.: Design of Buildings: 2. Concrete Structures, STU Publishing Centre, Bratislava, 138 pp., ISBN 978-80-227-3051-8 (in Slovak)

GRAMBLIČKA, Š.- LAPOS, J.: Design of Load-Bearing Structures: 4. Composite Steel-Reinforced Concrete Structures, STU Publishing Centre, Bratislava, 2009, 104 pp., ISBN 978-80-227-3061-7 (in Slovak)

GRAMBLIČKA, Š.- BUJŇÁK, J.- KVOČÁK, V.- LAPOS, J.: Design of Composite Steel-Concrete Structures: Introduction of Eurocodes in Practice, Engineering Consultative Centre SKSI, Bratislava, 2009, 166 pp., ISBN 978-80-89113-36-1 (in Slovak)

HALVONÍK, J. - BENKO, V. - HUBOVÁ, O. - MORAVČÍK, M. - SOKOL, M. - ŠTUBEROVÁ, M. - BORZOVIČ, V.: Design of Load-Bearing Structures: 1. Basis of Structural Design and Actions, STU Publishing Centre, Bratislava, 2009, 144 pp., ISBN 978-80-227-3063-1 (in Slovak)

HALVONÍK, J. - BORZOVIČ, V.: Design of Load-Bearing Structures: 10. Actions on Bridges, STU Publishing Centre, 2009, 103 pp., ISBN 978-80-227-3066-2 (in Slovak)

HALVONÍK, J.: Design of Load-Bearing Structures: 11. Concrete Bridges, STU Publishing Centre, Bratislava, 2009, 119 pp., ISBN 978-80-227-3065-5 (in Slovak)

### Parts of Books

FILLO, Ľ.: Buildings with an RC-Core. In: Design of Concrete Structures by ČSN EN 1992, Part 1, Czech Concrete Society, Prague, Czech Republic, 2009, ISBN 978-80-87158-14-2, pp. 83-89 (in Slovak)

FILLO, Ľ.: Inner Column of a Girder's Floor. In: Design of Concrete Structures by ČSN EN 1992, Part 1, Czech Concrete Society, Prague, Czech Republic, 2009, ISBN 978-80-87158-14-2, pp. 80-83 (in Slovak)

FILLO, Ľ.: Fixed Column. In: Design of Concrete Structures by ČSN EN 1992, Part 1, Czech Concrete Society, Prague, Czech Republic, ISBN 978-80-87158-14-2, pp. 77-80 (in Slovak)

### Textbooks

BILČÍK, J.: Failures and Diagnoses of Constructions, STU in Bratislava, 2009, 82 pp., ISBN 978-80-227-3178-2 (in Slovak)

### Journals

BENKO, V.: Slovakia Will Keep the Final Deadline. In: Inžinierske stavby, ISSN 1335-0846, Vol. 57, No. 4 (2009), pp. 30-32 (in Slovak)

BILČÍK, J.: New Materials and Technologies in the Repair of Concrete Structures. In: Eurostav, ISSN 1335-1249, Vol. 15, Nos. 7-8 (2009), pp. 14-16 (in Slovak)

BILČÍK, J.: Present State and Future of Concrete. In: Stavba, ISSN 1335-5406, Vol. 12, No. 10 (2009), pp. 25-27 (in Slovak)

BILČÍK, J.: Foundations of Buildings Without Waterproofing Insulation. In: Stavba, ISSN 1335-5406, Vol. 12, Nos. 1-2 (2009), pp. 46-49 (in Slovak)

BILČÍK, J. - HALÁSZOVÁ, K.: Strengthening of Concrete Columns. In: Eurostav, ISSN 1335-1249, Vol. 15, Nos. 1-2 (2009), pp. 26-28 (in Slovak)

GRAMBLIČKA, Š.: Detailing of Reinforced Concrete Columns. In: Projekt – Stavba, ISBN 1336-6327 - Vol. 4, Nos. 3-4 (2009), pp. 9-12 (in Slovak)

HALÁSZOVÁ, K. - BILČÍK, J.: Strengthening of Slender Reinforced Concrete Columns with the Use of Composite Materials. In: BETON Technologie Konstrukce Sanace, ISSN 1213-3116, Vol. 9, No. 2 (2009), pp. 42-45 (in Slovak)

HALVONÍK, J.: Design of Prestressed Concrete Structures. In: Inžinierske stavby, ISSN 1335-0846, Vol. 57, No. 5 (2009), pp. 62-63 (in Slovak)

HARVAN, I.: Statical Problems of Panel Houses in Their Adjustments and Reconstructions. In: Správa budov, ISSN 1337-6233, Vol. 3, No. 4 (2009), pp. 24-26 (in Slovak)

HARVAN, I.: The Loading Capacity and Pliability of Vertical Joints of Panel Houses According to STN EN 1992-1-1. In: Projekt – Stavba, ISBN 1336-6327, Vol. 4, Nos. 1-2 (2009), pp. 9-13 (in Slovak)

HUĐOBA, I.: From the Tower of Babylon to Burj Dubaj. In: Stavba, ISSN 1335-5406, Vol. 12, No. 10 (2009), pp. 38-48 (in Slovak)

KÓŇA, D.: Bearing Structure of a River House. In: Eurostav, ISSN 1335-1249, Vol. 15, Nos. 7-8 (2009), pp. 24-27 (in Slovak)

OLIVOVÁ, K. - BILČÍK, J.: Strengthening Concrete Columns with CFRP. In: Slovak Journal of Civil Engineering, ISSN 1210-3896, Vol. 17, No. 1 (2009), pp. 1-9 (in English)

PAULÍK, P.: City of Prague Bypass: Section Number 514 Lahovice-Slivenec. In: Eurostav, ISSN 1335-1249, Vol. 15, No. 9 (2009), pp. 20-23 (in Slovak)

PAULÍK, P. - HUĐOBA, I.: The Influence of the Amount of Fibre Reinforcement on the Air Permeability of High Performance Concrete. In: Slovak Journal of Civil Engineering, ISSN 1210-3896, Vol. 17, No. 2 (2009), pp. 1-7 (in English)

### Conferences

ABRAHOIM, I.: The Procedure for Calculating the Deflection of Prestressed Members According to European Standard EN 1992-1-1. In: 14th Conference on Statics of Buildings 2009, Piešťany, Slovak Republic, March 2009, ISBN 978-80-970037-1-5, pp. 71-81 (in Slovak)

ABRAHOIM, I.: Assessment of the Shear Loading Capacity of Prestressed Members According to the European Standard EN 1992-1-1. In: 14th Conference on Statics of Buildings 2009, Piešťany, Slovak Republic, March 2009, ISBN 978-80-970037-1-5, pp. 83-88 (in Slovak)

BENKO, V.: Actions on Bridges and on Pedestrian and Cycle Bridges. In: Einwirkungen auf Strassen-Fussgänger- und Radwegbrücken gemäss Eurocode, Handbuch für die Praxis –Vienna, Austrian Standards Plus Publishing, 2009, ISBN 978-3-85402-177-3, pp. 113-135 (in German)

BILČÍK, J.: Testing and Compatibility Evaluation of Repair Materials. In: Testing and Quality in Civil Engineering 2009. Proceedings of the Conference, Technical University Brno, Czech Republic, 6.-7.10.2009, ISBN 978-80-214-3951-1, pp. 23-30 (in Slovak)

FILLO, Ľ. - HALVONÍK, J.: Prestressed Concrete Railway Bridges. In: Proceedings of the Conference, 5th Forum of Railway Traffic, 10.-11.3.2009, Bratislava, Slovak Republic, ISBN 978-80-88973-50-8, pp. 195-202 (in Slovak)

GRAMBLIČKA, Š. - MATIAŠKO, S.: Analysis of Steel - Concrete Composite Columns with the Use of High Strength Concrete. In: 9<sup>th</sup> International Scientific Conference VSU 2009, 4.-5.6.2009, Sofia, Bulgaria, ISBN 978-954-331-024-1, pp. 206-211 (in English)

GRAMBLIČKA, Š. - MATIAŠKO, S.: Steel-Reinforced Concrete Composite Columns with the Use of High Strength Concrete. In: 12<sup>th</sup> International Scientific Conference on Engineering Structures, Brno, Czech Republic, 20.-22.4.2009, ISBN 978-80-7204-629-4, pp. 29-32 (in English)

GRAMBLIČKA, Š.: Reinforcing of Reinforced Concrete Columns. In: Proceedings of 14<sup>th</sup> Conference on Statics of Buildings 2009, Piešťany, Slovak Republic, 19.-20.3.2009, ISBN 978-80-970037-1-5, pp. 89-94 (in Slovak)

HALÁSZOVÁ, K. - BILČÍK, J.: Increasing Resistance of Slender Columns by Strengthening Them. In: REPAIR 2009, Proceedings of the 19<sup>th</sup> International Symposium, Brno, Czech Republic, 13.-15.5.2009, pp. 186-191 (in Slovak)

HARVAN, I.: The Loading Capacity of Concrete Dowels in Joints of Panel Houses According to EN 1992-1-1. In 14th Conference on Statics of Buildings 2009, Piešťany, Slovak Republic, March 2009, ISBN 978-80-970037-1-5, pp. 55-60 (in Slovak)

HARVAN, I.: Determining the Loading Capacity and Pliability of Vertical Joints of Panel Houses According to EN 1992-1-1. In: 14th Conference on Statics of Buildings 2009, Piešťany, Slovak Republic, March 2009, ISBN 978-80-970037-1-5, pp. 61-70 (in Slovak)

HUĐOBA, I. - PAULÍK, P.: The Influence of a Formwork Surface Layer on the Properties of Hardened Concrete. In: Concrete and Concrete Structures, Proceedings of the 5th International Conference, University of Žilina, 15.-16.10.2009, Žilina, Slovak Republic, ISBN 978-80-554-0100-3, pp. 125-132 (in English)

HUĐOBA, I. - PAULÍK, P.: Effects of Formwork and Other Factors Influencing the Quality of Surface Layer Concrete Elements. In: Proceedings of Conference on Concrete 2009, Štrbské Pleso, 7.-9.10.2009, Slovak Republic, Slovak Association of Ready Mix Concrete, 2009, ISBN 978-80-969865-9-0, pp. 166-174 (in Slovak)

# DEPARTMENT OF TRANSPORTATION ENGINEERING

Department Head  
Prof. Bystrík Bezák, PhD.

Tel.: +421 2 59274 707 secr.: 706  
Fax: + 421 2 52925 375  
E-mail: bystrik.bezak@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

Airport Infrastructures  
Diagnosis and Reconstruction  
Diploma Thesis  
The Environment and Transport  
Excursions  
Modeling and Graphics in Road Construction  
Project: Road Constructions  
Railways  
Roads in Urban Areas  
Road Intersections  
Design Studio of Urban Planning I  
Design Studio of Urban Planning II  
Design Studio of Spatial Planning  
Prognoses and Scenarios for the Development of Transport  
Transport Prognosis

#### Optional Subjects

Experiment and Testing  
Ecology of Urban Settlements and Urban Transportation  
Planning  
Selected Chapters on Roads and Motorways  
Pavement Mechanics  
Transport Construction  
Urban Transportation Planning  
Urban Planning I

## 2. Theses

### 2.1 Bachelor's theses

16

### 2.2 Graduate theses

Belica, J.: Transport Study in Pernek  
Supervisor: Nemček, M.

Blaženiaková, M.: Revitalization of the Collateral Section of  
Roads No. I/2 and II/503 in Malacky.  
Supervisor: Ondrovič, M.

Cvečka, J.: Noise Conditions on a Road - Adjacent Area  
Supervisor: Nemček, M.

Hadbavná, K.: Junction D2 - III/002039 "Stupava"  
Supervisor: Nemček, M.

Herda, P.: Technical Study of the Bypass : Town of Holic  
Supervisor: Kapusta, V.

Hrubovčák, P.: Variant Design and Assessment of Road  
III/066022 in Zvolen.  
Supervisor: Ondrovič, M.

Hyža, J.: Effect of Calcium Hydrate on the Physical -  
Mechanical Properties of Asphalt Pavements  
Supervisor: Gschwendt, I.

Filipovič, J.: Design of D1 Motorway Extension  
Supervisor: Bačová, K.

Hodáková, D.: Temperature Changes and the Behavior of  
Concrete - Cement Pavements  
Supervisor: Bartošová, L.

Grosschmidtová, E.: Galanta Bypass : "Matúškovo" Junction  
Supervisor: Nemček, M.

Májek, O.: Rusovce – Road I/2 Bypass  
Supervisor: Bezák, B.

Obertová, M.: Evaluation of Pavement Surface Parameters  
and Their Impact on Traffic Safety on a Stated Section  
Supervisor: Bačová, K.

Ridilla, A.: Study of Expressway R7 in the Dunajská Lužná -  
Dunajská Streda Section  
Supervisor: Bačová, K.

Škarba, M.: Determination of the Mechanical Efficiency of  
Pavement Construction in a Given Road Section  
Supervisor: Gábor, P

## 3. Research

### 3.1 Research projects

CENEX subcentre CETIS - Centre of Transport  
Infrastructure of Settlements (Bezák, B.) (Project No.:  
26240120002)

Road Safety Management – ROSEMAN (Bezák, B.) (Project  
No.:00022)

Spatial and Energy Sustainable Transport Construction  
(Bačová, K.) (Project No.: 1/0580/09)

Austria-Slovakia Traffic Model (Bezák, B.) (Project No.:  
00043)

### 3.2 International cooperation

#### Visit of staff members to foreign institutions

Bezák, B.: Vienna, Austria, 1 day

Gábor, P.: České Budejovice, Czech Republic, 2 days

Bezák, B.: Madrid, Spain, 4 days

Bezák, B.: Vienna, Austria, 1 day

Neumannová, M.: Vienna, Austria, 1 day

Nemček, M.: Wolfstahl, Austria, 1 day

Rakšányi, P.: Bremen, Germany, 6 days

Bezák, B.: Ostrava, Czech Republic, 1 day

Bezák, B.: Ostrava, Czech Republic, 1 day

Bezák, B.: Brno, Czech Republic, 1 day

Bezák, B.: Vienna, Austria, 1 day

Bezák, B.: Vienna, Austria, 1 day

Rakšányi, P.: Bremen, Germany, 6 days

Bezák, B.: Vienna, Austria, 1 day

Bezák, B.: Ostrava, Czech Republic, 1 day

Rakšányi, P.: Vienna, Austria, 1 day

Gschwendt, I.: Pardubice, Czech Republic, 1 day

Bačová, K.: Prague, Czech Republic, 2 days

Bezák, B.: Mikulov, Czech Republic, 2 days

Kapusta, V.: Prague, Czech Republic, 2 days

Nemček, M.: Prague, Czech Republic, 2.5 days



Bezák, B.: Ostrava, Czech Republic, 3 days  
Bezák, B.: Brno, Czech Republic, 1 day  
Piatrková, K.: Brno, Czech Republic, 2 days  
Štefunková, S.: Brno, Czech Republic, 2 days  
Příhodová, M.: Brno, Czech Republic, 2 days  
Bezák, B.: Vienna, Austria, 1 day  
Bezák, B.: Vienna, Austria, 2 days  
Rakšányi, P.: Vienna, Austria, 1 day  
Bezák, B.: Ostrava, Czech Republic, 3 days

#### Membership in international professional organizations

Bezák, B.: Member of the PIARC - C 2.3 Technical Committee on Urban Areas and Integrated Transport, Paris, France

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

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

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

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

Grünner, K.: Slovak National Accrediting Service (SNAS)

Gschwendt, I.: Member of the PIARC – C7/8 – World Road Association (Road Pavements)

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

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

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

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

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

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

Ondrovič, M.: Member of the PIARC - A.1 Technical Committee on Preserving the Environment, Paris, France

## 4. Publications

### Journals

BAČOVÁ, K.: Asphalt Pavements. In: Revista Construction Machinery and Mechanization. - ISSN 1336-958X. - Vol. 4, No. 3 (2009), pp. 6-8 (in Slovak)

BAČOVÁ, K.: Reuse of Asphalt Mixtures in the Reconstruction and Renovation of Pavements. In: Revista Construction Machinery and Mechanization. - ISSN 1336-958X. - Vol. 4, No. 5 (2009), pp. 26-31 (in Slovak)

BARTOŠOVÁ, L., FOGEL, M.: Concrete Airport Pavements - Stress, Deterioration and Their Repair. In: BETON Technology Construction Redevelopment. - ISSN 1213-3116. - Vol.9, No.4 (2009), pp. 64-68 (in Slovak)

BARTOŠOVÁ, L.: Airport Pavements - Airport Paved Movement Areas. In: Construction. - ISSN 1335-5406. - Vol.12, No. 1-2 (2009), pp. 26-29 (in Slovak)

NEMČEK, M.: Bendiness as a Parameter of Road Routing in Rural Areas. In: Road Scope. - ISSN 0322-7154. - Vol.70, No.1 (2009), pp. 6-10 (in Slovak)

RAKŠÁNYI, P.: Roseman - Safety Road Transport?, In: Transfer. - ISSN 1337-9747. - Vol.1, No. 3 (2009), p. 16 (in Slovak)

### Conferences

BAČOVÁ, K.: The Necessity of Acceleration in Motorway Completion in Slovakia. In: Highway 2009 : Conference with foreign participation. Prague, Czech Republic, 11.6.2009. - Prague : ČVUT, 2009. - ISBN 978-80-01-04369-1. - unpagged (in Slovak)

BAČOVÁ, K., BEZÁK, B., GSCHWENDT, I.: Pavement Structures for Long - Living and Extreme Loads. In: Current Trends in Civil Engineering and Architecture : Proceedings of conference. Kabul, Afghanistan, 28.3.-1.4.2009. - , 2009. - pp. 145-149 (in English)

BARTOŠOVÁ, L., ŠTEFUNKOVÁ, S.: The Evaluation of Cement Concrete Pavements and Their Rehabilitation. In: Proceedings of international scientific conference. Brno, 20.-22.4.2009 : Section 4: Road Construction. - Brno, Czech Republic : CERM, 2009. - ISBN 978-80-7204-629-4. - pp. 11-14 (in Slovak)

BEZÁK, B.: Road Safety Management on a Road Network. In: Road Safety : Proceedings of conference with international participation. Vyhne, Slovak Republic, 23.-25.9.2009. - 2009. - ISBN 978-80-232-0303-5. - pp. 50-53 (in Slovak)

BEZÁK, B., SKÝVA, M., DUBRAVICKÝ, D.: Optimisation of Public Passenger Transport and Integration in a Suburban Zone. In: Public Passenger Transport, 2009: Proceedings of international conference. Bratislava, SR, 10.-11.9.2009. - Bratislava : KONGRES management, 2009. - ISBN 978-80-89275-18-2. - pp. 66-70 (in Slovak)

BEZÁK, B., PŘÍHODOVÁ, M.: Influence of a Settlement's Structure on a Settlement's Travel Behaviour. In: 12<sup>th</sup> international scientific conference. Brno, 20.-22.4.2009 : Section 4: Road Construction. - Brno : CERM, 2009. - ISBN 978-80-7204-629-4. - pp. 7-10 (in Czech)

GÁBOR, P., BAČOVÁ, K., ŠTEFUNKOVÁ, S.: Qualitative Parameters of Bound Mixtures with R-Material. In: 12<sup>th</sup> international scientific conference. Brno, 20.-22.4.2009 : Section 4 : Road Construction. - Brno : CERM, 2009. - ISBN 978-80-7204-629-4. - pp. 35-38 (in Slovak)

GÁBOR, P., BAČOVÁ, K., PIATRIKOVÁ, K.: Evaluation of Surface Characteristics on a Road Network Section. In: 12<sup>th</sup> international scientific conference. Brno, 20.-22.4.2009 : Section 4 : Road Construction. - Brno : CERM, 2009. - ISBN 978-80-7204-629-4. - pp. 31-34 (in Slovak)

KAPUSTA, V., DOHNAL, I.: Traffic Signs and Road Safety in Slovakia. In: 10th Traffic-Engineering Days : New Transport-Engineering Methods in the Design, Engineering and Operations of Roads. National seminar. Mikulov, Czech Republic, 3.-4.6.2009. - Brno : Czech Road Community, 2009. - ISBN 978-80-02-02147-6. - pp. 65 – 70 (in Slovak)

ŠTEFUNKOVÁ, S., GÁBOR, P.: Power Fly Ash in Road Construction. In: TOP 2009. Equipment Environmental Protection: Proceedings of 15<sup>th</sup> international conference - Častá-Papiernička, Slovakia, 17.-19. 6. 2009. - Bratislava : STU v Bratislave, 2009. - ISBN 978-80-227-3096-9. - pp. 479-484 (in Slovak)

## **Books**

COPLÁK, J., PIFKO, H., GREGOROVÁ, J., RAKŠÁNYI, P., KOVÁČ, B., KOMRSKA, J., ŠABÍKOVÁ, J., VITKOVÁ, L., RAKŠÁNYI, P., COPLÁK, J., IVANIČKA, K.: Planning Ecological Settlements. - Bratislava : Road, 2009. - 132 pp. - ISBN 978-80-88999-37-9 (in Slovak)

## **Part of Books**

RAKŠÁNYI, P.: Traffic in the Ecocity of Trnava. In: Planning Ecological Settlements. - Bratislava : Road, 2009. - ISBN 978-80-88999-37-9. - pp. 55-71 (in Slovak)

RAKŠÁNYI, P.: Transport Concepts in Ecocity Methodology. In: Planning Ecological Settlements. - Bratislava : Road, 2009. - ISBN 978-80-88999-37-9. - pp. 48-54 (in Slovak)

# DEPARTMENT OF THEORETICAL GEODESY

Department Head  
Prof. Ján Hefty, PhD.

Tel.: + 421 2 59274 533  
Fax: + 421 2 52925 476  
E-mail:jan.hefty@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

Information Technologies  
Processing and Analysis of Measurements 1  
Processing and Analysis of Measurements 2  
Programming  
Local Geodetic Networks  
Geometric Geodesy  
Geoinformatics  
Geodesy and Cartography (Faculty of Architecture)  
Geodesy and Cartography (Institute of Management)  
Physical Geodesy 1  
Spherical Astronomy and Space Geodesy  
Global Navigation Systems  
Field Education in Geodetic Controls  
Global Geodesy  
Space Geodesy  
Geographical Information Systems  
Physical Geodesy 2  
Analysis of Measurements  
Metrology in Geodesy  
Specialized Field Education

#### Optional Subjects

Digital Modeling of Spatial Structures  
Satellite Geodesy  
Gravimetry  
Three-Dimensional Geodesy  
GIS Design and Implementation  
Geodynamics  
Analysis of Geodata Quality

### 1.2 Postgraduate courses

Processing and Analysis of Measurements – Hefty, J., 26 hours  
Global Geodesy – Mojzeš, M., 26 hours  
Geodynamics – Mojzeš, M., 26 hours  
Geoinformation Systems – Ďuračiová, R., 26 hours

## 2. Theses

### 2.1 Research projects

13

### 2.2 Graduate theses

BALIAK, M.: Analysis of Distances in the Surrounding of Geographic Information Systems  
Supervisor: Gerháťová, Ľ.  
BEŇOVÁ, L.: Analysis of Variations of Equatorial Coordinates of Stars  
Supervisor: Husár, L.  
DURDOVANSKÝ, T.: Transformation of Raster Datasets between Coordinate Systems S-42, S-JTSK and ETRS-89  
Supervisor: Ďuračiová, R.

FERENČÁK, P.: Geographic Information System in Jakubov Municipality  
Supervisor: Ďuračiová, R.

FRANKOVSKÁ, K.: Geo-Information System for the Water Management Purpose  
Supervisor: Gerháťová, Ľ.

HÁBEL, B.: Analysis and Interpretation of Microgravity Measurements in the Area of Čachtice Cave  
Supervisor: Janák, J.

KAČÍREKOVÁ, D.: Determining Data Precision and Data Quality Assessment  
Supervisor: Igondová, M.

KRUPEC, M.: The Application of GNSS Measurements in Local Geodetic Network  
Supervisor: Gerháťová, Ľ.

OTTIS, D.: Web Map Server and Its Practical Application  
Supervisor: Faixová Chalachanová, J.

PRAMUKA J.: Relativistic Effects in Space Geodesy  
Supervisor: Husár, L.

RYBOVIČ, Š.: Possibilities of Programming of Tasks of Theoretical Geodesy in Different Programming Environments  
Supervisor: Černý, P.

SLOVÍK, S.: Gravity Field Modelling Using Satellite Gradiometry Measurements  
Supervisor: Janák, J.

SOPÓCI, T.: Creation of User Application Based on Primary Database for the Geographic Information System  
Supervisor: Faixová Chalachanová, J.

STAREČKOVÁ, M.: Processing of Geodetic Measuring in the Local Geodetic Networks  
Supervisor: Gerháťová, Ľ.

ŠUTRIEPKOVÁ, J.: The New L2C Signal Analysis of Modernized GPS Satellites  
Supervisor: Hefty, J.

URMANIČ, M.: Geo-Information System of Small Carpathians Wine Route  
Supervisor: Bučko, E.

VAJDA, I.: Precise Point Positioning - Perspective Method of Geodetic Applications of GNSS  
Supervisor: Hefty, J.

VARGA, P.: Continuing Micro-Gravimetric Research in Čachtice Cave and Vicinity  
Supervisor: Janák, J.

VERNER, V.: Determining Geopotential Numbers in Vertical Reference Network  
Supervisor: Mojzeš, M.

### 2.3 Doctoral thesis

ŠPRLÁK M.: Numerical Testing of Geoid Determination Procedures  
Supervisor: Mojzeš, M.

### 3. Research

#### 3.1 Research projects

Tropospheric Modelling on the Territory of Slovakia Using Permanent GNSS Observations for Near Real Time Applications (Hefty, APVV LPP-0176-06)

Prediction of Archeological Sites (Faixová Chalachanová, APVV-0249-07)

Evaluation of Quality of a Cadastral Domain (Faixová Chalachanová, VEGA 1/4025/07)

Use of New and Modernised Global Navigation Satellite Systems for Precise Positioning and Determination of Temporal Changes of Positions (Hefty, VEGA 1/4089/07)

Refinement of Gravity Field Models of the Earth Using Gradiometric Measurements (Janák, VEGA 1/0775/08)

Using Satellite Observations and Gravimetric Measurements for Determining Geoid, Quasigeoid and Physical Heights (Mojzeš, VEGA 1/0882/08)

#### 3.2 International cooperation

##### Visit of staff members to foreign institutions

PAPČO, J. - International Course on ArchaeoGeophysics (European Union Intensive Programme), Nitra, Slovakia 18 July – 1 August 2009 (Lecturer)

PAPČO, J. - ESA Advanced Training Course on Land Remote Sensing, Prague, Czech Republic 18 Jun - 3 July 2009

LIESKOVSKÝ, T. - Tell Fecheriye Research Project, organized by Freie Universität Berlin, Sirian Arab Republic (3 months)

LIESKOVSKÝ, T. - Freie Universität Berlin, Institut für Vorderasiatische Archäologie, 11 - 18 December 2009

KLIMENT, T. - Joint Research Centre, Institute for Environment and Sustainability, Spatial Data Infrastructure Unit, Ispra, Italy (3 months)

##### Membership in international professional organizations

International Astronomical Union (IAU) – Hefty, J.

International Association of Geodesy (IAG) – Hefty, J., Mojzeš, M.

European Geosciences Union (EGU) – Hefty, J., Mojzeš, M., Igondová, M.

American Geophysical Union (AGU) – Hefty, J., Mojzeš, M.

CEGRN Consortium – Mojzeš, M.

### 4. Publications

#### Books and Textbooks

HUSÁR, L.: Time, Space and Reference Systems – Basic Pillars of Geodesy. Edition of scientific works, sheet no. 76, Bratislava, STU, 2009, 118 pp., ISBN 978-80-227-3129-4 (in Slovak).

MELICHER, J., GERHÁTOVÁ, Ľ.: Space Geodesy. STU, Bratislava, 2009, 270 pp., ISBN 978-80-227-3162-1 (in Slovak).

#### Journals

CAPORALI, A., AICHHORN, C., BARLIK, M., BECKER, M., FEJES, I., GERHÁTOVÁ, Ľ., GHITAU, D., GRENERCZY, G., HEFTY, J., KRAUSS, S., MEDAK, D., MILEV, G.,

VIRAG, G., MOJZEŠ, M., MULIC, M., NARDO, A., PESEC, P., RUS, T., SIMEK, J., SLEDZINSKI, J., SOLARIC, M., STANGL, G., STOPAR, B., VESPE, F.: Surface Kinematics in the Alpine-Carpathian-Dinaric and Balkan Region Inferred from a New Multi-Network GPS Combination Solution. In: Tectonophysics, Vol. 474, Nos. 1-2 (2009), pp. 295-321, ISSN 0040-1951.

ĎURAČIOVÁ, R., FAIXOVÁ CHALACHANOVÁ, J.: Data Quality Evaluation and Quality Reporting in a Cadastral Domain. In: Kartografické listy, 17 (2009), Bratislava, pp. 56-63, ISBN 978-80-89060-15-3 (in Slovak).

HEFTY, J., IGONDOVÁ, M., DROŠČÁK, B.: Homogenization of Long-Term GPS Monitoring Series at Permanent Stations in Central Europe and the Balkan Peninsula. In: Contributions to Geophysics and Geodesy, Vol. 39, No. 1 (2009), pp. 19-42, ISSN 1335-2806.

IGONDOVÁ, M.: Analysis of the Precision and Accuracy of Precipitable Water Vapour Derived from GPS Observations. In: Contributions to Geophysics and Geodesy, Vol. 39, No. 2 (2009), pp. 121-132, ISSN 1335-2806.

JANÁK, J., FUKUDA, Y., XU, P.L.: Application of GOCE Data for Regional Gravity Field Modeling. In: Earth Planets and Space, Vol. 61, No. 7 (2009), pp. 835-843, ISSN 1343-8832.

#### Conferences

BARTÁK, L., CIBULKA, D., FENCÍK, R.: Information Portal for Flood Protection. In: 18th Cartographic conference. Quo Vadis, Cartography?, Olomouc, Czech Republic, 2009 (in Slovak).

BURGAN, J.: Processing GNSS Observations Using Precise Point Positioning. In: Juniorstav 2009, 11th Professional Conference of Postgraduate Students, Brno, 2009, p. 329, ISBN 978-80-214-3810-1 (in Slovak).

CIBULKA, D.: Using WEB Services for Publishing Geo-Data. In: Juniorstav 2009, 11th Professional Conference of Postgraduate Students, Brno, 2009, p. 330, ISBN 978-80-214-3810-1 (in Slovak).

FENCÍK, R., GÁLOVÁ, L.: Possibilities for the Application of Environmental Data for Crisis Management Requirements. In: ENVIRO I FÓRUM 2009, Bratislava, 2009, p. 117, ISBN 978-80-88850-87-8 (in Slovak).

GÁLOVÁ, L.: Using Geo-Information Systems as Support for Crisis Management in the Field of Flood Protection. In: Juniorstav 2009, 11th Professional Conference of Postgraduate Students, Brno, 2009, p. 348, ISBN 978-80-214-3810-1 (in Slovak).

HEFTY, J., GERHÁTOVÁ, Ľ., BURGAN, J.: First Experience with the Inclusion of GLONASS Observations into Precise Point Positioning Algorithms. In: Scientific and Fundamental Aspects of the Galileo Programme, 2nd International colloquium. Padua, Italy, 2009.

HEFTY, J., HIPMANOVÁ, L., GERHÁTOVÁ, Ľ., DROŠČÁK, B., IGONDOVÁ, M.: Geo-Kinematics of Central Europe Based on New Processing and the Combination of GPS Epoch Observations from 1994 to 2008. In: Experimental Research of the Earth's Dynamic and Surface, Třešť, Czech Republic, 2009 (in Slovak).

HEFTY, J., DROŠČÁK, B., IGONDOVÁ, M.: Geo-Kinematic Implications from the Reprocessing of the Network of Permanent GPS Stations in Central Europe (1996 to 2008). In: EGU European Geosciences Union, General Assembly 2009, Vienna, Austria, 2009.

- HEFTY, J., GERHÁTOVÁ, Ľ., HIPMANOVÁ, L.: Geo-Kinematics of Slovakia: Knowledge Gained from a Complex Analysis of GPS Measurements from 1993 to 2008. In: 12th International Scientific Conference. Brno, Czech Republic, 2009, pp. 29 - 32, ISBN 978-80-7204-629-4 (in Slovak).
- HEFTY, J., GERHÁTOVÁ, Ľ., BECKER, M., DRESCHER, R., STANGL, G., KRAUSS, S., CAPORALI, A., LIWOSZ, T., KRATOCHVÍL, R.: Long-Term Densification of the Terrestrial Reference Frame in Central Europe as a Result of the Central Europe Regional Geodynamic Project 1994 to 2006. In: Geodetic Reference Frames, IAG Symposium, Berlin, Springer Verlag, 2009, pp. 149-154, ISBN 978-3-642-00859-7.
- HEFTY, J., IGONDOVÁ, M., GERHÁTOVÁ, Ľ., HIPMANOVÁ, L., DROŠČÁK, B.: Reprocessing Past GPS Observations and Its Impact on the Geo-Kinematics of Central Europe. In: 8th Slovak Geophysical Conference, Bratislava, 2009, p. 30.
- IGONDOVÁ, M., HEFTY, J.: Correcting the Precipitable Water Vapour Model Using the Digital Terrain Model. In: EGU European Geosciences Union, General Assembly 2009, Vienna, Austria, 2009.
- JANÁK, J., SLOVÍK, S., FAŠKOVÁ, Z., MIKULA, K.: Disturbing Potential and Its Geometric Properties. In: EGU European Geosciences Union, General Assembly 2009, Vienna, Austria, 2009.
- KLIMENT, T.: Possibilities of Searching for Spatial Meta-Information via the WEB in Slovakia. In: Juniorstav 2009, 11th Professional Conference of Postgraduate Students, Brno, 2009, p. 334, ISBN 978-80-214-3810-1 (in Slovak).
- KLIMENT, T.: Using OPEN SOURCE Instruments for the Implementation of the Meta-Information Part of the National Infrastructure of Spatial Information. In: ENVIRO I FÓRUM 2009, Bratislava, 2009, pp. 37 - 42, ISBN 978-80-88850-87-8 (in Slovak).
- KLIMENT, T.: Actual State of the Metadata Facilities in the Geodesy and Cartography Department of the Slovak Republic. In: 12th International Scientific Conference. Brno, Czech Republic, 2009, pp. 53 - 56, ISBN 978-80-7204-629-4 (in Slovak).
- MOJZEŠ, M.: Metrological Guarantee of Geodetic Instruments in the Slovak Republic. In: Standard-Setting Activities in Geodesy and Cartography. Bratislava, 2009, ISBN 978-80-227-3156-0 (in Slovak).
- MOJZEŠ, M., PAPČO, J., VALKO, M.: Monitoring Dynamics of the High Tatra Mountains. In: Experimental Research of the Earth's Dynamic and Surface, Třešť, Czech Republic, 2009 (in Slovak).
- MOJZEŠ, M.: Movements of the Tatra Mountains in the Context of the Eurasian Tectonic Plate. In: 8th Slovak Geophysical Conference, Bratislava, 2009, p. 43.
- MOJZEŠ, M., PAPČO, J., VALKO, M.: Testing Point Gravity Mapping by GNSS and Gravity Measurements. In: 8th Slovak Geophysical Conference, Bratislava, 2009, p. 44.
- MOJZEŠ, M., ŠPRLÁK, M., VALKO, M.: Using EGM08 for Determining Normal Heights. In: EGU European Geosciences Union, General Assembly 2009, Vienna, Austria, 2009.
- PITOŇÁK, M., KOŠŠA, M.: Effect of Water Mass Variations on Gravity Measurement. In: 10th Year of Scientific Works Conference of Students from Czech and Slovak Faculties of Civil Engineering, Bratislava, 2009 (in Slovak).
- VAJSÁBLOVÁ, M., HUDEC, R., LIESKOVSKÝ, T.: Digital Terrain Model of the Neštich Great Moravian Fortification. In: GIS in Archaeology, Bratislava, 2009, ISBN 978-80-227-3028-6 (in Slovak).
- ZAHOREC, P., PAŠTEKA, R., PAPČO, J.: Estimation of the Precision of Terrain Corrections in the Tatra Mountains. In: 8th Slovak Geophysical Conference, Bratislava, 2009, p. 62.

# DEPARTMENT OF SURVEYING

Department Head  
Prof. Štefan Sokol, PhD.

Tel.: + 421 2 59274 689  
Fax: + 421 2 52494 334  
E-mail: stefan.sokol@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

Surveying (branch of study: Building Constructions and Architecture)  
Surveying (branch of study: Building Technology and Management)  
Surveying I  
History of Surveying  
Surveying in Civil Engineering  
Surveying for Water Management  
Surveying in Building Construction (branch of study: (Engineering Constructions and Transportation Structures)  
Surveying II  
Surveying Camp for Engineering Constructions  
Surveying Camp  
Geodesy, Cartography and Cadastre  
Surveying III  
Engineering Surveying I  
Engineering Surveying Camp  
Professional Practice  
Photogrammetry I  
B. Sc. Project  
Engineering Surveying II  
Engineering Surveying Camp  
Industrial Surveying  
Photogrammetry II  
Special Seminar  
Geodetic Work Legislation  
Diploma Work

#### Optional Subjects

Applied Analytical Photogrammetry  
Surveying in Underground Areas  
Measuring Systems in Engineering Surveying  
Spatial Technologies in Engineering Surveying

### 1.2 Postgraduate courses

Engineering Surveying  
Photogrammetry

## 2. Thesis

### 2.1 Research projects

21

### 2.2 Graduate thesis

BELIŠ, M.: Spatial Modeling of Points by Means of Close-Range Photogrammetry  
Supervisor: Fraštia, M.  
DIBDIAK, M.: Surveying Works in the Construction of a Cableway  
Supervisor: Ježko, J.  
DUCHOŇ, D.: Epoch Elevation Measurement of Surrounding Buildings Near the EUROVEA Construction in Bratislava  
Supervisor: Bajtala, M.

ERDÉLYI, J.: Spatial Model Creation from Data Obtained by Laser Scanners  
Supervisor: Kopáček, A.

GÁBORČÍK, J.: Exploitation of Digital Cameras in the Application of Surface Stereophotogrammetry  
Supervisor: Fraštia, M.

GLOGOVSKÝ, P.: Tilt Sensor Testing  
Supervisor: Kopáček, A.

GYÖPÖŠ, I.: Project for Measuring the Vertical Displacements of Given Objects in an Industrial Factory  
Supervisor: Kopáček, A.

HORVÁTH, I.: Surveying Measurement of the Setting-Out Network of Highway R1 Selenec-Beladice  
Supervisor: Bajtala, M.

KORMANÍK, L.: Surveying Measurement of the Ondrej Nepela Ice Rink for Reconstruction Purposes  
Supervisor: Bajtala, M.

KREJČÍK, P.: Measurement and Processing of Survey Points of 2nd Order Accuracy in Altimetric Control  
Supervisor: Sokol, Š.

KUBIŠ, M.: Measurement of Shifts of Given Structures AE in Jaslovské Bohunice  
Supervisor: Kopáček, A.

MACO, M.: Stability Testing of Total Stations  
Supervisor: Sokol, Š.

MARČIŠ, M.: Creation of Models of Artworks  
Supervisor: Fraštia, M.

MERVOVÁ, E.: Surveying Works in the Preparation and Realisation of Multifunctional Objects.  
Supervisor: Ježko, J.

NEMEC, J.: Stability Testing of Digital Levels  
Supervisor: Sokol, Š.

ONDRIÁŠ, M.: Measurement of Shifts of Given Structures of a Nuclear Power Plant  
Supervisor: Ježko, J.

ŠURAN, P.: Surveying Works for the TATRA Hotel Extension on the 1st May Square  
Supervisor: Bajtala, M.

TESÁROVÁ, E.: Use of GNSS and RTK Methods in Engineering Surveying Tasks  
Supervisor: Ježko, J.

TOMKOVÁ, E.: Possibilities of Eliminating the Environment in Trigonometric Elevation Measurements  
Supervisor: Sokol, Š.

VÁGO, A.: Project for Measuring the Shifts and Deformations of the Sitina Tunnel  
Supervisor: Kopáček, A.

## 4. Research

### 3.1 Research projects

Development of a Measuring System for the Continuous Monitoring of the Bratislava Bridges (Kopáček) (Research

Grant Registration No. 1/0706/09)

Monitoring the Deformations of a Building and Local Geodynamic Processes with Automated Measurement Systems (Sokol) (Research Grant Registration No. 1/4206/07)

### 3.2 International cooperation

#### Visit of staff members to foreign institution

Lipták, M. – VUT Brno, Czech Republic, 1 day (February 2009)  
Staněk, V. – CTU Prague, Czech Republic, 1 day (March 2009)  
Ježko, J. – VUT Brno, Czech Republic, 3 days (April 2009)  
Kopáček, A. – VUT Brno, Czech Republic, 3 days (April 2009)  
Kyrinovič, P. – VUT Brno, Czech Republic, 1 day (April 2009)  
Lukáč, Š. – VUT Brno, Czech Republic, 1 day (April 2009)  
Sokol, Š. – VUT Brno, Czech Republic, 3 days (April 2009)  
Staněk, V. – VUT Brno, Czech Republic, 1 day (April 2009)  
Kopáček, A. – CTU Prague, Czech Republic, 1 day (April 2009)  
Kopáček, A. – FIG Working Week Eilat, Israel, 6 days (May 2009)  
Sokol, Š. – VUT Brno, Czech Republic, 2 days (June 2009)  
Kopáček, A. – Vienna, Austria, 1 day (July 2009)  
Sokol, Š. – VŠB Ostrava, Czech Republic, 1 day (July 2009)  
Sokol, Š. – VŠB Ostrava, Czech Republic, 1 day (September 2009)  
Sokol, Š. – CTU Prague, Czech Republic, 1 day (October 2009)  
Bajtala, M. – VŠB Ostrava, Czech Republic, 3 days (October 2009)  
Sokol, Š. – VŠB Ostrava, Czech Republic, 3 days (October 2009)  
Kopáček, A. – CTU Prague, Czech Republic, 1 day (December 2009)  
Staněk, V. – CTU Prague, Czech Republic, 1 day (December 2009)  
Sokol, Š. – VUT Brno, Czech Republic, 1 day (December 2009)  
Staněk, V. – VUT Brno, Czech Republic, 1 day (December 2009)

#### Membership in international professional organizations

Deutsche Geodätische Kommission bei der Bayerischen Akademie der Wissenschaften – Correspondent – Kopáček

FIG – International Federation of Surveyors :

National delegate to FIG Commission 1: “Professional Standards & Practice” – Lukáč

National delegate to FIG Commission 2: “Professional Education” – Kopáček

Chair of Commission 6: “Engineering Surveying” – Kopáček

Member of WG 6.1: “Deformation Measurements” – Lukáč

Vice Chair of WG 6.2: “Engineering Survey for Industry and Research” – Kyrinovič

FIG Advisory Committee of Commission Officers (ACCO) – member – Kopáček

ISPRS – International Society for Photogrammetry and Remote Sensing – Ordinary Members – Bartoš, Fraštia

EEGECS – European Education in Geodesic Engineering, Cartography and Surveying – WG1 “Pregraduate Education” – Kopáček

## 4. Publications

### Journals

DOLEŽAL, M. – KYRINOVIČ, P. – KOPÁČEK, A.: Kinematic Test of a Universal Robotic Station from the Point of View of Determining Heights. In: *Geodetic and Cartographic Scope* 10/2009. Prague: ČÚZK and ÚGKK SR, 2009. ISSN 0016-7096. pp. 237-24 (in Slovak).

FRAŠTIA, M.: Creation of Accurate Spatial Models of Historical Structures by the Close-Range Photogrammetry Method. In: *Acta Montanistica Slovaca*, special issue 1/2009. Košice: FBERG, 2009. ISSN 1335-1788. pp. 34-40 (in Slovak).

HALIČKOVÁ, J. – ERDÉLEYI, J.: Utilization of Terrestrial Laser Scanning by Fire Testing at an Experimental Structure in Mokrsko. In: *Slovak Surveyor and Cartographer*, 2/2009. Bratislava: KGK, 2009. ISSN 1335-4019. pp. 5-10 (in Slovak).

JEŽKO, J. – KOPÁČEK, A.: 10 Years of Activity of Technical Commission No. 89 for the Field of Geodesy and Cartography. In: *Slovak Surveyor and Cartographer*, 3/2009. Bratislava: KGK, 2009. ISSN 1335-4019. pp. 5-9 (in Slovak).

JEŽKO, J. – STANĚK, V.: Measurements of the Vertical Displacement of the Apollo Bridge. In: *Acta Montanistica Slovaca*, special issue 1/2009. Košice: FBERG, 2009. ISSN 1335-1788. pp. 54-61 (in Slovak).

LIPTÁK, M. – SOKOL, Š.: Analysis of Trigonometrically Measured Elevations. In: *Acta Montanistica Slovaca*, special issue 1/2009. Košice: FBERG, 2009. ISSN 1335-1788. pp. 41-46 (in Slovak).

### Conferences

BAJTALA, M. – SOKOL, Š.: Surveying Support for Rebuilding a Construction Project. In: *Proceedings of 16<sup>th</sup> Conference of Society of Mine Surveyors and Geologists*. Ostrava: VŠB-Technical University of Ostrava, 2009. ISBN 978-80-248-2089-7. pp. 5-13 (in Slovak).

JEŽKO, J.: Professor Gál and the Department of Surveying (in Honor of the Late Professor Gál's Birth 95 Years Ago). 30<sup>th</sup> Symposium “On the History of Geodesy and Cartography”. Prague: National Technical Museum, 2009. 8 pp. (in Slovak).

JEŽKO, J. – HAŠKOVÁ, V.: Calibration of the Horizontal Circles of Theodolites. In: 12<sup>th</sup> International Scientific Conference, Section 11: Geodesy and Cartography. Brno: CERM, 2009. ISBN 978-80-7204-629-4. pp. 41-46 (in Slovak).

JEŽKO, J. – STANĚK, V.: Geodetic Monitoring of Bridge Structures in Bratislava. In: 12<sup>th</sup> International Scientific Conference, Section 11: Geodesy and Cartography. Brno: CERM, 2009. ISBN 978-80-7204-629-4. pp. 135-140 (in Slovak).

KYRINOVIČ, P. – KOPÁČEK, A.: Testing the Leica TCRA 1201 Total Station. In: 12<sup>th</sup> International Scientific Conference, Section 11: Geodesy and Cartography. Brno: CERM, 2009. ISBN 978-80-7204-629-4. pp. 111-116 (in Slovak).

KOPÁČEK, A. – KYRINOVIČ, P. – HOSTINOVÁ, A.: Deformation Measurement of the Sitina Tunnel in Bratislava. In: *Eilat 2009, FIG Working Week, Eilat 2009*. Eilat, Israel, FIG, 2009, ISBN 978-87-90907-73-0, 8 pp.

KOPÁČIK, A.: 70 Years of Surveying Education at the Faculty of Civil Engineering of STU in Bratislava. In: 12<sup>th</sup> International Scientific Conference, Section 11: Geodesy and Cartography. Brno: CERM, 2009. ISBN 978-80-7204-629-4. pp. 9-13 (in Slovak).

KOPÁČIK, A.: FIG News from the Field of Engineering Surveying. In: 12<sup>th</sup> International Scientific Conference, Section 11: Geodesy and Cartography. Brno: CERM, 2009. ISBN 978-80-7204-629-4. pp. 85-88 (in Slovak).

LUKÁČ, Š.: New Legislative Modifications of Geodetic Activities in Construction in Slovakia. In: 12<sup>th</sup> International Scientific Conference, Section 11: Geodesy and Cartography. Brno: CERM, 2009. ISBN 978-80-7204-629-4. pp. 95-100 (in Slovak).

SOKOL, Š. – BAJTALA, M.: Methods of the Actual Measurement of Clinker Silos and Their Evaluation. In: 12<sup>th</sup> International Scientific Conference, Section 11: Geodesy and Cartography. Brno: CERM, 2009. ISBN 978-80-7204-629-4. pp. 175-180 (in Slovak).

LIPTÁK, M.: Influence of Vertical Refraction on the Trigonometric Measurement of Elevations. In: JUNIORSTAV 2009, 11th Professional Conference of Postgraduate Students. Brno: BUT, Faculty of Civil Engineering, 2009. ISBN 978-80-214-3810-1. 8 pp. (in Slovak).

BAJTALA, M. – SOKOL, Š.: Surveying Works for Rebuilding Project of O. Nepela Ice Rink Stadium in Bratislava. In: Recollection of Geodesy and Cartography. Bratislava: Department of Surveying FCE SUT, 2009. ISBN 978-80-227-3045-7. 10 pp. (in Slovak).

FRAŠTIA, M.: Photogrammetric Measurement of an Architectural Segment's Shape. In: Recollection of Geodesy and Cartography. Bratislava: Department of Surveying FCE SUT, 2009. ISBN 978-80-227-3045-7. 8 pp. (in Slovak).

FRAŠTIA, M.: Production of Rock Massive Models with a Resolution and Accuracy Higher than 1 Cm. In: Geotechnical Monitoring, 9. International Geotechnical Conference. Bratislava: Department of Geotechnics FCE SUT, 2009. ISBN 978-80-227-3057-0. pp. 263-267 (in Slovak).

FRAŠTIA, M.: Measurement of Hornblende Environment's Geometric Facilities Using Geodetic and Photogrammetric Methods. In: Joint Geological Congress of Czech and Slovak Geological Society. Bratislava: National Institute for Geology of Dionýz Štúr, 2009. ISBN 978-80-89343-9. pp. 62-63 (in Slovak).

FRAŠTIA, M.: Photogrammetry in Documenting Monuments. In: Bardkontakt 2009, The Urban Historical Centres Issue. Bardejov: Bardejov, 2009. ISBN 978-80-970188-9-4. pp. 30-35 (in Slovak).

HAŠKOVÁ, V.: EZB-3 Data Processing for Calibration Measurements. In: Recollection of Geodesy and Cartography. Bratislava: Department of Surveying FCE SUT, 2009. ISBN 978-80-227-3045-7. 9 pp. (in Slovak).

HOSTINOVÁ, A.: Monitoring of Pylon Movements During a Loading Test. In: Recollection of Geodesy and Cartography. Bratislava: Department of Surveying FCE SUT, 2009. ISBN 978-80-227-3045-7. 7 pp. (in Slovak).

JEŽKO, J.: Creating Geodetic Backgrounds for the Reconstruction of Bridge Crossings. In: Recollection of Geodesy and Cartography. Bratislava: Department of Surveying FCE SUT, 2009. ISBN 978-80-227-3045-7. 8 pp. (in Slovak).

JEŽKO, J. – KOPÁČIK, A.: Standards and Normative Activities in the Geodesy and Cartography Sector. In: Normative Activities in the Geodesy and Cartography Sector. Bratislava: FCE SUT, 2009. ISBN 978-80-227-2979-6. 10 pp. (in Slovak).

KOPÁČIK, A. – KYRINOVÍČ, P. – SUČÍKOVÁ, A.: Long-Term Measurements of the Displacements and Deformations of the Sitina Tunnel. In: 17th Slovak Geodetic Days. Žilina: KGK, 2009.

LIPTÁK, M. – SOKOL, Š.: Elimination of Vertical Refraction by Means of a Regression Model. In: Recollection of Geodesy and Cartography. Bratislava: Department of Surveying FCE SUT, 2009. ISBN 978-80-227-3045-7. 6 pp. (in Slovak).

LUKÁČ, Š. – KUBIŠ, M.: Data Processing of Vertical Deformations for Rectification of a Turbo-Generator. In: Recollection of Geodesy and Cartography. Bratislava: Department of Surveying FCE SUT, 2009. ISBN 978-80-227-3045-7. 10 pp. (in Slovak).

LUKÁČ, Š.: Standardization in Connection with Regulatory Documents of Geodesy and Cartography. In: Normative Activities in the Area of Geodesy and Cartography. Bratislava: FCE SUT, 2009. ISBN 978-80-227-2979-6. 5 pp. (in Slovak).

SOKOL, Š. – JEŽKO, J.: In Honor of the Late Professor Gal's Birth 95 Years Ago. In: Recollection of Geodesy and Cartography. Bratislava: Department of Surveying FCE SUT, 2009. ISBN 978-80-227-3045-7. 6 pp. (in Slovak).



# DEPARTMENT OF GEOTECHNICS

Department Head  
Prof. František Baliak, PhD.

Tel.: + 421 2 59274 284  
Fax: + 421 2 52925 642  
E-mail: frantisek.baliak@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

Geology  
Geology and Geomorphology  
Soil Mechanics  
Soil Mechanics and Foundations  
Building Foundations  
Building Foundations and Underground Structures  
Engineering Geology and Rock Mechanics  
Properties of Rocks and Soils  
Water Reservoirs and Dams  
Underground Constructions  
Plane and Deep Foundations  
Soil Construction

#### Optional subjects

Geology  
Geology and Geomorphology  
Soil Mechanics  
Soil Mechanics and Foundations  
Building Foundations  
Building Foundations and Underground Structures  
Engineering Geology and Rock Mechanics  
Properties of Rocks and Soils  
Water Reservoirs and Dams  
Underground Constructions  
Plane and Deep Foundations  
Soil Construction

#### Recommended subjects

Dam Design  
Foundation of Water Structures  
Selected Topics in Soil Mechanics  
Complex Dam Projects  
Diploma Seminar  
Special Engineering Geology and Hydrogeology  
Soil Properties  
Geomechanics

### 1.2 Postgraduate courses

Foundation of Water Structures  
Selected Topics in Soil Mechanics  
Complex Dam Projects

## 2. Thesis

### 2.1 Bachelor's theses

8

### 2.2 Graduate theses

BOLTVAN J.: Design of Secured Excavation Pit on Project TEN-T  
Supervisor: Turček, P.

ČULEN M.: Low Embankment Dams in the River Danube Basin  
Supervisor: Bednárová, E.

GATIAL M.: Alternative Design of Retaining Structure  
Supervisor: Turček, P.

GUŽÍK P.: Geotechnical Review of Selected Problems of Kráľová Weir  
Supervisor: Bednárová, E.

HOMOLA J.: Stability of Sliding Slopes on the Nová Bystrica Dam  
Supervisor: Kopecký, M.

PALINKÁŠOVÁ Z.: Vihorlat Water Reservoir and Its Importance in Flood Protection  
Supervisor: Bednárová, E.

PANYIOVÁ J.: Lessons Learned from the Operation of the Palcmanská Maša - Vičia dolina Water System  
Supervisor: Bednárová, E.

ŠTIRBL P.: Apollo Bridge – Design and Review of Foundation of Bridge Pier No. 10  
Supervisor: Hruštinec, Ľ.

ŠTRBAVÝ M.: Effect of 55 Years of Operation of the Orava Dam on Its Safety  
Supervisor: Bednárová, E.

## 3. Research

### 3.1 Research projects

An Analysis of the Effect of Human Activity on the Stability of Slopes in Slovakia (Baliak) (Project No: 1/0599/08)

Implementation of Progressive Methods by Reviewing the Safety and Reliability of Water Structures (Bednárová) (Project No: 1/0704/09)

Soil-Structure Interaction in Layered Subsoil (Kuzma) (Project No: 1/0578/08)

Geotechnical Risks and Innovations in Environmental Structures and Burdens (Masarovičová) (Project No: 1/0892/09)

Risks Taken into Account in the Design of Geotechnical Constructions (Turček) (Project No: 1/0619/09)

### 3.2 International cooperation

#### Visits of staff members to foreign institutions

ČVUT Prague (Bednárová, Turček)  
VUT Brno (Súl'ovská, Turček, Bartoš, Baliak, Ravinger)  
Schrobenhausener Tag (Turček, Hulla)  
VIC Vienna (Turček, Hulla)  
VŠB TU Ostrava (Hulla, Kopecký, Baliak, Súl'ovská)  
Arcadis Prague (Baliak, Bartoš, Chabroňová, Kopecký)  
Politechnika Wroclaw (Kopecký)  
Hochschule Zittau Gorlitz (Kopecký, Ondrášik)  
ICOLD Brazil (Minárik)  
Institution CE London (Turček, Gužík)  
AZ Conzult (Bednárová, Grambličková, Hulla, Turček)  
DEM, SEL (Bednárová, Minárik, Marikovičová, Mészáros, Gallíková)  
ISSMGE (Frankovská)  
UNI Pecs (Turček, Gužík)  
Sekurkon (Turček, Hulla)

## Membership in international professional organizations

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

FRANKOVSKÁ, J.: Member of CEN – TC 250/SC7 Geotechnics

FRANKOVSKÁ, J.: Member of ETC 10 Evaluation of Eurocode 7 of International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

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

HULLA, J.: Member of Czech and Slovak Committee of International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

KOPECKÝ, M.: Member of Slovak Committee of International Association of Engineering Geology (IAEG)

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

MASAROVIČOVÁ, M.: Member of the Regional Committee of the International Association for Computer Methods and Advances in Geomechanics (IACMAG)

MASAROVIČOVÁ, M.: Vice – Chair, Czech and Slovak Committee of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

MINÁRIK, M.: Member of the International Committee of ICOLD (International Commission on Large Dams) – Groundwater Dams.

ONDRÁŠIK M.: International Association for Engineering Geology and the Environment (IAEG) – Secretary of National Group.

RAVINGER, R.: Member of the Czech and Slovak Committee of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

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

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

TURČEK, P.: Member of CEN – TC 250/SC7 Geotechnics

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

## 4. Publications

### Books

TURČEK, P.: Design of Load-Bearing Structures. 7-Geotechnical Design. 1<sup>st</sup> edition, Bratislava, STU SvF, 2009, 109 pp. (in Slovak)

### Journals

BALIAK, F.: Specification of Engineering-Geological Investigation by Construction of Buildings on a Slope. In: Stavebnícka ročenka 2009. pp. 156-158 (in Slovak)

BALIAK, F.: Monitoring of Kordíky – Králiky Slide Area in Slovakia. In: Proceedings of Scientific Works of VŠB TU Ostrava. Vol. 9, No. 1/2009, pp. 195-204 (in Slovak)

BALIAK, F.: The Most Frequent Engineering-Geological Causes of the Destruction of Historical Castles. In: Proceedings of Scientific Works of VŠB TU Ostrava. Vol. 9, No. 1/2009, pp. 205-216 (in Slovak)

ČERNÝ, M.: Analysis of the Interaction between Layered Subsoil and a Spread Foundation. In: Konstrukce. Vol. 8, No. 1/2009, pp. 2-4 (in Slovak)

FRANKOVSKÁ, J. - KOPECKÝ, M.: New Technical Directives for Roads in Slovakia. In: Silniční obzor. Vol. 70, No. 2/2009, pp. 29-32 (in Slovak)

GALLIKOVÁ, Z. - SLÁVIK, I.: High-Rise Buildings in Deep Foundation Pits in Bratislava's Conditions, 2nd part: Utilization of the Deformation Parameters of Neogene Clays for Predicting Sinking Buildings. In: Inžinierske stavby. Vol. 57, No. 3/2009, pp. 32-34 (in Slovak)

GRAMBLIČKOVÁ, D. - BEDNÁROVÁ, E.: Numerical Analysis of the Remediation Measures on the Latorica Flood Dyke. In: Geotechnika. Vol. 12, No. 1/2009, pp. 11-15 (in Slovak)

HRUŠTINEC, L. - KUZMA, J.: Geotechnical Analysis of the Causes of Failures on Retaining Walls Built in a Slide Area and Their Resolution. In: Stavebné materiály. Vol. 5, No.1-2/2009, pp. 24-26 (in Slovak)

HRUŠTINEC, L. - KUZMA, J.: The Building-Up of a Retaining Structure in a Landslide Area. In: Konstrukce. Vol. 8, No. 1/2009, pp. 8-12 (in Slovak)

KOPECKÝ, M. - ONDRÁŠIK, M.: Engineering-Geological Conditions Along the Routes of Newly-Designed Motorway Tunnels: Rojkov, Havran and Čebat'. In: Tunel. Vol. 18, No. 2/2009, pp. 62-68 (in English)

KOPECKÝ, M.: Expected Geotechnical Problems on Expressway R4 in East Slovakia. In: Górnictwo i geoinżynieria. Vol. 33, No. 1/2009, pp. 345-352 (in English)

LUKÁČ, M., - MARIKOVIČOVÁ, A.: Geological, Morphological and Ecological Aspects of the Selection of Dam Profiles of Reservoirs. In: Vodohospodársky spravodajca. Vol. 52, No. 1-2/2009, pp. 10-13 (in Slovak)

NIKITENKO, M. - TURČEK, P.: Geotechnical Monitoring. In: Strojiteľná nauka i technika. Vol.25, No. 4/2009, pp. 13-17 (in Russian)

SLÁVIK, I. - GALLIKOVÁ, Z.: Tall Buildings in Deep Foundation Pits in Bratislava's Conditions. 1<sup>st</sup> Part: The Kind of Measurement of Deformation Parameters in Neogene Clays. In: Inžinierske stavby. Vol. 57, No.2/2009, pp. 39-42 (in Slovak)

TURČEK, P.: Exploitation of Mixed-in-Place Technology by Backfilling. In: Stavebné materiály. Vol.5, No.1-2/2009, pp. 50-51 (in Slovak)

TURČEK, P. - BARTOŠOVÁ, M.: Landslide in Tertiary Clays Brought About by Excavation of Pit. In: Almanach znalca. Vol. 8, No. 2/2009, pp. 39-42 (in Slovak)

### Conferences

ADAM, D. - TURČEK, P. - PAULMICHL, I.: Innovative Hybrid Ground Improvement and Deep Foundation Concept for the CCPP Malzenice. In: Proceedings of 9<sup>th</sup> International Geotechnical Conference on Geotechnical Monitoring, Bratislava, Slovakia, 2009, pp. 59-68 (in English)

BALIAK, F.: Engineering-Geological Maps of Slope Deformations in Slovakia. In: Proceedings of 1<sup>st</sup> National Engineering-Geological Congress on Risks in Water Management, Ostrava, Czech Republic, 2009, pp. 59-62 (in Slovak)

- BALIAK, F.: Engineering-Geological Causes of Failures of Historical Structures in the Countryside. In: Proceedings of conference on Urban, Architectonical and Technical Aspects of Restorations of Countrysides, Bratislava, Slovakia, 2009, pp. 24-27 (in Slovak)
- BALIAK, F.: Monitoring Geological Factors: Geotechnical Monitoring. In: Proceedings of 9<sup>th</sup> International Geotechnical Conference on Geotechnical Monitoring, Bratislava, Slovakia, 2009, pp. 69-76 (in Slovak)
- BALIAK, F. - BRÁZ, Z.: Failures of Castle Rock Massives in Slovakia. In: Proceedings of 12<sup>th</sup> International Conference on Geotechnics, Brno, Czech Republic, 2009, pp. 5-8 (in Slovak)
- BARTOŠ, V. - HRUŠTINEC, L.: Solutions to Problems of the Interaction between a Tunnel Lining and Rock Environment. In: Proceedings of 12<sup>th</sup> International Conference on Geotechnics, Brno, Czech Republic, 2009, pp. 81-84 (in Slovak)
- BEDNÁROVÁ, E. - GRAMBLIČKOVÁ, D. - TKÁČ, J.: Application of Geophysical Methods in the Clarification of a Seepage Regime on the Velka Domasa Water Structure. In: Proceedings of 9<sup>th</sup> International Geotechnical Conference on Geotechnical Monitoring, Bratislava, Slovakia, 2009, pp. 315-320 (in Slovak)
- BEDNÁROVÁ, E. - GRAMBLIČKOVÁ, D. - TKÁČ, J.: Geophysics and Statistics for Solving Seepages in Dams. In: Proceedings of Conference on Long-Term Behaviour of Dams, Graz, Austria, 2009 (in English)
- BEDNÁROVÁ, E. - MINÁRIK, M. - GRAMBLIČKOVÁ, D.: Geophysics and Statistics of Dam Safety Controls. In: Proceedings of 18<sup>th</sup> Russian – Slovak - Polish seminar on Theoretical Foundations of Civil Engineering, Archangels, Russia, 2009, pp. 383-388 (in English)
- BEDNÁROVÁ, E. - GRAMBLIČKOVÁ, D. - MINÁRIK, M.: Measurements of Filtration Velocity as Part of the Monitoring of Water Dam Construction. In: Proceedings of 29<sup>th</sup> Conference on Geotechnical Field Methods, Ústí nad Labem, Czech Republic, 2009, pp. 7-12 (in Slovak)
- BEDNÁROVÁ, E. - MINÁRIK, M. - MIŠČÍK, M.: Possibilities of Increasing Dam Safety. In: Proceedings of 23<sup>rd</sup> International Congress on Large Dams, Brasilia, Brazil, 2009 (in English)
- ČERNÝ, M.: Layered Soil - Structure Interaction. In: Proceedings of the 4<sup>th</sup> International Young Geotechnical Engineers Conference, Alexandria, Egypt, 2009 pp. 287-290 (in English)
- ČERNÝ, M. - KUZMA, J.: Mathematical Modelling of the Interaction between Strip Footings and a Layered System. In: Proceedings of 12<sup>th</sup> International Conference on Geotechnics, Brno, Czech Republic, 2009, pp. 49-52 (in Slovak)
- CHABROŇOVÁ, J. - LEDÉNYIOVÁ, T.: The Analysis of Geotechnical Characteristics and Deformations during Tunnelling in an Urban Area. In: Proceedings of 9<sup>th</sup> International Geotechnical Conference on Geotechnical Monitoring, Bratislava, Slovakia, 2009, pp. 274 - 279 (in Slovak)
- GALLIKOVÁ, Z.: Subsoil Deformations of High - Rise Buildings in the Conditions of Bratislava. In: Proceedings of 1<sup>st</sup> International PhD. Student Conference on Civil Engineering and Architecture, Podbanské, Slovakia, 2009 (in English)
- GRAMBLIČKOVÁ, D. - BEDNÁROVÁ, E.: Monitoring: Part of the Safety Analysis of Flood Dykes Designed Using Numerical Methods. In: Proceedings of 29<sup>th</sup> Conference on Geotechnical Field Methods, Ústí nad Labem, Czech Republic, 2009, pp. 39-45 (in Slovak)
- GRAMBLIČKOVÁ, D. - BEDNÁROVÁ, E.: Numerical Methods as a Part of Safety Analyses of Danube Flood Dykes. In: Proceedings of 18<sup>th</sup> Russian – Slovak - Polish seminar on Theoretical Foundations of Civil Engineering, Archangels, Russia, 2009, pp. 413-418 (in English)
- HRUŠTINEC, L. - KUZMA, J.: Design of Pile Foundation under a Bridge Pier. In: Proceedings of 14<sup>th</sup> Conference on Statics of Constructions, Piešťany, Slovakia, pp. 31-42 (in Slovak)
- HRUŠTINEC, L. - LUKÁČ, M. - KUZMA, J.: Some Problems in Projects for the Pump-station of the Ipel Hydropower Plant in Slovakia. In: Proceedings of 23<sup>rd</sup> International Congress on Large Dams, Brasilia, Brazil, 2009 (in English)
- HULLA, J. - SÚLOVSKÁ, M. - MAGULA, P.: Monitoring Seepage Regimes in the Bodies and Subsoils of Slovak Dams. In: Proceedings of 9<sup>th</sup> International Geotechnical Conference on Geotechnical Monitoring, Bratislava, Slovakia, 2009, pp. 321 - 326 (in Slovak)
- HULLA, J. - GRÓF, V.: Monitoring a Foundation's Excavation and Settlement of a High-Rise Building. In: Proceedings of 9<sup>th</sup> International Geotechnical Conference on Geotechnical Monitoring, Bratislava, Slovakia, 2009, pp. 200 - 205 (in Slovak)
- HULLA, J.: Design of Spread Foundations under the Slovak and European Codes. In: Proceedings of 14<sup>th</sup> Conference on Statics of Constructions, Piešťany, Slovakia, pp. 25 - 30 (in Slovak)
- HULLA, J.: Risks to the Subsoil of Water Structures. In: Proceedings of 14<sup>th</sup> International Seminar on Hardening, Tightening and Anchoring of Rock Masses and Constructions, Ostrava, Czech Republic, 2009, pp. 22 - 27 (in Slovak)
- KLIMKO, J. - HULLA, J. - ĎURICA, P. - IVAN, P.: Protection of a Tailing Dam against Environmental Contamination. In: Proceedings of 9<sup>th</sup> International Geotechnical Conference on Geotechnical Monitoring, Bratislava, Slovakia, 2009, pp. 182 - 187 (in Slovak)
- KOPECKÝ, M. - GRÓF, V. - ONDRÁŠIK, M. - HRIC, S.: Monitoring Landslides below the Rest Area of Highway D1 in Považská Bystrica. In: Proceedings of 9<sup>th</sup> International Geotechnical Conference on Geotechnical Monitoring, Bratislava, Slovakia, 2009, pp. 229-234 (in Slovak)
- KOPECKÝ, M. - ONDRÁŠIK, M.: The Most Significant Landslides in the D1 Highway Trajectory in Slovakia. In: Proceedings of 17<sup>th</sup> Conference on Engineering Geology, Zittau, Germany, 2009, pp. 91-95 (in English)
- KOPECKÝ, M.: Landslide on the D1 Highway in Slovakia. In: Proceedings of 1<sup>st</sup> National Engineering-Geological Congress on Risks in Water Management, Ostrava, Czech Republic, 2009, pp. 85-88 (in Slovak)
- KUZMA, J. - HRUŠTINEC, L.: Geotechnical Monitoring of the Subsoil Stability of Nuclear Power Facilities. In: Proceedings of 12<sup>th</sup> International Conference on Geotechnics, Czech Republic, 2009, pp. 33-36 (in Slovak)

- KUZMA, J. - HRUŠTINEC, Ľ.: Evaluation of the Long-Term Geotechnical Monitoring of the Interim Spent Fuel Storage Facility at Jaslovské Bohunice. In: Proceedings of 9<sup>th</sup> International Geotechnical Conference on Geotechnical Monitoring, Bratislava, Slovakia, 2009, pp. 194 - 199 (in Slovak)
- MARIKOVIČOVÁ, A.: Positive and Negative Aspects of Three Fresh Water Supply Reservoirs in Slovakia. In: Proceedings of 9<sup>th</sup> International Geotechnical Conference on Geotechnical Monitoring, Bratislava, Slovakia, 2009, pp. 356-360 (in Slovak)
- MINÁRIK, M. - MÉSZÁROS, T.: From Investigation Through Monitoring to the Slope Stability. In: Proceedings of Conference on the Long-Term Behaviour of Dams, Graz, Austria, 2009 (in English)
- MINÁRIK, M. - MÉSZÁROS, T.: Comparison of the Methods for Calculating Slope Stability. In: Proceedings of 9<sup>th</sup> International Geotechnical Conference on Geotechnical Monitoring, Bratislava, Slovakia, 2009, pp. 350-355 (in Slovak)
- RAVINGER, R. - PIVARČ, J.: Lessons Learned from Monitoring Building Constructions. In: Proceedings of 9<sup>th</sup> International Geotechnical Conference on Geotechnical Monitoring, Bratislava, Slovakia, 2009, pp. 241-246 (in Slovak)
- RAVINGER, R.: Effects of the Creation of Scours. In: Proceedings of 11<sup>th</sup> Conference on Foundations of Structures, Stará Lesná, Slovakia, 2009, pp. 57-62 (in Slovak)
- SLÁVIK, I. - MASAROVÍČOVÁ, M.: Monitoring the Properties of Impoundment Materials in Tailing Dams. In: Proceedings of 9<sup>th</sup> International Geotechnical Conference on Geotechnical Monitoring, Bratislava, Slovakia, 2009, pp. 367-372 (in Slovak)
- SÚĽOVSKÁ, M. - HULLA, J.: Dewatering Excavation Pits in Urban Conditions. In: Proceedings of 10<sup>th</sup> International Hydrogeological Congress, Ostrava, Czech Republic, 2009, pp. 85-88 (in Slovak)
- SÚĽOVSKÁ, M. - TURČEK, P.: Use of Gravel Pillars to Improve Soft Subsoil. In: Proceedings of 16<sup>th</sup> International Seminar on Future Developments in New Technologies in Civil Engineering, Brest, Belarus, 2009, pp. 228-232 (in Slovak)
- SUMEC, J. - HRUŠTINEC, Ľ. - KUZMA, J.: Influence of Stiffness and Bonding on a Contact Surface on the Displacements of Strip Foundation. In: Proceedings of 9<sup>th</sup> International Conference VSU, Sofia, Bulgaria pp. 29-34 (in English)
- SUMEC, J. - HRUŠTINEC, Ľ. - KUZMA, J.: Influence of Stiffness and Coupling in a Foundation Gap of a Circular Footing on the Distribution of Contact Stresses. In: Proceedings of 12<sup>th</sup> International Conference on Geotechnics, Czech Republic, 2009, pp. 97-100 (in Slovak)
- TURČEK, P. - SÚĽOVSKÁ, M.: Geotechnical Precautions near the Turany Rest Area. In: Proceedings of 12<sup>th</sup> International Conference on Geotechnics, Brno, Czech Republic, 2009, pp. 57-60 (in Slovak)
- TURČEK, P. - BASLÍK, R.: Monitoring Reinforced Walls. In: Proceedings of 9<sup>th</sup> International Geotechnical Conference on Geotechnical Monitoring, Bratislava, Slovakia, 2009, pp. 96-101 (in Slovak)
- TURČEK, P.: Knowledge of Earth Reinforcement Structures. In: Proceedings of 5<sup>th</sup> International Conference on Geosynthetics in Civil Engineering, Žilina, Slovakia, 2009. pp. 37-42 (in Slovak)
- TURČEK, P. - SÚĽOVSKÁ, M. - RAVINGER, R.: Preparing Building Construction on a Nonstable Site. In: Proceedings of 16<sup>th</sup> International Seminar on Future Developments of New Technologies in Civil Engineering, Brest, Belarus, 2009, pp. 232-238 (in Slovak)
- TURČEK, P.: Verification of Reinforced Earth Structures. In: Proceedings of 29<sup>th</sup> Conference on Geotechnical Field Methods, Ústí nad Labem, Czech Republic, 2009, pp. 109-114 (in Slovak)
- TURČEK, P. - RAVINGER, R.: Scour Bridge Piers. In: Proceedings of 11<sup>th</sup> Conference on Foundations of Structures, Stará Lesná, Slovakia, 2009, pp. 45-56 (in Slovak)
- TURČEK, P. - RAVINGER, R. - SÚĽOVSKÁ, M.: Foundation of Reconstructed Winter Stadium. In: Proceedings of 12<sup>th</sup> International Conference on Geotechnics, Brno, Czech Republic, 2009, pp. 25-28 (in Slovak)

# DEPARTMENT OF LAND AND WATER RESOURCES MANAGEMENT

Department Head  
Prof. Ján Szolgay, PhD.

Tel.: + 421 2 59274 498  
Fax: + 421 2 52923 575  
E-mail: jan.szolgay@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

Hydrology  
Landscape Ecology  
Landscape Ecology and Bioecology  
Meteorology and Hydrology  
Landscape Engineering  
Engineering Structures in a Landscape  
River Training  
Pedology  
River Restoration  
Integrated River Basin Management  
Water Management  
Hydrological Field Measurements  
CAD Systems in Landscape Engineering  
Water Regime of a Landscape  
Irrigation and Drainage  
GIS in Water Management

#### Optional Subjects

Project 1 – Sustainable Landscape Development  
Basics of the Design of Landscape Structures  
CAD Systems in Water Management  
Project Work  
Computer Modelling in Water Management  
Design of Small Water Reservoirs  
Revitalization of Wetlands  
CAD Systems in Environmental Engineering

### 1.2 Postgraduate courses

Hydrology, J. Szolgay  
Hydrology of Surface Waters, J. Szolgay  
Hydrology of Sub-Surface Waters, J. Skalová  
Hydrodynamics of Porous Media, J. Skalová  
Methods of Field and Laboratory Experiments in Hydrology, J. Skalová  
Mathematical Modelling of Hydrological and Hydraulic Processes, J. Szolgay  
Simulation Methods, Algorithms and Programming, J. Szolgay  
Geoinformatics, K. Hlavčová  
Landscape Planning, V. Macura  
Revitalization of Rivers, V. Macura  
Soil Water Regime, V. Macura  
Hydrochemistry and Hydrobiology, V. Macura

## 2. Theses

### 2.1 Graduate theses

BENKOVÁ E.: River Training of the Nitra River  
Supervisor: Škrinár, A.

CERE R.: River Training of the Nitrica River in Nitrica  
Supervisor: Macura, V.

DÓŠA M.: Conceptual Proposal for Flood Protection Polders  
Supervisor: Szolgay, J.

GERMANI J.: River Training of the Hron River in Čata  
Supervisor: Macura, V.

HANKOVÁ M.: Analysis of the Hydrological Regime in the Locality of Abrod  
Supervisor: Skalová, J.

HROMKOVIČ T.: Design of Erosion Controls in the Smrečany Region  
Supervisor: Hlavčová, K.

JÁNOŠÍK J.: Using Soil Grain Composition to Determine Water Retention Curves of Soils in the Morava River Basin  
Supervisor: Skalová, J.

KALABER L.: Stability of the Flow Regime of Danube in Bratislava  
Supervisor: Szolgay, J.

KUBÍK F.: Modelling Extreme Runoff for a Flood Protection Measures  
Supervisor: Kohnová, S.

MACUROVÁ Z.: Impact of Climate Changes on the Hydrological Regime of the Upper Hron River Basin  
Supervisor: Hlavčová, K.

MARTINCOVÁ M.: Conceptual Proposal for Flood Protection Polders  
Supervisor: Szolgay, J.

MURA L.: Estimation of Extreme Runoff from Snowmelt in a Selected Basin  
Supervisor: Hlavčová, K.

MRUŠKOVIČ J.: Proposal for Artificial Snowing of a Ski Slope  
Supervisor: Szolgay, J.

MRVA J.: Evaluation of Hydraulic and Morphological Parameters of the Slaná River  
Supervisor: Macura, V.

NEMČEK P.: Irrigation of a Residential Garden  
Supervisor: Čistý, M.

NOVOTNÝ T.: Irrigation of Sports Fields  
Supervisor: Čistý, M.

PAVELEK P.: Development of Minimal Monthly and Annual Discharges in the Ipeľ and Slana Rivers  
Supervisor: Szolgay, J.

PÁSZTOROVÁ M.: Analysis of the Hydrological Regime in the Locality of Ramsar of Poiplie  
Supervisor: Skalová, J.

POLAKOVIČOVÁ Z.: Impact of Climate Changes on Ground Water Level Regime in the Locality of Zelienska  
Supervisor: Skalová, J.

PRIDALOVÁ I.: Analysis of the Hydrological Regime at the National Nature Reservation of Belianske Lúky  
Supervisor: Skalová, J.

SZABÓOVÁ M.: Impact of Climate Changes on Soil Water Storage in the Locality of Zelienska  
Supervisor: Skalová, J.

SZOMOGYOVÁ K.: Estimation of Possible Changes in Hydrological Regimes in Future Decades

Supervisor: Hlavčová, K.

ŠOLTÝSOVÁ V.: Comparison of the Estimates of the N-Year Maximum Design Discharges in Selected Stations on the Morava Basin

Supervisor: Kohnová, S.

ŠÚREK P.: Parameterization of a Hydrologic Flood Routing Model by Artificial Neural Networks

Supervisor: Szolgay, J

VALACSAY T.: Irrigation of a Football Field

Supervisor: Čistý, M.

VÝLETA R.: Rainfall-Runoff Monthly Model

Supervisor: Szolgay, J

ZSIDEKOVÁ B.: Design of Landscape Engineering Measures in a Selected Basin

Supervisor: Hlavčová, K.

## 2.2 Doctoral theses

BAJTEK Z.: Deterministic and Heuristic Methods and Their Application in the Optimization of Pressurized Water Distribution Systems in Irrigation

Supervisor: Čistý, M.

ŠKRINÁR A.: Effect of Abiotic Factors on the Biohydrology of Streams

Supervisor: Macura, V.

## 3. Research

### 3.1 Research projects

Conservation, Restoration and Wise Use of Rich Fens in the Slovak Republic (Skalová) (United Nations Development Programme SLO/03/G35/A/1G/72)

Hydrological Drought and Its Impact on Exploitable Groundwater Resources (Macura) (Research Project of APVV-0335-06)

Regionalization of the Quality of Aquatic Parts of Rivers by Bioindicative Methods (Macura) (Research project of AV 4/0110/06)

Hydrometeorological Data Resources and Technologies for Effective Flash Flood Forecasting (HYDRATE) (Szolgay) (Research Project of the Commission of the European Communities, 6th FP, No. 037024)

Hydrological Regionalisation – Towards a Coherent Framework. (Szolgay) (Subcontract of a research project of the Austrian Foundation for Research FWF P 18993)

Study of the Relationships and Spatial Properties of Joint Hydrometeorological and Hydrological Extremes in Mountainous Regions in Slovakia (Kohnová) (Research Grant of the Slovak Grant Agency VEGA 1/4024/07)

Hybrid Flood Modelling and Forecasting Framework for the Real Time Control of Water Resource Systems and Flood Risk Estimation (Szolgay) (Research Grant of the Slovak Grant Agency VEGA 1/4209/07)

Evaluation of Low Flows Using the Regional Typology Method (Kohnová) (Research Project for the Ministry of the Environment of the SR, HZ 04-296-07)

Analysis of Potential Changes in Runoff Due to Land Use Changes and Retention Properties of the Váh and Morava River Basin (Hlavčová) (Research Project for the Ministry of the Environment of the SR, HZ 04-306-04)

Geographically Oriented Distributed Runoff Model (Kočícký, Szolgay) (Research Project of APVV-0378-07)

Improvement of the Representation of Processes in Hydrological Modelling (Hlavčová) (Research Project of LPP-0254-07)

Hybrid Flow Forecasting Model (Szolgay) (Research Project of APVV-0443-07)

Comparative Analysis of the Natural and Anthropogenic Variability of a Hydrometeorological Series (Miklánek, Hlavčová) (Research Grant of the Slovak Grant Agency VEGA 2/0096/08)

Combined Deterministic – Statistical Modelling Approach to Hydrological Forecasts (Szolgay) (Research Grant of the Slovak Grant Agency VEGA 1/0496/08)

Soil Water Storage Diagnosis and Prediction with Regard to Aspects of the Optimal Water Supply of Vegetation (Skalová) (Research Project of APVV-0271-07)

Evaluation of Water Bodies and Optimisation of Water Management Measures in Landscape (Research Grant of the Slovak Grant Agency VEGA 1/0585/08)

### 3.2 International cooperation

#### Visits of staff members to foreign institutions

Szolgay, J., Hlavčová, K., Kohnová, S., Horvát, O., Gaál, L. Institute for Hydraulic and Water Resources Engineering, Vienna University of Technology, Vienna, Austria

Szolgay, J., Hlavčová, Macura, V. - Technical University in Brno, Faculty of Civil Engineering, Brno, Czech Republic, Technical University in Prague, Faculty of Civil Engineering, Prague, Czech Republic

Hlavčová, K., Kohnová, S. - University of Grenoble, France

Gaál, L. - Institute of Atmospheric Physics of the Czech Academy of Sciences

Jalčovíková, M. - Faculty of Civil Engineering, Catholic University of Leuven, Belgium

#### Membership in international professional organizations

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

Hlavčová, K.: Member of European Geosciences Union

Kohnová, S.: Member of European Geosciences Union

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

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

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

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

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

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

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

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

Szolgay, J.: Member of Association of Hydrological Sciences

## 4. Publications

- ANDO, M. - MACURA, V. - ŠKRINÁR, A. - ZAČKA, T.: Evaluation of Some Ecological Aspects of the Drietomica Brook by Decision-Making. *Slovak Journal of Civil Engineering*, Vol. 17, 2009, No. 1, pp. 16-21
- BALÁŽ, M. - DANÁČOVÁ, M. - SZOLGAY, J.: On the Use of the Muskingum Method for the Simulation of Flood Wave Movement. *Acta Hydrologica Slovaca*, Vol.10, 2009, No. 1, pp. 158-167 (in Slovak)
- BARA, M. - KOHNOVÁ, S. - GAÁL, L. - SZOLGAY, J. - HLAVČOVÁ, K.: Estimation of IDF Curves of an Extreme Rainfall by Simple Scaling in Slovakia. *Contributions to Geophysics and Geodesy*, Vol. 39, 2009, No. 3, pp. 187-206
- ČISTÝ, M.: Hybrid Genetic Algorithm and Linear Programming Method for the Least-Cost Design of Water Distribution Systems. *Water Resources Management*, DOI:10.1007/s11269-009-9434-1, online, 2009
- ČISTÝ, M. - BAJTEK, Z.: Hybrid Methods for the Least-Cost Design of Water Distribution Systems. *Journal of Hydrology and Hydromechanics*, Vol. 57, 2009, No. 1, pp. 130-141 (in Slovak)
- GAÁL, L. - KYSELÝ, J.: Regional Frequency Analysis of Heavy Precipitation in the Czech Republic by an Improved Region-of-Influence Method. *Hydrology and Earth System Sciences Discussions*, Vol. 6, 2009, pp. 273-317
- GAÁL, L. - SZOLGAY, J. - LAPIN, M. - FAŠKO, P.: Hybrid Approach to the Delineation of Homogeneous Regions for Regional Precipitation Frequency Analysis. *J. Hydrol. Hydromech.*, Vol. 57, 2009, No. 4, pp. 226 – 235
- GAUME, E. - BAIN, V. - BERNARDARA, P. - NEWINGER, O. - BARBUC, M. - BATEMAN, A. - BLAŠKOVIČOVÁ, L. - BLÖSCHL, G. - BORGIA, M. - DUMITRESCU, A. - DALIAKOPOULOS, I. - GARCIA, J. - IRIMESCU, A. - KOHNOVÁ, S. - KOUTROULIS, A. - MARCHI, L. - MATREATA, S. - MEDINA, V. - PRECISO, E. - SEMPRES-TORRES, D. - STANCALIE, G. - SZOLGAY, J. - TSANIS, I. - VELASCO, D. - VIGLIONE, A.: A Compilation of Data on European Flash Floods. *Journal of Hydrology*, Vol. 367, 2009, Issue Nos. 1-2, pp. 70-78
- HLAVČOVÁ, K. - SZOLGAY, J. - KOHNOVÁ, S. - HORVÁT, O.: The Limitations of Accessing Impacts of Land Use Changes on Runoff with a Distributed Model: Case Study of the Hron River. *Biology*, Vol. 64, 2009, No. 3, pp. 589-593
- HORVÁT O. - HLAVČOVÁ K. - KOHNOVÁ, S. - DANKO M.: Application of the FRIER Distributed Model for Estimating the Impact of Land Use Changes on the Water Balance in Selected Basins in Slovakia. *J. Hydrol. Hydromech.*, Vol. 57, 2009, No. 4, pp. 213 – 225
- KRIŠ, J. - BALÁŽ, M.: Family Swimming Pools. *Stavba (Buildings)*, Vol. 12, 2009, No.7-8, pp. 44-47 (in Slovak)
- LÁTEČKOVÁ, J. - ŠTEVKOVÁ, A. - KOHNOVÁ, S.: On the Possibility of the Indirect Estimation of Design Discharges Using Neural Networks. *Acta Hydrologica Slovaca*, Vol. 10, 2009, No. 1, pp. 168-175
- MACURA, V. - ŠKRINÁR, A. - JALČOVÍKOVÁ, M. - ŠKROVINOVÁ, M.: Use of Bioindication for Determining Minimum Flows in the Mountainous Streams of Torysa and Topľa. *Acta Hydrologica Slovaca*, Vol. 10, 2009, No. 1, pp. 194-206
- PARAJKA, J. - KOHNOVÁ, S. - MERZ, R. - SZOLGAY, J. - HLAVČOVÁ, K. - BLÖSCHL, G.: Comparative Analysis of the Seasonality of Hydrological Characteristics in Slovakia and Austria. *Hydrological Sciences Journal - Journal des Sciences Hydrologiques*, Vol. 54, 2009, No. 3, pp. 456-473
- PEKÁROVÁ, P. - MIKLÁNEK, P. - ONDERKA, M. - KOHNOVÁ, S.: Water Balance Comparison of Two Small Experimental Basins with Different Vegetation Covers. *Biology*, Vol. 64, 2009, No. 3, pp. 487-491
- REMIÁŠOVÁ, R. - GAÁL, L. - HLAVČOVÁ, K. - KOHNOVÁ, S. - FAŠKO, P.: Spatial Regionalization of Design Precipitation Totals in Slovakia. *Acta Hydrologica Slovaca*, Vol.10, 2009, No. 2, pp. 284-291 (in Slovak)
- SKALOVÁ, J. - BREZIANSKÁ, K. - VITKOVÁ, J.: Representative Water Retention Curves of Soils in the Záhorská Lowland. *Acta Hydrologica Slovaca*, Vol. 10, 2009, No. 1, pp. 121-129 (in Slovak)
- Skalová, J. – Jaroš, B. – Novák, V.: The Effect of Different Canopies on Changes in the Groundwater Table Level at the Nature Reserve of Kláštorské Lúky. *J. Hydrol. Hydromech.*, Vol. 57, 2009, No. 4, pp. 276 – 289 (in Slovak)
- SUCHÁR, M. – ČISTÝ, M.: Prediction of Soli Water Content Using Learning Algorithms. *Acta Hydrologica Slovaca*, Vol.10, 2009, No. 2, pp. 266-274 (in Slovak)
- ŠIMOR, V. - ČISTÝ, M. - HLAVČOVÁ, K.: Forecasting Discharges in the Hron River Basin Using Artificial Neural Networks. *Acta Hydrologica Slovaca*, Vol. 10, 2009, No. 1, pp. 159 – 170 (in Slovak)
- ŠUREK, P. - SZOLGAY, J. – ČISTÝ, M.: Parameterization of a Multilinear Cascade Model of Linear Reservoirs Using Artificial Neural Networks. *Acta Hydrologica Slovaca*, Vol.10, 2009, No. 2, pp. 275-283 (in Slovak)
- ŠUREK, P. - SZOLGAY, J.: Parameterization of a Hydrologic Flood Routing Model Using Artificial Neural Networks. *Acta Hydrologica Slovaca*, Vol. 10, 2009, No. 1, pp. 188-195
- SZOLGAY, J. - PARAJKA, J. - KOHNOVÁ, S. - HLAVČOVÁ, K.: Comparison of Mapping Approaches of Design Annual Maximum Daily Precipitation. *Atmospheric Research*, Vol.92, 2009, pp. 289-307
- TEGELHOFFOVÁ, M. - HLAVČOVÁ, K. - KOHNOVÁ, S.: Application of the Mike She Model for Restoration of the Wetland System in the Eastern Slovak Lowland. *Acta Hydrologica Slovaca*, Vol. 10, 2009, No. 1, pp. 196-210 (in Slovak)
- VELÍSKOVÁ, Y. - DULOVIČOVÁ, R. - SKALOVÁ, J.: Quality and Quantity of Water Resources as the Stress Factor for the Agri - Environment at the Eastern Part of Rye Island (Slovakia). *Cereal Research Communications, Supplement*, Vol. 37, 2009, Supplement, pp. 493-496
- VYLETA, R. - SZOLGAY, J. – HLAVČOVÁ, K.: Calibration of Rainfall – Runoff Balance Model with a Monthly Time Step in the Upper Hron River Basin. *Acta Hydrologica Slovaca*, Vol.10, 2009, No. 2, pp. 292-299 (in Slovak)

### Conferences

- BAJTEK, Z.: Optimization of Pressurized Water Distribution Systems Using Harmony Search. In: Juniorstav 2009: 11<sup>th</sup> Special Conference of Doctoral Studies, Brno, 4. 2. 2009. VUT Brno, Brno 2009, ISBN 978-80-214-3810-1 (in Slovak)

- BAJTEK, Z. - ČISTÝ, M.: Testing of Various Techniques for Optimization of Water Distribution Networks. In: 12<sup>th</sup> International Scientific Conference, Brno, 20.-22. 4. 2009. CERM, Brno 2009, ISBN 978-80-7204-629-4, pp. 13-16
- BAJTEK, Z. - ČISTÝ, M.: Testing Hybrid Methods for Proposed Water Distribution Systems. In: Čelková, A., ed.: Transport of Water, Chemicals and Energy in the Soil-Crop Canopy-Atmosphere System. 17th International Poster Day, 12. 11. 2009, Bratislava. IH SAS, GPI SAS, Bratislava 2008, pp. 22-30, ISBN 978-80-89139-19-4 (in Slovak)
- BARA, M. - GAÁL, L. - KOHNOVÁ, S. - SZOLGAY, J. - HLAVČOVÁ, K.: Simple Scaling of Extreme Short-Term Rainfall for Flood Risk Estimation in Slovakia. In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19.-24. 4. 2009. European Geosciences Union, Vienna 2009
- BARA, M.: Scaling Properties of Extreme Rainfall in Slovakia. In: Juniorstav 2009: 11<sup>th</sup> Special Conference of Doctoral Studies, Brno, 4. 2. 2009. VUT Brno, Brno 2009, ISBN 978-80-214-3810-1 (in Slovak)
- ČISTÝ, M. - BAJTEK, Z.: Combination of Stochastic and Deterministic Methods in Optimization of Pressurized Water Network Systems. In: 12<sup>th</sup> International Scientific Conference, Brno, 20. - 22. 4. 2009. CERM, Brno 2009, ISBN 978-80-7204-629-4, pp. 37-40
- ČISTÝ, M. - BAJTEK, Z.: Evaluation of Heuristic Search Methods for Optimization of Water Distribution Systems. In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19. -24. 4. 2009. European Geosciences Union, Vienna 2009
- ČISTÝ, M. - BAJTEK, Z.: Heuristic Search and Mathematical Programming in the Design of Water Distribution Networks. In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19. -24. 4. 2009. European Geosciences Union, Vienna 2009
- ČISTÝ, M. - BAJTEK, Z.: A Hybrid Method for the Optimal Design of Water Distribution Systems. In: 11th International Symposium on Water Management and Hydraulic Engineering, WMHE 2009, Vol. I. Ohrid, Macedonia, 1. - 5. 9. 2009. University of Sts. Cyril and Methodius, Skopje 2009, ISBN 978-9989-2469-6-8, pp. 235-246
- ČISTÝ, M.: Application of "SOM" Type Artificial Neural Networks for the Solution of Water Management Problems in a Landscape. Acta Hydrologica Slovaca, Vol.10, 2009, No. 2, pp. 254-265 (in Slovak)
- DANKO, M. - HLAVČOVÁ, K. - KOHNOVÁ, S. - SZOLGAY, J.: Extreme Runoff Scenarios from Snow Melt for Flood Protection Proposals. In: 12<sup>th</sup> International Scientific Conference, Brno, 20. - 22. 4. 2009. CERM, Brno 2009, ISBN 978-80-7204-629-4, pp. 45-48 (in Slovak)
- GAÁL, L. - KYSELÝ, J.: Improved Region-of-Influence Approach for Modelling Probabilities of Heavy Precipitation in the Czech Republic. In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19. -24. 4. 2009. European Geosciences Union, Vienna 2009
- GAÁL, L. - GAUME, E. - VIGLIONE, A. - SZOLGAY, J. - BLÖSCHL, G.: Return Period Estimation of Extraordinary Flash Flood Events in Slovakia: Regional Frequency Analysis Using a Bayesian MCMC Approach. In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19. -24. 4. 2009. European Geosciences Union, Vienna 2009
- HLAVČOVÁ, K. - PARAJKA, J. - KOHNOVÁ, S. - MERZ, R. - SZOLGAY, J. - BLÖSCHL, G.: Inter-Comparison of Methods for Estimating Rainfall-Runoff Model Parameters in Ungauged Basins (Case Study: Austria and Slovakia). In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19. -24. 4. 2009. European Geosciences Union, Vienna 2009
- HLAVČOVÁ, K. - KOHNOVÁ, S. - SZOLGAY, J.: Modelling Extreme Floods from Snow Melt for Flood Risk Estimation. In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19. - 24. 4. 2009. European Geosciences Union, Vienna 2009
- HORVÁT, O. - HLAVČOVÁ, K. - SZOLGAY, J. - KOHNOVÁ, S. - DANKO, M.: Development of the FRIER Distributed Hydrological Model for Modelling and Forecasting Runoff in Mountainous Basins in Slovakia. In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19. -24. 4. 2009. European Geosciences Union, Vienna 2009
- HORVÁT, O. - HLAVČOVÁ, K. - KOHNOVÁ, S. - SZOLGAY, J. - REMIAŠOVÁ, R.: Simulating Rainfall-Runoff Dynamics of Selected Flash Flood Events in Slovakia Using the KLEM Hydrological Model. In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19. -24. 4. 2009. European Geosciences Union, Vienna 2009
- KOHNOVÁ, S. - PARAJKA, J. - SZOLGAY, J. - HLAVČOVÁ, K.: Extreme Precipitation Mapping for Flood Risk Assessment in Ungauged Basins. In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19. -24. 4. 2009. European Geosciences Union, Vienna 2009
- KOHNOVÁ, S. - HLAVČOVÁ, K. - SZOLGAY, J. - ŠTEVKOVÁ, A.: Seasonality Analysis of the Occurrence of Low Flows in Slovakia. In: 11<sup>th</sup> International Symposium on Water Management and Hydraulic Engineering, WMHE 2009, Vol. I. Ohrid, Macedonia, 1. - 5. 9. 2009. University of Sts. Cyril and Methodius, Skopje 2009, ISBN 978-9989-2469-6-8, pp. 711-720
- KOHNOVÁ, S. - PARAJKA, J. - SZOLGAY, J. - HLAVČOVÁ, K.: Mapping of Gumbel Extreme Value Distribution Parameters for Estimation of Design Precipitation Totals at Ungauged Sites. In: Bioclimatology and Natural Hazards. Springer Science+Business Media B.V. 2009, ISBN 978-1-4020-8875-9, pp. 129-136
- KYSELÝ, J. - HUTH, R. - GAÁL, L. - KIM, J.: Application of Objective Classifications of Air Masses in Modelling Heat-Related Mortality in Korea. In: 18th World IMACS/MODSIM Congress: International Congress on Modelling and Simulation, Cairns, Australia, 13. -17. 7. 2009, ISBN 978-0-9758400-7-8, pp. 150-156
- KYSELÝ, J. - GAÁL, L. - PICEK, J.: Comparison of Regional Approaches for Modelling Probabilities of Heavy Precipitation in the Czech Republic. In: Sustainable Development and Bioclimates. Reviewed Conference Proceedings, Stará Lesná, 5. -8. 10. 2009. GFI of SAS, Bratislava 2009, ISBN 978-80-900450-1-9, pp. 227-228
- MACURA, V. - ŠKRINÁR, A. - JALČOVÍKOVÁ, M. - ŠKROVINOVÁ, M.: Assessment of Bioindication Parameters for Modelling the Aquatic Area of the Váh River for the IFIM Methodology Using the Digital Video-Recording. In: 12<sup>th</sup> International Scientific Conference, Brno, 20. - 22. 4. 2009. CERM, Brno 2009, ISBN 978-80-7204-629-4, pp. 117-120



- MACURA, V. - ŠKRINÁR, A. - JALČOVÍKOVÁ, M. - ŠKROVINOVÁ, M.: Optimization of Biotic Parameters of Some Slovak Mountain Streams for Modelling by the IFIM Method. In: Sustainable Development and Bioclimate. Reviewed Conference Proceedings, Stará Lesná, 5. - 8. 10. 2009. GFI of SAS, Bratislava 2009, ISBN 978-80-900450-1-9, pp. 103-104
- MACHLICA, A., HORVÁT, O.: Modelling Impacts of Hydrogeological Drought on a Runoff Regime. In: 10<sup>th</sup> Czecho-Slovakia International Hydrogeological Congress. ESMEDIA DTP s.r.o., Ostrava 2009, ISBN 978-80-248-2026-2, pp. 151-154 (in Slovak)
- MARCHI, L. - BLÖSCHL, G. - BORGA, M. - DELRIEU, G. - GAUME, E. - SAMUELS, P. - SEMPERE-TORRES, D. - STANCALIE, G. - SZOLGAY, J. - TSANIS, I.: Characterization of Flash Floods Based on an Analysis of Extreme European Events. In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19. -24. 4. 2009. European Geosciences Union, Vienna 2009
- PÁSZTOROVÁ, M.: Natural Conditions of the Ramsar Locality of Poiplie. In: Forest Constructions in Landscapes 2009. Proceedings of International Scientific Conference, Zvolen, 15. 10. 2009. TU Zvolen, Zvolen 2009, ISBN 978-80-228-2049-3, pp. 78-83 (in Slovak)
- PECHO, J. - FAŠKO, P. - LAPIN, M. - GAÁL, L.: Analysis of Rainfall Intensity-Duration-Frequency Relationships in Slovakia (Estimation of Extreme Rainfall Return Periods). In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19. - 24. 4. 2009. European Geosciences Union, Vienna 2009
- SKALOVÁ, J. - JAROŠ, B. - PÁSZTOROVÁ, M. - NOVÁK, V.: Impact of Different Wetland Plants on Evapotranspiration. In: Natural Methods of Treatment of Water 6<sup>th</sup> Proceedings of Scientific Seminar, Brno, 22. 10. 2009. CERM, Brno 2009, ISBN 978-80-7204-655-3, pp. 58-67 (in Slovak)
- SKALOVÁ, J. - VITKOVÁ, J. - JAROŠ, B.: Impact of Management Changes on Groundwater Level in the Locality of Abrod. In: 12<sup>th</sup> International Scientific Conference, Brno, 20. - 22. 4. 2009. CERM, Brno 2009, ISBN 978-80-7204-629-4, pp. 181-184 (in Slovak)
- ŠKRINÁR, A. - JALČOVÍKOVÁ, M. - ŠKROVINOVÁ, M. - MACURA, V.: Ecological Quality Assessment of the Drietomica Stream by Bioindication. In: 11th International Symposium on Water Management and Hydraulic Engineering, WMHE 2009, Vol. I. Ohrid, Macedonia, 1. - 5. 9. 2009. University of Sts. Cyril and Methodius, Skopje 2009, ISBN 978-9989-2469-6-8, pp. 841-848
- ŠOLTÉSZ, A. - KOHNOVÁ, S. - HLAVČOVÁ, K. - MIŠÍK, M.: Hydrologic and Hydraulic Aspects of Flood Protection in an Urban Region. In: Eleventh International Symposium on Water Management and Hydraulic Engineering, WMHE 2009, Vol. I. Ohrid, Macedonia, 1. - 5. 9. 2009. University of Sts. Cyril and Methodius, Skopje 2009, ISBN 978-9989-2469-6-8, pp. 257-266
- SPÁL, P. - TEGELHOFFOVÁ, M. - KALÁBER, L. - SZOLGAY, J.: Analysis of the Variability of Monthly Flows on the Danube in Bratislava. In: Čelková, A., ed.: Transport of Water, Chemicals and Energy in the Soil-Crop Canopy-Atmosphere System. 17th International Poster Day, 12. 11. 2009, Bratislava. IH SAS, GPI SAS, Bratislava 2008, pp. 573-777, ISBN 978-80-89139-19-4 (in Slovak)
- SVETLÍKOVÁ, D. - KOHNOVÁ, S. - SZOLGAY, J. - KOMORNÍKOVÁ, M. - HLAVČOVÁ, K.: Analysis of Monthly Discharge and Precipitation Time Series for Selected Wetlands in Slovakia In: 11<sup>th</sup> International Symposium on Water Management and Hydraulic Engineering, WMHE 2009, Vol. I. Ohrid, Macedonia, 1. - 5. 9. 2009. University of Sts. Cyril and Methodius, Skopje 2009, ISBN 978-9989-2469-6-8, pp. 827-840
- SVETLÍKOVÁ, D., SZOLGAY, J., KOHNOVÁ, S., KOMORNÍKOVÁ, M., SZÓKEOVÁ, D.: Hybrid Deterministic - Stochastic Model for Forecasting Monthly River Flows. In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19. -24. 4. 2009. European Geosciences Union, Vienna 2009
- SZOLGAY, J. - DANÁČOVÁ, M. - ŠÚREK, P.: Detection of Changes in Design Discharges Due to River Engineering Works by Multilinear Flow Routing. In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19. -24. 4. 2009. European Geosciences Union, Vienna 2009
- SZOLGAY, J. - DANÁČOVÁ, M. - SPÁL, P. - ŠÚREK, P.: Hydrological Flow Routing Methods Used for Flow Forecasting on the Morava River in Slovakia. In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19. -24. 4. 2009. European Geosciences Union, Vienna 2009
- VIGLIONE, A. - GAUME, E. - GAÁL, L. - BLÖSCHL, G. - SZOLGAY, J.: The Index-Flood Method in a Bayesian Perspective: Sensitivity to Regional Heterogeneity. In: Geophysical Research Abstracts, EGU General Assembly, Volume 11/2009, Vienna, Austria, 19. -24. 4. 2009. European Geosciences Union, Vienna 2009

#### Books

GAÁL, L.: Methods of Calculating Statistical Characteristics of Design Precipitation Totals in Slovakia. KEY Publishing, Ostrava 2009, pp. 224, ISBN 978-80-7418-047-7 (in Slovak)

HORVÁT, O.: Parameterization of Hydrologic Processes in Rainfall-Runoff Modelling. NOVAPRESS, Brno 2009, 149 pp. ISBN 978-80-87342-03-9

#### Parts of Books

LAPIN, M. - DAMBORSKÁ, I. - FAŠKO, P. - GAÁL, L. - MELO, M.: Some Facts on Extreme Weather Event Analyses in Slovakia. In: Bioclimatology and Natural Hazards. Springer Science+Business Media B.V. 2009, ISBN 978-1-4020-8875-9, pp. 39-53

STEHLOVÁ, K. - SKALOVÁ, J.: Soil Water Regime Influenced by Climate Change. In: Scientific and Social-Institutional Aspects of Central Europe and the USA: Pollution and Water Resources. Columbia University Seminar Proceedings, Vol. XXXVIII-XXXIX 2008-2009. Columbia University 2009, ISBN 978-963-9899-11-7, pp. 259-285

SZOLGAY, J. - KOHNOVÁ, S.: Design Discharges in Slovakia: Hoch. In: Wiener Mitteilungen. Wasser. Abwasser. Gewässer: Band 216. Hochwasser. Bemessung, Risikoanalyse und Vorhersage. TU Vienna, Vienna 2009, ISBN 978-3-85234-108-8, pp. 105-136 (in German)

# DEPARTMENT OF HYDRAULIC ENGINEERING

Department Head  
Prof. Peter Dušička, PhD.

Tel.: + 421 7-59274 565  
Fax: + 421 7-59274 619  
E-mail: peter.dusicka@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

Hydraulics I.  
Hydraulics II.  
Water Management Structures  
Weirs  
Groundwater Hydraulics  
Inland Waterways  
Computer Exploitation in Engineering  
Special Issues of Weirs  
Special Issues of Waterways  
Operation and Reconstruction of Hydraulic Structures  
Small Water Power Plants  
Stability and Static Solutions of Hydraulic Structures  
Water Power Utilization  
Field Measurements  
Hydroenergetics  
Construction of Metallic Hydraulic Structures  
Hydraulic Research  
Engineering Networks and Water Structures  
Automation of Engineering Problems  
Special Issues of Hydraulic Engineering  
Numerical Modelling of Hydraulic Processes  
Water and Road Constructions

## 2. Theses

### 2.1 Research projects

14

### 2.2 Graduate theses

BIELANSKÁ, L.: Navigational Structures of the Sered' Water Structure  
Supervisor: Možiešik, Ľ.

GOMBOŠ, T.: Hydraulic Design of the Creation of a Wetland System on Unused Agricultural Land  
Supervisor: Baroková, D.

GOREK, M.: Design of a Small Hydropower Plant at the Dobrohošť Water Structure  
Supervisor: Rumann, J.

GORNÝ, M.: Design of the Necpaly Small Hydropower Plant  
Supervisor: Dušička, P.

HARMAŇOŠ, P.: Project of the Navigation Chamber at the Madunice Water Structure  
Supervisor: Cabadaj, R.

KONDÁŠ, J.: Design of a Movable Weir at the Hron River in the Vicinity of Budča  
Supervisor: Gramblička, M.

KRÁLOVIČ, O.: Proposal for the Additional Energy Utilization of the Biological Discharge at the Čunovo Project  
Supervisor: Šulek, P.

KREJSA, M.: Variant Solutions for the Navigation Chamber at the Zemplín Water Structure  
Supervisor: Cabadaj, R.

MIZERÁK, P.: Design of a Movable Weir at the Hron River in the Vicinity of Šalková  
Supervisor: Gramblička, M.

NOVÁK, M.: Project for the Energy Utilization of Water Supply Conduits  
Supervisor: Dušička, P.

PAVLÍKOVÁ, M.: Design of the Lomná II Small Hydropower Plant on the Biela Orava River  
Supervisor: Dušička, P.

SERSENOVÁ, A.: Possibilities of Limited Regulatory Operations of the Gabčíkovo Hydropower Plant with Regard to Navigation  
Supervisor: Možiešik, Ľ.

URBAN, T.: Design of a Small Hydropower Plant at the Hron River in the Vicinity of Budča  
Supervisor: Šulek, P.

## 3. Research

### 3.1 Research projects

Effect of Drought on a Water Regime and the Biodiversity of Valleys in Slovakia and Proposed Countermeasures (Šoltész) (Research Grant No. APVV-51-044802)

Research on Design Parameters and Functions of Biocorridors in Water Structures (Čubanová) (Research Grant No. APVV-20-003705)

Hydraulic Research on Structures of an Artificial Water Sports Channel (Physical Model). (Kamenský) (Research Grant No. AV/4/0017/07)

### 3.2 International cooperation

#### Visit of staff members to foreign institutions

Czech Technical University, Prague, Faculty of Civil Engineering, Department of Hydraulic Engineering, Czech Republic (Dušička, Šoltész, Možiešik)

Technical University of Brno, Faculty of Civil Engineering, Institute of Water Structures, Czech Republic (Dušička, Šoltész, Možiešik)

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

#### Membership in international professional organizations

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 (Šoltész, A.)

## 4. Publications

ČUBANOVÁ, L.: Fish Pass with Brushy Elements - Compromise between Technical and Natural Fish Passes. In: Vodohospodársky spravodajca. ISSN 0322-886X. Vol. 52, Nos. 1-2, 2009

- DUŠIČKA, P., HODÁK, T., ŠULEK, P.: Small Water Plants in Regional Energetics. In: Inžinierske stavby. ISSN 1335-0846. Vol. 57, No. 4, 2009
- DUŠIČKA, P., HODÁK, T., ŠULEK, P.: Water Withdrawal and Water Reservoir in the Pribylina Museum of the Village of Liptov. In: Eurostav. ISSN 1335-1249. Vol. 15, No. 9, 2009
- KVĚTON, R., DUŠIČKA, P.: Hydro-Dynamic Model of the Groups of the Ladce-Ilava-Dubnica-Trenčín and Kostolná-Nové Mesto-Horná Streda Channel Hydro Power Plants. In: Slovak Journal of Civil Engineering. ISSN 1210-3896. Vol. 17, No. 1, 2009
- RUMANN, J.: Optimization of the Operation of a Classic Weekly Cycle Pumped Storage Power Plant. In: Slovak Journal of Civil Engineering. ISSN 1210-3896. Vol. 17, No. 1, 2009
- ŠULEK, P., DUŠIČKA, P.: Model of Planning and Operational Control of the Hydropower Plant Operations in the Slovak Electric Power System. In: Energetika. ISSN 0375-8842. Vol. 59, Nos. 8-9, 2009
- BAROKOVÁ, D., ŠOLTÉSZ, A.: Effect of a Planned Underground Railway Construction on the Groundwater Regime. In: Proceedings of Symposium of Hydraulic Engineers 2009. Pavlov, ČR, 15.-16.9.2009. Brno, Technical University of Brno, 2009. ISBN 978-80-214-3888-0.
- BAROKOVÁ, D., ŠOLTÉSZ, A.: Impact of an Underground Railway Line in Bratislava on the Groundwater Regime. In: 12th International Scientific Conference. Brno, 20.-22.4.2009, Section 3: Water Structures, Water Management and Environmental Engineering. Brno, CERM, 2009. ISBN 978-80-7204-629-4.
- CABADAJ, R., OZÁBAL, M., RUMANN, J.: Physical Research on the Intake Structure of the Dobrohošť Small Hydropower Plant. In: 12th International Scientific Conference. Brno, 20.-22.4.2009, Section 3: Water Structures, Water Management and Environmental Engineering. Brno, CERM, 2009. ISBN 978-80-7204-629-4.
- CIPOVOVÁ, K.: Flood Protection of Adamovské Kochanovce. In: WMHE 2009. Vol.I. 11th International Symposium on Water Management and Hydraulic Engineering. Ohrid, Macedonia, 1.-5.9.2009. Skopje, University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8.
- CIPOVOVÁ, K.: A Flood Protection Solution for the Village of Adamovské Kochanovce. In: 12th International Scientific Conference. Brno, 20.-22.4.2009, Section 3: Water Structures, Water Management and Environmental Engineering. Brno, CERM, 2009. ISBN 978-80-7204-629-4.
- ČUBANOVÁ, L.: Ecological Fish Pass and Impact of Its Hydraulic Parameters on Migratory Ichthyofauna. In: HydroEco 2009. 2nd International Multidisciplinary Conference on Hydrology and Ecology, Vienna, Austria, 20-23.4.2009.
- ČUBANOVÁ, L.: Modeling of Fish Passes in the Conditions of Slovak Streams. In: WMHE 2009. Vol.I. 11th International Symposium on Water Management and Hydraulic Engineering. Ohrid, Macedonia, 1.-5.9.2009. Skopje, University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8.
- ČUBANOVÁ, L.: Possibilities in Modelling Fish Passes. In: Proceedings of Symposium of Hydraulic Engineers 2009. Pavlov, ČR, 15.-16.9.2009. Brno, Technical University of Brno, 2009. ISBN 978-80-214-3888-0.
- ČUBANOVÁ, L.: Procedure for the Design of Fish Passes. In: 12th International Scientific Conference. Brno, 20.-22.4.2009, Section 3: Water Structures, Water Management and Environmental Engineering. Brno, CERM, 2009. ISBN 978-80-7204-629-4.
- ČUBANOVÁ, L., RUMANN, J.: Design of Whitewater Courses in Slovakia. In: WMHE 2009. Vol.I. 11th International Symposium on Water Management and Hydraulic Engineering. Ohrid, Macedonia, 1.-5.9.2009. Skopje, University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8.
- DUŠIČKA, P., ŠULEK, P., HODÁK, T.: Additional Energy Utilization of Water Supply Reservoirs. In: Proceedings of Symposium of Hydraulic Engineers 2009. Pavlov, ČR, 15.-16.9.2009. Brno, Technical University of Brno, 2009. ISBN 978-80-214-3888-0.
- DUŠIČKA, P., OZÁBAL, M., RUMANN, J.: Modeling Research of the Water Intake Structure of the Dobrohošť Small Hydropower Plant. In: WMHE 2009. Vol.I. 11th International Symposium on Water Management and Hydraulic Engineering. Ohrid, Macedonia, 1.-5.9.2009. Skopje, University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8.
- GRAMBLIČKA, M.: Flood Protection of Towns and Villages. In: Proceedings of Symposium of Hydraulic Engineers 2009. Pavlov, ČR, 15.-16.9.2009. Brno, Technical University of Brno, 2009. ISBN 978-80-214-3888-0.
- KVĚTON, R.: Mathematical Model of Medzibrodzie WMS. In: WMHE 2009. Vol.I. 11th International Symposium on Water Management and Hydraulic Engineering. Ohrid, Macedonia, 1.-5.9.2009. Skopje, University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8.
- KVĚTON, R., DUŠIČKA, P., RUMANN, J., ŠULEK, P.: Terrain Measurements and Calibration of a Hydrodynamical Model of the Groups of Channel Hydro Power Plants on the Váh Cascade. In: 12th International Scientific Conference. Brno, 20.-22.4.2009, Section 3: Water Structures, Water Management and Environmental Engineering. Brno, CERM, 2009. ISBN 978-80-7204-629-4.
- KVĚTON, R., HULÍK, F., CABADAJ, R., RUMANN, J.: 3D Modelling a Velocity Field Near the Dobrohošť Small Hydropower Plant. In: 12th International Scientific Conference. Brno, 20.-22.4.2009, Section 3: Water Structures, Water Management and Environmental Engineering. Brno, CERM, 2009. ISBN 978-80-7204-629-4.
- MOŽIEŠIK, L.: Analysis of the Present and Future State of the Waterway at the Slovak Stage of the Danube River - Part II (After 19 Years). In: 25th Navigation Days : International Conference. Bratislava, SR, 22.-24.9.2009. Bratislava, Slovak Navigation Congress, 2009.
- MOŽIEŠIK, L., CABADAJ, R.: Optimization of the Discharge Regime of the Gabčíkovo Water Structure with Regard to the Safety of Water Transportation. In: Proceedings of Symposium of Hydraulic Engineers 2009. Pavlov, ČR, 15.-16.9.2009. Brno, Technical University of Brno, 2009. ISBN 978-80-214-3888-0.
- MOŽIEŠIK, L., CABADAJ, R.: Optimization of the Discharge Regime of the Gabčíkovo Water Structure with Regard to the Safety of Water Transportation. In: WMHE 2009. Vol.I. 11th International Symposium on Water Management and Hydraulic Engineering. Ohrid, Macedonia, 1.-5.9.2009. Skopje, University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8.

- MOŽIEŠIK, Ľ., CABADAJ, R., ŠULEK, P.: Canalization of the Bodrog, Latorica and Laborec Rivers. In: 25th Navigation Days : International Conference. Bratislava, SR, 22.-24.9.2009. Bratislava, Slovak Navigation Congress, 2009.
- ORFÁNUS, M.: Optimization of the Operation of the Polder System in the Bardejov Region. In: WMHE 2009. Vol.I. 11th International Symposium on Water Management and Hydraulic Engineering. Ohrid, Macedonia, 1.-5.9.2009. Skopje, University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8.
- RUMANN, J., CABADAJ, R., OZÁBAL, M.: Physical Research on the Intake Structure of the Dobrohošť SHPP. In: Proceedings of Symposium of Hydraulic Engineers 2009. Pavlov, ČR, 15.-16.9.2009. Brno, Technical University of Brno, 2009. ISBN 978-80-214-3888-0.
- RUMANN, J.: Assessment of the Effectiveness of the Canalization of the Bodrog, Latorica and Laborec Rivers. In: 25th Navigation Days : International Conference. Bratislava, SR, 22.-24.9.2009. Bratislava, Slovak Navigation Congress, 2009.
- ŠOLTÉSZ, A.: Gabčíkovo Hydropower Plant - Technical and Ecological Issues. In: Gospodarenje vodama u Hrvatskoj. Water Management in Croatia, Simpozija s međunarodnim sudjelovanjem, Zagreb, 12.2.2009, 2009. ISBN 978-953-7076-16-0.
- ŠOLTÉSZ, A.: Hydraulic Aspects of Cross-Border Cooperation on River Restoration Project. In: Gospodarenje vodama u Hrvatskoj. Water Management in Croatia, Simpozija s međunarodnim sudjelovanjem, Zagreb, 12.2.2009, 2009. ISBN 978-953-7076-16-0.
- ŠOLTÉSZ, A., KOHNOVÁ, S., HLAVČOVÁ, K., MIŠÍK, M.: Hydrologic and Hydraulic Aspects of Flood Protection in Urban Regions. In: WMHE 2009. Vol.I. 11th International Symposium on Water Management and Hydraulic Engineering. Ohrid, Macedonia, 1.-5.9.2009. Skopje, University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8.
- ŠOLTÉSZ, A., BAROKOVÁ, D.: Impact of a Planned Underground Railway Structure on a Groundwater Regime (abstract). In: SIMONA 2009. Simulation, Modelling and Different Applications, Seminar. Liberec, ČR, 21.-23.9.2009. Liberec, Technical University in Liberec, 2009.
- ŠOLTÉSZ, A.: The Role of a Cross-Border Co-operation Programme for Water Management in Lowland Regions. In: WMHE 2009. Vol.I. 11th International Symposium on Water Management and Hydraulic Engineering. Ohrid, Macedonia, 1.-5.9.2009. Skopje, University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8.
- ŠULEK, P.: Impacts of New Trends in the Programming and Marketing of Electricity on the Methods of Operating the Hydropower Plants in the Slovak Electric Power System. In: WMHE 2009. Vol.I. 11th International Symposium on Water Management and Hydraulic Engineering. Ohrid, Macedonia, 1.-5.9.2009. Skopje, University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8.
- ŠULEK, P., DUŠIČKA, P.: Preparation Model for the Operation of Hydropower Plants in the Slovak Electric Power System. In: WMHE 2009. Vol.I. 11th International Symposium on Water Management and Hydraulic Engineering. Ohrid, Macedonia, 1.-5.9.2009. Skopje, University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8.
- ŠULEK, P.: Planning an Ancillary Reserve at the Hydropower Plants of the Slovak Electric Power System. In: Proceedings of Symposium of Hydraulic Engineers 2009. Pavlov, ČR, 15.-16.9.2009. Brno, Technical University of Brno, 2009. ISBN 978-80-214-3888-0.
- ŠULEK, P.: The Effect of New Trends in the Planning and Market for Electrical Energy on the Operation of Hydropower Plants in the Electric Supply System of Slovakia. In: 12th International Scientific Conference. Brno, 20.-22.4.2009, Section 3: Water Structures, Water Management and Environmental Engineering. Brno, CERM, 2009. ISBN 978-80-7204-629-4.
- CABADAJ, R.: Inertia Effect of Water on the Course of the Filling of Navigation Chambers with Long By-Passes, Edition of scientific works, Sheet No.71. Bratislava, STU v Bratislave, 2009. ISBN 978-80-227-3122-5.
- ČUBANOVÁ, L.: Solution of the Hydraulic Problems of Fish Passes at Water Structures and the Methodology for Their Design, Edition of scientific works, Sheet No.70. Bratislava, STU v Bratislave, 2009. ISBN 978-80-227-3121-8
- DUŠIČKA, P., ŠULEK, P.: Semi-Peak Operation of the Regulation Channel Hydropower Plant with an Application at the Gabčíkovo HPP. 1st edition, Bratislava, STU v Bratislave, 2009. ISBN 978-80-227-3083-9
- RUMANN, J.: Optimization of Pumped Storage Power Plant Operations with a Weekly Regulation Cycle, Edition of scientific works, Sheet No.72. Bratislava, STU v Bratislave, 2009. ISBN 978-80-227-3123-2
- CIPOVOVÁ, K.: Design of Flood Protection. In: Practical Handbook of Functional and Technical Requirements for Construction. ISSN 1335-8634, 2009, Section 4/7
- ŠOLTÉSZ, A., BAROKOVÁ, D.: Simulating Groundwater Flow Processes in Porous Media. Bratislava, STU v Bratislave, 2009, ISBN 978-80-227-3188-1.

# DEPARTMENT OF BUILDING STRUCTURES

Department Head  
Prof. Anton Puškár, PhD.

Tel.: + 421 2 59274 642  
Fax: + 421 2 52920 482  
E-mail: anton.puskar@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

Technical Drawing  
Building Construction 1  
Building Construction 2  
Building Construction 3  
Building Construction 4  
Building Construction 5  
Project KPS  
Physics of Indoor Environments  
Thermal Engineering of Buildings  
Building Acoustics and Illumination  
Fire Safety of Buildings  
Design Studio 1  
Design Studio 2  
Design Studio 3  
Design Studio 4  
Special Practice  
Final Project  
Building Construction  
Architectural-Constructional Design Studio 1  
Architectural-Constructional Design Studio 2  
Architectural-Constructional Design Studio 3  
Architectural-Constructional Design Studio 4  
Building and Energy  
Fire Engineering of Buildings  
Pathology of Buildings  
Simulations of Energy and Indoor Environments of Buildings  
Special Building Construction  
Thesis Seminar  
Thesis  
Methodology of Scientific Experiments  
Excursion  
Acoustics in Architecture  
Solar Technology and Illumination of Buildings  
Special Building Materials and Constructions  
Building-Physical Experiment  
Project 3  
Design Studio  
Defects and Reconstructions of Building Constructions  
Selected Articles from Building Construction  
Low-Energy and Ecological Architecture  
Pathology of Constructions  
Ecological Architecture  
Constructions in Architecture 1 (in English)  
Constructions in Architecture 2 (in English)  
Constructions in Architecture 3 (in English)  
Constructions in Architecture 4 (in English)  
Constructions in Architecture 5 (in English)  
Building Physics (in English)

#### Optional Subjects

Project 1: Low-Energy Buildings  
Building Acoustics and Illumination  
Building Construction 4  
Building Construction 2  
Aerodynamics and Hydrodynamics of Buildings  
Thermal Protection of Buildings

Construction-Physical Design  
Computer Graphics and Visualizations  
Facade Technology of Intelligent Buildings  
Information Technologies  
Lifespan of Building Constructions  
Architecture-Constructional Design  
Physics of Buildings in a European Context  
Building Construction  
Fire Safety of Buildings  
Urban and Building Acoustics  
Simulations of Energy and Indoor Environments of Buildings  
Acoustics in Architecture  
Solar Technology and Illumination of Buildings  
Building Construction 5  
Thermal Engineering, Acoustics and Illumination  
Renewal and Modernization of Buildings

## 2. Theses

### 2.1 Bachelor Theses

205

### 2.2 Graduate Theses

HORVÁTH, D.: Vrakúňa Multifunctional Building, Bratislava  
Supervisor: Beťko, B., Mendán, R.

TRNOVSKÝ, P.: Topoľčany Residential Building  
Supervisor: Beťko, B., Mendán, R.

HRONKOVIČ, M.: Hotel  
Supervisor: Gieciová, M.

BAČA, M.: Multifunctional Building - Slovany  
Supervisor: Gieciová, M.

BLAŽO, M.: Škoda Car Shop with Service Station  
Supervisor: Žilinský, J.

VÁRADI, Z.: Information Center with Library  
Supervisor: Žilinský, J.

STRAPKO, P.: Passive Residential Building  
Supervisor: Palko, M.

FRANKO, J.: Kempelen Hotel - Reconstruction  
Supervisor: Palko, M.

CICHROVÁ, K.: Thermal Swimming Pool  
Supervisor: Turček, I.

JUROVATÝ, M.: Residential Building in Bratislava –  
– The Study of Non-Girder Ceilings  
Supervisor: Bielek, M.

FEHÉROVÁ, L.: Mountain Hotel  
Supervisor: Držka, M.

SZABÓ, J.: Hotel  
Supervisor: Puškár, A., Vavrovič, B.

POTANČOKOVÁ, P.: Town Hall  
Supervisor: Adamská, G.

HREBÍK, P.: Terminal of the Bratislava Airport  
Supervi

MICHALIK, L.: Office Building  
Supervisor: Miklósová, T.

LOBÔTKA, I.: Family Farm – Riding Premises  
Supervisor: Mikolai, I.

PIROHA, J.: Roman Catholic Church of the Exaltation of the Holy Cross  
Supervisor: Hraška, J.

STICZA, P.: Headquarters of the ATYP INTERIÉR Company  
Supervisor: Hraška, J.

KLEIN, R.: Multifunctional Residential Building  
Supervisor: Minarovičová, K.

GARAJ, S.: Office Building  
Supervisor: Zajac, J.

### 2.3 Doctoral Theses

MIHÓK, M.: A Contribution towards Solving Sheet Roofing Problems.  
Supervisor: Oláh, J.

MAŇKOVÁ, L.: Day Lighting of Buildings Using Light Pipes.  
Supervisor: Hraška, J.

## 3. Research

### 3.1 Research Projects

Theory, Experiment and Structural Detail of Newly Designed and Renovated Separating Construction. (Zajac, J.) (VEGA 1/4207/07)

Window Constructions in Low-Energy and Passive Houses (Puškár, A., Palko, M.) (VEGA 1/0748/08)

Building Simulations in the Climatic Conditions of the Slovak Republic (Hraška, J.) (VEGA 1/0647/09)

Natural Physical Cavities of Double-Skin Facades with a Geometrically Undefined Cross-Section of the Air Flow and Its Motion Line (Bielek, M.) (VEGA 1/0316/09)

Influence of Background Noise Levels and the Sound Insulation of Partition Walls on Speech Intelligibility and Changes in the Intensity of the Vocal Output of a Teacher in Classrooms: Measuring Methods, Suggestion of Parameters for Evaluation, Analysis and Criteria (Tomašovič, P.) (VEGA 1/0208/09)

Modern Architecture as a Monument: Energy-Saving Renewal (Puškár, A.) (APVV-0204-07)

Energy Performance of a Building and Comfort (Rabenseifer, R.) (060756)

Computer-Aided Physical Modelling of Buildings (Rabenseifer, R.) (MVTS 6RP/42472/07)

### 3.2 International cooperation

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

## 4. Publications

### Books and Textbooks

MENĎAN, R., VAVROVIČ, B., MINAROVIČOVÁ, K., VARGOVÁ, A., PLACHTINSKÁ, P., VALENTOVÁ, Z.: Details in Building Structures: Recommended Solutions of Details for the Design and Realization of Buildings Applicable in CAD Systems. Current edition: February 2009. Bratislava: Verlag Dashöfer, 2009. - 944 pp. (in Slovak)

TOMAŠOVIČ, P., DLHÝ, D., GAŠPAROVIČOVÁ, V., RYCHTÁRIKOVÁ, M.: Acoustics of Buildings - Building and Urban Acoustics. Bratislava : STU in Bratislava, 2009. - 398 pp. - ISBN 978-80-227-3019-8 (in Slovak)

ZAJAC, J., SZABÓ, D.: Acoustical Requirements for Separating Constructions: Partitions. 1<sup>st</sup> edition. Bratislava: STU in Bratislava, 2009. - 193 pp. - ISBN 978-80-227-3113-3 (in Slovak)

ŽILINSKÝ, J., LAVRINČIKOVÁ, D., PIFKO, H., ŠTEFANCOVÁ, B., GYORE, V., KRUŽLIAK, M., KALOUSEK, M., RYDLO, P., NIKO, I., MORÁVEK, P., KLESKEŇ, P.: Low-Energy and Passive Family Houses. Principles-Projects-Realizations. Catalog. Bratislava: VERSO, 2009. - 168 pp. - ISBN 978-80-967718-8-2 (in Slovak)

ADAMSKÁ, G., MINAROVIČOVÁ, K., VARGOVÁ, A.: Building Constructions I.: Substructure. 2<sup>nd</sup> edition. Bratislava: STU in Bratislava, 2009. - 181 pp. - ISBN 978-80-227-3054-9 (in Slovak)

RYCHTÁRIKOVÁ, M.: Acoustics in Architecture: Modern Methods of Assessing Buildings from the Point of View of Room Acoustics. Bratislava: STU in Bratislava, 2009. - 72 pp. - ISBN 978-80-227-3153-9 (in Slovak)

RYCHTÁRIKOVÁ, M.: Building Physics: Introduction to Noise Control and Building Acoustics. 1<sup>st</sup> edition, Bratislava: STU in Bratislava, 2009. - 85 pp. - ISBN 978-80-227-3041-1 (in English)

### Journals

BEŤKO, B., VAVROVIČ, B.: Defects in the External Structures of Residential Buildings and Rain Activity. In: *Střechy, fasády, izolace*. ISSN 1212-0111. Vol. 16, No. 5 (2009), pp. 10-13 (in Slovak)

BIELEK, B., BIELEK, M.: The Double-Skin Transparent Facade in the Modernization of the Východočeská energetika Office Building in Hradec Králové (7th part). In: *Střechy, fasády, izolace*. ISSN 1212-0111. Vol. 16, No. 1 (2009), pp. 24-26 (in Slovak)

CHMÚRNY, I.: Energy Audits and Certifications of Buildings. Part 2: Energy Need for Heating. In: *TZB Haustechnik*. ISSN 1210-356X. Vol. 17, No. 2 (2009), pp. 27-29 (in Slovak)

DLHÝ, D.: Acoustical Properties of Windows in Terms of hEN 14351-1 Standard Exercises. In: *OKNOVINY*. ISSN 1337-8791. No. 1 (2009), p. 4 (in Slovak)

DAHLSVEEN, T., PETRÁŠ, D., CHMÚRNY, I.: Energy Audits and Certifications for Buildings. 1st Part: Process of Energy Audits and Certifications for Buildings. In: *TZB Haustechnik*. ISSN 1210-356X. Vol. 17, No. 1 (2009), pp. 26-28 (in Slovak)

- HRAŠKA, J.: Trends in the Design of the External Walls of Buildings. In: Eurostav. ISSN 1335-1249. Vol. 15, No. 5 (2009), pp. 8-11 (in Slovak)
- JAKEŠ, E.: Structural Systems for Family Houses. In: Stavajte a bývajte s nami. ISSN 1336-1295. Vol. 8, No. 3 (2009), pp. 18-23 (in Slovak)
- JAMNICKÝ, M.: Efficient Designs Using BIM in Revit Architecture, 3rd part. In: Stavba. ISSN 1335-5406. Vol. 12, No. 10 (2009), pp. 58-61 (in Slovak)
- JELÍNEK, M., TOMAŠOVIČ, P., NIJS, L.: Comparison of Acoustic Prediction Methods in an Open Space Theater. In: Akustika. ISSN 1801-9064. Vol. 11, March (2009), pp. 9-13 (in Slovak)
- MIKLÓSOVÁ, T.: Drawings of Foundations and Excavations According to the New STN 01 3420. In: Stavba. ISSN 1335-5406. Vol.12, Nos. 7-8 (2009), pp. 68-69 (in Slovak)
- MIKOLAI, I., KAŠUBA, M.: Fire Protection Drawings of a Building (Part 1). In: Stavba. ISSN 1335-5406. Vol. 12, Nos. 7-8 (2009), pp. 64-67 (in Slovak)
- MINAROVIČOVÁ, K., MENĎAN, R.: Functionalism in Slovak Interwar Architecture. In: Stavba. ISSN 1335-5406. Vol. 12, No. 6 (2009), pp. 56-61 (in Slovak)
- OLÁH, J.: Indonesia and Roofs. In: Střechy, fasády, izolace. ISSN 1212-0111. Vol. 16, Nos. 7-8 (2009), pp. 11 -16 (in Slovak)
- PALCO, M., PUŠKÁR, A.: Windows for Low-Energy and Passive Houses. In: Stavba. ISSN 1335-5406. Vol.12, No. 6 (2009), pp. 34-37 (in Slovak)
- PAVČEKOVÁ, M., RYCHTÁRIKOVÁ, M., TOMAŠOVIČ, P.: Predictions of Acoustical Comfort in Classrooms with Two Simultaneous Sound Sources. In: Slovak Journal of Civil Engineering. ISSN 1210-3896. Vol. 17, No. 2 (2009), pp. 17-25 (in English)
- PERNIŠOVÁ, A.: Gates of Family Houses. In: Stavba. ISSN 1335-5406. Vol. 12, Nos. 7-8 (2009), pp. 52 - 55 (in Slovak)
- PUŠKÁR, A., SNOVKO, P., ŽÚDEL, R.: Directive of the SLOVOKNO Association for Establishing Windows. In: Tepelná ochrana budov. ISSN 1213-0907. Vol. 12, No. 2 (2009), pp. 17 - 21 (in Slovak)
- RYCHTÁRIKOVÁ, M., BOGAERT, T., VERMEIR, G., WOUTERS, J.: Localization of Binaural Sound Sources in Real and Virtual Rooms. In: Journal of the Audio Engineering Society. ISSN 1549-4950. Vol. 57, No. 4 (2009), pp. 205-220 (in English)
- TOMAŠOVIČ, P.: The Acoustics of Entrance and Stair Areas. In: Stavba. ISSN 1335-5406. Vol.12, No. 6 (2009), pp. 42-45 (in Slovak)
- VARGOVÁ, A.: Green Roofs. In: Stavba. ISSN 1335-5406. Vol.12, No. 4 (2009), pp. 46-49 (in Slovak)
- VAVROVIČ, B.: Glazing Systems in Terms of the Thermal Insulation of a Building. In: Stavebné materiály. ISSN 1336-7617. Vol. 5, No. 5 (2009), pp. 18-21 (in Slovak)
- Conferences**
- BEŤKO, B., GAŠPAROVIČOVÁ, V.: Energy Evaluation of Wooden Buildings. In: Drevostavby 2009: Proceedings of Scientific Conference with international attendance. Oščadnica, SR, 10.-11.6.2009. Žilina: University of Žilina, 2009. ISBN 978-80-970171-0-1. - pp. 22-27 (in Slovak)
- BIELEK, B., BIELEK, M.: Aerodynamic Quantification of Buildings Usable Despite Their Physical Problems. In: 33rd Scientific Conference of Departments and Institutes of Building Constructions: Proceedings of international conference. Štrbské Pleso, SR, 9.-11.9.2009. Bratislava: STU in Bratislava, 2009. ISBN 978-80-227-3182-9. - pp. 83-86 (in Slovak)
- ČEKON, M.: The Experimental Verification of the Spectral Properties of Low-Emissivity Coatings of Building Surfaces. In: Young Scientist 2009: 1<sup>st</sup> International PhD Conference of the Building Industry and Architecture. Podbanské, SR, 15.-16.4.2009. Košice: Technical University of Košice, 2009. ISBN 978-80-553-0176-1. - unpagged (in English)
- CHMÚRNÝ, I.: Thermal Performance of Residential Buildings with Double and Triple Glazing. In: Tepelná ochrana budov 2009. Low-Energy Buildings: Proceedings of 15<sup>th</sup> international conference. High Tatras, 20.-21.5.2009. Bratislava: BB Print, s.r.o., 2009. ISBN 978-80-969158-5-9. - pp. 65-68 (in Slovak)
- DLHÝ, D.: Methods: How to Define the Soundproofing of Windows. In: Noise and Vibration in Practice: Proceedings of the 14th International Acoustic Conference. Kočovce, 1.-2. 2009. Bratislava: STU in Bratislava, 2009. ISBN 978-80-227-3093-8. - pp. 23-26 (in Slovak)
- DRŽKA, M.: Defects of Wooden Construction Caused by Biotic Factors and Methods of Reconstruction. In: Drevostavby 2009 : Proceedings of Scientific Conference with international attendance. Oščadnica, SR, 10.-11.6.2009. Žilina: University of Žilina, 2009. ISBN 978-80-970171-0-1. - pp. 102 - 105 (in Slovak)
- GAŠPAROVIČOVÁ, V.: Decreasing Elevator Noise. In: Noise and Vibration in Practice: Proceedings of 14th International Acoustic Conference. Kočovce, 1.-2. 2009. Bratislava: STU in Bratislava, 2009. ISBN 978-80-227-3093-8. - pp. 49-52 (in Slovak)
- HALÚZOVÁ, D.: Utilization of Phase Shift Materials in Building Envelopes with the Use of Transparent Thermal Insulation. In: 33rd Scientific Conference of the Departments and Institutes of Building Constructions: Proceedings of international conference. Štrbské Pleso, SR, 9.-11.9.2009. Bratislava: STU in Bratislava, 2009. ISBN 978-80-227-3182-9. - pp. 87-90 (in Slovak)
- HANULIAK, P.: Biological Effects of Lighting. In: 33rd Scientific Conference of the Departments and Institutes of Building Constructions: Proceedings of international conference. Štrbské Pleso, SR, 9.-11.9.2009. Bratislava: STU in Bratislava, 2009. ISBN 978-80-227-3182-9. - pp. 91-94 (in Slovak)
- HRAŠKA, J., JANÁK, M., MAŇKOVÁ, L.: Climate-Based Evaluation and Design of Cylindrical Light Tubes. In: CISBAT 2009: Proceedings of international conference. Lausanne, Switzerland, 2.-3.9.2009. - , 2009. - pp. 201-206 (in English)
- INGELI, R.: Energy Performance of a Family House. In: Energy Audits and Certifications of Buildings: Case Study. Bratislava: STU in Bratislava, 2009. ISBN 978-80-227-3108-9. - pp. 55-66 (in English)
- JANÁK, M., BUDAY, P.: Application of Double-Skin Facades in Office Buildings as Related to the Energy Performance of Buildings and Internal Thermal Comfort. In: Tepelná ochrana budov 2009. Low-Energy Buildings: Proceedings of 15<sup>th</sup> international conference. High Tatras, 20.-21.5.2009. Bratislava: BB Print, s.r.o., 2009. ISBN 978-80-969158-5-9. - pp. 88-92 (in Slovak)

- MAŇKOVÁ, L.: Simplified Calculation of the Illuminance of a Room with Light-Pipes in Dynamic Daylight Conditions. In: 33rd Scientific Conference of the Departments and Institutes of Building Constructions: Proceedings of international conference. Štrbské Pleso, SR, 9.-11.9.2009. Bratislava: STU in Bratislava, 2009. ISBN 978-80-227-3182-9. - pp. 99-102 (in Slovak)
- MENĎAN, R., VAVROVIČ, B.: Thermal Evaluation of the External Structures in Prefabricated Residential Buildings. In: Building Constructions 2009. Buildings for Housing - Energy and Ecology: Proceedings of scientific conference. Nitra, SR, 16.4.2009. Bratislava: STU in Bratislava, SvF, 2009. ISBN 978-80-227-3059-4. - pp. 40-47 (in Slovak)
- MIKOLAI, I.: Fire Doors (Theory and Practice). In: Environmental and Safety Aspects of Fires and Accidents: Conference with international attendance. Trnava, 12.2.2009. Trnava: AlumniPress, 2009. ISBN 978-80-8096-080-3. - pp. 106-116 (in Slovak)
- MORAVČÍKOVÁ, K.: Theoretical Thermal Analysis of a Transparent Naturally Ventilated Double Skin Facade. In: Juniorstav 2009: 11th Specialized Conference of PhD Studies. Brno, 4.2.2009. Brno: Brno University of Technology, 2009. ISBN 978-80-214-3810-1. - p. 55 (in Slovak)
- NIJS, L., RYCHTÁRIKOVÁ, M.: Examples of Auralization for Discussing Reverberation Time as a Standard for Sports Facilities. In: NAG/DAGA 2009: Proceedings of international Acoustic conference. Rotterdam, 23.-26.3.2009. - , 2009. ISBN 978-3-9808659-6-8. - unpagged (in English)
- OLÁH, J.: Attic Roof Constructions. In: Drevostavby 2009: Proceedings of scientific conference with international attendance. Ošadnica, SR, 10.-11.6.2009. Žilina: University of Žilina, 2009. ISBN 978-80-970171-0-1. - pp. 15 - 21 (in Slovak)
- OLBŘÍMEK, J.: Methodology and Simulation Movement Occurrences in Slovak Republic. In: FIRECO 2009: 8th international conference. Trenčín, SR, 13.-14.5.2009. Bratislava: Fire Research Institute in Bratislava, 2009. ISBN 978-80-89051-10-6. - unpagged (in Slovak)
- PALKOVÁ, A., PALKO, M.: Condensation of Vapour in the Functional Gap of a Window. In: ANSYS 2009: Proceedings of the conference. Plzeň, ČR, 23.-25.9.2009. Prague: Arcadea, 2009. ISBN 978-80-254-5437-4. - unpagged (in Slovak)
- PANÁČEK, P., PUŠKÁR, A., SZABÓ, D.: Insulating Glazing Systems in Critical Conditions. In: Wooden Windows, Doors, Stairs 2009: Specialized Seminar. Hranice, ČR, 5.-6.3.2009. Brno: Lynx, 2009. ISBN 978-80-86787-36-7. - pp. 36 - 45 (in Slovak)
- PUŠKÁR, A., VAVROVIČ, B.: Thermal Quality of Glazing Systems and Distant Frames. In: 33rd Scientific Conference of the Departments and Institutes of Building Constructions: Proceedings of international conference. Štrbské Pleso, SR, 9.-11.9.2009. Bratislava: STU in Bratislava, 2009. ISBN 978-80-227-3182-9. - pp. 107-114 (in Slovak)
- RABENSEIFER, R.: Facilitating Dynamic Computer Simulations Using Generic Models. In: 15th "Building Services, Mechanical and Building Industry Days" : International conference. Debrecen, Hungary, 15.-16.10.2009. Debrecen: Debreceni Egyeten, 2009. ISBN 978-963-473-314-0. - pp. 62-66 (in English)
- RYCHTÁRIKOVÁ, M., VERMEIR, G.: Acoustical Categorisation of Urban Public Places by the Clustering Method. In: NAG/DAGA 2009: Proceedings of international acoustic conference. Rotterdam, 23.-26.3.2009. - , 2009. ISBN 978-3-9808659-6-8. - unpagged (in English)
- ŠKEREŇOVÁ, K.: Mathematical Modelling and Computer Simulations of the Effects of Wind on Buildings and Their Surroundings. In: Juniorstav 2009: 11th Specialized Conference of PhD Studies. Brno, 4.2.2009. Brno: Brno University of Technology, 2009. ISBN 978-80-214-3810-1. - unpagged (in Slovak)
- TOMAŠOVIČ, P.: Investor - Acoustic Specialist - Provider Versus Mutual Confidence. In: Noise and Vibration in Practice: Proceedings of 14th International Acoustic Conference. Kočovce, 1.-2. 2009. Bratislava: STU in Bratislava, 2009. ISBN 978-80-227-3093-8. - pp. 87-90 (in Slovak)
- TURČEK, I., VAVROVIČ, B.: Village-Energy-Biomass. In: Building Constructions 2009. Buildings for Housing - Energy and Ecology: Proceedings of scientific conference. Nitra, SR, 16.4.2009. Bratislava: STU in Bratislava, SvF, 2009. ISBN 978-80-227-3059-4. - pp. 68-71 (in Slovak)
- VISLOCKÝ, V., PALKO, M.: Accumulation Core in a Passive House. In: 12th International Scientific Conference. Brno, 20.-22.4.2009. Section 2: Building Structures and Architecture. Brno: CERM, 2009. ISBN 978-80-7204-629-4. - pp. 183-186 (in Slovak)
- ZAJAC, J., SZABÓ, D.: Measurement of the Air Impermeability of a Floor Construction in Situ. In: Acoustics High Tatras 2009: Proceedings of 34th International Acoustics Conference - EAA Symposium. Nový Smokovec, SR, 28.-30.9.2009. Zvolen: Technical University in Zvolen, 2009. ISBN 978-80-228-2030-1. - p. 39 (in Slovak)
- ŽILINSKÝ, J.: Current Problems of Low-Energy Buildings in Slovakia. In: Urbanistic, Architectural and Technical Aspects of Rural Renewal VII.: Renewal of the Building Fund as a Contribution to the Sustainable Development of the Country. Proceedings of international conference. Bratislava, SR, 5.11.2008. Bratislava: STU in Bratislava, SvF, 2009. ISBN 978-80-227-3127-0. - pp. 99-101 (in Slovak)



# DEPARTMENT OF STEEL AND TIMBER STRUCTURES

Department Head  
Assoc. Prof. Ján Brodniansky, PhD.

Tel.: + 421 2 59274 377  
Fax: + 421 2 52494 116  
E-mail: jan.brodniansky@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

Steel Structures  
Preparation of the First Degree Thesis  
Steel and Timber Structures  
Construction Project  
High-Rise and Long-Span Steel Structures  
Timber Structures  
Special Seminar  
Steel and Timber Members  
Metal and Timber Structures  
Steel Bridges I  
Metal and Timber for Buildings  
Steel, Timber and Glass in Architecture  
Steel Structures and Bridges  
Stability and Plasticity of Metal Structures  
High-Rise and Long-Span Steel Structures  
Stability and Plasticity of Steel and Timber Structures  
Special Timber Structures

#### Optional Subjects

Execution of Steel and Timber Structures  
Steel Bridges II  
High-Rise and Long-Span Steel Structures  
Diagnosis and Reconstruction of Steel and Timber Structures  
Thin-Walled Steel Structures  
Composite Structures

#### Recommended subjects

Composite Steel-Concrete Structures  
Special Timber Structures  
Structures of Ecological Buildings  
Technological Steel Structures  
Diagnosis and Reconstruction of Steel and Timber Structures

Advanced Steel and Timber Structures

## 2. Thesis

### 2.1 Bachelor theses

4

### 2.2 Graduate theses

VERBOVSKÝ J.: Timber Sports Hall in Dunajská Streda  
Supervisor: Draškovič, F.

TRNKA P.: Bus Terminal, Mlynské Nivy in Bratislava  
Supervisor: Brodniansky, J.

PROKSA D.: Sports Hall Structure in Hlohovec  
Supervisor: Sandanus, J.

NYARSIK P.: Sports and Recreational Complex in Malinovo  
Supervisor: Slivanský, M.

MORVAY G.: Stiffening Systems of High-Rise Buildings  
Supervisor: Agócs, Z.

MLYNÁROVÁ L.: Sports Hall in Košice  
Supervisor: Brodniansky, J.

KERESZTESI T.: Warehouse Complex in Svätý Jur  
Supervisor: Slivanský, M.

DALLEMÜLE M.: Reconstruction of Ondrej Nepela Winter Stadium in Bratislava  
Supervisor: Brodniansky, J.

BLESÁK L.: Structure of a Swimming Pool in Bratislava  
Supervisor: Sandanus, J.

IVANČÍK J.: Design of a Railway Bridge over the Hornád River  
Supervisor: Lapos, J.

VIČAN J.: Bridge on R2 Communication between Ruskovce and Pravotice  
Supervisor: Lapos, J.

### 2.3 Doctoral theses

BEZÁK I.: Design of Modern Beam String Structures with Pin Joints  
Supervisor: Agócs, Z.

GUGUTSIDZE G.: Strengthening of Timber Beams with High-Strength Materials  
Supervisor: Draškovič, F.

MAGURA M.: Theoretical and Constructional Problems of High-Pressure Gas Pipelines  
Supervisor: Brodniansky, J.

SÓGEL K.: Rheological Aspects of the Behaviour of Timber Structures  
Supervisor: Draškovič, F.

## 3. Research

### 3.1 Research projects

Strength, Stability and Ductility of Thin-Walled Beam and Plate Elements in Metal Bridges and Other Applications (Baláž) (VEGA 1/0652/09)

Interactive Loss of the Stability of Thin-Walled Structural Members (Baláž) (VEGA 2/0101/09)

### 3.2 International cooperation

#### Visit of staff members to foreign institution

Baláž, ENC Meeting, Brussels, Belgium, Jan. 15, 2009

Klas, Magura, Kováč, Vaník, Pásztorová, Csölleová, Juniorstav Conference, Brno, Czech Republic, Feb. 3-5, 2009

Štjuberová, Conference on Applications of Structural Fire Engineering, Prague, Czech Republic, Feb. 18-20, 2009

Slivanský, Sandanus, Excursion, Gaihorn am See, Austria, March 12-13, 2009

Brodniansky, Baláž, Ároch, Sandanus, Štjuberová, Conference, Brno, Czech Republic, April 21-22, 2009

Baláž, Conference, Kabul, Afghanistan, March 27 – April 4, 2009

Baláž, CEN TC 250 SC3 Meeting, Brussels, Belgium, April 16-17, 2009

Draškovič, Conference, Szczecin, Poland, June 4, 2009

Draškovič, PhD Thesis Defence, Brno, Czech Republic, June 26, 2009

Baláž, ENC Meeting, Brussels, Belgium, June 30 – July 2, 2009

Baláž, Erasmus mobility, Cottbus, Germany, July 4-12, 2009

Brodniansky, Baláž, Ároch, Magura, Klas, Conference, Brno, Czech Republic, Sept. 23-25, 2009

Sandanus, Seminar, Graz, Austria, Sept. 25, 2009

Sandanus, Pásztorová, Sógel, Slivanský, Proksa, Blesák, Excursion, Vienna, Austria, Oct. 2, 2009

Baláž, CEN TC 250 SC3 Meeting, Houten, The Netherlands, Oct. 18-20, 2009

Brodniansky, IASS Conference, Valencia, Spain, Sept. 27. - Oct. 3, 2009

Baláž, Lapos, Conference, Hustopeče, Czech Republic, Dec. 10, 2009

#### Membership in international professional organizations

AGÓCS Z.: IASS (International Association for Shell and Spatial Structures)

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

BALÁŽ I.: IABSE (International Association for Bridge and Structural Engineering)

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

BALÁŽ I.: Eurocode National Correspondents working group

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

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

BALÁŽ I.: WG of SC3 for creating list of errors in EN 1993

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

## 4. Publications

### Journals

BALÁŽ, I.: Eurocodes in Europe and International Codes in the USA. In: Eurostav. ISSN 1335-1249. Vol. 15, Nos.1-2 (2009), pp. 86-87 (in Slovak)

BALÁŽ, I.: Eurocodes and Permanent Tenability. In: Eurostav. ISSN 1335-1249. Vol. 15, No. 4 (2009), pp. 48-49 (in Slovak)

BALÁŽ, I.: History and Present Era of Chinese Bridge Engineering. In: Stavba. ISSN 1335-5406. Vol. 12, Nos. 1-2 (2009), pp. 38-42 (in Slovak)

BALÁŽ, I.: Bridges in Čchung-Čching, China. In: Eurostav. ISSN 1335-1249. Vol. 15, No. 9 (2009), pp. 64-66 (in Slovak)

BALÁŽ, I.: Meeting of Eurocode National Correspondent Group. In: Eurostav. ISSN 1335-1249. Vol. 15, Nos. 1-2 (2009), pp. 66-67 (in Slovak)

BALÁŽ, I.: Present and Future of Chinese Bridge Building. In: Stavba. ISSN 1335-5406. Vol. 12, No. 3 (2009), pp. 32-

36 (in Slovak)

BRODNIANSKY, J., MAGURA, M., VANÍK, P.: Modern Structural Systems of Cables and Membranes. In: Stavba. ISSN 1335-5406. Vol. 12, No. 10 (2009), pp. 50-53 (in Slovak)

DRAŠKOVIČ, F., SANDANUS, J., SÓGEL, K.: Timber Load-Bearing Structure of a Sports Stadium in Zilina. In: Materiály pro stavbu. ISSN 1213-0311. Vol. 15, No. 3 (2009), pp. 54-56 (in Slovak)

DRAŠKOVIČ, F.: The Use of Timber in Construction and Architecture. In: Eurostav. ISSN 1335-1249. Vol. 15, Nos. 7-8 (2009), pp. 6-8 (in Slovak)

SANDANUS, J.: Diagnosis of 30-Year-Old Structure. In: Stavitel. ISSN 1210-4825. Vol. 17, No. 5 (2009), pp. 29-30 (in Czech)

ŠTUJBEROVÁ, M., WALD, F., UHLÍŘ, A., KALLEROVÁ, P., CHLOUBA, J.: Fire Safety Journal. In: Fire Safety Journal. ISSN 0379-7112. Vol. 44 (2009), pp. 135-146 (in English)

### Books

ÁROCH, R., ŠTUJBEROVÁ, M.: Design of Multi-Storey Buildings According to the Eurocodes, EURING – Educational Project of the Leonardo da Vinci Programme, SUT in Bratislava, 2008, ISBN 978-80-227-2951-2, 208 pp. (in Slovak)

ÁROCH, R.: Selected Problems in the Design of Steel Thin-Walled Structures, In: Edition of Scientific Works, Issue No. 73. Bratislava, SUT in Bratislava, 2009, 81 pp. ISBN 978-80-227-3124-9 (in Slovak)

BALÁŽ, I.: Design of Load-Bearing Structures. 3 - Design of Steel Structures According to EN 1993, 1<sup>st</sup> Edition, Bratislava, SUT in Bratislava, 2009, 157 pp. ISBN 978-80-227-3079-2 (in Slovak)

BALÁŽ, I.: Design of Load-Bearing Structures. 9 - Design of Aluminium Alloy Structures According to ENV 1999-4-4 and EN 1999-1-1, 1<sup>st</sup> Edition, Bratislava, SUT in Bratislava, 2009, 125 pp. ISBN 978-80-227-3076-1 (in Slovak)

DRAŠKOVIČ, F., SANDANUS, J., SÓGEL, K.: Design of Load-Bearing Structures. 5 - Timber Structures, 1<sup>st</sup> Edition, Bratislava, SUT in Bratislava, 2009, 115 pp. ISBN 978-80-227-3060-0 (in Slovak)

GRAMBLIČKA, Š., LAPOS, J.: Design of Load-Bearing Structures. 4 - Composite Steel-Reinforced Concrete Structures, 1<sup>st</sup> Edition, Bratislava, SUT in Bratislava, 2009, 104 pp. ISBN 978-80-227-3061-7 (in Slovak)

GRAMBLIČKA, Š., BUJŇÁK, J., KVOČÁK, V., LAPOS, J.: Design of Composite Steel Concrete Structures, 2<sup>nd</sup> Edition, Bratislava, Consulting Centre for Engineers of the Slovak Chamber of Civil Engineers, 2009. 166 pp. ISBN 978-80-89113-36-1 (in Slovak)

HALVONÍK, J., BENKO, V., HUBOVÁ, O., MORAVČÍK, M., SOKOL, M., ŠTUJBEROVÁ, M., BORZOVIČ, V.: Design of Load-Bearing Structures. 1 – Basis of Design and Actions, 1<sup>st</sup> Edition, Bratislava, SUT in Bratislava, 2009, 144 pp. ISBN 978-80-227-3063-1 (in Slovak)

ŠTUJBEROVÁ, M., OSVALD, A.: Design of Load-Bearing Structures. 16 - Fire Resistance, 1<sup>st</sup> Edition, Bratislava, SUT in Bratislava, 2009, 107 pp. ISBN 978-80-227-3068-6 (in Slovak)

ŠTUJBEROVÁ, M.: Selected Problems of Structural Design under Fire Actions, In: Edition of Scientific Works, Issue No. 74. Bratislava, SUT in Bratislava, 2009, 89 pp. ISBN 978-80-227-3125-6 (in Slovak)

## Reviews published in Journals

BALÁŽ, I.: Book Review: Aluminium Suppliers Directory 2009. In: Zváranie - Svařování. ISSN 0044-5525. Vol. 58, No. 5-6 (2009), p. 158 (in Slovak)

BALÁŽ, I.: Book Review: Björn Akesson: Plate Buckling in Bridges and Other Structures. In: Zváranie - Svařování. ISSN 0044-5525. Vol. 58, No. 4 (2009), p. 114 (in Slovak)

BALÁŽ, I.: Book Review: Hendy, C.R.-Murphy, C.J.: Designer's Guide to EN 1993-2 Eurocode 3: Design of Steel Structures. Part 2: Steel Bridges. In: Eurostav. ISSN 1335-1249. Vol. 15, No. 9 (2009), p. 67 (in Slovak)

BALÁŽ, I.: Book Review: Papula L.: Mathematische Formelsammlung für Ingenieure und Naturwissenschaftler. In: Eurostav. ISSN 1335-1249. Vol. 15, No. 9 (2009), p. 67 (in Slovak)

BALÁŽ, I.: Book Review: Stahlbau-Kalender 2009. In: Zváranie - Svařování. ISSN 0044-5525. Vol. 58, No. 4 (2009), pp. 113-114 (in Slovak)

BALÁŽ, I.: Book Review: Werner Hesse: Key to Aluminium Alloys. In: Zváranie - Svařování. ISSN 0044-5525. Vol. 58, Nos. 5-6 (2009), p. 158 (in Slovak)

## Conferences

AGÓCS, Z., BEZÁK, A., VANKO, M., GAŽO, L.: Reconstruction of the O. Nepela Winter Stadium in Bratislava. In: Steel Structures and Bridges 2009: Proceedings of the 22<sup>nd</sup> Czech and Slovak Conference, Brno, Czech Republic, CERM, 2009. ISBN 978-80-7204-635-5, pp. 1-6 (in Slovak)

BALÁŽ, I.: Implementation and Application of Eurocodes in the Slovak Republic. In: Proceedings of the Conference on Current Trends in Civil Engineering and Architecture, Kabul, Afghanistan, March 28 – April 1, 2009, pp. 51-58 (in Slovak)

BALÁŽ, I.: Resistance of Metal Frames with an Ugli Imperfection. In: Engineering Structures, Proceedings of the 12<sup>th</sup> International Scientific Conference, Brno, April 20 – 22, 2009, Brno, CERM, 2009. ISBN 978-80-7204-629-4, pp. 11-14 (in English)

BALÁŽ, I.: Implementation of Eurocodes in the Slovak Republic. In: Building Statics 2009, Proceedings of the 14<sup>th</sup> Conference, Piešťany, Slovakia, March 19 – 20, 2009. Spolok statikov Slovenska, 2009. ISBN 978-80-970037-1-5, pp. 47-57 (in Slovak)

BALÁŽ, I., KOLEKOVÁ, Y.: Interesting Results Obtained by Modifying Eurocode Formulae for the Stability of Members. In: Steel Structures and Bridges 2009: Proceedings of the 22<sup>nd</sup> Czech and Slovak Conference, Brno, Czech Republic, CERM, 2009. ISBN 978-80-7204-635-5, pp. 7-14 (in English)

BRODNIANSKY, J., MAGURA, M.: Experimental, Maintenance and Monitoring Works on a Transit Gas Pipeline. In: Steel Structures and Bridges 2009: Proceedings of the 22<sup>nd</sup> Czech and Slovak Conference, Brno, Czech Republic, CERM, 2009. ISBN 978-80-7204-635-5, pp. 21-28 (in Slovak)

BRODNIANSKY, J., AGÓCS, Z., ÁROCH, R., SLIVANSKÝ, M.: Reconstruction of Spatial Steel Structures. In: Evolution and Trends in the Design, Analysis and Construction of Shell and Spatial Structures, Proceedings of the 50<sup>th</sup> Anniversary Symposium of the International Association for Shell and Spatial Structures (IASS), Valencia, Spain, Sept. 28 – Oct. 2, 2009, Valencia, Editorial de la UPV, 2009. ISBN 978-84-8363-459-2, pp. 1328-1337 (in English)

BRODNIANSKY, J., MAGURA, M.: Theoretical, Experimental and Repair Works by Safety Measures in the Operation of High Pressure Gas Pipelines. In: Engineering Structures, Proceedings of the 12<sup>th</sup> International Scientific Conference, Brno, April 20 – 22, 2009, Brno, CERM, 2009. ISBN 978-80-7204-629-4, pp. 15-18 (in Slovak)

CSÖLLEOVÁ, Z.: Kinematic Shape-Finding Methods for Tensegrity Structures. In: Juniorstav 2009, Proceedings of the 11<sup>th</sup> Professional Conference of PhD. Studies, Feb. 4, 2009, Brno, 2009. ISBN 978-80-214-3810-1 (in Slovak)

DRAŠKOVIČ, F.: Experimental Verification of Timber Beams Reinforced with Carbon Lamels. In: Timber: Material of the 21<sup>st</sup> Century in Architecture and Construction, Proceedings of the 7<sup>th</sup> International Conference, Smolenice, Slovakia, Sept. 28 – 29, 2009. Bratislava, ADAPT, 2009. ISBN 978-80-89145-05-8, pp. 49-52 (in Slovak)

DRAŠKOVIČ, F.: Experimental Testing of Glued Timber Beams Reinforced with Carbon Fibers. In: Testing and Quality in Construction 2009, Proceedings of the Reviewed Conference Papers, Brno, Czech Republic, Oct. 6 -7, 2009, Brno, 2009. ISBN 978-80-214-3951-1, pp. 201-209 (in Slovak)

HUBOVÁ, O., VANÍK, P.: Wind Actions on a Lattice Steel Tower. In: Proceedings of the 9<sup>th</sup> International VSU 2009 Scientific Conference, Sofia, Bulgaria, June 4 – 5, 2009. Sofia, Visše stroitelno učilišče "L.Karavelov", 2009. ISBN 978-954-331-023-4, pp. 62-65 (in English)

KLAS, T., BALÁŽ, I.: Critical Stress of Compressed Orthotropic Plates Calculated by FEM Programs. In: Steel Structures and Bridges 2009: Proceedings of the 22<sup>nd</sup> Czech and Slovak Conference, Brno, Czech Republic, CERM, 2009. ISBN 978-80-7204-635-5, pp. 123-126 (in Slovak)

KOLEKOVÁ, Y., BALÁŽ, I.: Flexural Buckling - Derivation of the Reduction Factor and the Influence of Local Buckling on the Resistance of a Member. In: Building Mechanics, Proceedings of the 12<sup>th</sup> International Scientific Conference, Brno, April 20 – 22, 2009, Brno, CERM, 2009. ISBN 978-80-7204-629-4, pp. 33-36 (in English)

KOVÁČ, M.: Flexural Buckling Resistance of Frames and Members with Non-Uniform Cross-Sections and/or Non-Uniform Axial Forces. In: Juniorstav 2009, Proceedings of the 11<sup>th</sup> Professional Conference of PhD. Studies, Feb. 4, 2009, Brno, 2009. ISBN 978-80-214-3810-1 (in Slovak)

LANG, T., ÁROCH, R., SOKOL, M.: Modeling of a Welded Beam-to-Column Joint by a Component Method. In: Steel Structures and Bridges 2009: Proceedings of the 22<sup>nd</sup> Czech and Slovak Conference, Brno, Czech Republic, CERM, 2009. ISBN 978-80-7204-635-5, pp. 171-176 (in English)

MAGURA, M.: Verification of the Influence of Sliding Soil on a Pipe with Numerical and Experimental Analyses. In: Juniorstav 2009, Proceedings of the 11<sup>th</sup> Professional Conference of PhD. Studies, Feb. 4, 2009, Brno, 2009. ISBN 978-80-214-3810-1 (in Slovak)

MAGURA, M., BRODNIANSKY, J.: Problem in Pipeline Design in Hazardous Territory. In: Steel Structures and Bridges 2009: Proceedings of the 22<sup>nd</sup> Czech and Slovak Conference, Brno, Czech Republic, CERM, 2009. ISBN 978-80-7204-635-5, pp. 177-180 (in Slovak)

# DEPARTMENT OF MAPPING AND LAND CONSOLIDATION

Department Head  
Assoc. Prof. Jozef Čižmár, PhD.

Tel.: + 421 2 52494 330  
E-mail: jozef.cizmar@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

Cartographic Techniques and Norms  
Topography  
Cadastral Mapping  
Cartographic Creation and Reproduction  
Land Surveying, Cartography and Cadastre of Real Estate  
Cadastre of Real Estate  
Land Consolidation  
Field Practice in the Cadastre of Real Estate and Cadastral Mapping  
Land Consolidation 2  
Mathematical Cartography  
Specialised Field Practice

#### Optional Subjects

Environmental Landscape Model  
Cartometry  
Cadastral Data Analysis Methods  
Value and Cost of Land  
Digital Cartographic Model

## 2. Theses

### 2.1 Bachelor Theses

12 projects

### 2.2 Graduate Theses

ANTALÍK, P.: Dimensioning a Road Network and a Roadside Field Project  
Supervisor: Geisse, R.

BARTÁK, L.: Publishing of Thematic Maps of Flood Protection on the Internet  
Supervisor: Fencík, R.

BIELIKOVÁ, M.: Thematic Maps of Flood Protection  
Supervisor: Fencík, R.

BÓDY, T.: 3D Model of the Natural Amphitheatre in Stupava  
Supervisor: Geisse, R.

FILOVÁ, M.: Design for Solution of Technical Equipment in a Land Consolidation Project  
Supervisor: Bartaloš, J.

HALINÁR, M.: 3D Content Design of a Spatial Database for Flood Protection  
Supervisor: Čižmár, J.

HOLEŠ, J.: Updating Map Symbols for the Creation of a Large-Scale Basic Map  
Supervisor: Bartaloš, J.

HRANICOVÁ, J.: Methods for the Creation of the Content of Thematic Maps  
Supervisor: Čižmár, J.

HUSIVARGOVÁ, L.: Elementary Land Consolidation Project  
Supervisor: Geisse, R.

JURICOVÁ, T.: 3D Model of the Faculty of Civil Engineering of the Slovak University of Technology in Bratislava  
Supervisor: Fencík, R.

KORBEL'OVÁ, L.: Illuminance of a Digital Landscape Model  
Supervisor: Vajsáblová, M.

KUBERNÁTOVÁ, J.: Analysis of the Interpolation Methods for the Creation of a Digital Elevation Model  
Supervisor: Fencík, R.

MÜLLER, L.: Spatial Data Visualisation in an Internet Environment  
Supervisor: Fencík, R.

OPÁL, V.: Modelling Common Equipment and Measures in a Land Consolidation Project  
Supervisor: Geisse, R.

ORAVEC, M.: Evaluation of the Accuracy of a Register for Renewal of the Land Inventory  
Supervisor: Bartaloš, J.

RYBÁROVÁ, M.: Modelling Common Equipment and Measures in a Land Consolidation Project  
Supervisor: Geisse, R.

SLÁDEČKOVÁ, V.: Conical Projections on the Territory of Slovakia  
Supervisor: Vajsáblová, M.

SÝKORA, O.: Use of GNSS RTK Receivers and Their Construction Programmes in a Cadastre of Real Estate  
Supervisor: Geisse, R.

ŠTETINA, P.: Records of Rights to Non-Housing Spaces in a Cadastre of Real Estate  
Supervisor: Bartaloš, J.

ZEMAN, M.: Heterogeneous Data for the Creation of Flood Hazard and Risk Maps  
Supervisor: Fencík, R.

ZEMANČÍK, M.: Technical Project of a School World Atlas  
Supervisor: Čižmár, J.

## 3. Research

### 3.1 Research projects

Model of Common Systems in a Land Consolidation Project (Geisse) (Project No.: VEGA 1/4364/07)

Multi-Criterial Analysis of Risks of Floodplains during Floods (Šoltész, Čižmár) (Project No.: VEGA 1/4210/07)

## 4. Publications

### Journals

ČIŽMÁR, J. - DROPOVÁ, V.: Generalization of Map Contents in a Computer Environment. In: Geodetický a kartografický obzor, Vol. 55/97, 9/2009, Prague 2009, pp. 198-201.

HÁJEK, M. - MELICHER, J. - BARTALOŠ, J.: Bratislava Meridian of Samuel Mikovini. In: Almanach znalca, Vol. 8, No. 2, Bratislava, 2009, pp. 17-20.

## Conferences

BARTÁK, L. - CIBULKA, D. - FENCÍK, R.: Information Portal of Flood Protection [CD-ROM]. In: Proceedings of 18th Cartography Conference on Quo Vadis, Cartography? Palacký University, Olomouc (Czech Republic) 2009 (in Slovak).

ČIŽMÁR, J.: Technological Processes in the Creation and Reproduction of Cartographic Products. In: Proceedings of 12th International Scientific Conference, CERM, Brno (Czech Republic) 2009, pp. 61-64 (in Slovak).

ČIŽMÁR, J.: Creation of Thematic Maps Using Remote Sensing Data [CD-ROM]. In: Proceedings of Reminiscences of Geodesy and Photogrammetry, Slovak University of Technology, Bratislava 2009, 8 pp.

FERANEC, J. - ČIŽMÁR, J. - KONTRA, P.: Developments in Cartography and Geoinformatics in Slovakia after 1989 [CD-ROM]. In: Proceedings of First ICA Symposium for Central and Eastern Europe 2009, Research Group Cartography, University of Technology in Vienna, Vienna (Austria), 2009, pp. 295-312.

DANEK, L.: The Creation of Thematic Maps in GIS for Purposes of Land Consolidation [CD-ROM]. In: Proceedings of 11th Specialized Doctoral Study Conference, Technical University of Brno, Brno (Czech Republic) 2009, 12 pp. (in Slovak).

FENCÍK, R. - HUDEC, P.: Thematic Flood Protection Maps in an ArcGIS Environment [CD-ROM]. In: Proceedings of GIS Ostrava 2009, TANGER s r.o., Ostrava (Czech Republic) 2009, 8 pp. (in Slovak).

FENCÍK, R. - GÁLOVÁ, L.: Possibilities of Using Environmental Data for the Needs of Crisis Management [CD-ROM]. In: Proceedings of ENVIRO-I-FÓRUM 2009, Slovak Environmental Agency, Zvolen 2009, p. 117.

GEISSE, R.: Design of a Road Network in a Land Consolidation Project. In: Proceedings of 12th International Scientific Conference, CERM s.r.o., Brno (Czech Republic) 2009, pp. 75-78 (in Slovak).

GEISSE, R.: Thematic Mapping of Altimetry for Land Consolidation Projects [CD-ROM]. In: Proceedings of Reminiscences of Geodesy and Photogrammetry, Slovak University of Technology, Bratislava 2009, 4 pp.

HRNČÁROVÁ, P.: Common and Public Equipment and Measures in a Digital Environment [CD-ROM]. In: Proceedings of 11th Specialized Doctoral Study Conference, Technical University of Brno, Brno (Czech Republic) 2009, 8 pp. (in Slovak).

RUŽIČKOVÁ, M.: Analysis of the Accuracy of Sources for the Creation of a Large-Scale Thematic Map [CD-ROM]. In: Proceedings of 11th Specialized Doctoral Study Conference, Technical University of Brno, Brno (Czech Republic) 2009, 6 pp. (in Slovak).

# DEPARTMENT OF MATHEMATICS AND DESCRIPTIVE GEOMETRY

Department Head  
Prof. Radko Mesiar, DSc.

Tel.: + 421 2 59274 703  
Fax: + 421 2 52925 787  
E-mail: radko.mesiar@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

Mathematics I  
Mathematics II  
Descriptive Geometry  
Descriptive Geometry  
Mathematics I  
Mathematics II  
Mathematics II  
Descriptive Geometry  
Mathematics I  
Mathematics II  
Mathematics III  
Descriptive Geometry  
Descriptive Geometry  
Mathematics III  
Mathematics IV  
Informatics  
Informatics  
Mathematics  
Mathematical Statistics  
Mathematical Statistics  
Mathematical Cartography  
Mathematical Analysis I  
Engineering Geometry and AutoCAD I  
Engineering Geometry and AutoCAD II  
Geometry  
Algebraic Structures and Math. Logic  
Programming in C Language  
Software  
Software  
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)

#### Optional Subjects

Mathematical Statistics  
Architecture Mathematics  
Numerical and Stochastic Methods  
Informatics and Statistics

#### Recommended subjects

Computer Graphics  
Fuzzy Management

### 1.2 Postgraduate courses

Linear Models of Time Series, M. Komorníková, 26 h.

Nonlinear Models of Time Series, M. Komorníková, 26h.

Mathematical Methods in Fluid Flow, Diffusion and Heat Transfer, K. Mikula, 26 h.

Numerical Methods in Fluid Flow, Diffusion and Heat Transfer, K. Mikula, 26 h.

Mathematical Basis of a Finite Element Method I, K. Mikula, 26 h.

Mathematical Basis of a Finite Element Method II, K. Mikula, 26 h.

Stochastic Processes I, M. Kalina, 26 h.

Probability and Statistical Estimation, O. Nánásiová, 26 h.

Multidimensional Statistics, O. Nánásiová, 26 h.

Statistical Methods in Geodesy, O. Nánásiová, 26 h.

Mathematics, R. Mesiar, 26 h.

Decision Theory, R. Mesiar, 26 h.

Aggregation Operators, R. Mesiar, 26 h.

Proposed Experiment in Optimisation, M. Komorníková, 26h.

Time Series Analysis in Civil Engineering, M. Komorníková, 26 h.

Dynamic and Stochastic Optimisation, J. Širáň, 26 h.

Discrete Mathematics, J. Širáň, 26 h.

Graph Theory, J. Širáň, 26 h.

## 2. Thesis

### 2.1 Bachelor theses

14 theses

### 2.2 Doctoral theses

SLÁDEČKOVÁ, V.: Conical Projections of the Territory of Slovakia, supervisor: Vajsáblová, M.

### 2.3 Doctoral theses

BALAŽOVJECH, M.: The Efficient Computation of Seismic Motion Using the Finite Element Method, supervisor: MOCZO, P.

FAŠKOVÁ, Z.: Numerical Methods For Solving Geodetic Boundary Value Problems, supervisor MIKULA, K.

BRESTOVANSKÁ, E.: Time Series Analysis with Applications in the Economic Sciences, supervisor: KOMORNÍKOVÁ, M.

## 3 Research

### 3.1 Research projects

VEGA 1/4209/07, Hybrid Flood Modelling and a Forecasting Framework for Real Time Control of Water Resource Systems and Flood Risk Estimation (2007-2009, Mesiar R.)

VEGA 1/0269/09 The Development of Efficient and Reliable Numerical Methods for Engineering Applications (2009-2011, Mikula K.)

VEGA 1/0198/09 Completion of Partial Information Under Uncertainty (2009-2011, Mordelová J., Stupňanová A.)

VEGA 1/0489/08 Topological Methods of the Study of Discrete Structures and Their Symmetry Groups (2008-2010, Širáň J.)

VEGA 1/4026/07 Uncertainty in the Representation of a Landscape Element in Spatial Modelling (2007-2009, Vajsáblová M.)

APVV 0375-06 Joint States and Conditioning (2007-2009, Mesiar R.)

APVV 0012-07 Development of Methods for Decision - Making Aids (2008-2010, Mesiar R.)

APVV 0104-07 Maps with a High Level of Symmetry (2008-2010, Širáň J.)

APVV 0040-06 Large Graphs and Communication Networks of a Given Degree and Diameter (2007-2009, Širáň J.)

LPP-0111-09 Stochastic Processes (2009-2012, Komorníková, M.)

LPP 0004-07 Copula - Based Modeling of Non-Exchangeable Random Vector Distributions and Its Applications (2008-2010, Mesiar R.)

LPP 0203-06 Symmetries of Graphs and Maps (2006-2009, Širáň J.)

LPP 0145-06 Exponents of Cayley Maps (2006-2009, Širáň J.)

RPEU-004-06 Image Analysis by Nonlinear Diffusion Equations (2007-2009, Mikula K.)

### 3.2 International cooperation

U University of Linz, Austria  
University of Novi Sad, Serbia  
University of Haifa, Israel  
Communication University of China, Beijing, China  
Beijing Institute of Technology, China  
CTU Prague, Czech Republic  
University of Ostrava, Czech Republic  
University of Liberec, Czech Republic  
WB University, Plzeň, Czech Republic  
Czech Academy of Sciences, Czech Republic  
University of Ghent, Belgium  
TU Budapest, Hungary  
University of Waterloo, Canada  
University of Freiburg, Germany  
University of Bremen, Germany  
University of Heidelberg, Germany  
University of Newcastle, Australia  
University of Bologna, Italy  
University of Ljubljana, Slovenia  
University of Pamplona, Spain  
CINECA – Supercomputing Centre, Bologna, Italy  
CNRS, Paris, France  
ICS, Paris, France  
University of Groningen, The Netherlands  
University of the Balearic Islands, Palma de Mallorca, Spain  
La Sapienza University, Rome, Italy  
Open UNI London, Great Britain  
University of Dortmund, Germany  
Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany  
Western Australia University, Perth, Australia  
University of Auckland, New Zealand  
TU Cracow, Poland  
Pohang University of Science and Technology, South Korea  
Western Washington University, Bellingham, WA, USA

### Visit of staff members to foreign institutions

BACIGÁL, T. – JKU Linz, Austria

DRBLÍKOVÁ, O. - CNRS Paris, France; ICS Paris, France

FROLKOVIČ, P. – UNI IWR Heidelberg, Germany; CNRS Strasbourg, France; CNRS Paris, France; ICS Paris, France; ČVUT Prague, Czech Republic

JÁGR, V. – JKU Linz, Austria

JURÁŇOVÁ, M. – JKU Linz, Austria

KALINA, M. – VUT Brno, Czech Republic; UIB Palma de Mallorca, Spain; University of Novi Sad, Serbia

KNOR, M. – AGH Krakow, Poland; Open UNI Milton Keynes, United Kingdom; UNI Ljubljana, Slovenia

KOMORNÍKOVÁ, M. – UMŠ, PřF MU Brno, Czech Republic; UIB Palma de Mallorca, Spain

MESJAR, R. – UNI Salzburg, Austria; JKU Linz, Austria; UNI Ostrava, Czech UTIA AV ČR Prague, Czech Republic; Trinity College, Dublin, Ireland; UIB Palma de Mallorca, Spain; Communication University of China, Beijing, China; Beijing Institute of Technology, China; University of Novi Sad, Serbia

MIKULA, K. – UNI Innsbruck, Austria; CNRS Paris, France; UNI Munster, Germany; UNI Ghent, Belgium; ICS Paris, France; ČVUT Prague, Czech Republic

NÁNÁSIOVÁ, O. – ČVUT Prague, Czech Republic; University of Lecce, Italy; Jiaotong University, Shanghai, China; Business School, Shanghai, China

REMEŠÍKOVÁ, M. – CNRS Strasbourg, France; CNRS Paris, France; ICS Paris, France

SARKOCI, P. – JKU Linz, Austria

STRUK, P. – Communication University of China, Beijing, China; Beijing Institute of Technology, China

ŠIRÁŇ, J. – UNI Auckland, New Zealand; Open UNI Milton Keynes, United Kingdom; Open UNI London, United Kingdom; Loyola College, Chennai, India; Kalasalingam University, India; Institute of Physics and Mathematics, Teheran, Iran; Polytechnic University, Barcelona, Spain

### Membership in international professional organizations

MESJAR, R.: Board Member EUSFLAT (European Society for Fuzzy Logic and Technology)

MIKULA, K. - Member, Embryomics Steering Committee; Member, BioEmergencies Steering Committee

## 4. Publications

### Books

KNOR, M.: The Heawood Hypothesis and Block Designs, STU Publishing Centre, Bratislava, 2009, 63 pp. (in Slovak)

GRABISCH, M., MARICHAL, J., L., MESJAR, R., PAP, E.: Aggregation Functions, Encyclopedia of Mathematics and Its Applications 127, Cambridge University Press, 2009, 460 pp. (in English)

ŠEVČOVIČ, D., STEHLÍKOVÁ, B., MIKULA, K.: Analytical and Numerical Methods for Pricing Financial Derivatives (Analytické a numerické metody oceňovania finančných derivátov) STU Publishing Centre, Bratislava, 2009, 200 pp. (in Slovak)

VRANKOVÁ, E., ŽIDEK, O., ŠTUDENCOVÁ, Z.: Geometry 1 –Live Stereometry: Stereometry with the Support of a Dynamic Program CABRI 3D (Geometria 1 –Oživená stereometria: Interaktívny elektronický učebný hypertext Stereometria s podporou dynamického programu CABRI 3D) University of Trnava, 2009, 175 pp. (in Slovak)

#### Parts of Books

ŠIRÁŇ, J., TUCKER, T.: Symmetric Maps, Topics in Topological Graph Theory, Cambridge University Press, 2009, pp. 199-224

#### Textbooks

KNOR, M.: Linear and Non-Linear Optimization, STU Publishing Centre, Bratislava, 2009, 98 pp. (in Slovak)

KYSELOVÁ, D., MÉSZÁROSOVÁ, K., MINÁROVÁ, M., BAŠOVÁ, H., PELIKÁNOVÁ, Š.: Descriptive Geometry: Exercise Instructions, STU Publishing Centre, Bratislava, 2009, 261 pp. (in Slovak)

VAJSÁBLOVÁ, M.: Descriptive Geometry for GaK, STU Publishing Centre, Bratislava, 2009, 97 pp. (in Slovak) ([http://www.svf.stuba.sk/docs//dokumenty/skripta/deskriptivna\\_gak.index.html](http://www.svf.stuba.sk/docs//dokumenty/skripta/deskriptivna_gak.index.html))

#### Journals

AL-ADILEE, A., M., NÁNÁSIOVÁ, O.: Copula and S-Map on a Quantum Logic, Information Sciences, Vol. 179, Issue 24, 2009, pp. 4199-4207 (in English)

BALASUBRAMANIAM, J., MESIAR, R.: I-Fuzzy Equivalence Relations and I-Fuzzy Partitions, Information Sciences, Vol. 179, Issue 9, 2009, pp. 1278-1297 (in English)

BENEŠ, M., MIKULA, K., OBERHUBER, T., ŠEVČOVIČ, D.: Comparison Study for Level Set and Direct Lagrangian Methods for Computing the Willmore Flow of Closed Planar Curves, Computing and Visualization in Science, Vol. 12, No. 6, 2009, pp. 307-317 (in English)

BODJANOVÁ, S., KALINA, M.: T-evaluators and S-evaluators, Fuzzy Sets and Systems, Vol. 160, Issue 14, 2009, pp. 1965-1983 (in English)

BOHDALOVÁ, M., KALINA, M., NÁNÁSIOVÁ, O.: Application of Quantum Probability, Proceedings of AIP Conference, Vol. 1101, Issue 1, 2009, pp. 114-118 (in English)

BUSTINCE, H., MONTERO, J., MESIAR, R.: Migrativity of Aggregation Functions, Fuzzy Sets and Systems, Vol. 160, Issue 6, 2009, pp. 766-777 (in English)

CONDER, M., POTOČNIK, P., ŠIRÁŇ, J.: Reflexibility of Regular Cayley Maps for Abelian Groups, Journal of Combinatorial Theory, Series B, Vol. 99, Issue 1, 2009, pp. 254-260 (in English)

DE BAETS, B., DE MEYER, H., KALICKÁ, J., MESIAR, R.: Flipping and Cyclic Shifting of Binary Aggregation Function, Fuzzy Sets and Systems, Vol. 160, Issue 6, 2009, pp. 752-765 (in English)

DI NOLA, A., HOLČÁPEK, M., JENČA, G.: The Category of MV-Pairs, Logic Journal of the IGPL, Vol. 17, No. 4, 2009, pp. 395-413 (in English)

DRBLÍKOVÁ, O., HANDLOVIČOVÁ, A., MIKULA, K.: Error Estimates of the Finite Volume Scheme for Nonlinear Tensor-Driven Anisotropic Diffusion, Applied Numerical Mathematics, Vol. 59, 2009, pp. 2548-2570 (in English)

DURANTE, F., MESIAR, R., SAMINGER-PLATZ, S.: Editorial to a Special Issue Devoted to "Copulas, Measures and Integrals", Information Sciences, Vol. 179, Issue 17, 2009, pp. 2861-2862 (in English)

FROLKOVIČ, P., WEHNER, Ch.: Flux-Based Level Set Method on Rectangular Grids and Computation of First Arrival Time Functions, Computing and Visualization in Science, Vol. 12, No. 6, 2009, pp. 297-306 (in English)

FROLKOVIČ, P., MIKULA, K.: Preface (Mini-symposium on Computational Advances in Evolving Interfaces), Computing and Visualization in Science, Vol. 12, No. 6, 2009, p. 265 (in English)

GRANNELL, M., GRIGGS, T., KNOR, M.: On Biembeddings of Latin Squares, The Electronic Journal of Combinatorics, Vol. 16, No. 1, 2009 (in English)

GRANNELL, M., GRIGGS, T., KNOR, M.: Orientable Biembeddings of Steiner Triple Systems of Order 15, Journal of Combinatorial Mathematics and Combinatorial Computing, Vol. 68, 2009, pp. 129-136 (in English)

HLINĚNÁ, D., KALINA, M., KRÁL, P.: Choquet Integral with Respect to Łukasiewicz Filters, and Its Modifications, Information Sciences, Vol. 179, Issue 17, 2009, pp. 2912-2922 (in English)

HUTNÍK, O., MESIAR, R.: On a Certain Class of Submeasures Based on Triangular Norms, International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems, Vol. 17, No. 3, 2009, pp. 297-316 (in English)

JAYARAM, B., MESIAR, R.: On Special Fuzzy Implications, Fuzzy Sets and Systems, Vol. 160, Issue 14, 2009, pp. 2063-2085 (in English)

JENČA, G.: 0-Homogeneous Effect Algebras, Soft Computing, Online 2009 (in English)

KAČUR, J., MALENGIER, B., REMEŠÍKOVÁ, M.: Convergence of an Operator Splitting Method on a Bounded Domain for a Convection Diffusion Reaction System, Journal of Mathematical Analysis and Applications, Vol. 348, 2009, pp. 894-914 (in English)

KALICKÁ, J.: On Some Construction Methods for 1-Lipschitz Aggregation Functions, Fuzzy Sets and Systems, Vol. 160, Issue 6, 2009, pp. 726-732 (in English)

KLEMENT, E., P., MESIAR, R.: Editorial to the Fuzzy Sets Special Issue, Probabilities, and Statistics: Gaps and Bridges, Fuzzy Sets and Systems, Vol. 160, Issue 3, 2009, pp. 291 (in English)

KNOR, M.: Unicyclic Radially-Maximal Graphs on the Minimum Number of Vertices, Australasian Journal of Combinatorics, Vol. 45, 2009, pp. 97-107 (in English)

KOLESÁROVÁ, A., MESIAR, R.: Parametric Characterization of an Aggregation Function, Fuzzy Sets and Systems, Vol. 160, Issue 6, 2009, pp. 816-831 (in English)

KOLESÁROVÁ, A., MORDELOVÁ, J., STUPŇANOVÁ, A.: Aggregation-Based Extensions of Fuzzy Measures, EUROFUSE Workshop'09 on Preference Modelling and Decision Analysis, Public University of Navarra, Spain, 2009, pp. 141-146 (in English)

KRIVÁ, Z., MIKULA, K., PEYRIÉRAS, N.: Adaptive Finite Volume Schemes for 2D Embryogenesis Image Filtering, Forum Statisticum Slovaca, Vol. 5, No. 3, CD-Rom, 2009 (in English)



- MARICHAL, J., L., MESIAR, R.: Meaningful Aggregation Functions Mapping Ordinal Scales into an Ordinal Scale: A State of the Art, *Aequationes Mathematicae*, Vol. 77, No. 3, 2009, pp. 207-236 (in English)
- MARINOVÁ, I., VALÁŠKOVÁ, Ľ.: Sigma-Additivity of S-maps, *Forum Mathematicum Slovacum*, Vol. 5, No. 3, 2009, CD-Rom (in English)
- MESIAR, R., KOMORNÍKOVÁ, M.: Copulas: An Approach How to Model the Dependence Structure of Random Vectors, *Acta Polytechnica Hungarica*, Vol. 6, No. 1, 2009, pp. 5-19 (in English)
- MESIAR, R., OUYANG, Y.: General Chebyshev Type Inequalities for Sugeno Integrals, *Fuzzy Sets and Systems*, Vol. 160, Issue 1, 2009, pp. 58-64 (in English)
- MESIAR, R., MESIAROVÁ, A., AHMAD, K.: Level-Dependent Sugeno Integral, *IEEE Transactions on Fuzzy Systems*, Vol. 17, No. 1, 2009, pp. 167-172 (in English)
- MESIAR, R., NÁNÁSIOVÁ, O., RIEČANOVÁ, Z., PASEKA, J.: Preface: Special Issue - Quantum Structures: Theory and Applications, *Information Sciences*, Vol. 179, Issue 5, 2009, pp. 475-477 (in English)
- MIKULA, K., REMEŠÍKOVÁ, M.: Finite Volume Schemes for a Generalized Subjective Surface Equation in Image Segmentation, *Kybernetika*, Vol. 45, No. 4, 2009 (in English)
- MINÁROVÁ, M.: Optimal Insulating Parameters Stipulation for an Old Family House, *Forum Mathematicum Slovacum*, Vol. 5, No. 3, 2009, CD-Rom (in English)
- NÁNÁSIOVÁ, O., PULMANNOVÁ, S.: S-Map and Tracial States, *Information Sciences*, Vol. 179, Issue 5, 2009, pp. 515-520 (in English)
- NIEPEL, Ľ., KNOR, M.: Domination in a Digraph and in Its Reverse, *Discrete Applied Mathematics*, Vol. 157, 2009, pp. 2973-2977 (in English)
- OUYANG, Y., MESIAR, R.: On the Chebyshev Type Inequality for Semi-Normed Fuzzy Integral, *Applied Mathematics Letters*, Vol. 22, No. 12, 2009, pp. 1810-1815 (in English)
- OUYANG, Y., MESIAR, R., LI, J.: On the Comonotonic \*-Property for Sugeno Integral, *Applied Mathematics and Computation*, Vol. 211, No. 2, 2009, pp. 450-458 (in English)
- OUYANG, Y., MESIAR, R.: Sugeno Integral and Comonotone Commuting Property, *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, Vol. 17, No. 3, (2009), pp. 465-480 (in English)
- PASTUCHOVÁ, E., VÁCLAVÍKOVÁ, Š.: Application of Statistical Methods in Hydrology, *Forum Mathematicum Slovacum*, Vol. 5, No. 3, 2009, CD-Rom (in Slovak)
- ŠIRÁŇ, J., ŠIAGIOVÁ, J., OLEJÁR, M.: Graph Coverings and Graph Labellings, *Journal of Graphs and Combinatorics*, Vol. 6, No. 1, 2009, pp. 127-133 (in English)
- ŠTUDENCOVÁ, Z., ZÁMOŽÍK, J., ŠTUDENC, J.: Morfing of Folding Surface, *G –Slovak Journal for Geometry and Graphics*, Vol. 6, No. 12, 2009, pp. 31-44 (in Slovak)
- VAJSÁBLOVÁ, M.: Evaluation of Conic Projection Parameters for the Slovak Republic, *Geodetický a kartografický obzor*, Vol. 55, No. 9, 2009, pp. 193-197 (in Slovak)
- Conference**
- ME BACIGÁL, T.: Non-Exchangeable Random Variables Modelling via Archimax Copula with a Basic Generator, *Proceedings of Workshop on Copula Theory and Its Applications*, Warsaw, Poland, 2009, p. 7 (in English)
- BALAŽOVJECH, M., MIKULA, K.: A Higher Order Scheme for the Curve - Shortening Flow of Plane Curves, *ALGORITMY 2009, 18<sup>th</sup> Conference on Scientific Computing*, *Proceedings of Contributed Papers and Posters*, Podbanské, SLOVAKIA, 2009, pp. 165-175 (in English)
- BODJANOVA, S., KALINA, M.: Sugeno and Shilkret Integrals, and T-and S- Evaluators, *SISY 2009, 7<sup>th</sup> International Symposium on Intelligent Systems and Informatics*, *Proceedings of Conference*, Subotica, Serbia, 2009, pp. 109-114 (in English)
- BOURGINE, P., FROLKOVIČ, P., MIKULA, K., PEYRIÉRAS, N., REMEŠÍKOVÁ, M.: Extraction of an Intercellular Skeleton from Images of Early Embryogenesis Using Eikonal Equation and Advective Subjective Surface Model, *Morphogenesis in Living Systems*, *Proceedings of Abstracts*, Paris, France, 2009, p. 76 (in English)
- BOURGINE, P., FROLKOVIČ, P., MIKULA, K., PEYRIÉRAS, N., REMEŠÍKOVÁ, M.: Extraction of an Intercellular Skeleton from 2D Images of Embryogenesis Using the Eikonal Equation and Advective Subjective Surface Method, *Scale Space and Variational Methods in Computer Vision*, *SSVM 2009, Proceedings of Conference*, Voss, Norway, 2009, pp. 38-49 (in English)
- BUSTINCE, H., MESIAR, R., MONTERO, J., FERNÁNDEZ, J.: Overlap Functions and Homogeneity, *AGOP 2009, Proceedings of 5<sup>th</sup> International Summer School on Aggregation Operators*, Palma, Spain, 2009, pp. 145-149 (in English)
- BUSTINCE, H., FERNANDEZ, J., MESIAR, R., MONTERO, J., ORDUNA, R.: Overlap Index, Overlap Function and Migrativity, *IFSA/EUSFLAT 2009, International Fuzzy Systems Association World Congress*, *Proceedings of Abstracts*, Lisbon, Portugal, 2009, p. 87 (in English)
- ČUNDERLÍK, P., DRBLÍKOVÁ, O., FROLKOVIČ, P., MIKULA, K., REMEŠÍKOVÁ, M.: Automatic Cell Center Detection in Zebrafish Embryogenesis by Nonlinear PDEs and Applications, *Morphogenesis in Living Systems*, *Proceedings of Abstracts*, Paris, France, p. 47, 2009 (in English)
- ČUNDERLÍK, P., DRBLÍKOVÁ, O., FROLKOVIČ, P., MIKULA, K., REMEŠÍKOVÁ, M.: Automatic Cell Center Detection in Zebrafish Embryogenesis by Nonlinear PDEs and Applications, *Morphogenesis in Living Systems*, *Poster*, Paris, France, 2009 (in English)
- ČUNDERLÍK, R., DRBLÍKOVÁ, O., MIKULA, K., PEYRIÉRAS, N., REMEŠÍKOVÁ, M., SARTI, A.: Applications of the Image Segmentation in the Analysis of Early Embryogenesis Images, *Morphogenesis in Living Systems*, *Proceedings of Abstracts*, Paris, France, p. 75, 2009 (in English)
- ČUNDERLÍK, R., FAŠKOVÁ, Z., MIKULA, K.: Comparison of Numerical Solutions by BEM, FEM and FVM with EGM2008 (Abstract), *EGU European Geosciences Union: General Assembly 2009*, Vienna, Austria, 2009 (<http://meetings.copernicus.org/egu2009/index.html>) (in English)

- ČUNDERLÍK, R., MIKULA, K.: Direct BEM Formulation for Gravity Field Modelling (Poster), 2009, 18<sup>th</sup> Conference on Scientific Computing, Proceedings of Contributed Papers and Posters, Podbanské, Slovakia, 2009 (in English)
- ČUNDERLÍK, R., FAŠKOVÁ, Z., MIKULA, K.: Fixed Gravimetric BVP for the Vertical Datum, IAG 2009, Geodesy for Planet Earth, Proceedings of Abstracts, Buenos Aires, Argentina, 2009, pp. 55-56 (in English)
- ČUNDERLÍK, R., MIKULA, K.: Global Quasigeoid Model – Precise Numerical Solution to the Fixed Gravimetric BVP by Direct BEM, Geodesy for Planet Earth, Proceedings of Abstracts, Buenos Aires, Argentina, 2009, p. 61 (in English)
- ČUNDERLÍK, R., MIKULA, K.: High-Resolution Numerical Solution to the Fixed Gravimetric BVP by Direct BEM (Abstract). EGU European Geosciences Union: General Assembly 2009, Vienna, Austria, 2009 (<http://meetings.copernicus.org/egu2009/index.html>) (in English)
- ČUNDERLÍK, R., MIKULA, K., ŠPIR, R.: Oblique Derivative Problem in the Direct BEM Formulation for the Fixed Gravimetric BVP (Poster), 7<sup>th</sup> Hotine-Marussi Symposium, Rome, Italy, 2009 (in English)
- DRBLÍKOVÁ, O., MIKULA, K., HANDLOVIČOVÁ, A., PEYRIÉRAS, N.: Diamond-Cell Finite Volume Method for Nonlinear Tensor Diffusion and Its Applications (Poster), 2009, 18<sup>th</sup> Conference on Scientific Computing, Proceedings of Contributed Papers and Posters, Podbanské, Slovakia, 2009 (in English)
- DRBLÍKOVÁ, O., HANDLOVIČOVÁ, A., MIKULA, K.: Finite Volume Scheme for Nonlinear Tensor Anisotropic Diffusion, American Mathematical Society, Vol. 30, No. 1 2009, pp. 218-219 (in English)
- DRBLÍKOVÁ, O., HANDLOVIČOVÁ, A., MIKULA, K., PEYRIÉRAS, N.: Nonlinear Tensor Anisotropic Diffusion in Embryogenesis Image Analysis (Abstract), Morphogenesis in Living Systems Proceedings of Abstracts, Paris, France, 2009, p. 55 (in English)
- TU DRBLÍKOVÁ, O., HANDLOVIČOVÁ, A., MIKULA, K., PEYRIÉRAS, N.: Nonlinear Tensor Anisotropic Diffusion in Embryogenesis Image Analysis (Poster) Morphogenesis in Living Systems, Proceedings of Abstracts, Paris, France, 2009 (in English)
- DRBLÍKOVÁ, O., MIKULA, K., PEYRIÉRAS, N.: The Nonlinear Tensor Diffusion in Segmentation of Meaningful Biological Structures from Image Sequences of Zebrafish Embryogenesis, Scale Space and Variational Methods in Computer Vision, SSVM 2009, Proceedings of Conference, Voss, Norway, 2009, pp. 63-74 (in English)
- DRBLÍKOVÁ, O., MIKULA, K., PEYRIÉRAS, N.: The Nonlinear Tensor Diffusion in Segmentation of Meaningful Biological Structures from Image Sequences of Zebrafish Embryogenesis (Poster), Scale Space and Variational Methods in Computer Vision, SSVM 2009, Proceedings of Conference, Voss, Norway, 2009 (in English)
- FAŠKOVÁ, Z., ČUNDERLÍK, R., MIKULA, K.: On the Finite Volume Method for Solving a Geodetic Boundary Value Problem (Poster) 2009, 18<sup>th</sup> Conference on Scientific Computing, Proceedings of Contributed Papers and Posters, Podbanské, Slovakia, 2009 (in English)
- FROLKOVIČ, P.: Application of D3F and R3T Software Tools for Coupled Problems of Variable Density Flow and Transport in Porous Media (Abstract), <http://siam.org/meetings/g09/GS09abstracts.pdf>, SIAM Conference on Mathematical & Computational Issues in the Geosciences, Leipzig, Germany, 2009, p. 85 (in English)
- FROLKOVIČ, P.: Complex Software Tools for Modeling and Simulation of Subsurface Flow and Transport Problems (Abstract), [http://meetings.siam.org/sess/dsp\\_programsess.cfm?SESSIONCODE=8328](http://meetings.siam.org/sess/dsp_programsess.cfm?SESSIONCODE=8328), SIAM Conference on Mathematical & Computational Issues in the Geosciences, Leipzig, Germany, 2009, p. 20 (in English)
- FROLKOVIČ, P., MIKULA, K.: Flux-Based Level Set Method (Poster), Workshop on Discretization Methods for Viscous Flows, Porquerolles, Toulon, France, 2009 (in English)
- GRABISCH, M., MARICHAL, J., L., MESIAR, R., PAP, E.: Aggregation on Bipolar Scales, Proceedings of 30<sup>th</sup> Linz Seminar on Fuzzy Set Theory, Linz, Austria, 2009, pp. 46-51 (in English)
- HANDLOVIČOVÁ, A., MIKULA, K.: Finite Volume Numerical Schemes for Solving Regularized Mean Curvature Flow in Level Set Formulation (Poster), Workshop on Discretization Methods for Viscous Flows, Porquerolles, Toulon, France, 2009 (in English)
- HLINĚNÁ, D., KALINA, M., KRÁL, P.: (C,x) -Filters and C-Transitivity AGOP 2009, Proceedings of 5<sup>th</sup> International Summer School on Aggregation Operators, Palma, Spain, 2009, pp. 101-105 (in English)
- HLINĚNÁ, D., KALINA, M., KRÁL, P.: I-Equivalence and Generated Implicators, 27<sup>th</sup> International Colloquium on the Management of the Educational Process, Proceedings of Abstracts and Electronic Version of Reviewed Contributions on CD-ROM, Brno CR, 2009 (in English)
- JÁGR, V.: Construction Method for New Generator Based on Limit Conditioning of Copulas, Proceedings of Workshop on Copula Theory and Its Applications: Proceedings of Abstracts, Warsaw, Poland, 2009, p. 31 (in English)
- JÁGR, V.: Copulas and Conditioning, ISCAMI 2009, Proceedings of Abstracts, Malenovice, CR, 2009, p. 16 (in English)
- JANÁK, J., SLOVÍK, S., FAŠKOVÁ, Z., MIKULA, K.: Disturbing Potential and Its Geometrical Properties, EGU European Geosciences Union, General Assembly 2009, Vienna, Austria, 2009, (<http://meetings.copernicus.org/egu2009/index.html>) (in English)
- OV JURÁŇOVÁ, M.: On a New Construction Method for Copulas, ISCAMI 2009, Proceedings of Abstracts, Malenovice, CR, 2009, p. 15 (in English)
- JURÁŇOVÁ, M.: One Construction Method for Additive Archimedean Generator, Proceedings of Workshop on Copula Theory and Its Applications, Proceedings of Abstracts, Warsaw, Poland, 2009, p. 32 (in English)
- KALICKÁ, J., JÁGR, V., JURÁŇOVÁ, M., JWAID, T., DE BAETS, B.: Conic Copulas and Quasi-Copulas, AGOP 2009, Proceedings of 5<sup>th</sup> International Summer School on Aggregation Operators, Palma, Spain, 2009, pp. 151-154 (in English)
- KALINA, M.: Some Generalisations of Conditioning and Joint Distributions, Proceedings of 10<sup>th</sup> Košice Mathematics Conference, Herfany, Slovakia, 2009, pp. 8-9 (in English)
- KLEMENT, E., P., MESIAR, R., PAP, E.: A Concept of a Universal Integral Based on Measures of Level Sets, SISY 2009, 7<sup>th</sup> International Symposium on Intelligent Systems and Informatics, Proceedings of Conference, Subotica, Serbia, 2009, pp. 11-16 (in English)
- D KLEMENT, E., P., KOLESÁROVÁ, A., MESIAR, R., STUPŇANOVÁ, A.: Universal Integrals Based on Level Dependent Capacities, IFSA-EUSFLAT 2009, Proceedings of International Fuzzy Systems Association World Congress, Lisbon, Portugal, 2009, pp. 114-118 (in English)

- KLEMENT, E., P., KOLESÁROVÁ, A., MESIAR, R., STUPŇANOVÁ, A.: Universal Integrals Based on Level Dependent Capacities (Abstract), IFSA/EUSFLAT 2009, International Fuzzy Systems Association World Congress, Proceedings of Abstracts, Lisbon, Portugal, 2009, p. 78 (in English)
- KNOR, M.: Biembeddings of Cayley Tables of Abelian Groups (Abstract), Algebraic Graph Theory 2009, Proceedings of Abstracts, Dubrovnik - Prague, 2009, p. 25. (in English)
- KNOR, M.: Domination in a Digraph and Its Reverse (Abstract), 13<sup>th</sup> Workshop on Graph Theory: Colourings, Independence and Domination, Proceedings of Abstracts, Szklarska Poreba, Poland, 2009, p. 51 (in English)
- KNOR, M.: Orientable Triangular Embeddings of Complete Graphs and Complete Tripartite Graphs (Abstract), 5<sup>th</sup> Workshop Graph Embeddings and Maps on Surfaces, Proceedings of GEMS'09, Tále, Slovakia, 2009, p. 18 (in English)
- KOLESÁROVÁ, A., MESIAR, R.: Lipschitzian De Morgan Triplets with Strong Negations, Proceedings of 30<sup>th</sup> Linz Seminar on Fuzzy Set Theory, Linz, Austria, 2009, pp. 64-69 (in English)
- KOMORNÍKOVÁ, M., KOMORNÍK, J.: Copula Approach to Analysis of the Returns of Exchange Rates of Visegrad Countries to the Euro, AGOP 2009, Proceedings of 5<sup>th</sup> International Summer School on Aggregation Operators, Palma, Spain, 2009, pp. 133-137 (in English)
- KRIVÁ, Z., MIKULA, K.: Adaptive Diamond Cell Finite Volume Method in Image Processing, ALGORITMY 2009, 18<sup>th</sup> Conference on Scientific Computing, Proceedings of Contributed Papers and Posters, Podbanské, SLOVAKIA, 2009, pp. 121-133 (in English)
- KRIVÁ, Z., MIKULA, K.: Adaptive Finite Volume Methods in Image Processing (Poster), Morphogenesis in Living Systems, Proceedings of Abstracts, Paris, France, 2009 (in English)
- KYSELOVÁ, D.: Aggregation Functions-Based Building of Transitive Preference Structures, AGOP 2009, Proceedings of 5<sup>th</sup> International Summer School on Aggregation Operators, Palma, Spain, 2009, pp. 139-143 (in English)
- MARICHAL, J., L., GRABISCH, M., MESIAR, R., PAP, E.: Behavioral Analysis of an Aggregation Function, Proceedings of 30<sup>th</sup> Linz Seminar on Fuzzy Set Theory, Linz, Austria, 2009, pp. 74-77 (in English)
- MAURY, B., CAMPANA, M., LEMESRE, V., MELANI, C., DRBLÍKOVÁ, O., REMEŠÍKOVÁ, M., ČUNDERLÍK, R., FAURE, E., SAVY, T., SARTI, A., MIKULA, K., BOURGINE, P., DUTREIX, M., PEYRIÉRAS, N.: Assessing Drug Activity at the Cellular Level in Live Zebrafish Embryos: Application to the Dbait, a New Family of Anti-Cancer Drugs, Morphogenesis in Living Systems, Proceedings of Abstracts, Paris, France, 2009, pp. 65-66 (in English)
- MELANI, C., CAMPANA, M., RIZZI, B., FAURE, E., LOMBARDOT, B., BOURGINE, P., MIKULA, K., PEYRIÉRAS, N., SARTI, A.: Tracking of Cells in a Live Zebrafish Embryo by Functional Minimization, Morphogenesis in Living Systems, Proceedings of Abstracts, Paris, France, 2009, pp. 68-70 (in English)
- MESIAR, R., PAP, E., GRABISCH, M., MARICHAL, J., L.: Contribution on Some Construction Methods for Aggregation Functions, Proceedings of 30<sup>th</sup> Linz Seminar on Fuzzy Set Theory, Linz, Austria, 2009, pp. 78-79 (in English)
- M MESIAR, R., MESIAROVÁ, A., AHMAD, K.: Extensions of the Choquet Integral and Bipolar OWA Operators, EUROFUSE Workshop 09: Preference Modelling and Decision Analysis, Proceedings of Conference, Pamplona, Public University of Navarra, Spain, 2009, pp. 161-165 (in English)
- MESIAR, R., MESIAROVÁ, A., AHMAD, K.: Merging Choquet-Integral – A New Extension of the Choquet Integral to Real Inputs, AGOP 2009, Proceedings of 5<sup>th</sup> International Summer School on Aggregation Operators, Palma, Spain, 2009, pp. 41-45 (in English)
- MIKULA, K., URBAN, J.: Semi-Automatic Segmentation of Biological Structures in 2D Images of Zebrafish Embryogenesis by Evolving Plane Curves, Morphogenesis in Living Systems, Proceedings of Abstracts, Paris, France, 2009, p. 71 (in English)
- MIKULA, K., URBAN, J.: Semi-Automatic Segmentation of Biological Structures in 2D Images of Zebrafish Embryogenesis by Evolving Plane Curves (Poster), Morphogenesis in Living Systems, Proceedings of Abstracts, Paris, France, 2009 (in English)
- MORDELOVÁ, J., RÜCKSCHLOSSOVÁ, T.: ABC Aggregation Functions, AGOP 2009, Proceedings of 5<sup>th</sup> International Summer School on Aggregation Operators, Palma, Spain, 2009, pp. 167-170 (in English)
- OLEJÁR, M.: A Note on Star Product, ISCAMI 2009, Proceedings of Abstracts, Malenovice, CR, 2009, p. 37 (in English)
- PAP, E., MESIAR, R., GRABISCH, M., MARICHAL, J., L.: Infinitary Aggregation, Proceedings of 30<sup>th</sup> Linz Seminar on Fuzzy Set Theory, Linz, Austria, 2009, pp. 91-92 (in English)
- ŠIAGIOVÁ, J., OLEJÁR, M.: Covering Constructions in the Degree-Diameter Problem from the Point of View of Graph Labelings (Abstract), IWOGL 2009, 5<sup>th</sup> International Workshop on Graph Labelings, Proceedings of Conference, Kalasalingam University, India, 2009, p. 6 (in English)
- ŠIAGIOVÁ, J.: Minimum Diameter Lifts of Complete Multipartite Graphs, ICMCS 2009, Proceedings of Conference, Vol. 1, Chennai, India, 2009, pp. 42-45 (in English)
- ŠIAGIOVÁ, J.: Vertex-Transitive and Cayley Graphs in the Degree-Diameter Problem, Abstract, 44<sup>th</sup> Czech and Slovak Conference on Graph Theory, Proceedings of GRAPHS 2009, Terchová, Slovakia, 2009, p. 22 (in English)
- ŠIRÁŇ, J.: Graph Coverings and Graph Labellings (Abstract), IWOGL 2009, 5<sup>th</sup> International Workshop on Graph Labelings, Proceedings of Conference, Kalasalingam University, India, 2009, p. 6 (in English)
- ŠIRÁŇ, J., ŠIAGIOVÁ, J., VETRÍK, T., MACBETH, H.: Large Cayley Graphs and Vertex-Transitive Non-Cayley Graphs of a Given Degree and Diameter (Abstract), Algebraic Graph Theory 2009, Proceedings of Conference, Dubrovnik – Prague, 2009, p. 36 (in English)
- ŠIRÁŇ, J.: Large Vertex-Transitive and Cayley Graphs of a Given Degree and Diameter (Abstract), Workshop on Cycles and Colourings 2009, Proceedings of Abstracts, Tatranská Štrba, Slovakia, 2009, p. 12 (in English)
- ŠIRÁŇ, J.: Non-Orientable Regular Maps of a Given Type (Abstract), 5<sup>th</sup> Workshop on Graph Embeddings and Maps on Surfaces, Proceedings of GEMS'09, Tále, Slovakia, 2009, p. 23 (in English)

ŠIRÁŇ, J.: Regular Maps of a Given Type on Non-Orientable Surfaces (Abstract), 44<sup>th</sup> Czech and Slovak Conference on Graph Theory, Proceedings of GRAPHS 2009, Terchová, Slovakia, 2009, p. 23 (in English)

ŠIRÁŇ, J., LOZ, E., MAČAJ, M., MILLER, M., ŠIAGIOVÁ, J., TOMANOVÁ, J.: Vertex-Transitive and Cayley Near-Cages of Girth Six and Five (Abstract), BCC 2009, 22<sup>th</sup> British Combinatorial Conference, Proceedings of Conference, University of St. Andrews, GB, 2009, p. 74 (in English)

STANEKOVÁ, Ľ., ŽDÍMALOVÁ, M.: Large Vertex-Transitive and Cayley Digraphs with Given Degree and Diameter (Abstract), 13<sup>th</sup> Workshop on Graph Theory: Colourings, Independence and Domination, Proceedings of Abstracts, Szklarska Poreba, Poland, 2009, p. 78 (in English)

STUPŇANOVÁ, A.: Special Capacities on N, AGOP 2009, Proceedings of 5<sup>th</sup> Inter-national Summer School on Aggregation Operators, Palma, Spain, 2009, pp. 219-222 (in English)

SVETLÍKOVÁ, D., KOHNOVÁ, S., SZOLGAY, J., KOMORNÍKOVÁ, M., HLAVČOVÁ, K.: Analysis of Monthly Discharge and Precipitation Time Series for Selected Wetlands in Slovakia, Water Management and Hydraulic Engineering, Proceedings of 11<sup>th</sup> International Symposium, Vol. II, Ohrid, Macedonia, 2009, pp. 827-840 (in English)

SVETLÍKOVÁ, D., SZOLGAY, J., KOHNOVÁ, S., KOMORNÍKOVÁ, M., SZÖKEOVÁ, D.: Hybrid Deterministic? Stochastic Model for Forecasting of Monthly River Flows (Abstract), Geophysical Research Abstracts, Volume 11/2009, EGU General Assembly Vienna, Austria, 2009 (in English)

SVETLÍKOVÁ, D., SZOLGAY, J., KOHNOVÁ, S., KOMORNÍKOVÁ, M., SZÖKEOVÁ, D.: Hybrid Deterministic? Stochastic Model for Forecasting of Monthly River Flows (Poster), EGU European Geosciences Union, General Assembly 2009, Vienna, Austria, 2009 (<http://meetings.copernicus.org/egu2009/index.html>) (in English)

ŽDÍMALOVÁ, M.: A Note on the Comellas and Fiol Construction, ISCAMI 2009, Proceedings of Abstracts, Malenovice, CR, 2009, p. 36 (in English)

ŽDÍMALOVÁ, M.: Large Cayley Graphs of Diameter 2 and Given Degree (Abstract), Workshop on Cycles and Colourings 2009, Proceedings of Abstracts, Tatranská Štrba, Slovakia, 2009, p. 17 (in English)

ŽDÍMALOVÁ, M., STANEKOVÁ, Ľ.: Which Faber-Moore-Chen Digraphs are Cayley Digraphs? (Abstract), 44<sup>th</sup> Czech and Slovak Conference on Graph Theory, Proceedings of GRAPHS 2009, Terchová, Slovakia, 2009, p. 25 (in English)

# DEPARTMENT OF PHYSICS

Department Head  
Assoc. Prof. Jozefa Lukovičová, PhD.

Tel.: + 421 2 59274403  
E-mail: jozefa.lukovicova@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

Physics-Optics  
Physics I  
Physics II  
Physics III  
Physics-CE

#### Optional Subjects

Engineering Thermodynamics

### 1.2 Postgraduate courses

Physical Principles of Measurements  
Special Aspects of Physics  
Modelling Transport Phenomena  
Physical Fields, Waves  
Heat and Moisture Transport in Building Materials

## 2. Research

### 2.1 Research projects

Study and Modelling of Heat and Moisture Properties of Porous Building Materials. (J. Lukovičová) (Project No.: VEGA 1/4204/07)

Interdisciplinary Transfer of Knowledge for an Cultural Heritage Protection and University Education (J. Lukovičová) (Project No. 061-006 STU – 8/2008)

### 2.2 International cooperation

#### Visit of staff members to foreign institutions

Faculty of Civil Engineering, Czech Technical University, Prague, Czech Republic (I. Baník, J. Veselský, M. Holúbek)

Silesian University of Technology, Gliwice, Poland. (J. Lukovičová)

Faculty of Civil Engineering, Technical University, Brno, Czech Republic. (J. Veselský, M. Holúbek)

#### Membership in international professional organizations

European Physical Society. (I. Baník, J. Veselský, J. Lukovičová)

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

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

## 3. Publications

### Books and Textbooks

Veselský J.: Physical Principles of Measurement: Measurement of Memperature and Thermal Properties. STU Publishing Centre, Bratislava 2009, pp. 78. ISBN 978-80-227-3118-8(in Slovak)

### Journals

Baník I.: Relation Between Optical Absorption and Photoluminescence in Non-crystalline Semiconductors, *Journal of Optoelectron. Adv. Mater.*, Vol. 11, No. 2, pp. 91-103 (2009).

Baník I.:Barrier-Cluster Model – the Basis for Understanding Optical Phenomena in Non-crystaline Semiconductors, *Journal of Optoelectron. Adv. Mater.*, Vol. 11, No. 12, pp. 1915-1930 (2009).

Baník I.: On Photoluminescence in Chalcogenide Glasses Based on Barrier-Cluster Model, *Journal of Non-oxide and Photonic Glasses*, Vol. 1, No 1. , pp 6-18 (2009).

I. Baník and F. Čulík: Determination of Temperature Field Created by Planar Heat Source in a Solid Body Consisting of Three Parts in Mutual Thermal Contact, *International Journal of Thermal Sciences*, Vol. 48, No, pp. 204-208 (2009).

Baník I.: Photoconductivity in Chalcogenide Glasses on the Base of Barrier-cluster Model, *Journal of Optoelectron. Adv. Mater.*, Vol.11, No 5, pp. 755-769 (2009).

Baník I.: Band Model of Diffusion and the Meyer-Neldel Rule, *Journal of Non-oxide and Photonic Glasses*, Vol. 1, No 4, pp. 267-275 (2009).

Baník I.: One Way to Explain the Meyer-Nelder Rule, *Chalcogenide Letters*, Vol 6, No 12, pp. 629-633 (2009).

Húšťava. Š.: Metrology of radioactive radiation, *Acta Facultatis Paedagogicae Universitatis Tyrnaviensis*, Vol. 12, Series C, pp. 16-21 (2009). ISBN 978 80 8082 282 8.

### Conferences

BANÍK I.: Photoluminescence Effectivity of Excitation Radiation in Non-crystalline Semiconductors from View of the Barrier-cluster Model, Proc. Int. workshop: Physical and Material Engineering 2008, Czech technical university in Prague 2008, pp. 7-12, 2008, ISBN 978-80-01-04102-4.

BANÍK I., Pavlendová G.: Barrier-cluster Model and Hydrogenated Amorphous Silicon as Possible Base of the Future Solar Energetics. In: Physical and Material Engineering 2009: Proceedings of International Workshop, Terchová. - Bratislava : STU in Bratislava, 2009. - ISBN 978-80-227-3193-5. pp. 5-20.

BANÍK, I.: Barrier-cluster model and the Photoconductivity in Chalcogenide Glasses in Non-stationary Regime. In: Physics of Materials 2009 : Proceedings of Scientific Conference. Košice, TU, 2009. - ISBN 978-80-8086-122-3. pp. 94-100.

BANÍK, I.: Wave Optics Nontraditionally. In: Krupa, D. and Kireš, M. Creative Teacher II Bratislava: Slovak Physical Society 2009. - Bratislava : SFS, 2009, pp. 3-8. ISBN 978-80-969124-8-3 (in Slovak).

ČULÍK, F., LUKOVIČOVÁ, J.: Diffusivity Determination from Measurement of the Time Development Temperature Inside a Sample. Book of Abstracts, Thermophysics 2009, Valtice, Czech Republic, 29.-30.10.2009, University of Technology, 2009, ISBN 978-80-214-3970-2.

HÚŠŤAVA, Š., SZARKA, J.: Possibilities of Using the Proportional and Scintillation Detectors for Measuring of Gamma Radiation in Environment : Proceedings of International Workshop. In: Physical and material engineering 2009 : Proceedings of international workshop, Terchová, - Bratislava : STU in Bratislava, 2009. - ISBN 978-80-227-3193-5. pp. 21-28.

KREMPASKÝ, J., HÚŠŤAVA, Š., VALKO, P.: Radioactivity as a Possible Indicator on the Fractal Structure of a Physical Vacuum. In: Krupa, D. and Kireš, M. Creative Teacher II Bratislava: Slovak Physical Society 2009. - Bratislava : SFS, 2009, pp. 3-8. ISBN 978-80-969124-8-3.

LUKOVIČOVÁ, J., VESELSKÝ, J.: Evaluation of the Hot Ball Sensor for Determining of Moisture. In: Physical and material engineering 2009 : Proceedings of international workshop, Terchová, SR, 14.-16.9.2009. - Bratislava : STU in Bratislava, 2009. - ISBN 978-80-227-3193-5. pp. 87-89.

PAVLENDA, P., LIČKO, M., PAVLENDOVÁ, G.: Knowledge Management and Innovations in Software Organization. In: CO-MAT-TECH 2009. Industrial Engineering, Management and Quality for 21st century. [CD-ROM] : Proceedings of the 17th International Science Conference, Trnava 22.-23. October 2009. - Trnava : AlumniPress, 2009. - ISBN 978-80-8096-100-8. pp. 282-285.

PAVLENDO VÁ, G.: Teaching Physics at the Faculty of Civil Engineering: Proceedings of International Workshop. In: Physical and Material Engineering 2009 : Proceedings of International Workshop, Terchová, SR, 14.-16.9.2009. - Bratislava : STU in Bratislava, 2009. - ISBN 978-80-227-3193-5. pp. 47-53.

VESELSKÝ, J.: Interrelationship Between Ultrasonic Velocity and Some Physical Properties of Sintered Silica Material : Proceedings of International Workshop. In: Physical and Material Engineering 2009 : Proceedings of International Workshop, Terchová, SR, 14.-16.9.2009. - Bratislava : STU in Bratislava, 2009. - ISBN 978-80-227-3193-5. pp. 74-81.

BANÍK, I.: The Photoluminescence–excitation Characteristic of a Stimulative Radiation in Chalcogenide Glasses Proc. Conf. APCOM 2009, pp. 131-135, Liptovský Ján.

BANÍK, I., LUKOVIČOVÁ, J.: Measurement of the Thermophysical Parametes with Use of the Generalized Non-stationary Regime. Book of abstracts, Thermophysics 2009, Valtice, Czech Republic, 29.-30.10.2009, University of Technology, 2009, ISBN 978-80-214-3970-2.

HOLÚBEK M., MIHALKA P., MATIAŠOVSKÝ P.: Relationship Between Calcium Silicate Permittivity and Thermal Conductivity Moisture Content Dependence, Book of Abstracts, Thermophysics 2009, Valtice, Czech Republic, 29.-30.10.2009 – Brno, University of Technology, 2009, ISBN 978-80-214-3970-2

YANETKA, I. Current Growth and Current Decay in an *LR* Circuit, and Their Visualization with the CoachLab Interface Connected to a Computer. In Božíková, M. and Hlaváč, P., *Physics-Research and Education. Nitra 2009*. Nitra: Slovak University of Agriculture in Nitra, Faculty of Engineering, Department of Physics, 2009, p. 96-98. ISBN 978-80-552-0265-5.

YANETKA, I. Growth and Decay of the Current in an *LR* Circuit Measured with the CoachLab Interface. In Božíková, M. and Hlaváč, P. *Physics 2009-Proceedings of Scientific Works. Nitra 2009*. Nitra: Slovak University of Agriculture in Nitra, Faculty of Engineering, Department of Physics, 2009, pp. 1-9, ISBN 978-80-552-0264-8.

# DEPARTMENT OF STRUCTURAL MECHANICS

Department Head  
Assoc. Prof. Norbert Jendželovský, PhD.

Tel.: + 421 2 59274 364  
Fax: + 421 2 52494 332  
E-mail: norbert.jendzelovsky@stuba.sk

## 1. Education

### Graduate study

#### Obligatory subjects

Building Analysis  
Interaction of Structures and Foundations  
Non-Linear Mechanics  
Plane and Spatial Structures  
Special Problems in Dynamics and Statics  
Statics  
Statics (English)  
Structural Analysis  
Structural Dynamics  
Structural Mechanics  
Structural Mechanics (English)  
Structural Mechanics I  
Theory of Elasticity  
Theory of Elasticity (English)  
Theory of Elasticity I  
Theory of Elasticity II

#### Optional Subjects

Aeroelastics  
Life Span and Reliability of Structures  
Modelling Subgrades  
Seismic Engineering

#### Recommended subjects

Automation in Non-Linear Structural Analysis  
Automation in Structural Dynamics  
Automation in the Statics of Structures  
CAD in the Design of Structures  
Plasticity Analysis of Structures  
Stability of Structures  
Statics of Reconstructions  
Structural Modelling Using FEM  
Use of Computers in Civil Engineering  
Viscoelasticity of Structural Systems

## 2. Theses

### 2.1 Bachelor Theses

6

### 2.2 Graduate Theses

HUKEL, D.: Analysis of the Seismic Resistance of an Office Building Considering Its Ductility. Supervisor: Králik, J.

LANG, T.: Nonlinear Dynamic Analysis of a Steel Frame Structure with Joints Designed Using the Component Method. Supervisor: Sokol, M.

PRIBILA, M.: Project of Roofing Structures of Cinema Halls in a Cinema Center. Supervisor: Jendželovský, N.

VIŠPEL, M.: Limit Load of Laminated Timber Glued Girders Reinforced by Carbon Fibers. Supervisor: Dický, J.

### 2.3 Doctoral Theses

JURÍČEK, T.: Analysis of Glued Timber Composite Beams Reinforced by Carbon Fibers. Supervisor: Dický, J.

KRÁLIK J.: Analysis of Floor Slabs in Interaction with a Subgrade. Supervisor: Jendželovský, N.

MERAVÝ, R.: Analysis of the Effects of Vibrations from Railway Transportation Upon Buildings and Human Comfort. Supervisor: Jendželovský, N.

ŠPÁNIK, P.: Statics, Stability and Dynamics of Sandwich Panels. Supervisor: Ravinger, J.

## 3. Research

### 3.1 Research projects

Optimal Design of Structures Having Unilateral Bonds with Respect to the Non-Linear Behaviour of Materials and Their Reliability and Serviceability Aspects (2009-2011, J. Dický, VEGA 1/0692/09)

European Civil Engineering Education and Training (J. Dický - ERASMUS Project 2006-2373/001-001)

Analysis of Load-Bearing Structures Subjected to Accidental Dynamic Actions (2008 - 2010, M. Sokol, VEGA 1/0573/08)

Numerical Analysis of Foundation Structures under Various Foundation Conditions (2008 - 2010, N. Jendželovský, VEGA 1/0567/08)

Reliability of Reinforced Concrete Structures Considering the Soil-Structure Interaction, Effect of Extreme Loads and Degradation of Material Properties. Safety and Reliability of Nuclear Power Plants (2008 - 2010, J. Králik, VEGA 1/0849/08)

Stability and Dynamics of Imperfect Heterogeneous Structures (2008-2010, J. Ravinger, VEGA 1/0666/08).

New Products and Technologies for the Manufacturing of Glued Laminated Timber for Civil Engineering (J. Dický, J. Ravinger, APVV VMSP-P-99-0050-09)

### 3.2 International cooperation

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

Technical University of Opole, Poland

Silesian University of Technology, Gliwice, Poland

Cracow University of Technology, Poland

Fakultät der Bauingenieurwesen Ruhr-Universität, Bochum, Germany

Bundesforschung und Prufzentrum, Arsenal, Vienna, Austria

Czech Academy of Sciences, Prague, Czech Republic

Technical University of Ostrava, Czech Republic

Brno University of Technology, Czech Republic

Czech Technical University in Prague, Czech Republic

Budapest University of Technology and Economics, Budapest, Hungary

## Membership in international professional organizations

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

RAVINGER, J. Member of International "Coupled Instabilities in Metal Structures" Committee

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

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

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

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

SUMEC, J.: Member of IASS Workgroup 13

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

SUMEC, J.: Member of the Committee of European Society for Biomechanics

SUMEC, J.: Vice-Chairman of the Czech-Slovak Committee for Biomechanics

## 4. Publications

### Books and textbooks

HALVONIK, J. – BENKO, V. – BORZOVIČ, V. – HUBOVÁ, O. – MORAVČÍK, M. – SOKOL, M. – ŠTUBEROVÁ, M.: Design of Bearing Structures of Buildings. Principles of Design and Loading. Bratislava, STU, 2009. 144 pp. ISBN 978-80-227-3063-1 (in Slovak)

JENDŽELOVSKÝ, N.: Modelling of Foundation Structures Using FEM. Bratislava, STU 2009. 94 pp. ISBN 978-80-227-3025-9 (in Slovak)

KRÁLIK, J.: Reliability Analysis of Structures Using the Stochastic Finite Element Method. Bratislava, STU 2009. 138 pp. ISBN 978-80-227-3130-0.

KRÁLIK, J.: Safety and Reliability of Nuclear Power Buildings in Slovakia. Earthquake - Impact - Explosion. Bratislava, STU, 2009. 307 pp. ISBN 978-80-227-3112-6.

PSOTNÝ, M.: Analysis of Structures. Bratislava, STU, 2009. 89 pp. ISBN 978-80-227-3134-8 (in Slovak)

RAVINGER, J., SOKOL, M.: Statics of Structures. Bratislava, STU, 2009. 91 pp. ISBN 978-80-227-3029-7.

SOKOL, M. – SUMEC, J. – RAVINGER, J.: Advanced Handbook of Statics. Bratislava, STU, 2009. 373 pp. ISBN 978-80-227-3048-8 (in Slovak)

SOKOL, M.: 8 Design of Bearing Structures. Seismic Resistance. Bratislava, STU, 2009. 108 pp. ISBN 978-80-227-3075-4 (in Slovak)

### Journal

BOCK, I. – LOVIŠEK, J.: Optimal Control of an Axisymmetric Conical Shell with a Unilateral Elastic Foundation and Rigid Supports. Proceedings of Applied Mathematics and Mechanics, Vol. 8, Issue 1 (December 2008), pp. 10861-10862. ISSN 1617-7061. Published Online Feb. 25, 2009.

KRÁLIK, J. – KRÁLIK, J., Jr.: Deterministic and Probabilistic Analysis of a System Interaction Machine – Bedding – Subgrade. Silnice a železnice, Vol. 4, 2009, No. 2, pp. IX – XX. ISSN 1801-822X.

KRÁLIK, J. – KRÁLIK, J., Jr.: Probability and Sensitivity Analysis of a Machine's Foundation and Soil Interaction. Applied and Computational Mechanics, Vol. 3, 2009, No. 1, pp. 87 – 100. ISSN 1802-680X.

KRÁLIK, J.: Experimental and Numerical Reliability Analysis of Damping Devices under the Impact Load from a Container Drop. Civil and Environmental Engineering, Vol. 5, 2009, No. 1, pp. 43-57. ISSN 1336-5835.

LENK, P.: Modelling of Primary Consolidation. Slovak Journal of Civil Engineering, Vol. XVII, 2009, No. 2, pp. 26 – 37. ISSN 1210-3896.

LOVIŠEK, J.: Modelling and Control in a Pseudoplate Problem with Discontinuous Thickness. Applications of Mathematics, Vol. 54, No. 6, pp. 491-525, 2009. ISSN 0862-7940.

MISTRÍKOVÁ, Z. – JENDŽELOVSKÝ, N.: Interaction of a Rotationally Symmetric Plate with Various Types of Subgrades. Civil and Environmental Engineering, Vol. 5, 2009, No. 1, pp. 18-28. ISSN 1336-5835 (in Slovak)

KRÁLIK, J. – KRÁLIK, J., Jr.: Seismic Analysis of Reinforced Concrete Frame-Wall Systems Considering the Ductility Effects in Accordance with the Eurocode. Engineering Structures, Vol. 31, 2009, pp. 2865-2872. ISSN 0141-0296.

RAVINGER, J. – NAGYOVÁ, M. – ŠPÁNIK, P.: Vibration of a Beam Loaded with Compression – Experiment. Civil and Environmental Engineering, Vol. 5, No. 2, 2009, pp. 88-95. ISSN 1336-5835 (in Slovak)

### Conferences

ÁROCH, R. – SOKOL, M. – DRŽÍK, M. – LANG, T. – KONEČNÁ, L.: Detection of the Vibrations from a Machine's Action on a Bearing Structure. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 259: 262. ISBN 978-80-227-3170-6 (in Slovak)

BALÁŽ, I. – KOLEKOVÁ, Y.: Interesting Results Obtained by Modifying the Eurocode Formulae for the Stability of Members. In: Steel Structures and Bridges 2009, Brno, September 23-25, 2009, pp. 7-14. ISBN 978-80-7204-635-5.

BALÁŽ, I. – KOLEKOVÁ, Y.: Effects of the 2<sup>nd</sup> Order Theory in the Equivalent Column Method. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 91 - 94. ISBN 978-80-227-3170-6.

BOCK, I. – LOVIŠEK, J.: On an Optimal Design Problem for a Viscoelastic Plate with a Dynamic Contact on Its Boundary. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 237 - 240. ISBN 978-80-227-3170-6.

DICKÝ, J.: New Trends in the Civil Engineering Curricula at the Slovak University of Technology. In: Current Trends in Civil Engineering and Architecture, March 28 – April 1, 2009, Kabul, Afghanistan, pp. 1-6.

HORÁK, J. – LOVIŠEK, J.: Modeling of the Nonlinear Response of an Environment in the Frame of the Linearized Theory of Coupled Thermoelasticity. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 201 - 204. ISBN 978-80-227-3170-6 (in Czech)

HUBOVÁ, O. – VANÍK, P.: Wind Actions on a Lattice Steel Tower. In: 9<sup>th</sup> International VSU 2009 Scientific Conference, Sofia, Bulgaria, June 4-5, 2009. Vol. I. pp. 62-65. ISBN 978-954-331-023-4.

HUBOVÁ, O.: Aeroelastic Instabilities Due to Combinations of Ice with Wind. In: 9<sup>th</sup> International VSU 2009 Scientific Conference, Sofia, Bulgaria, June 4-5, 2009. Vol. I. pp. 185-190. ISBN 978-954-331-023-4.



- HUBOVÁ, O.: Aeroelastic Instabilities of Flexible Steel Bars. In: 12<sup>th</sup> International Scientific Conference, Section 9: Structural Mechanics. Brno University of Technology, April 20-22, 2009, pp. 21-24. ISBN 978-80-7204-629-4.
- HUBOVÁ, O.: Seismic Load of a Cylindrical Tank. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 197 - 200. ISBN 978-80-227-3170-6 (in Slovak)
- IVÁNKOVÁ, O. – ŠTELLMACH, M.: Modelling of High-Rise Buildings. In: Modelling in Mechanics 2009. VŠB - TU Ostrava, May 19-20, 2009, pp. 69-70. ISBN 978-80-248-2016-3 (in Slovak)
- IVÁNKOVÁ, O. – ŠTELLMACH, M.: Analysis of a Solution for the Dividing Gaps of High-Rise Buildings Using an Inserted Field. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 251 - 254. ISBN 978-80-227-3170-6 (in Slovak)
- IVÁNKOVÁ, O.: Modern Reconstructions and Their Effects on Historical Buildings. In: Proceedings of 10<sup>th</sup> Anniversary of the Forensic Institute of FCE STU. Bratislava, September 25-26, 2009, p. 28. ISBN 978-80-227-3147-8 (in Slovak)
- JENDŽELOVSKÝ, N. - KORMANÍKOVÁ, E. - KOTRASOVÁ, K. – SUMEC, J.: Application of Bionics in Civil Engineering – the “Non-Mathematical Optimization” of a Structure’s Shape. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 227 - 230. ISBN 978-80-227-3170-6 (in Slovak)
- JENDŽELOVSKÝ, N. – MERAŤY-MURÁRIK, R.: Effects of Traffic upon Structures and Humans. In: Modelling in Mechanics 2009. VŠB - TU Ostrava, May 19-20, 2009, pp. 33-34. ISBN 978-80-248-2016-3 (in Slovak)
- JENDŽELOVSKÝ, N. – PREKOP, Ľ.: Calculation Model of a Rail Anchoring. In: 9<sup>th</sup> International VSU 2009 Scientific Conference, Sofia, Bulgaria, June 4-5, 2009. Vol. I. pp. I-72-75. ISBN 978-954-331-023-4.
- JENDŽELOVSKÝ, N. – SUMEC, J.: Shell Structures under an Impact Load. In: Scientific and Educational Approaches to Structural Mechanics, Slovakia, Herľany, September 9-11, 2009, 6 pp. ISBN 978-80-553-0245-4 (in Slovak)
- JENDŽELOVSKÝ, N. – SUMEC, J.: Stress-Strain Fields of a Reinforced Water Tower under Seismic Loads. In: 9<sup>th</sup> International VSU 2009 Scientific Conference, Sofia, Bulgaria, June 4-5, 2009. Vol. I. pp. I-76-80. ISBN 978-954-331-023-4.
- JENDŽELOVSKÝ, N.: Deformations of Plates Resting on an Elastic Half-Space. In: 12<sup>th</sup> International Scientific Conference, Section 9: Structural Mechanics. Brno University of Technology, April 20-22, 2009, pp. 25-28. ISBN 978-80-7204-629-4.
- KOLEKOVÁ, Y. – BALÁŽ, I.: Flexural Buckling - Derivation of the Reduction Factor and Influence of Local Buckling on the Resistance of a Member. In: 9<sup>th</sup> International Scientific Conference, Section 9: Structural Mechanics. Brno University of Technology, April 20-22, 2009, pp. 33-36. ISBN 978-80-7204-629-4.
- KRÁLIK, J. – IVÁNKOVÁ, O.: Sensitivity Analysis of the Interaction Between a Paper Processing Machine and a Reinforced Frame. In: Dynamics of Rigid and Elastic Bodies 2009, Ústí nad Labem, September 9-11, 2009, pp. 85-92. ISBN 978-80-7414-153-9 (in Slovak)
- KRÁLIK, J. – IVÁNKOVÁ, O.: Deterministic and Probabilistic Analysis of the Reliability of a Ventilating Concrete Chimney during an Earthquake. In: Engineering Mechanics 2009, Svatka, Czech Republic, May 11-14, 2009, pp.144 – 145, ISBN 978-80-86246-35-2.
- KRÁLIK, J. – KRÁLIK, J., Jr.: Deterministic and Probabilistic Analysis of Nonsymmetrical Wind Effects on Symmetrical High-Rise Buildings. In: Proceedings of the ESREL 2009 European Safety and Reliability Conference, Volume 2, Reliability, Risk and Safety. Theory and Applications. Prague, September 7-10, 2009. pp. 1393-1396. ISBN 978-0-415-55509-8.
- KRÁLIK, J. – KRÁLIK, J., Jr.: Deterministic and Probabilistic Analysis of a Foundation Plate and Soil Interaction. In: ANSYS 2009 Conference, Pilsen, September 23-25, 2009, pp. 55-62. ISBN 978-80-254-5437-4.
- KRÁLIK, J. – KRÁLIK, J., Jr.: Nonlinear Probabilistic Analysis of the Seismic Resistance of a Steel Frame Bracing System. In: 9<sup>th</sup> International VSU 2009 Scientific Conference, Sofia, Bulgaria, June 4-5, 2009. Vol. II. pp. VIII-20-25. ISBN 978-954-331-024-1.
- KRÁLIK, J. – KRÁLIK, J., jr.: Probability and Sensitivity Analysis of the Interaction Between a Machine Foundation and a Subgrade. In: 10<sup>th</sup> Conference on the Reliability of Structures, April 20-21, 2009, Prague, pp. 141-144, ISBN 978-80-02-02132-2 (in Slovak)
- KRÁLIK, J. – KRÁLIK, J.: Probabilistic and Sensitivity Analysis of the Uncertainties of a Model of a Foundation Plate Considering the SSI Effects. In: Concrete and Concrete Structures, Žilina, October 15-16, 2009, pp. 229-236. ISBN 978-80-554-0100-3.
- KRÁLIK, J. - ROZSÁR, P.: Deterministic and Probabilistic Analysis of Panel Buildings Subjected to a Blast Load. In: Concrete and Concrete Structures, Žilina, October 15-16, 2009, pp. 237-224. ISBN 978-80-554-0100-3.
- KRÁLIK, J. – ROZSÁR, P.: Nonlinear Analysis of a Reinforced Concrete Frame Structure Subjected to a Blast Load. In: Modelling in Mechanics 2009. VŠB - TU Ostrava, May 19-20, 2009, pp. 29-30. ISBN 978-80-248-2016-3 (in Slovak)
- KRÁLIK, J. – ROZSÁR, P.: Nonlinear Analysis of a Reinforced Concrete Wall Subjected to a Blast Load. In: Engineering Mechanics 2009, Svatka, Czech Republic, May 11-14, 2009, pp.146 – 147, ISBN 978-80-86246-35-2.
- KRÁLIK, J. – ROZSÁR, P.: Nonlinear Dynamic Analysis of a Reinforced Core Wall Subjected to Blast Loading. In: 9<sup>th</sup> International VSU 2009 Scientific Conference, Sofia, Bulgaria, June 4-5, 2009. Vol. II. pp. VIII- 26-31. ISBN 978-954-331-024-1.
- KRÁLIK, J. – ROZSÁR, P.: Probability and Sensitivity Analysis of a Stiffening Wall of a Building Loaded by a Blast Load. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 149: 152. ISBN 978-80-227-3170-6 (in Slovak)
- KRÁLIK, J.: RSM Method for a Probabilistic Nonlinear Analysis of a Reinforced Concrete Bubbler Tower’s Structural Integrity. In: Proceedings of the ESREL 2009 European Safety and Reliability Conference, Volume 2, Reliability, Risk and Safety. Theory and Applications. Prague, September 7-10, 2009, pp. 1369-1372. ISBN 978-0-415-55509-8.
- KRÁLIK, J.: Comparison of Probabilistic Methods to Solve the Reliability of Structures Using ANSYS. In: ANSYS 2009 Conference, Pilsen, September 23-25, 2009, pp. 63-70. ISBN 978-80-254-5437-4.
- KRÁLIK, J.: Deterministic and Probabilistic Analysis of the Seismic Resistance of a Steel Frame Bracing System. In: Modelling in Mechanics 2009. VŠB - TU Ostrava, May 19-20, 2009, pp. 27-28. ISBN 978-80-248-2016-3.

- KRÁLÍK, J.: Deterministic and Probabilistic Assessment to Generate a Floor Response Spectrum. In: Dynamics of Rigid and Elastic Bodies 2009, Ústí nad Labem, September 9-11, 2009, pp. 77-84. ISBN 978-80-7414-153-9.
- KRÁLÍK, J.: Experimental and Numerical Analysis of a Bubbler Tower's Structural Reliability Considering Extreme Pressure. In: 12<sup>th</sup> International Scientific Conference, Section 9: Structural Mechanics. Brno University of Technology, April 20-22, 2009, pp. 45-48. ISBN 978-80-7204-629-4.
- KRÁLÍK, J.: New Safety Assessment of the Nuclear Power Plants in Slovakia Due to Extreme Loads. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 177 - 180. ISBN 978-80-227-3170-6.
- KRÁLÍK, J.: Structural Reliability Solution Using the SFEM Method. In: 10<sup>th</sup> Conference on the Reliability of Structures, April 20-21, 2009, Prague, pp. 135-140, ISBN 978-80-02-02132-2 (in Slovak)
- LANG, T. – ÁROCH, R. – SOKOL, M.: Modelling of a Welded Beam-to-Column Joint Using the Component Method. In: Steel Structures and Bridges 2009, Brno, September 23-25, 2009, pp. 171-176. ISBN 978-80-7204-635-5
- LOVÍŠEK, J. - TVRDÁ, K.: Optimal Control of an Elastic Plate. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 245 - 248. ISBN 978-80-227-3170-6.
- MARTON, P.: Assessment of the Response of a Layered Rectangular Plate to Loading by Sound Blast Waves. In: Engineering Mechanics 2009, Svratka, Czech Republic, May 11-14, 2009, pp.180 – 181, ISBN 978-80-86246-35-2.
- MISTRÍKOVÁ, Z. - JENDŽELOVSKÝ, N.: Effect of Half-Space Models on the Stress and Strain of a Foundation Plate. In: 9<sup>th</sup> International VSU 2009 Scientific Conference, Sofia, Bulgaria, June 4-5, 2009. Vol. I. pp. I- 85-90. ISBN 978-954-331-023-4.
- MISTRÍKOVÁ, Z. – JENDŽELOVSKÝ, N.: Effects of Subgrade Models on the Stress and Strain of a Foundation Plate. In: Modelling in Mechanics 2009. VŠB - TU Ostrava, May 19-20, 2009, pp. 31-32. ISBN 978-80-248-2016-3 (in Slovak)
- MISTRÍKOVÁ, Z. – JENDŽELOVSKÝ, N: Effect of Various Mathematical and Physical Models of a Subsoil on the State of Stress of a Circular Plate. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 185 - 188. ISBN 978-80-227-3170-6.
- MISTRÍKOVÁ, Z.: Effect of Physical Models of a Subgrade on the Stress and Strain of a Cylindrical Reservoir. In: 9<sup>th</sup> International VSU 2009 Scientific Conference, Sofia, Bulgaria, June 4-5, 2009. Vol. I. pp. I- 81-84. ISBN 978-954-331-023-4.
- MISTRÍKOVÁ, Z.: Interaction of a Cylindrical Reservoir with Various Types of Subgrades. In: 12<sup>th</sup> International Scientific Conference, Section 9: Structural Mechanics. Brno University of Technology, April 20-22, 2009, pp. 65-68. ISBN 978-80-7204-629-4.
- NAGYOVÁ, M. – RAVINGER, J.: Friction and Stability of a Beam. In: Stability of Structures: 12<sup>th</sup> Symposium, Zakopane, Poland, September 7-11, 2009, pp. 329-334. ISBN 83-914019-6-0.
- NAGYOVÁ, M. – RAVINGER, J.: Self-Carrying Form for the Production of Prefabricates. In: Modelling in Mechanics 2009. VŠB - TU Ostrava, May 19-20, 2009, pp. 37-38. ISBN 978-80-248-2016-3 (in Slovak)
- NAGYOVÁ, M. – RAVINGER, J.: Static Analysis of a Steel Prestressing Form. In: Scientific and Educational Approaches to Structural Mechanics, Slovakia, Herľany, September 9-11, 2009, 9 pp. ISBN.978-80-553-0245-4 (in Slovak)
- NAGYOVÁ, M. – RAVINGER, J.: Steel Self-Carrying Form for the Production of Prefabricates. In: Steel Structures and Bridges 2009, Brno, September 23-25, 2009, pp. 213-218. ISBN 978-80-7204-635-5 (in Slovak)
- NAGYOVÁ, M. - ŠPÁNIK, P. – RAVINGER, J.: Buckling and Vibration of a Beam. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 241 - 244. ISBN 978-80-227-3170-6 (in Slovak)
- NAGYOVÁ, M.: Friction and Buckling of a Bar. In: Juniorstav 2009. Brno, FAST VUT, February 4, 2009. p. 221. ISBN 978-80-214-3810-1 (in Slovak)
- PREKOP, Ľ. – VYSKOČ, E.: Remarks on the Solution of High-Pressure Gas Pipes. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 231 - 234. ISBN 978-80-227-3170-6 (in Slovak)
- PREKOP, Ľ.: Analysis of Foundation Structures of Sewerage Plant Structures. In: 12<sup>th</sup> International Scientific Conference, Section 9: Structural Mechanics. Brno University of Technology, April 20-22, 2009, pp. 81-84. ISBN 978-80-7204-629-4 (in Slovak)
- PSOTNÝ, M. – NAGYOVÁ, M. – RAVINGER, J.: Friction and Stability of a Column. In: 9<sup>th</sup> International VSU 2009 Scientific Conference, Sofia, Bulgaria, June 4-5, 2009. Vol. I. pp. I- 60-65. ISBN 978-954-331-023-4.
- PSOTNÝ, M. – RAVINGER, J.: Residual Stresses in Steel Plate Girders. In: Stability of Structures: 12<sup>th</sup> Symposium, Zakopane, Poland, September 7-11, 2009, pp. 365-370. ISBN 83-914019-6-0.
- PSOTNÝ, M.: Nonlinear Analysis of Shallow Arches. In: Modelling in Mechanics 2009. VŠB - TU Ostrava, May 19-20, 2009, pp. 35-36. ISBN 978-80-248-2016-3 (in Slovak)
- PSOTNÝ, M.: Snap-Through of Beam Structures. In: 9<sup>th</sup> International VSU 2009 Scientific Conference, Sofia, Bulgaria, June 4-5, 2009. Vol. I. pp. I- 66-71. ISBN 978-954-331-023-4.
- PSOTNÝ, M.: The Snap-Through Effect of an Arch: An Example of Geometrical Nonlinearity. In: Scientific and Educational Approaches to Structural Mechanics, Slovakia, Herľany, September 9-11, 2009, 6 pp. ISBN.978-80-553-0245-4 (in Slovak)
- ROŠKO, P. – KRÁLÍK, J.: Energy-Based Analysis and Design of Structures under Seismic Loading. In: COMPDYN 2009. Computational Methods in Structural Dynamics and Earthquake Engineering. Rhodes, Greece, June 22-24, 2009, p. 371. ISBN 978-960-254-682-6.
- ROZSÁR, P.: Effects of Shock Wave Propagation on a Subsoil from an External Explosion upon the Resistance of a High-Rise Building. In: Juniorstav 2009. Brno, FAST VUT, February 4, 2009. p. 227. ISBN 978-80-214-3810-1 (in Slovak)
- SCHMID, G. – PETRONIJEVIC, M. – KOLEKOVÁ, Y.: A Plea for Dynamic Soil-Structure Interaction in the Frequency of a Laplace Domain. In: Sakarya International Symposium of Earthquake Engineering, October 1-2, 2009, Sakarya. 13 pp., ISBN 978-975-9788-58-8.

- SCHMID, G. - PETRONIJEVIC, M. – KOLEKOVÁ, Y.: Uplift of a Switch Gear Building Due to the Petrovac Earthquake. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 267 - 270. ISBN 978-80-227-3170-6.
- ŠIMIČEK, J.: Heat Conduction. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 27 - 30. ISBN 978-80-227-3170-6 (in Slovak)
- ŠIMONOVÍČ, M. – MISTRÍKOVÁ, Z.: Concrete EC2 – Software for the Design of Concrete Structures. In: Concrete and Concrete Structures, Žilina, October 15-16, 2009, pp. 285-288. ISBN 978-80-554-0100-3.
- SOKOL, M – KONEČNÁ, L.: Robustness of the Structural System of a High-Rise Building and Its Resistance to an Accidental Load. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 223 - 226. ISBN 978-80-227-3170-6 (in Slovak)
- SOKOL, M.: Seismic Torsional Effects on a Latticed Dome. In: 12<sup>th</sup> International Scientific Conference, Section 9: Structural Mechanics. Brno University of Technology, April 20-22, 2009, pp. 89-92. ISBN 978-80-7204-629-4.
- ŠPÁNIK, P. – PSOTNÝ, M. – RAVINGER, J.: The Stability of Sandwich Panels. In: Steel Structures and Bridges 2009, Brno, September 23-25, 2009, pp. 309-314. ISBN 978-80-7204-635-5 (in Slovak)
- ŠPÁNIK, P. – RAVINGER, J.: The Stability of Sandwich Panels. In: Modelling in Mechanics 2009. VŠB - TU Ostrava, May 19-20, 2009, pp. 41-42. ISBN 978-80-248-2016-3 (in Slovak)
- SUMEC, J – HRUŠTINEC, L. – KUZMA, J.: Influence of Stiffness and Bonding on a Contact Surface on the Displacements of a Strip Foundation. In: 9<sup>th</sup> International VSU 2009 Scientific Conference, Sofia, Bulgaria, June 4-5, 2009. Vol. II. pp. VI- 29-34. ISBN 978-954-331-024-1.
- SUMEC, J. – HRUŠTINEC, L. - KUZMA, J.: Effects of Stiffness and Coupling in a Foundation Gap of a Circular Footing on the Distribution of Contact Stresses. In: 12<sup>th</sup> International Scientific Conference, Section 9: Structural Mechanics. Brno University of Technology, April 20-22, 2009, pp. 97-100. ISBN 978-80-7204-629-4 (in Slovak)
- SUMEC, J. – VÉGHOVÁ, I.: Differential Model of the Large Deflections of Viscoelastic Anisotropic Plates. In: Modelling in Mechanics 2009. VŠB - TU Ostrava, May 19-20, 2009, pp. 39-40. ISBN 978-80-248-2016-3.
- SUMEC, J. - VÉGHOVÁ, I.: Some Types of Materials in Viscoelasticity. In: New Trends in the Statics and Dynamics of Buildings, October 22 - 23, 2009, Svf STU Bratislava, pp. 255-258. ISBN 978-80-227-3170-6.
- ŠPÁNIK, P. – RAVINGER, J.: Statics, Stability and Dynamics of Sandwich Panels. In: Proceedings of the 4<sup>th</sup> International Conference on Dynamics of Civil Engineering and Transport Structures and Wind Engineering, Papradno-Podjavorník, May 26-29, 2008, pp. 235-238. ISBN 978-80-8070-827-6 (in Slovak)
- TVRDÁ, K. - SOKOL, M.: Seismic Effects upon a Ventilating Chimney with Consideration of the Rotational Response Spectra. In: Topical Problems of Mechanics. September 10-12, 2008, Gabčíkovo, Slovak Republic. 10 pp. ISBN 978-80-227-2935-2 (in Slovak)
- TVRDÁ, K.: A Foundation Plate under a High-Rise Building. In: Proceedings of the 4<sup>th</sup> International Conference on Dynamics of Civil Engineering and Transport Structures and Wind Engineering, Papradno-Podjavorník, May 26-29, 2008, pp. 239-242. ISBN 978-80-8070-827-6

# DEPARTMENT OF MATERIAL ENGINEERING

Head of the Department  
Assoc. Prof. Stanislav Unčík, PhD.

Tel.: + 421 2 59274 681  
Fax: + 421 2 52494 357  
E-mail: stanislav.uncik@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

Concrete Technology  
Technological Project  
Concrete Technology II  
Ceramics  
Prefabricated Constructions  
Testing Methods

#### Optional Subjects

Microstructure of Building Materials  
Technology of Repairs

## 2. Research

### 2.1 Research projects

Study of the properties of mortars made from lime and lime-pozzolan binders for renewal of cultural heritage structures (Pavlík) (VEGA 1/0621/08)

Monitoring of the pore structure of a brick during freezing and thawing (Šveda) (VEGA 1/0538/08)

Use of recycled aggregates in the production of cement composites (Unčík) (VEGA 1/0554/08)

Utilization of correlation relations between the properties of autoclaved aerated concrete in a quality management system (Unčík) (AV Project 4/0021/08)

### 2.2 International cooperation

Faculty of Civil Engineering, Brno University of Technology, Czech Republic  
Klokner Institute, Czech Technical University in Prague, Czech Republic  
Faculty of Civil Engineering, VŠB Technical University of Ostrava, Czech Republic

## 3. Publications

#### Journals

UNČÍK, S.: Reconstruction of Steel-Reinforced Concrete Constructions of Apartment Blocks. In: *Stavebníctvo a bývanie*, 2009, Vol.11, Special edition, April 2009. ISSN 1336-0191. pp. 20-21 (in Slovak)

UNČÍK, S.: Reconstruction of Steel-Reinforced Concrete Constructions of Apartment Blocks. In: *Stavebníctvo a bývanie*, 2009, Vol.11, Special edition, April 2009. ISSN 1336-0191. pp. 20-21 (in Slovak)

#### Reviews published in Journals

UNČÍK, S.: Lutze vom Berg: Fly Ash in Concrete: Production and Use. In: *BETON Technologie Konstrukce Sanace*. ISSN 1213-3116. Vol. 9, No.5 (2009). p. 33 (in Slovak)

#### Conferences

BAJZA, A.: The Degradation of Concrete Affected by an Alkali-Aggregate Reaction. In: *Alkali-Silica Reaction of Aggregate in Concrete*. The Slovak Association of Ready-Mixed Concrete Producers, Bratislava, 2009, pp. 5-20 (in Slovak)

HALAŠA, I., UNČÍK, S.: Resistance of Concretes with Diverse Compositions to the Effect of Frost Action and Defrosting Chemicals. In: *Concrete and Concrete Structures, Proceedings of 5th international conference*. Žilina, 15.-16.10.2009. Žilina, University of Žilina, 2009. ISBN 978-80-554-0100-3. pp. 113-118 (in English)

LEDEREROVÁ, M.: Natural Aggregate: Its Replacement by Recycled (Waste) Materials. In: *Odpadové fórum 2009, Building and Mineral Waste: Proceedings of 4th Czech-Slovak symposium*. Milovy, CR, 22.-24.4.2009. Prague, APROCHEM, 2009. ISBN 978-80-02-02108-7. pp. 3306 – 3310 (in Slovak)

LEDEREROVÁ, M.: Recycled Aggregate Versus Natural Aggregate. In: *RECYCLING 2009: Proceedings of 14th Conference*. Brno, VUT, 2009. ISBN 978-80-214-3842-2. pp. 126-130 (in Slovak)

LEDEREROVÁ, M.: Recycled Aggregate Versus Natural Aggregate. In: *RECYCLING 2009: Proceedings of 14th Conference*. Brno, VUT, 2009. ISBN 978-80-214-3842-2. pp. 126-130 (in Slovak)

LEDEREROVÁ, M.: Conversion of Building Wastes into Valuable Raw Materials: Recycling. In: *15th Construmat 2009: Proceedings of international conference*. Kruh u Jilemnice, CR, 8-10 June 2009. Prague, ČVUT, 2009. ISBN 978-80-01-04355-4. pp. 185-189 (in Slovak)

PAVLÍK, V.: Damage of the External Facades of Cultural Heritage Buildings by Atmospheric Pollutants. In: *Proceedings of 12th international scientific conference*. Section 5: Material Engineering. Brno, 20.-22. 4. 2009. Brno, CERM, 2009. ISBN 978-80-7204-629-4. pp. 131-134 (in English)

PAVLÍK, V., DUBÍK, M.: Lime and Lime-Pozzolan Mortars Containing Ultrafine Particles. In: *15th Construmat 2009: Proceedings of the international conference*. Kruh u Jilemnice, CR, 8-10 June 2009. Prague, ČVUT, 2009. ISBN 978-80-01-04355-4. pp. 277-284 (in English)

ŠTEFUNKOVÁ, Z., ROUSEKOVÁ, I., BAJZA, A.: Degradation of Cement Composites with Alkali-Resistant Glass Fibres by Ammonium Nitrate Solutions. In: *15th Construmat 2009: Proceedings of international conference*. Kruh u Jilemnice, CR, 8-10 June 2009. Prague, ČVUT, 2009. ISBN 978-80-01-04355-4. pp. 389 – 399 (in Slovak)

STRUHÁROVÁ, A., DUBÍK, M.: Protection of Masonry from Autoclaved Aerated Concrete by the Chemical Grouting Method. In: *Proceedings of 12th international scientific conference*. Section 5: Material Engineering. Brno, 20.-22.4.2009. Brno, CERM, 2009. ISBN 978-80-7204-629-4. pp. 159-163 (in English)

STRUHÁROVÁ, A., DUBÍK, M.: Using the Chemical Grouting Method for Protecting Masonry Made from Autoclaved Aerated Concrete Against Water and Moisture. In: 15th Construmat 2009: Proceedings of international conference. Kruh u Jilemnice, CR, 8-10 June 2009. Prague, ČVUT, 2009. ISBN 978-80-01-04355-4. pp. 343-353 (in Slovak)

ŠVEDA, M.: New Look at the Properties of Clay Roofing Tile: In: Construmat 2009: Proceedings of 15th international conference. Kruh u Jilemnice, CR, 8-10 June 2009. Prague, ČVUT, 2009. ISBN 978-80-01-04355-4. pp. 407-412 (in English)

ŠVEDA, M.: Pore Structure of Clay Roofing Tile in the Freezing and Thawing Processes. In: Proceedings of 12th international scientific conference. Section 5: Material Engineering. Brno, 20.-22.4.2009. Brno, CERM, 2009. ISBN 978-80-7204-629-4. pp. 187-190 (in English)

ŠVEDA, M.: Utilization of Sandy Loams in Brickmaking Through the Use of PE-SI Syrups. In: Odpadové fórum 2009, Building and Mineral Waste: Proceedings of 4th Czech-Slovak symposium. Milovy, CR, 22.-24.4.2009. Prague, APROCHEM, 2009. ISBN 978-80-02-02108-7. pp. 3324-3327 (in Slovak)

ŠVEDA, M., SOKOLÁŘ, R., NEVŘİVOVÁ, L.: Change in the Pore Structure of a Brick Body That Was Burned at a Temperature of 900°C in the Course of Freeze–Thaw Cycling. In: Conference on Testing and Quality in the Building Industry. 2009, 6-7 October 2009. Brno, CR, Brno University of Technology. ISBN 978-80-214-3951-1. pp. 374-378 (in Slovak)

UNČÍK, S.: The Modulus of Elasticity and Deformation of Concrete Constructions. In: 15th Construmat 2009: Proceedings of international conference. Kruh u Jilemnice, CR, 8.-10.6.2009. Prague, ČVUT, 2009. ISBN 978-80-01-04355-4. pp. 419-426 (in Slovak)

#### **Textbooks**

UNČÍK, S.: Building Materials and Testing. 1st Part: Building Materials. Bratislava: STU v Bratislave, 2009. p. 89. ISBN 978-80-227-3022-8 (in Slovak)

# DEPARTMENT OF BUILDING TECHNOLOGY

Head of the Department:  
Prof. Jozef Gašparík, PhD.

Tel.: + 421 2 52962 230  
Fax: + 421 2 52968 811  
E-mail: ktes@svf.stuba.sk

## 2. Education

### Graduate study

#### Mandatory subjects

Costs and Prices in the Building Industry (ERS)  
Costs and Prices in the Building Industry (PSA)  
Environmental Protection  
Modelling of Construction Processes (RS)  
Pre-Construction Design (ERS)  
Pre-Construction Design (RS)  
Professional Field Trip (RS)  
Quality Management in the Construction Industry (RS)  
Technological Project I (RS)  
Technology of Building Renovation I (RS)  
Technology of Construction Processes 1 (PSA)  
Technology of Construction Processes 2 (TMS)

#### Mandatory elective subjects

Bachelor's Thesis  
Bachelor's Thesis Seminar (TMS)  
Construction Engineering in Practice (TMS)  
Construction Engineering in Practice (VHVS)  
Construction of Buildings  
Construction of Buildings (PSA)  
Construction Site Facility (ERS)  
Costs and Prices (VHVS)  
Costs and Prices in the Building Industry (TMS)  
Ethics of an Undertaking  
Ethics of an Undertaking (RS)  
Forensic Engineering  
Historical Construction Technologies (ERS)  
Maintenance of Buildings (RS)  
Multi-Criteria Methods (VHVS)  
Optimisation of Construction Processes  
Pathology of Buildings (RS)  
Professional Field Trip  
Professional Practice  
Protection and Restoration of Architectural Heritage (PSA)  
Protection and Restoration of Architectural Heritage (PSA-A/U)  
Quality Management in the Construction Industry (ERS)  
Quality Management System (TPB)  
Studio Design (TMS)  
Technology for Historical Buildings (RS)  
Technology for Traditional Buildings  
Technology of Building Renovation II  
Technology of Building Service Renovations (RS)  
Technology of Construction Processes 2 (PSA)  
Technology Problems in Forensic Engineering (RS)  
Technology Processes in Building Services (TZB)

#### Optional subjects

Computer-Aided Pre-Construction Design (RS)  
Non-Destructive Testing (RS)  
Historical Construction Technologies (PSA-A/U)  
Quality Management in the Construction Industry

#### In English (Civil Engineering)

Building Economy (CE)  
Quality Management in the Construction Industry (CE)  
Reconstruction of Structures (CE)

### 1.2 Postgraduate Courses

#### Technology of Construction

##### Subjects

Technology of Construction  
Postgraduate Study Project I-VI  
Pedagogic Activity I-V  
Publication Activity I-II

## 2. Theses

### 2.1 Bachelor theses

84

### 2.2 Graduate theses

BABINEC, P.: AUDI Car Centre Terminal in Trnava  
Supervisor: Antošová, N.

BACHOREC, F.: Residential Building Construction  
Supervisor: Bizub, J.

BALLONOVÁ, M.: Multifunctional House in Bratislava –  
Karlova Ves, Supervisor: Búciová, M.

BARAN, P.: Selected Parts of the Construction-Technology  
Design for the "KASTOR Residential Complex" in Žilina,  
Supervisor: Szalayová, S.

BARTAL, F.: Selected Parts of Construction-Technology  
Design for the "Multifunctional Building – Žilinská Street" in  
Piešťany, Supervisor: Szalayová, S.

BATEL, S.: Multifunctional Residential Building Bratislava –  
"K Železnej studienke" Street.  
Supervisor: Búciová, M.

BILANČÍK, M.: Conservation and Reconstruction of the  
Fortified Monastery in Bzovík, Supervisor: Makýš, O.

BOBOK, L.: Manor-House Renewal in Zemianske  
Kostoľany, Supervisor: Makýš, O.

BREJKA, M.: Residential Buildings in Karlova Ves,  
Bratislava, Supervisor: Gašparík, J.

BUKOV, D.: The Port Mall – Lamač Gate, Bratislava  
Supervisor: Makýš, P.

CÚCIKOVÁ, Z.: Trnava Business Centre  
Supervisor: Gašparík, J.

DROBNÝ, T.: Residential Complex  
Supervisor: Bizub, J.

ĎUBEK, M.: JURSKÝ PARK Residential Building, Svätý Jur,  
Supervisor: Juríček, I.

DZIMKO, J.: Multifunctional Building, Nejedlého Street,  
Bratislava, Supervisor: Prokopčáková, K.

FAJTL, J.: Selected Parts of the Construction-Technology  
Design for the "Staré Grunty Residential Building" in  
Bratislava, Supervisor: Szalayová, S.

FARKAS, K.: Hotel KECHNEC  
Supervisor: Bizub, J.

- FARKAŠ, J.: Hotel Delfin - Senec  
Supervisor: Bizub, J.
- FERENCZ, L.: Methods and Procedures for the Renewal and Presentation of the Monuments in Kolárovo (Gúta),  
Supervisor: Makýš, O.
- FIALA, L.: FH Range - Malacky  
Supervisor: Gron, A.
- GRECULOVÁ, M.: D.A.C.I. Centre, Žilina  
Supervisor: Makýš, P.
- GURÁŇ, M.: GREEN PARK Dwelling Complex, Bratislava,  
Supervisor: Juríček, I.
- HABIŇÁK, M.: Residential Building B 37, Námestovo  
Supervisor: Prokopčáková, K.
- HEČ, T.: Pavilion for Primates, ZOO, Bratislava  
Supervisor: Hulínová, Z.
- HOLLY, M.: SOBEAT Industrial Hall, Malý Krtíš  
Supervisor: Makýš, P.
- HRUŠOVSKÝ, L.: Residential Building No. 4, Gercen Street,  
Bratislava, Supervisor: Antošová, N.
- HUDEC, L.: Manor-House Renewal in Zemianske  
Kostoľany, Supervisor: Makýš, O.
- CHMELIAROVÁ, A.: SMREK Residential Building, Nové  
Štrbské Pleso, Supervisor: Hulínová, Z.
- IŠTVÁN, T.: Dlhé Diely Residential Building, Bratislava  
Supervisor: Gron, A.
- JACENÍK, J.: Residential Building  
Supervisor: Božík, M.
- KÁČERÍKOVÁ, K.: Realization of Complex Renewal of the  
Synagogue in Levic, Supervisor: Makýš, O.
- KLAČKO, J.: MONDI SCP Administrative Building,  
Ružomberok, Supervisor: Antošová, N.
- KLUKAN, L.: Selected Parts of the Construction-Technology  
Design for the "Digital Park II" in Bratislava  
Supervisor: Szalayová, S.
- KOVÁČIK, O.: RAČANY – BIANCO Multifunctional Complex  
Bratislava, Supervisor: Gašparík, J.
- KOVÁLIK, L.: HOLIDAY EXPRESS Hotel, Galvaniho St.,  
Bratislava, Supervisor: Juríček, I.
- KRAFČÍK, M.: GREEN PARK Vtáčnik A  
Supervisor: Juríček, I.
- KUBRAN, F.: Residential Building in Bratislava  
Supervisor: Prokopčáková, K.
- KULIŇÁK, P.: 3 Towers Bratislava – Building 2  
Supervisor: Búciová, M.
- KURÁŇ, S.: Staré Grunty Residential Building, Bratislava,  
Supervisor: Gron, A.
- LUKÁČOVÁ, E.: Mlynské Nivy Bus Station  
Supervisor: Makýš, P.
- MACKO, P.: Housing Facility – Children's Faculty Hospital,  
Kramáre, Bratislava, Supervisor: Gašparík, J.
- MAJER, J.: Panorama City Multifunctional Complex,  
Bratislava, Supervisor: Makýš, P.
- MEZEIOVÁ, V.: PAEGAS Residential Building, Pezinok  
Supervisor: Hulínová, Z.
- MIKLÓS, F.: RESIDENTIAL PARK- h.u., Dunajská Streda,  
Supervisor: Hulínová, Z.
- MOJÁK, P.: Industrial Hall in Čierne Land Registry, Site No.  
4820/5, Supervisor: Antošová, N.
- MORAVČÍK, V.: 3 Towers Bratislava – Building 1  
Supervisor: Búciová, M.
- MÚDRY, B.: Kadnárova Residential Complex in Bratislava -  
"Vinice" 2<sup>nd</sup> Stage  
Supervisor: Antošová, N.
- NAĎ, M.: Selected Parts of the Construction-Technology  
Design for the "Central Residential Building" in Bratislava,  
Supervisor: Szalayová, S.
- NOVÁKOVÁ, J.: Multifunctional Building in Staré Grunty  
Supervisor: Juríček, I.
- OROSI, P.: Multifunctional building, Odborárska Street,  
Bratislava, Supervisor: Prokopčáková, K.
- PETRÍK, M.: Arkádia Shopping Mall, Prievidza  
Supervisor: Gron, A.
- PETRO, M.: Maestral Hotel, Bratislava  
Supervisor: Búciová, M.
- POLÁK, P.: ORBIS Residential and Multifunctional  
Complex, Senec, Supervisor: Gašparík, J.
- SIVÁK, J.: Obydick Residential Building, Bratislava  
Supervisor: Makýš, P.
- SMITKA, M.: Multifunctional Residential Building, ACROS  
LAMAC, Bratislava, Supervisor: Juríček, I.
- ŠTEFÁNIK, L.: Triangel Multifunctional Complex, Bratislava,  
Supervisor: Makýš, P.
- ŠTEUČEK, R.: "Bittner Group II" Administrative –  
Operational Building, Bratislava  
Supervisor: Prokopčáková, K.
- ŠUTY, M.: Cassovar – Multifunctional Building  
Supervisor: Božík, M.
- TARÁBKOVÁ, L.: Multifunctional Residential Building No.5 –  
Centre, Gercen Street, Bratislava  
Supervisor: Gašparík, J.
- VOLEK, L.: Residential Building  
Supervisor: Božík, M.
- ZMEKO, R.: Rača Logistical Centre– Administrative  
Building, Block "E", Bratislava, Supervisor: Gron, A.

### 3. Research

#### 3.1 Research projects

JANKOVICHOVÁ, E.: VEGA Grant No.1/0683/08: Influence of Globalization on the Management and Marketing of Construction Companies in Slovakia, 2008-2010.

MAKÝŠ, O.: MK SR Grant in the OSSD Program No.2443/2009/1.3: Construction-Technology Audit of Torsos on the Slovak Landscape, 2009-2010.

MAKÝŠ, O.: MK SR Grant in the OSSD Program No.2441/2009/1.3: The Framework of Standard Requirements for Conservation of Torsos Needs, 2009-2010.

SOMOROVÁ, V.: VEGA Grant No.1/0813/08: Use of Facility Management in the Modeling of the Maintenance and Repair Costs of Buildings, 2008-2009.

#### 3.2 International cooperation

Bundesdenkmalamt - Restaurierungswerkstätten  
Baudenkmalpflege Kartause Mauerbach, Vienna

CNAM, Paris, France

CONTEC, Kralupy n. Vltavou, Czech Republic

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

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

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

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

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

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

Research Management A.S., Trondheim, Norway

Southampton Institute, Built Environment Division, Southampton, England, UK

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

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

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

## 4. Publications

### Books and Textbooks

GAŠPARÍK, J.: Quality Management System. Brno: Tribun EU, 2009, 143 pp., ISBN 978-80-7399-756-4 (in Slovak).

JANKOVICHOVÁ, E.: Ethics of Entrepreneurs. Brno: Tribun EU, 2009, 78 pp., ISBN 978-80-7399-858-5 (in Slovak).

MAKÝŠ, P. - ŠLÚCH, M.: ISO 9001:2008 and Its Internal Audits in Practice. Trenčín: PrintCity Slovakia, Ltd., 2009, 104 pp., ISBN 978-80-970150-2-2 (in Slovak).

SOMOROVÁ, V.: Optimization of the Running Costs of Buildings by the Use of the Facility Management Method in a Form of Outsourcing. In: Edition of Public Works, sheet No.75, Bratislava: STU BA, 2009, 115 pp., ISBN 978-80-227-3126-3 (in Slovak).

GAŠPARÍK, J. - KAYOUMI, Y.: Quality Management and Assurance in a Construction Company. Bratislava: STU BA, 2009, 100 pp., ISBN 978-80-227-3044-0 (in English).

HULÍNOVÁ, Z.: Modeling of Construction Processes: Modeling in Time. Bratislava: STU BA, 2009, Vol. 1, 82 pp., ISBN 978-80-227-3160-7 (in Slovak).

### Journals

BRIATKA, P. - ŠEVČÍK, P.: Assessment of the Influence of Spread Reinforcements on Concrete Properties. In: BETON, Technologie Konstrukce Sanace, ISSN 1213-3116, Vol. 9, No. 2 (2009), pp. 28-34 (in Slovak).

BRIATKA, P.: Optimization of an Approach to Industrial Floor Reconstruction. In: BETON, Technologie Konstrukce Sanace, ISSN 1213-3116, Vol. 9, No. 1 (2009), pp. 34-39 (in Slovak).

SZALAYOVÁ, S. - VARGOVÁ, Z.: Rain Water under Control. In: Pěkné bydlení, Vol. 11, No. 6 (2009), pp. 145-147 (in Czech)

SZALAYOVÁ, S. - VARGOVÁ, Z.: Rain Water under Control. In: Pěkné bydlení, Vol. 11, No. 6 (2009), pp. 145-147 (in Czech).

SZALAYOVÁ, S. - VARGOVÁ, Z.: Structure of a Slope Roof. In: Pěkné bydlení, Vol. 11, No. 5 (2009), pp. 110-114 (in Czech).

SZALAYOVÁ, S. - VARGOVÁ, Z.: Flat Roof. In: Pěkné bydlení, Vol. 11, No. 5 (2009), pp. 126-129 (in Czech).

ANTOŠOVÁ, N.: Biocorrosion of an External Wall. In: Stavba, ISSN 1335-5406, Vol. 12, No. 5 (2009), pp. 40-45 (in Slovak).

ANTOŠOVÁ, N. - KOZÁNKOVÁ, J.: The Reasons for Defective Floor Structures with a Surface Layer Made of Ceramic Tile. In: Almanach znalca, ISSN 1336-3174, Vol. 8, No. 1 (2009), pp. 16-21 (in Slovak).

BRIATKA, P. - ŠTEFÁNIK, L. - MAKÝŠ, P.: How Does the Temperature of Fresh Concrete Affect Transport? In: Stavba, ISSN 1335-5406, Vol. 12, No. 10 (2009), pp. 28-33 (in Slovak).

BRIATKA, P.: Rational Reconstruction of Industrial Floors (Part 1). In: Stavebné materiály, ISSN 1336-7617, Vol. 5, No. 8 (2009), pp. 30-33 (in Slovak).

BRIATKA, P.: Reasonable Rehabilitation of Industrial Floors (Part II). In: Stavebné materiály, ISSN 1336-7617, Vol. 5, No. 9 (2009), pp. 46-47 (in Slovak).

BRIATKA, P. - MAKÝŠ, P.: Water Losses from Concrete – 1<sup>st</sup> Part. In: Stavba. - ISSN 1335-5406, Vol. 12, No. 9 (2009), pp. 30-34 (in Slovak).

BRIATKA, P. - ŠEVČÍK, P.: Fibres for Concrete - Requirements and Testing. In: Stavba, ISSN 1335-5406, Vol. 12, No. 1-2 (2009), pp. 52-57 (in Slovak).

BRIATKA, P. - STERNOVÁ, Z.: Selection of ETICS Coating. In: Stavba. - ISSN 1335-5406, Vol. 12, No. 6 (2009), pp. 28-31 (in Slovak).

BÚCIOVÁ, M.: A Building Site and Its Equipment. In: Stavebné materiály, ISSN 1336-7617, Vol. 5, No. 5 (2009), pp. 44-46 (in Slovak).

ELLINGEROVÁ, H.: Classification Systems of Construction Production - Part One. In: Stavba, ISSN 1335-5406, Vol. 12, No. 9 (2009), pp. 42-46 (in Slovak).

ELLINGEROVÁ, H.: Classification Systems of Construction Production - Part Two. In: Stavba, ISSN 1335-5406, Vol. 12, No. 10 (2009), pp. 54-57 (in Slovak).

GAŠPARÍK, J.: Quality Management Systems. Requirements of the New Standard: STN EN ISO 9001:2009. In: Eurostav, ISSN 1335-1249, Vol. 15, No. 6 (2009), pp. 100-104 (in Slovak).

JANKOVICHOVÁ, E.: Construction Production in Slovakia Goes Down. In: Almanach znalca, ISSN 1336-3174, Vol. 8, No. 1 (2009), pp. 12-15 (in Slovak).

MAKÝŠ, O.: Čierny Hron Railway. In: Stavba, ISSN 1335-5406, Vol. 12, No. 5 (2009), pp. 50-56 (in Slovak).

MAKÝŠ, O.: Gothic Church in Liptovská Mara. In: Stavba, ISSN 1335-5406, Vol. 12, No. 3 (2009), pp. 44-50 (in Slovak).

MAKÝŠ, O.: Protection and Repair of Wood Constructions. In: Urob si sám, ISSN 1335-4604, Vol. 12, No. 7 (2009), pp. 26-29 (in Slovak).

MAKÝŠ, O.: We Repair Chimneys and Ovens. In: Urob si sám, ISSN 1335-4604, Vol. 12, No. 7 (2009), pp. 66-68 (in Slovak).



MAKÝŠ, O.: Fortification System of Komárno. In: Stavba, ISSN 1335-5406, Vol. 12, Nos. 1-2 (2009), pp. 58-65 (in Slovak).

MAKÝŠ, O.: Scientific Team in the Persian Gulf. In: Spektrum, ISSN 1336-2593, Vol. 15, No. 9 (2009), pp. 17-18 (in Slovak).

MAKÝŠ, O.: The Influence of Past Experience on the Methods of Conservation of Ruins. In: Stavebné materiály, ISSN 1336-7617, Vol. 5, No. 8 (2009), pp. 14-16 (in Slovak).

SOMOROVÁ, V.: Energy Effective Buildings and Facility Management. In: Eurostav, ISSN 1335-1249, Vol. 15, No. 3 (2009), pp. 36-37 (in Slovak).

SOMOROVÁ, V.: Quality of Heating Facility Service and Maintenance upon Outsourcing According to prEN 15221-3. In: TZB Haustechnik, ISSN 1210-356X, Vol. 17, No. 4 (2009), pp. 38-40 (in Slovak).

SOMOROVÁ, V.: Outsourcing – An Effective Form of Building Administration. In: Správa budov, ISSN 1337-6233, Vol. 3, No. 4 (2009), pp. 46-48 (in Slovak).

SOMOROVÁ, V.: Creation of STN EN 15221 Facility Management. In: Eurostav, ISSN 1335-1249, Vol. 15, No. 7-8 (2009), pp. 68-69 (in Slovak).

SOMOROVÁ, V.: Education in Facility Management in Slovakia and Abroad. In: Správa budov, ISSN 1337-6233, Vol. 3, No. 1 (2009), pp. 48-49 (in Slovak).

SZALAYOVÁ, S. - VARGOVÁ, Z.: A Balcony Also has Its Days. In: Pekné bývanie, ISSN 1335-4523, Vol. 11, No. 7 (2009), pp. 97-100 (in Slovak).

SZALAYOVÁ, S. - VARGOVÁ, Z.: No Drop Lost. In: Pekné bývanie, ISSN 1335-4523, Vol. 11, No. 2 (2009), pp. 124-127 (in Slovak).

SZALAYOVÁ, S. - VARGOVÁ, Z.: Rain Water under Control. In: Pekné bývanie, ISSN 1335-4523, Vol. 11, No. 5 (2009), pp. 121-123 (in Slovak).

SZALAYOVÁ, S. - VARGOVÁ, Z.: Good Climate in an Attic. In: Pekné bývanie, ISSN 1335-4523, Vol. 11, No. 3 (2009), pp. 102-105 (in Slovak).

SZALAYOVÁ, S. - VARGOVÁ, Z.: Flat Roofs. In: Pekné bývanie, ISSN 1335-4523, Vol. 11, No. 4 (2009), pp. 101-105 (in Slovak).

## Conferences

ANTOŠOVÁ, N.: External Thermal Insulation Composite System with the Aberration of Biocorrosion. In: Theoretical Foundation of Civil Engineering, Proceedings of 18<sup>th</sup> Russian-Slovak-Polish Seminar, Moscow-Arkhangelsk, 1.-5.7.2009, Warsaw: Warsaw Polytechnic (2009), ISBN 83-908083-8-2, pp. 499-506 (in English).

BRIATKA, P. - ŠEVČÍK, P.: Spread Reinforcement and Its Influence on Concrete Properties. In: Juniorstav 2009 - Proceedings of 11<sup>th</sup> Expert Conference of PhD. Studies, Brno, 4.2.2009, Brno: Technical University in Brno, 2009, ISBN 978-80-214-3810-1, p. 101 (in Slovak).

CHAMULOVÁ, B.: The Schedule - Inputs, Activities and Classification of Scheduling Dependencies. In: Juniorstav 2009 - Proceedings of 11<sup>th</sup> Expert Conference of PhD. Study, Brno, 4.2.2009, Brno: Technical University in Brno, 2009, ISBN 978-80-214-3810-1, unpagged (in Slovak).

GAŠPARÍK, J.: Effects of the Development and Implementation of an Integrated Management System in a Construction Company and Building.

In: Proceedings of 12<sup>th</sup> International Scientific Conference, Brno, 20.-22.4.2009, Section 7: Management of Construction Industry, Brno: CERM, 2009, ISBN 978-80-7204-629-4, pp. 27-30 (in Slovak).

GAŠPARÍK, J.: Experience Concerning Implementation of an Integrated Management System in a Construction Company at a Building. In: Construction Facing Worldwide Challenges, Proceedings of CIB Joint International Symposium 2009. Dubrovnik, Croatia, 27.-30.9.2009, Zagreb: University of Zagreb, 2009, ISBN 978-953-6272-35-8, pp. 1079-1087 (in English).

JANKOVICHOVÁ, E.: Management of Technological Innovation. In: Proceedings of 12<sup>th</sup> International Scientific Conference. Brno, 20.-22.4.2009, Section 7: Construction Industry Management, Brno: CERM, 2009, ISBN 978-80-7204-629-4, pp. 47-50 (in English).

JURÍČEK, I. - MAKÝŠ, P.: Concept of Concrete Maturity and Quality Control during Production of a Concrete Structure. In: Proceedings of 12<sup>th</sup> International Scientific Conference, Brno, 20.-22.4.2009, Section 7: Construction Industry Management, Brno: CERM, 2009, ISBN 978-80-7204-629-4, pp. 55-58 (in Slovak).

LAMOŠ, R.: Identification of Environmental Aspects, Effects and Evaluation of Risks in a Building. In: Juniorstav 2009 - Proceedings of 11<sup>th</sup> Expert Conference of PhD. Studies. Brno, 4.2.2009, Brno: Technical University in Brno, 2009, ISBN 978-80-214-3810-1, unpagged (in Slovak).

MAKÝŠ, O.: Sustainable Technology of the Conservation of Wall Copings of the Torso of an Architectural Monument. In: Construction in the 21<sup>st</sup> Century - Collaboration and Integration in Engineering, Management and Technology, Proceedings of 5<sup>th</sup> International Conference. Istanbul, Turkey, 20.-22.5.2009, Miami (FL, USA): CITC-V, 2009, ISBN 1-884342-02-3, pp. 1693-1700 (in English).

MAKÝŠ, O.: Masonry Torsos - Technological and Methodical Direction of Their Salvation in Slovakia. In: Wall Enclosures - Proceedings of Professional Seminar, 11.6.2009, Prague: STOP, 2009, pp. 41-52 (in Slovak).

MAKÝŠ, P.: Design of Habitable Containers for Building Site Equipment from the Point of View of Fire Protection. In: Proceedings of 12<sup>th</sup> International Scientific Conference, Brno, 20.-22.4.2009, Section 7: Construction Industry Management, Brno: CERM, 2009, ISBN 978-80-7204-629-4, pp. 95-98 (in English).

MAKÝŠ, P.: Location of a Tower Crane on Architectural Building Sites, In: Construction Facing Worldwide Challenges: Proceedings of CIB Joint International Symposium 2009. Dubrovnik, Croatia, 27.-30.9.2009, Zagreb: University of Zagreb, 2009, ISBN 978-953-6272-35-8, pp. 50-57 (in English).

MAKÝŠ, P.: Analysis of the Possibilities of Locating a Tower Crane. In: Construction in the 21<sup>st</sup> Century, Proceedings of 5<sup>th</sup> International Conference on Collaboration and Integration in Engineering, Management and Technology, Istanbul, Turkey, 20.-22.5.2009, Miami (FL, USA): CITC-V, 2009, ISBN 1-884342-02-3, pp. 238-244 (in English).

SOMOROVÁ, V.: Process of Dwelling Fund Recovery in the Slovak Republic. In: Regeneration of Dwellings – Dynamics of Housing Changes, In: Proceedings of 11<sup>th</sup> Conference, Ostrava (CZ), 12.2.2009, Ostrava: Mining College – Technical University in Ostrava, 2009, ISBN 978-80-248-1954-9, pp. 39-45 (in Slovak).

SOMOROVÁ, V.: Education as a Precondition for Improving Quality in Facility Management. In: Facility Management – Important Support of Management during a Time of Recession, Proceedings of 3<sup>rd</sup> International Scientific Conference, Prague (CZ), 25.5.2009, Prague: College of Economics in Prague, 2009, ISBN 978-80-245-1530-4 - unpagued (in Slovak).

ANTOŠOVÁ, N.: Estimation of the Possibilities of Non-Residential Room Division - Practical Experience. In: 10<sup>th</sup> Anniversary of the Establishment of the Forensic Institute of the Faculty of Civil Engineering of STU in Bratislava - Proceedings of International Scientific Conference, Bratislava, 26.9.2009, Bratislava: STU BA, 2009, ISBN 978-80-227-3147-8, unpagued (in Slovak).

ANTOŠOVÁ, N.: Durability and Maintenance of a Building Envelope with Additional Insulation. In: Realization and Economy of Buildings, Proceedings of Professional/Scientific Conference in Trenčianske Teplice (SK), 21.-23.10.2009, Košice: Dom techniky, 2009, ISBN 978-80-232-0301-1, pp. 106-112 (in Slovak).

ELLINGEROVÁ, H.: Costing Limited Prices for Building Work. In: Proceedings of Costing of Construction Works, Bratislava: Institute of Building Economy, 2009, ISBN 978-80-970019-0-2, pp. 65-75 (in Slovak).

GAŠPARÍK, J.: Experience Concerning Implementation of an Integrated Management System in Construction Companies and on Building Sites. In: Q-2009 – Use of Structural Funds, Proceedings of 11<sup>th</sup> International Scientific Conference in Žilina (SK), 28.-29.4.2009, Žilina: Krupa Print, Ltd., 2009, ISBN 978-80-970139-0-5, pp. 81-86 (in Slovak).

GAŠPARÍK, J. - GAŠPARÍK, M.: Implementation of Global Quality Management Trends in a Construction Company. In: Realization and Economy of Buildings, Proceedings of Professional/Scientific Conference in Trenčianske Teplice (SK), 21.-23.10.2009, Košice: Dom techniky, 2009, ISBN 978-80-232-0301-1, pp. 41-46 (in Slovak).

HULÍNOVÁ, Z.: European Community Strategy in the Area of Health and Safety at Work from 2007 - 2012. In: Facility Management 2009, Proceedings of 7<sup>th</sup> Conference (with international participation), Bratislava, 7.-8.10.2009, Bratislava: Slovak Society for Environmental Technology, 2009, ISBN 978-80-89216-28-4, pp. 49-52 (in Slovak).

JANKOVICHOVÁ, E.: Ethical Aspects of Advertising. In: Modern Approaches in the Management of a Business Company, Proceedings of 18<sup>th</sup> International Scientific Conference, Bratislava, 10.- 11.9. 2009, Bratislava: STU BA – Institute of Management, 2009, ISBN 978-80-227-3169-0, pp. 213-218 (in Slovak).

JANKOVICHOVÁ, E.: Slovak Real Estate Funds. In: 10<sup>th</sup> Anniversary of the Establishment of the Forensic Institute of the Faculty of Civil Engineering of STU in Bratislava - Proceedings of International Scientific Conference, Bratislava, 26.9.2009, Bratislava: STU BA, 2009, ISBN 978-80-227-3147-8, pp. 1-4 (in English).

JANKOVICHOVÁ, E.: Slovak Real Estate Funds (Abstract). In: 10<sup>th</sup> Anniversary of the Establishment of the Forensic Institute of the Faculty of Civil Engineering of STU in Bratislava - Proceedings of International Scientific Conference, Bratislava, 26.9.2009, Bratislava: STU BA, 2009, ISBN 978-80-227-3147-8, pp. 29 (in English).

SOMOROVÁ, V.: Systems with Regard to Service and Maintenance According to the FM Standard under Preparation. In: Heating 2009 – Alternative Sources of Energy and Heating Supply Systems of Buildings. In: Proceedings from 17<sup>th</sup> International Conference in Tatranské Matliare, 2.-6. 3. 2009, Bratislava: Slovak Society for Environmental Technology, 2009, ISBN 978-80-89216-27-7, pp. 433-436 (in Slovak).

SOMOROVÁ, V.: Quality of Facility Management Services. In: Facility Management 2009, Proceedings of 7<sup>th</sup> Conference (with international participation), Bratislava, 7.-8.10.2009, Bratislava: Slovenská spoločnosť pre techniku prostredia, 2009, ISBN 978-80-89216-28-4, pp. 5-7 (in Slovak).

# DEPARTMENT OF SANITARY AND ENVIRONMENTAL ENGINEERING

Head of the Department:  
Prof. Jozef Kriš, PhD.

Tel.: + 421 2 59274 702  
Fax: + 421 2 52921 184  
E-mail: jozef.kris@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

Environmental Technology VHVS  
Environmental Technology  
Water Chemistry and Hydrobiology  
Chemistry of Water, Soil, Air and Waste  
Environmental Hygiene  
Landscape Engineering  
Infrastructure of Urban Regions  
Landscape Eng. and Infrastr. of Urban Regions  
Water Pollution Control  
Sanitary Engineering Structures  
Design and Execution of Water Management Structures  
Water Supplies and Water Treatment  
Public Utility Networks  
Solid Waste Management  
Public Utility Networks and Water Management Structures  
Sewerage and Waste Water Treatment  
In-Situ Training  
Practical Training  
Solid Waste Management  
Urban Hygiene  
Selected Water Supply and Water Treatment Chapters  
Selected Sewerage and Waste Water Treatment Chapters  
Spas and Mineral Waters  
Special Excursion  
Special Seminar  
Realization of Sanitary Structures  
Water Management  
Automation of Engineering Works  
Theory and Techniques of Air Protection  
Final Thesis

#### Optional Subjects

Pumping Stations  
Industrial Water Management  
Urban and Regional Planning  
Rehabilitation of Old Waste Disposal Sites  
Urban Hydrology  
Operation and Maintenance of Sanitary  
Engineering Structures

## 2. Theses

### 2.2 Graduate theses

GIERTLI, D.: Analysis of Separated Waste Collection System, Supervisor: Horanová, Ľ.

KUBIS, P.: Pump Station - Baňa Čáry, Ltd., Supervisor: Kriš, J.

RUSNÁKOVÁ, L.: Rain Water Management in Urban Residential Areas, Supervisor: Stanko, S.

PETRÁŠ, M.: Materials of Sewage Pipes and Objects made from Plastics, Supervisor: Rusnák, D.

MICHALEC, M.: Design Concept for Separated Waste Collection and Collecting Yards for Part of Town of Miločov, Supervisor: Horanová, Ľ.

PISTOVIČ, M.: Design of the Sewage System of the Village of Chorvátsky Grob, Supervisor: Sokáč, M.

STRELEC, M.: Design of the Sewage System of the Village of Moča, Supervisor: Sokáč, M.

MOLNÁR, K.: Design of the Sewage System of the Village of Veľké Úľany, Supervisor: Sokáč, M.

ŽIGO, B.: Design of the Waste Management for a Specified Village, Supervisor: Škultétyová, I.

FILÍPKOVÁ, M.: Design for the Separated Collection of the Municipal Waste of the Town of Senica and Its Surrounding Villages, Supervisor: Škultétyová, I.

PROKOP, D.: Design Strategy for the Waste Management of the Town of Trstená, Supervisor: Horanová, Ľ.

BRONIŠOVÁ, M.: Design of the Water Supply for Rača – Griňava, Supervisor: Kriš, J.

FOGMEG, P.: Sewage System of the Village of Kovarce, Supervisor: Stanko, S.

GREGOR, M.: Removal of Iron and Manganese from Water, Supervisor: Ilavský, J.

PULEN, T.: Comparison of the Gravitation and Pressure Sewerage Systems in a Specified Village, Supervisor: Stanko, S.

RAVASZ, J.: Expansion of the Capacity of an Existing Waste Dump, Supervisor: Horanová, Ľ.

VRBOVSKÝ, P.: Methods for the Re-use of Waste Water, Supervisor: Stanko, S.

GALBOVÁ, K.: Closure and Recultivation of Jablonica Waste Dump, Supervisor: Škultétyová, I.

HOLUBEC, M.: Influence of Climate Changes on a Sewerage System, Supervisor: Stanko, S.

FRĀALOVÁ, M.: The Water Supply and Sewerage Systems of the Locality of Vtáčnik, Supervisor: Božíková, J.

GREGORČOK, D.: Water Supply of the Village of Donovaly and Its Recreation Area, Supervisor: Kriš, J.

BLAŽEKOVÁ, Ľ.: Water Supply of the Village of Čajkov, Supervisor: Kriš, J.

VRBA, P.: Water Supply of the Village of Bušovce, Supervisor: Barloková, D.

ROTHBERGOVÁ, A.: Reduction of Emissions from the Combustion of Municipal Wastes, Supervisor: Škultétyová, I.

## 3. Research

### 3.1 Research projects

Management of Water Quality in Water Supply Distribution Systems, (Ilavský, J.), (VEGA No. 1/4208/07 – 09)

Determination of Dispersion Phenomenon Dependencies on Principal Hydraulic Parameters of Streams, (Sokáč, M.), (VEGA 2-0101-08)

Optimization of the Design and Renovation of Sewage Systems in Urban Areas and Alternative Uses, (Stanko, Š.), (VEGA 1/0854/08)

Water Supply II. (Kriš, J.), (KEGA 3/5125/07)

Sewerage of Urban Areas, (Rusnák, D.), (KEGA 3/7452/09)

Utilization of New Filtration Materials in Water Treatment, (Barloková, D.), (APVV 0379-07)

Network for Master Training in Technologies of Water Resources Management – Netwater, (Kriš, J.), (Tempus Project No. 15311-TEMPUS-IT-TEMPUS-JPCR)

Towards Sustainable Water Resources Management in Central Asia - Swan, (Kriš, J.), (Tempus Project No. 158982-TEMPUS-ES-TEMPUS-JPCR)

Tools for Urban Water Infrastructure Management, (Stanko, Š.), (Austria – Slovakia - Co-operation in Science and Education No. 64s0002)

## 4. Publications

### Journals

BARLOKOVÁ, D., ILAVSKÝ, J.: Removal of Iron and Manganese from Small Water Sources. In: SOVAK. Vol.18, 2009, No. 4. ISSN 1210-3039. pp. 13-16.

BARLOKOVÁ D., ILAVSKÝ J.: Removal of Arsenic and Antimony from Water. In: Vodní hospodařství. Vol. 59, 2009, No. 2. ISSN 1211-0760. pp. 45-50.

GHAWI, AH., KRIŠ, J.: A CFD Methodology for the Design of Rectangular Sedimentation Tanks in Potable Water Treatment Plants. In: Journal of Water Supply: Research and Technology-AQUA. Vol. 58, 2009, No. 3. ISSN 0003-7214. pp. 212-220.

HRIVŇÁK, J., KRÁĽOVIČOVÁ, E., TÖLGYESSY, P., ILAVSKÝ, J.: Analysis of Unmetabolized VOCs in Urine by Headspace Solid-Phase Microcolumn Extraction. In J. Occup Health. Vol. 51, 2009. ISSN 1341-9145. pp.173-176.

ILAVSKÝ, J., BARLOKOVÁ, D.: New Sorption Materials in the Removal of Iron and Manganese from Water. In: SOVAK. Vol. 18, 2009, Nos. 7-8. ISSN 1210-3039. pp. 26-28.

KRIŠ, J., ŠKULTÉTYOVÁ, I., MAHRÍKOVÁ, I.: Resource Requirements in the Slovak Republic. In: IWA Yearbook 2009. ISBN 13:97818443393092. pp. 42-44.

ČERMÁK, O.: Disposal of Landfill Gas with Low Methane Content. In: Odpady. Vol. 9, 2009, No.2. ISSN 1335-7808. pp. 3-10.

HADI, G.A., KRIŠ, J.: Use of a Rotating Biological Contactor for Appropriate Technological Wastewater Treatment. In: Slovak Journal of Civil Engineering. Vol. XVII, 2009, No. 3. ISSN 1210-3896. pp. 1-8.

ILAVSKÝ, J., BARLOKOVÁ, D.: New Options for the Removal of Corrosion and Incrustations in Pipes. In: Plynár - vodár - kúrenár + klimatizácia. Vol. 7, 2009, No. 2. ISSN 1335-9614. pp. 14-16.

ILAVSKÝ, J., BARLOKOVÁ, D.: Removal of Antimony from the Dúbrava Water Source. In: Vodohospodársky spravodajca. Vol. 52, 2009, Nos. 5-6. ISSN 0322-886X. pp. 8-12.

KRIŠ, J., BALÁŽ, M.: Family Swimming Pools. In: Stavba. Vol. 12, 2009, Nos. 7-8. ISSN 1335-5406. pp. 44-47.

MIČO, Š., MAHRÍKOVÁ, I.: Waste Water Treatment. In: Urob si sám. Vol. 12, 2009, No.8. ISSN 1335-4604. pp. 23-26.

SOKÁČ, M.: Mathematical Simulation of the Influence of the Point Source of Pollution on the Water Quality in the River Hron. In: Acta Hydrologica Slovaca. Vol. 9, 2009, No. 2. ISSN 1335-6291. pp. 186-192.

SOKÁČ M.: Balance Modelling of the Transport of the Pollution from Some Sewerage Systems in Slovakia. In: Acta Hydrologica Slovaca. Vol. 9, 2009, No. 2. ISSN 1335-6291. pp. 193-198.

VELÍSKOVÁ, Y., DULOVIČOVÁ, R., SOKÁČ, M.: Determination of the Size of the Longitudinal Dispersion of the Flow with a Free Water Surface in a Prismatic Channel. Part 1.: Straight Stretch of Route. In: Acta Hydrologica Slovaca. Vol. 10, 2009, No. 1. ISSN 1335-6291. pp. 35-43.

### Conferences

BARLOKOVÁ, D., ILAVSKÝ, J.: Iron and Manganese Removal from Small Water Sources. In: Proceedings of 11<sup>th</sup> International Symposium on Water Management and Hydraulic Engineering 2009, Vol. 1. Ohrid, Macedonia, 1.-5.9.2009. - Skopje : University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8, pp. 499-507.

BARLOKOVÁ, D., ILAVSKÝ, J.: Utilization of Slovak Klinopur in Water Treatment. In: Proceedings of International Seminar on Present Problems of the Water Management of Cities and Villages, Hlohovec, 14.-15.5.2009, ISBN 978-80-214-3862-0, pp. 145-150.

DUBOVÁ, V., TÓTHOVÁ, K.: An Additional Contribution to the Management of Pressure. In: Proceedings of 11<sup>th</sup> International Symposium on Water Management and Hydraulic Engineering 2009, Vol. 1. Ohrid, Macedonia, 1.-5.9.2009. Skopje : University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8, pp. 509-514.

DUBOVÁ, V., TÓTHOVÁ, K.: Water Measurement of Single Districts and Their Management. In: Proceedings of 13<sup>th</sup> International Conference on Water Zlín 2009, Zlín, 12.-13.3.2009. Hranice : Voding, 2009, ISBN 978-80-254-3935-7, pp. 177-182.

HURBAN, Ľ.: Study of the Water Supply in a Pressure - Disassociated Area. In: Proceedings of International Seminar on Present Problems of the Water Management of Cities and Villages, Hlohovec, 14.-15.5.2009, ISBN 978-80-214-3862-0, pp. 115-120.

ILAVSKÝ, J., BARLOKOVÁ, D.: New Sorption Materials Bayoxide E33, GEH and CFH12 in Water Treatment. In: Proceedings of 13<sup>th</sup> International Conference on Water Zlín 2009, Zlín, 12.-13.3.2009. Hranice: Voding, 2009, ISBN 978-80-254-3935-7, pp. 113-118.

ILAVSKÝ, J., BARLOKOVÁ, D.: Comparison of CFH12 and Bayoxide E33 Sorption Materials in the Removal of Antimony from Water. In: Proceedings of International Seminar on Present Problems of the Water Management of Cities and Villages, Hlohovec, 14.-15.5. 2009, ISBN 978-80-214-3862-0, pp. 151-156.

KOLARIČ, M., STANKO, Š.: Assessment of the Main Collectors of the Sewage System in Martin. In: Proceedings of International Seminar on Present Problems of the Water Management of Cities and Villages, Hlohovec, 14.-15.5.2009, ISBN 978-80-214-3862-0, pp. 33-40.

- KRIŠ, J., ŠKULTÉTYOVÁ, I.: The Drinking Water Supply in Slovakia. In: Proceedings of Eleventh International Symposium on Water Management and Hydraulic Engineering 2009, Vol. 1. Ohrid, Macedonia, 1.-5.9.2009. Skopje : University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8, pp. 533-538.
- KRIŠ, J., ŠKULTÉTYOVÁ, I.: Slovak Water Sources - Present Conditions. In: Proceedings of 11<sup>th</sup> International Symposium on Water Management and Hydraulic Engineering 2009, Vol. 1. Ohrid, Macedonia, 1.-5.9.2009. Skopje : University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8, pp. 563-571.
- KRIŠ, J., HRONČEK, M., ŠKULTÉTYOVÁ, I., STANKO, Š.: Contemporary Developments in Area Pools and Utilizing Thermal Bathwater in Slovakia. In: Proceedings of 5<sup>th</sup> International Conference on Swimming Pools 2009, Prague, 19.3.2009. ISBN 978-80-01-04314-1, pp. 7-18.
- KRIŠ, J., ŠKULTÉTYOVÁ, I.: Utilization of Thermal Water for Bathing. In: Proceedings of International Seminar on Present Problems of the Water Management of Cities and Villages, Hlohovec, 14.-15.5.2009, ISBN 978-80-214-3862-0, pp. 161-166.
- KRIŠ, J., ŠKULTÉTYOVÁ, I.: The Water Supply in Slovakia (abstract). In: Proceedings of 7<sup>th</sup> International Conference on Water Resources Conservation and Risk Reduction under Climatic Instability. Book of abstracts, Limassol, Cyprus, 25.-27.6.2009, ISBN 978-9963-671-94-6, p. 88.
- MAHRÍKOVÁ, I.: Decentralized Management of Waste Waters. In: Proceedings of International Seminar on Present Problems of the Water Management of Cities and Villages, Hlohovec, 14.-15.5.2009, ISBN 978-80-214-3862-0, pp. 15-20.
- MAHRÍKOVÁ, I.: Waste Water Management – A Decentralized Method. In: Proceedings of International Conference on the Optimization of the Design and Operation of Sewerage Systems and Waste Water Treatment Plants 2009, Velké Bílovice, ČR, 1.-2.10.2009, ISBN 978-80-86020-64-8, pp. 303-308.
- MAHRÍKOVÁ, I.: Wastewater from Small Urban Areas - Impact of the Environment on Slovakia. In: Proceedings of 11<sup>th</sup> International Symposium on Water Management and Hydraulic Engineering 2009, Vol. 1. Ohrid, Macedonia, 1.-5.9.2009. Skopje: University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8, pp. 477-484.
- MATULOVÁ, Z., HLAVÍNEK, P., DRTIL, M., PIKOROVÁ, T.: One-Year Operation of a Single Household MBR Plant. In: Proceedings of 6<sup>th</sup> IWA Leading-Edge Conference on Water and Waste Water Technologies, Singapore, 23-25 June 2009, unpagued.
- MATULOVÁ, Z., PIKOROVÁ, T., HLAVÍNEK, P., DRTIL, M.: Operation of Domestic Pilot MBR WWTP. In: Proceedings of 6<sup>th</sup> IWA Leading-Edge Conference on Water and Wastewater Technologies, Singapore, 23-25 June 2009, pp. 52-53.
- MRNČO, I., KRIŠ, J., TÓTHOVÁ, K.: Application of Hydroinformatic Tools in a Water Supply. In: Proceedings of 11<sup>th</sup> International Symposium on Water Management and Hydraulic Engineering 2009, Vol. 1. Ohrid, Macedonia, 1.-5.9.2009. Skopje : University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8, pp. 471-476.
- MRNČO, I., KRIŠ, J., TÓTHOVÁ, K.: Hydroinformatics - Application in Water Supply Management. In: Proceeding of International Seminar on Present Problems of the Water Management of Cities and Villages, Hlohovec, 14.-15.5.2009, ISBN 978-80-214-3862-0, pp. 127-132.
- MRNČO, I.: Water Supply Management - Application of Hydroinformatics. In: Proceedings of 11<sup>th</sup> Conference of Graduate Study, Brno 4.2.2009, ISBN 978-80-214-3810-1, unpagued.
- PIKOROVÁ, T., MATULOVÁ, Z., HLAVÍNEK, P., DRTIL, M.: Operation of Household MBR WWTP - Operational Failures. In: Proceedings of the NATO Advanced Research Workshop on Risk Management of Water Supply and Sanitation Systems Impaired by Operational Failures, Natural Disasters and War Conflicts, Ohrid, Macedonia, 22.-26. October 2008, Dordrecht : Springer Science-Business Media, 2009, ISBN 978-90-481-2364-3, pp. 283-292.
- PIKOROVÁ, T., MATULOVÁ, Z., HLAVÍNEK, P., DRTIL, M.: Pilot-Scale Operation of Household Wastewater Treatment Plant with an Immersed Module. In: Proceedings of 11<sup>th</sup> International Symposium on Water Management and Hydraulic Engineering 2009, Vol. 1. Ohrid, Macedonia, 1.-5.9.2009. Skopje : University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8, pp. 461-468.
- PIKOROVÁ, T., MATULOVÁ, Z., HLAVÍNEK, P., DRTIL, M.: Experience of One-Year Operation of Household WWTP with MBR. In: Proceedings of Seminar on Decentralized Disposal of Waste Water. Brno, ČR, 16.4.2009, ISBN 978-80-86020-63-0, pp. 49-56.
- PIKOROVÁ, T., MATULOVÁ, Z.: Technology of Membrane Biological Reactors in Wastewater Treatment. In: Proceedings of International Seminar on Present Problems of the Water Management of Cities and Villages, Hlohovec, 14.-15.5.2009, ISBN 978-80-214-3862-0, pp. 87-92.
- RUSNÁK, D.: Assessment of the Operation of Overflow Structures. In: Proceedings of International Conference on the Optimization of the Design and Operation of Sewerage Systems and Waste Water Treatment Plants 2009, Velké Bílovice, ČR, 1.-2.10.2009, ISBN 978-80-86020-64-8, pp. 251-259.
- ŠKULTÉTYOVÁ, I.: Waste Management - Design of an Environmental Infrastructure. In: Proceedings of International Seminar on Present Problems of the Water Management of Cities and Villages, Hlohovec, 14.-15.5.2009, ISBN 978-80-214-3862-0, pp. 173-180.
- ŠKULTÉTYOVÁ, I.: Protection of Water Sources from Landfill Leachates. In: Proceedings of 11<sup>th</sup> International Symposium on Water Management and Hydraulic Engineering 2009, Vol. 1. Ohrid, Macedonia, 1.-5.9.2009. Skopje : University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8, pp. 523-532.
- SOKÁČ, M.: Analysis of the Influence of Waste Water Overflows on Receiving Water by Waste Water Management in the Legislation of the Slovak Republic. In: Proceedings of International Seminar on Present Problems of the Water Management of Cities and Villages, Hlohovec, 14.-15.5.2009, ISBN 978-80-214-3862-0, pp. 193-198.
- SOKÁČ, M.: Analysis of Stormwater Management and Its Influence on Receiving Water: Banská Bystrica Case Study. In: Proceedings of 11<sup>th</sup> International Symposium on Water Management and Hydraulic Engineering 2009, Vol. 1. Ohrid, Macedonia, 1.-5.9.2009. Skopje : University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8, pp. 485-492.
- STANKO, Š.: Combined Versus Separated Sewer Systems in Slovakia. In: Proceedings of 11<sup>th</sup> International Symposium on Water Management and Hydraulic Engineering 2009, Vol. 1. Ohrid, Macedonia, 1.-5.9.2009. Skopje : University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8, pp. 515-522.

STANKO, Š., SIRÁK, I.: Implementation of Trenchless Methods in Slovak Conditions. In: Proceedings of 11<sup>th</sup> International Symposium on Water Management and Hydraulic Engineering 2009, Vol. 1. Ohrid, Macedonia, 1.-5.9.2009. Skopje : University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8, pp. 553-561.

STANKO, Š.: Optimization of the Design of Sewage Systems. In: Proceedings of International Conference on the Optimization of the Design and Operation of Sewerage Systems and Waste Water Treatment Plants 2009, Velké Bílovice, ČR, 1.-2.10.2009, ISBN 978-80-86020-64-8, pp. 287-292.

STANKO, Š.: Reuse of Waste Water in Slovakia, Water Supply Sustainability. In: Proceedings of the NATO Advanced Research Workshop on Risk Management of Water Supply and Sanitation Systems Impaired by Operational Failures, Natural Disasters and War Conflicts, Ohrid, Macedonia, 22.-26. October 2008, Dordrecht : Springer Science-Business Media, 2009, ISBN 978-90-481-2364-3, pp. 233-240.

STANKO, Š.: Sewers and Their Impact on Environmental Management. In: Proceedings of International Seminar on the Present Problems of Water Management of Cities and Villages, Hlohovec, 14.-15.5.2009, ISBN 978-80-214-3862-0, pp. 41-46 (in English)

VELÍSKOVÁ, Y., SOKÁČ, M., DULOVIČOVÁ, R.: Determination of the Longitudinal Dispersion Coefficient in Sewer Networks. In: Proceedings of 11<sup>th</sup> International Symposium on Water Management and Hydraulic Engineering 2009, Vol. 1. Ohrid, Macedonia, 1.-5.9.2009. Skopje : University of Sts. Cyril and Methodius, 2009. ISBN 978-9989-2469-6-8, pp. 493-498.

VELÍSKOVÁ, Y., SOKÁČ, M., DULOVIČOVÁ, R.: The Longitudinal Dispersion Coefficient and Its Determination in Sewers with a Change of Direction. In: Proceedings of International Seminar on the Present Problems of the Water Management of Cities and Villages, Hlohovec, 14.-15.5.2009, ISBN 978-80-214-3862-0, pp. 187-192.

BARLOKOVÁ, D., ILAVSKÝ J.: Obtaining Drinking Water from Small Water Sources with Metal Contents. In: Proceedings of 8<sup>th</sup> Conference with international participation on Water Supply, Sewage Systems, Wastes – Small Water Works – Alternative Energy Sources, 30. 11. – 2. 12. 2009, Stará Lesná, ISBN 978-80-893-8506-5, CD

BOŽÍKOVÁ, J.: Natural Curative Waters of Slovakia in Spas. In: Proceedings of International Geothermal Days Conference in Slovakia, Častá - Papiernička, 26.-28.5.2009, ISBN 978-80-89062-62-1, pp. 353-359.

BRONIŠOVÁ M., RUSNÁK D.: Improvement of the Technical Conditions of the Rača-Grinava Water Supply System. In: Proceedings of 8<sup>th</sup> Conference with International Participation on Water Supply, Sewage Systems, Wastes – Small Water Works – Alternative Energy Sources, 30. 11. – 2. 12. 2009, Stará Lesná, ISBN 978-80-893-8506-5, CD

ČERMÁK, O.: Wood in Structural Waste. In: Proceedings of Conference with international participation on Reusing Materials for Building Purposes, Tatranská Lomnica, 11.-13.3.2009, ISBN 978-80-232-0300-4, pp. 118-123.

DUBOVÁ, V., TÓTHOVÁ, K.: Pressure Management in a Water Distribution Network. In: Proceedings of 41<sup>st</sup> Conference of Water Managers in Industry, Liptovský Ján, November 2009, pp.161-166.

ILAVSKÝ, J., BARLOKOVÁ, D., HLAVÁČ, M.: New Possibilities for the Use of the Dúbrava Water Source. In: Proceedings of Conference on the Modernization and Optimization of Water Treatment Plants, Stará Lesná, SR, 25.-26.2.2009, ISBN 978-80-969974-1-1, pp. 173-180.

ILAVSKÝ, J., BARLOKOVÁ, D., HURBAN, L.: Influence of Mining Operations on the Presence of Antimony in the Dúbrava Water Source and the Possibilities for Its Removal. In: Proceedings of 12<sup>th</sup> International Science Conference on Hydrogeochemia '09, Bratislava, 18.-19.6.2009, ISBN 978-80-969342-5-6, pp. 69-74.

KOLARIČ M., RUSNÁK D.: Analysis of the Sewerage Overflows of the Towns of Martin and Vrútky with Balance Parameters. In: Proceedings of 8<sup>th</sup> Conference with international participation on Water Supply, Sewage Systems, Wastes – Small Water Works – Alternative Energy Sources, 30. 11. – 2. 12. 2009, Stará Lesná, ISBN 978-80-893-8506-5, CD

KOLARIČ., M., RUSNÁK, D., STANKO, Š.: Analysis of the Capacity of the Sewerage System of the Towns of Martin and Vrútky and a Hydraulic Analysis of the Overflows. In: Proceedings of 6<sup>th</sup> Conference with international participation on the Reconstruction of Sewerage Systems and Waste Water Treatment Plants, Podbanské, October 2009, ISBN 978-80-89062-64-5, pp. 219-228.

KRIŠ, J., ŠKULTÉTYOVÁ, I., STANKO, Š.: Utilization of Aquifers Extending Beyond the State Boundaries. In: Proceedings of 9<sup>th</sup> Seminar on World Water Day, 9.4.2008 Poprad, pp. 35-46.

MRNČO I., KRIŠ J.: Application of a Mathematical Model in a Hydraulic Appraisal of the Design of a Supply Pipe to Banská Štiavnica. In: Proceedings of 8<sup>th</sup> Conference with international participation on Water Supply, Sewage Systems, Wastes – Small Water Works – Alternative Energy Sources, 30. 11. – 2. 12. 2009, Stará Lesná, ISBN 978-80-893-8506-5, CD

GIBALA, T., BRTKO, P., MRNČO, I., PRYL, K.: Control and Monitoring of a WWTP and Sewerage System. In: Proceedings of 6<sup>th</sup> Conference with international participation on Reconstruction of Sewerage Systems and Waste Water Treatment Plants, Podbanské, October 2009, ISBN 978-80-89062-64-5, pp. 255-262.

PIKOROVÁ T., RUSNÁK D.: Design of Small Waste Water Plants. In: Proceedings of 8<sup>th</sup> Conference with international participation on Water Supply, Sewage Systems, Wastes – Small Water Works – Alternative Energy Sources, 30. 11. – 2. 12. 2009, Stará Lesná, ISBN 978-80-893-8506-5, CD

RUSNÁK, D.: Legislative Tasks for the Operation of Sewage Systems and Recommendations of Technical Standards for Their Placement. In: Proceedings of Water Conference 2009 Rajecské Teplice, 30.6.-1.7.2009, ISBN 978-80-227-3103-4, pp. 88-99.

RUSNÁK, D.: Reconstruction as an Element of the Integrated Operation of a Sewerage System. In: Proceedings of AQUA 2009 Conference - Renovation of Water Supply Systems and Sewerage Systems, Trenčín, September 2009, ISBN 978-80-227-3157-7, pp. 25-36.

RUSNÁK, D.: Sewerage Pipe Materials. In: Proceedings of 6<sup>th</sup> Conference with international participation on Reconstruction of Sewerage Systems and Waste Water Treatment Plants, Podbanské, October 2009, ISBN 978-80-89062-64-5, pp. 247-254.

RUSNÁK, D.: Renovation of Sewage Pipes According to Legislation and Technical Standards. In: Proceedings of 6<sup>th</sup> Conference with international participation on the Reconstruction of Sewerage Systems and Waste Water Treatment Plants, Podbanské, October 2009, ISBN 978-80-89062-64-5, pp. 199-206.

SOKÁČ M.: Current Trends in the Sewerage of Developing Parts of Urban Settlements. In: Proceedings of 8<sup>th</sup> Conference with international participation on Water Supply, Sewerage Systems, Wastes – Small Water Works – Alternative Energy Sources, 30. 11. – 2. 12. 2009, Stará Lesná, ISBN 978-80-893-8506-5, CD

SOKÁČ M.: Concept for the Sewerage of the Developing Parts of Cities. In: Proceedings of 6<sup>th</sup> Conference with international participation on the Reconstruction of Sewerage Systems and Waste Water Treatment Plants, Podbanské, October 2009, ISBN 978-80-89062-64-5, pp. 183 – 190.

STANKO, Š.: Reuse of Waste Water in Slovakia. In: Proceedings of Water Conference 2009 Rajecké Teplice, 30.6.-1.7.2009, ISBN 978-80-227-3103-4, ISBN 978-80-227-3103-4, pp. 100-105 (in English)

STANKO, Š.: Examination of the Capacity of a Sewerage System by a Rational Method. In: Proceedings of 6<sup>th</sup> Conference with international participation on the Reconstruction of Sewerage Systems and Waste Water Treatment Plants, Podbanské, October 2009, ISBN 978-80-89062-64-5, pp. 229-232.

ŠKULTÉTYOVÁ I., GALBOVÁ K.: Jablonica Waste Dump – Closure and Recultivation. In: Proceedings of 8<sup>th</sup> Conference with international participation on Water Supply, Sewerage Systems, Wastes – Small Water Works – Alternative Energy Sources, 30. 11. – 2. 12. 2009, Stará Lesná, ISBN 978-80-893-8506-5, CD

# DEPARTMENT OF BUILDING SERVICES

Head of the Department:  
Assoc. Prof. Otilia Lulkovičová, PhD.

Tel.: + 421 2 59274 711  
Fax: + 421 2 52961 137  
E-mail: otília.lulkovicova@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

Technical Equipment of Buildings  
Technical Equipment of Buildings II  
Technical Equipment of Buildings III  
Internal Water Piping  
Internal Drainage  
Heating I  
Heating II  
Design IV  
Design V  
Design VI  
Air Conditioning  
Sanitary Techniques  
Water Delivery and Drainage  
Computer Design Systems  
Measuring and Control I  
Measuring and Control II  
Energy Supply of Buildings  
Excursions  
Building Control Systems  
Special Seminar  
Heating Systems  
Industrial Installations  
Renewable Energy in Technical Equipment of Buildings  
Ventilation and Air Conditioning Systems I  
Fire-Fighting Equipment  
Diploma Seminar

#### Optional Subjects

Technical Equipment  
Sanitary-Technical Equipment  
Heating Systems  
Combustion Theory and Techniques  
Ventilation and Air Conditioning Systems  
Industrial Air Conditioning Systems II  
Sanitation Audit  
Heating Audit  
Ventilation Audit  
Operation of Air Conditioning Systems  
Heat Delivery to Buildings  
Renovation of Building Services  
Indoor Environment of Buildings  
Environmental Audit of Buildings

#### Postgraduate courses

Indoor Environment of Buildings	Petráš
Energy Audit of Buildings	Petráš
Ph.D. Project I, II, III	Petráš
Ph.D. Project IV, V, VI	Petráš
Teaching I – IV	Petráš
Sanitary Installations	Petráš
Heating	Petráš
Ventilation and Air Conditioning	Petráš

## 3. Thesis

### 2.1 Graduate theses

HUŇOVÁ, L.: Evaluation of Selected Parameters of an Indoor Environment in a School.  
Supervisor: Šabíková, J.

ANDRÁŠ, Z.: Analysis of Heat Recovery Systems in Ventilation and Air Conditioning Techniques.  
Supervisor: Boďo, R.

BEDNARIČ, B.: Air Conditioning Alternatives in Operating Rooms.  
Supervisor: Boďo, R.

BÉRESS: Design of Hot Water Preparation Systems for a Residential House. Solar Energy Base.  
Supervisor: Valášek, J.

BRANICKÝ, M.: Design of an Outdoor Building Drainage System and Equipment for Use of Rainwater in a Factory.  
Supervisor: Valášek, J.

BULKO, P.: The Heat Source for a Villa. Heat Pump Base.  
Supervisor: Fűrri

ČIFERSKÝ, M.: The Use of Rainwater for Water Delivery in Family Houses.  
Supervisor: Peráčková, J.

HLOŽA, P.: The Use of Rainwater in an Office Building.  
Supervisor: Peráčková, J.

CHOVANCOVÁ, J.: Evaluation of Thermal Outdoor Swimming Pool Operations in the Town of Galanta.  
Supervisor: Takács, J.

JANÍK, P.: Design, Selection, Calculation and Evaluation of a Heating and Ventilation Recovery System for a Low-Energy Family House.  
Supervisor: Kalús, D.

LETENAY, Z.: Conceptual Design of an Energy System for Heating and Hot Water Preparation in a Low-Energy Family House.  
Supervisor: Lulkovičová, O.

MAKÚŠ, J.: Heat Sources for a Basic School. Biomass Base.  
Supervisor: Takács, J.

NAGY, M.: Conceptual Design of a Solar Energy System for Heating and Hot Water Preparation with Year-Round Operation in a Family House.  
Supervisor: Lulkovičová, O.

PÍŠŤANSKÝ, P.: Analysis of the Creation of Indoor Climates in Residential Buildings.  
Supervisor: Széknyová, M.

PLOSKUŇÁKOVÁ, E.: Analysis and Design of Air Conditioning Systems in Operating Rooms.  
Supervisor: Széknyová, M.

SVITEK, M.: Energy Certificate for a Residential Building.  
Supervisor: Petráš, D.



ŠKROVINA, J.: Technical and Economic Evaluation of Heat Delivery for a Family House. Heat Pump Base.  
Supervisor: Fürri, B.

ZEMAN, R.: Design, Selection, Calculation and Evaluation of Heating a Family House. Wood Base.  
Supervisor: Kalús, D.

VANCIKOVÁ, L.: Evaluation of Air Quality in a Basic School.  
Supervisor: Šabíková, J.

PUSTAYOVÁ, H.: Energy and Environmental Evaluation of a Residential House.  
Supervisor: Petráš, D.

LOŽEK, P.: Air Conditioning in Operating Rooms.  
Supervisor: Székyová, M.

KONEČNÝ, M.: Air Conditioning for a Canteen  
Supervisor: Boďo, R.

ROZEMBERG, I.: Ventilation and Air Conditioning of Selected Spaces in a Hotel.  
Supervisor: Székyová, M.

FABIÁNOVÁ, V.: Hydronic Balance of a Hot Water Heating System in a Residential Dwelling. Mraziarska Street.  
Supervisor: Takács, J.

MURAN, J.: Energy and Environmental Certificate for a Basic School.  
Supervisor: Petráš, D.

MASARYKOVÁ, Z.: Reconstruction of a Kindergarden for a Crisis Center – Final Project.  
Supervisor: Peráčková, J.

STRAKOVÁ, M.: A Residential House for People with Limited Mobility. Final Project for a Drainage System.  
Supervisor: Peráčková, J.

CEROVSKÁ, D.: Hygienic Quality of Water in Buildings.  
Supervisor: Peráčková, J.

LAŠČEKOVÁ, L.: Final Project for Sanitary-Technical Installations in a Multifunctional Building.  
Supervisor: Peráčková, J.

MARTINÁK, F.: Final Project for Sanitary-Technical Installations in a High-Rise Building.  
Supervisor: Jánošková, T.

ŠIŠÁK, M.: Design of an Automatic Sprinkler System in a Hall.  
Supervisor: Jánošková, T.

FRONKOVÁ, T.: Design of an Energy System for a Residential Building on Budkova Street, Bratislava – Renewable Energy Base.  
Supervisor: Lulkovičová, O.

KUHAJDA, M.: Hydronic Balance of a Heating System and Energy Audit for a Residential House.  
Supervisor: Petráš, D.

OČENÁŠEK, J.: Heat Pump as an Energy Source for a Regional Center of Technical Education in Kočovce.  
Supervisor: Takács, J.

SKALÍK, L.: Design of a Solar Energy System for Heating and Hot Water Preparation with Year-Round Operation in a Residential House.  
Supervisor: Lulkovičová, O.

VANCIKOVÁ, K.: Evaluation of the Air Quality in a School Building.  
Supervisor: Šabíková, J.

## 2.2 Doctoral theses

## 3. Research

### 3.1 Research projects

CEEPUS II – Education without Borders (Lulkovicova)

KEGA – Preparation of Teaching Materials for Building Service Specializations (Lulkovičová) (Project Number: 3/4105/06)

VEGA – Determination of Energy Balance of Building Services Using Renewable Energy as a Base for an Energy Audit, Certificate, and Monitoring (Petráš) (Project Number: 1/0730/08)

VEGA – Analysis of Energy and Environmental Measures During Operation of Sanitary Installations and Ventilation Systems in Low Energy Buildings (Peráčková) (Project Number: 1/0730/08)

SLOVAK – NORWEGIAN Project: Implementation of Tools and Software for Energy Certification, Audit and Monitoring of Buildings for Slovak Conditions (Petráš) (Project number: SK 0013)

### 3.2 International cooperation

#### Visit of staff members to foreign institutions

ENSI – Energy Saving International AS, Oslo, Norway; D. Petráš

Hansa, AG, Burglengenfeld, Germany

Geberit, AG, Rottenbrunn, Germany

GAS, Ltd, Prague, Czech Republic

CVUT – Civil Engineering Faculty, Prague, Czech Republic; D. Petráš, O. Lulkovičová, J. Peráčková,

VUT, Brno, Czech Republic; D. Lulkovičová, D. Petráš

VUT, Ostrava, Czech Republic, O. Lulkovičová, J. Takács,

J. Peráčková, M. Kurčová, J. Šabíková

Deutsche Institute fur Bautechnik, Berlin, Germany, J.

Valášek

Czech Association of Civil Engineers, Prague, Czech Republic; J. Valášek, D. Petráš

ASHRAE, Winter Meeting, New York, USA; D. Petráš

REHVA, Brussels, Belgium; D. Petráš

GA – REHVA, Berlin, Germany, D. Petráš

Fachhochschule, Pinkafeld, Austria, D. Petráš

The Danish Technical University – International Center for the Indoor Environment and Energy, Lyngby, Denmark; D.

Petráš, I. Balážová, B. Halvoňová, J. Šabíková

UNI, inSoul, Korea, D. Petráš

INNER project, Marua, Portugal, D. Petráš

GA – ALA, Tallin, Estonia, D. Petráš

GA – SEFI, Aalborg, Denmark, D. Petráš

ERSF, Grenoble, France, D. Petráš

ENSI, Oslo, Norway, D. Petráš

B4 – UNI meeting, Vienna, Austria, D. Petráš

Metropolit UNI, Warszawa, Poland, D. Petráš

SAE meeting, Dubai, D. Petráš

SAE meeting, Dubai, D. Petráš

SAE meeting, Dubai, D. Petráš

SAE meeting, Dubai, D. Petráš

SAE meeting, Dubai, D. Petráš

#### Membership in international professional organizations

ASHRAE – USA, Petráš, D.

REHVA – Brussels, Belgium, Petráš, D

## 4. Publication

#### Journals

DAHLSVEEN, T., PETRÁŠ, D., CHMÚRNY, I.: Energy Audits and Certifications for Buildings. Part 1: Process of Energy Audits and Certifications for Buildings. In: TZB Haustechnik. - ISSN 1210-356X. - Vol. 17, No. 1 (2009), pp. 26-28 (in Slovak)

- FÜRI, B.: Energy Audits and Certifications of Buildings, Part 7 Supervision of Air-Conditioning and Cooling Systems. In: TZB Haustechnik. - ISSN 1210-356X. - Vol. 17, No. 7 (2009), pp. 18-21 (in Slovak)
- FÜRI, B., PETRÁŠ, D.: Energy Audits and Certifications of Buildings. Part 5, Energy Consumption, Air Conditioning and Cooling. In: TZB Haustechnik. - ISSN 1210-356X. - Vol. 17, No. 5 (2009), pp. 26-29 (in Slovak)
- FÜRI, B.: Experimental Research on a Vertical Thermosiphon with a Methanol Filling. In: Strojárstvo – Mechanical Engineering. - ISSN 1335-2938. - Vol. 13, June - (2009), pp. 55-57 (in English)
- FÜRI, B., TAKÁCS, J.: Experience in Designing Space Heating Systems with Heat Pumps. In: Správy. - No. 3 (2009), pp. 20-24 (in Slovak)
- JANUŠKA, J.: Reconstruction of a Heating System in Residential Buildings. In: Building Facility Management. - ISSN 1337-6233. - Vol. 3, No. 3 (2009), pp. 34-35 (in Slovak)
- KONKOL, R., PETRÁŠ, D.: Energy Audits and Certifications of Buildings, Part 3, Energy Consumption for Heating. In: TZB Haustechnik. - ISSN 1210-356X. - Vol. 17, No. 3 (2009), pp. 24-26 (in Slovak)
- KRAJČÍK, M., PETRÁŠ, D.: Effective Energy Measures in Complete Apartment Building Renovation. In: TZB Haustechnik. - ISSN 1803-4802. - Vol. 2, No. 2 (2009), pp. 21-23 (in Czech)
- KRAJČÍK, M., PETRÁŠ, D.: Energy, Environmental and Economic Evaluation of an Apartment Building, Part 4, Energy Certification. In: Building Facility Manager. - ISSN 1336-7919. - Vol. 4, No. 4 (2009), pp. 47-49 (in Slovak)
- KRAJČÍK, M., PETRÁŠ, D.: Energy, Environmental and Economic Evaluation, Part 5, Evaluation of Indoor Environment Conditions. In: Building Facility Manager. - ISSN 1336-7919. - Vol. 4, No. 5 (2009), pp. 25-27 (in Slovak)
- KRAJČÍK, M., PETRÁŠ, D.: Energy, Environmental and Economic Evaluation of an Apartment Building, Part 1, Energy Audit of an Apartment Building. In: Building Facility Manager. - ISSN 1336-7919. - Vol. 4, No. 1 (2009), pp. 5-9 (in Slovak)
- KRAJČÍK, M., PETRÁŠ, D.: Energy, Environmental and Economic Evaluation of an Apartment Building, Part 2, Energy Efficient Measures. In: Building Facility Manager. - ISSN 1336-7919. - Vol. 4, No. 2 (2009), pp. 15-17 (in Slovak)
- KRAJČÍK, M., PETRÁŠ, D.: Energy, Environmental and Economic Evaluation of an Apartment Building, Part 3, Technical - Economic Evaluation. In: Building Facility Manager. - ISSN 1336-7919. - Vol. 4, No. 3 (2009), pp. 24-27 (in Slovak)
- KRAJČÍK, M., PETRÁŠ, D., Wouters, Peter - van Dijk : Energy Performance of Buildings Directive : Overall Context and Activities. In: TZB Haustechnik. - ISSN 1210-356X. - Vol. 17, No. 2 (2009), pp. 24-26 (in Slovak)
- KURČOVÁ, M.: Effect of Balancing on the Differential Pressure of Heating Systems. In: Magyar Épületgépészet. - ISSN 1215-9913. - Vol. 58, Nos. 1-2 (2009), pp. 17-21 (in Hungarian)
- KURČOVÁ, M.: The Impact of Control on the Pressure Distribution in a Heating System. In: Topenárství, instalace. - ISSN 1211-0906. - Vol. 43, No. 1 (2009), pp. 38-41 (in Slovak)
- PERÁČKOVÁ, J.: Water - Supply Design in Buildings According to the Revised National Standard, 1st Part. In: TZB Haustechnik. - ISSN 1210-356X. - Vol. 17, No. 2 (2009), pp. 38-40 (in Slovak)
- PERÁČKOVÁ, J.: Drainage Systems in Buildings According to the Revised Standard STN 73 67 60, 1st Part. In: TZB Haustechnik. - ISSN 1210-356X. - Vol. 17, No. 4 (2009), pp. 40-42 (in Slovak)
- PERÁČKOVÁ, J.: Drainage Systems in Buildings According to the Revised Standard - STN 73 6760 Part 2. In: TZB Haustechnik. - ISSN 1210-356X. - Vol. 17, No. 5 (2009), pp. 36-39 (in Slovak)
- PERÁČKOVÁ, J.: Design of a Sewerage System in Buildings According to Revised Standard STN 73 6760. In: Projekt - stavba. - ISBN 1336-6327. - Vol. 4, No. 3-4 (2009), pp. 25-29 (in Slovak)
- PERÁČKOVÁ, J.: Revision of STN 73 6760: Internal Drainage. In: TechCON. - ISSN 1337-3013. - Vol. 5, No. 2 (2009), pp. 4-7, (in Slovak)
- PERÁČKOVÁ, J.: Regaining Thermal Energy from Sewerage Systems. In: TZB Haustechnik. - ISSN 1210-356X. - Vol. 17, No. 7 (2009), pp. 40-42 (in Slovak)
- PERÁČKOVÁ, J.: Calculation of the Lightness of Water - Pipe Systems in Buildings According to Revised STN 73 6655 Standard. In: Projekt - stavba. - ISBN 1336-6327. - Vol. 4, Nos. 1-2 (2009), pp. 35-38 (in Slovak)
- PETRÁŠ, D.: Energy Audit and Certification of Buildings, Part 4, Energy Consumption for Warm Water Preparation and Distribution. In: TZB Haustechnik. - ISSN 1210-356X. - Vol. 17, No. 4 (2009), pp. 25-27 (in Slovak)
- TÓTHOVÁ, V.: Use of Geothermal Energy in Greenhouses. In: Stavba. - ISSN 1335-5406. - Vol. 12, Nos. 1-2 (2009), pp. 68-72 (in Slovak)

#### Conferences

- BENDŽALOVÁ, J., VALÁŠEK, J., NAGY, J.: Computing Normalizing Evaluation of Houses Before and After Renewal. In: Proceedings of international conference on Energy Savings in Buildings. Building Structures. Bratislava, SR, 1.4.2009. – Bratislava : BB Print, s.r.o., 2009. - ISBN 978-80-969158-4-2. - pp. 45-52 (in Slovak)
- ĎURIŠOVÁ, E., PETRÁŠ, D.: Energy and Environmental Aspects of Low-Temperature Heating and High - Temperature Cooling Systems. In: Proceedings of 17<sup>th</sup> international conference on Heating 2009. Alternative Energy Sources and Heat Delivery Systems in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 501-506 (in Slovak)
- ĎURIŠOVÁ, E., PETRÁŠ, D.: Energy and Environmental Aspects of Low-Temperature Heating and High - Temperature Cooling Systems. In: Proceedings of 17<sup>th</sup> international conference on Heating 2009. Alternative Energy Sources and Heat Delivery Systems in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 501-506 (in Slovak) hybridného systému vykurovania a chladenia
- ĎURIŠOVÁ, E., PETRÁŠ, D.: Environmental Aspects of the Operation of a Low-Temperature Heating and High-Temperature Cooling System. Proceedings of international conference on Power Engineering - Ecology - Economy. High Tatras, Slovak Republic, 27.-29.5.2009. - Bratislava : STU in Bratislava, 2009. - ISBN 978-80-89402-08-3. – unpagged (in Slovak)

- ĐURIŠOVÁ, E.: Evaluation by Means of an Indoor Environment in an Office Building with Low-Temperature Heating and High-Temperature Cooling. In: Proceedings of international conference on Indoor Air Quality and Exposure of the Human Body : Proceedings of Euroacademy on Ventilation and Indoor Climate. Pamporovo, Bulgaria, 12.-17.5.2009. - Sofia : Technical University of Sofia, 2009. - ISBN 978-954-92261-4-0. - pp. 167-168 (in English)
- FÜRI, B.: Energy Audit of a Family House. In: Proceedings of international conference on Energy Audits and Building Certification. Case Study. - Bratislava : STU v Bratislave, 2009. - ISBN 978-80-227-3108-9. - pp. 29-43 (in English)
- FÜRI, B.: Evaluation of Heat Pumps in the Energy Efficiency of Buildings. In: Proceedings of international conference on Heating 2009. Alternative Energy Sources and Heat Delivery Systems in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 67-70 (in Slovak)
- FÜRI, B., ŠVINGÁL, J.: Some Experimental Results with Ammonia- Based Azeotropic Refrigerant R 723 in a Small Heat Pump. In: Proceedings of the 7th international conference on Compressors and Coolants. Papiernička, SR, 30.9.-2.10.2009. - Rovinka : Slovak Association for Refrigeration and Air Conditioning Technology, 2009. - ISBN 978-80-89376-02-2. - pp. 139-142
- FÜRI, B.: Energy Utilization of an Environment with Gravity-Assisted Heat Pipes. Proceedings of the 17<sup>th</sup> international conference on Heating 2009. Alternative Energy Sources and Heat Delivery Systems in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 271-274 (in Slovak)
- HALVOŇOVÁ, B., MELIKOV, A.K.: The Effect of an Air Intake on Ventilation Efficiency. Proceedings of international conference on Roomvent 2009 : Busan, South Korea, May 2009, pp. 1596-1603 (in English)
- HALVOŇOVÁ, B., MELIKOV, A.K.: The Effect of an Air Intake on Ventilation Efficiency. Proceedings of international conference on Roomvent 2009 : Busan, South Korea, May 2009, pp. 1596-1603 (in English)
- HALVOŇOVÁ, B., MELIKOV, A.K.: The Effectiveness of Personal Ventilation in Combination with Displacement Ventilation: The Effect on a Walking Man. In: Proceedings of the 9<sup>th</sup> international conference on Healthy Buildings 2009. Syracuse, NY, USA, 13.-17.9.2009 (in English)
- JELENÍKOVÁ, I.: Degradation of Hot Water Piping. In: Proceedings of international conference on Defectoscopy 2009. Nový Smokovec, SR, 31.3.-2.4.2009. - Bratislava : Slovcert s.r.o., 2009. - ISBN 978-80-970129-6-0. - pp. 142-151 (in Slovak)
- JELENÍKOVÁ, I.: Degradation of Indoor Hot Water Piping. In: Proceedings of International Young Scientists Conference: Towards the Challenges of Modern Technology : 4<sup>th</sup> International PhD student and Young Scientists conference. - Warsaw : Warsaw University of Technology, 2009. - ISBN 978-83-929515-0-6. - pp. 35-39 (in English)
- JELENÍKOVÁ, I.: Corrosion and Incrustation of Water Piping in Buildings. In: Proceedings of Juniorstav 2009 international conference. Brno, 4.2.2009. - Brno : VUT, 2009. - ISBN 978-80-214-3810-1 (in Slovak)
- JELENÍKOVÁ, I.: Causes of the Corrosion of Hot Water Piping in Buildings. In Proceedings of the 14<sup>th</sup> International SANHYGA Conference 2009, Piešťany, 15.-16.10.2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-29-1. - pp. 87-94 (in Slovak)
- KALÚS, D.: Analysis of Parameters Influencing the Energy Efficiency of Buildings at an Energy Consumption Site - Heating and Hot Water Preparation. In: Proceedings of the 17<sup>th</sup> international conference on Heating 2009. Alternative Energy Sources and Systems of Heat Delivery in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 63-66 (in Slovak)
- KESZEGH, M., KALÚS, D.: Analysis of Energy Systems for Low-Energy Homes That Exploit Alternative Energy Resources. In: Proceedings of the 17<sup>th</sup> International Conference on Heating 2009. Alternative Energy Sources and Systems of Heat Delivery in Buildings. - Tatranské Matliare
- KOLUMBER, P., KALÚS, D.: Comparison of the Energy Consumption of an Apartment Block Supplied by Heat Made from Different Types of Fuel. In: Proceedings of the 17<sup>th</sup> international conference on Heating 2009. Alternative Energy Sources and Systems of Heat Delivery in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 487-491 (in Slovak)
- KONKOL', R.: Energy Certification of Heating Systems. Proceedings of International Juniorstav Conference 2009 : 11<sup>th</sup> Conference on Doctoral Study. Brno, 4.2.2009. Brno University of Technology, 2009. - ISBN 978-80-214-3810-1. - unpagged (in Slovak)
- KONKOL', R.: Energy Efficiency and Heat Losses of Heat Transfer and Distribution Systems. In: Proceedings of the 17<sup>th</sup> international conference on Heating 2009. Alternative Energy Sources and Heat Delivery Systems in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 55-58 (in Slovak)
- KONKOL', R.: Energy Audit and Building Certification of the Inter Stadium in Bratislava. Proceedings of international conference on Energy Audits and Building Certification : Case Study. - Bratislava : STU v Bratislave, 2009. - ISBN 978-80-227-3108-9. - pp. 79-90 (in English)
- KRAJČÍK, M., PETRÁŠ, D.: Energy Audit and Certification of an Apartment Building. Proceedings of international conference on Power Engineering - Ecology - Economy : 8th international conference. High Tatras, Slovak Republic, 27.-29.5.2009. - Bratislava : STU v Bratislave, 2009. - ISBN 978-80-89402-08-3. - unpagged (in Slovak)
- KRAJČÍK, M., PETRÁŠ, D.: Successful Energy Saving Measures in the Complex Renovation of an Apartment Building. In: Proceedings of the 17<sup>th</sup> International Conference on Heating 2009. Alternative Energy Sources and Heat Delivery Systems in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 481-486 (in Slovak)
- KRAJČÍK, M.: Energy Audit and Certification of an Apartment Building. Proceedings of international conference on Energy Audits and Building Certifications : Case Study. - Bratislava : STU v Bratislave, 2009. - ISBN 978-80-227-3108-9. - pp. 101-110 (in English)
- KRAJČÍK, M., PETRÁŠ, D.: Evaluation of the Indoor Environment and Energy Audit for an Apartment Building. Proceedings of International Conference on Healthy Buildings 2009 : 9<sup>th</sup> International conference. Syracuse, NY, USA, 13.-17.9.2009. - , 2009. - unpagged (in English)
- KRAJČÍK, M.: Evaluation of an Indoor Environment, Energy Audit and Certification for an Apartment Building in Slovakia. Proceedings of international conference on Indoor Air Quality and Exposure of the Human Body: Proceedings of Euroacademy on Ventilation and Indoor Climate. Pamporovo, Bulgaria, 12.-17.5.2009. - Sofia : Technical University of Sofia, 2009. - ISBN 978-954-92261-4-0. - pp. 202-203 (in English)

- KURČOVÁ, M., LULKOVIČOVÁ, O., EHRENWALD, P.: Control of Boilers for Biomass Combustion. Proceedings of International ÉPKO Conference 2009 : 13th international conference of Civil Engineering and Architecture. Csíksomlyó, Romania, June 2009. - Cluj : Hungarian Technical Scientific Society of Transylvania, 2009. - pp. 318-320 (in Hungarian)
- KURČOVÁ, M., EHRENWALD, P.: Regulation Boiler Using Biomass. In: Proceedings of the 17<sup>th</sup> international conference on Heating 2009. Alternative Energy Sources and Systems of Heat Delivery in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 369-372 (in Slovak)
- LULKOVIČOVÁ, O.: Energy Efficiency of Heat Source Operations. Proceedings of international conference on Facility Management 2009: Bratislava, SR, 7.-8.10.2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-28-4. - pp. 67-72 (in Slovak)
- LULKOVIČOVÁ, O., KONÍK, J.: Energy Control of Boilers and Conditions Providing Safe Dispersion of Polluting Substances for New Heat Sources. In: Proceedings of the 17<sup>th</sup> international conference on Heating 2009. Alternative Energy Sources and Systems of Heat Delivery in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 105-108 (in Slovak)
- LULKOVIČOVÁ, O.: Energy Requirements and Efficiency of Boilers Using Biomass. In: Proceedings of the 17<sup>th</sup> international conference on Heating 2009. Alternative Energy Sources and Heat Delivery Systems in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava: SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 115-118 (in Slovak)
- LULKOVIČOVÁ, O., TOMANOVÁ, K.: Energy Requirements and Efficiencies of Solar Thermal Systems in Buildings. In: Proceedings of 17<sup>th</sup> international conference on Heating 2009. Alternative Energy Sources and Heat Delivery Systems in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 293-296 (in Slovak)
- LULKOVIČOVÁ, O.: Evaluation of the Energy Efficiency of Solar Heating Systems in Buildings. Proceedings of the 12<sup>th</sup> International Scientific Conference in Brno, April 2009. - ISBN 978-80-7204-629-4. - pp. 21-24 (in Slovak)
- LULKOVIČOVÁ, O.: Modern Heat Sources in Historical Buildings. Proceedings of International Summer School on Building Services, ČVUT Prague, 2009. - ISBN 978-80-02-02174-2. - pp. 17-22 (in Slovak)
- MARKOVIČ, G.: Analysis of the Design of Infiltration Systems for Water Runoff. In Proceedings of the 14th international Sanhyga 2009 conference, Piešťany, 15.-16.10.2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-29-1. - pp. 111-120 (in Slovak)
- MARKOVIČ, G.: Advantages of Rain Water Saturation Systems and Their Design. Proceedings of the 4<sup>th</sup> international conference on Young Scientists Towards the Challenges of Modern Technology, Warsaw : Warsaw University of Technology, 2009. - ISBN 978-83-929515-0-6. - pp. 67-76 (in English)
- MARKOVIČ, G.: Rainwater Infiltration Systems. Proceedings of International Ph.D. Student Conference. Brno, 2009. - ISBN 978-80-214-3810-1 (in Slovak)
- ORGONÍK, D.: Energy Certification. Case Study. STU, Bratislava, 2009. - ISBN 978-80-227-3108-9. - pp. 121-133 (in English)
- ORGONÍK, D.: Evaluation of the Operation of a Solar Energy System for Domestic Hot Water. In: Proceedings of 17<sup>th</sup> international conference on Heating 2009. Alternative Energy Sources and Heat Delivery Systems in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 303-306 (in Slovak)
- ORGONÍK, D.: Thermal Comfort in Buildings, Heating Systems – Heat Pump Sources. Proceedings of international conference on Indoor Air Quality and the Exposure of the Human Body. Pamporovo, Bulgaria,- Sofia : Technical University of Sofia, 2009. - ISBN 978-954-92261-4-0. - pp. 163-164 (in English)
- ORGONÍK, D., LULKOVIČOVÁ, O.: Utilization of Solar Energy and Verification of Energy Systems in an Apartment House. Proceedings of international conference on Power Engineering - Ecology - Economy. High Tatras, Slovak Republic, STU Bratislava, 2009. - ISBN 978-80-89402-08-3 (in Slovak)
- PERÁČKOVÁ, J.: Implementation of European Standards for Sanitary Techniques in Slovakia. Proceedings of the 12th scientific conference. Brno, CERM, 2009. - ISBN 978-80-7204-629-4. - pp. 17-20 (in Slovak)
- PERÁČKOVÁ, J.: Drainage in Buildings in Accordance with Revised STN 73 6760 Standard. Proceedings of the 14th International Sanhyga 2009 conference, Piešťany, 2009. - ISBN 978-80-89216-29-1. - pp. 9-20 (in Slovak)
- PETRÁŠ, D., KOUDELKOVÁ, D.: Calculation of Warm Water and Electrical Heating of Buildings. Proceedings of the 6th International Conference on Cold Climates. HVAC, Sisimiut, Greenland, 2009 (in English)
- PETRÁŠ, D.: Energy Audits, Certificates and Monitoring Buildings. Proceedings of the 7th international conference on Facility Management 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-28-4. - pp. 73-76 (in Slovak)
- PETRÁŠ, D.: Energy Management as a Part of the Optimization of the Energy Performance of Buildings. In: Proceedings of 17th international conference on Heating 2009. Alternative Energy Sources and Heat Delivery Systems in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 469-472 (in Slovak)
- PETRÁŠ, D., ĎURIŠOVÁ, E., KRAJČÍK, M.: Thermal Comfort in an Office Building with Low Temperature Heating /High Temperature Cooling and Its Impact on a Working Environment's Quality. Proceedings of the 9<sup>th</sup> international conference on Healthy Buildings 2009. Syracuse, NY, USA, 13.-17.9.2009 (in English)
- REPTA, T., KALÚS, D.: Selection and Application of Low-Temperature Systems for Low-Energy Houses. In: Proceedings of 17th International Conference on Heating 2009. Alternative Energy Sources and Heat Delivery Systems in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 299-302 (in Slovak)
- ŠABÍKOVÁ, J.: Energy Certificates vs. Indoor Air Quality. In: Proceedings of 17<sup>th</sup> international conference on Heating 2009. Alternative Energy Sources and Systems of Heat Delivery in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 477-479 (in Slovak)
- ŠTEFANIČKA, F.: Pool Systems in Recreational Facilities. In: Proceedings of 14<sup>th</sup> International Sanhyga 2009 Conference, Piešťany, 15.-16.10.2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-29-1. - pp. 165-170 (in Slovak)

ŠTEFANIČKA, F., TAKÁCS, J.: Use of Geothermal Energy Use for Swimming Pools. Proceedings of International Conference on Geothermal Days 2009. Častá - Papiernička, 26.-28.5.2009. - Bratislava : Research Institute of Water Management, 2009. - ISBN 978-80-89062-62-1. - pp. 281-288 (in English)

SZÉKYOVÁ, M.: Design of the Realization of Ventilation Systems of Hygienic Spaces. Proceedings of 14<sup>th</sup> International Sanhyga 2009 Conference, Piešťany, 15.-16.10.2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-29-1. - pp. 141-146 (in Slovak)

TAKÁCS, J., FÜRI, B.: Reconstruction of an Apartment Building and Space Heating Systems. Proceedings of International ÉPKO 2009 Conference : Rumania, 2009. - Cluj : Hungarian Technical Scientific Society of Transylvania, 2009. - pp. 455-460 (in Hungarian)

TAKÁCS, J.: The Concept for the Potential Design of a Geothermal Energy System from an Energy Point of View. Proceedings of International Geothermal Days Conference. Častá - Papiernička, 26.-28.5.2009. - Bratislava : Research Institute of Water Management, 2009. - ISBN 978-80-89062-62-1. - pp. 296-302 (in English)

TAKÁCS, J.: Energy Management of a Heat Exchange Plant. Proceedings of 7<sup>th</sup> International Conference on Facility Management 2009. Bratislava, SR, 7.-8.10.2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-28-4. - pp. 77-80 (in Slovak)

TAKÁCS, J.: The Possibilities of Geothermal Energy Use for Low-Energy Buildings. Proceedings of international scientific conference. Brno : CERM, 2009. - ISBN 978-80-7204-629-4. - pp. 89-92 (in Slovak)

TAKÁCS, J.: Recommendation for the Design and Use of Geothermal Energy from an Energy Point of View. Proceedings of 14<sup>th</sup> International Sanhyga 2009 Conference, Piešťany., 15.-16.10.2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-29-1. - pp. 147-156 (in Slovak)

TAKÁCS, J.: Recommendation for the Design and Use of Geothermal Energy from an Energy Point of View. Proceedings of 14<sup>th</sup> International Sanhyga 2009 Conference, Piešťany., 15.-16.10.2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-29-1. - pp. 147-156 (in Slovak)

TAKÁCS, J., ŠTEFANIČKA, F.: Experience with Pool Management Operation in Dunajska Streda. In: Proceedings of 17<sup>th</sup> International Conference on Heating 2009. Alternative Energy Sources and Heat Delivery Systems in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 171-174 (in Slovak)

TAKÁCS, J.: Efficiency of Heating Systems in ENB. Proceedings of international Heating 2009 conference. Třeboň, 2009. - Prague, 2009. - ISBN 978-80-02-02136-0. - pp. 28-31 (in Slovak)

VALÁŠEK, J.: Evaluation of the Circulation of Hot Water in Distribution Systems. In: Proceedings of 17<sup>th</sup> international Heating 2009 conference. Alternative Energy Sources and Heat Delivery Systems in Buildings. - Tatranské Matliare, 2.-6. 3. 2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-27-7. - pp. 59-62 (in Slovak)

VALÁŠEK, J.: When is Condensation Piping Part of Canalization in a Building? Proceedings of 14<sup>th</sup> International Sanhyga 2009 Conference, Piešťany., 15.-16.10.2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-29-1. - pp. 139-140 (in Slovak)

VALÁŠEK, J.: Comment on the Decree of the Ministry of Construction and Regional Development of the Slovak Republic No.311/2009. In: Proceedings of 14<sup>th</sup> Sanhyga 2009 International Conference, Piešťany., 15.-16.10.2009. - Bratislava : SSTP, 2009. - ISBN 978-80-89216-29-1. - pp. 5-8 (in Slovak)

#### Books

BABIÁK, J., OLESEN, B.W., PETRÁŠ, D.: Rakennusten pintalämmitys ja-jäähdytys. - Brussels : REHVA, 2009. - 106 pp. - ISBN 978-952-99905-4-2 (in FIN)

COPLÁK, J., PIFKO, H., GREGOROVÁ, J., RAKŠÁNYI, P., KOVÁČ, B., KOMRSKA, J., ŠABÍKOVÁ, J., VITKOVÁ, L., RAKŠÁNYI, P., COPLÁK, J., IVANIČKA, K.: Ecological Urban Space Planning.- Bratislava : Road, 2009. - 132 pp. - ISBN 978-80-88999-37-9 (in Slovak)

PETRÁŠ, D., et al.: Renewable Energy Sources for Low-Temperature Systems. JAGA, Bratislava, 2009, 221 p., ISBN 978-80-8076-075-5 (in Slovak)

#### Parts of Books

FÜRI, B.: Energy Demand for Ventilation, Air Conditioning and Cooling. Proceedings of international conference on Slovak Adoption of Tools and Software for Energy Certification, Auditing, Monitoring of Buildings: Energy Balance of Buildings. - Bratislava : STU v Bratislave, 2009. - ISBN 978-80-227-3031-0. - pp. 91-111 (in Slovak)

KONÍK, J.: Energy Audit and Certification of a Family House. Proceedings of international conference on Energy Audit and Building Certification : Case Study. - Bratislava : STU v Bratislave, 2009. - ISBN 978-80-227-3108-9. - pp. 67-78 (in English)

KONKOL, R.: Energy Demands for Heating. Proceedings of international conference on Slovak Adoption of Tools and Software for Energy Certification, Auditing, and Monitoring of Buildings : Energy Balance of Buildings. - Bratislava : STU v Bratislave, 2009. - ISBN 978-80-227-3031-0. - pp. 33-57 (in Slovak)

LULKOVÍČOVÁ, O.: Inspection of Boilers and Air Conditioning. Proceedings of international conference on Slovak Adoption of Tools and Software for Energy Certification, Auditing, and Monitoring of Buildings : Energy Balance of Buildings. - Bratislava: STU v Bratislave, 2009. - ISBN 978-80-227-3031-0. - pp. 137-151 (in Slovak)

PETRÁŠ, D., KRAJČÍK, M.: Environmental Evaluation of Indoor Environments in Buildings. Proceedings of international conference on Slovak Adoption of Tools and Software for Energy Certification, Auditing, and Monitoring of Buildings : Energy Balance of Buildings. - Bratislava: STU v Bratislave, 2009. - ISBN 978-80-227-3031-0. - pp. 153-170 (in Slovak)

PETRÁŠ, D.: Directive 2002/91/ES on Energy Efficiency of Buildings. Proceedings of international conference on Slovak Adoption of Tools and Software for Energy Certification, Auditing, and Monitoring of Buildings : Energy Balance of Buildings. - Bratislava : STU v Bratislave, 2009. - ISBN 978-80-227-3031-0. - pp. 5-12 (in Slovak)

VALÁŠEK, J.: Energy Demands for Hot Water Preparation. Proceedings of international conference on Slovak Adoption of Tools and Software for Energy Certification, Auditing, and Monitoring of Buildings : Energy Balance of Buildings. - Bratislava: STU v Bratislave, 2009. - ISBN 978-80-227-3031-0. - pp. 59-89 (in Slovak)

# DEPARTMENT OF ARCHITECTURE

Department Head  
Assoc. Prof. Elena Dohňanská, PhD.

Tel.: + 421 2 59274 545  
Fax: + 421 2 5296 1448  
E-mail: elena.dohnanska@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Obligatory subjects

History of Architecture and Civil Engineering  
History of Architecture and Art 1  
Typology 1  
Design Studio 1  
Design Studio 2  
Composition and Colour in Architecture  
Typology 2  
Bachelor's Work  
Typology 4  
Typology 5  
Design Studio 5 (Civic Buildings)  
History of Architecture and Art 3

#### Optional Subjects

Typology 3  
Renovation of Buildings and Preservation of Monuments 1  
Urbanism  
Drawing and Modelling  
History of Architecture and Art 2  
Drawing and Composition  
Colour in Architecture  
Urbanism 2  
Internship  
Restoration and Preservation of Monuments 2  
Thesis  
Special Seminar  
Philosophical, Aesthetic and Compositional Principles in Architectural Design  
History of Urban and Rural Settlements  
History of Drawing and Sketching  
Landscape Design

#### Recommended subjects

Ecological Design in the Solar Age  
Interior Design 2  
Colour in Architecture 2

### 1.2 Postgraduate courses

Doctoral Degree Study Theory and Construction of Building Structures  
Typology  
Restoration and Preservation of Monuments

## 2. Thesis

### 2.1 Bachelor's Work

13 Bachelor's Works

### 2.2 Graduate Thesis

ÁBELOVÁ, L.: Theatre  
Supervisor: P.Sedlák  
BEHÚŇOVÁ, K.: Nemce Wellness Centre  
Supervisor: J.Kuráň  
BEREK, E.: Piešťany Airport  
Supervisor: A.Grandtnerová

DUDÁŠ, K.: Piešťany Snooker Club  
Supervisor: A.Grandtnerová  
FOJTÍK, K.: Fire Station  
Supervisor: P.Sedlák  
GONDOROVÁ, T.: Piešťany Gallery  
Supervisor: P.Sedlák  
GULDAN, M.: Vinery Agrotouristic Centre  
Supervisor: V.Šimkovičová  
HAKOŠ, R.: Cultural Centre  
Supervisor: P. Bauer  
HRDLIČKA, B.: Low-Energy Housing  
Supervisor: E.Dohňanská  
CHMELÍK, V.: Office Building  
Supervisor: J.Kuráň  
JANOŠKOVÁ, K.: Senior Citizens Home  
Supervisor: E.Dohňanská  
JURÁŠ, P.: Low-Energy Housing  
Supervisor: Z.Nádaská  
KAPALOVÁ, G.: Veterinary Centre  
Supervisor: A.Grandtnerová  
KAVULIČ, M.: Vlčany Cultural Centre  
Supervisor: P.Sedlák  
KMEŤ, M.: Hotel in a Quarry  
Supervisor: E.Dohňanská  
KOHÚT, P.: Ice-Rink  
Supervisor: I.Turček  
KOLNÍKOVÁ, J.: Vlčany Funeral Home  
Supervisor: P.Sedlák  
KOVÁČIK, J.: Pavilion at the Prague ZOO  
Supervisor: Z.Nádaská  
KYSELICA, J.: Modra Vineyard and Family Hotel  
Supervisor: M.Mudrončík  
MAJTNER, S.: Multifunctional Centre  
Supervisor: P.Bauer  
MATÚŠEK, R.: Budmerice Multifunctional Centre  
Supervisor: V.Šimkovičová  
MIČUDOVÁ, I.: Funeral Home  
Supervisor: E.Dohňanská  
MIŠOVIČ, L.: Mountain Hotel in the Low Tatras  
Supervisor: J.Liščák  
NABOUTOVÁ, K.A.: Příbovce Cultural Centre  
Supervisor: E.Dohňanská  
NIKMON, A.: Modern Art Gallery  
Supervisor: J.Kuráň  
ORAVCOVÁ, K.: Agrotouristic Centre  
Supervisor: V.Šimkovičová  
ORSZÁGHOVÁ, K.: Art School  
Supervisor: A.Grandtnerová  
PAŘIL, J.: Petržalka Cultural Centre  
Supervisor: P.Bauer  
PORUBSKÁ, Ľ.: Wellness Centre  
Supervisor: J.Liščák

PRIBYLINEC, P.: Svit Housing Estate  
Supervisor: Z.Nádaská  
REŠETÁR, M.: Košariská Square  
Supervisor: M.Mudrončík  
REŠETÁR, Mš.: Wellness Hotel  
Supervisor: J.Húsenicová  
ROZKOŠ, P.: Hotel in a Quarry  
Supervisor: E.Dohňanská  
TKÁČ, J.: Multifunctional Sport Centre  
Supervisor: M.Mudrončík  
VAŠEK, V.: Multifunctional Building Bratislava  
Supervisor: V.Šimkovičová

### 3. Research

#### 3.1 Research Projects

Agenda 21-Sustainable Development of the Countryside/  
INTERREG III.A Program Austria-Slovakia. (Assoc. Prof.  
Dipl. Ing. arch. Jarmila Húsenicová, PhD.) Reg. No.:  
14130200075

#### 3.2 International Cooperation

##### Visit of Staff Members to Foreign Institutions

Dohňanská E. - CVUT Prague - SvF

Húsenicová J. - Crossborder Cooperation: "Centropé"  
Territory – Workshop - Vienna

### 4. Publications

DOHŇANSKÁ, E., DANIŠ, A.: Low Energy Architecture in  
the Countryside. In: Proceedings of international scientific  
conference on Urban, Architectural and Technical Aspects  
of Rural Renewal VII.: 2009 / Bratislava - ISBN 978-80-227-  
3127-0. – Bratislava: SvF, pp. 48-50 (in Slovak)

FILO, P., DOHŇANSKÁ, E.: The INTERREGIO System: -  
An Example of PPP Projects for Regional Development.  
In: Proceedings of international scientific conference on  
Urban, Architectural and Technical Aspects of Rural  
Renewal VII.: - 2009 / Bratislava: ISBN 978-80-227-3127-0.  
Bratislava SvF, - pp. 41-45 (in German)

GRANDTNEROVÁ, A., KAPALOVÁ, G.: Košice Information  
Service - Reconstruction of the Former Miklus Prison  
Building, In: Proceedings of international scientific  
conference on Urban, Architectural and Technical Aspects  
of Rural Renewal VIII. 2009/-Bratislava: ISBN 978-80-227-  
3131-7. Bratislava SvF, 2009. - pp. 74-83 (in Slovak)

HÚSENICOVÁ, J.: European Urbanization Process and  
Searching for a Common Vision. INTERREG III Programme.  
In: Proceedings of the international scientific conference on  
Urban, Architectural and Technical Aspects of Rural  
Renewal VIII. 2009/ Bratislava, -- ISBN 978-80-227-3131-7.  
Bratislava SvF, 2009. - pp 11-18 (in Slovak)

KUBIŠOVÁ, M., NÁDASKÁ, Z., KRÁĽOVÁ, Z.: STU  
Education Centre with Accommodations – Reconstruction of  
the Manor House in Kočovce. In: Proceedings of  
international scientific conference on Urban, Architectural  
and Technical Aspects of Rural Renewal VIII. 2009/  
Bratislava, - ISBN 978-80-227-3131-7. Bratislava SvF,  
2009. - pp. 53-55 (in Slovak)

KURÁŇ, J.: Swimming Pool. In: International Architecture  
Week: 3<sup>rd</sup> year of International Festival of Contemporary  
Architecture, Prague, 2009 - Prague : Rentis, 2009  
(in Czech)

LIŠČÁK, J.: Sports in the Countryside. In: Proceedings of  
international scientific conference on Urban, Architectural  
and Technical Aspects of Rural Renewal VIII.  
2009/Bratislava, - ISBN 978-80-227-3131-7. Bratislava  
SvF, 2009. - p. 92 (in Slovak)

MUDRONČÍK, M., DUDÁŠ, K., KOHÚT, P.:  
Accommodation and Catering Centre – Reconstruction of a  
Baroque Manor House and the Modrý Kameň Castle.  
In: Proceedings of international scientific conference on  
Urban, Architectural and Technical Aspects of Rural  
Renewal VIII. 2009/ Bratislava, - ISBN 978-80-227-3131-7.  
Bratislava SvF, 2009. - pp. 67-73 (in Slovak)

GRANDTNEROVÁ, A., ORSZÁGHOVÁ, K.: Linen Draper  
Houses in the Orava Region. In: Proceedings of  
international scientific conference on Urban, Architectural  
and Technical Aspects of Rural Renewal VIII. 2009/  
Bratislava, - ISBN 978-80-227-3131-7. Bratislava SvF,  
2009. - pp. 135-145 (in Slovak)

HAJDÚ, G.: Social Housing in the Countryside.  
In: Proceedings of international scientific conference on  
Urban, Architectural and Technical Aspects of Rural  
Renewal VIII. 2009/ Bratislava, - ISBN 978-80-227-3131-7.  
Bratislava SvF, 2009. - pp. 53-57 (in Slovak)

KRÁĽOVÁ, Z.: Vernacular Architecture in the Orava Region  
- Characteristic Features of Family Houses.  
In: Proceedings of international scientific conference on  
Urban, Architectural and Technical Aspects of Rural  
Renewal VIII. 2009/ Bratislava, - ISBN 978-80-227-3131-7.  
Bratislava SvF, 2009.- pp. 89-91 (in Slovak)

KRÁĽOVÁ, Z.: The Vernacular Architecture in Zuberec.  
In: Proceedings of international scientific conference on  
Urban, Architectural and Technical Aspects of Rural  
Renewal VIII. 2009/ Bratislava, - ISBN 978-80-227-3131-7.  
Bratislava SvF, 2009. - pp. 131-134 (in Slovak)

NÁDASKÁ, Z., KUBIŠOVÁ, M.: The M.R. Štefánik Square -  
In: Proceedings of international scientific conference on  
Urban, Architectural and Technical Aspects of Rural  
Renewal VIII. 2009/ Bratislava, - ISBN 978-80-227-3131-7.  
Bratislava SvF, 2009. - pp. 62-66, (in Slovak)

ORSZÁGHOVÁ, K.: Dance School in Bratislava.  
In: International Architecture Week: 3<sup>rd</sup> year of International  
Festival of Contemporary Architecture, Prague, 2009 -  
Prague : Rentis, 2009 (in Czech)

SEDLÁK, P., NABOUTOVÁ, K.A., HRDLIČKA, B.: The  
Funeral Home in the Village of Jacovce. In: Proceedings of  
international scientific conference on Urban, Architectural  
and Technical Aspects of Rural Renewal VIII. 2009/  
Bratislava, - ISBN 978-80-227-3131-7. Bratislava SvF,  
2009. - pp. 42-44 (in Slovak)

WIRTHOVÁ, P.: Smolenice - Sustainable Development  
(AGENDA 21). In: Proceedings of international scientific  
conference on Urban, Architectural and Technical Aspects  
of Rural Renewal VIII. 2009/ Bratislava, - ISBN 978-80-227-  
3131-7. Bratislava SvF, 2009. - pp. 37-38 (in Slovak)

ZELENAY, M.: Family Houses and Protection of Ground  
Water. In: Proceedings of Protection on Urban,  
Architectural and Technical Aspects of Rural Renewal VIII.  
2009/ Bratislava, -I SBN 978-80-227-3131-7. Bratislava  
SvF, 2009. - p. 108 (in Slovak)

Department Head  
Assoc. Prof. Milan Nič, PhD.

Tel.: + 421 2 59274 701  
Fax: + 421 2 5296 7848  
E-mail: milan.nic@stuba.sk

## 1. Education

Specialized courses for experts have been provided by the Institute for Forensic Engineering since 1999 in accordance with a program approved by the Scientific Council of the Institute. Experts in property valuation lecture on technical and economic subjects. After approval of the study program, the Faculty of Civil Engineering of the Slovak University of Technology as an expert institute was charged with providing specialized courses in the Building Industry field (No. POA: 0473/2009/392/1) and specialized courses (No. POA: 0473/2009/392/2) concerning the performance method of expert activities (experts minimum) by the Ministry of Justice of the Slovak Republic.

### 1.1 Graduate study

#### Optional subjects

Basics of Legal Expertise  
Real Estate Valuation

### 1.2 Postgraduate Courses

Specialized courses in the Building Industry field, 450 hours  
Specialized courses concerning the performance method of expert activities, 30 hours

#### Obligatory subjects

Basics of Legal Expertise  
Basics of Civil Law  
Basics of Criminal Law  
Basics of Commercial Law  
Methodology of Expert Opinions  
Building Structures  
Building Materials and Conformity to Certification  
Land Registry  
Transport Engineering  
Building Physics  
Planning and Technology of Buildings  
Soil Mechanics, Foundations and Mining Work  
Analysis of Building Structures  
Real Estate Valuation Theory  
Evaluating Business Property  
Real Estate Valuation According to Previous Price Legislation  
Real Estate Value Estimation  
Building Act  
Water Construction  
Real Estate Valuation, Restitution  
Real Estate Valuation, Foreign Approach  
Defects in Buildings and Their Diagnosis  
Estimation of the Value of Construction and Design Work  
Automated Engineering Work

## 2. Thesis

### 2.1 Doctoral thesis

Ilavský, M.: Process for Determining of Amount of Building Damage. Supervisor: Nič, M.

## 3. Research

### 3.2 International cooperation

VUT Brno, Czech Republic

## 4. other activities

### 4.1 Commercial Activities for Firms and Institutions

The Institute provides expert opinions in the fields of Building Structures, Real Estate Valuation, Cost Estimates of Constructions and Designs, Building Constructions and Statics. Clients include:

District Court in Galanta  
District Court in Komárno  
Regional Court in Bratislava  
District Court in Trenčín  
District Court in Nitra  
District Court in Trnava  
District Court in Topoľčany

## 5. Publications

### Journals

Nič, M.: Design of a New Process for Assessing the Market Value of Real Estate by the Position-Differentiation Method. In: *Soudní inženýrství* 2/2008, ISSN 1211-443X, pp. 59-71.

Nič, M.: Conclusions of the International Scientific Conference Held on the Occasion of the 10th Anniversary of the Institute for Forensic Engineering at the Faculty of Civil Engineering SUT in Bratislava. In: *Almanach znalca* 3/2009, ISSN 1336-3174, p. 32

### Conferences

Nič, M. - Vyskočil: Flat Prices in Hodonín and Skalica in the Year 2008. In: *Proceedings of the 18th International Scientific Conference of Expert Engineering*, January 2009, Brno, ISBN 978-80-214-3808, pp. 181-194.

Nič, M.: Value of Apartments Designated by the Comparative Method Based on Their Offer Prices. In: *Proceedings of the International Scientific Conference Held on the Occasion of the 10th Anniversary of the Institute for Forensic Engineering at the Faculty of Civil Engineering SUT in Bratislava*, 25th-26th September 2009, Bratislava, ISBN 978-80-227-3146-1, p. 35

Nič, M. – Ilavský, M.: Assessing the Amount of Damage of Suddenly Deteriorated Structures in the Legislative Environment of the Slovak Republic. In: *Proceedings of the 18th International Scientific Conference of Expert Engineering*, January 2009, Brno, ISBN 978-80-214-3808, pp. 89-115

Gregušová, S. – Marčok, V.: Causes of Defects in Self-Levelling Screeds. In: *Proceedings of the International Scientific Conference Held on the Occasion of the 10th Anniversary of the Institute for Forensic Engineering at the Faculty of Civil Engineering SUT in Bratislava*, 25th-26th September 2009, Bratislava, ISBN 978-80-227-3146-1, p. 19



Skákala, P.: Expert's Activities for Courts. In: Proceedings of the International Scientific Conference Held on the Occasion of the 10th Anniversary of the Institute for Forensic Engineering at the Faculty of Civil Engineering SUT in Bratislava, 25th-26th September 2009, Bratislava, ISBN 978-80-227-3146-1, p. 37

#### **Books and textbooks**

Nič, M.: Chapter No. 10.2 Real Estate Valuation Abroad – The Slovak Republic. In: Bradáč, A., et al: Real Estate Valuation Theory, VIII., Akademické nakladatelství CERM, s.r.o., Brno, 2009, ISBN 978-80-7204-630-0, pp. 482-497

Nič, M. – Gregušová, S.: Real Estate Valuation According to Previous Price Legislation. STU Bratislava 2009, ISBN 978-80-227-3179-9, 117 pp.

# DEPARTMENT OF LANGUAGES

Department Head  
PhDr. Dagmar Špíldová

Tel.: + 421 2 59274 262  
E-mail: dagmar.spilдова@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Optional Subjects

English  
German

### 1.2 Postgraduate courses

Ph.D. courses in advanced English and German.  
UNlcert – ESP certificate courses in English and German.

## 2. Research

### 2.1 Research projects

Lifelong Learning Programme 2007-2013, Leonardo da Vinci. Research team leader: Kristin Brogan, Recipients: D. Špíldová, V. Lesňáková (LLP/LdV/TOI/2007/IRL-501 VOCAL-VOCAL LdV)

### 2.2 International cooperation

British Council, Bratislava, Slovakia  
University of Washington, Washington, USA  
Institute of Technology, Tralee, Ireland

## 3. Publications

#### Thesis

Pálová, A.: Fachsprachenerwerb in den nicht philologisch orientierten Lehrwerken, Bratislava 2009

#### Journals

Něničková, J.: The White House – Friendship – Learners of English - February 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: Washington Monument - Friendship – February 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: St Patrick's Day - Friendship - February 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: Boston Marathon – Friendship – April 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: Extracts from the Bible – Friendship – April 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: Through Thick and Thin – Friendship – April 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: Easter – Friendship – April 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: U.S. Fairy Tales – Friendship – May – June 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: Boston Harborfest – Friendship – May – June 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: Jack and the Beanstalk – Friendship – May – June 2009  
Published by: FLP for the SR and the CR

Něničková, J.: Cool or Cruel Summer – Friendship – May - June 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: London Telephone Kiosk- Friendship – September – October 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: Picadilly Circus – Friendship – September - October 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: The History of London – Part I – Friendship – September – October 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: School Answering Machine – Friendship – September - October 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: Dogs Are Our Link to Paradise – Friendship – September - October 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: The History of London – Part II – Friendship – November 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: The Albert Memorial – Friendship – November 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: The Royal Albert Hall – Friendship – November 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: Tournament of Roses Parade – Friendship – December – January 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: 'Gherkin' Wins Award – Friendship – December – January 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: Is There a Santa? – Friendship – December – January 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: Do You Believe in Santa Claus? – Friendship – December – January 2009,  
Published by: FLP for the SR and the CR

Něničková, J.: It's True – Heads on Mount Rushmore were Moved – Friendship – December – January 2009,  
Published by: FLP for the SR and the CR

Filipoiu, T.: The National Cherry Blossom Festival – Friendship – February 2009, Published by: FLP for the SR and the CR

Filipoiu, T.: Colchester – Friendship – April 2009, Published by: FLP for the SR and the CR

Filipoiu, T.: Just for Fun – Friendship – May – June 2009, Published by: FLP for the SR and the CR

Filipoiu, T.: Mount Rushmore – Friendship – September – October 2009, Published by: FLP for the SR and the CR

Filipoiu, T.: Liberty Hall – Friendship – December – January 2009, Published by: FLP for the SR and the CR

Gambrill, D.: Glass Castle – Friendship – December – January 2009, Published by: FLP for the SR and the CR

Špildová, D.: Building a House – Friendship  
May - June 2009,  
Published by: FLP for the SR and the CR

Špildová, D.: Planning and Building a House -  
Stavba – ISSN 1335-5406  
Volume: 12, No. 7-8 (2009), pp. 76-77

Špildová, D.: Green Buildings -  
Stavba – ISSN 1335-5406  
Volume: 12, No. 9 (2009), pp. 60-61

Špildová, D.: Green Roofs -  
Stavba – ISSN 1335-5406  
Volume: 12, No. 10 (2009), pp. 62-63

Špildová, D.: High-Rises, Skyscrapers and Towers -  
Stavba – ISSN 1335-5406  
Volume: 12, No. 11-12 (2009), pp. 78-79

Hoboth, K.: About LSP Teaching I. – Katedra -  
October 2009  
Published by: Liliium Aurum

Hoboth, K.: About LSP teaching II. – Katedra –  
November 2009  
Published by: Liliium Aurum

Hoboth, K.: About LSP Teaching III. – Katedra –  
December 2009  
Published by: Liliium Aurum

### **Editing**

1. Gambrill, D., Pišteková, V.: Annual Report 2009
2. Gambrill, D.: Journal of Civil Engineering  
Volume XVII  
2009/1  
2009/2  
2009/3  
2009/4

### **Conferences**

Hoboth, K.: Teaching LSP at High Schools in Lucenec  
Nitra, November – December 2009 (in Slovak)

# DEPARTMENT OF PHYSICAL EDUCATION

Department Head  
PaedDr. Ján Masarovič

Tel.: + 421 2 59274 264  
E-mail: jan.masarovic@stuba.sk

## 1. Education

### 1.1 Graduate study

#### Optional Subjects

Aerobics  
Basketball  
Swimming  
Volleyball  
Football  
Skiing  
Bodybuilding  
Water Sports /Kayaking, Canoeing/  
Tennis  
Squash  
Floorball  
Hiking  
Aquagymnastics

#### Recommended subjects

swimming courses  
skiing courses  
white water rafting  
cross-country skiing  
physical fitness exercises  
cardio-vascular fitness

## 2. Research

### Cooperation

The Faculty of Physical Education and Sports, Comenius  
University, Bratislava

# DEPARTMENT OF HUMANE SCIENCES

Department Head  
Ing. Katarína Heretiková, PhD.

Tel: + 421 2 59274 591  
E-mail: katarina.heretikova@stuba.sk

## 1. Education

### 1.1. Graduate Study

#### Obligatory subjects

Political Science  
History of Civil Engineering  
History of Civil Engineering & Surveying  
Macroeconomics  
Construction and Commercial Law  
Construction and Land Law  
Civil Law  
Land Law  
Construction and Commercial Law  
Entrepreneurship Law  
Public Administration  
Philosophy  
Basic Law  
Environmentalism  
Geoecology

#### Optional subjects

Sociology  
Globalization  
Commercial Law  
Engineering Ethics  
Construction Law  
Environmental Law

## 2. Research

### 2.1. Research Projects

Tempus-Tacis Joint European Project 25186-2004: FRELP – Master's Degree in Environmental Law and Policies in the Russian Federation, Š. Huszár

Science and technology in the globalization process and humanization of education at universities of technology. VEGA 1/0386/09

### 3.2 International cooperation

#### Visit of staff members to foreign institutions

- Tambov State Technical University, Tambov, Russian Federation  
- Czech Technical University, Prague, Czech Republic

## 4. Publications

### Journals

GAJNIK, J.: Contract on a Silent Association. In: Stavba. - ISSN 1335-5406. - Vol.12, No.6 (2009), pp. 52-55 (in Slovak)

GAJNIK, J.: Cancellation and Termination of a Company. In: Projekt - stavba. - ISBN 1336-6327. - Vol. 4, Nos. 1-2 (2009), pp. 2-5 (in Slovak)

POPOV, N.S., MOZEROVA, A., CHAJRI, A., HUSZÁR, Š.: Ecological Education for Sustainable Development. In: Fundamentaľnyje issledovanija. - ISSN 1812-7339. - 2009, No. 1 (2009), pp. 97-100 (in Rus)

ZAJACOVÁ, J.: Legal Aspects of Rental Housing. In: Nehnutelnosti a bývanie. - ISSN 1336-944X. - Vol. 4, No. 1 (2009), pp. 13-22 (in Slovak)

ZAJACOVÁ, J.: Legal Relationships in a Farm Land Lease. In: Almanach znalca. - ISSN 1336-3174. - Vol. 8, No. 3 (2009), pp. 6-9 (in Slovak)

Kopšová, O.: Position and Role of the Public in the Course of an Environmental Impact Assessment. In: Stavba. - ISSN 1335-5406. - Vol.12, No. 6 (2009), pp. 46-49 (in Slovak)

### Conferences

GAJNIK, J.: Humanisation and Quality of Teaching of the Juridical Disciplines at the Faculty of Civil Engineering SUT in Bratislava. In: Science and Technology in the Globalization Process and Humanization of Education at Technical Universities. Scientific seminar with international participation. Bratislava, 20th October 2009. Scientific works almanac (CD). SUT, Bratislava 2009, ISBN 978-80-227-3172-0. - pp. 50-53 (in Slovak)

GAJNIK, J.: Bankruptcy and Restructuring of a Commercial Company in the Global Economic Crisis. In: The Human Sciences in the Process of Globalization: International Colloquium in Bratislava, SR, 9.9.2009. - Bratislava : STU v Bratislave SvF, 2009. - ISBN 978-80-227-3132-4. - pp. 4-10 (in Slovak)

HERETIKOVÁ, K.: Transformation from an Industrial to a Learning Economy and Society: the Consequences of Globalization. In: Science and Technology in the Globalization Process and Humanization of Education at Technical Universities. Scientific seminar with international participation. Bratislava, 20th October 2009. Scientific works almanac (CD). SUT, Bratislava 2009, ISBN 978-80-227-3172-0, pp. 54 – 57 (in Slovak)

HERETIKOVÁ, K.: Procces of Globalization and Its Influence on the Economy and Society. In: The Human Sciences in the Process of Globalization: International Colloquium in Bratislava, SR, 9.9.2009. - Bratislava : STU v Bratislave SvF, 2009. - ISBN 978-80-227-3132-4. - pp. 15-17 (in Slovak)

HUSZÁR, Š.: The Global, Regional and Other Needs of Interregional Cooperation. In: Science and Technology in the Globalization Process and Humanization of Education at Technical Universities. Scientific seminar with international participation. Bratislava, 20th October 2009. Scientific works almanac (CD). SUT, Bratislava 2009, ISBN 978-80-227-3172-0, pp. 69-71 (in Slovak)

HUSZÁR, Š.: Movements and Elites in Globalization. In: The Human Sciences in the Process of Globalization: International Colloquium in Bratislava, SR, 9.9.2009. - Bratislava : STU v Bratislave SvF, 2009. - ISBN 978-80-227-3132-4, pp. 11-14 (in Slovak)

KOPŠOVÁ, O.: Creative Activity as a Basic Precondition of a Knowledge-Based Society. In: Science and Technology in the Globalization Process and Humanization of Education at Technical Universities. Scientific seminar with international participation. Bratislava, 20th October 2009. Scientific works almanac (CD). SUT, Bratislava 2009, ISBN 978-80-227-3172-0.- pp. 72-75 (in Slovak)

KOPŠOVÁ, O.: The Effects of Globalization on Employment Policy. In: The Human Sciences in the Process of Globalization: International Colloquium in Bratislava, SR, 9.9.2009. - Bratislava : STU v Bratislave SvF, 2009. - ISBN 978-80-227-3132-4, pp. 18-21 (in Slovak)

RYBÁRIK, J.: Science and Techniques in the Globalization Process and Neoliberal Market Principles. In: Science and Technology in the Globalization Process and Humanization of Education at Technical Universities. Scientific seminar with international participation. Bratislava, 20th October 2009. Scientific works almanac (CD). SUT, Bratislava 2009, ISBN 978-80-227-3172-0.- pp. 116-133 (in Slovak)

ZAJACOVÁ, J.: Globalization and the Mass Media. In: Science and Technology in the Globalization Process and Humanization of Education at Technical Universities. Scientific seminar with international participation. Bratislava, 20th October 2009. Scientific works almanac (CD). SUT, Bratislava 2009, ISBN 978-80-227-3172-0.- pp. 164-169 (in Slovak)

ZAJACOVÁ, J.: Transnational Corporations in the Process of Globalization. In: The Human Sciences in the Process of Globalization: International Colloquium in Bratislava, SR, 9.9.2009. - Bratislava : STU v Bratislave SvF, 2009. - ISBN 978-80-227-3132-4. - pp. 42-46 (in Slovak)

#### **Parts of Books**

GAJNIAK, J.: Slovakia: New Member of the European Monetary Union. In: Multiculturality in the Globalization of Business Management. Editor: Nováková, V., Vaškovič, P., Department of Social Sciences, Faculty of Civil Engineering. CUT in Prague 2009, first edition, - ISBN 978-80-01-03949-6. - pp. 46-52 (in Slovak)

HERETIKOVÁ, K.: The Structure of an Economy and Society and Transformations under the Influence of Globalization. In: Multiculturality in the Globalization of Business Management. Editor: Nováková, V., Vaškovič, P., Department of Social Sciences, Faculty of Civil Engineering. CUT in Prague 2009, first edition, - ISBN 978-80-01-03949-6. - pp. 83-86 (in Slovak)

HUSZÁR, Š.: Global and Local Positioning in Globalization. In: Multiculturality in the Globalization of Business Management. Editor: Nováková, V., Vaškovič, P., Department of Social Sciences, Faculty of Civil Engineering. CUT in Prague 2009, first edition - ISBN 978-80-01-03949-6. - pp. 5-7 (in Slovak)

RYBÁRIK, J.: Globalization - Changes in the Political Sector and Humanization of Education at Technical Universities. In: Multiculturality in the Globalization of Business Management. Editor: Nováková, V., Vaškovič, P., Department of Social Sciences, Faculty of Civil Engineering. CUT in Prague 2009, first edition,- ISBN 978-80-01-03949-6. - pp. 55-70 (in Slovak)

**Faculty of Civil Engineering  
Slovak University of Technology  
in Bratislava  
Radlinského 11  
813 68 Bratislava**

IČO: 397687  
DIČ: 2020845255  
IČ DPH: SK2020845255

**Dean's Office :**  
tel.: +421 2 5292 3006  
fax: +421 2 5296 7027

**Registrar's Office:**  
+421 2 5927 4478  
+421 2 5927 4483  
+421 2 5927 4725

**Economic Department:**  
+421 2 5927 4294

**Operation Department:**  
+421 2 5927 4481

**Project and External Affairs Department:**  
+421 2 5927 4726

**Library and Information Centre:**  
+421 2 5927 4494  
+421 2 5927 4495

**IT Centre:**  
+421 2 5927 4319



Zdroj: <http://www.mapa-mapy.sk/>