



International Scientific Conference 70 Years of FCE STU



70 Years of FCE STU

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International Scientific Conference

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Foreword

The history and development of education in the fields of construction engineering, geodetics and cartography in Slovakia are closely connected with the origin of technical education in our countries, which represents an inseparable part of this process which is strongly affected and, in the past, also determined by the political development and changes in our country. Until the reign of Maria Theresa, and especially Josef II, it was not possible to trace the development of technical education neither from its strictly national or professional aspects. Citizens of Slovakia went abroad in order to acquire an education, mainly from the German universities. At such schools of higher education and universities, the sciences typical of technical education were not developed at that time.

The period of the reign of Maria Theresa can be described as an era of reforms, i.e., new schools and universities were established, for example, Banská škola (the Mining Academy) in 1737, where the first professor and director was the versatile Slovak-educated engineer-polytechnician and cartographer of his time Samuel Mikovíni, the creator of numerous cartographic maps, and mining and hydraulic projects in Slovakia. Later, the Banská akadémia (The Mining Academy), which was the first technical university in Central Europe, was established by Maria Theresa in Banská Štiavnica. Our alma mater, today's Slovak University of Technology in Bratislava, endorses the concept of the Mining Academy.

After World War I, technical education on the territory of Slovakia was minimized and almost abolished. Technical studies on the territory of the newly-established Czechoslovak Republic was centralized at ČVUT (The Czech Technical University) in Prague and at the present VUT in Brno.

Since the founding of the common state of the Czechs and Slovaks, the Slovak intelligentsia had been trying to establish a university which would educate their students in the technical sciences on the territory of Slovakia. Support for this effort was expressed in resolutions of numerous towns of Slovakia. After 19 years of efforts by professors holding Slovak citizenship who were teaching at Česká vysoká škola technická (The Czech Technical University) in Brno, namely Michal Ursíny and Juraj Hronec, as well as through the diligent activities of Slovak students, who were represented by university associations in Bratislava, Brno and Prague, the first university of technical education was established in Košice in 1937.

On June 25, 1937, Act No. 170 Coll., et seq., which was subsequently approved by the National Assembly of the Czechoslovak Republic, came into force; according to the referenced Act, a state university to be called Vysoká škola technická Dr. Milana Rastislava Štefánika (the Technical University of Dr. Milan Rastislav Štefánik or TU) was established. In compliance with paragraph 3 of the referenced Act, the first study departments established at the beginning of the 1938/39 study year were as follows:

1. Department of Building Construction and Transportation
2. Department of Water and Cultural Engineering
3. Department of Surveying

The first ten professors of the Technical University of Dr. Milan Rastislav Štefánik in Košice were appointed in July, 1938. The board of professors consisted of PhDr. Jur Hronec - professor of Mathematics, Ing. Dr. techn. Alois Tichý - professor of Geodesy, JUDr. Ing. Karel Křivanec - professor of Transportation, Ing. arch. Miloslav Kopřiva - professor of Structural Engineering, Ing. Štefan Bella - professor of Water Management Engineering, RNDr. Josef Sahánek - professor of Technical Physics, PhDr. Jozef Kaucký - professor of Mathematics, RNDr. Jiří Klapka - professor of Descriptive Geometry, RNDr. Dmitrij Andrusov - professor of Geology, and Ing. Dr. techn. Anton Bugan - professor of Mechanics.

The academic staff of the University held its first ceremonial meeting in Košice, on August 4, 1938. At the meeting, the first rector of the University, Prof. PhDr. Jur Hronec, was elected. A senior member of the academic staff prof. Ing. Dr. techn. Alois Tichý, was appointed as Vice-Rector. The ceremonial opening of the 1938/39 academic year was held on December 5, 1938 in Martin (as a result of the events of the Vienna Arbitrage, the former October 10, 1938 date for the ceremonial opening was cancelled, and the University was evacuated to its temporary seat in Martin). The first academic year started with 63 students.

The Slovak autonomous government changed the original name of the University to Slovenská vysoká škola technická (The Slovak Technical University). during the period when the University was provisionally seated in Martin, in harmony with a statutory order dated February 14, 1939. After the creation of the Slovak state in March, 1939, the Slovak Concilium abolished (besides many other issues), the act on the technical university from the year 1937 and adopted a

new act. Act No. 188 Coll. dated July 25, 1939, reconstituted the university with its new name Slovenská vysoká škola technická (The Slovak Technical University STU), and Bratislava was definitively designated as its seat. The argumentative report to this Act clearly stated that the newly-established university was a continuation of The Technical University of M. R. Štefánik and that the 1939/40 academic year was the second school year of the technical university established in the year 1937.

The act on Schools of Higher Education and Universities, which reformed the former university study, was approved in 1950. Organizational changes were also made at STU, when the former branches became faculties. The individual institutes (and their mergers in some cases) were changed into departments representing the organizational units providing pedagogical, scientific and research activities at universities.

Another significant change in the organizational structure of STU was adopted in 1960, when the Faculty of Construction Engineering (FIS) and the Faculty of Architecture and Construction Engineering (FAPS) merged to create the Faculty of Civil Engineering (SvF), which was enlarged for the engineering specialization from the lapsed Faculty of Economic Engineering in the same year. The Faculty of Civil Engineering retained that structure until 1976, when four departments providing instruction in architecture and urban planning left to create the new Faculty of Architecture.

With the gradual development of the Faculty and the rapid growth in the number of its students, it was necessary to start looking for new premises for the departments as well as the pedagogical process. Therefore, in 1964, a new building of the Faculty of Civil Engineering of the Slovak University of Technology started to be constructed at Starohorská and Radlinského streets. Its dominant 22-storey building was the result mainly of the efforts of the rector of that time and later also the Minister of Construction of the Federal Government prof. Jozef Trokan. The building was fully completed and put into operation in 1974. It has been the seat of the FCE, STU, since then. The formerly used building located on Námestie slobody (Freedom Square) is the seat of the Faculty of Architecture of STU at present.

As a result of the Act of the National Council of the Slovak Republic, which came into force as of April 1991, the Slovak Technical University adopted its current name, the Slovak University of Technology (STU) in Bratislava.

The concept of forming the present Faculty of Civil Engineering of STU and its long-term development are based on the main mission of the Faculty, which was established as an educational and scientific research institution. Its main goal is to provide the most advanced technical education, fulfill the university aspect of academic studies and adjust the content of the study depending on theoretical developments and work requirements. Simultaneously with the education of the students, the scientific and research activities of the individual departments are of great importance; the aim of these activities is to transform the knowledge acquired into the educational process and practice on the basis of the topics and their variations covered by individual projects.

Currently, the Faculty of Civil Engineering of STU endeavors to produce highly - qualified professionals in a wide range of planning, design, implementation, management and reconstruction activities of civil engineering projects as well as projects in the fields of geodesy and cartography. In the 1992/93 academic year a credit-based modular-unit system for evaluating studies was introduced; this system enables evaluating the study results of students on the basis of differentiation more effectively. Students are also offered the opportunity to take part in creating his/her own study plan. Since 1997 the Faculty has offered the study as a three-degree accredited study program.

The structure of the obligatory, optional and recommended subjects enables students to choose from a wide range of subjects according to their specializations and personal interests. The compatibility of the Faculty with other foreign faculties also enables the students to study abroad for a period time. The Faculty of Civil Engineering has also prepared a full-time study program called "Civil Engineering" in English, which is mainly for students from abroad.

The Faculty also offers a wide range of postgraduate courses in order to enhance the qualifications and requalifications of university graduates. With regard to study fields or programs, FCE also offers courses of further education, the aim of which is to gradually build up an integrated system of life-long education. In the 2006/07 academic year FCE, STU, provided the professional public with a total of 69 courses, which were attended by 1,200 participants. The quality of the individual courses can be evaluated as excellent since they were of great interest to the participants, who especially appreciated the flawless preparation and organization of the courses as well as the quality of the study materials provided.

The concept of the international activities of FCE, STU, is based on a hierarchical model of building and maintaining contacts with its partners abroad. The cornerstone of this concept is the professional contacts of the teachers and researchers, as well as the mutual contacts between departments, faculties and universities. The Faculty maintains logistical support for cross-border activities. The specialized departments maintain their contacts with numerous European and trans-Atlantic universities, research facilities and companies. Along with student and teacher exchanges and excursions, these activities are primarily used for the exchange and coordination of teaching materials, pedagogical expertise and exchanges of scientific literature. In addition to these contacts, it is also important to mention the Faculty's connections with foreign non-governmental scientific institutions that employ more than 50 members of the Faculty.

The Faculty successfully participates in foreign bilateral and multilateral projects. Since 1990, most of these projects have been realized within the framework of the TEMPUS program. These projects have significantly strengthened the technical

and pedagogical profile of the Faculty by improving the teaching with both technology and scientific literature and by contributing to the creation of additional international contacts. Through these projects, modern methods of computer support as well as engineering calculations have been implemented in the pedagogical process. More than 100 students of the Faculty have spent some part of their studies abroad.

The Faculty of Civil Engineering, STU, is a member of the Slovak Academic Association for International Cooperation (SAAIC) and is an active member of the International Association of Civil Engineering Faculties (IACEF) located at the Czech Technical University (České vysoké učení technické) in Prague. It is also a host of the Permanent Conference of Civil Engineering Faculties in Germany, Austria and Switzerland (FTBG). The Student Parliament, which is a member of the International Association of Civil Engineering Faculties (IACES), has initiated an active relationship with the Association of Civil Engineering Students of the German Republic. In addition, specific centers of the Faculty are members of other organizations, depending on their specializations.

In addition to the education of university professionals and PhD students, the research activities of the individual departments which transform the knowledge acquired into the educational process and practice are of key importance as well. Due to the wide diversity of the departments, the following areas of research rank high on the agenda of FCE, STU:

- Decreasing energy demands during the construction and maintenance of structures.
- Safety and reliability during the process of building and reconstruction
- Quality management, realization and maintenance of buildings.
- Sustainable water resources.
- Sustainable development of towns, municipalities and regions.
- Creation of geoinformation systems; solution of global and regional problems of geodesy.
- Application of modern mathematical methods in the engineering sciences.
- Development of expert systems in the mechanics of materials, structures and civil engineering; Bionics.
- Harmonization of European standards in the fields of civil engineering and

geodesy.

The research activities of the Faculty have gradually changed from institutional research into the open grant system of universities and the Slovak Academy of Science. Today our faculty enlists 108 research projects supported by domestic grant agencies in the total sum of 38 million Slovak Crowns and 26 projects supported by foreign grant agencies in the total sum of 7.2 million Euros.

The Faculty cooperates with the production as well as the non-production sectors. Top experts from the departments are involved as research team leaders in the most important regional and national issues, which proves the Faculty's outstanding position within Slovakia. As an example, let me mention the participation of Faculty employees in the design, implementation and inspection of many significant and unique engineering structures, which include all the bridges across the Danube River, the Gabčíkovo Hydroelectric Power Station, the Mochovce Nuclear Power Plant and other industrial structures, e.g., the petroleum or chemical industries. The interest of the professional public in the intellectual potential of the Faculty is also represented by the number of project research tasks - there are about 400 projects a year worth a total of 40 million Slovak crowns.

Great attention is also being paid to environmental issues; quite a few research projects deal with them. We also consider the Frame Contract on Cooperation concluded between FCE, STU, and Bratislava, the capital of the Slovak Republic, to be very important, since it aims to solve problems involving urban construction and transportation in Bratislava. The cooperation of the Faculty with Slovak Institute of Standardisation (Slovenský ústav technickej normalizácie) is also very important. A number of experts from the Faculty are also members of its technical committees. The Faculty has become a consultant to the Commission of European Normalisation (CEN). In order to improve the situation with the international cooperation and adoption of the European regulations into the system of Slovak technical standards, the Slovak Institute of Standardisation approved several employees of the Faculty as contact persons for cooperation with the individual working committees of CEN.

The cooperation of the Faculty with the Institutes of the Slovak Academy of Science, the Institute of Construction and Architecture (Ústav stavebníctva a architektúry), the Institute of Geography (Geografický ústav), the Geophysical Institute (Geofyzikálny ústav), the Institute of Hydrology (Ústav hydrologie) and the Institute of Inorganic Chemistry (Ústav anorganickej chémie) is well - established and broad. The cooperation of the Faculty with Slovak professional associations in the building industry field and geodesy and cartography, e.g., the Slovak Chamber of Civil Engineers (Slovenská komora stavebných inžinierov), the Chamber of Surveyors and Cartographers (Komora geodetov a kartografov) and the Slovak Chamber of Architects (Slovenská komora architektov) as well as with associations of civil engineers and surveyors and cartographers and the Association of Construction Entrepreneurs of Slovakia (Zväz stavebných podnikateľov Slovenska) is wide-ranging.

The Slovak Journal of Civil Engineering (SJCF), which is published in English by the Faculty of Civil Engineering, has a long tradition; in addition to the employees of the Faculty who can publish the results of their research and scientific

activities, the SJCE includes papers by the partners of our Faculty. The Annual Report, which is published in English, provides a comprehensive overview of the pedagogical and research activities of the Faculty, and its basic workplaces, departments and institutes. Information about the Faculty is also provided via the Internet. The Faculty also publishes the Expert's Almanac, a journal for experts in forensic engineering.

In the last seventy years the Faculty has produced 28,508 engineers - students with an MSc. degree, 2,807 Bachelor degree students (Bc.) and 986 PhDs. The Faculty of Civil Engineering presently consists of 21 departments, the Institute of Forensic Engineering, the Central Laboratories, the IT Centre and the Library and Information Centre, all of which represent a significant educational and research centre in the fields of civil engineering and geodesy. Approximately 279 teachers comprise the Faculty staff, which consists of 31 professors, 72 associate professors and 176 senior lecturers. Approximately 2,657 Bc. students, 1,075 M.Sc. students and 306 PhD. students are currently enrolled at the Faculty.

The 70th anniversary of education at our alma mater is an auspicious occasion to reflect on the results achieved and commemorate the activities of important personalities who used to teach at our Faculty: personalities who educated many graduates, personalities who greatly contributed to the history of civil engineering in Slovakia and who had and still hold their positions in construction companies and were and have been members of professional associations and institutions in Slovakia as well as abroad. Let me now thank all our former and present colleagues who are and have been associated with the Faculty for their work and efforts to develop the Faculty of Civil Engineering of STU in Bratislava into a world-class educational and research center.

prof. Ing. Alojz Kopáčik, PhD.
Dean of the Faculty

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