

2/2018

alumni ABSOLVENT  
VSB-TUO



Magazine for  
graduates of VSB-TUO

## UNIVERSITY ANIVERSARY

**It happened 170 years ago**  
How it was with the formation of the VSB-TUO

**Editorial on the history**  
Name changes at university

**The 50<sup>th</sup> anniversary of the class of 1968**  
The alumni meeting was full of emotions



každý  
originál,  
všichni  
bezručí

Navštivte  
Divadlo Petra  
Bezruče  
a platte méně!

Předložte při nákupu vstupenek na pokladně divadla Kartu absolventa nebo zaměstnaneckou kartu VŠB-TUO a máte u nás slevu 50 Kč na vstupenku!



www.bezrucí.cz

**dpb** DIVADLO  
PETRA  
BEZRUČE

OSTRAVA!!!



divadlo je provozováno za finanční podpory statutárního města Ostrava, finančně jej podporuje také moravskoslezský kraj a ministerstvo kultury ČR

# Akademický pěvecký sbor VŠB-TUO

## TRADIČNÍ SVATOŠTĚPÁNSKÝ KONCERT

diriguje Adam Sedlický

středa 26. prosince v 17 hodin  
Kostel Krista Krále, Ostrava-Svinov

[sbor.vsb.cz](http://sbor.vsb.cz)

vstupné dobrovolné

Alumni 2/2018  
Magazine for graduates  
VSB-TUO

Issued by  
VSB - Technical University  
of Ostrava

ALUMNI – relations with graduates  
17. listopadu 15/2172  
708 33 Ostrava-Poruba

Telephone: +420 597 324 397  
Email: alumni@vsb.cz  
Web: alumni.vsb.cz

Editor-in-chief  
Hana Pospíšilová

Editors  
Šárka Sikorová  
Petra Halíková

Language editing  
Vlasta Tobolíková

Grafický design a produkce:  
Ivana Kunová

Print  
Knowlimits s.r.o.

Issued in December 2018  
5000 copies  
issued 2x annually  
not for sale

Title page  
Photo: Archiv VSB-TUO

A change in programme is exclusively made by the organizers. It is recommended to check the validity of each event by phone with the organizers. The advertiser is responsible for the content of its advertisement. The content of the contributions may not be the same as that of the editorial opinion.



**alumni** | ABSOLVENTI  
VSB-TUO

# Rector's editorial



My Dear Graduates

This year is a significant year for all our Republic. Together with the VSB-TUO Department of Archives were again setting out into history in order to remind ourselves of some important events, which have also impacted the development of our university.

In first position it deals with the 100<sup>th</sup> anniversary of our country, furthermore the sad anniversary of the Munich Decree and the consequent tearing up of the borderlands of Czechoslovakia, the events of February and the communist takeover of power in Czechoslovakia and the occupation of Czechoslovakia by the forces of the Warsaw Pact. It is appropriate to recall all these anniversaries, even though they are not anniversaries for a lot of celebration and jubilation, but are to remind us of the cheerless moments of our history and give us the possibility of thinking about them.

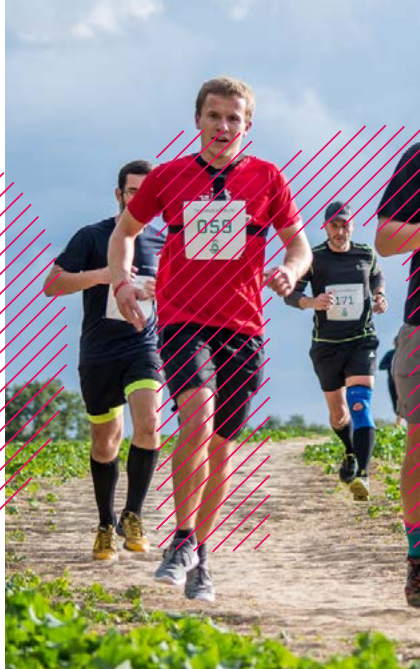
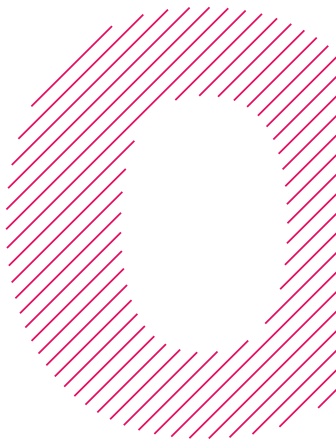
Besides the above-mentioned significant milestones of the 20<sup>th</sup> century that have influenced our university, respectively its foundation, there was another significant year, and it was the year 1848, when a wave of revolution attacked all of Europe and political and national aspects were the cause of the fact that at the beginning of the year

1849 the emperor decreed the foundation of a montane college in Příbram, from which the history of VSB-Technical University of Ostrava developed. Since that event there will have flown 170 years by January 2019.

In the years 1918 - 1938 VSB - Technical University of Ostrava was the only university educating montane experts in Czechoslovakia. In the year 1945 it was moved to Ostrava and at the beginning of the 1950s it began to be divided into individual faculties. The university is historically connected to the extraction and processing of minerals, when it was traditionally leaning on industry and its development gradually reacted to societal and economic changes. VSB-Technical University of Ostrava is now a modern technical university with a well-rounded offer of studies at seven faculties.

In regards to this fact, next year will also be very significant for our university, so find the time and celebrate the 170<sup>th</sup> year since the foundation of our university with us, at the Art & Science Festival, which will be held in September and you will certainly find a lot of interesting activities there, whether they be for yourself or your children.

prof. Václav Snášel  
rector



Rector's editorial 1

Table of Contents 2

It happened 170 years ago 4

The beginnings of VSB-TUO are connected with the personality of well-known geologist Prof. Zippe 6

Conversations with graduates

Miroslav Kysela: How did you become a building engineer? 10

Jan Stanko: I originally thought that I would be studying finance 13

Jana Kukutschová: We are exposed to nanoparticles that are released in the air 14

What is happening at the university 16

The meeting of graduates from the year 1968 is full of emotions 20

This year's Alumni Footprint belongs to Professor Jan Schenk 21

A record 60 000 visitors visit the Night of Scientists 22

Who is Honza Voráček, who created the campaign GREEN LIGHT? 24

Art and Science in practice 26

Tech Run 27

Confucius classes 28

Faculty fragments 29

Academician František Čechura's collection of historical measuring instruments 30

The second oldest faculty bears a new name 31

Management quality for the 21<sup>st</sup> century 31

Looking back at the conference Engineering Ostrava 2018 32

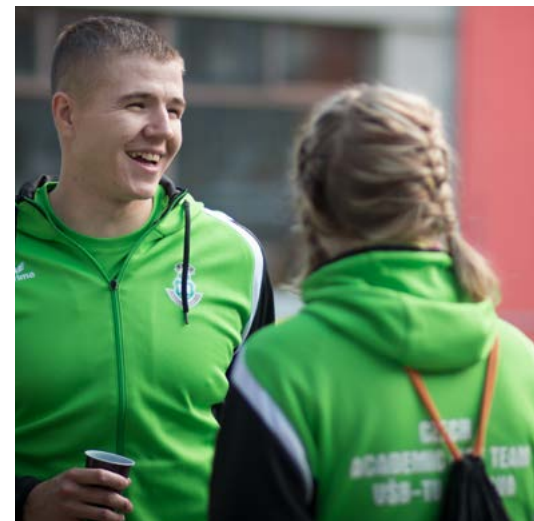
The success of post-graduates and students at the European Rover Challenge 32

The graduation of Chinese students 33

Starting the construction of a unique building with the name CPIT TL3 34

Throwing the brick – a new tradition at the Faculty of Civil Engineering 35

Representatives of VSB-TUO - academic masters of the Czech Republic 36







# VSB – Technical University of Ostrava celebrates 170 years

The history of our university is closely connected to our country. What impact did historical milestones have on our university?

Although we are trying to improve and move forward as a university, we have not forgotten about our roots, tradition and history. That is why we decided to dedicate part of this magazine to that topic. Let us thus look back to the past and remember how VSB-Technical University of Ostrava, which next year will be celebrating 170 since its foundation, was established.

We wish you a pleasant time in reading the following pages, which are not only full of fragments of the history of our alma mater, but which can also inform you about the events that took place at our university in time gone by.

---

TEXT: Hana Pospíšilová  
PHOTO: Archives of VSB-TUO



# It happened 170 years ago

## One of the memorial „8“ anniversaries or how VSB-TUO was founded.

**This year our university in connection with the „8., anniversary reminds me of several significant events, which have significantly impacted the development of our school. In chronological order this deals with the 100th anniversary (1918) since our school was founded, the Munich Decree and consequent tearing up of the borderlands of Czechoslovakia (1938), the events of February and the communist takeover of power in Czechoslovakia (1948) and the occupation of Czechoslovakia by Warsaw Pact troops (1968).**

If we look still further into the past, besides the above-mentioned significant milestone of the twentieth century, we can discover those events which have influenced our university, especially its foundation, and one more significant year. It was the year 1848 when a wave of revolution attacked the whole of Europe. Political and national aspects

were the cause of the fact that at the beginning of the year 1849 the emperor decreed the foundation of a montane college in Příbram, from which the history of VSB-Technical University of Ostrava developed. Since that event there will have flown 170 years by January 2019.

In the first half of the 19<sup>th</sup> century there existed only one school in Austria focused on educating experts in the mining and metallurgy industries - the Academy in Banské Štiavnice. Over the long term its level decreased and the school became more often an object of criticism. The Austrian government began to intensively deal with this problem, because with the development of science and technology and the onset of the industrial revolution it was necessary for qualified workers to occupy important positions. The result was the foundation of a montane college in Vordernberg in the year 1829. The way

to begin teaching was long, and lectures only began in the year 1840.

At the same time efforts were made in Bohemia to improve the state of the Czech mining industry. Proposals dealt not only with founding a separate mining directorate, the adoption of a new Mining Act, the requirements for modernizing mines, but also the foundation of a mining college for higher administrative staff and for miners. The main mover of these initiatives was the person of Count Kašpar Šternberk, who in his memorandum from the year 1820, among other things formulated his idea about the future layout of an upper-level school. It was probably the first time that the idea came about placing such a school in Příbram, which during the given period was a significant mining centre. Iron-bearing deposits and ironworks were in the immediate vicinity.







Although the Viennese government began to deal with the proposal initially, the will to implement it was not forthcoming and all activities soon ceased. The proposal was revived again in 1842, but this time the whole affair failed unsuccessfully. The difficulties were not only in clarifying the issues of financing the new institute and locating it, but most of all there was a procrastination due to bureaucracy. In order to fulfil the 1829 proposal another two decades had to elapse. Paradoxically the political events of the revolutionary year 1848 helped to do so. The result was that the Mining Academy in Banské Štiavnice began to be closed for students of a non-Hungarian nationality and there was a danger that the school would introduce Hungarian as the teaching language. In April 1848 an

article was published in the National Papers issued by Karel Havlíček Borovský, in which the public was informed about the situation at the academy in Štiavnice. In the following May article there was an appeal to found a mining academy in Příbram. In this section there was the concept of a new school prepared by Czech and Slovak students. According to which the theoretical part of the study should be passed at a university in Prague and a two-year practical part in Příbram.

The town council in Příbram joined into the issue, which in July 1848 was addressed to Vienna, and called for an acceleration of founding a mining academy in Příbram. The request was also recommended by the Supreme Higher Authority in Příbram, which supported it by arguing about the dominating significance of mining and metallurgy production in the Czech lands and the lack of qualified personnel. At the same time they submitted a specific proposal for founding the academy in Příbram, which should be determined for students from Czech and Austrian lands.

In the middle of May 1848 the national conflicts between the students went too far, and released 133 Czech and German students from school. Lectures had to be interrupted and consequently completely cancelled. The situation had to be dealt with quickly by the central Viennese authorities. The most probable solution was the establishment of a substitute school. Besides the foundation of the school in Příbram, the establishment of a mining academy in Eisernerz, Austria

was also considered. Another of the proposals was the concept of two apprenticeship schools in Příbram for students of Czech nationality, and in some Austrian areas for German students. In order not to interrupt the study of the students who left the Academy in Štiavnice, a provisional solution was created. In August 1848, Montane College in Vordernberd was removed from the Styrian State Assembly, nationalized and taken over by the Department of Public Works, that is the Austrian State. A mining and metallurgical school year was set up at the academy so the students from Banské Štiavnice could continue their studies.

The political atmosphere of the year 1848 seems to have caused the Viennese authorities to abandon their unnecessary bureaucratic demands this time and the need to analyze the suitability and usefulness of setting up a montane academy. During the autumn months of 1848 preparatory proceedings took place in which it was decided to set up two new montane study schools. The Emperor of that time Franz Josef I was staying in Olomouc, where the Habsburg family escaped to from fear of the revolutionary storm. Here on January 23, 1849 the sovereign signed a decree to establish two equal state montane academies in Příbram and in Leoben, Austria, where the original Vordernberk school was transferred to.

TEXT: Petr Kašing  
 PHOTO: Archives of VSB-TUO



# The beginning of VSB-TUO is connected to the personality of an important geologist - František Xaver Zippe

Since the day when Emperor Franz Josef I signed a decree on the establishment of two montane schools in Příbram and Leoben nearly a decade passed before the teaching at the new school in Příbram was commenced. Although Alois Lill of Lillienbach became the interim director of the non-existent school, the first real director, František Xaver Zippe, was appointed Professor of the Royal Czech Estates School. Although he was only very briefly at the head of the school, his honourable position is not only in this history, but also among the important personalities of Czech science.

Using his full name, František Xaver Maximilián Zippe was born on November 15, 1791 in Falkov (today's Kytlice) near Česká Lípa to the family of a butcher and an innkeeper. From 1804 he studied at a grammar school in Dresden. During this period, he began to show an interest in natural science, especially in minerals. He earned the nickname Stein-Zippe (Stone Zippe) from his classmates. In 1807 he began to attend the Philosophical Faculty of Charles-Ferdinand University in Prague. He continued his studies at the Polytechnic Institute in Prague, where he became adjutant at the Institute of Chemistry in 1819. Here Zippe gained basic knowledge about bleaching, fermentation and agrarian chemistry, and also about ferrous metallurgy. In 1822 he was entrusted with giving lectures on mineralogy and geonostics (geology).

Zippe soon made contact with Count Kašpar Šternberk, one of the foremost personalities of Czech science and a co-



-founder of the Prague National Museum in Bohemia. In the year 1819 Zippe was entrusted with moving the setting up the museum's mineralogical collection and five years later he was named as the administrator of the mineralogical and geological collections. Zippe began to dedicate himself to scientific work. He annually went on study trips to various parts of Bohemia and brought back earth deposits, minerals and fossils for the museum. He also further lectured at the Polytechnical School. Part of the museum's collection became the Zippe collection of minerals from the state and abroad (around two and a half thousand of them), which he had created since his youth.

Zippe is considered the founder of scientific mineralogy and geology in the

Czech lands. He put together a collection of minerals, which at the given period were among the greatest in Europe. Among his discoveries there are two at-that-time unknown minerals, a uranium bloom from Jáchymov, which was later named in his honour zippeit and allemontite (from the area of Příbram). He dedicated special care to his collection of Czech minerals. In the year 1828 he issued the publication *The Influence of Mineralogical Science on Art and Industry and its Previous and Current State in Bohemia*. He was the first in Bohemia who began to study minerals from a crystallographic point of view. His first crystallographic study on azurite was published in the year 1830 in the *Discourses of the Czech Royal Society*.

He was one of the first researchers who



dedicated himself to a more thorough examination of coal deposits in the Czech Lands, especially the coal seams in the Kladno region. He prepared a geological foundation which the Austrian state administration used for prospecting work in coal basins in the 1840s. In the year 1842 he published *Black Coal, its Value, its General Importance and its Distribution in Bohemia*. A series of works were especially dedicated to the nature of the Ore Mountains and Central Bohemian iron ore deposits. His maps were used as a basis for the first geological map of the monarchy set up in the year 1847.

Zippe was also connected to the reforms in teaching natural science at secondary schools, and not only through expertize articles, but mostly through the authorship of the textbook *Natural Science for Lower Secondary Schools*. The book was first published in the year 1844 in the German language and in three editions (1856, 1861, 1862) in Czech translations, which were arranged by Zippe's pupil geologist Jan Krejčí. In the year 1846 Zippe published a popular scienti-

fic work *Instructive and Fun Papers for Field Stewards*, which was determined for the wider public, especially farmers, woodsmen and building technicians. In it he worked out a method of studying rock formations and soils and the most important foundations of mineralogy.

In the year 1849 Zippe was selected as the head of the newly founded Montane College in Příbram. He was named director on August 31, 1849 and a month later he undertook his administrative oath. This position was taken over from Alois Lilil of Lillenback, whose main job was to ensure the adaption of the buildings of the archbishop's chateau, in which the school was located. Among Zippe's main tasks was completing the proposal for setting up the montane academies in Příbram and Leoben, working out the teaching programme and ensuring staff for the school.

In the middle of October an extensive organizational set of regulations was issued together for both montane schools, according to which in the first year there should be lectures on mine

measuring, studies in the mining industry, mining engineering and mining law basics, and in the second year there were studies in metallurgy and assaying. In the selection for a professor in the mining industry there was chosen Karel Hejrovský, a mining machine inspector of a plant in Příbram. The ceremonial opening of lectures with the participation of 40 students was held on November 12, 1849. However, Zippe only worked in Příbram not even a full year. In the year 1850 he was named professor of mineralogy at Vienna University and left the school in Příbram. Zippe became an acknowledged scientific personality. His pioneering work was the volume *The History of Metals* in the year 1857, in which in terms of a wider context he wanted to prove how metals have played a role in cultural history. He perceived the history of natural science as part of world history created by humans. He emphasized that progress in recognizing geology depends on mining activities. At the same time he also dedicated himself to analyzing iron ore with a content of precious and useable metals, their processing and use.

He also gained a number of awards for his scientific achievements at home and abroad. In the year 1847 he was named a founding member of the Viennese Imperial Academy of Science and in the year 1848 he was promoted to an Honorary Doctor of Philosophy at Charles-Ferdinand University in Prague. Emperor Franz Josef I awarded him the Knight's Cross in the year 1851 and in the year 1855 he was awarded a title from the government council. His social activities were also important. At the Viennese University he started a foundation to support talented and poor students. Zippe died in Vienna on February 22, 1863 and was buried in the cemetery St. Marxer. Through his works he became one of the foremost founders of scientific mineralogy and geology in Bohemia. His name is rightly mentioned among the seventy-two most important personalities, whose names are written in gold letters under the window of the National Museum in Prague.



TEXT: Petr Kašing

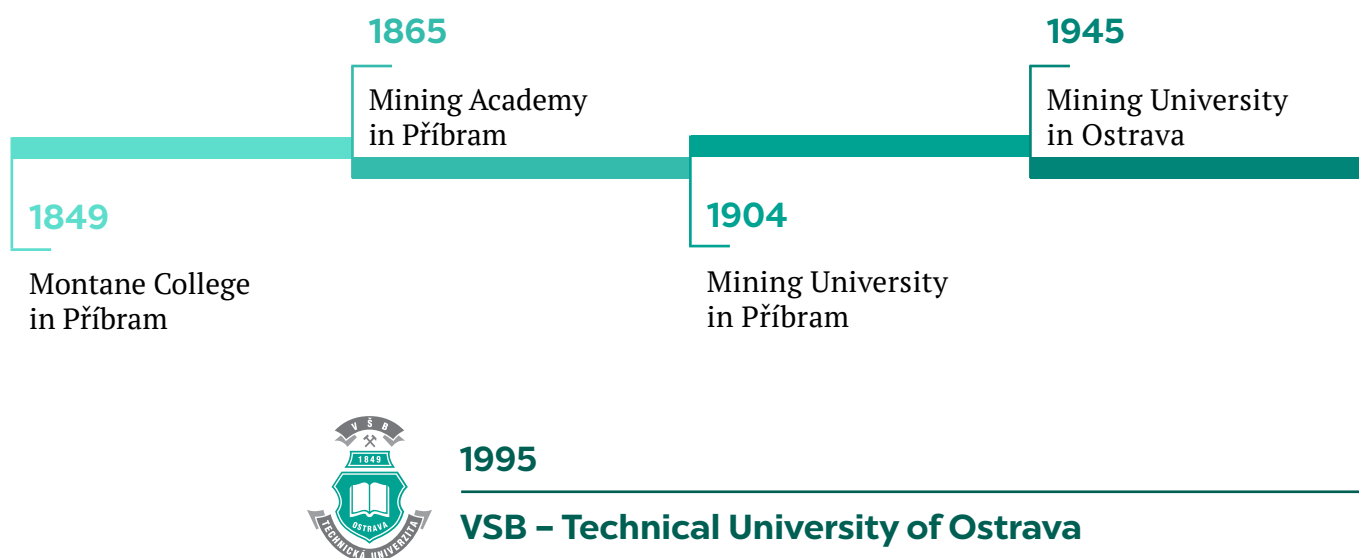
PHOTO: Archives of VSB-TUO, internet

# The History of VSB-TUO



The names of our university as time went by. We have prepared a list of VSB-TUO and faculty name changes. Come and remember with us.

## VSB-TUO name changes







# Faculty name changes

## **MECHANICAL FACULTY**

- 1950\_ Mechanical Engineering University in Brušperk
- 1951\_ Mining Engineering Faculty
- 1968\_ Mechanical Engineering Faculty
- 1977\_ Mechanical Engineering and Electrical Engineering Faculty
- 1991\_ Mechanical Engineering Faculty

## **MATERIAL TECHNOLOGY FACULTY**

- 1951\_ Metallurgical Faculty
- 1990\_ Faculty of Metallurgy and Materials Engineering
- 2018\_ Faculty of Materials Science and Technology

## **MINING-GEOLOGY FACULTY** (founded by incorporating two faculties – mining and geology)

- 1951\_ Mining Faculty
- 1953\_ Geology Faculty (1958 renamed the Faculty of Geology-Mining Instruments)
- 1959\_ Mining-Geology Faculty (connecting the two above-mentioned faculties)

## **ECONOMIC FACULTY**

- 1953\_ Faculty of Economics and Engineering (closed in 1959)
- 1977\_ Economic Faculty

## **FACULTY OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE**

- 1991\_ Faculty of Electrical Engineering
- 1993\_ Faculty of Electrical Engineering and Computer Science

## **FACULTY OF SAFETY ENGINEERING**

- 2002\_ Faculty of Safety Engineering

## **FACULTY OF CIVIL ENGINEERING**

- 1997\_ Faculty of Civil Engineering

## Miroslav Kysela

„How did I become a building engineer. As a young boy I liked to play with Lego, „says this successful graduate of the Civil Engineering Faculty and passionate lover of high-mountain hiking and mountain-climbing, for which he got the nickname „Oxygen“, in an interview.

*On Thursday June 14, 2018 at the gala evening at Bethlehem Chapel in Prague there was the fifteenth-year award in the statewide competition CZECH TRANSPORT CONSTRUCTIONS, TECHNOLOGY AND INNOVATIONS OF THE YEAR 2017. Besides many commercial entities, over the course of the event there were the patrons and rectors of Czech Universities from ČVUT Prague, VUT Brno, Liberec Technical University, VSB-TUO, Pardubice University and the Western Bohemian University in Plzen. During the ceremonial evening there was also the awarding of the successful project members of a number of technical university students. VSB - Technical University of Ostrava was represented by newly graduated Ing. Miroslav Kysela and his work „ Designing a Rail Bridge with an Upper Interlocked Reinforced Concrete Deck“. It was a pretty good opportunity to meet this successful young man and present to you the following interview.*

Mirek, when I prepared for today's meeting I found a wonderful photo on your Facebook profile. You are sitting on the winter summit of Gerlach mountain peak leaning on a cross and reading the mountain climbers magazine Montana. I will not ask you about what you were reading, but can you tell me if you know something on the history of the cross? How did you feel on the highest peak of Slovakia?

Hold on! I am not leaning on that cross. I only have a safety loop around it to not fall. There was just ice all around it. Otherwise, unfortunately I don't know that story, but I suppose you are asking me if I know this one, aren't you?

Yes, I know it. This cross was originally located in the seat of the river Vah in the High Tatra Mountains and my friend academic sculptor Otmar Oliva created it, which among other things was a part of decoration of the John Paul II Chapel at the Vatican. I placed it there in honour of my mountain climber friend, who perished in a snowstorm. Then the cross was suddenly lost, which understandably greatly devastated Otmar, for he thought that someone had stolen it. Then after many years he by chance got to know from me that it is now on Gerlach. It is an enormously powerful story, which recently was filmed by Slovak director Paľo Barabáš.

Super, I had no idea. Thanks a lot for the information. This evening I will immediately find it on the net and when I come next time I will certainly remember it!

Let's return from the mountains back to the topic which we met for. You are a graduate of „Bánské“ (VSB) and at the beginning of June 2018 at Prague's Bethlehem Chapel you were awarded by VSB-TUO Rector Prof. RNDr. Václav

Snášel, CSc. Give us a closer look at your receiving this award in more detail.

It is a prize which has been awarded for many years and universities, which have a construction specialization of a transport character participate in it, such as ČVUT Prague, VUT Brno Liberec University and others. (Note: The competition for the best bachelor, diploma and yearly work from the field of transport and transport engineering is annually published with the intention of supporting interest in technical field studies at universities in the Czech Republic. Since the year 2009 successful students have already been paid more than 1 500 000 crowns). The key to it is that every school selects a winner from its own university, so this year it was me from Banská.

Can you briefly acquaint us with your successful work?

It was the design of an interlocked reinforced concrete railway bridge with an upper deck. Briefly said, it dealt with a static calculation for a building licence or construction project. It was using a higher level of calculation, that is not usually done at school. There I calculated fatigue cracks, welds, assembly procedures, building procedures, how it is going to be overall, and so on. I went much deeper into the problem than is usual at universities.



Did some specific bridge inspire you, or was it an imaginary construction?

There wasn't any thought-up bridge, but it dealt with the bridge over the river Olše in Český Těšín. If I had to think up a new bridge, I would have to design and moreover calculate all of it, so this work for one designer would be at least for two years. So I acquired some construction documentation and did a static calculation on an actually existing bridge.

How did you ever get to such a topic? What inspired you?

It again has a connection to the mountains, which we began our conversation with. The Low Fatra Mountains begin at the Medieval age castle Strečno and as a young boy I began to transverse the mountains from there. Two steel railway bridges with broken arches crossed the Váh, which always fascinated me, because they perfectly fit into the countryside. I always dreamed that I would also want to design such a beautiful bridge. So it is no wonder that for my bachelor work I just chose the reconstruction of one of those two mentioned bridges.

Mirek, I can see in your enormous enthusiasm and joy from your work! Maybe it is useless to ask if you enjoy it?

Of course! I love this work! My tremendous luck at the Faculty of Civil Engineering was to meet Ing. Miroslav Rosmanit, Ph.D, who was the official supervisor of my bachelor work and consulted me on my diploma work under the

„When I climb a difficulty of seven, it will be more than enough to satisfy me.“



auspices of Ing. David Mikolášek, Ph.D from the Design Department. Mirek has a great understanding for students and is willing to lead the way, which they themselves choose. I appreciate him very much, because it is not always and everywhere the rule.

The prize was also connected to a financial award. What has the award given you besides the mentioned money? Was it is a great honour for you?

Do you want to hear the truth. It paid for a 14-day stay in Corsica, where I could dedicate myself to hiking and those things I love (he breaks out in an Indian whoop)! But now seriously, it certainly was a great honour for me. Every such award gives pleasure and it is a certain topping off of my many years of working at VSB - Technical University of Ostrava. And do you know what is paradoxical about it? For my concluding work, I got five different prizes and despite this I don't have an honours diploma! In school I was never the type of honest student who crammed and sought out the best marks, but rather I tried to do what I enjoyed to do, what I liked.

How has receiving this award helped you in seeking employment? Does it play some role in your portfolio?

I think not very much. It helped rather that immediately after my bachelor work I began working in the branch during my study. Still before the state exams and the defence of my diploma work I had behind me a year of work experience in designing bridge structures. When I was applying for a job at the prestigious company where I work today, it helped me very much. So for example, already on the day of my grad-

uation I began to design my very own first bridge! More precisely a cycle path footbridge. This is perhaps not the way for everyone, but even if it is just a little bit, I can recommend it from personal experience.

I will return to today's story and go a few years back in time, because your way to your first imaginary life peak interests me. Where do you come from and what secondary school did you study at?

I come from Žilina and I studied at the Secondary Civil Engineering Industrial School there. I like to remember this school, because they taught us there most of all how to draw, which I appreciated very much in Ostrava at the Faculty of Civil Engineering. Understandably, student life there was perfect, as everywhere else, when you are sixteen, seventeen! A lot of friends, no responsibility, no financial demands and the only worry was how to get a hold of money, beer and cigarettes!

I can see that not much has changed from my student years. When did you begin to devote yourself to the construction industry and when did you make the decision to go and study in Ostrava?

Maybe now, some of your readers will laugh, but it was decisive for me that since I was young I liked to play with Lego. As a young boy I took plastic building blocks, crawled somewhere into a corner and constructed and designed my first buildings all day. From this my parents clearly evaluated they could make a construction engineer out of me. At that time I was not completely sure, and so I chose a branch half economics and half construction engineering.

What branch did you study in Ostrava and according to what did you choose it?

Even before graduation it was clear to me that I wanted to dedicate myself rather to construction engineering, and not economics. So I was thinking about that way. I had three choices. I could stay in Žilina and study transport construction engineering, which has an excellent reputation there. Furthermore, I could go to Bratislava or to Ostrava. The main role in my decision was played by the fact that I wanted to go to a university dormitory. It is said, and I can confirm it from my own experience that the most beautiful part of a person's life is lived right there!

Why did you eventually give preference to Ostrava over Bratislava? Do we have a better dorm there?

To tell the truth, I didn't want to go to Bratislava, because there is a great number of students there, and it is anonymous, impersonal. I decided on Ostrava mainly for economic reasons, because it is relatively close and I could be at home on weekends.

Did you also decide according to the name of the school? What is the reputation of „Báňská“ in Slovakia? Is it considered a prestigious school among Slovaks?

To be sincere, the dominant opinion there is that study is easy in Ostrava, and so I said to myself why should I suffer at some university where I could be thrown out, when I could study in Ostrava at ease. Yeah!!! I very quickly got to understand that I was mistaken! In terms of the study I learnt not only from Ostrava's university textbooks, but had to study

the textbooks from Brno and Prague as well! I recognized that in the long run that it's completely the same where you study. The important thing is that you manage to learn and are able to then work with it. It is not about which school you are going to „settle down“ to. This is one thing I picked up at the „builders“ faculty in Ostrava. Since it is not a large faculty the teachers have a more personal approach. In another way, you can study where people know your name and on the other hand, you are just a number in the system.

Unfortunately for people who do not know it Ostrava is still perceived as an ugly city with a high rate of criminality, polluted air, and full of the unemployed. I think for a long time it has not been completely true, and if you strip away the winter inversion, it is quite a pleasant city to live in thanks to the vicinity of the mountains. How do you perceive Ostrava as a students' town?

To be sincere, when I first came here I wanted to kill myself (he laughs for the whole time). Everything was flat, which I was not used to as a boy from the Fatra foothills. Even when I thought I could see fog, it was not fog, but smog. Moreover, Ostrava is a really extensive city. When you don't know it, you have a feeling that everything is far away. You have to find the beautiful places in it. It is like a woman, and it is not done just like that.

Who or what do you like to remember the most when you look back on your university studies at „Báňská“?

The greatest value added of university study is that you go through an uncoun- table number of experiences and get to

know many new people. I like to remember most of all doc. Ing. Jiřího Ščuček, who is employed today at the Geonics Institute AV ČR in Ostrava. He was at the Department of Material Engineering for us. He was a man whom you could still listen to! He graphically explained to us how concrete matured on the molecular level, waving his hands, running all around the room, pointing his fingers at ettringite plates which grew because the crystalline structure developed there. It was an unbelievable show and I remember it to this day. He was fantastic and I didn't miss a single one of his lectures.

What is your imaginary life peak that you would like to reach in your profession, and also in mountain climbing?

I have partial goals in my life, because a person can quickly lose motivation for the big ones when he/she is not immediately successful. My greatest aim now is to complete the first bridge (foto-bridge) which I have already spoken about and to join the Czech Chamber of Architects. Then I will be able to completely design the bridges I dreamed about as a young boy, when I was at home under the table building with Lego. What concerns my leisure-time targets, I have mountain climbing more as a hobby. Because if you want to be a top climber, you have to sacrifice everything and I don't want to do that. Rather my brother, who is my partner on the line, who has climbed a difficulty of eight, but when I climb a difficulty of seven, it will be more than enough to satisfy me.

TEXT: Marek Hýža

PHOTO: Archives Miroslav Kysela

**Ing. Miroslav Kysela** studied the branch Construction Design at the Faculty of Civil Engineering at the VSB-Technical University of Ostrava. He is now working as a bridge and engineering structure designer at the company Moravia Consult Olomouc a.s in Olomouc.





# Jan Stanko

## I originally thought I would be studying finance!

*Graduates of the VSB-Technical University of Ostrava do not get lost in the world. A proof of this is a graduate of the branch of Marketing Communication at the Economic Faculty Ing. Jan Stanko. For the last five years he has worked as the marketing director of the company T-Mobile. What did he reveal about the study memories? What prepared him for his vocation. You can read it all below!*

### Can you reveal to us your most cherished memory during your study?

We had a teacher for mathematics, Luďek Šimáček, who was very witty, and I still use a few of his statements today. I remember an incident from one of his lectures, when the lecture hall was full, ten minutes before the end two students at the back got up and left and he responded to it with „So...finally alone.“ Another incident happened during a tutorial, when there were remaining only three minutes until the end and he chose some poor victim to calculate something on the board. By coincidence it was me. I slowly walked forward and tried my slowest to clean the board to just drag out these three minutes. And then Mr. Šimáček said: „Well, I see I can also produce a thread out of you... you will not snap!“ At school I experienced the beginnings of the internet and e-mail, although my daughter has the feeling that I was sometime during the war (laughter). We often sent to each other short messages that could be addressed to the personal number of every student. So there was this constant beeping during tutorials. Our teacher was disturbed because it did not relate to the topic being discussed. It was cheerful at the Economic Faculty.

### When you look back on your studies at EkF, what represented the greatest challenge for you?

The doors of the faculty are horribly heavy... (laughter). You do not enjoy every-

thing, and going through subjects that are just not your cup of tea is sometimes the problem. At the beginning a person is not able to imagine that he/she will stay five years at the faculty. During the study, you are used to learning the most in the shortest period. We still didn't have the credit system so we always had everything inflated up to the not quite two-month examination period. During the state exams especially but only a little more intensive.

### Why did you choose EkF?

I originally thought that I would study finance. I took a look at the position of governor of the Czech National Bank, where it would be quite pleasant just signing banknotes. However, during the period when we had joint subjects in terms of the entire branch, I came to the conclusion that I did not completely enjoy it. Conversely, marketing interested me. Now I can see the differences between me and my colleagues from finance. I am very good at spending money and for some reason they want to rather save it (laughter).

### Is there something from your student life you would like to change?

Not really. Our study was relatively relaxed. We played tennis, partied and then went to a restaurant. Maybe if you still have those 7:15 lectures, I would completely cancel them. Luckily, I found a lovely classmate who wrote wonderfully and I could copy all from her. We had mostly for our study needs the university textbooks. I was used to learning from what I wrote just by reading it. It is perhaps easier today if you just click on your notebooks.

### You have worked five years as the marketing communication director at the company T-Mobile. Why did you set out on this path?

At school I enjoyed marketing communication. When I began working I ensured the preparation of information and documentation for shops. When we were preparing an innovation my task was to write out the arguments, which the shops use in their communication with customers. From a colleague I got four pages of technically describing things and I had to rewrite them into human speech, because at that time at the beginning of telecommunication people did not understand it well. I eventually got to traditional advertisements and campaigns until I had to take care of some of the biggest television campaigns. The variety of my work fascinates me. I am always doing something different, no bit of communication is the same.

TEXT: Šárka Sikorová

PHOTO: Archives Jan Stanko



**Ing. Jan Stanko** studied the branch of Marketing Communication at the Economic Faculty at VSB-TUO. Since the year 2000 he has worked for the company T-Mobile. During these years he has worked up to the position of director of brands and marketing communication. he is also responsible for marketing in Slovakia. For now he has handed over his job to his deputy and has decided to take a rest for a while.

# Jana Kukutschová

## We are exposed to nanoparticles that are released into the atmosphere

*How are micrometric particles and nanoparticles released into the atmosphere during car braking and how do they affect organisms? Associate Professor Mgr. Jana Kukutschová, Ph.D. introduces us to the topic of the environmental aspects of nanomaterials.*

What topic have you dedicated yourself to in terms of the scientific-research activities at the university? What bodies do you work in?

At CPIT (Centre of Advanced Innovative Technology) we devote ourselves to the various aspects of solid particles, which are formed by selected anthropogenic processes. In our case, we are dealing with the non-combustive processes in transport, especially the wear on brake plates and discs. All our experimentation is connected to my second place of work - RMTVC (Regional Material-Technology Research Centre of the Faculty of Materials Science and Technology), where we have available a brake dynamometer, which is a relatively unique device. We simulate on it the conditions of operating a passenger car: driving in a town, outside of town, on the highway and similar areas. We then test the results. We examine the quantities of released particles, collect them, analyze them and all in connection to the composition of materials, especially brake plates. In this way, we also study commercial materials available on the market, but we are also able to prepare real brake discs in the laboratory and design/modify their composition. We can replace components which are risky (mutagenesis) or those which contribute to a greater emission of nanometric particles and thus check the amount of emitted particles of the smallest sizes. In addition to micrometric particles, which are standardly observed in evaluating air quality, we also quantitatively observe nanoparticles.



This parameter is not usually monitored for air quality. We look at this issue from the point of view of modifying materials to achieve the small emissions of solid particles.

In what other areas are you measuring nanoparticle pollution?

Thanks to an emphasis on eco-friendly products and technologies, nanoparticle emissions are beginning to be explored in industry. In the year 2010, we were the first to come up with a detailed characterization of nanometric particles released during the simulated braking of

commercial brake plates. We published an article on this topic in *Environmental Pollution*, which still has a good citation response today. We exactly described the conditions under which nanoparticles are produced, the shape of nanometric particles and their composition...Following this, we have heard from some industrial representatives from abroad who have read our study and asked us if it would be possible to repeat it for their materials. From this experience I can clearly say that publishing in an impact magazine is the best advertisement for scientific work and thanks to it the



activities of our given team are becoming known to target groups, such as potential customers from industry, but also partners from the academic sphere, who are looking for partners for a consortium of projects abroad.

Nanosciences deal with different aspects of nanomaterials and also on how nanomaterials act in the environment. I studied biology and chemistry at the Faculty of Natural Science at Ostrava University. I knew that I wanted to dedicate myself to various chemical substances/materials influencing our living systems. My dissertation work dealt with toxicity and mutagenesis dust particles from pyrometallurgical operations. As a result of high-temperature processes, which among other things include car braking, there are also some very fine particles. I got to transport because of Professor Filip, who works at Southern Illinois University in Carbondale, USA. He was a mentor for me, we still work together and create new activities and publications. At first, we only characterized what falls on road surfaces. We then approached our colleagues with suitable equipment and found that because of high pressures and temperatures reached in friction processes, there are released

„Better safe than sorry.“



particles of a size of 20 nm.

Parallely with brake particles your team is also dedicated to the chemical analysis of biological materials. What does your work consist of?

In co-operation with the Teaching Hospital of Ostrava we began analyzing various samples of biological materials from the viewpoint of the possible presence of solid particles, because we and our co-workers say that we have proof that these particles are released into the atmosphere, so there is an enormous probability that they could get also into the human organism. And it has been shown that they are there. So it started to fit together nicely. The question is how to deal with the orga-

nism. For example, we have dealt with patients with chronic tonsillitis, whose problems were not resolved even after an antibiotic transfusion. We asked for the samples but did not find tonsils, where there wouldn't be solid particles. It would have been wrong to have overlooked this situation. We simply cannot avoid polluted air and this issue must be addressed primarily at the level of the source that emitted them, and here we get back to brakes as one of these sources.

Where all around us can we meet nanomaterials?

The applications of nanomaterials are very widespread. They are used in the food industry for better durability, in the cosmetic industry, a great example is in suntan lotions, they make toothpaste whiter and similar areas. However, you must be careful not to treat this information as nanophobia. The benefits of using nanomaterials can be considerable. Therefore caution should be exercised on this issue, and in developed countries, the strategy is „Better safe than sorry.“

TEXT: Šárka Sikorová  
PHOTO: AVS VSB-TUO



Associate Professor **Jana Kukutschová** studied the branch of Chemical Metallurgy at the Faculty of Metallurgy and Materials Engineering at VSB-TUO. At university, she is now Head of the Department of Nanoscience and Technology in the Centre of Advanced Innovative Technology. She leads students in two subjects: Biological Nanostructures and Nanomaterial Toxicology. We co-operate with important industrial partners, such as ITT Motion Technologies (Italy), ITT Holding (CZ) and Brembo s.p.a. (Italy). She is also an active member of PMP Group (UNECE) - in preparing proposals for EU legislation for checking and regulating emissions. She also works on several professional periodicals and as an assessor of project proposals in the Czech Republic and abroad.



# What is happening



## AUTUMN MINERALOGICAL MEETING AT VSB-TUO

The entire VSB-TUO auditorium belonged to geologists on October 13, 2018. There took place the traditional Mineralogy Meeting, held by the Faculty of Mining and Geology of VSB-TUO. At this exhibition, which the school holds regularly always in the spring and autumn, this time there were presented the samples of 109 exhibitors from Bohemia, Moravia, Slovakia and Poland. Almost 1600 visitors gathered there to again be able to have a look at or to buy minerals and fossils from entire world localities, expertize literature and a number of other things, which are connected to geology and the mining industry. Of interest was also decorative items from natural materials and wonderful creator jewels produced from useful minerals. Part of the event was also accompanied by the programme „A geologist in action“, which was held in the outdoor atrium of the auditori-

um. There those interested could take a look at what the activities of a geologist look like. How minerals are recognized, how to grind and polish them, and how to bore into a rock foundation. Some tried jewellery engraving, others visited the geoscience-travelogue lectures or just enjoyed themselves playing prepared geogames. A free visit to the available geological collection of the school, which is found beside the auditorium in the Geological Pavilion building, completed a pleasant Saturday meeting with the beauty and interests of non-animate nature

TEXT: Martina Polášková  
PHOTO: Kamil Ulrich







# ning

## behind the gates of our university?

### DUSTEE START-UP PROJECT HELPS CHILDREN IN OSTRAVA BREATHE BETTER

The results of the project Clean Kindergartens revealed that in several kindergartens in the Ostrava Region there were measured the values of local extremes exceeding  $280 \mu\text{g}/\text{m}^3$  of dust particles. This is almost six times more than the emission limit of dust pollution given by law. This is apparently made from findings in autumn of this year by the non-profit organization Clean Sky, from the company Phillips and the Ostrava start-up Dustee. The Dustee project was started in the spring by the start-up programme of our university GREEN LIGHT, which was the winner with its air measurement device. The creator of the idea Nikola Carić and his co-workers Lukáš Smetana and Ondřej Řeháček, students of VSB-TUO, delighted the jury and the general public and now there is coming to the first results of their work „We measured local dust pollution in twelve

kindergartens, which wanted to fight the problem of how their dust pollution was, and it was in the Ostrava Region, Frýdek Místek and the Karviná Region. For small kids fly dust was especially shown to be a negative influence on their health“, said Lukáš Smetana from the company Dustee, whose equipment was used for its measuring. Kindergartens, where in the framework of the project measured higher values, obtained from the company Phillips effective air purifiers, which managed to reduce the values and during the whole day keep them at a healthy level. „The purifiers remove allergens, fly dust particles less than PM 2,5, which are harmful to health, and invisible, and are mainly caused by automobile traffic and industry. They also purify batteries, viruses, odours, and harmful gases. We believe that they contribute to a healthier environment for children in kindergartens,“ says Marta Kaczmarczyk from the company Phillips. Measurements were carried out all of October and thanks to the sensors there were recorded values of PM2,5 and PM10 with continuous measurements every minute. This data provides Dustee with a super opportunity to test the properties of dust distribution in various localities, for example, when exactly in the vicinity of individual kindergartens it leads to a growth in pollution values depending on the traffic.

The greatest measured values are comparable to the air in Seoul, the capital city of South Korea. For every school, the Ostrava start-up Dustee measures and processes data individually. Thanks to it it is possible to recommend the most suitable time for outdoor activities, or ventilation. Dust pollution can be different from just a few meters and the smog situation can be 4 kilometres further, and it does not mean that the same situation will be in the immediate vicinity of a kindergarten. It always depends on the pollution source - whether it be ope-

rations from the highway, local heating units, close constructions or production operation activities.

„By measuring we also deduced several assumptions, which we can further test and verify. One of them is the very negative impact of traffic circles on local air quality. On the other hand, kindergartens, which are fenced in by a hedge, have usually lower pollution values than kindergartens that do not have any green barrier. We can imagine that with a similar sensor, not only in kindergartens but in public spaces, we would be able to create a map of air cleanliness in towns, on the basis of which we would be able to localize problems, accept temporary measures, evaluate them and then decide if to implement them long-term or not at all. I believe it is only a question of time before towns will really become smart on the basis of various measuring, the result of which we will manage to use for the benefits of citizens, and our children will not breathe the equivalent of several cigarettes daily,“ concludes Nikola Carić of the organization Clean Sky.

TEXT AND PHOTO: Archives of the Public Relations Department





### IET GAINS FUNDS FOR EXCELLENT RESEARCH IN ENVIRONMENTAL AREAS

The Institute of Environmental Technology (IET), which is part of VSB-TUO, gained from the Operational Programme Research, Development and Education over 100 million crowns for excellent research in the area of the environment. „Completing the project will be carried out in the framework of two research programmes, and they are The Material and Energetic Use of Waste and Reducing Pollutants in the Environment,“ says Professor Lucie Obalová, Director of the Institute of Environmental Technology (IET). Funds from the project can strengthen the research team, make international co-operation more effective, and implement the applications of scientific outputs into practice, researchers from IET will, for example, deal with reducing the load of the environment coming from the production of large volume waste originating from the metallurgical and energetic industries, which are still enough in the Moravian-Silesian Region, but also to increase the level and safety of anaerobic waste converters to gas. The long-term issue in the Ostrava Region is the bad air. Thanks to this project scientists will further explore the possibilities of reducing air pollution (oxides, nitrogen, CO<sub>2</sub>...) using special methods (catalytic, photocatalytic, adsorption) They would also like a chance to exclude extraneous substances from waste and surface waters. The Institute of Environmental Technology has been long devoted to

education and research in the areas of processing waste, purifying waste gases and water and in modelling pollutant distribution in the environment.

TEXT AND PHOTO: archives of the section Public Relations

### UPGRADING HPC SYSTEMS FOR SUPERCOMPUTING CENTER

VSB-TUO has signed a contract to upgrade the HPC systems for IT4Innovations National Supercomputing Centre. This is an extension of the cluster Anselm, which will be supplied by Atos IT Solutions and Services, s.r.o.. The supercomputer will newly have a theoretical power exceeding 800 teraflops per second, so it will, therefore, be more than



eight times more powerful than its predecessor launched in 2013. The computational capacities of systems operated by IT4Innovations are available to the entire scientific community of the Czech Republic in the framework of grant competitions. The delivery date of the new machine is April 2019.

In the demanding competition interview, which was won by Atos, the emphasis was placed not only on the price but also on the use of the most advanced technologies currently available. Czech scientists will gain access to the latest generation of Intel processors as well as the most powerful GPU accelerators from NVIDIA. “The demand from Czech scientists for computing resources exceeds our current available capacity by about 100%. This modernisation will increase our capacities and help us solve this problem. At the same time, Czech scientists will have a machine with the latest technologies available, enabling them to acquire these technologies and keep up with the world.,“ explained Vít Vondrák, Director of IT4Innovations. In Ostrava, scientists from Czech universities and prestigious scientific centres provide their calculations. The performance of supercomputers is utilized from over 50% in developing new materials and medications, the remaining capacity is used for bioscience, engineering tasks, astrophysics and many other scientific fields. The increase in IT4Innovations capacities is supported by the European Regional Development Fund in the framework of the project IT4Innovations National Supercomputing Centre – the path to Exascale, CZ. 02.1.01/0.0/0.0/1 6 013/0001791, implemented from the Operational Programme Research, development and education of the Ministry of Education, Youth and Sports of the Czech Republic.

TEXT: Archives of the Public Relations Department  
PHOTO: Tomáš Sláma

### VICTORY OF THE VOC MAGNA 2018 IN ŽILINA

The Academic Choir of VSB-TUO or APSko is a mixed chamber choir, which represents VSB-TUO at Czech and foreign festivals and also organizes concerts in Ostrava and its





surroundings throughout the year. It was founded in 2007 under the leadership of Jan Mlčoch as a student organization, which loosely followed the secondary school Chamber Choir EXIL, established at Pavel Tigrid Language Grammar school in Ostravě (2000–2007). In the last three years, the artistic director of APS has been young professional conductor Adam Sedlický, who also has an engagement in the National Theatre of Moravian-Silesian and the Chamber Opera in Bratislava. The singing group has received a number of awards during its existence. Most recently, they won the Voce Magna 2018 in Žilina. After the primacy in the category of mixed adult chamber choirs, APS overall ranked second in the category of adult choirs and they were selected among the best singing ensembles of the Grand Prix competition, which they also won. The special award for conductor performance was taken by Adam Sedlický.

TEXT: Martina Vyležíková

PHOTO: Archive of the Academic choir VSB-TUO

### VSBU-TUO TOOK PART IN 15<sup>th</sup> YEAR OF THE EUROPEAN WEEK OF REGIONS AND CITIES

The Rector of VSB-TUO Prof. RNDr. Václav Snášel, CSc. participated in a business trip to Brussels. On Tuesday 9th October 2018 he participated in an entrepreneurial mission on the subject of artificial intelligence, which was jointly prepared by the Embassy of the Czech Republic in Brussels, Economic Chamber of the Czech Republic and its

Brussels Office CEBRE and office MEP run by Martina Dlabajová. The event was initiated by the Ambassador of the Czech Republic in the Kingdom of Belgium J.E. Jaroslav Kurfürst. During the day our Rector met the Rector of Vrije University in Brussels (VUB), Czech and Belgian entrepreneurs in the field of artificial intelligence and visited the VUB Laboratories in Brussels. "I consider the event in Brussels to be important, the university can present its priorities and discuss them with representatives of the institutions of the European Union. I have met several European Commission officials with whom I have talked about the strategic projects of our university, such as the Energy Center or our supercomputing Center IT4Innovations," said Prof. RNDr. Václav Snášel, CSc. on his return. The delegation from the VSB-TUO also participated in a workshop within the European Week of Regions and cities in Brussels. Throughout the week, the Belgian metropolis holds around 100 thematic seminars, workshops and discussions. The tech-

nical workshop entitled „Internet of Things & Electromobility“ was prepared by VSB-TUO together with partners from the electrical faculties of Politechnika Śląska from the Polish town Gliwic. The workshop was started on Wednesday on 10<sup>th</sup> October 2018 by the Polish Ambassador to the Kingdom of Belgium J.E. Artur Orzechowski, who emphasised the importance of university cooperation in research, development and innovation. The Vice-Dean for the development of the Faculty of Electrical Engineering and Computer Science, Ing. Petr Šimoník, Ph.D. introduced developmental research activities for the automotive sector. In particular, the results of the projects completed at the faculties were introduced. The construction of the laboratory complex CPIT TL3 was mentioned as a modern platform for future cooperation across the university environment and with partners from the application sphere. Participants of the workshop showed interest in future cooperation in the presented areas of expertise. The event followed up workshops from the years 2016 and 2017 on the topic Industry 4.0 and Energy 4.0. On the invitation of the Slovak Liaison Offices for Research and Development (SLORD) at the joint conference of V4 countries the Vice-Dean for the External Relations of FEI VSB-TUO doc. Ing. Pavel Krömer, Ph.D. delivered a speech on the topic of artificial intelligence on Thursday, September 11th October 2018. In his speech, he described the current state of research and development in the field of artificial intelligence. More than 100 candidates from several European countries attended the conference.

TEXT AND PHOTO: Michaela Vráželová



# The meeting of the Alumni of the year 1968 was full of emotions

**Every year VSB – Technical University of Ostrava organizes The Golden Graduation Ceremony for former students, who can re-experience their graduation event, which took place fifty years ago. This year there were the graduates of the year 1968.**

At the end of September, 115 graduates from the Faculty of Mining and Geology, the Faculty of Metallurgy, and from Faculty of Mining Engineering, who graduated in 1968 met in the new Auditorium at VSB-TUO. Many of them met with their schoolmates after 50 years. The day before the ceremony, graduates were given the opportunity to see the premises of the university and learn how their alma mater has changed over the past

five decades. The campus guide roles were taken over by the students, who willingly answered the questions of the jubilee alumni. Current students not only listened to advice on how to study successfully, but they were even entertained by the funny stories from the school years, which, even with a distance of 50 years, continue to repeat in students lives. The following day, all the alumni gathered in the new Auditorium, where they re-passed their graduation ceremony. They were given a commemorative diploma, a commemorative yearbook and a small gift from the faculty at which they studied. There were also speeches of selected speakers for every faculty. The entire Auditorium was laughing at the funny stories which were told, and

many had to take out their handkerchiefs in remembrance of the educators, who no longer live today. After that, the graduates and their escorts went to the university refectory to gain strength for the afternoon program. This festive day will be remembered thanks to photos, starting with the photos of graduates with a diploma, through the ritual of throwing the caps up, to clinking glasses with champagne at the festive toast. And we are now looking forward to the next year, which will bring a lot of new memories from the alumni of our University from the year 1969.

---

TEXT: Šárka Sikorová  
PHOTO: Tomáš Sláma





# INVITATION TO THE GOLDEN GRADUATION CEREMONY

We invite cordially the graduates of the year 1969 to the Golden Graduation ceremony, which will take place on 20<sup>th</sup> September 2019 in the new Auditorium at VSB-TUO in Ostrava-Poruba.

Remind yourself of your student years at this exceptional opportunity, meet your former schoolmates and celebrate together your beautiful golden anniversary.

The day before the graduation ceremony, on 19<sup>th</sup> September 2019, you will also have the opportunity to see the university campus and learn a lot about our attractions. The programme and details will be specified to the participants.

We hope to meet you in great numbers! Contact us if you are a graduate or have friends or family members who have completed their studies at VSB in 1969. Help us get current contacts. Many of them are still missing.

Contact us at [alumni@vsb.cz](mailto:alumni@vsb.cz)

## This Year's Alumni Footprint belongs to Professor Jan Schenk

As a part of the Golden Graduation, the unveiling ceremony of a footprint graduate took place at VSB-TUO. The personality that received this important award was Professor Jan Schenk. In the context of this solemn event, speeches were delivered by the Rector Professor Snášel, the Dean of HGF Professor Slivka and of course by the award-winning Professor Jan Schenk. The accompanying programme was led by the VSB-TUO academic choir, which enhanced the pleasant festive atmosphere in front of the rectorate of VSB-TUO.

Professor Ing. Jan Schenk, CSc. was born on 12<sup>th</sup> February 1937 in Karviná. He studied at the VSB-TUO from 1955 – 1960 the subject of „Mining surveying“. After graduation, he joined the Department of

Mining Surveying and Geodesy. During his pedagogical and scientific research activities at the university, he also held a leading position at the Faculty of Mining and Geology. As a court expert, he elaborated a number of assessments on the effects of mining stops on the surface for the OKD mine-pits. He has been active in the Council of Mining Meters and Geologists and in the expert commissions of the International Society for Mine Surveying. He is an internationally acclaimed expert with a number of awards. He belongs to the esteemed authorities not only thanks to his professional qualities.

---

TEXT: Šárka Sikorová  
PHOTO: Petra Valášková





## The Night of Scientists is visited by the record-breaking 60 000 people

**This year, the Night of Scientists welcomed a record-breaking number of 60 000 people all over the Czech Republic. A busy programme attracted people to visit universities, scientific workplaces and libraries. At more than 30 locations in the Czech Republic, it took place on Friday, 5<sup>th</sup> October 2018. According to the organizers' statistics, this year's attendance exceeded by a total of ten thousand people the record public interest from the year 2017.**

The extensive programme thematically focused on the 100<sup>th</sup> anniversary of Czech science, took place from 5 p.m. In some places, due to the great interest, the advertised closing time had to be postponed from 10 p.m. to midnight. "We were extremely pleased with the record number of visitors, we

received feedback from the organizers from all parts of the Republic and we can see a number of positive reactions from the general public, especially on the social networks," says the National Action Coordinator Jitřenka Navrátilová. During the Night of Scientists, the workplaces are usually demonstrating the best and funniest activities from the scientific world. The accompanying activities involved in the event are not an exception. "In Ostrava's Dolní Vítkovice a giant live model of DNA was created in the morning, which was created by a total of 526 pupils of local elementary schools. During the evening, in the Moravian-Silesian Scientific Library visitors were most interested in special excursions to the large underground bookstores. Equally interesting were the activities of both universities," describes Jitřenka Navrá-

tilová on the programme of some places. In the course of the programme, a new record was also noticed at the Grammar School of Václav Beneš Třebízský in Slaný: "As part of the evening program, we created the largest exploding nitrogen foam in the national colours, and in addition, the whole school was full of experiments, lectures and workshops," reports one of the main organizers from the Grammar School in Slaný. The University in Pardubice put its bets on its well-known name and invited a scientist of British origin Michael Londesborough to join their programme: "The building literally burst at the seams under the onslaught of 1,300 visitors. The lecture room was filled up to the ceiling, in which Michael Londesborough presented his show on the topic of „Sound," adds Iva Svobodová on behalf of the University in





Pardubice. The Palacký University Olomouc was not left behind this year, where a program was prepared for the Night of Scientists for example at the Faculty of Science: “We are here for the third time this year, every year we love the program. My sons attend after-school classes in Chemistry and they are always happy to see something new. They were mostly interested in experiments and various puzzles,” said Jana Pokorná from Olomouc, a mommy of nine-year-old twins. Among the innovations that have proven to the organizers that are very handy to create and launch a mobile app for Android smartphones. The visitors could use them free of charge throughout the country, compile their own programmes and let the app navigate them into specific locations. It was created by designers from Palacký University in Olomouc. In cooperation with the National Coordinator, in the context of improving communication at a national level, the content was filled, and its functionality was ensured for all the places involved in this event. Thousands of new users have downloaded it to their phones before the event. “The next step where we worked intensively was on how to launch nationwide websites and uniform graphics. We have provided this to be used by all organizers across the Czech Republic. We wanted to unify the visual form of the event and streamline the work,” explains Navrátilová. In the coming weeks, the Ostrava team will be negotiating the possibility of acting in the role of national coordi-

nator for the Night of Scientists in the year 2019. “These days, negotiations are underway for next year’s Night of Scientists. Our team would like to apply again for the role of the national coordinator, followed this year’s news and deepen the tradition of this prestigious European event,” adds Navrátilová. The popularity of the Night of Scientists is still rising among the general public, among the visitors are not only students or professionals, but also families with children and people of all ages. „I would like to thank the partners in this place, without which the event could not be done. Their financial support and other areas contributed to its smooth course and allowed us to move a lot further. We look forward to cooperation in the next year,” stated Navrátilová in conclusion.

The Night of Scientists arose at the initiative of the European Commission in the year 2005 and its mission is the popularization of science and the personalities of scientists. One day a year, universities, scientific and research centres, science centres, and other workplaces are available at hundreds of places in Europe in the evening and night hours. In these places free guided tours, popular educational lectures, workshops, experiments, scientific shows, musical performances, etc. take place. The goal of the Night of Science is to break down myths about scientists as people closed in labs. Its aim is to show the general public that scientists are „ordinary people“, who work for the benefit of each

of us, they can introduce their work in a fascinating way, but they can also have fun. Scientists are lecturing the general public, demonstrating amusing experiments, organizing competitions, and all while actively engaging visitors. This year’s nationwide night of scientists was newly patronized by a group of 3 Ostrava educational institutions acting as the national coordinator (VSB – Technical University of Ostrava, University of Ostrava and the Science and Technology Center in Dolní Vítkovice). In the Night of Scientists 2018, there took part various departments from Prague, Brno, Ostrava, Olomouc, Pilsen, Pardubice, Liberec and Hradec Králové. Smaller towns, such as Rychnov nad Kněžnou, Dolní Dobruč, Děčín or Soběslav, were also represented.

---

TEXT: Archives of the Public Relations Department  
PHOTO: AVS VSB-TUO



# Who is Honza Voráček who became the face of the GREEN LIGHT campaign?

„We can make travelling with mountain bikes essentially easier,“ says Jan Voráček

**In the upcoming cycling season, the Czech market could expect news in the form of a vertical bicycle roof rack called El Styl. This roof rack can hold up to four mountain bikes and thanks to the special method of attachment, the wheels and car are not damaged. In contrast to competitive products, it promises easier and faster loading. Its creator is the biker and the Green Light Accelerator finalist Jan Voráček. We were wondering how the production of this prototype advanced and what the preparations for launching the roof rack on the market involve.**

Honzo, how does a biker get to manufacture roof rack for bikes?

It all started four years ago when I had to solve how to fasten bikes on my car. I liked the concept, which I had seen in Canada. But you could not find anything similar to

our market, so I developed my own solution. I had experience from a company that produced moulded metal components for the automotive industry. I know the manufacturing process from design to production, which helped me.

What benefit did the participation in Green Light bring to you and according to you, why should people be interested in setting up their own business centre for this competition?

Thanks to Green Light the project which I worked on alone for a long time turned suddenly into a real business. I had to start working on it intensively, perform my duties and meet deadlines. It turned me on and motivated me. I entered the Accelerator with a real product and I needed money. When I look back, I know that money should not be the main motivation. I gained excellent contacts and

links to the Moravian-Silesian Innovation Center and met very interesting people. When I am solving a problem today, I just pick up my phone and consult it with a specific person. This is the biggest benefit to me.

How has your project moved from the finals of the Green Light Accelerator in April?

We are just finishing two prototypes. We are dealing with surface treatment, developing workpiece by workpiece serial procedures to be sure that we will be able to produce that piece and achieve the required quality. One prototype will be designated for the certificate of the Ministry of Transport, which will approve the roof rack for normal operations, and the other one will be totally destroyed. We are waiting for stress testing under real conditions. Thus, we will find out about the driving qualities and about the quality of workmanship.



„Thanks to Green Light my project turned into a real business.“





The concept of the roof rack was consulted with the company CZ testing, to which we have obtained a contact during Green Light. We also plan a complete rebranding and change in our company name. In the future, we would like to rank among innovative companies, the roof rack is not the end.

#### How your roof rack differs from competitor products?

I have designed the El Stylo rack especially for mountain bikes so that they hang vertically side by side. All available roof racks are designed as 3 + 1; that is, the fourth bike is attached to the neighbouring bike using an adapter. They are all so close to each other that the handlebars are touching and there is a risk of damage. They are also unsuitable for cars with perpendicular ends, as they can bump into the rear glass. In the case of El Stylo, the bikes will be positioned in the rack with diagonal handlebars, to prevent their damage. You can just fix them in and go. It is a matter of a few minutes. Most parts are welded and have only a minimum of assembled connections, which can perhaps deter thieves. We are now testing its surface treatment to avoid rusting. We will manufacture the rack from steel, but in the future, we are planning an aluminium version. As for the weight, we are limited by the vertical load of a towing ball. We must follow the European legislation and National regulations.

#### What does the development of a prototype involve and who helps you with it?

I am working on the project with my dad who helps me with accounting. Selected companies prepare individual components for us, which we then have welded, treat the surface and we can start assembling. We wanted to keep the suppliers as close as possible, so we cooperate with companies in Moravia-Silesia, Olomouc and the Zlín regions. In their selection, I was helped by a knowledge of production technology. All manufactured parts are identical to those that will be used in series production. This gives me an idea about the price, quality and time of delivery. I also get advice from the free-riding legend Richard Gasperotti, who works with many bike and car brands. I consult quality with him, and he also helped me to find the proper forms of sales.



#### How did your cooperation with the university Protolab start and what it consists of?

I started with the design of the roof rack four years ago, but drawing was my weak point. Basically, I have been learning it for two years. I did not know how to convert ideas into paper. Then came the phase when I said that I had not enough time or knowledge of structures for that. I found a designer, but after six months of cooperation, only a disappointment came. I did not know whom to address, so I wrote to different sites, whether they could recommend me someone. Marek Pagáč from Protolab VSB-TUO answered my call. We made an appointment and agreed to cooperate. Protolab made some designs for us and also opposed some design solutions. It was in the middle of 2017. During this, I learned about Green Light. I knew that we needed finances urgently. We went there with a specific product. From the beginning, we were clear who our customers were, who we are targeting. We went with the finished model to the show Start-up.

When will people be able to buy your roof rack? Once we have received the required certificates and we will do the destructive test, we can enter the first production batch. We would, therefore, like to enter the Czech market sometime in March. At the same time, we have a whole next year to get certificates for European markets.

#### And where will your customers find your product? Are you planning to open your own shop or e-shop?

As for the method of sale, in the beginning, we counted on direct sale, but we have revisited this idea. We have the same target group as our car makers and bike manufacturers, without competition. So, we want to establish cooperation with them. It is better for us to get directly to the bike shops, where a customer can view the roof rack and try it.

TEXT: Veronika Meca  
PHOTO: Jan Voráček, CPI Archive

# Art and Science in practice



**Art and Science is not just the name of the annual event of the university presenting the relation between science and art, but it should be seen as a motto, which our university has been following for many years. Art has its place at the university, although it is a Polytechnic University in its nature. Under the auspices and support of the university, several artistic associations work in the form of non-profit organizations, which represent the university and offer leisurely artistic activities not only to the members of the academic community but also to those interested in Ostrava and its wider surroundings.**

Currently among the largest active artistic societies at the university belong the Silesian Ensemble of Helena Salichová, Orchestra of VSB-TUO, Academic Choir of VSB-TUO and Chorus Ostrava, operating at the Faculty of Economics at VSB-TUO. All these clubs perform at the university events, but they also often represent the university in our region and beyond. Who would not know, for example, the festival *Třebovický koláč*, which is organized by the Silesian Ensemble of Helena Salichová, or the competition achievements of both our choirs? It is certainly worth mentioning this year's performance of VSB-TUO's Art and Science, for which its members modified, rehearsed and presented a song with

Ivan Mládek, one of the main stars of the festival. The great experience was also at the last year's very successful joint concert of the orchestra and academic Choir of VSB-TUO, which is concrete evidence of not only the artistic qualities of both bodies but also the ability of their mutual cooperation. Our university music clubs are performing not only in popularizing events for schools and the public but also at major international conferences organized by the University. An example is the 20<sup>th</sup> Annual Conference IEEE Healthcom, a major conference in the field of EHealth and Biomedical Engineering, organized by the Department of Cybernetics and Biomedical Engineering in September this year. This conference was actively attended by more than 100 people, representing the 34 countries from around the world. As part of the social programme of the conference, the VSB-TUO orchestra presented both Czech orchestral music and pop music played by the great brass band orchestra. For their high-quality artistic performance, the orchestra was awarded a standing ovation by the audience. An integral part of the gala evening at the conference was the performance of the Silesian Ensemble of Helena Salichová with a dulcimer band. Conference guests learned more not only about our folklore but also for the first time in their lives, danced these dances with members of the ensemble. The conference also presented another

artistic area supported by our University. The conference participants could cast a conference souvenir – a plateau in the shape of a lime leaf under the professional guidance of the team led by doc. Ing. Petr Lichý, Ph.D. from the Department of Metallurgy and Foundries. This unique activity, which combined the traditions of our university with the fine arts, was greatly appreciated by the conference participants. In addition, a unique bronze commemorative plaque was created for the invited speakers, which was designed by Ing. Václav Merta from the above-mentioned workplace.

The conference was positively evaluated not only by its participants. Participating members of the Supervisory Committee of the IEEE Healthcom Conference, Prof. Norbert Noury and Prof. Nazim Agouline, praised not only the quality of the organization of the conference but also of the presented art clubs and activities supported by the university. "The high-quality artistic societies of your university, which presented their activities at the conference, demonstrate your social maturity. It was the best way to show that you are not just an excellent research and education organization, but also a living organism supporting quality art typical for your country and region. In particular, I appreciated the overlap of these activities successfully linking the academic community with the surrounding area. In the 20 years of the conference meetings, several times held in America, Australia, Asia and Europe, no organizational team has succeeded in more convincingly presenting the openness and cultural customs of visiting universities," states Prof. Norbert Noury in his letter to the conference organisers. All university cultural clubs are open for the whole academic community. For example, the manager of the VSB-TUO Orchestra Ing. Jan Mančík claims: "We are open to players of every age and all skill levels. Just come to the rehearsal and try it."

TEXT: Martin Černý  
PHOTO: Tomáš Sláma





## Tech Run 2018

**On Wednesday, October 3, 2018, the third annual charity running race “Tech Run” was held on the campus of VSB-TUO. This year it was held in the very windy autumn weather, which complicated the preparatory work to the organisers in the areas of the start and finish. At a formal meeting of the Scientific Council of VSB-TUO, all proceeds from the entry fee were submitted by the Rector of VSB-TUO Prof. RNDr. Václav Snášel, CSc. to the International Organisation of Doctors Without Borders, which provides professional medical assistance to people at risk and in the event of crises.**

The main races at 5 and 10 km were preceded by an accompanying children’s run, which was attended by 40 children of school and preschool age, competing

under a massive encouragement. In the finish, they were all rewarded with a chocolate medal and a small gift for their sporting participation. The fastest ones then came to the podium and from the hands of the Rector, they received the award for the winners. A total of 173 competitors from students, employees and graduates of VSB-TUO built the starting line of the track, which led them through the campus of VSB-TUO to the adjacent forest park Myslivna, past the Observatory and Planetarium buildings. The winner of the male category at 5 km was a student at FEI Adam Gaura reaching a time of 18:39 min.; the women’s part of the race for 5 km was dominated by a student at EkF Adéla Pěchová at 25:26 minutes. In the second part of the race, with a track of 10 km, there participated 54 competitors, among which there was also the

Rector of VSB-TUO Prof. Snášel. An excellent time of 36:55 min. secured the victory for a student at HGF Marek Chrascina in the male category, and in the female category, the gold medal and victory was achieved by Magdaléna Drastichová at 50:45 minutes. The best team, according to the times reached by its members, was declared to be VZS Ostrava, represented by Aleš Velička, Jan Stoszek, Robert Hegedüs and Petra Schwarzová. For complete results and information, visit: [technikarun.cz](http://technikarun.cz)

We thank all involved for their financial support of the organization of Doctors Without Borders and we will look forward to your participation next year.

TEXT: Martin Kapsa  
PHOTO: Tomáš Sláma

# Confucius Classes

## Chinese language courses in Confucius classes at VSB-TUO were opened!

The first year of Chinese language courses at VSB-TUO are being offered and the number of applicants is rising. In the context of cooperation between VSB – Technical University of Ostrava and Chinese Hebei GEO University Confucius Classes were created, with the main goals not only on learning the Chinese language, but also to get acquainted with Chinese art and culture. Confucius classes at VSB-TUO is one of 400 similar institutions involved in the international network.

On 6<sup>th</sup> November 2018, Confucius classes were introduced at a lecture for the study programme U3A at the Faculty of Mining and Geology, in the course of the subject Views of Selected Countries of the World, which was focused on China this year. In the course of this subject, lectures were held focused on landscape, geology, tourism, culture, history and Chinese medicine. The Confucius classes were invited to a further lecture by Mr Vlastimil Dobečka, a graduate of Chinese philology, an expert on Chinese calligraphy and also a maker of traditional seals. In the lecture, students were acquainted with calligraphy and its individual species and techniques, which Mr Dobečka demonstrated, and the students could then try to write Chinese characters. A demonstration of the creation of Chinese seals followed, at which Mr Dobečka gave students e.g. stamped symbols of happiness, longevity or life harmony. Chinese language courses are running from November 2018, in cooperation with the Department of Languages at VSB-TUO. Course participants will learn to write and understand up to 150 Chinese characters. Activities in courses will include group exercises and an introduction to the Pinyin system of writing. Students will be encouraged to



be able to respond verbally in solving basic problems in everyday life and lead simple conversations in Chinese, e.g. use greetings, for orientation, talk about work and study, order food in a restaurant, for shopping etc.

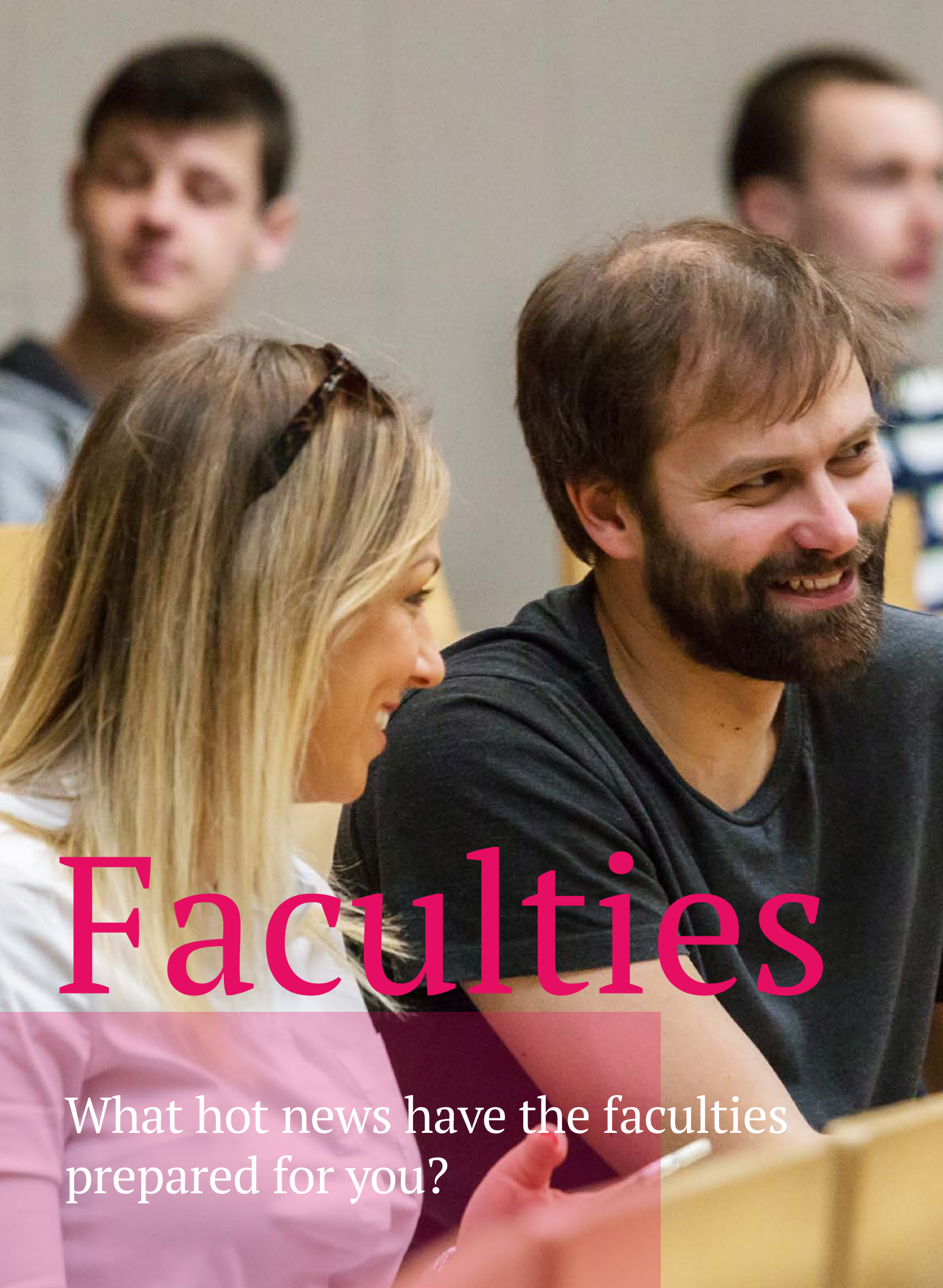
In addition to courses, at VSB-TUO it will be possible to attend lectures on art, Chinese medicine and acupuncture, Taichi – a Chinese martial art and other interesting topics. For students and staff of our University, these courses will be for free. For the public, prices

will vary from 4 800 CZK to 6 000 CZK. More information on courses Confucius classes at VSB-Tuo are available on the official website of the university and also on the Facebook pages named Konfuciova třída, VSB-TUO.

---

TEXT: Kristina Hoblíková Nguyenová  
PHOTO: Tomáš Sláma





# Faculties

What hot news have the faculties prepared for you?

# A collection of historical survey instruments of our academician František Čechura

**The Institute of Geodesy and Mine Surveying at the Faculty of Geology and Mining, VSB – Technical University of Ostrava uniquely houses the oldest „Inventory list of surveying instruments and teaching aids“. It was founded by the official approval of Land Authority in Prague on 30<sup>th</sup> April 1929. This “Inventory list“ contains 139 numbered folio pages and it was compiled by Bohuslav Vrbický. For the then Institute of Geodesy and Mine Surveying, it is signed by academician František Čechura (1887–1974), who established this collection of unique mine surveying and geodetic instruments and devices during his career in Příbram. The first item in the “Inventory list“ is the Kraft’s complete plane table with a surveying chain from the company J. Schablass in Vienna. This surveying plane table was probably bought around the year 1906 since the record shows the year when the table was modified to a metric measure.**

The collection consisted of 25 early pieces of equipment, products by Tesdorpf, Stuttgart, such as e.g. a repeating theodolite, chains, table levels and other objects. As recorded in the “Inventory list“, the first exhibits of the emerging collection date back to the year 1896. Under today’s conditions, the oldest device is a mirrored goniograph from 1877 produced by the company Müller in Trieste. The continuously refilled collection has been focused from the outset on unique historical but also modern contemporary instruments, including instruments for geophysical measurements. Until 1945 the “Inventory list“ contained 372 items. After 1945, thanks to great student growth, the equipment and instruments in the collection grew significantly. The collection of surveying

instruments, including the apparatuses and equipment for teaching to the year 1964 increased, in accordance with the “Inventory list“, by 184 pieces of new instruments and aids. The instruments were obtained as gifts or bought. Part of the equipment was also manufactured by its own institutional workshop. In the following years, the number of instruments and equipment grew again. From 1964 to 1972 another 253 pieces were added, and in the period 1973 – 1982, at the end of the “Inventory list“, the number of inventory acquisitions was 123 types of surveying equipment and aids. The “Inventory list“ ends with a sequence number 932 - so many historical surveying devices, including teaching equipment, which the then “Department of Geodesy and Mine Surveying“ owned in total. The historical collection itself now includes, according to the newly established separate inventory catalogue (compiled by Hana Štěpánková) 407 items. We can find in it 200 different theodolites, tachometers, levelling instruments, but also counting machines, compasses and other surveying kits and aids. After the gradual replenishment of modern instrumentation technology, today’s set of geodetic and geophysical instruments and equipment is a unique

European and world collection. This collection was moved several times. The first removal of the collection was held in the context of the removal of the Mining University from Příbram to Ostrava in 1945. The Department of Mining Surveying and Geodesy was then located in the buildings of the former Teaching Institute in Silesian Ostrava – Hladnov. In these premises, the collection remained until 1964, when the development of the school forced the construction of a new building on Chitussiho Street in Silesian Ostrava, where the Department moved in with its collection. In 1972 the collection of surveying instruments, and the whole warehouse of surveying devices and aids was moved to the former Faculty of Metallurgy in the centre of Ostrava. Only in the year 1976, it was moved for the last time to the new premises of the VSB-TUO campus in Ostrava-Poruba. In 1987, on the occasion of 100<sup>th</sup> anniversary of the birth of the F. Čechura, the whole collection was newly arranged and inaugurated, and made available to students and the professional public, and was renamed after its founder.

TEXT: Ing. Gabriela Ovesná  
PHOTO: Josef Polák





# The second oldest faculty has a new name

**The second oldest faculty of VSB – Technical University of Ostrava has a new name. From the Faculty of Metallurgy and Materials Engineering, it was changed into the Faculty of Material Science and Technology.**

“The new name of the faculty should better describe its current focus,” its Dean Prof. Jana Dobrovská justifies its need for change“. The original Faculty of Metallurgy was renamed the Faculty of Metallurgy and Material Engineering almost thirty years ago. From that time on, however, it has grown in scope and this name did not correspond to the full extent of its focus. As the only faculty at VSB-TUO that also deals with chemical technologies, this new name describes this fact better. It should be more

understandable even for potential new students. “Students can choose from our extensive range of programmes. Technologies are developing fastly forward nowadays, and we are a part of this development process at the level of basic research and in industrial applications,” its Dean sums up the essence of the faculty. The faculty also includes a unique workplace, a Regional Material-Technology Research Centre. It focuses on the preparation of highly purified materials, special alloys, biomedical materials, the development of materials for high-temperature applications and energetics and further solutions of material technological problems.

Changing the name of the faculty is a rather demanding legislative act, preceded

by a long discussion within the academic community at the faculty. In the end, the Faculty of Material Science and Technology won from the suggested variants. It was then approved at the Faculty’s Academic Senate, and later at the university’s „big“ Senate, and finally the amendment was submitted to the Ministry of Education. The new name of the faculty is valid from 23<sup>rd</sup> October 2018.

TEXT: Archives of the Public Relations Department



## Quality management for the 21<sup>st</sup> century

| JAROSLAV NENADÁL A KOL.

MANAGEMENT KVALITY  
PRO 21. STOLETÍ

On the 18<sup>th</sup> September 2018, there was the latest publication of a group of authors from the Department of Quality Management at VSB-TUO by the publisher house MANAGEMENT PRESS. This book is dedicated to contemporary concepts, approaches, methods and tools of quality management development, directed from the mere quality of products and services to the quality and excellence of whole organizations. It responds to trends that are unquestionable from a global point of view, but not always accepted and actively supported in our conditions. The book emphasises aspects related to the development of people’s knowledge, the measurement of process performance and entire organisations,

planning and the improvement of quality. The authors also have not forgotten the effective integration of management systems, based, inter alia, on the social responsibility of organizations and the assessment of risks and opportunities. In this context, current trends and quality management links are presented to logistical and other support processes as are the perspectives of quality management development in the conditions of Industry 4.0. The publication is an important source of knowledge for university students, in particular for technical and managerial disciplines and programmes.

TEXT A FOTO: Archive of Faculty of Material Science and Technology

# Looking back at the conference

## Mechanical Engineering Ostrava 2018

The 12<sup>th</sup> year of the traditional conference Mechanical Engineering Ostrava 2018 took place this year on the 10th October at the VSB - Technical University of Ostrava. The National Engineering cluster in cooperation with the Faculty of Mechanical Engineering chose a topic for joint meetings of researchers and representatives: “Research and development at universities – opportunities for Czech engineering”.

In three blocks, representatives of VSB-TUO, ČVUT and VUT in Brno held their presentations. In their contributions,

they presented the focus of the Faculties of Mechanical Engineering in the field of research and development, completed projects, achieved outputs significant for current engineering and gave examples of successful cooperation with industry. They talked about new trends in the industry, new technologies, which will affect its further development, in particular in relation to Industry 4.0, which are currently the subject of research at technical universities. Increasing demands on digitisation and robotization in production, for intelligent manufacturing machines, their programming, advanced computer simulations, effecti-

ve use of additive technologies, all these lead to new requirements to orientate research projects and education itself to these areas. Modern engineering is interfering with many other related scientific fields. This leads to the need for closer cooperation among universities, and between universities and industrial companies.

---

TEXT: Sylva Drábková

PHOTO: Archive of Faculty of Mechanical Engineering

# The success of PhD students and undergraduates at the European Rover Challenge

A team of postgraduates and students from the Department of Robotics at the Faculty of Mechanical Engineering at VSB-TUO (R. Pastor, A. Vysocký, P. Široký, D. Heczko, L. Káňa, D. Huczala, J. Jochec, P. Oščádal) took part at the international (global) competition of mobile robots called the European Rover Challenge 2018. In this competition of 65 teams, they achieved an excellent 5<sup>th</sup> place, although their participation in this competition was a premiere for them. In addition, the team received a special jury award for the overall active and positive approach to the competition, the good design of its robots and at least a partial fulfilment of all assigned tasks.

The competition in manipulation consists of the art of controlling the buttons and switches, and from a collection of bulk samples, the weighing and evaluation of their several properties. All this is done under the strict control of commissioners. In addition to completing all tasks, the Rover team had to take care of the weight of the entire structure. “Moreover, we determined our own rule, which is also the basis of robotics. And this is that a robot must not be wider than a standard door. Thus, the robots then have no problem in reaching wherever they need. Then there are a number of rules for the competition itself,” explains Ing. Široký (MSc in Engineering). From the handling of swit-

ches and buttons, through the precise inserting of a plug into a socket, up to the transport of an item to the right position, and the autonomous ride of a robot. During that the person controlling the robot orients using sensors and scanners placed on the robot. “As we have already mentioned, one of the tasks is to take a sample. This year, the target was 150 grams and depending on how close we get to the limit, the points were deducted or added,” adds Ing. Široký.

---

TEXT: Archive of the Faculty of Mechanical Engineering



# The graduation of Chinese students

**In June of the academic year 2017/18, the traditional ceremonial graduation of Chinese students took place, who graduated from the Faculty of Economics in the bachelor's degree and the follow-up master's degrees in the field of Finance.**

In the academic year 2017/2018, the bachelor's degree programme in this field was successfully completed in the English language by a total of twenty-five students, one with distinction. In the follow-up program with a master's degree of study, a total of twenty-one students completed the study. This educational programme at the Faculty of Economics in the programme focused on Finance was opened for the Chinese students in the academic year 2011/12. Up to now, a total of one hundred and thirty-five Chinese students have successfully completed their bachelor's degree; a total of sixty-four Chinese students were enrolled in the postgraduate degree of study (initiated only in the academic year 2012/13). The study programme of Finance at the

Faculty of Economics is studied by Chinese students from the Hubei University of Technology in Wuhan under the so-called double-degree programme. This program allows students to get a diploma at their domestic University of Wuhan as well as at the Faculty of Economics. In the academic year 2018/19, the study of the Finance in Bachelor's degree programme within the double-degree program was joined by thirty-four students, the Master's degree programme in the same field was attended by nineteen Chinese students in the first year, and in the second year by seventeen students.

A total of seventy students in the academic year 2018/19 study at the Faculty of Economics in the bachelor's and the follow-up degree of study, in the doctoral study, six Chinese students were admitted, and they started to study there. So, in this degree of study, there are eight Chinese students. It is positive that graduates of master's degree continue in the next degree of education and devote themselves to finance in the docto-

ral study. „I have decided for a doctoral study at the Faculty of Economics of VSB-TUO because I want to teach at a university in the future. While studying in the Department of Finance, I have always appreciated in particular that the study combines theoretical knowledge with practical experience. I believe that the knowledge gained during my studies can be further deepened in the doctoral study,“ said Anlang Wang, a first-year doctoral student of the Finance field. Her classmate Lun Gao adds: “For me, the study at the Department of Finance EkF VSB-TUO was very beneficial and enriching. This is why I decided to continue my doctoral studies at the same faculty and to further deepen my knowledge. I believe that during the three-year doctoral study I will manage to conduct good quality research in a selected area with solid results. “

TEXT: Dana Dluhošová

PHOTO: Archive of the Faculty of Economics





## Start of constructing of a unique building called CPIT TL3

**VSĚ – Technical University of Ostrava inaugurated the construction of a unique building, which will include not only a digitised educational production line, a so-called Smart Factory but also the premises of Biomedical Engineering for Home Care and the modern laboratory facilities for Electromobility. The basic foundation stone ceremony was held on Monday, June 24<sup>th</sup> September 2018 at 12 o'clock at the VSĚ-TUO Poruba campus, next to the tennis courts.**

From the construction investment from our university's point of view, it is a timeless laboratory platform for the practical teaching of modern study programmes from the field of Industry 4.0, home care and the automotive industry. This is a unique investment activity with a budget exceeding EUR 160 million CZK. The building will house the

latest technologies, i.e. a sophisticated building management system, the possibilities of monitoring and control of energy flow and many other areas. With an integrated, extensive network of sensory systems, the new complex will be part of the structure of buildings, enabling high volume data transfers and the storage of large data. The construction together with the co-existing infrastructure is conceived as a comprehensive and open educational testbed or test polygon of the Faculty of Electrical Engineering and Computer Science at the VSĚ-TUO, which will also be a platform for interfaculty cooperation and further cooperation with major university partners, primarily with VUT and ČVUT. As one of a number of attractions placed in the new building CPIT TL3, we can mention flats for home care, thus, for the practical application of new technologies from biomedical engineering.

ring, there will be apartments with permanent residents, who will be monitored during their normal daily activities. The result of this project will be new solutions due to biomedical engineering, e.g. new applications of unique sensory systems for households with follow-up instruction of continual methods and algorithms for processing, transmission and the storage of large data, respecting the criteria of so-called, cybersecurity. A laboratory complex with the designation CPIT TL3 will be implemented in the framework of the project „Platform of new technologies of the Faculty of Electrical Engineering and Computer Science at VSĚ-TUO CPIT TL3“.

TEXT: Petr Šimoník  
PHOTO: Petr Sznepka



# Brick Throw – A new tradition at the Faculty of Civil Engineering

**The beginning of a pedagogical year at a university does not necessarily mean just stress and bustle. Proof of this is a new tradition, founded this year at our Faculty of Civil Engineering. It's called BRICK THROW and its main purpose is a playful and nonviolent way to involve freshmen in the events of the university.**

The historical first attempt was done by the Dean Prof. Ing. Radim Čajka, CSc. with an imitation brick made of polystyrene that was cast at 7.23 meters. Under massive encouragement, not only

students were involved, but also other teachers in other throws. The victory in the category of women was shared by Lenka Lapašová from the first year of the Faculty of Civil Engineering and Iveta Veličková, a third-year student at Faculty of Safety Engineering, who both reached 8.60 meters. Among the men, the winner was a second-year student of the Master's Programme at the Faculty of Civil Engineering Tomáš Krejčí who reached 11.40 meters. The rich program also included two concerts, a book release entitled *Dřevěné mosty a lávky* (Wooden bridges and footbridges)

and laboratory experiments with the shredding of mobile and helmets. In the end, everyone could hear the lecture of two travellers, Martin Chlebík and Jiří Molo, from their expedition *Japonci na konci* (Japanese at the end), who travelled part of Europe and the whole of Asia with the logo of the Faculty of Civil Engineering at VSB-TUO placed on the bonnet of their vehicles.

---

TEXT: Marek Hýža  
PHOTO: Petra Valášková



# Representatives of VSB-TUO academic Masters of the Czech Republic

**On Thursday, 4<sup>th</sup> October 2018, the 5<sup>th</sup> year of the Open academic Czech championship in TFA (Toughest Fire-fighter Alive) disciplines was held on the campus of the student dormitories at VSB-TUO in Ostrava-Poruba.**

The championship welcomed a total of eighty male and female students from Czech and Slovak universities and secondary schools. The Open Academic Championship of the Czech Republic in TFA was opened jointly by the Rector of VSB – Technical University of Ostrava, Prof. RNDr. Václav Snášel, CSc., Vice-dean for the pedagogical activities at the Faculty of Safety Engineering (FBI) doc. Ing. Šárka Kročová, Ph.D., the bursar of VSB-TUO Ing. Gabriela Mechelová and the Head of the Department of Physical Education and Sports doc. RNDr. Irena Durdová, Ph.D. The academic championship was held under the auspices of the deputy mayor of Ostrava. The competition was divided into 4 sections. The total time was given by the sum of the partial times of each part. Time was measured by a professional timer, which was lent by the Fire Rescue Corps of the Moravian-Silesian Region (HZS MSK). In a single start, two competitors were competing with each other, dressed in a three-layer intervention suit, and with an intervention helmet and breathing apparatus as a burden. In the first section, the contestants had to connect 2 hoses B 75 to the fire transfer syringe and spread the hose line 2 x B 75 with nozzles up to a distance of 40 m. The subsequent discipline of the section contained the roll-up of two hoses B 75 to a single strap and their storage in the box. The second – the force section - started for the contestants with fifty blows by a hammer in the hammer box and continued by carrying a 20 kg weight tunnel back and forth. It was followed by the transport of a dummy weighing 80 kg a distance of 40 m and overcoming a barrier 2 m high. This section was completed by the contestants without breathing

apparatus. The contestants started the third section by transferring and standing two sets of unfolded ladders, subsequently, they climbed to the scaffold and pulled up weights of 30 kg. The section was finished by connecting the nozzle to a fire monitor. In the last section, the contestants had to run up the 13 floors of A building dormitory, wearing a complete emergency equipment with breathing apparatus on their backs. In this great competition of 44 competitors, the male category won the local son Dominik Příhoda (VSB-TUO, FBI) with the grand total of 4:16,60 from all the four sections. The second place was taken by Petr Miřátský (Charles University) and the third place by Ladislav Babinský (Technical University of Zvolen). The women's category in the competition of twenty ladies was dominated by local daughter Kateřina Vodičková (VSB-TUO, FBI) reaching a time of 5:26,52. Second place was also taken by a local competitor Denisa Vápeníková (VSB-TUO, FBI), third place by Tereza Tmejová (Brno University of Technology) and fourth was also a local competitor Kamila Tkáčová (VSB-TUO, FBI). The category "Relay – Men" was dominated by a local team consisting of Jakub Zejda – the first section, Jakub Baca – the second section, Walter Groer – the third, and Dominik Příhoda – the fourth (VSB-TUO, FBI). The entire track was mastered with a respectable lead in a time of 4:34,09. Second place was taken by the relay team of the University of Žilina with a time of 4:55,71 and the third place by the relay team of Brno University of Technology with 5:05,75. In the category „Relay – Women“ the home team relay won, consisting of Denisa Vápeníková – the first section, Barbora Homolová – the second section, Kamila Tkáčová – the third, Kateřina Vodičková – the fourth (all from VSB-TUO, FBI). The women managed the whole track in a time of 5:29,40. The second was the female relay team from the University of Žilina with 6:33,23 and the third place was taken by a relay team from Tomas Bata

University in Zlín. Academic Masters in all categories for the year 2018 become competitors from VSB-TUO, and for the women's relay team, it is for the third time. The contestants won a total of 4 gold and 1 silver medals. The organization of the event was traditionally done by VSB-TUO, Faculty of Safety Engineering, in cooperation with the Czech Association of Academic Technical Sports and FRS MSR. Cups and medals were handed over jointly by the Regional Director of FRS MSR brig. gen. Ing. Vladimír Vlček, Ph.D., and the Dean of Faculty of Safety Engineering at VSB-TUO, doc. Ing. Jiří Pokorný, Ph.D., MPA. The Open Academic Championship was inaugurated by playing Czech and student anthems.

TEXT: Walter Groer PHOTO: Kateřina Vodičková







PLANETÁRIUM  
OSTRAVA

uvádí

# Dobrodružná cesta k planetám

Planety Sluneční soustavy jsou fantastickými světy, které budou v budoucnu nabízet pozemšťanům spoustu vzrušujících zážitků. Horolezci na Marsu budou zdolávat strmé svahy údolí Valles Marineris a největší sopky Olympus Mons. Výzkumníci budou prohledávat balvany v Saturnových prstencích, zkoumat metanová moře na měsíci Titanu a doletí až do mrazivého království trpasličí planety Pluto. Vydejte se s námi do těchto světů a prožijte dobrodružnou výpravu plnou vzrušení a nových objevů!

[www.planetariumostrava.cz](http://www.planetariumostrava.cz)



Planetarium Ostrava je součástí Hornicko-geologické fakulty  
VŠB-Technické univerzity Ostrava

Provoz Planetária Ostrava finančně  
podporuje statutární město Ostrava

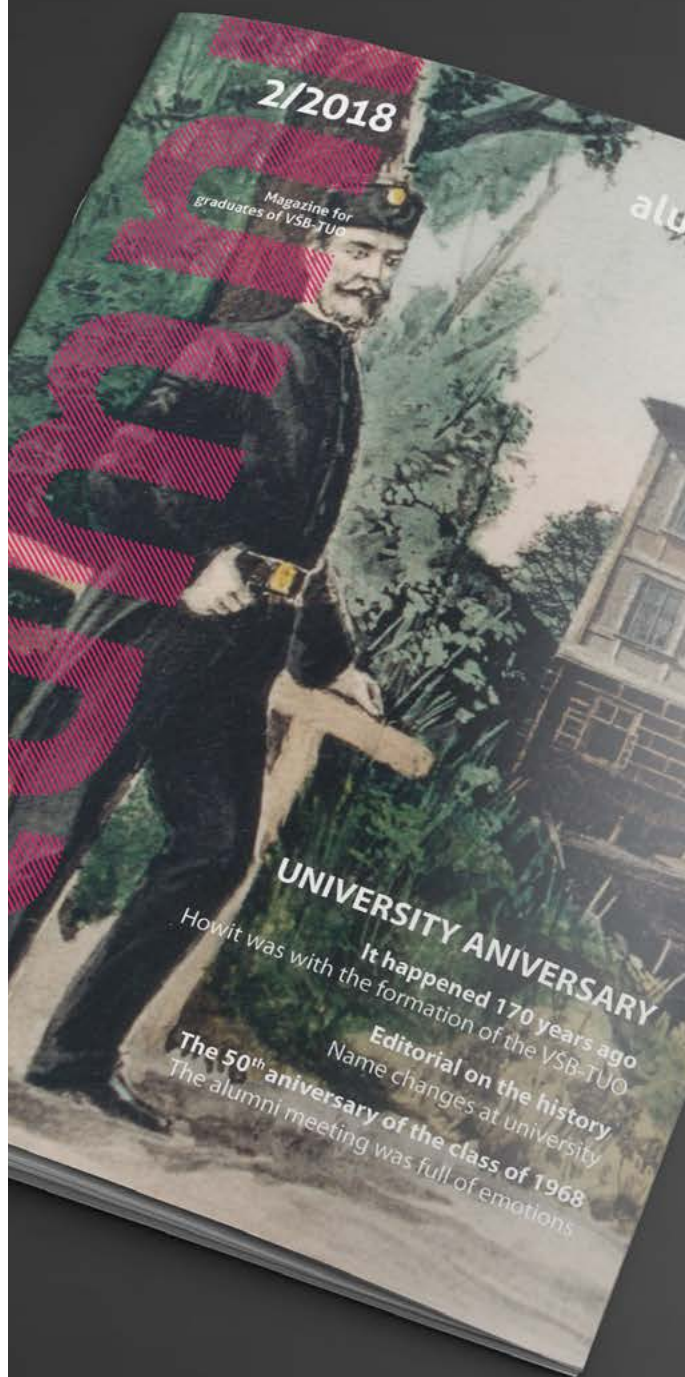
**OSTRAVA!!!**



# alumni

ABSOLVENTI  
VŠB-TUO

A diploma  
doesn't  
have to  
mean the  
end.



**Czech version**  
of Alumni  
VSB-TUO  
magazine  
available at  
**alumni.vsb.cz**

 [alumni.vsb.cz](http://alumni.vsb.cz)

 [facebook.com/alumniVSBTUO](https://facebook.com/alumniVSBTUO)