

Michal Holčapek

received the Award of the Rector of the University of Pardubice

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On the title page: prof. Michal Holčapek. Photo: Petr Špaček



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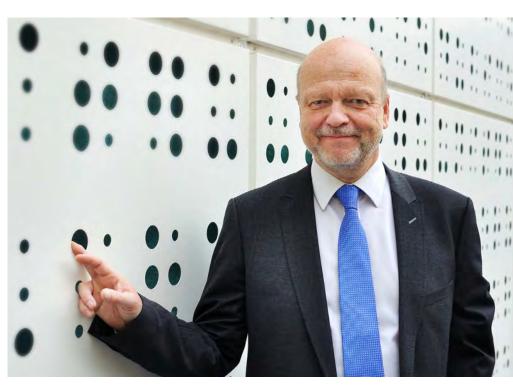
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Our story doesn't end there ...

Dear readers.

each of us celebrates certain milestones or jubilees a little more than other anniversaries. In human life, 70 years is a great reason to celebrate and also an opportunity to consider what we have accomplished, what we have achieved, and a moment when we remember the people that have passed through our life and influenced it.

In the history of a university, 70 years is also a reason for reflection. As the Rector of the University of Pardubice, I perceive this anniversary above all as a moment for acknowledgement and for an appeal with which I would like to address all of you.

70 years ago, the Chemical College, the predecessor of the Institute of Chemical Technology and the current University of Pardubice, was established in Pardubice. Our whole university community is proud, and rightly so, of the history of chemistry, its successes, its great reputation in the Czech Republic and in the world, its scientific teams and high-quality teachers and, of course, excellent students and graduates.

Each of our seven faculties has its own path, which has been evolving for decades and belongs to our common history. Let us therefore celebrate together that here, in the very beginning of the 1950s, after the war, fine foundations were laid for higher education, for our entire university. Let us show together that this university has a lot to offer and that these are very

interesting areas in which we can educate our new students very well. That we can communicate well with each other in many ways, come to agreements with our partners and that we have something to be proud of. We are one of the TOP 1.000 schools in the world, one of the best in our country and more than 40,000 araduates are proof that we have sent a whole city of educated people into the world who will never forget their alma mater. You, teachers, classmates and all the professions that make up our community will never be forgotten.

In the civilized world, university education or employment at universities is highly recognised. The opportunity to pass on one's knowledge at the highest level is considered meaningful lifelong work and any progress in scientific research as a benefit for all mankind. We too must be able to respect ourselves, our work and studies, the work of our colleagues and the role each of us has at this university. I think now is the right time to realize it.

Today is the first day of the rest of your life. It can be the first and a better day of their life with the University of Pardubice for many. The first day when you see yourself and others with different eyes. Be proud, as employees, students and graduates. As the rector, I am proud of you.

> Your rector. prof. Jiří Málek





Philosophy needs a varied diet



THE HEAD OF THE CENTRE FOR ETHICS – A SWEDE WHO HAS LIVED IN PARDUBICE FOR THREE YEARS – EMPHASIZES THE NEED FOR A VARIED DIET IN PHILOSOPHY AS ONE APPROACHES SOME OF THE MORE BURNING TOPICS IN ETHICS AND POLITICAL PHILOSOPHY TODAY. "INTRODUCING DIVERSITY AND LEARNING TO LOOK AT THINGS FROM A VARIETY OF PERSPECTIVES IS INDEED, I THINK, A CENTRAL THING THAT WE SEEK TO DO. I DON'T THINK ONE CAN TEACH CRITICAL THINKING WITHOUT THAT, AND WITHOUT CRITICAL, OR SELF-SUFFICIENT, THINKING, PHILOSOPHY IS DEAD."

How did a Swedish philosopher end up in Pardubice?

I started to work here in July 2017. A few years earlier, Kamila Pacovská called me and asked if I was interested in a project application she was working on. I had met Kamila a couple of times before that, and liked her and what she had to say in philosophy; plus her project idea looked really good, so it was very easy to say "yes!" At that point the idea of moving to Czech Republic was very abstract, and I must admit that I wasn't really expecting that we would get the grant to start up the Centre.

Why?

These grants are very large and the competition is fierce. Plus, the work we do at the Centre is a bit outside the mainstream, which means that the chances of landing a major grant is even harder. So I wasn't really prepared for this move. I remember being very surprised when Kamila called me and said, "So, it looks like you're moving to Czech Republic!" That came as a bit of a shock. But, there wasn't really a question of turning it down. It's a great project and the Centre has developed to a marvelous research institution. I am extremely happy I was given the opportunity to be part of this.

What kind of research is being done at the Centre?

The Centre consists of more than a dozen researchers and eleven doctoral students from around the world. It is very difficult to say anything about all the research we are currently doing. We tried to get philosophers who work on different things and come from different traditions and schools of thought. I do not want to say that there is no

unity in what we do. But it is really important to me that philosophy should be diverse and multifaceted.

What does that mean?

Philosophy needs "a varied diet," as Ludwig Wittgenstein said. People who think there's just one kind of philosophy that's good, or philosophers that lock themselves to one idea, or one philosopher, tend to become dogmatic rather quickly. Of course, I have my own demons that haunt me, and my own somewhat idiosyncratic ways of going about in philosophy, so I don't think there's a simple way out of such temptations.

This is perhaps an odd way of describing "what we are doing here." But introducing diversity and learning to look at things from a variety of perspectives is indeed a central thing that we seek to do. I don't think one can teach critical thinking without that, and without critical, or self-sufficient, thinking, philosophy is dead. In a way, that already sets us apart from many other philosophy centers. We are not alone in tackling some of the more urgent topics that philosophy has to deal with today – like nationalism, populism, the idea of human value, and so on and so forth – but I think that the aspiration to address topics such as these from a manifold angles, and without starting off from a predetermined philosophical method or school of thought, sets us apart from many other research programs.

What are your thoughts about in these strange times?

The pandemic situation is a very difficult topic to address. For starters, we are still in the midst of it! But philosophers

rose to the challenge quickly, and we have already seen some rather interesting discussions. Some of the more pertinent ones relate to the notions of communality and solidarity, and our relations to our neighbors. We have been forced to learn just how much we are in this together. In terms of the concept of "neighbor," I think many people learned that one's neighbor is not merely someone who lives next door, but a person from the other side of the world, and that animals are, in a complicated sense, our neighbors too.

The priority of the individual that is characteristic of contemporary society has really been challenged by Covid-19 as well. It has also changed our perspective on some necessities that were previously considered impossible. I am thinking, for example, about the climate crisis. It has been said that it is absolutely impossible to reduce pollution, and close down air traffic, and so on and so forth. But, as it turns out, when your life is at stake, and not merely what's in your wallet, reducing the number of flights rather drastically turned out to be possible after all! But I am worried about the impatience that I feel in myself and see in others. I fear that people will be quite eager to go back to the way things were before the crisis. So perhaps one should focus a bit on patience at the moment. Learning slowly is clearly underrated.

You come from Sweden. Where did you work?

I did both my undergraduate studies as well as my PhD at the University of Uppsala. At that time, I was very fortunate to study under professors that were very extremely broad in their interests and open-minded. And I also spent a couple of semesters at the University of Chicago – both as a visiting PhD student and as a Fulbright Researcher. Both Uppsala and Chicago are institutions I have learned a lot from

My most recent job, before coming here, was at the Helsinki Collegium for Advances Studies (HCAS). Again, a very broad institute, where scholars from all kinds of disciplines meet. In many ways a fantastic place. I think I have been fortunate (to the extent that this is not intentional) to have been able to study and work at places where philosophy is not practiced as an introvert discipline, more or less hostile to life.

The Centre for Ethics employs people from all over the world. What is their mutual cooperation like?

That's one of the things I really love about the Centre. We come from all over the world. This means that we have a gigantic well of experience and cultural heritage and backgrounds to rely on. It brings about a very natural and necessary form of self-reflection. One's own ignorance and prejudices sometimes come clearly into view. One may, for example, realize that things that one took for granted as, say, a Swede, are not taken for granted by others. Sharing a philosophical space with people from all over the world just brings about so much joy, and so much food for thought. Perspectives and experiences collide and bounce off each other. And that's a very good thing.

Which philosophers are your favourite?

I have some philosophers that I engage with the most. Some of them are Iris Murdoch, J.L. Austin, Stanley Cavell and Ludwig Wittgenstein. These thinkers are, I think, in my bloodstream, even if I don't necessarily write about them explicitly. But I don't want to put myself forth as specialist in this or that person's philosophy. I don't think of myself as an exegetical philosopher. I mean, my dissertation

was about the French philosopher Jacques Derrida. After that, I wrote my monograph on Iris Murdoch. And my most recent book is on J. L. Austin. And in-between my monographic works, I have written about a great number of thinkers from different traditions and on very different topics as well. And, should you read my texts, you would see that they are also very often only exegetical on the surface. I try to get the other's thoughts right only in order to think clearly myself.

Which Czech philosophers do you like?

To be honest, I am not very well versed in Czech Philosophy. The one I know the best is the most known: Jan Patočka. I have also started reading and writing a bit about Václav Havel, and I have found that immensely interesting and rewarding. This is related to the effort of trying to learn about and understand another country and its culture and heritage. It has been very good for my own thoughts about conceptual change, to be able to relate this to Havel's (and to a lesser extent Hejdánek's) thinking. But I am not explicitly a phenomenologist like Patočka and I am not a political thinker (or non-political thinker) in the way Havel is.

Are you planning to return to Sweden when the project ends in 2022, or stay in the Czech Republic and continue your research?

I don't know yet. It is really important for me that the Centre lives on and remains a place for good and serious research. So I will never (I hope) cut my ties to it completely. I have two daughters, and they will need to spend the most decisive years in school in a country and language they feel at home. And that is something I can't, and indeed will not, disregard. But, as I said, I plan to be involved in the continuation of the Centre no matter what.

How do you like Pardubice?

I like Pardubice. It is a nice city, and the cultural heritage here, as well as in the rest of Czech Republic, is simply amazing. Plus, the Centre members have all become close friends to me, so this is a very nice place to be at. Usually, Prague is only an hour away, and we are forced to travel a lot in contemporary academia. So, under normal circumstances, I don't feel locked up here. Similarly, we are very fortunate to have quite generous funding to invite people here and to arrange conferences and workshops. This has enabled the world to come to Pardubice, which is quite fantastic actually. But this has also changed quite a bit now, when we only get to see the world through our laptop screens and monitors. So, Pardubice, like all other places in the world, is colored by the pandemic. And I look forward to the world opening up again.

What Niklas Forsberg says about himself

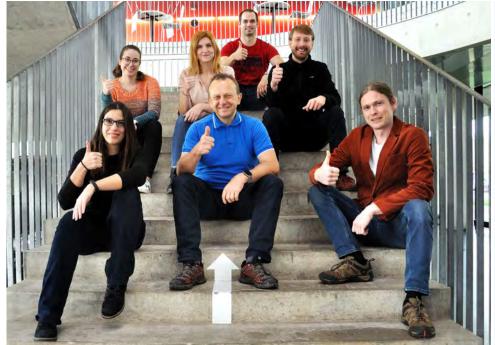
I am a Swede, a father of two, brought up philosophically in Uppsala (Sweden), and to a lesser extent Chicago (USA), who has spent a number of years in Helsinki (Finland) before coming to Pardubice. Like most academics with kids, "hobbies" is a concept that seems a bit out of place. There's neither time, nor energy for it. But I do hammer the piano every now and then, and music has always been central to me. I am no good, but it's a place for both contemplation as well as a space where I can let go of some steam. We have a country house in Sweden where I try to spend as much time I can during the summers.

TEXT: Věra Přibylová/ PHOTO: archive of the University of Pardubice



A heaven-sent idea

HE NEVER READS THEM. PROFESSOR MICHAL HOLČAPEK IGNORES AIRLINE PROMOTIONAL MAGAZINES. HE WAS GOING TO DO SO THIS TIME AS WELL. AN ORDINARY FLIGHT AND ANOTHER ATTEMPT TO SHORTEN YOUR TIME WITH WHAT IS AT HAND. MUSIC, FILM, BEER? AT THAT TIME, HOWEVER, THE ANALYTICAL CHEMIST DID PULL A COPY OUT OF HIS SEAT POCKET. AND HE GOT AN IDEA THAT GAVE HIS RESEARCH A NEW GOAL.



Scientific team (top): Ondřej Peterka, Zuzana Vaňková, Michaela Chocholoušková, Jakub Idkowiak. Denise Wolrab, Michal Holčapek, Robert Jirásko

It was May 2010 when he boarded an airline between the US cities of Phoenix and Salt Lake City. "I was upset that beer had to be paid for on a domestic flight in the USA, so I reached for the magazine instead. Among the commercials, an extensive popular science article about cancer captured my attention. As I was thinking at the time about how to use our methods for lipid analysis in practice, and cancer was one of the ideas, the article came at the right time," recalls the scientist. When he got off the plane, he already knew that he would use the idea to prepare an ERC grant.

An article ripped from the pages of an airline promotional magazine travelled back to the Czech Republic with him. Michal Holčapek applied for a grant, which he won with the new vision, and went on to implement the ground-breaking idea for another ten years. During that time, his scientific group successfully tested and described the possibility of detecting certain types of cancer (pancreas, prostate, kidney and breast) at an early stage based on lipidomic blood analysis. Thanks to its discovery, the top chemist and graduate of the University of Pardubice has become one of the 60 best analytical chemists in the world this year (The Power List 2020 in The Analytical Scientist journal). For the third time in his career. Their research went furthest in pancreatic cancer. This year, he was granted a European patent for the innovative method. A very quiet killer. One of the possible labels for pancreatic cancer, which does not have any symptoms for

a very long time. One has no idea that he/she is ill. When doctors detect it, the disease is at such an advanced stage that it gives the patient only a minimal chance of surviving. Diagnosing it in time could save many lives. The method based on the analysis of lipids (fats) that indicate the disease is almost complete. But there is still a long way to go to use it. "We now need to find a financially strong partner who will help with the so-called clinical validation. The real benefits of our diagnostics must be verified before they can be approved for use in practice," Michal Holčapek explains that it depends on testing and especially on doctors whether they will eventually consider the method beneficial in the sense that it will really give early-diagnosed patients a chance to live longer or be cured "They may find that the 90 percent success rate it shows is actually low for large groups of patients," he says, holding back enthusiasm a little. It was the discovery from the University of Pardubice that gave hope to thousands of people, many of whom did not hesitate and contacted the scientists. Most of them ask him to test them with his method now

"Behind every email or phone call is a personal story of a person, a family. Very personal. And I know we can't help more now. Holding a patent only means that our method is unique. I will only help if my group continues to work intensively to put the method into practice as soon as possible. It's still a run for the next few years," says a man who has always liked sports in addition to chemistry, soberly

evaluating further development. Football, hundreds of kilometres running under Kunětická Hill or cycling. However, there is also something he doesn't enjoy that much. Too much popularity and attention.

"I had already been too often in the media when even the saleswoman in the bakery congratulated me. I want to focus on my work, I really don't want to be a media star," he says apologetically, refusing further interviews. He prefers it if attention is paid equally to his entire scientific team, which he carefully assembles. He is gradually inserting young scientists from all over Europe into it as precious stones. The last time he chose a new student from Poland to join a promising female scientist from Austria, a female colleague from Italy will come in January. Even world research and endless intensive exploration must be lightened and humanized from time to time. This is evidenced by funny labels on the doors of the team's offices or the names that team members give to analytical instruments. A mass spectrometer as Drogon or John Snow and a liquid chromatograph as Daenerys Targaryan? Is that familiar to you? Then you must also be a fan of the popular series Games of Thrones.

"Whenever and wherever it is, I'm still writing something down," Michal Holčapek reveals why he feels uncomfortable with no laptop at hand. He takes it with him to football, at night it waits on the bedside table. One never knows when an important idea will come to show direction. Just like then on the plane.

Erasmus has been here with us since 1998

The Erasmus+ program has been running at the University of Pardubice since 1998. As part of the program, the University cooperates with more than **200** universities in 29 countries throughout Europe. Thanks to Erasmus, our students go to foreign universities, and more than 100 of them complete their stay every year. In the comparable period 2010 2019, it was even 1,350 students

About 200 foreign students come to the University of Pardubice every year as part of the Erasmus+ program, spending an average of one semester, i.e. several months here. In the years 2010 - 2019, about **1,650** students came to the University, mostly to the Faculty of Economics and Administration and the Faculty of Arts and Philosophy. Most often interested in a study stay in Pardubice are university students from Spain, Portugal, Greece, Turkey, Belarus, Serbia, Italy, Poland or Romania.



Regensburg enchanted me, I continued my studies

Monika Snítilá

A year ago, I went on an internship to Regensburg, Germany, where I was part of a coordination team at the Czech-German Centre. I definitely have unforgettable experiences with my roommates and from the Bavarian beer festivities. Regensburg fascinated me so much that I started my master's degree study there a year later.

Filip Holík

So that I didn't have to deal with commuting in Lancaster, I ran 7 kilometres to the faculty every day and 7 back again. Thanks to that, when I returned, I also won a running race. I lived with a professor teaching English at the university. He was a vegetarian and had an unusual condition. He wished the tenant in his house wouldn't cook or eat meat. I didn't mind at all, I got along very well with him and I enjoyed the evenings when we prepared vegan dinners together. Veganism has become a part of my life, which I have decided to share on my blog.





Miloš Kolář

I am experiencing my second stay via the Erasmus program. I am currently in Greece, and it is completely different from the first time in Madeira, mainly because of the pandemic. The biggest experience for me was climbing Mount Olympus, the highest mountain in Greece, which rises to 2,918 meters. We managed to cover a total of 26 kilometres of challenging terrain and the hike with a group of students from Erasmus in a single

František Kučera

I studied in Vilnius, Lithuania, and thanks to the openness of the people, it was the best 6 months of my life. I experienced the sea with an umbrella, celebrated Halloween, wrecked a kayak, changed my clothes for a dating party with an unknown girl, saw incredibly beautiful nature, participated in many sports competitions, visited the surrounding countries and many other things. It forced me to live my life to the fullest.



life to the fullest and I wrecked a kayak



Karel Formánek

For me, a stay in Finland meant four months of new experience, but also learning and acquiring new knowledge. Can you imagine 20 people from 12 different countries living on one floor preparing a Christmas dinner together? So, imagine that, and also the day when everyone goes together to a sauna by a lake and jumps into the water at 4 degrees. Or they decide to ride their bikes on a peninsula not far from the city. And then the experience of coming out of the cottage and seeing the aurora ... You just can't believe it. Erasmus changed my life, and if I could, I would get back to this period.

Dominika Hladká

I was at Erasmus in Valencia, Spain. Although I experienced a lot of strange moments associated with the coronavirus crisis, for example, I was in the hospital with a sore throat and eventually the doctors talked to me through the glass in my private room, the trip strengthened me a lot. I made a lot of friends from all over the world, gained confidence in my Spanish and saw concerts on the beach at sunsets among the palm trees. I will definitely return to Valencia.



I gained my confidence, I will return to Valencia



in Pardubice

Barbora Rambousková

Thanks to Erasmus, I made contacts that allowed me to start a career outside our country, specifically in Madrid, Spain. While doing my Master's degree, I received an offer to participate in an international work published by Cambridge Scholars Publishing. This allowed me to contribute to it with the results of my research so far and I got an opportunity that others can wait for several years.

Arthur Demaeght

I spent the last year of my studies at the University of Pardubice. This experience allowed me to make many friends and complete my studies in a different but pleasant environment. Although Pardubice is a smaller city, you can easily make friends with other students from abroad and get to know the city better. I spent my one-year stay at the University writing a diploma thesis and I very much appreciate the help of my professor from the Faculty of Transport Engineering, who was always ready to help and understood any questions or problems I was solving.



TEXT: Aneta Krejčík Plšková/PHOTO: archive of the students





BECOMING A CHEMIST. WHEN DID YOU THINK OF THAT? Studying chemistry was just something that came naturally to me. I have always been attracted to the natural sciences. In high school, I gravitated towards astronomy and physics, but I also participated in mathematical and chemical Olympiads. Later also a correspondence course in chemistry, organized by the University of Chemical Technology in Prague.

I WAS LUCKY TO MEET PROFESSOR TICHÝ. HE ARRANGED THE TOPIC OF MY DIPLOMA THESIS WITH DR. BLANKA WICHTERLOVÁ FROM THE JAROSLAV HEYROVSKY INSTITUTE OF PHYSICAL CHEMISTRY OF THE CZECH ACADEMY OF SCIENCES IN PRAGUE. IT WAS WHERE I CAME ACROSS ZEOLITES, WHICH I HAVE SINCE BEEN RESEARCHING.

The high school chemist was convinced of my chemical thinking. Instead of chemistry classes and a chemical block of specialized subjects at the high school, he arranged for me to undergo practical training at the Institute of Chemical Technology here in Pardubice. I found myself at the Department of Organic Substances Technology with Associate Professor Jeník in Doubravice. I helped graduates with the synthesis of basic azo compounds for their diploma theses and literally had a taste of proper chemistry (laughs). By the time it came to applying for a university, I had already made up my mind.

I UNDERSTAND THAT THERE WAS NO OTHER CHOICE. WHAT **BRANCH OF CHEMISTRY DID YOU STUDY?**

It was not organic chemistry, which certainly came into consideration, but physical chemistry. It was where chemistry met physics spiced up with mathematics. Then, back in the early 1990s, the Department of Physical Chemistry was coming back to life after the void of normalization and the Husak regime. It tried to pick up the threads of languishing and severed contacts and cooperation. I was lucky to meet Professor Tichý. He arranged the topic of my diploma thesis with Dr. Blanka Wichterlová from the Jaroslav Heyrovsky Institute of Physical Chemistry of the Czech Academy of Sciences in Prague. It was where I came across zeolites, which I have since been researching.

BLANKA WICHTERLOVÁ. DOES SHE HAVE ANYTHING TO DO WITH THE CHEMIST AND INVENTOR OTTO WICHTERLE? Yes. She is his daughter-in-law, the wife of his son Ivan Wichterle.

WAS IT THE ACADEMY OF SCIENCES WHERE YOU WERE FIRST INTRODUCED TO REAL SCIENCE?

Yes. I was excited, so I decided to continue working with Dr. Wichterlová even on my dissertation. After defending my doctorate, I left Pardubice for a short time to continue with her team. But as soon as an opportunity arose to return to the department, I took it.

DID YOU FIT IN STRAIGHT AWAY?

There was a huge generational gap in the department at that time, but fortunately it was headed by two amazing professors (Prof. Karel Komers and later Prof. Josef Tichý). They gave us the novices, me and my colleague Pavel Čičmanec, a huge amount of freedom. So, we started to build our own experimental apparatus and equip the laboratories according to our ideas.

WHAT ELSE DID THAT FREEDOM BRING FOR YOU?

We immediately participated in teaching and lecturing and were able to gradually prepare our own courses. Our peers in other departments never dreamed of anything like that. Thanks to the cooperation with Dr. Wichterlová, I won my first grant projects. I was allowed to start building my team and develop research into zeolites and, later on, other purposefully designed porous materials.

LET'S TAKE A CLOSER LOOK AT THOSE ZEOLITES. WHAT ARE THESE SUBSTANCES?

Chemically, zeolites are aluminosilicates, i.e. inorganic substances commonly found around us, in dust particles, in soils, rocks

WHAT IS IT THAT MAKES YOU SO INTERESTED IN RESEARCHING THEM?

They are exceptional in their structure. Unlike quartz, for example, they do not have a compact character, but they look like a porous sponge or foam. And not just any, because the pores and cavities in the structure of zeolites have a precisely defined size of molecular dimensions (i.e. in the order of 10-10 m), creating a complex and regular labyrinth. In addition, the crystal lattice of zeolites is negatively charged due to the presence of aluminium in the structure. This charge must be compensated by positively charged ions, which can be easily replaced in the zeolite with different ones. This gives them fascinating properties, which are widely used.

CAN YOU GIVE US ANY EXAMPLES?

They act as ion exchangers to soften water in laundry detergents. But not only there, zeolites were used to remove radioactive isotopes of strontium and caesium from seawater after the accident at the Fukushima Daiichi nuclear power plant. They are used as desiccants and adsorbents for the separation of substances, but it is especially their catalytic properties that the whole technology of oil processing and fuel production is based on. We currently know 250 different species of zeolites. Each of them is unique in terms of the shape and size of the pores and the way in which the pores are guided by the crystal, whether they intersect or not, whether they form cavities...

ARE THOSE CAVITIES IMPORTANT?

These labyrinths of channels and cavities provide a high specific surface area and in their confined spaces the molecules of substances behave differently than in free space. This greatly affects two very important physicochemical phenomena associated with the interaction of free molecules with these surfaces, namely catalysis and adsorption.

THEY ACT AS ION EXCHANGERS TO SOFTEN WATER IN LAUNDRY **DETERGENTS. BUT NOT ONLY** THERE, ZEOLITES WERE USED TO REMOVE RADIOACTIVE ISOTOPES OF STRONTIUM AND CAESIUM FROM SEAWATER AFTER THE ACCIDENT AT THE FUKUSHIMA DAIICHI NUCLEAR POWER PLANT.

To give you an idea, I'll explain it by an example of adsorption. Zeolites tend to "absorb" large amounts of gases. The zeolite can hold up to 100 times more gas than it is in air of the same volume as the zeolite. And often the zeolite "chooses" only a certain type from the mixture. It is a bit reminiscent of the fairy tale about Long, Broad and



Sharpsight, in which the Broad drank the sea. But to top it all, ours, zeolitic, is also picky.

HOW MANY OF THOSE 250 KNOWN TYPES WILL CHEMISTS USE AT WORK?

In practice, we use only 18 types of zeolites, i.e. less than 10 percent of all known types. This does not mean that others are useless, they are just not yet properly researched.

WHAT ARE YOU ENDEAVOURING TO DO IN YOUR RESEARCH? We focus on the study of the nature of surface phenomena, catalysis and adsorption within zeolitic pores and their use. Due to the huge variability of zeolitic structures, our effort is to obtain detailed information about the relationship between the structure of zeolite and its properties. By understanding these relationships, we would gain a tool to predict the properties of zeolites without having to perform costly and time-consuming experiments. We are thus straddling between the material sciences and physical chemistry with a deep immersion in basic research. Cooperation with theoretical chemists helps us tremendously. But at the same time, we are looking for suitable applications in the catalysis and separation processes for the studied materials.

Roman Bulánek's team:

A relatively small team of two academics – professor Roman Bulánek and associate professor Pavel Čičmanec two researchers - Ing. Eva Koudelková and Ph.D., Ing. Jan Vaculík. Two post-docs in the group – (Ph.D. researcher up to 35 years), Dr. Yosra Gherib and Dr. Safaa Essid. The team is complemented by students – a Ph.D. candidate Mehran Sajad, two students in the final Master's year Jirka Kotera and Jakub Halamek who continue their doctoral study, and also two undergradute students - Marek Hutira and Michal Kočí.

WHAT EXACTLY ARE YOU WORKING ON WITH YOUR TEAM NOW?

We always have several topics developed, which we work on parallelly. It is in these months that we are focusing most intensively on a new type of zeolite. Coincidentally, it was discovered and prepared for the first time here in the Czech Republic in the group of Professor Čejka of the Faculty of Science, Charles University.

WHAT DO YOU ALREADY KNOW ABOUT THIS ZEOLITE?

We found in it a very efficient separation of two industrially important hydrocarbons produced in huge volumes. Their distribution is one of the most energy-intensive separation processes in the entire chemical industry. Our material is able to separate these hydrocarbons by adsorption at room temperature and atmospheric pressure. With insignificant energy costs, compared to fractional distillation used in industry now. In recent weeks, we are completing verification experiments and preparing a European patent application for this process.

WHO DO YOU WANT TO AIM AT WITH YOUR RESEARCH?

The results of our research push the boundaries of our knowledge about the nature of adsorption processes and the behaviour of molecules within the confined space of channels and cavities in porous materials. So, this is a basic research that will primarily attract professionals working in the same field. However, the phenomena we study are the essence of many chemical processes used in industry. This brings us close to the application. For example, a few years ago, we participated in the development of a silica-based microfibre material that exhibited very interesting adsorption properties and is patented.

SO, WHAT ARE THESE MATERIALS USED FOR TODAY?

They are tested in several companies in various processes. One of the companies that have showed interest in them is engaged in the production of so-called dryboxes for storing sensitive electronic components and chips. With them, it is necessary to keep the humidity of the environment low and constant. Our fibres have better properties than the silica gels currently in use and could replace them. In another company, they are testing our fibres in air purification and treatment plants in plants where there is a high evaporation of organic solvents that need to be removed. I believe that other processes in which microfibres could be used will gradually appear. However, their introduction into operations is a long-distance run. It is necessary to cooperate with a number of other experts and companies. It is not possible to implement everything within one research team.

HOW IMPORTANT IS IT TO DIVIDE THE WORK IN THE TEAM? It is essential. Our research is based on a combination of data from a number of experimental techniques that complement each other. So, each of us is in charge of several devices or apparatus. We then compare the obtained results and subject them to critical analysis at joint sessions. It's often like detective work. From the clues and indirect indicia, we have to put together the whole picture and understand what we see in it.

YOU ARE THE TEAM LEADER. IS IT DIFFICULT TO CONNECT **INDIVIDUAL TEAM MEMBERS TOGETHER?**

It's not easy. I think there is still room for improvement in this regard. As the team leader, I try to be the organizer of the work, to keep abreast of the individual problems solved and their status. I want to manage the work of

the team so that we make the best use of time and equipment capacity. A number of costly experimental techniques are necessary for our research. So, an integral part of my work for the team is also obtaining grants and financial support from various sources. I have to write projects, maintain and develop collaborations and contacts with other research teams in the Czech Republic and abroad. Modern research cannot do without wider cooperation.

YOUR TEAM IS EXCELLENT.

This means that our results have attracted attention and gained acceptance. It made me happy. I see this as a sign that we are on the right track and that the honest work of all current and past team members has paid off.

TELL US ABOUT YOUR RESULTS...

For example, we have discovered a new, hitherto unknown type of adsorption complexes, described its properties and defined the conditions under which these complexes can form. As a result, we have managed to explain some anomalies in the behaviour of zeolites, the interpretation of which had not been successful until then. This is one of the results that I really appreciate, because it is not one partial trifle, but a generally valid rule. It has allowed us to explain a number of older experimental observations of our predecessors and predict a number of other phenomena, which are gradually being confirmed.

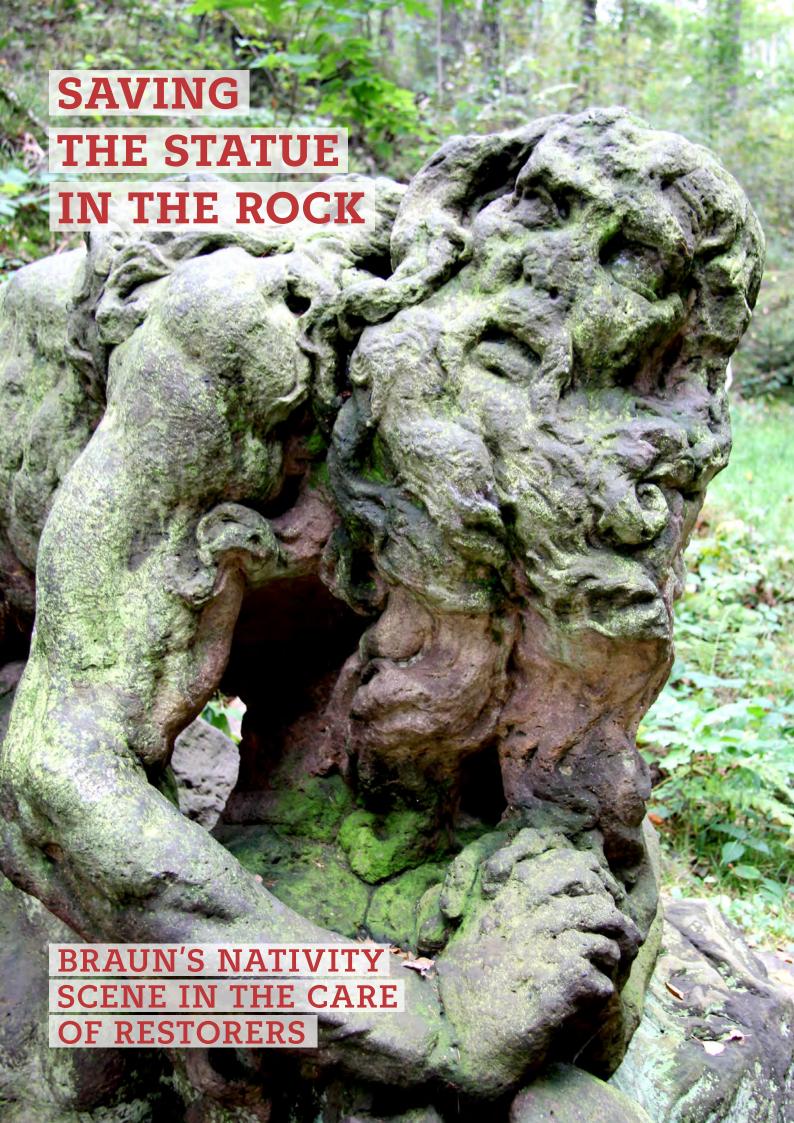
WHAT GOAL DO YOU HAVE AS A SCIENTIST?

Vilém Laufberger, the greatest Czech physiologist second only to Purkyně, stated with simplicity and depth of genius: the aim of a scientist is to move from the personal register to the material register. I'm not aiming that high. If some of our results are applied in practice and contribute to streamlining a process or mitigating its impact on the environment, I will be satisfied. I would like us to be able to maintain a friendly and creative atmosphere in the team, to enjoy and satisfy us as we have so far and to never run out of ideas and... good coffee (laughs).

prof. Ing. Roman Bulánek, Ph.D. (*1971)

He graduated from the Faculty of Chemical Technology, University of Pardubice. In 1995 he received the award of the Czech Chemical Society for the best diploma thesis in the field of Technology. After defending his doctorate, he went to the Academy of Sciences of the Czech Republic for a short time and in 1998 returned to Pardubice. In 2008–2015 he was the head of the Department of Physical Chemistry. In 2015, he became a professor of Physical Chemistry. He is now the leader of an excellent team of the University and with his colleagues he studies the nature of surface phenomena, catalysis and adsorption taking place inside zeolites. He says of himself that he is a bookworm. He reads a lot and is proud of his library with a study, which he built next to his house as a separate building. He is interested in history (as well as the history of chemistry), especially the period of the 16th and 17th centuries, when modern Europe and modern natural sciences were formed. He likes taking pictures of landscapes, especially the wild nature of the north and mountains. He spent almost a year of his life behind the Arctic Circle on various expeditions. Now he can't wait for his children to grow up so that they could set out together.

TEXT: Věra Přibylová / PHOTO: Milan Reinberk





It is one of the top examples of Baroque Landscape sculpture. And not only in our country. Hidden in the forest of Nový Les near the Kuks Hospital, it attracts thousands of visitors every year. The Nativity Scene by Matthias Bernard Braun is nearly 300 years old. Yet, despite having been able to withstand the elements for centuries, the unique sculpture carved into stone could perish in a few decades without the regular care of experts. And they are the students and experts from our Faculty of Restoration who will now take care of this national cultural monument

The origins of this complex, which lies between the towns of Dvůr Králové nad Labem and Jaroměř, fall into the times of count Franz Anton von Sporck. The Nativity Scene was meant to become a part of his residential and spa palace. These works of art were created between 1722 and 1732. At present, they are all severely damaged due to their age, weather, climate change, and partly even vandalism. "It is probably the statue of John the Baptist which has been affected the worst, because what remains is only its torso. Also the statue of reclining Mary Magdalene is in a very bad condition," describes the current state of the sculptures Associate Professor Jakub Ďoubal from the Faculty of Restoration, the University of Pardubice. The statues and reliefs in Nový Les are unique in that Matthias Bernard Braun carved them into solid rock right on the spot. According to the head of the Studio of Restoration

and Conservation of Stone and Related Materials, it is an extraordinary piece of work. "As to its scope, design, and sculptural conception. It is the highlight of Baroque art on a European scale," says Jakub Ďoubal. One wonders if an expert approaches such a piece with even greater sensitivity and caution. And whether s/he is thinking about how important monument s/he saves. "It's not so important if you're restoring a national cultural monument or an ordinary cross somewhere in the fields. You're always bound by great responsibility," explains the restorer.

Missing parts are left incomplete, we will see a torso

The experts from the University of Pardubice have already been involved in the restoration of individual sculptures. This time, they will perform the overall maintenance of all preserved sculptures and provide

subsequent regular care of them. "Our plan is to involve the students from all vears of the Studio of Restoration and Conservation of Stone and Related Materials, which is about sixteen people. We should clean all the statues from vegetation and dirt, and secure their risk parts to prevent further damage to the piece of work," says the university teacher. It will be necessary to strengthen the eroded parts and secure all fissures to prevent the separation and loss of their parts. In doing so, the experts draw on their experience in previous maintenance and the NAKI project of the Ministry of Culture. The output of the project, led by the Faculty of Restoration, is mainly the possibility of cleaning and setting up the long-term care, including the possibility of slowing down the growth of algae, mosses and lichens on the stone surface. The restorers will not complete the missing parts of the monument

but only preserve it. "Braun's Nativity Scene will be presented in its ruinous form even after the restoration. The degree of cleaning will be chosen so that the relief stands out and no damage occurs. At the same time, we'd like to maintain a certain degree of patina," explains Associate Professor Ďoubal. He thinks that a restorer should always discuss with conservationists and the administrator of the site how to present the work as well as the main values are, which s/he should and do her/his best to preserve them.

Slow down the growth of mosses, prolong lifetime

The most important thing for the experts is to prolong the lifetime of this extremely important monument as much as possible. "The best strategy is to provide regular maintenance and monitoring, which enables us to respond to current situation in time. It's much better than the steps taken in many other cases - that is to leave the monument to its fate and when it eventually comes to the state of emergency, perform a large and expensive reconstruction," says the expert. The restorers will check the monument every year. They will evaluate its state, perform final cleaning if necessary, and apply protective biocidal spraying. This should slow down the growth of mosses and lichens. The mapping should result in further steps and restoration interventions on specific works.

TEXT: Věra Přibylová/PHOTO: Faculty of Restoration archive

Originally, the set of the sculptures was a part of the whole complex of buildings and landscape elements, of which only a part has survived to this day. The sculptures in Nový Les near Kuks were complemented by other buildings and sculptural works. However, many of the buildings have disappeared - among them also the chapels of the Finding of the Holy Cross and the Exaltation of the Holy Cross. Similarly, the Hermitages of St Paul and St Anthony, including the lookout pavilion and the piscina with a fountain, have perished, too. Some of the parts have been preserved, but they have been transported elsewhere. For example, the statue of St Anthony, formerly situated by the hermitage, is currently in the museum in Jaroměř. The statue of St Jerome in the Desert has been moved by the conservationists to the garden of Kuks Hospital. Also the torso of the statues of Hagar in the Desert and hermit Garinus' dog have been removed to Kuks.







Filip Bureš's excellent team plays with carbon atoms

CHEMISTRY WON HIM OVER AT THE ELEMENTARY SCHOOL UNDER THE TATRAS. HE VIVIDLY REMEMBERS THE FIRST VISITS AND EXPERIMENTS IN THE CHEMISTRY DEPARTMENT. WHEN HIS FATHER ALLOWED HIM TO BUILD A SMALL "LABORATORY" AT HIS COMPANY IN LANŠKROUN, HE BEGAN TO DEVOTE HIMSELF FULLY TO HIS FIELD OF INTEREST. TODAY, PROFESSOR FILIP BUREŠ WORKS AT THE FACULTY OF CHEMICAL TECHNOLOGY, WHERE HE AND HIS TEAM DEVELOP NEW ORGANIC MATERIALS THAT CAN BE USED ESPECIALLY IN ELECTRONICS. THEY NEED TO BE POWERFUL, ACCURATE, WITH LOW POWER CONSUMPTION. IN SHORT, THEY NEED TO RUN LIKE CLOCKWORK.





His group is part of the Institute of Organic Chemistry and Technology and as such focuses primarily on anything that revolves around carbon (and other elements). "We try to make the organic molecules developed in our Institute have a function. In general, we focus primarily on organic electronics, which is a key field for the development of today's electronic society," says Professor Bureš. These are things that practically everyone carries in their pockets or wears on their wrists today, we can use them for lighting, to transfer energy and facilitate a number of other activities. What Professor Bures's group deals with, i.e. the active organic layer, is usually hidden from the average user, but without it, it would simply not work. "It is, for example, a clearly readable display with fast response, a colour light emitting diode with low energy consumption, a high-capacity, yet miniature battery, a solar panel with a high rate of light-to-electricity conversion, a fast and reversible molecular switch, sensor or detector," adds Filip Bureš to give you an idea of a few practical examples.

Our work is like a Lego puzzle

It is these electronic devices that today's society places enormous demands on. Especially for their performance, high and specific function and low consumption. However, few people realize that every improvement practically begins and ends within the limits of Professor Bureš's fascinating active layer, which mediates the effect. And so, their research goes practically from the end.

"We know what material and what function we want and we choose a suitable organic skeleton accordingly, and then we purposefully modify it so that it brings the desired function," explains Professor Bureš. "Simply put, imagine a Lego kit. You have a pile of cubes and it only depends on you and your creativity what you will build from them and what the function, size, shape and shape of the product will be. Our "cubes" are individual atoms, which we are able to purposefully combine into molecules through organic synthesis and then further modify and tune to the desired result and function," he adds. In general, they therefore design and tune, for example, organic push-pull molecules, optically active organic molecules or volatile inorganic-organic molecules.

Inspired by photosynthesis

However, they are also very intensively involved in the new field of photoredox catalysis. And it is for this field that they have recently developed a unique simple catalyst with a function similar to that of chlorophyll. Do you still remember the principle of photosynthesis? "Plants are able to perform the chemical transformation of carbon dioxide and water into sugar using a green pigment – chlorophyll. The plant is a kind of natural laboratory where organic synthesis can be performed using light," Filip Bureš describes the discovery principle in a simplified way, adding that photoredox catalysis allows organic chemists to perform chemical reactions under very mild reaction conditions.

"The reactions do not need to be heated for a long time and are only irradiated with light in the presence of a very small amount of catalyst. In essence, this directly converts light energy into the energy of chemical bonds. Practically, you only need to mix the starting materials, add the catalyst and put the flask behind the window on a sunny day. In addition, flow arrangements can be used to continuously produce drugs and many other important organic substances. For example, immediate and permanent access to antimalarials in Africa can be solved easily and cheaply with photoredox catalysis."

The alpha and omega of success is therefore cooperation with the application sector, not only externally but also within the group. And this was exactly the case with the optimization of the catalyst synthesis and its pilot verification. "We are able to prepare the catalyst from cheap and available raw materials on a multigram scale, and we also already have a partner for its commercial distribution. In addition, we will protect the developed technology with a European patent," emphasizes Professor Filip.

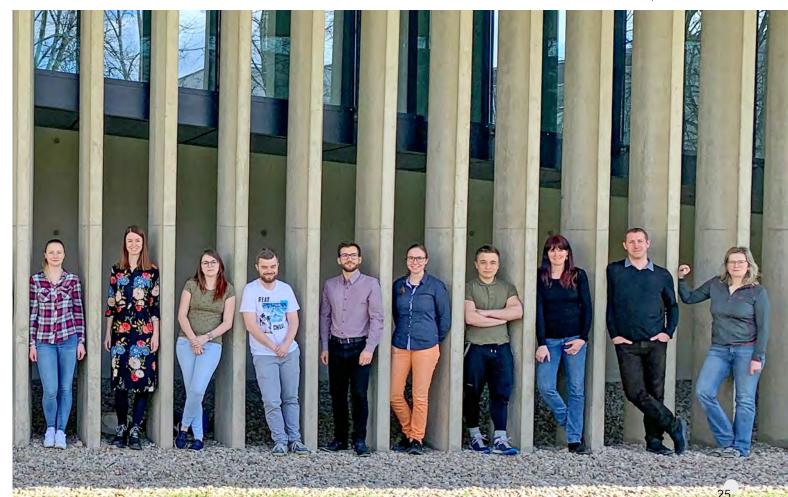
Teamwork and a hundred publications

But without effective cooperation, not even his entire team can work. It crystallized gradually over several years. And above all, planning and controlling the staffing pays off for Professor Bureš. At work, he exercises a kind of controlled creative freedom. As he says, he experienced both hard drill and enormous creative freedom during his (post)doctoral studies in Germany and Switzerland, and today he draws on both. "I perceive the leading position primarily as being responsible and motivating. I always try to inspire my colleagues for a given area of research, secure foreign partners and together prepare a solid project proposal," he sums up his tasks. In addition, he has a friendly bond with his colleagues in the group, which he also greatly appreciates. "I am only the leader; the whole team is excellent. Each member is responsible for his/her sub-field, including measurement and interpretation of data. This also facilitates publishing activity," he adds. The group currently has more than 100 impacted publications. Each is basically organic, it can be divided, for example, according to the use of the organic material, the type of journal or the involvement of other collaborators. His colleagues in the team are both older and younger than him. They learn from each other. However, he is

most proud of his pedagogical skills wherever his own student thoroughly informs him about some new areas. Filip Bureš believes that organic chemistry has huge potential. "Although we already know about ten million organic molecules, millions more still await their discovery and, above all, use. Several hundred promising new chemists commence their studies at the faculty each year, and I believe I will continue to succeed in gaining their sympathy for applied organic chemistry," concludes Professor Filip Bureš.

Professor Filip Bureš (41) comes from Poprad, Slovakia. He completed his Master's and doctoral studies in organic chemistry at the Faculty of Chemical Technology of the University of Pardubice in 2002 and 2005 and has been working there ever since. He went on a short internship to Hungary and Slovakia, a three-month stay in Germany and a 14-month postdoctoral internship in Switzerland. In 2010 he was habilitated and in 2017 he was appointed professor. He is a member of the Czech Chemical Society. He won the Alfred Bader Award in Organic Chemistry for 2012, and the Thieme Chemistry Award for the same year. Since 2004, he has authored or co-authored more than 100 articles with 1,500 citations (H-index 27). His current scientific interests include advanced organic and organometallic materials with various applications. His group has 23 members (10 fellow academics, 4 PhD students, 4 postgraduate students and 5 undergraduate students). Information about it is available on the website bures.upce.cz. In addition to his work at the university, he is also active in secondary school professional activities. Filip Bureš is engaged, has two children and his interests include squash, running, traveling and DIY..

TEXT: Zuzana Paulusová/PHOTO: DOPLNIT



We value students and academics who help

THEY TEACH OR TAKE LESSONS THEMSELVES. STILL, DURING THE SPRING WAVE OF THE PANDEMIC, THEY SHOWED THAT HELPING OTHERS WAS A MATTER-OF-COURSE FOR THEM. FOR THIS, OUR FACULTIES HAVE NOMINATED THEM FOR THE AWARD OF THE MINISTER OF EDUCATION, YOUTH AND SPORTS FOR OUTSTANDING EDUCATIONAL ACTIVITIES AT THE UNIVERSITY, AND ALSO FOR THE AWARD OF THE MINISTER OF EDUCATION FOR EXTRAORDINARY DEEDS OF STUDENTS AND GRADUATES FOR 2020. WHO WILL WIN THE AWARD IN THE END? IT'S NOT THAT IMPORTANT. FOR THE UNIVERSITY OF PARDUBICE, THEY ARE PERSONALITIES IT VALUES EVEN NOW.

PhDr. Kateřina Horáčková, DiS,



She is the head of the Department of Nursing at the Faculty of Health Studies. She educates students in the field of General Nurse. At the time of the pandemic, she helped set up and oversee the operation of the COVID Call Centre, the first of its kind in the country. In cooperation with the Regional Hospital in Pardubice, she led a dozen students who communicated with patients. She made short instructional videos for her university colleagues and other interested parties to show how to properly wash and disinfect your hands or take care of face masks during the pandemic.

Kateřina Horáčková feels fulfilled doing her work, thanks to which she can influence the young generation of future health professionals. In her spare time, she enjoys sports, reading books, watching good movies and traveling. At present, she wishes for a life without COVID, and also to endure her son's adolescence in good health

Adéla Ješinová



She is studying Engineering for Regional Development at the Faculty of Economics and Administration. With the outbreak of the spring pandemic, she became a volunteer. During the state of emergency, she assisted children with home teaching in the Children's Home in Sedloňov in the Orlické Mountains. She continued to help children even after the end of the emergency.

She spends most of her spare time studying, which is currently more intensive due to online teaching, no longer allowing her to help in the Children's Home in Sedloňov. However, when she needs to take a break from studying, she spends time with her family and friends. In the future, she would like to work with people. After completing her follow-up postgraduate study, she is considering applying for the study of the basic teaching qualifications.

Petr Václavek



He is a student of the postgraduate programme Economics and Management in Enterprises at the Faculty of Economics and Administration. He is also

the chairman and founder of the futsal club Juniors Přelouč FC. He realized his idea of organizing a charity fictional match in futsal and donated the proceeds to the fight against coronavirus. The event with the charitable sale #juniorstogether raised CZK 10,000, which he divided between the Pardubice Hospital and the University of Pardubice. The university part of the proceeds went to the Faculty of Chemical Technology, which has been analysing samples for the presence of coronavirus in a special laboratory since April. It used the money to buy a set of protective suits with the team logo. He spent the last three years abroad working as a team leader of an animation team, thanks to which he also travelled all over Bulgaria. One day he would like to lead his own team in a company that would offer him such an opportunity. He is also often involved in public life. Among other things, he managed to arrange a new annual public transport coupon in Pardubice, not only for our students. The coupon, which will reduce the fare for students, should be on sale next year.

Jiří Vaněk



He is studying the field of Paramedic at the Faculty of Medical Studies. Jiří had first-hand experience of the struggle put up by those infected with coronavirus. In the state of emergency, he assisted at the COVID-19 Observation Department of the Children's Clinic of the University Hospital Hradec Králové. He worked

free of charge for more than two hundred hours, during which he cared for paediatric patients.

He currently works as a paramedic in the Department of Anaesthesiology and Resuscitation (DAR) of the Regional Hospital in Pardubice. In his spare time, he goes to hockey and ball hockey training exercises. He would like to finish school as soon as possible, and then work his compulsory year in hospital in the intensive care unit or DAR. His dream is to work for emergency medical services.

Tomáš Vlachovský



He is studying Historical Sciences - Heritage Preservation at the Faculty of Arts and Philosophy. During the spring quarantine, he decided to help in the Ústí nad Orlicí Hospital. At the start, he was disinfecting the premises in individual hospital wards. He washed and distributed face masks and gradually also took care of patients. He helped wherever it was not necessary to have a medical education. Since October, he has been working as a volunteer at the Pardubice Hospital again. He has been working as a guide for the Kolín Museum at its branches in Kouřim for four years. His interests include history and archaeology, especially the history of ancient Greece and Rome. He enjoys sports, in his free time he plays football and hockey matches. He also enjoys sightseeing, either alone or with friends. In the future, he sees himself as a museum worker, he would like to visit Italy or Great Britain and work in local museums.

PhDr. Ladislav Vít, Ph.D.



Ladislav Vít is a senior lecturer at the Department of English and American Studies, Faculty of Arts. He works at the faculty as a research fellow as well as a teacher. Students appreciate his deep insight into the taught issues, individual approach and efforts to integrate educational support into lessons. Following the declaration of the pandemic emergency, he became a key figure for distance education systems. Within a few days, he adjusted the entire workplace to teaching in an online environment. At the same time, he became a principal volunteer instructor to all colleagues in how to overcome the pitfalls of distance

He had dreamed of traveling since he was a child, being most attracted to English culture, landscape and people. He decided to go to the UK in spite of his high school teacher, who claimed that he would never learn English. He worked as a castle gardener in Sussex and Surrey for almost ten years, reading British literature. Today he teaches it and scientifically deals with the literary depiction of man's relationship to the landscape and the poetics of places. He is currently completing a book for Routledge, the world's leading academic publisher in the Humanities and Social Sciences, about the poetics of place in the work of the British poet W.H. Auden.

TEXT: Aneta Krejčík Plšková/PHOTO: UPa archive



Do you prefer talking to students about financial literacy or financial illiteracy?

I like talking about human abilities. So, I definitely prefer talking about financial literacy, although it is sometimes very low. But it is where I can see the wonderful space – to increase it and help people to improve and have a nicer and more fulfilling life.

How many people in our country are actually financially literate?

It is easy to find out how many people in a country are literate, i.e. how many people can read and write. Financial literacy is not that easy to define, so it is impossible to say how many. According to surveys, however, we know that our financial literacy is not good. In the past, the teaching of financial literacy was not addressed in any way, and now we have to deal with the consequences. Today, students learn financial literacy in primary schools. Personally, I perceive financial literacy a little differently from how it is taught in most schools. I agree that it is good to be able to calculate interest on a loan, but you can always use various free tools on the Internet to do so. For me, financial literacy is much more about setting an individual's thinking than about math. I perceive it much more comprehensively.

How can you tell that someone is financially literate?

A truly financially literate person should perceive the difference between what he/she wants, what he/she needs and what he/she can afford. He/she is also someone who creates reserves. They do not buy things if not necessary; they renew things only when they do not fulfil their function. While they can afford it, they do not waste food, they protect the environment and help society develop. It is a way of perceiving things and contexts, which affects

one's thinking and values. Therefore, I think that in raising financial literacy, family education is more important than what school can teach them. Financial literacy is part of how a person lives. This cannot be learned like technical vocabulary.

What do you say to secondary school students when you talk to them about it?

At a secondary school, I have very little time to interact with students and there is no chance to teach them anything complex. I just tell them what I have seen and experienced in my practice, emphasizing that if they do not behave financially literally, they may experience something similar. And that's what I want to warn them about. Life is beautiful. I consider it unreasonable to spoil it for such a detail as money. In that limited time, I try to explain to the students that what matters in life is how we set our values and style. And not who made how much money or where they spent their vacation. A wonderful introvert once expressed a beautiful idea that people should be remembered for the life they lived, not the money they made. Rich people are not those who are wealthy, rich people are those who know they have enough.

What are the basics of financial literacy everyone should have?

I consider it most important that one understands that if one cannot afford something, one must either secure a greater income or reduce costs, or learn to live without it. Many times, I came across a situation where people bought some unnecessary property that was beyond their financial means. They bought it on credit, hoping that they would somehow settle the loan in the future. In reality, however, an outstanding loan for a useless thing sometimes starts a spiral of overdue debts.

I consider communication to be another point of great importance. In my opinion, communication is a key element of life in society and mistakes in communication can always cause great damage. This is also true for financial literacy. If I don't communicate with those that I owe money to and play possum, I will only make the situation worse. If I communicate regularly with the insurance company where I have taken out third-party insurance, I can save some serious money.

And thirdly, if no official legal entity wants to give you a loan, take it as feedback that you should change your lifestyle. Definitely do not perceive it as an impulse to find some shady provider, such a solution always has bad consequences with negative and long-term effects on the quality of human life.

Is it possible to effectively reduce expenses?

There is often room to reduce expenses through revisions of mortgage, insurance, compulsory third-party liability insurance, and current account management. Expenses can be reduced when spending free time - trips by car can be replaced by a bike trip, a romantic picnic with your own food instead of lunch in a restaurant. I definitely do not recommend reducing spending to an absolute minimum. You always have to enjoy life. If we completely omitted leisure expenses, it would not have a long-term positive effect

What do secondary school students' parents have the biggest problem with?

I only hear about the consequences of my parents' problems, which are unmanageable debts. How did the debts originate? They have various causes and each situation is different. These are most often large amounts of consumer loans and outstanding credit card debts. In the Czech Republic, distraint warrants have been issued for about 900,000 adults. This means that approximately one in ten adults in our country has not managed their debts. That is not good.

Moreover, the development of the economy in 2020 may unfortunately increase the number of people in an uncomfortable economic situation. If you seek a way out in time, you'll find it. It is essential not to postpone the problem until higher expenditures incur debts, which then rise to unbearable levels. Then the solution is more difficult to find. Still, one rule applies even then: where there's a will, there's a way.

How to behave economically in this situation?

Imagine being in a car accident. The main thing is to keep calm, no rashness. Cars have already crashed and now the main thing is not to increase the damage. The basis is not to run into unnecessary debts for non-essential goods. Then it is important to communicate. In a car accident, you communicate with rescuers, if you find yourself in debt, you also need to communicate. At least with creditors, but also with the employer, the staff of civic counselling centres. Staying in a wrecked car without any reaction is the same as finding yourself in debt and not dealing with it. You are in a dangerous situation, and the sooner you leave it, the better your chances of a long and pleasant life. It is appropriate, for example, to see this as an impetus to improve your approach to consumer behaviour while maintaining the current quality of life. For example, to buy food more efficiently so that we do not waste it. In the Czech Republic, we waste more than 30 percent of food. If we reduce this amount, we will also reduce our expenses, but most importantly the burden on the environment.



But is it even possible to be prepared for such an accident?

I'm always interested in the time prior to the crash. Have the people undergone a skid training course? Did they adjust their driving style to their possibilities and the condition of the road? In the economy context – did they try to improve their financial literacy, did they educate themselves to secure their job, or to improve it? Have they made reserves? Did they spend money for useless things and go on expensive vacations? It is important how one prepares for a situation where not everything goes according to plan. It's easy to squander when you're doing well. But we should care about what will happen if we're not doing well.

So, when the economy keeps growing, financial illiteracy is not a problem, but when it stagnates, we are "snookered"?

It's easy to live on credit when you're doing well. If the economy grows, there is minimal risk of losing a job, and no one cares that we have low financial literacy. No one cares about the fact that one in five people does not create reserves. When the economy starts to slow down, it is becoming a serious problem. Income will be reduced and people will not be able to meet their payment commitments set in times of economic growth. People who are without reserves will find themselves in a very difficult situation. Unfortunately, we will now see this in practice. The economy has fallen into considerable recession this year, which will affect the real income of the population.

Will the crisis help us learn to save and think about money and how to use it?

Based on my experience, I am afraid that cannot be completely confirmed. Unfortunately, I have seen several times that a financially illiterate person will not learn their lesson from big problems. If they get through the problem, they will learn the lesson that it is possible to get through the problem. But unfortunately, they also often learn the lesson that there is always a solution to every problem and that someone will definitely help them again.

Their success is due to chance, luck or good contact. Things clicked well, for example, in the life of the restorer Jana Dunajská. After she graduated from the Faculty of Restoration, her husband got a job offer in Lucerne, Switzerland, where she has been living for five years now.

Taking care of monuments around the world

"In addition to wall paintings and plasters, which are my specialty, we also restore gilded and marbled altars and sculptures, oil paintings, frames, ceramics, plaster, concrete and even church inventory," Jana Dunajská describes her work, who, thanks to her artistic preparation, has already had several opportunities to work on reconstructions of polychrome or paintings. "I work partly in the studio and partly on projects throughout central Switzerland. As the company is small, the work is quite diverse and interesting," says Jana.

Her colleague, the restorer Martina Šimonová, was lucky enough to go to Ladakh in India, or Little Tibet. "My task was to complete a project with my colleague to restore the Lhachung Shrine in the Buddhist Diskit Monastery. It was a complete restoration procedure on the altar wall. The experience was magical. We slept in the monastery, which is very unusual, especially for tourists, all the more so for women. The food was prepared for us by the monks and the conditions were sometimes rather spartan," says Martina, who was recommended for the work of the restorer-volunteer by the then dean of the faculty, Karol Bayer. She specializes in the restoration of murals, both indoors and outdoors, such as facades, sgraffito and more. Thanks to her line of work, she has visited many places throughout the country and abroad, and she has even led some projects herself. Such as the restoration of the ceiling painting in Salle Terena (also "garden hall") at the castle in

Lysice near Brno. "It's a unique and cute late-Renaissance painting with a funny theme of ships and sea creatures," adds Martina.

Helping the rebirth

The decision to take care of others and help them does not come from day to day. You carry the idea in your head for a long time without even thinking about another profession. The same was true for Blanka Tiainen, who thought as a child that she would be a nurse. She feels the same even today, except that she moved to the delivery room. "I decided to be a midwife when I accidentally turned up at a friend's childbirth. The birth seemed like a real miracle to me and I made my decision," Blanka recalls. It was already during her studies at the Faculty of Health Studies that she got to Finland. She completed an Erasmus study and then an internship. After a few years, she returned to Finland for good. She graduated with a master's degree in International and Public Health from the University of Eastern Finland. She first joined the delivery room in Salo, and later taught future midwives and nurses at the University of Applied Sciences in Turku. She also worked at the university hospital in the same city and now works in the department of delivery rooms and high-risk pregnancies. "Every childbirth I can be present at is the most beautiful. There are very nice moments when my friends want me at the birth, because then I see the children growing up. And also, when mothers, aunts, grandmothers (mine, friends' and acquaintances') tell me about their childbirths. These are often very beautiful stories that I would probably never hear if I wasn't a midwife," says Blanka.

Inspiring us to be creative

Starting a business can be difficult, but when you persevere, success usually arrives. It also depends on how

you define it. Marek Chlum, a graduate of the Jan Perner Faculty of Transport, also built on this. When his mother opened a small tailor's shop, her son had no idea but to add an e-shop with piece goods and haberdashery. He was motivated by the fact that sewing for oneself or one's family is becoming a trend again today. And that's why he founded the Mamtex e-shop and is the master of his own time. "I can do things my way and change them quickly. In addition, watching the company develop is very motivating. It's a kind of game I enjoy." The e-shop has been operating for five years, appealing to customers even abroad. Mark managed to expand to Slovakia with his business, which was also the topic of his diploma thesis. In his opinion, it can serve as a guide for smaller e-shops. "I really wanted the expansion to succeed. The behaviour of customers in Slovakia is very similar. It is quite focused on PPC advertising and SEO, and moreover, I was able to work with real numbers in the evaluation," says Marek, who is primarily in charge of the e-shop development, strategy determination, pricing, communication with foreign suppliers and marketing. "We endeavour to gradually add materials to the offer that are more sustainable and do not burden the environment like cotton," adds Marek when talking about the direction of his business. He is also preparing other innovations. This year he wants to focus mainly on the development of the Slovak e-shop. Next year, he would like to expand further. In addition, his own brand of clothing and accessories is in the wind.

Improving our English and other skills

Whether you decide to start a new life abroad or develop cooperation with foreign countries, you definitely need to speak at least one foreign language. The more, the better. The education of people at various levels has become

the domain of, for example, Jan Hovad, a graduate of the Faculty of Electrical Engineering and Informatics and the Faculty of Economics and Administration. He loves the online world, likes to work remotely and that allows him to travel around the world. For example, he manages his website prectime.cz, thanks to which over 50,000 students have improved their language skills.

Marek Vít also works with English every day. He teaches it at his alma mater, at the Faculty of Arts and Philosophy. He constantly finds new and interesting things there, even though he holds several certificates. And he was always interested in using information technology in teaching English. "When I worked as an English teacher at a grammar school, I created simple computer programs and games for students that could help them learn words or spelling, for example. Then I decided to create a simple website where I could upload materials for my students to practice, prepare for entrance exams, etc. I provisionally called it Help for English," describes Marek Vít. Today, 20,000 users visit his website every day.

Jan Štancl also has experience with teaching English. But not just any old lessons. As a volunteer, he taught the natives on the Indonesian island of Lombok, where he spent three months. He found out not only a lot of things about himself there, but above all that he simply enjoys teaching. "In Indonesia, the teacher is understood and generally recognized as a certain authority, a symbol of education and a bearer of values. It is already based on the meaning of the word, because the Indonesian word for teacher is »Guru«," explains Honza. And the students there? They were amazing. "At an early age, they realize that a good knowledge of a foreign language will ensure them a better starting position in the local labour market, and overall a significantly better life," adds Honza.





He never saw bored faces

HAVING PASSED HIS FINAL STATE EXAMINATION, HE PACKED UP AND WENT FOR THREE MONTHS TO THE JUNGLE TO THE INDONESIAN ISLAND OF LOMBOK. HE TAUGHT LOCAL CHILDREN ENGLISH AND HOW TO RESPECT NATURE. JAN ŠTANCL, A GRADUATE OF THE FACULTY OF ARTS AND PHILOSOPHY, PREPARED MATERIALS FOR CLASSES IN A RESTAURANT AND TRAVELLED ACROSS THE WHOLE VILLAGE TO HAVE THEM PRINTED. WHEREVER HE APPEARED, HE WAS GREETED WITH THE SONG "OLD MACDONALD HAD A FARM." AND THE STUDENTS RECIPROCATED HIS ENTHUSIASM. WITH HIS ENDLESS DESIRE TO STUDY.

WHAT MADE YOU CHOOSE LOMBOK?

I'd always wanted to try what it's like to live in a completely different culture, country and different living conditions. My then girlfriend, who was studying development studies, had discovered the non-profit organization Kintari. It sent volunteer English teachers to Lombok Island. After several meetings with the founder of this organization, where we got basic information about the whole project and the island, there was not much to think about. We had planned the departure date about half a year in advance to have enough time for the final state examination. In the end, I left within a week of the examination. Since I did not continue my studies, I also considered this trip to be a great practice for my future job.

WHAT WERE THOSE THREE MONTHS LIKE?

It was a great life experience in all aspects. I have found out what it is like to live in a poor area, how things that we Europeans take for granted are suddenly not a matter of course. And last but not least, I have learned a lot of things about myself, which I would probably have a hard time finding out in our conditions. Staying on Lombok was

of invaluable benefit to me and I would definitely recommend everyone to experience something like that.

DID IT MAKE YOU THINK MORE ABOUT LIFE THERE?

I don't want it to sound like a cliché, but you really realize there how comfortably we live in Europe and how petty our daily problems are. In this respect, I had a real rest on Lombok. On the other hand, it should also be mentioned that I was unpleasantly surprised by the whole ecological situation of Lombok.

WHY?

Images on Google show the island as a paradise on earth, which is not entirely true due to the garbage pollution, and especially plastics.

What DID THIS DIDACTIC STAY OF YOURS INVOLVE? Especially regular English language lessons at Indonesian primary schools Ngolang and Petiwung. There were also occasional activities in English for children in a kindergarten in Ngolang. And last but not least, voluntary English courses in a local teacher's garage for poor children from the area who do not go to the mentioned schools at all.



In addition to teaching English, we also organized sports activities for local children, and especially ecologically oriented activities.

DID YOUR PROACTIVE APPROACH HELP IMPROVE THEIR RELATIONSHIP WITH NATURE? FOR EXAMPLE, HOW DID YOU MOTIVATE THEM?

I hope so. We prepared a lot of presentations for them and projected animated films on our laptop, which naturally captured their attention and they did enjoy it. We held various competitions, for example in collecting plastic bottles and caps, and then showed the children their further possible use. How to make various products such as flower pots or colourful mosaics from caps.

WHAT IS IT LIKE TO TEACH ENGLISH ON THE OTHER SIDE OF THE WORLD?

Everything is quite different. Local teachers use different teaching methods and pupils just repeat and memorize the teacher's words. The pupils themselves are much more eager to study, compared to the pupils in our country. However, they suffer from hyperactivity, because their diet during the school day consists mainly of sweets and sweet drinks. In short, completely different conditions than those we are used to from the education system in our country.

So, they don't have classrooms like ours?
Classrooms in one school looked as if they had been shelled, beaten walls, very hot and extremely humid.
Every move in the class was more demanding, you are constantly sweating, you are terribly hot. The other school, on the other hand, was beautifully ventilated, without larger walls, only made of bamboo, in the middle of the rainforest. You are standing in the classroom and fresh air is blowing on you.

How DID YOU GET TO SCHOOL IN THE RAINFOREST?

Each trip to school was a kind of adventure in the form of a road scooter ride over roots and rocks on unpaved roads, sometimes far into the jungle. After classes, you will get on a scooter again and go swimming in the beautiful blue sea.

YOU SAID THAT THE STUDENTS THERE HAVE A STRONG MOTIVATION TO STUDY THE LANGUAGE, WHAT IS IT THAT MAKES THEM DIFFERENT FROM OURS?

Indonesian students are different from ours in all respects. First of all, they value all education in the field of language very much. At an early age, they realize that a good knowledge of a foreign language will ensure them a better job in the local labour market, and overall a significantly better life. I miss this in the vast majority of Czech students. Indonesian students are also very lively, active and spontaneous in the lessons. As a teacher, you certainly won't see propped heads and bored faces there. On the other hand, it is much more difficult to steer and control them.

WHAT WAS YOUR FIRST MEETING WITH THEM LIKE?
It was very nice in all classes, as they are used to volunteers who come there from time to time.

WHAT DID YOUR TEACHING LOOK LIKE?

At the beginning of my stay, I got textbooks. These were mostly Indonesian-English textbooks, but here and there they also contained fundamental errors in basic grammar. I didn't know the curriculum, and I had no idea where the classes were in the curriculum. These textbooks served me as a sort of a framework and an overview of topics that should be mastered by the classes. For each lesson,



I always chose a topic and prepared my own materials and activities.

You probably didn't have your own office for that. I worked on this in a warung (restaurant) where they had a relatively stable internet connection. Then I had to go to the other end of the village, where I could print out and copy the materials with a local teacher. This teacher also lent me a guitar, which I often used in lessons. I think these lessons were probably the most popular with the children. Before long, the whole village knew the song "Old MacDonald Had a Farm" and wherever I went, children and even some adults sang it to me.

HOW DID YOU COPE WITH A COMPLETELY DIFFERENT CULTURAL ENVIRONMENT?

At first, I was surprised by virtually everything. I had never experienced anything like this before and everything was new to me. It is true that some things had been brought to my attention in advance at information meetings. For example, which hand to eat with, what to watch out for,

where not to go after dark. But I learned a lot of things on the spot.

Was there anything that really surprised you? What was strange to me was a kind of reverse racism, where the white person is perceived by the locals a bit as a role model and demigod. Local girls cover themselves to be as little tan as possible and look as white as possible, some boys use makeup to have a white face. You often go to the beach and the girls want to take pictures with you, just because you are a white man. On the other hand, some locals see you as a walking wallet, and completely different prices apply to you. They often try various tricks and scams on you to con you or get more money from you. After a while, however, you will get used to it, and it will no longer surprise you, you'll find it rather amusing.

DID THE LOCALS KEEP THEIR DISTANCE FOR A WHILE?
We were accorded a surprisingly warm welcome. This was because they had been informed by local non-profit coordinators about our arrival. At the beginning, they



arranged everything for us, took us from the airport to their place, where we lived for some time before we found our own accommodation with a few other volunteers. They arranged a motorbike for us, which is an absolute basic necessity for moving around the island. We were often invited to dinner, coffee and various gatherings with the locals. Upon arrival and in fact at every contact, I was addressed as "Brother", which in itself tells how they received and perceived me.

SO, YOU STILL HAVE FRIENDS ON LOMBOK?

Absolutely. Although I have always been opposed to social networks, when I got back, I set up a profile on Facebook to stay in touch with them. Some of these people really helped us a lot in relatively serious situations, and I will always remember them only with greatest pleasure. I would definitely like to see them again.

TEXT: Zuzana Paulusová/PHOTO: Jan Štancl's archive



Bc. Jan Štancl

comes from the Krkonoše Mountains, but has now settled in Prague, where he has been teaching English for two years at the Primary School in Prague-Dubeč. At the same time, he is also a class teacher of the 9th A class. He spent part of his study years in Pardubice. It was at the University of Pardubice that he graduated with a bachelor's degree in English Language -Specialization in Pedagogy, which led him to teaching English. In 2016, he completed a three-month didactic stay on the Indonesian island of Lombok, where he taught English to the local pupils. It was a valuable experience for him, upon which he draws to this day. Jan also returned to our university last year. However, not as a student, but as a speaker. On the occasion of meeting with successful graduates of the Faculty of Philosophy, he talked about his experiences and life on the other side of the world.

Lombok Island

is one of the larger islands of the Lesser Sundas, bordering the more famous island of Bali. Its area is 4,725 km². It is inhabited by about 3 million people, mostly the Sasak, who live a traditional way of life and engage in crafts. The island is one of the most densely populated areas of Indonesia. The capital is Mataram with about 350,000 inhabitants, the largest city on the island and the province of West Nusa Tenggara. It is characterized by untouched tropical vegetation, mahogany forests, banana and coconut plantations and vast deserted beaches. The most popular attraction of the island is definitely the Rinjani Volcano (3726 m), the second largest volcano in Indonesia. In contrast to Bali, tourism is still in its infancy and its essence is aptly depicted by the motto: "You can see Bali in Lombok, but you can't see Lombok in Bali".



I CAN LEAD PEOPLE. IT IS A GIFT FROM GOD,

says graduate Blanka Petrová

She is an energetic, strong-minded, leading, yet humane and optimistic person. Not only can she handle a truck, but even a large car company. A graduate of the Jan Perner Faculty of Transport and CEO at Panav, Blanka Petrová, is one of the most influential women in the country. She can bring the right people together in one team and achieve maximum performance. "I'm so gifted by God. Seeing a result that was born under your leadership is just the most beautiful thing you can get," she says.

How does it happen that one gets among the most influential women? You have been placed 129th by Forbes this year, which is only three notches behind Petra Kvitová, the tennis player...

I didn't know about my nomination for the ranking and I really have no idea who was behind it.

Probably someone who appreciates your work.

My friends sent me a message that I was there. The owner of the holding, which also includes our company, is Roman Šmidberský, so I think I can guess which way the wind was blowing. He might have been the one to draw attention to me

Were you pleased by that?

Of course I was. It feels good, although it won't help me at work. There are not so many female CEOs in engineering or automotive companies. It's a kind of exceptional.

Are you respected as a woman in this field?

Respect is not a question of gender. It's rather about what kind of boss you are. I've been a part of men's teams since my studies at the grammar school in Valašské Meziříčí. I was in a math-physics class. Then I studied at the Jan Perner Faculty of Transport. In my first and a long-term job, I was a truck dealer. Here again, most of my customers and business partners were men. For me, it's a completely natural environment which I know really well.

Was studying at the Faculty of Transport your parents' or your dream, or was your choice just a sheer chance?

Well, it's true that I wanted to study law. And so did my parents. But I didn't get there. Anyway, I was dying to study at university. As for the Faculty of Transport, we only had to meet the limits on school results, which I did. So they took me without entrance exams to study Transport Management, Marketing and Logistics.

And when I started, I found out I liked the school so much that I didn't even try law again the next year. Interestingly enough, we were the first ones to begin the studies in the Czech Republic. Before that, the school had been placed in Žilina, Slovakia, from where the whole teaching staff moved. At first, we were still rather rootless and everything was quite hectic.

What did you take from school?

Enough, as for my field. If you want to work in transport, it's the Faculty of Transport that provides you with the necessary knowledge. It held true 27 years ago and so does nowadays. In addition to the economic knowledge, you also receive professional training. Expertise is very important in today's world. And I even think that it's superior to general knowledge. It was very enriching when practitioners came to our school to give us lectures.

After school, you started to sell trucks ...

At NAPA Trucks. I had the advantage of knowing a lot about transport from school. I could communicate better with customers and wasn't ignorant of the field.

Could you sell a truck without being mistrusted for not understanding it?

(laughs) Yes, the beginnings were indeed not easy. But I made it. Actually, I think I was a success in sales. I started selling when I was 23 and became a sales manager two years later. Some customers would even test my knowledge. Sometimes, I was about to cry when I didn't know something ... But it made me work harder on myself. We sold trucks, trailers for all sorts of platform bodies. It was the time when various construction vehicles and special trailers arrived, we put together technical specifications. I helped to configure the trucks which I enjoyed a lot. So far, I've been drawing upon this experience.

Checking question: How much does a truck weigh?

The operating weight of a truck is about 8 tonnes. The total weight of a tandem-axle truck and a tri-axle trailer is 40 tonnes.

Do you have a truck driving licence?

I do. Back then when I was selling them, I thought I should be able to handle them, too. I've been driving trucks since I was 25. My colleague and I often used to go for trailers together. I would drive the truck on the way there and he took the wheel on the way back with the trailer. When I was expecting my first baby, I was driving a truck even though I was in the ninth month of pregnancy. We went to one of our customers who couldn't believe his eyes when I jumped out of the cab with my enormous belly.

You left the company after eighteen years. Did you feel the need for change?

The management changed there. In addition, I achieved everything I could. I like it when changes are under way.

I need some excitement in my life. As soon as the rumours got about that I was leaving, new offers started to pop up. One of them was the sales director at PANAV. I accepted that position and, two years later, I became the CEO there.

What is your job about?

There are several levels. Part of my job is business contacts. I've managed to keep the most important customers with whom I have long-term relationships. I also deal with strategic negotiations with our suppliers. And then, there's production management, which is a kind of novelty to me. At first, it was a challenge to me since I hadn't done it before. Now, I do my best to make everyone go in the one direction. It's important that I choose the right people and they have to do what I want them to. And here, humanity plays an important role, too. If you don't understand what you're doing, the others might start to get round you.

During the spring pandemic, the company was one of seven in Europe that managed to maintain their production. How are you doing now?

The situation doesn't cause us much harm. We can cope. But only until we lose a lot of people. In the first wave, we solved problems with our employees. The company's production plant is in Senice na Hané and a lot of our people live in Litovel and Uničov. It was very difficult for us when those towns got locked down due to the spread of COVID. We had to reduce our production. Now, there are problems with suppliers from Western European countries. France is under lockdown and so we're going to miss some components. We must deal with things in production operatively so that it wouldn't stop. So far, we have orders until March.

What makes you feel fulfilled doing your work?

I enjoy leading people. I can bring the right ones together to direct their performance to the right goal. But you must also have talents for that. I'm so gifted by God. Seeing a result that was born under your leadership is just the most beautiful thing you can get.

TEXT: Věra Přibylová/PHOTO: Adrián Zeiner

Ing. Blanka Petrová, MBA (1975)

She is a graduate from the Jan Perner Faculty of Transport, University of Pardubice. She obtained her degree in Transport Management, Marketing and Logistics in 1998. In 2016, she enhanced her qualifications at the Business Institute EDU a.s., Prague, where she studied Management, Organization and Management (MBA). During 1998–2016, she worked as the head of truck sales at NAPA TRUCKS, spol. s r.o. In 2016, she started working for PANAV, a.s., at first as a sales director and, as of 2018, at the position of the company's CEO. She lives in Pardubice. She likes driving a car during which she can sort out her thoughts. She is divorced with two children. In June this year, the experts of the Czech edition of Forbes, the prestigious business and economic magazine, ranked her among the 135 most influential women of the Czech Republic.





FOR A GOOD CAUSE

THIS IS A STORY WITH A HAPPY ENDING. AND AS IT SEEMS, THE STORY IS NOT OVER YET. THREE FRESH GRADUATES OF THE UNIVERSITY OF PARDUBICE HAD A PLAN TO CONSTRUCT ELECTRIC LONGBOARDS. RIDE THEM ALL OVER THE CZECH REPUBLIC AND RAISE MONEY IN ORDER TO HELP A DISABLED CHILD. IN 15 DAYS, THEY RAISED HALF AS MUCH AGAIN AS IT WAS ACTUALLY NEEDED FOR A SPECIAL WHEELCHAIR.

How did it all start?

Honza Kolařík: Vašek said that he was finally about to make a new prototype of an electric board. So I told him: "Finish it by the summer and then we will go for a trip." It was gradually growing, until it reached this point. Vašek Štanci: It was necessary to wait for me and Petr. We were studying the Master degree programme Process Control, and we had our state exams at the Faculty of Electrical Engineering and Informatics one week before our

What is unique about your boards?

Petr Šedo: Well, they are all ours. We designed them by ourselves from the beginning to the end. This is the third prototype. We are still working on them. They were getting better and better every day we were riding them. We were identifying the faults and trying to find out how to fix them. On the first day, the guys had to press the accelerator all the time but now they have a cruise control. These boards are designed for roads but as we also experienced losing our way and had to run on unpaved roads, the fourth prototype will be for a rough terrain use.

Vašek: One week before our departure, the boards didn't even exist. It was a kind of punk (laughter).

How fast can you ride the boards?

Vašek: The maximum speed is 45 km per hour, which would require both a helmet and an overall. A normal travel speed is approximately 25 km per hour.

Has anybody approached you that he would like to have your boards?

Petr: Of course. People keep on asking us where we have bought the board. When we tell them that it is our own product, they get interested.

Is there a threat of competitive rivalry for you?

Vašek: We don't think so. As far as we know, nobody else is doing it in this way from A to Z. So far, we have made just a couple of pieces. We have proved that we can use our knowledge from school and that it will work well. All in all, we like working with the electronics. In fact, I am a constructor. And once we start with a large-scale production, everything will depend on how our longboards will appeal to people.

You are saying that your study helped you during the development of your boards...

Vašek: Yes, it did. And we also succeeded thanks to some people from the faculty. We moved forward especially thanks to Daniel Honc, who is the Head of the Department of Process Control. He was offering great help to us both at school and out of school. Also Pavel Rozsíval from the Department of Electrical Engineering and other people provided advice and help.

Petr: It is very difficult. Everybody taught us different things... For example, we had some troubles with studying statistics, which is however very important for the data analysis. During the Bachelor's programme, we were studying electrical engineering and informatics, and our Master Degree was Process Control. We have knowledge from various fields, and thanks to that, we were able to design both hardware and software.

Were people interested also in the story behind your journey?

Honza: We were surprised how many people participated in the project and shared our website. It is still giving me goose bumps. We were meeting even some locals in dive bars who asked us: "What are you guys doing here? And riding that? You

Petr: Which sounded to us like everything is actually all right (laughter). Vašek: It is great how many celebrities got involved. For example, Ben Cristovao who has already had a ride

Where did your journey start?

Honza: We set off in Slapany, approximately six kilometres far from Cheb. At the German border, there is a beginning of a cycle path, which was also a starting point of our charitable journey. We went through bigger towns of Bohemia and Moravia, and we had a stop even in Pardubice. The end of our journey was on the top of the Lysá hora mountain.

Vašek: We were in Karlovy Vary, Prague, but also in Chrudim, Jihlava and Brno. In bigger cities, we wanted to organise other events in order to support the project but our activities were cancelled because of covid. For example, we planned to have various joint rides. The weather was not really favourable but we were determined to accomplish our goal. Finally, we covered the distance of around 880 km

How much money did you raise?

Honza: Our expectation was one hundred thousand. The dream that would help, then a wheelchair worth 250 thousand. Our project We donate a million – perhaps was intended to help a boy who suffers from a spinal muscular atrophy and has a worse course of the disease, as he is not able to sit without a support. The final amount of 448,195 CZK is truly unbelievable. A share by Leoš Mareš helped us to make it more than four times higher.

Was your aim also to make people more aware of the disease?

Vašek: We are certainly doing it now. Our idea was to ride our longboards but there are also other people, who cannot do these activities. Thanks to the organisation Life for Children, which introduced us to little Milánek's family, our journey had a deep meaning. Honza: Simply put, it was a great experience full of enjoyment and hard

What message would you address to other students?

work at the same time.

Vašek: Do not just sit at your computers. All right, we also do it from time to time because we have to work... But we know it from the students' halls of residence. Young people did not even go out to have fun. I don't think that everybody was studying so much in order to be good. So, you'd better go out again!

Honza: The point of being at the college is that you meet a lot of friends who might inspire you and then you might get a great idea. You will obtain great contacts.

What are you planning for the future?

Right now, we have nothing specific but we were talking about the next summer and a similar project. Although we have more time for planning, it will be difficult to make it better than before. We will see and we hope that we will surprise ourselves again.

> TEXT: Věra Přibylová/Anna Sedláková/ PHOTO: Filip Starý

Spartan among us. Our student Richard Hynek conquers Olympus

HE IS TWENTY-ONE, STUDIES AT THE FACULTY OF ELECTRICAL ENGINEERING AND INFORMATICS, University of Pardubice, and could just enjoy student life. But Richard Hynek is not AN ORDINARY MAN. HE HAS RECENTLY FULFILLED A DREAM OF HIS. HE HAS BECOME THE WORLD CHAMPION IN SPARTAN RACE, AN EXTREME OBSTACLE RACE. HE LOVES ADRENALINE, RUNS 5,000 KILOMETRES IN A YEAR AND HE WOULD ALSO LIKE TO SHOW OFF AT THE NEXT OLYMPICS. HE DEFINITELY HAS WHAT IT TAKES! AND IF IT DOESN'T WORK OUT, HE HAS A BACK UP PLAN: HE WILL THROW HIMSELF INTO PROGRAMMING.

- What lecture have you just had? It was the history of technology.
- Have you been to the Faculty often now? Lately, I've been to the faculty quite often, I've enrolled in
- Are you managing the school with your demanding hobby?

I have to. Completing my studies is one of my goals. Although I admit that now sport prevails a bit. I'm not saying I don't like school, no. Programming is my second hobby.

• So, you currently prefer sport?

If I had to choose between sport and programming, I would give priority to sport. But it's good to have a second path. Now I'm not trying to solve what I want to be, but rather I'm preparing ways to do what I enjoy.

• And are you doing well at school?

So far, yes, I am, touch wood. But there have not been any exams yet, so I will see after the exams. But I believe I will pass. The only problem I have is missed classes, due to races abroad, but fortunately all the teachers are most accommodating. And they were fine with that.

• Do they know you're doing the Spartan Race and racing?

Some do, some don't. But when I was now giving the faculty a confirmation of absence, there was also information about the Czech national team with a signature, so some of them were quite surprised.

- Did they wish you luck?
- Yeah, sure. They wished me good luck and then even congratulated. So, it was awfully nice.
- So, let me also congratulate you personally! You're the man!

Thank you very much.

- Has it dawned on you yet what you achieved in Sparta, Greece? That you are a world champion? It's still kind of unreal for me. A dream come true, for which I had trained for several hours a day. I still can't believe it. As American commentators said, I was running the race of my life. Those emotions are so intense. It's an unforgettable race for me!
- Can it be described at all? I remember every part of the race, exactly what happened. When I finished the last obstacle, I could do

burpees, I knew I had a lead and I had already won. For the last 200 meters, I just rejoiced, giving high five to the spectators around the track, who were cheering me up. That was the most emotional moment for me.

· How did it feel when you were standing on the winners' rostrum?

It's still unbelievable. It is actually a historic success. Emotions ran high. I was standing on the stage, there were people all around. I sang the anthem and I almost dropped a tear.

- How did the Greek championship actually go? We had to manage all three levels of racing, hence Trifecta, in two days. On Saturday morning we started with a medium distance, which was eventually about 16 km. then we had a break of about two hours and we continued with a short Sprint, which was 7 km. After these two races, the running times were added and the main 26 km long race, the Beast, was started. The one who had the best time started first. I went with a three-minute leeway to Ryan Woods, an American, one of the biggest champions.
- How do you perceive time during the race? Five minutes is nothing and at the same time it's too much. It very much depends on the number of burpee penalties. But you can always make up for lost time. Anything can happen during the race and everything will change. When someone is five minutes ahead of you and goes without mistakes, it is almost impossible to catch up with them on a world level, but they may not do well with the spear, they may fail to do balance and the placings change. Thirty burpees will take you about two minutes and most importantly you'll get very tired.
- In the end, you won by a large margin. How did you do it?

Everything was the way it should be in Sparta. Although I went to the race with the idea that it will be very difficult to catch up, if at all, and that I will be happy if I keep the fifth place. Even Top 10 would be a great success for me. But when I was in Top 5, I said to myself that I wanted to keep it. I tried to run as fast as I could and stick to someone. So, I thought I'd give it a try. And when I saw the opponents in front of me, it motivated me more and more that I gradually overtook them all. Of course, the fact that I didn't fail on any obstacle helped me to such a big lead.



- Where did that strength in you come from?
 I don't even know, probably adrenaline. Every time I overtook someone, it gave me new energy.
- You felt just as good at the races in Oman, where you did well, didn't you?

Yes, the end of the season was like a fairy tale. I managed to take the first place there twice, which was amazing and the best that could happen. The run was great, it was terribly hot, but great!

• Did you go there to win?

I went there with the idea that I could place myself on the winners' rostrum, but the competition was obviously huge, so I kept my feet on the ground.

- But did you get motivated by the victory in Greece? Exactly. Greece gave me a boost and I believed it. On the other hand, I knew there were guys running a clean ten in twenty-eight minutes, so it was clear it wouldn't be easy. But somehow it worked out and it was great. But on the other hand, I didn't feel at ease when running.
- Why?

If you win the World Cup 14 days before that, everyone considers you the favourite and wants to overtake you. In Oman, I took the lead in every race and set a fast pace, which I fortunately managed to maintain.

• Don't you do that in other races?

No, I don't. Usually, I'm the one who keeps his cool all the time when running and then sets a hot pace at the end. But in this race, it was also a lot about the psyche. Mentally, I didn't feel well at all. I kept turning back to see if my lead was increasing or not. By the 15th kilometre I still had the same lead, less than 20 seconds. Then, fortunately, it broke and I felt better mentally. And I have to work on that until next season.

And now what awaits you?

Now I have post-season leave for St. Nicholas Day. So, I live it up. I have three weeks of dolce far niente, just a light activity. And then I start again.

- Can you afford to refrain from running completely? If it's for two or three weeks, it can be omitted completely. But it is good to include some movement, another activity. I'm active anyway, I go somewhere all the time. For example, hockey, football. Now I just stopped running. The body needs regeneration after a demanding season.
- Are your training sessions also that demanding?
 The training itself is quite demanding. I have one to four training sessions a day, which is two to five hours a day.
- So, you then have to plan your day almost to the minute?

I do. I get up in the morning, go to training, to school, to training instead of having lunch, back to school and in the evening again to training. This is what it looks like when the training is three-phase. Then I have single-phase sessions, for example, but it is longer and very demanding, and I have time off in the afternoon, because the body must also regenerate. It depends on what part of the season it is. The workouts spin differently.

• So, what does your day look like?

It's often time-consuming. There are days when I have to get up at four to train, run. But then there is another day when I have more time, lighter training and the day is more relaxed. But mostly it is quite hectic. If I don't plan the day before, I don't have a chance to make it all. It's not easy, it's challenging, but where there's a will, there's a way. But time is not unlimited.

- Do you still have time for something else?
 When I care about something, I make time for it. Now
 I went to see my sister in her dancing lessons. I'm happy
 when I can go for a ride, meet friends or even go to a party with them. I do an individual sport and being alone all
 the time is not good.
- How many kilometres do you run per week? In the range of 70 to 150 km per week. On average, it's about 120 km.
- Boy! But your training isn't just about running, is it? Sure, it includes a bike, swimming and more, but it's not fixed. And then, of course, circuit training, strength training,





CrossFit. But it must be balanced. It's mainly a running race, so running comes first.

- Does running make you even happy at all?
 I like running, it doesn't bother me. Everyone just laughs at my style.
- How's that?
 Because they don't understand how I can run this way and at the same time so well.
- Do you have a special technique?

 Probably yes. When I was now replaying the video of my race in Sparta and listening to the commentators, I was amused to hear them say that I seemed to be at the end of my tether. And one of them, who already knows me, tells them: Nah, that's just the way he looks, that's how he runs normally, from start to finish.
- Do you retrospectively analyse your races to discuss where you may have made a mistake? I mean, do you use that popular electronic pencil?

 I do look back at the times I ran each section. I know where my weaknesses were, where I was good. And also, the stopwatch recording the track, the map tells me a lot,

where my weaknesses were, where I was good. And also, the stopwatch recording the track, the map tells me a lot, and I can look there, because I always remember from the race where I had a weakness. I then draw some conclusions from this and the coach starts working on it.

- Does your coach also supervise your lifestyle? Certainly. Tomáš Soukup is also a nutrition specialist, a very well-known one in the field. In addition, he is a runner himself and he knows a lot about it, so we agreed on both the diet and training. I've been with him for three years now.
- And it is evident that this cooperation pays off.

 My performance has brutally gone up since we started.

 I'm very grateful to him, it wouldn't have been so fast without him!
- How many races can you do in a year?
 20 to 40 races. It depends on the season plan.
- Do you know in advance what the race will look like? I do, roughly. I never know exactly the obstacles, they usually publish those about a week or even a day before the race. They are almost always the same, but the distances change, the segments on the monkey bars. The rules specify what the race must contain, how many obstacles it must have, how long they must be, etc.

- Is the difficulty of the races always the same? It depends on the place. Every race is different and cannot be judged by time. The profile of the track, the elevation, but also the weather, it all plays a role, so I must not underestimate the clothes either. In Oman, for example, we ran in the sand, which is strength-consuming, but then again, there are no hills. By contrast, we have steep hills. Each race is challenging in its own way.
- Have you ever calculated how much you have run in total?

This year I have 5,000 kilometres from January to November. Last year 4,500 kilometres. I thought if there was no sea between the continents, it would get me to Argentina.

- And how many burpees have you had to do? Thousands. Some races are without penalties. Like in Greece. And then there are races, where I do one hundred and twenty burpees, which is too much.
- Do you have any good luck rituals before the race? Probably yes. I have one type of socks and I take them all the time. Those are not one pair of socks, because my socks can last about one race. So, I'm always buying. I think it runs in the family, because my sister needs to wear two different socks.
- Do you make friends with your opponents?
 Certainly. But during the race we are rivals. When I see him in front of me, I want to overtake him. And so does he. But when we finish, we shake hands. And I definitely go to some races with some of them, whether they're from the Czech Republic or from abroad. I was staying with a friend in Oman.
- Do you have any fans that would go to the races to support you? And do they cheer you up?

 Yes, they do. It depends where it is. If we run somewhere in mountains, there are fewer fans. Most of them are in the festival arena, which is at the start and finish. And it was the same now in Greece. They did it well there, it takes place in the square, where fans cheer everywhere. And that's a wonderful feeling.
- Do your family also go to races to support you? When I run a race in the Czech Republic or Slovakia, they will never miss it. There were a lot of us at the Czech

Republic Championships. Their support is incredible and it makes a difference. Incredible support on the one hand and a little pressure on the other, when I know they've come to see me. I really appreciate it. But they don't go abroad with me. From a financial point of view, I am often happy that I can go to such races and take part in them.

• It was your mother who brought you to the Spartan Race, right?

Yes. Once it popped up on her somewhere on the internet. She showed it to me, but she didn't think I'd want to run it right away. We are a very sporty family. They think we're crazy in the village. I run out, my sister runs out, then mom, dad goes to football and then we all come back, so it's pretty funny. I just knew I wanted it and I had to try.

- So, you ran your first race. What was it like? I ran the first race in 2015. It was in Liberec. Well, my mother must have immediately regretted that she had showed it to me at all. She had to sign a paper acknowledging safety risks and even risk of death, in about twenty different ways. I wasn't allowed to race without signing it. But she saw how much I wanted and she didn't hesitate.
- And you've been captivated ever since? I set myself a big goal there: that I would like to stand on the winners' rostrum one day. I admired the first guys who ran the race twenty minutes faster than me and I thought it was really great. I started training more and a year and a quarter after that race I succeeded. And after that, I was working even harder, I found a coach. And you know the rest.
- Was it love at first sight, the race? Certainly. It was straight away. I inherited love of racing from my dad. And I'm a little crazy about adrenaline and I like looking for more extreme and adventurous things.
- How long can this sport be done? It depends on health. It's a sport that is run in nature, it's dangerous here and there, you run from a ski slope, you get on a rocky ground, you wade across a river, so God forbid, anything can happen at any time. I have to be unharmed and know what my body will allow. You can run like this up to your forties. But it's more difficult by then. When there are three races in a single weekend, it is more difficult to regenerate the body. But I may become enthu-

• What is your main goal now?

siastic about something else in the meantime.

To be a professional athlete to provide for myself by doing sports. But this sport is not as well-known as is football or hockey, where you can provide for yourself with one season abroad for a long time. In the future, I could, for example, be a personal coach or give some group lessons, but at the same time I would also like to focus on programming, mobile applications, for example.

- But your name has already appeared in the media, so you are starting to be associated with Spartan. Yes, and I believe that my sport could be given more publicity in the media. But as I say, it's just the beginning. Although it has been 15 years since this sport began, it is still a novelty. We'll see if it gets to the Olympics in 5 years, so my goal will be to take part too.
- What resolutions will you make for the new year? To be as good as possible, take highest places and stay in shape with the best athletes in the world. To retain the title, not to flake out and to move on! Complete the current semester. And improve my English...

TEXT: Zuzana Paulusová/ PHOTO: Richard Hynek's archive

What is Spartan Race?

One of the most popular obstacle course races in the world. It is a combination of running and overcoming a variety of obstacles. It is run in any weather and the terrain is usually very challenging. It was founded by Joe De Sena in the United States in 2010 and before long it spread throughout the world. Gritty. Resilient. Passionate. Spartans aren't soft. They overcome obstacles. And yes, Spartans burpee.

Simply put, it is a cross country running: in the hills, in the mountains, sometimes in the cities. It is never a purely road race. It has three basic race tracks with increasing track length, increasing number of obstacles and increasing difficulty: Spartan Sprint (5 km / 20+ obstacles), Spartan Super (10 km / 25+ obstacles) and Spartan Beast (21 km / 30+ obstacles). The tracks are interspersed with obstacles: natural (jumping over and climbing under anything that is around) and artificial (wall climb, monkey bars, strength testing, balance testing). And throwing a spear at a straw target is the Spartan trademark. And on top of that, they need to be able to swim well. If they fail to finish any of the obstacles by ringing the bell, there is a failure penalty of 30 burpees.

It is ideal for the competitor to be fully prepared. They can't weigh 50 kilos, because if they're required to carry a 60-kilo bucket, they won't get far...



Through the eyes of the author: I was waiting for Richard in the lobby of the Faculty of Electrical Engineering and Informatics. If I hadn't known he was involved in such a demanding sport, I would have never thought that of him. A completely normal boy, a student. A nice guy sparkling with good mood and positive energy in all directions. He says that a lot of people tell him that. His thoughts are in total order and he knows exactly what he wants. And he goes for it. Despite being the world champion in the Spartan Race, he is incredibly modest. And a perfect example of "where there's a will there's a way". I think we will hear a lot more about him. I'll keep my fingers crossed!

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