

No. 102 | Marz 2021

# my UPCE

bulletin university of pardubice



*And yet it learns ...*

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Photo on the title page: Jakub Jech



## **My UPCE Bulletin University of Pardubice**

Published by the University of Pardubice, Rectorate, Promotion and External Relations, Company ID: 00216275.

Address: Studentská 95, 532 10 Pardubice 2, Phone: 466 036 413, 466 036 406, e-mail: zpravodaj@upce.cz.

Editor-in-chief: Věra Příbylová. Editorial team: Zuzana Paulusová, Aneta Krejčík Plšková. Lenka Čermáková, Tomáš Jiránek, Lucie Košťálová, Andrea Koblížková, Martina Macková, Adrián Zeiner.

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Photodocumentation: CITS – Adrián Zeiner, Petr Špaček, Radek Plžík, Milan Reinberk and UPa archive.

Graphic design and setting: CITS – Alena Komárková.

The editors reserve the right to abridge and edit the texts.  
2021.



# OPTIMISM

Spring always connotes new beginnings and optimism. I imagine there is hardly anyone that does not wish that we get back on track as far as the situation caused by the COVID-19 pandemic is concerned. In this respect, I must stress that many students and employees of the university have been helping in hospitals and other healthcare facilities, or have taken part in testing. Let me thank all of them.

Universities spent the first months of 2021 finishing their 2021+ strategies and related documents. What I appreciate is the fact that we managed to engage in an intensive discussion about the strategy of our university even though it is difficult for larger numbers of people to meet in person. The constructive cooperation of the management of all faculties, university facilities and the representatives of the Academic Senate of the University of Pardubice also deserves appreciation. To put it simply, each institution is as strong as its weakest link. In the future, we must make sure that all employees make a substantial contribution to the quality of education, research & development and creative activities, as well as to

the areas of internationalisation, popularisation and any other areas that help develop our university.

I cannot ignore the changes in the system for evaluating research organizations in terms of research, development and innovation, which is entering the final stage. For the first time this year, comprehensive evaluation of research organizations in all five modules will be carried out. We aim to be an "institution of stable quality with excellent results in research, sufficient innovation potential, and/or significant applied research results; R&D&I results correspond to the purpose of the institution." In the future, we wish to put emphasis on the quality and utility of the research results and to be able to show the scientific fields where we have achieved excellent and internationally competitive results for a long time both to the expert community and the lay public.

Let me wish all students and employees good health. I will be happy if all of us are proud of being students or employees of the University of Pardubice.

*Libor Čapek  
Vice-Rector for Research and Development*

## Heart in a Pandemic

To add optimism, encourage, express the connection with the university – that was the aim of an event organised by the employees and students. The tallest building on the campus of the University of Pardubice lit up for a few minutes. The photo, which the organisers sent to 7,000 students and a thousand employees via social networks on February 14th, also appealed to a record number of people on the university's Instagram.





# Smell training can work wonders

Jan Vodička  
Physician from the Faculty of Health Studies

TEXT: Věra Přibyllová/PHOTO: Milan Reinberk, gpointstudio

**SMELL IS EXTREMELY IMPORTANT IN SOCIAL RELATIONS. IN SOME CASES, LOSING SMELL MAY WELL RESULT IN LOSING A JOB. AS MANY AS 20% OF THE POPULATION SUFFER FROM IMPAIRED SMELL. COVID-19 PATIENTS ALSO LOSE THEIR SENSE OF SMELL FOR A LIMITED PERIOD OF TIME. HOW TO REGAIN THE SENSE OF SMELL? IN THIS INTERVIEW, MUDR. JAN VODIČKA, PH.D., A LEADER OF AN EXCELLENT RESEARCH TEAM AT THE FACULTY OF HEALTH STUDIES, INTRODUCES A UNIQUE PROJECT INVOLVING TASTE TESTING IN THE TIMES OF THE PANDEMIC, TALKS ABOUT SMELL THERAPY AND TRAINING AS WELL AS THE RELATION BETWEEN THE SENSE OF SMELL AND TASTE.**

## ***How many people lose their sense of smell every year?***

Approximately 20% of the population suffer from impaired smell, and 5% even lose their sense of smell completely. Many patients do not even realize that they suffer from impaired smell. This is the case, among others, of patients with the Parkinson disease who usually suffer from impaired smell, but rarely undergo an examination.

## ***How important is the sense of smell for us?***

Generally speaking, women are much more concerned about any smell impairment. If you work as a chef or wine taster, you may even lose your job if you lose the sense of smell. When we eat, the senses of smell and taste enable us to check the quality of what we eat. Smell may also warn us of the presence of hazardous substances. And its role in social relations is also important. Patients who have lost their sense of smell do not know how their body odour, or cannot join a dinner-table discussion about feed and drink.

## ***Why is it that some COVID-19 patients lose the sense of smell and taste for a short time, while others suffer from the loss for much longer?***

A vast majority of patients regain their sense of smell within 4 weeks. Sometimes, it may take longer, most likely due to more extensive damage of the olfactory epithelium.

## ***What should we do if we do not regain the sense of smell even after a month? Should we see a specialist?***

It is advisable to see a specialist if the loss lasts for some 4 weeks and there are no signs of recovery. COVID-19 patients usually lose the sense of smell for several days, but sometimes it may take longer. It is not rare that a patient

who has suffered from a viral infection takes several years to recover.

## ***Interestingly, many people can smell bad smells after COVID-19. Why is that?***

Some 18% of COVID-19 patients who suffer from impaired smell complain of altered olfactory perception. They often refer to bad smells, like the smell of a burning rubber. This is called parosmia. It is based on an assumption that some of the olfactory receptors do not work correctly and the perception is altered. Some studies argue that it may be a case of smell regeneration.

## ***What is the therapy that you offer to patients who have lost smell or taster after COVID-19?***

First, they undergo basic examination and their smell is tested using standard methods. We use Sniffin' Sticks Identification Test and Odourised Markers Test. In addition, we use taste strips to test the sense of taste. In cases of unknown aetiology, we also perform MRI and antibody tests for SARS-CoV-2. The therapy is proposed on the basis of all of these tests.

## ***Is it always the case that if you lose the sense smell, you also lose the sense of taste?***

The senses of smell and taste interact very closely. In general, patients with impaired smell usually suffer from mild taste impairment. When people complain of taste impairment, they often say that the food tastes different, which is an important signal for us. In fact, it is often a case of impaired retronasal olfaction.

When you swallow food, the olfactory perception goes from nasopharynx to the nose. That is why smell plays an important role in how we smell and taste food. What

we often find out is a situation when patients suffer from a complete loss of smell, but have not lost the taste. That is why we ask patients who complain of altered taste, whether they can smell salty, sweet, bitter and sour taste. Is it possible to lose only the sense of taste? Taste impairments not involving loss of smell are extremely rare.

**Your current project is called "Telemedicine used for taste testing during the COVID outbreak" You have received funding for the project. Can you tell us more about it?**

The aim of the project is to design a self-test for taste testing, which will include testing strips and an app for phones and tablets with an in-built video camera. The app, or rather the software to be more precise, will be used as an interactive manual for self-testing. It will also check whether the self-test has been done correctly and will serve as a tool for collecting data from the patient and determining the result of the self-test. On a voluntary basis, it could also be used for sending the results to the respective physician in an electronic form.

**What is the principle behind test strips?**

Test strips are used to test for basic flavours – salty, sweet, bitter and sour. Each strip, made either of a filter paper or film, has a layer of the flavour. The patient puts the strip on the tongue and must say what flavour they taste.

**What is your relation to the Centre for Technology and Knowledge Transfer?**

We cooperate with the Centre and they help us with the commercialization of our work.

**Can you describe the cooperation?**

It is a case of interdisciplinary cooperation involving the Faculty of Health Studies, the Faculty of Electrical Engineering and Informatics and the Faculty of Chemical Technology. Pardubice Hospital is also involved. In the future, we plan to engage in cooperation with the Interdisciplinary Centre "Smell & Taste" in Dresden and the ENT Department in Geneva. The taste strips tests were developed in Germany and have been used for many years. Our ambition is to make it possible for the patients to self-test and make the whole test more attractive for the patients.

**Can the strips reveal that a person is positive for COVID-19?**

At the moment, it is no more than a complementary test that COVID-19 patients may undergo. It has no ambition to replace antigen or PCR testing. What it enables us, however, is to determine the functionality of our taste buds. Taste impairments are encountered not only in COVID-19 patients, but also in patients with neurological or metabolic diseases.

**You recommend that patients who have lost the sense of smell due to COVID-19 undergo smell training. What exactly is that?**

At the moment, it is the only procedure that has been proved to improve our olfactory functions. Twice a day, patients smell four different scents: rose, eucalyptus, cloves and lemon for several minutes. You must do the training for a minimum of six months.

**Can smell training work wonders?**

The existing studies suggest that it indeed can. My experience shows that it very much depends on the patient's attitude. Many patients give up after a few days. An active

approach is needed for smell training to be effective. It is necessary not to give up.

**If the smell training fails, is there any medication that may help?**

Oral or intravenous administration of corticosteroids is effective in sinonasal disorders. The good news is that the biological therapy also works. No other drugs have been proved to be effective, and that is why we do not recommend them. We have investigated the effects of vitamins, alpha-lipoic acid, minerals (such as zinc) and others.

**Can surgery help to regain the sense of smell?**

Surgical treatment only works for patients who suffer from chronic nasal cavity and paranasal sinus pathologies. Endoscopy treatment is used involving the use of a camera to treat paranasal sinus.

**Patients who have suffered a loss of smell often report that they can remember the taste of certain food mentally. Is it possible?**

Absolutely. Smell is closely connected with the memory systems in the brain. Even many years later, a smell can provoke memories of past experience or bring you back to your childhood.

**You are a leader of an excellent research team at our university. What is the focus of your research?**

Smell-wise, our research deals with how we determine which smells we perceive to be good and which to be bad, as well as respiration in smell stimulation, so called respiration olfactometry. Taste-wise, we aim to find an ideal method for detecting taste impairments. Last but not least, we also deal with hearing and early detection of hearing impairments.

## Most common causes of impaired smell

### Viral infections

- occur after viral upper respiratory infections,
- caused by respiratory viruses (respiratory syncytial viruses, influenza viruses), and today mostly by the SARS CoV-2 virus leading to the development of COVID-19
- may affect olfactory epithelium that is targeted directly by the virus (e.g. COVID-19), olfactory nerves or centres (herpetic viruses).

### Sinonasal

- occur in oral cavity and paranasal sinus infections, and most often involve a chronic inflammation with the presence of nasal polyps
- partially caused by nose blockage where the olfactory molecules are prevented from getting into contact with olfactory epithelium, and partially caused by olfactory epithelium inflammation

### Injuries

- occur after head injuries, e.g. falls involving the nape
- caused by tearing of nerves in the base of the skull or as a result of contusion (laceration) involving the olfactory systems in the brain



# HELPING OTHERS:

HUNDREDS OF STUDENTS OF OUR UNIVERSITY HAVE VOLUNTEERED TO HELP OTHERS DURING THE CORONAVIRUS OUTBREAK. SOME STARTED ALREADY LAST SPRING, OTHERS JOINED LATER AND DO VOLUNTEER WORK TO DATE. THEY HELP IN HOSPITALS, SOCIAL CARE INSTITUTIONS OR SCHOOLS. SIMPLY EVERYWHERE THEY ARE NEEDED. WE WOULD LIKE TO SHARE THE STORIES OF SOME OF THEM.

*Sometimes it feels good to wear pyjamas at school*



**NIKOLA POLEDNOVÁ** is a third-year student of History and Literary Studies at the Faculty of Arts and Philosophy. She is standing in for the absent staff of the Holice Children's Home. At the beginning, she started helping at the children's home informally, but later entered into a volunteer agreement. Last autumn, she decided that she would help the staff doing everyday shopping, teaching and organizing free time activities for the children. Nikola is able to get some positive emotions from her work: **"I am happy to see that the children are enjoying a game I have prepared for them, or to do something that I enjoy and deem meaningful."** What is difficult for her, though, is the separation from her friends and family as well as the concerns about their health. To get into better mood, Nikola goes for a walk with her dog or for a horse ride. In her opinion, it is important to find something that you find enjoyable. Despite the difficulties and obstacles that students face today, she tries to remain optimistic: **"What I miss is the student life, including the library and café visits, where I liked to study. Admittedly, it sometimes feels good to go to school in pyjamas."**

*I rather not think about online teaching as the new normal*



**KAROLÍNA TRICSLI** studies an MA programme in English Language Teaching at the Faculty of Arts and Philosophy. She works as a volunteer at a primary school in Prague. As part of a project called Let's have everyone involved, she gives extra English lessons to two groups of children from socially disadvantaged backgrounds. She started to teach the first group in December, and the other a month ago. Karolína is happy to see that her pupils improve their skills and understand the difficult bits. **"I have opted for the teaching career since I am a sociable person that needs to have other people around and talk to them. I rather not think about online teaching as the new normal,"** says Karolína about her teaching experience in today's situation. Just like other students, distance learning is difficult for her. Today's circumstances force us to enjoy the little things. She enjoys going for walks and experimenting in the kitchen. To escape the routine, she tries to do unusual things at home: **"Once my husband and I had a picnic on the living room floor."**

*It is a fact that we must cope with*



**MARTIN KUBÁT** is a third-year student at the Faculty of Health Studies studying to become a paramedic. During the second coronavirus outbreak, he started to work at the Anaesthesiology Department at the hospital in Chrudim. Martin does the job of both an orderly and a nurse. If it is necessary to stand in for either of these, Martin is there to help. His colleagues at work are the source of energy for him. Even though he comes from Pardubice, he opted for the Chrudim Hospital even for his first-year internship. He tries to see the world with coronavirus as a fact that we must cope with. **"It is hard to say what is more difficult for me. Wearing personal protective equipment, a high number of duties or seeing the death every day? It is all very demanding,"** says Martin to describe his everyday work. For him, it is relaxing to be in the countryside or do some sport. As a trainee paramedic, he says that the students cannot do all their courses under standard conditions. **"I am really happy that we can have the practical classes since it would be impossible to study the programme without them."**



# THAT IS THE MEANING OF CORONAVIRUS FOR SOME

*People around keep being optimistic*



**MATĚJ KOČÍ** is a second-year student at the Faculty of Health Studies studying to become a paramedic. For more than five months, he has worked as orderly at the Covid-19 critical care unit, once a Neuro-ICU, of the Pardubice Hospital. Matěj's work involves supplies replenishment, surface disinfection, patient repositions, assisting the admissions and recently also taking care of the deceased. Thanks to his study programme, he can sometimes do the job of a nurse, and thus gain hands-on experience. What motivates him to be a volunteer is the vision of getting back to the normal, even in terms of his study and social activities.

He takes the Covid-19 very seriously, and that is why he is very concerned about the fact some people believe lies and fake news. Matěj's colleagues keep supporting him: **"Without being able to find some mood booster these days, I would not probably work at the hospital any more. I am lucky to have nice and optimistic people around me."** Matěj is fine with his study progress, but admits that it is difficult. **"Our teachers do realize how difficult the situation is and that students work in healthcare facilities. They do their best to be flexible and make our lives easier,"** says Matěj.



TEXT: Aneta Krejčík Plšková/PHOTO: students archives

# EGNOS monitors aircraft and soon to monitor rail traffic,

says Aleš Filip



THE RAIL TRAFFIC MANAGEMENT IN EUROPE WILL BECOME MORE MODERN AND SAFER THANKS TO THE EGNOS SATELLITE NAVIGATION SYSTEM THAT HAS BEEN USED IN CIVIL AVIATION UP TO NOW. THE USE OF SATELLITE NAVIGATION FOR TRAIN POSITIONING ALSO INVOLVES REDUCTION OF OPERATION COSTS. ALEŠ FILIP, ASSOCIATE PROFESSOR AT THE FACULTY OF ELECTRICAL ENGINEERING AND INFORMATICS WON THE GALILEO MASTERS 2020, A PRESTIGIOUS AWARD IN THE FIELD. "THANKS TO USING SATELLITES FOR TRAIN POSITIONING, IT WILL BE POSSIBLE TO HAVE SAFETY SYSTEMS IN PLACES WHERE IT WAS NOT POSSIBLE DUE TO FINANCIAL CONSTRAINTS, AND THE RAIL TRAFFIC SAFETY WAS THUS DEPENDENT ON HUMAN ERROR," SAYS ALEŠ FILIP.

**You have successfully completed the research into the use of the EGNOS navigation system. It took 10 years. Why so long?**

Successful completion is not the right word. So far, we have only proposed a protocol. Originally, EGNOS was designed for civil aviation safety management. What we did was propose a way for adopting and approving something that was not originally designed in compliance with rail traffic standards to be used for rail traffic management as part of the European Railway Traffic Management System (ERTMS).

After many years without any specific progress, we have found the light at the end of the tunnel. We have made the way forward clear, and stressed the need for cooperation of all stakeholders on the European level. EGNOS certification, for which the University received the Galileo Masters 2020 Award, must be seen as one little piece of a jigsaw puzzle, which is a long and difficult journey leading to a safer and more modern rail traffic management in Europe.

**How will the EGNOS system contribute to safer rail traffic?**

What we propose is preparing a European safety manual for the use of EGNOS in rail traffic. The manual should provide a detailed description of how EGNOS can be safely integrated into the ERTMS. In fact, it will be a new European railway standard.

**That is the light at the end of the tunnel?**

Absolutely. It will show the system designers and people responsible for the industrial integration what steps need to be taken in order to design a product that will be safe and reliable enough to use EGNOS for safe train positioning. The manual will also help the authorities that will be responsible for the certification and approval of the train locator based on the EGNOS SoL (Safety of Life). The competent authorities include the European Union Agency for Railways (ERA), the European GNSS Agency (GSA) based in Prague, European Space Agency (ESA) and the European Commission.

Rail traffic safety is based on the knowledge of the train location and speed at a point in time. These variables may be determined with great precision using EGNOS. And this must also work in very challenging environments where the landscape or the buildings along the rail track are responsible for sub-optimal conditions for signal transmission from the satellites to the train. Other factors that may compromise the safety include industrial or intentional interference with the signal along the tracks, sun eruptions affecting the transmission of the signal in the ionosphere etc. The designers and manufacturers of the system must bear all such factors in mind. EGNOS, which includes a series of monitoring stations and other devices located virtually all around Europe, evaluates the quality of the GPS (or soon Galileo) signal and uses the geostationary satellite to inform the users of any issues that may occur. Safety measures preventing accidents must be adopted. That is how it works both in aviation and rail traffic.

**Is it possible to quantify the safety standard required for rail traffic? Say that it fails not more than once a...**

Say that a hazardous defect of the system resulting from incorrect positioning of the train that may lead to an accident, may occur once in 100 000 years or even less often. It is possible to visualise a time span of 100 years, but nearly impossible to visualise a time span of 1000 years. And absolutely impossible to visualise a time span of 100 000 years. Having said that, we must be able to prove that such a stringent safety standard is met thanks to using the EGNOS system. That is also one of the reasons why the journey to implementing satellite navigation in rail traffic is so long and far from being straightforward.

**What methods were used to monitor rail traffic safety up to now?**

Very costly trackside devices were necessary for train positioning. Safety systems are often obsolete, or even non-existent, on many local rail tracks. Satellite-based positioning systems are expected to reduce the costs of operation and rail maintenance, and make it possible to implement the safety systems in locations where it was not possible up to now due to financial constraints, and where the rail traffic safety was dependent on a human error. However, it is not only about train positioning in obsolete rail traffic safety systems, but also in the ERTMS system, where trackside balises are used. The aim is to replace the physical balises with virtual ones, which will be identifiable using EGNOS.

**Can you describe the principle in more detail?**

The ERTMS uses balises located in the tracks, whose location is defined, for train positioning. Their shape often resembles that of a paving stone or a big box of chocolates. They are mostly yellow. There are often groups of two or more balises at one location. The distance between the balises is 100 metres on average, but it may be much less or, on the other hand, as much as 2,5 kilometres depending on the situation.

The train engine is equipped with a balises reader which makes it possible to determine the precise location of the train. If EGNOS is used for train positioning, the safe location of the train will be determined on the basis of the EGNOS signal

receiver and other on-board sensors. In this case, the location of the virtual balises is stored in the on-board computer. If the location of the train is consistent, with some margin, with the location of the virtual balise, the balise has been detected.

**I can imagine that there is an international interest in your work. Who are your partners?**

We have worked on the adoption and certification of EGNOS for the ERTMS in two international projects. Just like our European colleagues, we have found ourselves in a sort of a vicious circle over the past 10 years. On the one hand, EGNOS was used in aviation safety and was proved to be safe. On the other hand, the CENELEC standards prohibited the transfer of the proof of EGNOS safety developed for aviation to rail traffic since the principles behind aviation and rail traffic safety completely differ. The European Space Agency was in need of some solution.

**Where is the system being tested abroad?**

As a GSA expert, I attended ERTMS testing involving virtual balises detected at the GNSS base in Sardinia, Italy. The track from Cagliari to Decimomannu was used for final testing in 2017. The project was conducted by Ansaldo STS, which has transformed into Hitachi Rail. That was not, however, the first case of implementing the ERTMS with a virtual balise. The very first case when ERTMS relied on GNSS was in West Australia and involved a 344-kilometre track from Port Hedland to iron ore mines in Roy Hill owned by Rio Tinto. Ansaldo STS used this track to implement the ERTMS solution with local GNSS augmentation and proved the safety integrity of the SIL4 on the level of the system. It is a case of commercial use.

Yet another case of commercial use in passenger transport is being prepared by RFI, an Italian railway company, on the track from Novara to Rho, near Milan. That will be the first case where satellite navigation is used for passenger railway safety and management. This project in northern Italy is to be showcased as the use of new technologies in Europe. It is supported by the Italian Space Agency (ASI), European GNSS Agency (GSA), and the European Space Agency (ESA).

**When do you expect the project to be implemented?**

The idea of adopting and certifying EGNOS for the ERTMS is still recent.



*Associate Professor Aleš Filip won a prestigious award Galileo Masters 2020*

The ESA adopted our proposal in autumn 2020. We have to wait for some time. The fact is that no other promising solution has been tabled so far. Naturally, it would be extremely interesting to work together with our European partners on developing the solution further, e.g. on drawing the safety EGNOS manual for the ERTMS.

**Where would you take the research further?**

Currently, we are trying to transfer our long-term experience with the GNSS safety application in rail traffic to self-driving cars. We want to build on the synergy. In rail traffic, we have long-term experience with designing safety and control systems that we are to put to use. Self-driving cars are expected to meet at least the safety

standards that we see in air travel and rail traffic. Only then will our customers have trust in self-driving and autonomous cars, will buy them and use their safety features to their full potential.

### **Who are your partners at the Faculty of Electrical Engineering and Informatics?**

The Faculty counts on many talented and hard-working young researchers who focus on the use of satellite navigation in land transport. They carry out experiments, engage in cooperation with the industry. For example, the PosiTrans project (2018-2022) coordinated by the Faculty of Electrical Engineering and Informatics also involves the Railway Research Institute. They know that they do it for themselves as well as for the others. Those who try achieve something. My former colleagues from the Laboratory of Intelligent Systems work at the Faculty nowadays. The Laboratory used to be at the old railway station, but is owned by a different company now. They are top class Czech experts whose work is appreciated abroad.

**SAFETY SYSTEMS ARE OFTEN OBSOLETE, OR EVEN NON-EXISTENT, ON MANY LOCAL RAIL TRACKS. SATELLITE-BASED POSITIONING SYSTEMS ARE EXPECTED TO REDUCE THE COSTS OF OPERATION AND RAIL MAINTENANCE, AND MAKE IT POSSIBLE TO IMPLEMENT THE SAFETY SYSTEMS IN LOCATIONS WHERE IT WAS NOT POSSIBLE UP TO NOW DUE TO FINANCIAL CONSTRAINTS, AND WHERE THE RAIL TRAFFIC SAFETY WAS DEPENDENT ON A HUMAN ERROR.**

### **How many years have you been personally involved in this research?**

Twenty five years. When I came back from a two-year study stay at the University of Tokyo in 1995, I started working for Czech Railways. Thanks to the support of the management, we established the Laboratory of Intelligent Systems at the old railway station in Pardubice where we first thought about applying GNSS to safe train positioning in order to enhance rail traffic safety. Our ambition was enhancing the safety of traffic on regional tracks. In 1998, our group of young enthusiasts from an old railway station in Pardubice was invited to join the APOLO (Advanced Train Position Locator) project, the first major European project, by partners from France (Thales Navigation), the Netherlands (European Railway Research Institute), Spain (TIFSA RENFE), Italy (SAB WABCO) and the United Kingdom (RAILTRACK).

### **Can you tell us more about the project?**

The goal of the APOLO project was to design methods for train positioning on the basis of satellite navigation. Another goal was to carry out experimental testing of the EGNOS satellite system that was being developed at that time. It was a project carried out as part of the fourth framework programme. That is a project that many Czech universities and research institutes could only dream of at that time. I sent a fax to the then EU Commissioner for Transport expressing our interest to join the project.

In response, they invited us to a meeting at the European Commission. And that was it. The Czech Republic was not a EU member state at that time. That made our talks about joining the APOLO project more difficult. But we made it.

### **What were the further steps?**

We obtained funding for the acquisition of the equipment that we needed to carry out experiments with trains and take part in international meetings. It may be interesting to mention that the grant was not awarded in euros, but in ECUs (European currency unit). Our small lab in Pardubice was the first in Europe, where the EGNOS system was tested for train positioning. We installed a GPS and EGNOS receiver on an electrical engine and started carrying out tests in Eastern Bohemia.

### **Where exactly?**

On the track Pardubice-Hradec Králové-Týniště nad Orlicí-Chocẽ. We installed our own radio modem network on the track making data transmission between the train and the lab possible. We tested EGNOS on track going along the Divoká Orlice river between Poštẽejn and Litice nad Orlicí. Back then, we were in the train engine in Litice and used a mobile phone to call to the CNES Center in Toulouse, France, and they adjusted the parameters at the Geostationary Satellite as we needed. It was a great pioneering era. The European Space Agency mentioned us in its ESTB News bulletin.

### **Since they mentioned you, your research must have been very attractive.**

In 1998, I was also approached by GPS Word, a prestigious US journal, to write an article for them. And the article was read by one of the managers of the PTC (Positive Train Control) project, a big North American project, where GPS was used for train positioning. He was on a business trip in Munich. He sent us a fax and we agreed on his visit in Pardubice. That is how our cooperation with TTCI (Technology Transportation Center Inc.) in Pueblo, USA, started. In cooperation with the colleagues from TTCI, we attended conferences in US and the Czech Republic. Our laboratory was invited to join an international expert group in Brussels called the GNSS Rail Advisory Forum, where we developed the first set of requirements for the use of satellite navigation in rail traffic in Europe. The cooperation and coordination of activities involving the use of GPS, Galileo, and EGNOS in Europe for the benefit of rail traffic continued further in the expert group called Galileo Applications for Rail within the International Union of Railways in Paris. We published a number of papers and delivered lectures at European universities. We were successful in grant applications. Few people know that the first time we used our experience in practice was technical and safety testing of all seven 680 Pendolino trains even before they were actually used in the Czech Republic.

### **What does the Galileo Masters Award mean to you?**

It means recognition of the work of our faculty over the past years. It shows that the faculty provides us with very good conditions for research and that the young faculty management do their best to enable us to engage in interesting and meaningful projects. When the Galileo Masters 2020 prize was delivered by DHL from the AZO, the organizer based in Oberpfaffenhofen, Bavaria, I thanked the organizers and told them that I would give the prize to the faculty.

*Text: Věra Přibyllová/PHOTO: Milan Reinberk*

# Our Experts to Design the *TURNOUT* of the Future

**THAT A TURNOUT CANNOT BE SMART? EXPERTS FROM THE UNIVERSITY OF PARDUBICE ARE CO-CREATING A COMPREHENSIVE DIAGNOSTIC SYSTEM OF TURNOUTS TO PROVE THE OPPOSITE. IT WILL REPORT TURNOUT FAILURE AND CONTRIBUTE TO BETTER SAFETY AND MAINTENANCE WHILE REDUCING RAIL INFRASTRUCTURE COSTS. THE NOVELTY IS ALREADY BEING TESTED IN THE EDUCATIONAL AND RESEARCH CENTRE OF THE FACULTY OF TRANSPORT IN DOUBRAVICE, AND PRACTICAL TESTS OF THE TURNOUT ARE TAKING PLACE ON THE PRAHA-OSTRAVA TRACK.**

Experts from the Jan Perner Faculty of Transport are designing an intelligent autonomous system for diagnosing railway turnouts. **"We diagnose turnouts from a passing vehicle, which gives us the advantage of an effective mass data collection ensured by the frequency of the passing vehicle through the given section several times a day, and the possibility of immediate comparison of all problematic elements of the transport route, i.e. the turnouts in our case,"** says the member of the research team, Ing. Martin Kohout, Ph.D., from the Jan Perner Faculty of Transport.

Not only will the system make it possible to detect any deterioration of the technical condition of the turnout, but it will also help the infrastructure manager with predictive maintenance. This means that he will be able to predict the development of the turnout structure and reveal a potential problem or fault. The project will include the development, assembly, and testing of hardware that will be durable enough for several years of use, modular, and without impact on the operation.

Due to new technologies, turnouts would not have to be checked as often as they do now. The trips of responsible workers of the Railway Administration to check turnouts are time-consuming. **"Currently, the evaluation of the turnout condition and, above all, the estimation of the future development is pretty much based on personal experience and knowledge of qualified employees in the entrusted districts. New technologies should enable infrastructure managers to collect quantifiable data centrally and in a coordinated way, and to make predictions based on an analysis of a large number of data,"** describes Martin Kohout.

The volume of railway transport used for both passenger transport and freight is constantly growing. It has the great advantage of being environment friendly, so there is a pan-European effort to shift freight from road to railway. However, the capacity of the rails is still being depleted by the development of intensive suburban transport. Concerning the busiest main routes, freight transport



## The project of Turnout 4.0

has been solved by experts from the Jan Perner Faculty of Transport since last year. The project is patronised by the Technology Agency of the Czech Republic within the Transport 2020+ programme. The research team from the Jan Perner Faculty of Transport consists of three experts from the Department of Transport Means and Diagnostics, the Railway Vehicles Unit: Ing. Martin Kohout, Ph.D., Ing. Aleš Hába, Ph.D., and Ing. Jakub Vágner, Ph.D. Also participating in the project are the staff of the Civil and Mechanical Engineering Faculties of the Brno University of Technology and the employees of RETIA, a.s. from Pardubice. The main researcher of the project is the company of DT – Výhybkárna a strojírna in Prostějov, the world manufacturer of turnouts, with whom the colleagues from the Faculty of Transport have had long cooperation.

thus uses the capacity during the night. Any traffic closures for maintenance or repair always mean a significant traffic complication. Continuous online diagnostics can help prevent local speed limitations caused by faults in the most stressed parts of turnouts, as well as any subsequent rail closures associated with time-consuming repairs. The results of the project will contribute to the optimisation of the timing of maintenance interventions, which should lead to a longer lifetime of the turnout and increase the safety and smoothness of railway traffic. To test the turnouts, experts from the Jan Perner Faculty of Transport chose the main corridor Praha-Ostrava. Owing to an extreme operating load of the track, they can monitor and analyse almost the entire lifetime of the turnout. One of the monitored turnouts is, for example, in Moravany near Pardubice.

The technical background of the research team is within their own development in the educational and research centre in the Pardubice part of Doubravice, where the experts test prototypes of the developed hardware in the laboratory. However, the development of hardware for data collection and the implementation of operational measurements is far from being easy. Operational testing is complicated by the current pandemic situation, which hampers the extent of railway transport, admissions for entering companies and depots, and any consultations with other experts and users.

**"We're temporarily testing the performance of the device and control software for the data collection on cars as well. But until we get into rail traffic, we won't be able to detect any weak points of the system and move forward in our solution. If all goes well, the prototype of the autonomous device will collect the first data on the condition of turnouts by the end of March,"** concludes Martin Kohout optimistically on behalf of the research team.

*TEXT: Aneta Krejčík PIŠKOVÁ/PHOTO: Martin Kohout's archive*



# Boss No. 10

## Director of the National Library, Tomáš Foltýn

SEVEN AND HALF A MILLION VOLUMES. THE OLDEST AND THE MOST VALUABLE BOOKS IN OUR COUNTRY. PRECIOUS INCUNABULA AND PARCHMENT MANUSCRIPTS. THIS IS OUR CULTURAL HERITAGE STORED IN THE COLLECTION OF THE NATIONAL LIBRARY OF THE CZECH REPUBLIC. AS OF THIS MAY, THE COMPLETE OPERATION OF THIS IMPORTANT INSTITUTION WILL FALL UNDER THE MANAGEMENT OF ITS NEW GENERAL DIRECTOR, TOMÁŠ FOLTÝN, WHO IS A GRADUATE OF THE FACULTY OF ARTS AND PHILOSOPHY. HE WILL THUS BECOME THE TENTH POST-REVOLUTION DIRECTOR. HIS VISION OF THE LIBRARY IS CRYSTALLISING, INCLUDING THE ONE ABOUT THE DESIGN OF A NEW BUILDING. "IT SHOULD BECOME A SHOWCASE OF THE CZECH LIBRARIANSHIP," HE SAYS.

### When did you first visit the National Library?

Unfortunately, I can't remember. Anyway, as a student, I had a reader's card, which I still may find somewhere at home. Since I studied at the Faculty of Arts and Philosophy in Pardubice, I used to visit other libraries – the local University Library and the Regional Library or the Research Library in Hradec Králové.

### Have you had a clear idea of which direction you wanted to take since the beginning of your studies?

When you enter a university after secondary school, you don't think about what will happen in five years. I joined the Department of Historical Sciences with the idea to focus on this area from the broadest point of view, whether it is research work oriented towards our history or employment in memory institutions.

### What did you study?

In my bachelor's studies, I devoted myself to cultural history specialised in museology, whereas in the master's programme, I focused on regional history.

### However, you graduated from the Business Academy in Beroun before that.

I did. It was a school that prepared well for future studies at universities with an economic or legal focus. I also applied for a similar type of school. I didn't get to my dream studies as I always missed a little bit. Although I passed the entrance examinations successfully, the competition was quite stiff as my generation was that of the baby boomers.

Before university, I studied languages, namely English and German. Foreign languages are essential for any branch of study. But I also enjoyed reading, was interested in history, liked to go sightseeing. That's why I applied to Pardubice the following year, which I've never regretted. Studying at the University of Pardubice was very inspiring for me, and it gave me a lot for life.

### When you began to study at the University of Pardubice, you were a member of an interesting and perspective team of today's Dean, Jiří Kubeš. What was your focus?

It was aristocratic families, especially in the post-White Mountain period, the education of aristocrats and the phenomenon of Grand Tours, but also some other aspects of noble life. Thanks to a healthy atmosphere and support from Jiří Kubeš, many professional studies were created and published by the students themselves. There was also positive pressure from management towards the students

to keep presenting their results. I think that it's good for the future of university students to get used to acting in the scientific community, use language and argue for their research, whether in the form of annotations or by attending scientific conferences.

### Just like you got used to when you published professional articles and collected points in historical competitions...

Successful representation of the Institute of History at the Faculty of Arts and Philosophy reaches far back to the past. And I was neither the first nor the last. In 2005, I finished second in the national student competition called History, where I introduced the results of my Bachelor thesis about Grand Tours, especially from the point of travel institutions. Thanks to the support of foreign student educational stays, I was able to do research in Viennese archives and devote myself to the study of the Baroque nobility, which culminated with my diploma thesis.

### Did you stay in touch with your classmates after the studies?

Yes. We still come together with some. It's another added value of university study.

### And what about memories of your teachers? Stories about some of them are often around a long time after graduation...

I can remember Prof. Jiří Škabrada, who focused on historic buildings. We had unforgettable lectures with him on how the buildings developed. We went on a study trip around east Bohemia. We visited old buildings and cottages and admired how well they had been handcrafted. It was an incredible experience.

I love to recollect the lectures on the Middle Ages with Associate Professor Teplý, who managed to involve us in the issue with his enthusiasm. At the times of my studies, the team of teachers at the Institute of History was perfect. They encouraged students, worked intensively with them, and there was an overall good atmosphere. The years spent there were very nice in terms of study and personal ties.

### Has cooperation between the Institute of History and the National Library been outlined yet?

There have been several interconnections between the Institute of History and the National Library so far. On optional lectures, our colleagues and we introduced students of the University of Pardubice to digitisation.



## Mgr. Tomáš Foltýn (1982)

After studying at the Business Academy in Beroun, he obtained his master's degree at the Faculty of Arts and Philosophy, University of Pardubice. During his studies, he completed an internship abroad at the University of Vienna. In 2007, he began working at the National Library as a librarian, and three years later, he became the head of the Department of Metadata Creation and Management. At the same time, in 2012, he was in charge of the Department of Strategic Planning for the Digitisation of Library Collections. From 2013, he worked as a director of the Fund Management Department. Since May 2021, he has been the new general director of the National Library of the Czech Republic. He is married, lives in Prague and has two children. He likes riding his mountain bike, skiing, playing badminton and floorball. Besides reading, he is also fond of good food, beer and wine, and listening to music.

### PHOTO:

*Tomáš Foltýn and Jiří Kubeš (current Dean of the Faculty of Arts and Philosophy), excursion with students to Saxony with a stopover in Litoměřice, May 2006*

*Tomáš Foltýn receiving Z. V. Tobolka's Medal awarded by the Association of Librarians and the Library Foundation, 2019.*

Some experts in librarianship participated in professional conferences organised by the Institute.

Concerning my new position, I'd like to continue this cooperation in a broader spectrum of universities. There is, for example, Digital Humanities, which is a very progressive trend in the research of historical data. Thanks to computer technology, it's possible to analyse a large number of texts and look for contexts in them, which would otherwise be very difficult to do by ordinary reading. Memory institutions have a lot to offer in terms of their content but also when it comes to the experience of their research and expert employees who process the data. Their knowledge can be effectively linked with bachelor's and master's degree education.

### Will you draft any of the students to the Library?

There're several graduates of the Faculty of Arts and Philosophy already working for us in the Library.

### Your work calendar is bustling now. You must hand over the director's agenda of the Division of Fund Management and prepare for your new role as the general director of the National Library. What is going to change?

We'll see when I become the director. My current agenda is not small. It includes many responsibilities towards conceptual and methodological issues. I cooperate with other libraries, and our Division solves practical procedures of various library activities, research projects, and other activities. I'll move from a narrower focus, connected to digitisation, fund protection, and fund management, to global issues as I'll also be in charge of new agendas related to, for example, education and economy. I may not deal with partial agendas, but being the director will give me a broader overview of what's going on. Leaving the Division of Fund Management will not be in the name of "burning my boats behind me"; that I'll finish at the end of April and

won't deal with anything anymore. I'll stay at hand to my successor, Anna Vandasová, for some time. I'm sure it'll similarly work on the part of the current director of the National Library, Vít Richter. We have a schedule of when and how to hand the individual agendas over.

### Do you know how many directors of the National Library of the Czech Republic were there before you?

Not exactly. I guess it'll be around ten – if I also count the post-revolutionary directors. The Library got its name in 1995.

### You will be the fortieth director of the Library since 1777. What are your plans?

I wish the National Library offered services and activities that the user community expects from us. At present, these services are mainly connected with the digital world. None of us knows how the pandemic will evolve. Digital services have proved to be essential for the operation of institutions of our type. Here, we would like to continue in what the Library



already offers. Digitisation projects, like Manuscriptorium, Kramerius, or Webarchiv, have a nationwide reach and European prestige.

I would also like that all the backbone services provided by the National Library be further developed. For example, there's a top-rated service called Ask your Library, where users can ask experts on various topics. You can see questions on various professional issues and some "lighter questions"; for example, where the Little Mole (i.e. a famous animated character) has his loo.

I'd also like to encourage activities aimed at supporting research. The National Library of the Czech Republic has unique collections, and it often serves as a library of last resort, where readers come to look for a document unavailable elsewhere. We have important collections for social but also natural sciences. Our continuous goal must be to provide professionals and students with the necessary and relevant information, possibly with some added value, and effectively.

#### **How many volumes does the Library have?**

In terms of book volumes reported in the annual report, the Library had about 7.5 million volumes at the end of last year. The collections are built across various disciplines. The Library contains medieval parchment manuscripts, incunabula, and plenty of documents, most of them electronic. There's also the web archive as an inherent part of the National Library. In the future, we should develop activities around a compulsory electronic copy. The span of the collections is virtually limitless.

For example, there's an ongoing internal discussion within the Library's management concerning the possibility of a full-fledged study room for maps and large formats. This decision isn't linked to the study of the collections itself. Still, it will also involve a radical change in the management of the collections, the register of documents that may belong here, or their supplementation. Once again, we come to connect with the digital world, where a number of maps have already been digitised.

#### **How did the pandemic situation affect the Library?**

The whole society lives with the Covid and so do our libraries. They respond to government regulations, for example, by opening permitted "buttery hatches". After its short operation on the premises of the National Library, the institution decided to close this kind of window, thus sending a signal

to society that we consider government regulations to be necessary. If the government measures state that we should not gather and move freely, it doesn't make sense to invite our users to come to Klementinum. On the contrary, we strengthened the digital services of the National Library and generally the libraries as a whole – thanks to the current access to Kramerius in the so-called Covid regime or the previous Kramerius university regime.

#### **Has the number of people using your digital services increased?**

According to the data available so far, which we prepare for our statistical reports, there has been an apparent increase in our digital services, especially concerning the unique possibilities of making available the results of digitisation of modern documents. Specific data will be available in the annual report of the Czech National Library for 2020.

#### **What can you offer to your users?**

The role of the National Library is somewhat different from that of city or university libraries, which accentuate another type of services and are in closer contact with their users. Our mission is primarily to preserve and make available our collections in the long term. Of course, we also organise online workshops, training, sizeable traditional library conferences visited by hundreds of people, and provide libraries with valuable methodical and standardisation services.

#### **There were plans for a new building for the National Library in Letná, and one of the designs was by the architect Jan Kaplický. But what should a library look like to meet the latest trends?**

It is a conceptual question. We can't limit ourselves only to a new building for the National Library. The plans before 2007 reflected the needs of the then librarianship and the trends in force at the time. We cannot accept the project of 2004. We need to talk about the construction of the National Library in connection with the strategy of the entire settlement structure of the Library for the future. The National Library of the Czech Republic already has several buildings. Klementinum, which is a historic building with undeniable genius loci, and the depository in Hostivař with modern workplaces associated with processing documents, digitisation, and protection of the collections.

Primarily, the new building should become a showcase of the Czech librarianship in the future. Simultaneously, it should be a symbol that the Czech

Republic is aware of the need for an educated population and information literacy support and wants to support culture in its entirety. The new building should be connected to modern services.

#### **Your vision?**

My vision is gradually crystallising. It's based on the assumption that the National Library should use Klementinum for its representation, and the collections that essentially belong to Klementinum should be stored there. They are historical and musical documents and the documents of the Slavonic Library. There should be adequate space for education, a large lecture hall, and exhibition spaces that would accentuate the spirit of Klementinum, whether in relation to the Jesuit order or the history of book culture in our country. In Hostivař, the technical part, i.e. the large document repositories not used for reference, will remain. There could even be a space reserve for the other institutions. Also, there could be technology workshops, the protection centre of library collections, or a large data warehouse.

The new building of the Czech National Library should be a place of modern services with added value and easy availability of deposited funds and a space designed for meetings, education, and personal growth of the public.

#### **What is the rarest piece of the Library?**

The question of the rarest collections is very complicated. Generally speaking, the most invaluable gem stored in the Czech National Library collections is the Codex Vyssegradensis. However, each researcher or collection manager values a different document. For me, it is an invaluable and comprehensive collection of Baroque theses of the 17th and 18th centuries. The historical collections are simply priceless.

#### **How many books do you have at home? And what are you reading at the moment?**

I have a pretty large number of books, just as any librarian. I don't have much time for reading these days. Still, I'm planning to read *Shakespeareova Anglie* (Shakespeare's England) by Martin Hilský, *Rozpojené státy* (The Disunited States), which is a probe into the present-day USA by Martin Řezníček, and finally Fredrik Backman's humorous bestseller *Úzkosti a jejich lidé* (Anxious People).

*TEXT: Věra Přibyllová/PHOTO: Eva Hodíková, Milan Říský and the archive of Jiří Kubeš*



Archaeological find of a prehistoric well, 2018



# From SUGAR to fame

## Prehistoric well back in the hands of our restorers

**SIXTEEN MONTHS. FOR SUCH A LONG TIME DID THE EXPERTS FROM THE FACULTY OF RESTORATION KEEP A 7,000 YEARS OLD WELL IN SUGAR SOLUTION. THEY AIMED TO PRESERVE THE OLDEST WOODEN STRUCTURE WORLDWIDE, FOUND BY ARCHAEOLOGISTS NEAR OSTROV NA CHRUDIMSKU IN 2018. THEY SUCCEEDED. EXPERTS HAVE JUST TAKEN OUT THE PARTS FROM SPECIAL CONTAINERS AND PROCEEDED TO THE SECOND PHASE OF THE RESTORATION.**

The cellars of the Faculty of Restoration, University of Pardubice, in Litomyšl were the place where experts kept parts a well for over a year, placed in special containers with ordinary sugar solution. They preserved the parts of the well by one of the methods currently used to preserve water-saturated wood, where it

is essential not only to strengthen the wood mass but also to prevent shrinkage of wood during drying. The expected time of drying is 4–5 months. In the case of several selected parts of wells, the weight is measured at regular intervals to accurately determine the end of drying after the weight has stabilised.

### In a sweet solution

“Having considered the available options and their advantages or limitations, we chose the method of preservation with a concentrated sucrose solution. First, we removed the soil residues carefully and applied biocidal agent from the wooden parts,



Individual parts of the well after removal from the sugar solution



which we subsequently immersed in a preservative solution of sucrose," said Karol Bayer, the Vice-Dean for Research and an excellent scientist of the university.

Over the next few months, the restorers gradually increased the concentration of the sugar solution up to 55 per cent of its weight. The preservative solution also contained a biocide to protect the parts of the well and the preservative solution itself from being attacked by microorganisms. The total impregnation time lasted 16 months. The wood experts determined it based on their previous experience, thereby guaranteeing sufficient saturation of the thickest parts of the well with the preservative solution in the entire volume.

### From wet to dry

At the end of 2020, the experts completed the impregnation, removed the individual parts of the well from the concentrated sucrose solution, and stored them to dry out under stable and controlled climatic conditions. **"During the drying process, we monitor the parts of the well for any undesirable changes, such as shape deformations or attacks by microorganisms,"** describes Karol Bayer, the Vice-Dean of the faculty. The restoration of the well itself is carried out by the restorers of the University of Pardubice in cooperation with students Marek Laška, Vít Šaffr, and faculty employee Jiří Hubinka. Among those who took part in the restoration of the prehistoric well were also the specialists in wood preservation – Klára Drábková and

Irena Kučerová from the Department of Chemical Technology of Monument Conservation, University of Chemistry and Technology in Prague.

The prehistoric oak well dates back to the Neolithic. According to the results of a dendrochronological survey carried out by the employees of the Department of Wood Science and Technology, the Faculty of Forestry and Wood Technology, Mendel University in Brno, it was made in 5259 or 5258 BC. During a survey carried out by the Olomouc Archaeological Centre under the leadership of Assoc. Prof. Jaroslav Peška, the archaeologists discovered another well in the Pardubice region, this time made of fir wood, which is also being cared for by the experts of the Faculty of Restoration, University of Pardubice.

TEXT: Věra Příbylová/PHOTO: archive of the Faculty of Restoration and Adrián Zeiner

## December 2020

### We published a unique publication on academic symbols

Academic Symbols in the Life of the University of Pardubice is the name of a publication that commemorates 70 years since its foundation. For the first time in history, the book provides a comprehensive look at the elements and traditions that symbolise the whole academic year. The text and editorial work were done by the historian, Prof. Petr Vorel, and Rector's secretary, Ing. Valerie Wágnerová. You can buy the book in the university e-shop.



## January 6, 2021

### Restorers are also saving monuments in Algeria

Experts from the Faculty of Restoration will help restore the monuments in the second-largest Algerian city of Oran. They will restore the sculptural decoration of the theatre and will take care of a part of the National Museum's collections. The collaboration will also include the exchange of experience between the two countries. "Last October, we carried out the basic on-site survey. We focused on the condition of the statues and analysed the samples taken so that we could come up with a plan of how best to restore the monuments," says the leader of the excellent team and the Vice-Dean for Research of the Faculty of Restoration, Ing. Karol Bayer.

## January 14

### The university has regained the opportunity to send students to Erasmus+

In the next seven years, our students will have the opportunity to travel to European countries on Erasmus+ and gain new experience during their studies. The university succeeded in applying for the Erasmus Charter, which allows it to continue in the project throughout 2021-2027. The programme has been used by Pardubice university students since 1998. Applicants from all seven university faculties can choose from more than 200 foreign universities and 29 countries across Europe.



## January / February

### Open days and Gaudeamus online

This year, future students received information on their studies at the University of Pardubice's seven faculties online. Although the pandemic situation did not allow the school to invite the applicants and their parents to the contact Open Days, everyone could still watch live or recorded broadcast of our university and individual faculties. Secondary school graduates could also see the university presentation at the higher education exhibition called Gaudeamus. In addition to the information about studying at individual faculties, those interested could go for a virtual walk through the university campus, find out what studies they can choose from, and realise what the life of a university student is like.

## January 20

### Successful miniseries Božena with the advice from our three experts

Professor Milena Lenderová, Associate Professor Marie Macková, and Doctor Vladan Hanulík from the Faculty of Arts and Philosophy became advisors for the audience-successful miniseries about Božena Němcová filmed by the Czech Television. Prof. Lenderová intervened professionally in the screenplay from the point of women's history, Assoc. Prof. Macková commented on Austrian officials, and Dr Vladan Hanulík advised on medical matters. "She was an exceptional woman, a solitary, a rebel. She had both good and less good qualities. And I guess, this is what the individual parts of the series showed," appreciated Milena Lenderová the result.



## January 22

### Students of the Faculty of Arts and Philosophy succeeded in a historical competition

Students Veronika Hřebíková and Zdeňka Horáčková won 2nd and tied 5th–7th place among the best-rated works at the Historie 2020 scientific conference. "We hold the bar pretty high; Pardubice historians are justly proud once again because the next generation of students continues the established trend. Some of the competitors regularly become our PhD students, and this experience helps them start their scientific career," says Assoc. Prof. Jiří Kubeš, Dean of the Faculty of Arts and Philosophy, University of Pardubice. Congratulations!

## January 26

### Eight personalities of the university rank among the most cited scientists worldwide

The list of 160,000 names (two per cent) of the most cited scientists from all branches of science, published by the analysts of Stanford University, also contains eight names from the University of Pardubice. The list includes the university Rector, Prof. Jiří Málek, Prof. Filip Bureš (FCT), Prof. Petr Hájek (FEA), Prof. Michal Holčápek (FCT), Prof. Pavel Jandera (FCT), Dr Jan Macák (FCT), Ing. Roman Svoboda (FCT), and Prof. Svatopluk Zeman (FCT). A parallelly published list, which refers to the overall number of citations in the entire career of the scientists worldwide, contains three other names from the Faculty of Chemical Technology, University of Pardubice – Prof. Andréa Kalendová, Prof. Ladislav Novotný, and Prof. Karel Vytřas.



## January 27

### Live stream on the vaccination against Covid

For the first time at the university, we broadcast a live interview with questions from viewers. Here, Prof. Zuzana Bílková from the Department of Biological and Biochemical Sciences of the Faculty of Chemical Technology answered questions concerning vaccination. The discussion, whose record offers comprehensive professional information to the public, could be joined by those interested from all over the Czech Republic. "We have a unique opportunity to get the situation under control, but the organisation mustn't fail, and vaccination must be accelerated as much as possible. Each other person vaccinated reduces the risk of infection," says Prof. Bílková.

## February 1 The project of the university and Microsoft is the best

Microsoft technologies, which the students and teachers use in online lessons during the pandemic, are a practical example of a successful collaboration between the University of Pardubice and the world organisation. In addition, the UPCE – Modern University project has been voted the best in the Czech Republic. The high level of online work at the university is further evidenced by the success in the Voice of the Customer (VoC) programme. "The representatives of the company see our university as a pioneer in the use of Microsoft cloud technologies," comments the head of the Centre for Information Technology and Services, Ing. Olga Klápšřová.



## February 3 Nearly 900 future health professionals help in hospitals

During the pandemic, most of the 900 students of the Faculty of Health Studies were involved in helping. University students took the place of the missing staff in hospitals, homes for the elderly, and laboratories. Many of them have already become regular employees. "I admire our students as they can manage their studies, including professional practice, and still have the strength to help. We appreciate their work and try to help them by adapting their lessons and at fulfilling their study obligations," states the Dean of the Faculty of Health Studies, Assoc. Prof. Jana Holá. Thank you!

## February 5 Chemistry Race – this year online from Pardubice and Cambridge

This year's international competition of Chemiklání (Chemistry Race), organised by the Faculty of Chemical Technology students for the sixth year, was online for Czech and Slovak secondary school attenders. Over 350 participants, who formed 71 teams altogether, proved their knowledge in solving chemical problems. Regarding the online version, the organisers used a system based on Moodle software packet. "I believe that our competition inspires, motivates and can bring joy even in its online form, which is, unfortunately, the only one possible in the difficult times of the pandemic," says the Rector of the University of Pardubice, Prof. Jiří Málek. The next day, Chemistry Race took place in the UK where the University of Cambridge students have organised it since last year.



## February 22 Scientists from abroad to study at the university

For the first time and right with two projects, the University of Pardubice succeeded in a prestigious Marie Skłodowska-Curie Actions programme. As a result, talented scientists from abroad will come to study at the university. Scientist from the University in Cambridge and University College Dublin, Dr Silvia Panizza, and a scientist from Finnish Åbo Akademi University, Acting Prof. Olli Lagerspetz, will join the team of the Centre for Ethics of the Faculty of Arts and Philosophy led by Assoc. Prof. Niklas Forsberg. Besides the University of Pardubice, only four other Czech universities succeeded out of more than 11,000 applications worldwide. "This great success attests to the high quality of our university on a European scale. It's a dream that such outstanding and promising scientists from abroad decided to come and join one of our excellent scientists and his team," says Ing. Andrea Koblížřková, Ph.D., the Vice-Rector for External Relations.

## March 19

### Virtual derby UPCE–UHK

The universities of east Bohemia did not even stop during the lockdown and measured their strength in e-gaming. The winner of the second university derby between the University of Hradec Králové (UHK) and the University of Pardubice (UPCE) was the UHK. Hradec and Pardubice university teams competed in three games: Hearthstone Bo5, Counter-Strike: GO Bo3, and League of Legends Bo3. The derby's all-day programme began as early as 10 a.m. with discussions with guests and introductions of the universities. The derby itself started at noon. Those interested could watch the all-day live streaming. Organisation and technical support of the event were provided by ESA (E-sport Student Association of Czech university students).

"Congratulations to the winners from the University of Hradec Králové. Thanks for the great derby, which was exciting again until the last minute. We're sending the cup to the UHK and stay looking forward to the duel in 2022. I believe that today, we managed to encourage and entertain all our students after all those long months in the pandemic," states the Head of Rector's Office of the University of Pardubice, Ing. Lucie Košťálová.



## March

### Healthcare professionals involved in international education of perioperative nurses

The Faculty of Health Studies is now a part of an international project involving six European countries. Its output will be a set of instructional videos that will present basic skills of perioperative nurses and the skills according to specialisations, as well as a pedagogical internet platform and a pedagogical user manual. The scenarios will be done by experts from all the countries involved. There is also an ERASMUS+ s project of My Operating Room Nurse Coach, which aims to improve the professional specialisation of perioperative nurses. It will help improve education in the specialised follow-up master study programmes of Perioperative Care, Perioperative Care in Gynaecology and Obstetrics offered by the Faculty of Health Studies, University of Pardubice.

## April

### A year with Let's Communicate

Let's communicate videos celebrate a year. Communication in the times of online teaching and working from home, new words brought about by the pandemic, and a better mood – all this is what the videos by MPhil. Zaan Bester and Mgr. Irena Podlášková from the university's Language Centre offer. The videos, full of surprising moments and guests from both the faculties and campus, respond to current topics in a relaxed and playful way. Replay the first and the latest 17<sup>th</sup> video recording on the university YouTube channel of upce.cz.



TEXT: Aneta Krejčík Plíšková/PHOTO: archive of the University of Pardubice

# If you want to have an impact, you need to assume responsibility

Jan Grulich

Our graduate who is both a senator and a school headmaster

BOTH OF HIS OFFICES ARE STORED IN HIS LAPTOP THAT HE CARRIES IN HIS BACKPACK. JAN GRULICH, A GRADUATE FROM THE FACULTY OF ARTS AND PHILOSOPHY, A SENATOR FOR THE RYCHNOV CONSTITUENCY AND THE HEADMASTER OF A PRIMARY SCHOOL IN DOBŘANY, BECAME A POLITICIAN AND WON THE HEADMASTER OF THE YEAR AWARD IN MIDST OF THE PANDEMIC. HE HOPES TO HELP TO MAKE EDUCATION A PRIORITY IN THE CZECH REPUBLIC.





Zajiste,  
name  
inspektore!

***You are a headmaster, teacher, shareholder in a company producing vitamin supplements as well as a senator for the Rychnov constituency. Anything I have omitted?***

No, you got it right. After graduating from a teacher training programme, I became a teacher. To be able to keep a decent living standard of the family, which was difficult being a teacher, I tried to earn some extra money wherever I could. My father and I founded a small company. From time to time, I worked as a photographer and a translator to have some extra income. With time, I started enjoying teaching so much that I agreed to become a headmaster. I still run the family business, even though my wife and mother, and increasingly our children, are in charge of the day-to-day management.

***You were elected senator for the Rychnov constituency in October. How do you manage to split your time between the responsibilities of a headmaster and a senator?***

Neither the school nor the Senate work in the standard routine these days. So both my offices are stored in a laptop in my backpack, and both of the online worlds, in fact, overlap a lot. Sometimes I teach from my senator's office and sometimes I join political discussions from my school office. In the evenings, I reply to all the e-mails and messages.

***What made you enter the world of politics?***

I would say that it was made by the circumstances to enter it. As a headmaster I found it difficult to accept that education was never a priority in the Czech Republic even though all parties said the opposite in the pre-election campaigns. So I tried to make calls from our rural school to let people know that something had gone wrong. However, I saw very soon that it had no repercussions.

***So you decided to get involved.***

I realized that in a parliamentary democracy system, which we have, we need to join the system and assume responsibility to be able to inflict change. So I looked for a democratic party, joined it and tabled education-related topics... And I ended up in the Senate of the Czech Republic.

***The area of your focus is education. What were the first issues that you started to address?***

I would just like to make clear that the senator's chair is really uncomfortable. After an hour, I have difficulties finding a way to sit (laughs). In addition to other senator's duties, I started to bring up the topics that made me enter the world of politics. As soon as in December, I started to deal with the amendment of the Teachers Act. There were many meetings to attend, many expert reports to commission. I had many meetings with MPs and I tried to persuade them to define teachers' salaries by law to avoid annual bargaining over the pay and to make the teachers comfortable.

***Did you succeed?***

In the end, I did. The Senate is considering the amendment at the moment.

Back in Pardubice, you studied at the Faculty of Arts and Philosophy. What are your memories of those years?

My years as a student were great and wild. In fact, I'm surprised that I managed to finish the school (laughs). I graduated from a BA programme of German Language Teaching. I had to do my MA programme in Prague since there was no suitable programme available in Pardubice back then.

***Can you imagine yourself teaching at a secondary school or a university?***

I guess I would have no difficulties teaching at a secondary school. But I have come to like the age group between 6 and 15 years. I would miss the interaction.

***Your experience as teacher and a headmaster may be an asset in the Senate. Am I right?***

My experience is crucial for the field that I would like to focus on. And I believe that rightly so. The Senate considers so many laws from a variety of fields that it is extremely important that senators come from various walks of life.

***Education is facing a major threat during the COVID-19 outbreak. What will the pupils miss?***

Pupils will miss things that Google won't answer. What I mean to say that pupils will not miss some of the knowledge that they learn by heart. What they will miss, however, is Math, English, habits, fitness, skills acquired in PE, Music or Arts, as well as muscle memory. I think that we – as teachers – need to get ready for a very hard time once the pupils come back to school. The differences between the pupils will become even more prominent. Despite teachers' efforts to make online teaching as good as possible, pupils will come back with very heterogeneous knowledge.

***I WOULD SAY THAT IT WAS MADE BY THE CIRCUMSTANCES TO ENTER IT. AS A HEADMASTER I FOUND IT DIFFICULT TO ACCEPT THAT EDUCATION WAS NEVER A PRIORITY IN THE CZECH REPUBLIC EVEN THOUGH ALL PARTIES SAID THE OPPOSITE IN THE PRE-ELECTION CAMPAIGNS. SO I TRIED TO MAKE CALLS FROM OUR RURAL SCHOOL TO LET PEOPLE KNOW THAT SOMETHING HAD GONE WRONG.***

***What are the biggest issues that are already evident?***

Domestic violence, child depressions and addictions, mostly digital ones, are on the rise. Not to mention procrastination and loss of motivation to learn.

***Is there anything positive that this situation may bring?***

Ironically, the situation will show us that teachers are important. It will also make evident two problems faced by the new generation, namely lack of exercise and social contacts. It will expose both advantages and disadvantages of the digital world. It will reveal the widening gap in education given by the differences in the socio-economic background of the families. It will show us what is worth teaching and what less so. It will spark discussions about the role of education and teachers, and draw our attention to the differences between schools not only in terms of equipment, but also in terms of the overall approach and readiness to learn new things. In spite of all the difficulties, the situation made teachers take a very hands-on training on using IT and new technologies. The Ministry of Education would have never achieved that in such a short time.

***You are stressing the importance of education as well as the fact that nurses and doctors also received education. The management of the Faculty of Health Studies of the University of Pardubice tries to***



**emphasize the importance of the role of healthcare professions. Not only doctors, but also other healthcare professionals need high-quality training. Does your interest span over all levels of education in the Czech Republic?**

Absolutely. There is a lot of inspiration available abroad. Many say that the Czech Republic faces a lack of physicians. In many countries, the systems count on specialized nurses who do not do only the paperwork, but also perform specialized procedures which need not be supervised by a doctor. Which saves the doctor's time. As for your second question, I am interested in all levels of education. In fact, I am also interested in education outside schools. I would like to stress that lifelong learning is extremely important in today's turbulent times.

**What is your idea of lifelong learning?**

Maybe it is today's situation that shows us its importance. We could make a better use of online sources, lectures, debates, modern platforms. But the overall approach is important. You should not hear your grandma say that e-mails and e-shops are not for her. In the same vein, we should not get too depressed over lack of work in our field but should try retraining instead. For example, my 90-year-old friend bought an iPhone and started to learn how to play the saxophone. If we keep learning new things all our life, we will undoubtedly stay mentally fresh until the very end of our lives.

**You are a headmaster at the Trivium Primary School in Dobřany. When I checked your website and the teacher profiles, I thought: That is where learning through play takes place. Having said that, there are some rules in place at your school, right? What do you emphasize?**

To keep children engaged. If we keep the children engaged and make them feel positive about learning and if we do not kill their curiosity, they will achieve much better results.

**Can the principles of learning through play be applied to online teaching?**

Unfortunately, we were not really prepared for online teaching, just like most schools. On the other hand, we were lucky to be a step ahead in terms of equipment. All teachers had IT equipment and most of them were proficient users. But teaching online is not only about being able to use a computer. We all had to learn how to go about it. I believe we are fast-adopters at our school, we make progress in our teaching and the services we deliver, but admittedly, just like many schools, we have reached a border that is hard to overcome. Many children have lost the will to learn, have lost their habits, concentration while learning online and the gap between hard-working pupils and the sloppy ones is paramount. It gets extremely demanding not only for the teachers, but also for the parents and the families. Therefore, there is a lot of tension and misunderstanding.

**You like to be referred to as a rural headmaster, which connotes old times. The opposite is the case, though. You have built a modern school that is in high demand. In fact, you saved the school. Was the situation that bad?**

It was, at that time. In 2005, there were 72 pupils enrolled in the school, it had run into debts and its reputation was far from being good. Not to mention the equipment and the facilities. And I am a rural headmaster indeed (laughs). I was born in a neighbouring village and attended the very same school.

**You pay special attention to teacher recruitment. Some headmasters send a teacher directly from the job interview to the classroom, which may be difficult for the teacher. Do you also do it?**

Good school is about good people. In other words, our teachers are the most precious and the most important asset. That is why the recruitment process is very thorough. Our teachers must undergo a very unorthodox recruitment

process and they indeed have to do some teaching. But everything is agreed in advance and they know what they can expect. What surprises them is that they have to spend even the long break in the teacher's room (laugh). But usually I warn them of this part of the recruitment procedure.

***Pupils can play table tennis or table football in the corridors of your school, or they can play the drums. The teachers are fine with that?***

They are, provided that the pupils are fine with learning during the lessons in exchange.

***Mobile phones can be used during the lessons, but not during the breaks. How does that work?***

Quite simply. Breaks are an important part of the teaching process. Children need breaks to relax, have a chat or a run, spend some time outdoors, play with a ball, engage in social interaction with others, play the drum or the piano, simply have some fun. And mobile phones made it difficult. That is why we introduced some rules and the children got used to them. They are told, mainly in the second grade, that mobiles are a good source of information or an excellent dictionary.

***You studied German Language Teaching at the University of Pardubice. What is the attitude of today's pupils to German?***

Frankly speaking, I would not insist on having two foreign languages at a primary school. The second one should be optional. Some pupils struggle with Czech and we want them to master English. Learning German may become rather burdensome for them. If they could choose whether to have extra English or Math lessons, or learn German, then those who opt for German could master it in three years. Making everyone learn it is not really effective.

***Every teacher has their own profile on the website of the school, including a photo. Everyone holds a motto. Who authored the mottos? The whole of the staffroom?***

Everyone was free to choose a motto they liked and a motto that expressed something about their work. We had a good laugh when preparing the mottos. And censorship could not be avoided (laughs).

***FRANKLY SPEAKING, I WOULD NOT INSIST ON HAVING TWO FOREIGN LANGUAGES AT A PRIMARY SCHOOL. THE SECOND ONE SHOULD BE OPTIONAL. SOME PUPILS STRUGGLE WITH CZECH AND WE WANT THEM TO MASTER ENGLISH. LEARNING GERMAN MAY BECOME RATHER PAINFUL FOR THEM***

***Your motto reads: Of course, Mr. Inspector. How frequent are the inspections at your school?***

Since our region, the Orlické Mountains, is really lovely, I have a feeling that inspectors choose our school as a reward and they choose it often.

***You subscribe to the legacy of Comenius to such an extent that his portrait is hung on the walls instead of that of the President. What should the pupils see at school? Comenius or politicians?***

I would be really happy if I the portrait of Comenius could be accompanied by a portrait of a respectable president

of the Czech Republic, who could be shown as an example of a wise, friendly and good-mannered person that makes good representation of our country. Let's hope that it will be the case some time. But until it is the case, there will be only Comenius.

***The school looks very modern even though it was built more than 250 years ago. Is that also thanks to you?***

That is thanks to the construction company and the architect. But I was a demanding client and did not approve everything straightaway. I said what I thought.

***Even though the history of the school is long, it is privately-run these days. Without any tuition fees being paid. How come?***

The school itself is located next to the parish office in Dobřany where Czech revivalists (František Hek, Magdalena Ret-tigová and Josef Dobrovský) used to meet. Joined by Mr. Zeigler, the priest in Dobřany, they went through the writings of Comenius to revive Czech education even in mountain areas. The history of education in Dobřany goes back to 1680, i.e. many years before obligatory full-time education was introduced. In 1996, there was a risk that the school would be closed due to lack of pupils and funding. That was a wake-up call for the revivalists from the region. They founded a private school to save it.

Private schools receive some funding per pupil from the government. In other words, having sufficient pupils means having sufficient funding. We are also supported by the municipalities in the region and sponsors from among parents. Recently we have carried out a reconstruction and needed another 11 million Czech crowns. We raised the amount in one year only. More than two million came from parents and supporters of the school. I have always wished for the school to serve all children in the region. However, many families could not afford to pay tuition fees. So, I do my best to raise funds wherever possible

***While last year was demanding, it was also successful for you. You were elected a senator and won the Headmaster of the Year 2019/2020 Award. What would you like to achieve this year?***

What all of us want to achieve this year is survive in good health. I would wish very much to live a standard year. However, that seems to be a very ambitious and rather unreal wish. But I hope that it may come true next year. Let me wish all of us a lot energy and patience.

### **Mgr. Jan Grulich (1975)**

Jan Grulich graduated from the Faculty of Arts and Philosophy (called the Institute of Languages and Humanities at that time) of the University of Pardubice. He studied a BA programme of German Language Teaching. Later he studied an MA programme in Human Resources and Andragogy at the University of Jan Amos Komenský in Prague. For one year, he studied in Basel, Switzerland. Since 1999, he has taught at the Trivium Plus Primary School in Dobřany. Currently he teaches mainly financial literacy and German. In 2005, he became the headmaster of the school. In October 2020, he was elected a senator for the Rychnov nad Kněžnou constituency (for TOP 09). He likes photography and music. He is married and has three children.

TEXT: Věra Příbylová/PHOTO: provided by Jan Grulich

# There is a future for security studies in economics, says Radim Roudný

The Dean who changed the name of the Faculty of Economics and Administration

**RADIM ROUDNÝ IS A MECHANICAL ENGINEER BY TRAINING, WHO SPECIALIZED IN VEHICLES AND CARRIED OUT APPLIED RESEARCH FOR COMPANIES LIKE TATRA. HIS EMPLOYMENT WAS ORIGINALLY WITH THE JAN PERNER FACULTY OF TRANSPORT. IN 1993, RADIM ROUDNÝ WAS ELECTED THE DEAN OF THE FACULTY OF ECONOMICS AND ADMINISTRATION, AND WAS THE FIRST THE DEAN TO LEAD THE FACULTY UNDER ITS TODAY'S NAME. THIS YEAR, THE FACULTY IS 30 YEARS OLD AND MR. ROUDNÝ TALKS ABOUT THE BEGINNINGS AND VISIONS AS WELL AS THE IMPORTANCE OF SECURITY MANAGEMENT.**

***At the beginning you worked at two faculties at the same time. Can you comment on that?***

When steps were taken in Pardubice to establish a faculty of transport, it was interesting for me both in professional and personal terms. I lived in Pardubice at that time. I assisted the establishment of the faculty, which culminated in successful accreditation. At the end of May 1993, I was approached by Professor Koudelka, a Vice-Dean, and asked to help the Faculty of Territorial Administration, which faced some problems. We succeeded in getting an accreditation for a BA programme at the end of June, and Professor Kudláček, the Rector, asked me help the faculty more. I agreed to do that for a year, and today I am still with the faculty.

***Upon its establishment in 1991, the faculty's name was Faculty of Territorial Administration. Two years later, the name was changed to Faculty of Economics and Administration. Why did you want to change the name as the Dean?***

Territorial administration was in vogue at that time. It was evident that the requirements for employees of local and public administration would be lowered, and there were many competing programmes. At the same time, I thought, and was proved to be right, that business administration would become attractive. Including Economics and Administration in the name of the Faculty seemed universal enough. In fact, there was a faculty of the same name at Masaryk University in Brno. We cooperated with them. Neither Professor Strecková, the author of the name, nor Professor Blažek, the Dean, objected.

***What were your goals as the Dean?***

My vision was having a faculty that was an organic part of a university with logical division of the activities. I thought it logical to have university departments, faculty departments that cater for the needs of the whole university and faculty departments that only cater for the needs of the respective faculty. This vision did not come true, but for a few exceptions.

***Such as?***

Mathematics. In line with the focus of the faculty, I wanted to offer practical programmes relying on solid theoretical foundations and the use of Mathematics. Not pretending to do science. I also thought that specialized programmes would be created. Personally, I wanted to implement programmes dealing with business security as well as security of the society. In general, my visions were determined by my interests, and mostly did not come true, which is by

no means an assessment of the faculty as it stands today. Our main goal was obtaining the accreditation, which was a difficult process, to some extent due to my fault. My experience from the industry taught me to focus on the merits throughout a process, and the final production phase then showed whether we were right. However, that was not the philosophy shared by typical members of the academic staff, who did not like my approach.

***Did not like it?***

The focus of the assessment was not on the results and future prospects, but rather on individual opinions and competition. Servility was expected.

***Which fields were most important for you?***

I have always thought Business Administration to be the key field. But we wanted to get accreditation for as many fields as possible to make them available to our students. In fact, Information Science did the best.

***It was not a one-man task, though...***

Definitely not. The early days of the Faculty teach us a lesson for the future. Without cooperation and generosity, the development of the whole gets hindered. In the early days, Professor Kolda, Professor Kosek, Professor Cimpl, Associate Professor Macháčová, and Dr. Černá, to name but a few, contributed to the development of the faculty. Not everyone supported the changes that were to save the faculty. Some even acted in a detrimental way and left the faculty.

I cannot ignore the support from the then management of the University of Chemistry and Technology. I must mention the support by Professor Kudláček, the Rector, Professor Koudelka, Vice-Rector, Ing. Maršálek, Bursar, and Professor Churáček and Professor Tichý, Vice-Rectors. We were also supported by local politicians including Mr. Střítský, Mayor of the City of Pardubice, Jiří Srbek, Mayor of the Pardubice 2-Polabiny City District, Dr. Tomanová, an MP. Unfortunately, there were many others who rather hindered the development of the faculty. From today's perspective, it is hard to believe that there was opposition to the construction of a new library, which was supported by the Ministry of Education with a subsidy of 60 million Czech crowns. In fact, there was even more opposition to the construction of the assembly hall, for which the Ministry and the City of Pardubice provided 60 and 30 million Czech crowns respectively. Fortunately, we managed to get ahead with the construction and build them. Few remember nowadays the situation at that time. What is important is that both the library and the assembly hall serve their purpose

and that the incumbent management is interested in further development.

***You have also changed your specialization over the 30 years...***

I am a mechanical engineer by training. I specialized in vehicles and had many years of experience in applied research, quality management and technical development. After graduation, I worked in applied research, vehicle testing and technical development management, where I gained vast practical experience. After moving to Pardubice, I taught automotive theory for some time at the Faculty of Transport.

My main field of interest is a decision theory applied to security issues. That was nothing new to me. I applied what I used in engineering, and only made the subjective aspects more prominent. In its infancy, the Faculty improvised a lot. Today it is entirely professional. I also focused on public administration management.

***Could you be more specific?***

We engaged in successful cooperation with the Public Administration Division at the Ministry of Interior, and also dealt with security issues in cooperation with the Civil Protection Institute in Lázně Bohdaneč. The Institute staff, namely Associate Professors Linhart and Janošec, also taught at the Faculty. We also organized training for district and regional authorities. We engaged in active cooperation with the Police of the Czech Republic. The Police had special lectures at the Faculty and we also took part in the meetings of the Anti-Corruption Board of the Police.

***In 1994, there was the first cohort of 48 BA graduates. Today, some 8500 students have graduated from BA, MA and PhD programmes at the Faculty. What does the figure mean to you?***

I see it as success. It means an average of 280 graduates every year.

***Are you in touch with your former students?***

Some graduates say hello. No big numbers, but I am always happy.

***Thirty years is some time for looking back and reflecting. How would you rate the Faculty?***

Today, I lack sufficient information to be able to rate it. I believe that the Faculty has achieved a good level and is competitive with other faculties of economics.

***The economy suffers a lot during the COVID-19 outbreak. Will there be a higher demand for economists?***

I do not think that more economists will be needed as a result of the outbreak. A pandemic is not a field, but an external factor that will require cuts across all fields.

***Is the field of Crisis Management the right way to go?***

Instead of using the term crisis management, I would prefer taking about security management, which will be increasingly important. In general, negative factors in any fields are underestimated. The current COVID-19 outbreak is a clear example of that. We have not taken any steps to prepare for it in the long term even though it was no black swan. In the past, there was the pandemic of Spanish flu and others. I think that security fields are an integral part of economics and will be important in the future.

***Any wishes for the Faculty?***

Naturally, successful development. Younger colleagues should constantly try to combine the theory and practice. And common sense should be always added to the great advantages posed by developments in IT. One threat that the Faculty will face is the surplus of social science



programmes, which is yet to be addressed. Creating specific top-quality programmes is a way to go. However, it is easier said than done. I keep my fingers crossed, though.

TEXT: Věra Přibyllová/PHOTO: Radek Plžík

**doc. Ing. Radim Roudný, CSc.**

Radim Roudný graduated from the Military Academy of Technology and was engaged in applied research and vehicle testing for 20 years, where he gained a lot of experience with quality issues. In 1961, he accepted a job as the head of the Quality Unit at the Ministry of Engineering. Later he was transferred to the Science and Technical Development Unit. He worked in the automotive industry as a Chief Engineer. He has good memories of fair and fruitful negotiations with Dr. Hahn, Volkswagen President. All the time, he cooperated with universities delivering lectures, reviewing theses and serving on boards in fields related to vehicles, but also economy at the Institute of Economy of Engineering at the Czech Technical University. Before the Velvet Revolution, he left the industry and started teaching full time. He was employed by today's University of Defence, where he worked until 1993. In 1993, he was elected dean of the Faculty of Economics and Administration, and works for the University of Pardubice to date..



# With Wolves

## Lenka Černota

SHE HAS CREATED HUNDREDS OF PAINTINGS WITH WOLVES AND SHOWS SOME OF THEM IN THE OPEN. IN THE FOREST, THEY CAN BE SEEN NOT ONLY BY PEOPLE BUT WILD ANIMALS AS WELL. A GRADUATE FROM THE FACULTY OF RESTORATION, UNIVERSITY OF PARDUBICE, LENKA ČERNOTA HAS THE BEST MEMORIES OF HER STUDIES. "IT WAS A WONDERFUL PERIOD. I MASTERED BASIC PAINTING AND RESTORING TECHNIQUES AND PROCEDURES, WHICH I USE TO THIS DAY," SAYS THE ARTIST.

TEXT: Věra Přibyllová/PHOTO: archive of Lenka Černota



at the top: exhibition in the Pragovka Gallery  
at the bottom: *Rubisko*, 2020; *Apple, head, worm, plum*, 2020





Lenka Černota as a student of Faculty of Restoration



**Wolves, this is a theme that runs through your entire work. Is it supposed to be mysterious?**

It may seem so to some, but I don't make it mysterious. I just paint what I live.

**In antiquity, the wolf was one of the symbols of the god Apollo. The most famous Capitoline she-wolf raised Romulus and Remus, the founders of Rome. In the Middle Ages, the wolf was perceived as a demon taking on the form of a witch from time to time. What is the symbolism of the wolf in your work?**

For me, the wolf symbol is a source. It entertains me, gives, inspires, irritates, and protects me. It is a source of several intangible perceptions from which one chooses or draws.

**Do you also paint anything else?**

Wolves have epitomised my work over the past ten years, but they are not the only source. I have more topics that arise from immediate perceptions, situations, seasons.

I'm interested in the origins and the influence on the selection of the portrayed, i.e. based on which we select and materialise intangible information and mainly the process of imaging itself. What is the painting able to convey, and to what extent? What kind of medium is it? What does the diversity of colours allow, how is the process inscribed in the surface and inside the painting, where is the border of the image?

**You are a graduate of the Faculty of Restoration. It is something like a family school. What do you remember from Litomyšl, which is the seat of the faculty?**

To me, Litomyšl is a unique place. I entered the faculty right after secondary school and was one of the youngest in the class. It was my first university, and it provided me with a living foundation: great punk, exceptional people, teachers, the city. I experienced the era when we used a burning stove for heating at the Piarist College and



had compulsory internships throughout the holidays. It was a wonderful time. In the Studio of Wall Painting and Sgraffito, I mastered basic painting and restoring techniques and procedures, which I use to this day. There were twelve of us in the class; we would help each other and learn from one another. My classmates are still my best friends.

**You also studied in Poland. What did you learn?**

Paint, speak and think Polish. Krakow and ASP in Krakow belong to the period full of experiments in painting, sculpture, and graphics.

**Last August, you had a large exhibition in Prague's Bold Gallery in Holešovice, named Vlčina. How did you feel about it?**

Above all, it gave me a new experience. The opportunity to see my large-format canvases together and in different contexts than the one I had put them in myself. There was audience interaction. I feel grateful to Mr. Oldřich Hejtmánek and all the people from the Bold Gallery, as well as curator Radek Wohlmuth, for allowing me to do so. To me, the exhibition was a form of distancing from my paintings, both physical and mental.

**What do you paint with?**

It's mostly oil painting. Oils have their unique deep colour, smell, density, weight, the physical weight of the paint on the canvas, which pulsates. I combine this on some paintings with other media as well. It depends on the image, what it is to express.

**Is there an author that would inspire your work?**

I've never wanted to get inspired by anyone, nor did I ever study any author in detail. Of course, I like a lot of artists, both old and contemporary. We don't live in isolation; information and perceptions are found around us, and I perceive them all. I've got a colour memory. A visual recollection of what I've seen or liked sometimes appears in what I do but transformed into another form.

**When you talk about those colours ... you hold a patent. Which one?**

It is a method of preparing a pigment from waste material in the processing of bauxite ore. I reached a pigment with good optical properties and stability.

**It is also interesting that you exhibit paintings in the open. You can see what is happening to them through camera traps. Have you seen any wolves there?**

Wolves are in every photo.

I've seen wild pigs, red and roe deer, lots of forest birds, martens, foxes, hares, and people. Now, I have a trap placed in the Svitavy region, which is often visited by red deer and sika does, foxes, mouflons, and roe deer.

**How many of these animals (wolves) have you painted so far?**

I don't know exactly. Over a hundred, under a thousand. And how many of them have you seen? Under a thousand, more than two.

**You come from a gamekeeper's family. Was your Dad a gamekeeper?**

No. Grandpa, great-grandpa and great-great-grandpa were all foresters. My Dad is a hunter.

**What do you do at a time when art has no audience?**

I keep on working. My paintings don't lose their audience, be it animals or people.

**Do you teach?**

I lead crash workshops in Prague – Jamming. They're one-day weekend courses for the Studio of Joyful Creation, which works with disabled artists and the public. I don't offer any online courses.

Do you prefer animals to people?

They both deserve love.

**Lenka Černota (1985)**

Born in Mělník, she is a graduate of several universities. During 2004–2008, she studied in the Studio of Wall Painting and Sgraffito at the Faculty of Restoration, the University of Pardubice (BCA.). She got her engineer's degree at the Faculty of Mining and Geology VSB – the Technical University of Ostrava, where she also completed her doctoral studies in 2014. In 2009–2011, she stayed at the Academy of Fine Arts in Krakow, from where she moved to Prague to complete her studies at the Academy of Fine Arts (MgA.) in 2015.