

EXPERIENCE

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TECHNOLOGY

FUTURE

THE BULLETIN

OF THE SILESIAN UNIVERSITY OF TECHNOLOGY

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RECLAIM THE RIVER
p. 30

FAR FROM HOME
p. 36

**POPULARIZATION AND
COMMUNICATION OF SCIENCE IN
POLAND – OPPORTUNITIES AND
CHALLENGES**

p. 20





*Merry and peaceful
Christmas,*

filled with love and family warmth.
May the New Year bring you good health,
peace, and faith in a better tomorrow!

Arkadiusz Mezyk

Rector of the Silesian
University of Technology

FROM THE EDITOR



December is a special month. Like no other, it opens people's hearts and unites them around the most important issues. It allows us to look at the balance of another year from a distance. In this year's last issue of the Silesian University of Technology Bulletin, in addition to descriptions of important events in the life of the University, you will find articles encouraging deeper reflection. In 2024, due to Katowice receiving the title of European City of Science, scientific achievements will be widely present in urban spaces. Our University will also open its laboratories, communicating the successes of its researchers. Does the digital culture we live in pose new responsibilities for scientists? Does it force the popularization of research interests? To what extent does science communication increase the value of knowledge itself and help build conscious societies? We encourage you to read an extensive analysis of the opportunities and challenges facing science popularisers.

The community of the Silesian University of Technology is changing a lot.

We become stronger thanks to the wealth of the countries where our students, Ph.D. students and employees come from. The holiday season, which gives us family closeness in December, can be very difficult for foreign members of our community who are thousands of kilometres away from home. They talk about how they deal with longing and loneliness in an article devoted to holidays in different countries.

On behalf of the entire Editorial Team, I wish you unforgettable moments, good health and joy of life! May the New Year bring prosperity and satisfaction in the implementation of your plans and intentions!

Iwona Flanczewska-Rogalska

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On the cover: Campus of the Silesian University of Technology

Author of the photo: **Maciej Mutwil**

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TABLE OF CONTENTS

Rector of the Silesian University of Technology granted the title of Doctor Honoris Causa of the Lviv University of Technology	4
The Silesian University of Technology creates energy and digital transformation	7
Open Days of the Silesian University of Technology	10
Artificial intelligence in space will help scientists on Earth	14
Meeting of members of the Power Industry Problems Committee	15
Science and tradition- miners celebrated St. Barbara's Day	16
Gliwice Scientific Meetings 2023	18
Popularization and communication of science in Poland – opportunities and challenges	20
Proven, learned	28
Reclaim the river	30
Library on the computer	34
Far from home	36
In short – Events	40
In short – Successes	46
In short – Projects	48
Positions, degrees and academic titles	51
New releases	52

THE RECTOR OF THE SILESIAN UNIVERSITY OF TECHNOLOGY GRANTED THE TITLE OF DOCTOR HONORIS CAUSA OF THE LVIV UNIVERSITY OF TECHNOLOGY

text: Katarzyna Siwczyk

photos: Nataliya Pavlyshyn – Politechnika Lwowska

ON 29TH NOVEMBER 2023, THE RECTOR OF THE SILESIAN UNIVERSITY OF TECHNOLOGY, PROF. DR HAB. ENG. ARKADIUSZ MĘŻYK RECEIVED THE TITLE OF DOCTOR HONORIS CAUSA OF THE LVIV UNIVERSITY OF TECHNOLOGY. THE HONOURS WERE PRESENTED DURING A SPECIAL CEREMONY IN UKRAINE.



His Magnificence Rector of the Silesian University of Technology, prof. dr hab. Eng. Arkadiusz Mężyk was once again honoured with the highest academic dignity. The professor's outstanding scientific achievements and significant contribution to the development of Polish-Ukrainian cooperation were appreciated by the Lviv University of Technology, the alma mater of many post-war Polish universities, including the Silesian University of Technology. The Scientific Council of the Ukrainian university decided to award the DHC title on October 31, 2023. The title awarding ceremony took place on November 29 in Lviv.

– This is a great distinction and a great honour not only for me, but also for the Silesian University of Technology, whose history comes from the Lviv University of Technology. The importance of this event is emphasized by the fact that



after the dignity conferred on prof. Wojciech Zieliński, rector of the university in the years 2002-2008, I am only the second employee of our university honoured with this title, and among the many outstanding figures honoured are, Maria Skłodowska-Curie and the prewar President of the Republic of Poland, Ignacy Mościcki. We count on further cooperation with this excellent university in the area of scientific research and modern education, and the atmosphere for this in both universities is very favourable - said Prof. Arkadiusz Mężyk.

The ceremonial laudation was given by the Vice-Rector for scientific, pedagogical and international relations of the Lviv University of Technology, Prof.

Natalia Chukhrai, noted that in addition to his scientific merits, the Rector of the Silesian University of Technology made many efforts to develop cooperation with the Lviv University of Technology. In particular, the launch of international cooperation as part of Erasmus programs was appreciated, which enabled many Ukrainian students to undertake studies, teachers to give lectures, and employees to improve their qualifications during training and seminars organized by the Silesian University of Technology. The Vice-Rector also expressed her gratitude for inviting representatives of the Lviv university to participate in scientific conferences and internships.

Cooperation between the Silesian University of Technology and the Lviv University of Technology has been noticeable for several years, but at the beginning of the 2023/2024 academic year, these relations began to tighten even more. The delegation of the Lviv university was present, among others, at the ceremonial Inauguration of the Academic Year at the Silesian University of Technology. The event was attended by the Rector of the Lviv University of Technology, prof. Yurii Bobalo and vice-rector prof. Natalia Chukhrai. The next step in developing these relations was the official signing of a cooperation agreement with the Lviv University of Technology in the field of improving the quality

of education for students and doctoral students, scientific research, academic exchange of students and employees, and administrative management. The agreement was signed in Lviv.

The award with the title of Doctor Honoris Causa of the Rector of the Silesian University of Technology perfectly highlights the value of Polish-Ukrainian relations. Thanking for this ennoblement, the Rector of the Silesian University of Technology gave a lecture entitled: "Between science and teaching. The mission of a modern university in troubled times", in which he emphasized the role of a modern university in promoting ethical values, its involvement in the reconstruction and development of the economy and social life, and,

above all, in educating the elites of the future.

Prof. Arkadiusz Mężyk has been associated with the Silesian University of Technology from the beginning of his scientific career. He is a specialist in the field of dynamics, mechanics of continuous media, applications of numerical methods in the stereomechanical analysis of machine structures, including hybrid vehicles and the structures of high-speed tracked vehicles.

In 1994, he defended his doctoral thesis with honours entitled "Dynamics of electromechanical drive systems". Continuing his research in the field of dynamics of high-power electromechanical drives, in 2002, he obtained a post-doctoral degree - also with distinction. In 2004, he became an associate professor,

and three years later, in 2007, a full professor in the field of technical sciences. He has been successfully combining his research projects with cooperation with industry for years.

Prof. Arkadiusz Mężyk is a researcher at the Faculty of Mechanical Engineering, which he previously headed as the dean. Since 2016, he has been the Rector of the Silesian University of Technology. In 2020, he was elected Chairman of the Conference of Rectors of Academic Schools in Poland.

Prof. Mężyk received the title of Doctor Honoris Causa for the second time. Previously, in 2018, he was honoured with the title of DHC from the Gheorghe Asachi Technical University in Iasi, Romania. ■





THE SILESIAN UNIVERSITY OF TECHNOLOGY **CREATES** ENERGY AND DIGITAL **TRANSFORMATION**

text: Małgorzata Dobrowolska

editor: Iwona Flanczewska-Rogalska

photos: Wojciech Mateusiak, Maciej Mutwil

THE SILESIAN UNIVERSITY OF TECHNOLOGY, ONE OF THE BEST ACADEMIC TECHNICAL UNIVERSITIES IN THE COUNTRY, IS LAUNCHING RECRUITMENT FOR THE NEXT EDITION OF THE MASTER OF BUSINESS ADMINISTRATION STUDIES, ORGANIZED BY THE BUSINESS SCHOOL OF THE SILESIAN UNIVERSITY OF TECHNOLOGY, UNDER THE SUPERVISION OF PROF. MAŁGORZATA DOBROWOLSKA.

MBA studies in Energy and Digital Transformation start on March 23, 2024. – In the upcoming edition, we are launching a course combining the most popular profiles – MBA Hydrogen Technol-

ogies and Energy Transformation and MBA Industry 4.0. We owe this idea to our students and candidates. In their opinion, in a modern knowledge-based economy, it is crucial to have competences regarding both trans-

formations - digital and energy - explains prof. Małgorzata Dobrowolska

MBA studies at the Silesian University of Technology are an interdisciplinary program of advanced managerial competences using the latest

achievements of many modern disciplines: economics and finance, management, psychology, law, social communication and media sciences and many others. The mission of the MBA program at the Silesian University of Technology is to educate strong and responsible leaders in management and technology for the future. Prepared to face today's challenges, they will also have a positive impact on technological and social progress. To meet these challenges, the team of the Veolia Group, a strategic partner of the new field of study, a recognized global brand in energy, water and waste management, under the leadership of prof.

Krzysztof Zamasz, has developed a program of a specialized path in which students will learn, among others, the following issues: legislation and decarbonization of energy and industry in the EU and the world; energy policy, energy and fuel market: case studies; energy decentralization and energy security; Circular Economy (water, waste, electricity, heat); energy transformation – role, importance, assessment and prospects; implementation of off-system, distributed, circular economy projects; and in the area of digital transformation: industrial Internet of Things; Big data – processing of large data sets, cloud computing; vertical

and horizontal integration in the organization; system integration, additive technologies; autonomous robots; augmented reality; simulations; cybersecurity; technology and product evaluation, transfer and commercialization of solutions.

The Energy and Digital Transformation MBA study program was prepared based on the standards of one of the three most prestigious global AMBA (Association of Master of Business Administration) accreditations. After completing the training of managerial competences, the graduate receives a prestigious MBA diploma signed by the Silesian University of Technology - one of 10 re-



search universities in Poland and Nyenrode Business University in the Netherlands - one of the best business universities in Europe.

The form of study gives students the opportunity to combine the MBA program with everyday duties, thanks to the weekend formula (Saturdays and Sundays) and the hybrid formula (online and on-site) in Polish and English with the option of guaranteed translations.

The MBA teaching staff of the Silesian University of Technology includes top-class national and international experts. The studies offer innovative forms of education, where more than half of the classes are conducted by

practitioners in the form of management games, learning by doing, design thinking, case studies, management simulations and team projects.

The educational offer is complemented by visits to top domestic and foreign business entities and a field trip to the partner university, Nyenrode Business University in the Netherlands. MBA graduates are exempt from the mandatory examination for candidates for members of supervisory boards of companies with State Treasury shareholding and may sit on boards on the basis of the diploma obtained.

MBA studies by combining a group of managers from

various industries, entities and professional profiles create a strong network of contacts and create opportunities to exchange experiences and cooperate. They enrich the professional network of students and help them go beyond the patterns and open up to new perspectives and practices. The start of the MBA Energy and Digital Transformation studies at the Silesian University of Technology is scheduled for March 23, 2024!

Feel free to contact us. More information can be found at mba.polsl.pl or by phone at 885 951 905. ■



OPEN DAYS OF THE SILESIAAN UNIVERSITY OF TECHNOLOGY

text: Jolanta Skwaradowska, Anna Świdowska
photos: Maciej Mutwil

OVER THREE THOUSAND SECONDARY SCHOOL PUPILS VISITED THE SILESIAAN UNIVERSITY OF TECHNOLOGY DURING THE OPEN DAYS. FOR THE FIRST TIME THE EVENT WAS HELD FOUR TIMES, ON ALL CAMPUSES OF OUR UNIVERSITY. CANDIDATES COULD VISIT EACH FACULTY, VISIT LABORATORIES, LECTURE HALLS, AND TALK TO STUDENTS AND LECTURERS. FOR MANY, IT WAS THEIR FIRST VISIT TO THE UNIVERSITY.

OPEN DAY ON THE CAMPUS IN GLIWICE

The first meeting took place on the 8th of November on the campus in Gliwice. The event began at the Education and Congress Centre of the Silesian University of Technology, where young people learned about the educational offer of the University.

– The offer of the Silesian University of Technology is very wide. It would take a lot of time to read it by browsing the departments' websites. Here, during the Open Days, young people will learn in a simple and attractive way what the University offers. Additionally, pupils can see laboratories

and talk to students. This can help you make a good choice and find answers to the questions: what I would like to do in the future and what profession I would like to pursue - said Dr. Hab. Eng. Tomasz Trawiński, Prof. SUT, Vice-Rector for Infrastructure and Promotion.

Open Days are also an opportunity to verify their ideas about what secondary school graduates would like to study with what it looks like in reality.

– Of course, the final choice of studies rests with the pupils, but it is important to build their career path based on knowledge. Therefore, the greater the possibilities of comparing the offers of faculties, the



more accurate the choice will be. We do not want a situation where, after recruitment, in the first year, some students give up and leave because they suddenly realize that they have chosen the wrong field. Therefore, the more well-thought-out the decision is, the higher the effectiveness of studying will be and there will be no disappointments with the choice - emphasized dr hab. Eng. Jarosław Brodny, prof. SUT from the College of Studies.

For many visitors to the Gliwice campus, it was their first visit to the university. - I don't know yet what field of study I will choose and I hope that I will find information here that will help me make a decision. Such an event is interesting because I can personally see what the lecture rooms and laboratories look like and talk to students - said Nikola from XII Secondary School in Zabrze.

- Today we will visit the Faculty of Mechanical Engineering, which is the place where I might study if I get here - said Piotr from the Group of Electronic and IT Schools in Sosnowiec. - During Open Days we can learn more than by browsing the Internet. I can visit the university, ask about what interests me, and I will simply learn more - add-

ed Kamil from a technical school in Sosnowiec. During the Open Day on the Gliwice campus, students could listen to a lecture by dr hab. Eng. Katarzyna Krukiewicz, prof. SUT titled "How to connect your brain to a computer?" In turn, Wiktoria Bańczyk from the Student Self-Government talked about student life.

OPEN DAY ON THE CAMPUS IN KATOWICE

The campus in Katowice was another place that invited secondary school pupils. On November 15, many attractions awaited them, including simulators and a wind tunnel.

OPEN DAY ON THE CAMPUS IN KATOWICE

- Today we are presenting 12 of our laboratories, including car, railway and aviation simulators. In this way, we want to show young people that what we do, is not only current but also very interesting - added Dr Eng. Adam Mańka from the Faculty of Transport and Aviation Engineering.

During the Open Day in Katowice, Design Thinking workshops were held, which involved creating products and services that take into account the needs of users. - The aim of such workshops is to generate creative, innovative solutions based on existing knowledge. We use this method during classes with our students. This gives them the feeling that what they learn is not dead theory but can be used in everyday life. During today's workshops, the group will create a vacuum cleaner, the use of which will not only be work for the child, but also a form of fun - said dr Eng. Adam Duszeńko from the Department of Applied Informatics at the Faculty of Automat-

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ic Control, Electronics and Computer Science.

In Katowice, young people also listened to a lecture entitled: "Hydrogen as an ecological source of energy for modern means of transport."

OPEN DAY ON THE CAMPUS IN ZABRZE

The next, third Open Day of the Silesian University of Technology took place on November 22 on the Zabrze campus. Nearly five hundred pupils came to the event. The event began with a presentation of the university's educational offer, then the youth visited the Faculty of Biomedical Engineering, the Faculty of Organization and Management and the European HealthTech Innovation Centre (EHTIC).

– Today we are hosting young people from schools from all over the Silesian Voivodeship. The Open Day is a great opportunity for us to fully present our potential. It is difficult to present the educational offer

in schools without taking all the technological or research equipment with you. Here, young people have the opportunity to visit very modern laboratories not only at the faculties, but also at European Health-Tech Innovation Centre (EHTIC). We have laboratories with a very wide scope of applications for people interested in computer science, artificial intelligence, but also laboratories in the field of biomechanics and biomaterials. We want to present the capabilities of all these devices and show future students where they will be able to carry out their interesting work, and later, engineering projects or master's theses - said the dean of the Faculty of Biomedical Engineering, prof. Zbigniew Paszenda.

For many students visiting the Zabrze campus, it was their first visit to the university. – Hundreds of young people visited our department during previous Open Days. Each time it was a great experience for them. Young peo-

ple saw how a university worked in general, because studying in a secondary school is completely different from studying at the university - said Dr Hab. Eng. Katarzyna Dohn, Prof. SUT, vice-dean for education.

During the Open Day in Zabrze, young people could listen to

a lecture by Radosław Lubera entitled "Using managerial skills in an IT company."

OPEN DAY OF THE SILESIA UNIVERSITY OF TECHNOLOGY - IN RYBNIK

After meetings with young people in Gliwice, Katowice and Zabrze, it was Rybnik's turn - the Continuing Education Centre - a branch of the Silesian University of Technology, hosted pupils of secondary schools as part of the Open Days. Also here, secondary school graduates learned about the educational offer, met and talked to lecturers and students.

The numerous pupils of technical and comprehensive schools from the region who gathered in the auditorium were welcomed by the director of the Continuing Education Centre, dr hab. Zygmunt Łukaszczyk, prof. SUT.

– The Silesian University of Technology, as a source of human resources for entrepreneurs and many public

institutions, has been a permanent part of the history of the Rybnik Coal District for over 60 years, which today is transforming before our eyes into the Rybnik Hydrogen District – said director Łukaszczyk. – Over the years, the Silesian University of Technology has proven that it is a city-forming, prestigious and friendly university that focuses on people and development. Aware that the fate of the world lies in the hands of all of us, we act today with tomorrow in mind, he added.

There were many attractions for the pupils - they listened to a lecture by dr Eng. Maciej Sajkowski, prof. SUT titled "Modern tools for engineers and scientists", they could visit the stands of faculties, student research groups and local governments and take part in thematic workshops.

– We have prepared workshops on artificial intelligence and new technologies. Secondary school graduates could play Escape Room with ChatGPT, fly educational drones, listen to the Internet of Things technology, and Arduino programming, take part in Design Thinking workshops and play educational board games – said dr Eng. Aldona Rosner, head of the Office of Education and Popularization of Science at the

Continuing Education Centre – a branch of the Silesian University of Technology.

Pupils who visited the Silesian University of Technology during the Open Days learned about the fields of study, laboratories and lecture rooms. The event was also an opportunity to present all activities that take place at the University beyond standard studies. The EURCEA-PRO consortium, the Student Career Office and scientific clubs prepared their stands.

– EURECA-PRO is a project bringing together 9 European universities, including the Silesian University of Technology. These universities include those from Austria, Germany, Greece and Romania. Universities gathered in the consortium cooperate for sustainable development. During the Open Days, we want to present future students with the opportunities this European university offers them. They will be able to acquire

knowledge at foreign universities, take part in language courses, study visits, competence training, workshops and international projects – said Tomasz Poloczek from the Faculty of Mechanical Engineering, who presented the EURECA-PRO offer during the event.

The Student Career Office also presented a wide offer. – Many young people do not know that studies are not only about lectures and exercises, but also additional training and support offered by Student Career Office. Regardless of what field of study our candidates choose, we will support them in their professional development, enable contacts with employers and offer training to improve competences in various areas, says Barbara Odozewska from the Student Career Office.

During the November Open Days, over three thousand students visited the Silesian University of Technology. ■



ARTIFICIAL INTELLIGENCE IN SPACE WILL HELP SCIENTISTS ON EARTH

text: Katarzyna Siwczyk

photos: Przemysław Bratkowski

THE LAUNCHES OF SUBSEQUENT SPACE ROCKETS AROUSE GREAT INTEREST AROUND THE WORLD. IN THE CASE OF THE LAST LAUNCH, THE INTEREST IN POLAND, AND ESPECIALLY IN SILESIA WAS EVEN GREATER BECAUSE THE SPACEX FALCON 9 ROCKET INCLUDED THE POLISH INTUITION.1 SATELLITE AND THE ANTELOPE ON-BOARD COMPUTER, DEVELOPED BY KP LABS FROM GLIWICE. DR ENG. JAKUB NALEPA, PROF. SUT- SCIENTIST AT THE SILESIAN UNIVERSITY OF TECHNOLOGY WAS, AMONG OTHERS, INVOLVED IN THESE ACTIVITIES.

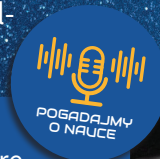
The Intuition 1 satellite, which flew into space in November this year, can process 3 trillion operations per second, which provides extraordinary opportunities for scientists on Earth.

– Our team has been working on developing algorithms that will allow us to collect data to analyse certain areas of the Earth. The artificial intelligence algorithms we

have created will help in processing this data so that only satellite images that are clear and can be read from them are sent to Earth - explains Jakub Nalepa prof. SUT.

Previously, a satellite could download a huge amount of data, but during the long process of sending it to servers on Earth, the material was often unsuitable for analysis because it was unclear,

blurred, etc. Artificial intelligence will therefore be responsible for the so-called preliminary selection, which will make the work of scientists much easier. The data obtained from the satellite will be used, among others, for soil analysis, soil composition or methane leakage to the Earth's surface. The area covered by the satellite is Europe. ■



You can learn more about this by listening to the podcast "Let's talk about science".



MEETING OF MEMBERS OF THE ENERGY PROBLEMS COMMITTEE

text: editorial office

photo: Tauron Wytwarzanie

ON NOVEMBER 16 THIS YEAR, AT THE NOWE JAWORZNO POWER PLANT, A JOINT MEETING OF MEMBERS OF THE ENERGY PROBLEMS COMMITTEE AT THE PRESIDIUM OF THE POLISH ACADEMY OF SCIENCES AND THE ENERGY COMMISSION AT THE KATOWICE BRANCH OF THE POLISH ACADEMY OF SCIENCES WAS HELD, CO-ORGANIZED BY TAURON SA AND THE SILESIA UNIVERSITY OF TECHNOLOGY.

The meeting was opened by prof. Janusz Kotowicz - Vice-Rector for Collaboration with Civic and Economic Environment He welcomed the Chairman of the Committee, prof. Janusz Lewandowski and the Chairman of the Commission, prof. Marcin Szega. He thanked the vice-president of Tauron Wytwarzanie, Zdzisław Filip, a member of the Supervisory Board, Dr Eng. Grzegorz Peczkis for organizing the meeting. Prof. Kotowicz emphasized that the cooperation of the Silesian University of Technology with Tauron SA, in accordance with the signed agreement, includes, among others: cooperation in projects related to energy transformation and the development of low- and zero-emission generation sources,

activities related to the development of nuclear energy, cooperation in research on the application and development of hydrogen technologies, analysis of the potential of using TAURON Group's infrastructure and facilities in connection with activities aimed at the energy transformation of Poland and Silesia.

The introductory paper entitled "Unit 910 MW TAURON Wytwarzanie" was presented by Adam Śladek, Managing Director for Production of TAURON Wytwarzanie together with Radosław Smoleńc, Chief Generation Engineer, Nowe Jaworzno Power Plant, TAURON Wytwarzanie.

On behalf of the Energy Committee, a report entitled "Pos-

sibilities of implementing CCS technology in energy and industry" (developed in cooperation with prof. Wojciech Nowak, Dr Eng. Paweł Gładysz and Dr Hab. Eng. Stanisław Tokarski) was delivered by prof. Stanisław Nagy from AGH University of Science and Technology.

On the part of the Energy Committee, a speech titled: "100th anniversary of the birth of prof. Jan Szargut. Thermo-ecological cost – advanced system assessment of energy technologies" was presented by prof. Marcin Szega. The report was prepared together with Prof. Wojciech Stanek.

After the papers and discussion, the meeting participants visited the 910 MW unit. 65 people attended the meeting. ■



SCIENCE AND TRADITION - MINERS CELEBRATED ST. BARBARA'S DAY

text: Anna Świdarska

photos: Maciej Mutwil, Krzysztof Gronowicz

BARBÓRKA, OR MINER'S DAY, CELEBRATED ON DECEMBER 4, IS AN IMPORTANT HOLIDAY ESPECIALLY IN SILESIA. IT IS AN EXPRESSION OF RESPECT FOR THE LOCAL MINING TRADITION. THIS YEAR, THE FACULTY OF MINING, SAFETY ENGINEERING AND INDUSTRIAL AUTOMATION ORGANIZED A TWO-DAY CELEBRATION OF THE HOLIDAY, WHICH BEGAN ON NOVEMBER 23.

Representatives of the most important institutions related to mining met at the Faculty of Mining, Safety Engineering and Industrial Automation. The "Sustainable Development Mining" conference was an opportunity to present the achievements of the scientific and industrial communities. The topics of the meeting concerned current and key issues of contemporary underground, open-pit and borehole mining. In addition to issues related to the hard coal mining industry, the participants also discussed topics related to the development of nuclear energy, energy storage and renewable energy sources.

– Mining is constantly changing; it can be said that it is in a constant process of transformation. When it comes to the Upper Silesia region, we are talking about several hundred years of exploitation. However, today we have very limited

possibilities in this area. We must remember that exploitation is carried out in a highly urbanized area, and there is also the issue of deposit availability. Mining is carried out in increasingly difficult conditions, at great depths, which in turn involves greater natural hazards - said prof. Stanisław Prusek, director of the Central Mining Institute - National Research Institute. – European climate policy is an additional challenge for the Polish economy – added the professor.

– The problem of hard coal mining is very important because there is no alternative to coal yet. There is talk of nuclear energy, but this is quite a distant prospect, because the construction of large reactors will take many years - said prof. Franciszek Plewa, Dean of the Faculty of Mining, Safety Engineering and Industrial Automation.

The conference was accompanied by international min-

ing-related workshops attended by scientists from France, Germany, Greece and Slovakia. The topics of the workshops were related to broadly understood mining and the problems this industry is currently struggling with.

The next day was full of ceremonial events. The celebration of Barbórka began traditionally with a holy mass, after which the participants marched through the campus of the Silesian University of Technology to lay flowers at the monument of St. Barbara. They were accompanied by the KWK Sośnica brass band, which also gave a concert in the hall of the GIBiAP Faculty (Faculty of Mining, Safety Engineering and Industrial Automation).

– The Miners' Festival is an extremely important event at the Silesian University of Technology. Mining has been one of the main areas of our scientific and teaching activ-

ity for many years. Today we are talking about mining engineering, i.e. mining not only hard coal, but all natural raw materials. New technologies are based on products derived from the processing of raw materials that are mined in various parts of the world. Therefore, mining engineering will develop - said the Rector of the Silesian University of Technology, prof. Arkadiusz Mężyk.

This is also evidenced by the growing interest in the fields of study conducted at the Faculty of Mining, Safety Engineering and Industrial Automation from year to year, as reminded by the dean of the faculty. Prof. Plewa also emphasized the importance of extensive cooperation of the department with schools and even kindergartens by organizing events and workshops aimed at children and youth.

The program of the all-day Miner's Day celebrations also included a ceremonial St. Barbara's Day academy, during which there was a traditional "leather jump", symbolizing the admission of young adepts to the mining profession. This custom came to Silesia from Austria after World War II and is still cultivated at the Silesian University of Technology.

St. Barbara's Day, celebrated on the day of the patron saint of miners, is also a holiday for geologists and all those engaged in professions related to the search for fossil fuels. ■



GLIWICE SCIENTIFIC MEETINGS 2023

text: Jolanta Skwaradowska

photos: Maciej Mutwil

THE LATEST ACHIEVEMENTS IN MOLECULAR BIOLOGY, BIOTECHNOLOGY, GENETICS AND BIOINFORMATICS AND THEIR IMPACT ON CANCER RESEARCH - ARE THE TOPICS OF THE GLIWICE SCIENTIFIC MEETINGS HELD AT THE SILESIAN UNIVERSITY OF TECHNOLOGY. THIS WAS THE 27TH EDITION OF THIS EVENT. ALMOST 200 PEOPLE TOOK PART IN IT.

This conference is proof and confirmation of our extensive cooperation with the medical community. The Silesian University of Technology has been supporting the development of medicine in the Silesian Voivodeship for many years. The university employs many people related to medicine and biology who are able to translate these phenomena and concepts into the language of technology. We have many excellent scientists who achieve success in cooperation with the medical world - said prof. Marek Pawełczyk, Vice-Rector for Science and Development.

- The conference mainly concerns basic sciences, as well as bioinformatics and methods that are applied in medicine - treatment and diagnostics - adds prof. Joanna Rzeszowska from the Department of Systems Biology and Engineering, president of the scientific and organizational committee of the Gliwice Scientific Meetings.

Conference participants discussed the latest achievements in molecular biology, biotechnology, genetics and bioinformatics and their impact on cancer research.

- Modern oncological therapy is personalized therapy, ad-

ressed to a specific patient. To find out the roots of this disease, we must use computational and research methods that may be incomprehensible to doctors. So, we really need IT and engineering tools. The rapprochement of the Silesian University of Technology with the scientific part of the Institute of Oncology, in my opinion, is and will be increasingly important in the coming years - said dr hab. MD Tomasz Rutkowski from the National Institute of Oncology in Gliwice.

The Gliwice Scientific Meetings are also an opportunity to exchange views, experiences and

establish scientific contacts. - They allow for closer cooperation between engineers and doctors and the development of solutions that can make doctors' work easier - emphasizes prof. Katarzyna Lisowska, president of the Association for the Support of Cancer Research.

- Currently, there



is a great need for bioinformaticians, i.e. people who know both computer science, medicine and biology and can combine both fields – adds prof. Lisowska.

An accompanying event of the conference was a competition for a scholarship named after Professor Mieczysław Choraży. The aim of the competition is to recognize the scientific achievements of young researchers working in Polish research institutions and to support them in their research work. This year the competition was held for the third time.

– In addition, we have poster sessions where young scientists present their research results in the form of a poster. The authors stand in front of it and answer questions. For them, it is an opportunity to establish new contacts and learn how to present their research results - said prof. Katarzyna Lisowska.

The sponsor of the Gliwice Scientific Meetings was ING Bank Śląski. – We are aware that the development of science and investments in new technologies have a direct impact on innovations in the field of medicine and thus significantly affect the health of society. That is why we got involved in the Gliwice Scientific Meetings. Supporting a scientific conference devoted to oncology is consistent with our understanding of corporate social responsibility, said Małgorzata Madeja, Regional Director for Corporate Affairs at ING Bank Śląski.

– Our bank is aware that current actions and decisions have an impact on what the world will look like and what reality the



Prof. dr hab. Joanna Rzeszowska, president of the GSN scientific and organizational committee

next generations will find. Therefore, guided by our principles and values, we have created an ESG (Environment, Social responsibility, Governance) strategy, which is part of our business strategy. As part of this strategy, we engage in various types of initiatives, including those related to health care. As an institution, we are aware of how important cancer prevention is, thanks to which many people can avoid serious cancer diseases - adds Małgorzata Madeja.

The organizer of the Gliwice Scientific Meetings was the Association for the Support of Cancer Research and the Silesian University of Technology and the Gliwice Branch of the National Institute of Oncology, named after Maria Skłodowska-Curie. The conference has been organized since 1997 and is attended by not only Polish, but also foreign scientists. This year, almost 200 people took part in it.

The event partners were:

ABL&E-JASCO POLSKA, ALAB sp. z o.o., Association for the Support of Cancer Research, Biogenet, Bionicum sp. z o.o., Przedsiębiorstwo Energetyki Ciepłej-Gliwice sp. z o.o., Ependorf Poland sp. z o.o., EURx sp. z o.o., City of Gliwice, Health Technologies sp. z o. o., IKA Poland sp. z o. o., Łukasiewicz Research Network - Institute of Non-Ferrous Metals, Irtech sp. z o. o., Katowice Special Economic Zone SA, KENDROLAB sp. z o. o., KOMAG INSTITUTE OF MINING TECHNOLOGY - Research Institute, Huta Łabędy, Maria Skłodowska-Curie National Institute of Oncology / National Research Institute, branch in Gliwice, Ministry of Education and Science, PHC-bi Group, Polish Academy of Sciences, Promega, Sarstedt AG&Co., Satorius AG, Smartlab, VWR International sp. z o. o. ■



POPULARIZATION AND COMMUNICATION OF SCIENCE IN POLAND – OPPORTUNITIES AND CHALLENGES

text: Aleksandra Wojaczek

photos: Aleksandra Wojaczek, mat. Science Popularization Centre, iStock

ON DECEMBER 9TH, THE OFFICIAL CELEBRATION OF THE EUROPEAN SCIENCE CITY OF KATOWICE 2024 BEGAN. THROUGHOUT THE NEXT YEAR, THE SCIENTIFIC ACHIEVEMENTS OF POLISH UNIVERSITIES WILL BE PRESENTED IN THE PUBLIC SPACE. THIS RAISES QUESTIONS ABOUT THE STATE OF POPULARIZATION AND COMMUNICATION IN SCIENCE, THE EXISTING FORMS OF THESE ACTIVITIES, AND THE CHALLENGES AND OPPORTUNITIES THEY BRING. THE SCIENCE POPULARIZATION CENTRE OF THE SILESIA UNIVERSITY OF TECHNOLOGY AND THE COUNCIL FOR THE PROMOTION OF SCIENCE OF THE POLISH ACADEMY OF SCIENCES ORGANIZED A DEBATE TO DISCUSS THESE QUESTIONS. THE PRIMARY PURPOSE OF THIS EVENT WAS TO PROMOTE SCIENTIFIC COMMUNICATION AND DISSEMINATION OF KNOWLEDGE.

Popularization of science is a dynamically developing area, gaining more and more creators and recipients of knowledge dissemination content. The development is evidenced by, among others, the more frequent presence of scientists in the national media, organization of festivals and science picnics or other events that include activities popularizing

science, as well as an increasing number of science centres and science parks throughout the country.

This development raises many questions, including challenges faced by science communicators, establishing the profession of science populariser, cooperation with the media and the situation of science communication in universities. The conversations undertaken

during the debate highlighted the most important issues related to the popularization of science, the media and the academic environment, and also indicated good practices in these areas.

PROFESSION, MISSION OR HOBBY?

The activities of science popularisers are perceived as a mission aimed at building



a knowledge-based society and emphasizing the role of science in almost all areas of life. They are treated as a bridge between society and scientists, explaining the importance and value of their work. However, the profession of "science populariser" is not included in the index of professions and specialties. So, who are the people involved in the dissemination of science? Most often, these are people associated with the academic community - as active scientists and educators, or people who resigned from working at a university to run their own business. They are also journalists, educators and internet creators (bloggers, vloggers).

The debate's interlocutors commented on the lack of an official definition of the profession of a populariser, pointing to the need to create such a profession, but also to the difficulties associated with its regulation, including:

- little opportunity for education in this area – due to the lack of fields of study, postgraduate studies, courses or their limited availability,
- “rigid” framework of the profession that limits taking up the profession of science populariser,
- regulation of working time, lack of possibility of full-time work and regular earning,
- perceiving the activities of popularisers only as hobbies,
- problems related to distinguishing popularization from communication and promotion of science.

The debate "Popularization and communication of science in Poland - opportunities and challenges" took place on March 27, 2023, at CKS "Mrowisko". It was divided into three discussion panels: "Profession: science populariser", "Science and media", "Academic popularization of science", in which 12 experts took part - representatives of higher education, media and science popularisers. The organizers of the event were: Council for the Promotion of Science of the Polish Academy of Sciences and the Science Popularization Centre of the Silesian University of Technology. The patronage over the debate was taken by: Chairman of the Conference of Rectors of Academic Schools in Poland and Chairman of the Scientific Excellence Council. Media Partners: PAP (Polish Press Agency) Science in Poland and Academic Forum. The event partners were: EURECA-PRO and EMT-SYSTEMS and the Cechownia Restaurant.

One of the difficulties indicated was the lack of demand from society, however, it should be agreed that establishing the profession of science populariser could have a positive impact on the increase in social awareness of the need to disseminate knowledge and education in this field. Moreover, education in the field of science communication or popularization - necessary to take up the profession of a science populariser or communicator - would prevent people without specialized knowledge and educational competences from sharing content.

The status of science populariser at universities also requires a number of changes, which is related to the equal treatment of popularization and scientific activities.

We strive to ensure that popularization activities in the academic environment are more appreciated (...) so

that those who devote part of their time to popularization are not treated worse than those who devote 100% to this activity that brings points, slots, evaluation (...) – prof. Paweł Golik.

An example of activities that appreciate the popularization of science is, for example, creating a category dedicated to popularization activities in the employee evaluation survey. For several years, this category has been included in surveys used, for example, at the Silesian University of Technology.

There is an increasing emphasis on education in the field of science communication through courses aimed at academic staff or subjects included in doctoral study programs. One way to educate in this area would also be to create centralized communication academies for scientists.

The populariser of science must be someone who is pas-

sionate and wants to work in it, but on the other hand, he must have an educational basis that the current system may not provide - prof. Aleksandra Ziemińska-Buczyńska

CHALLENGES OF POPULARIZING SCIENCE

The popularization of science is part of the implementation of the third mission of the university, i.e. influencing the social environment. Its support consists, among other things, in building trust in science, understood as an awareness of the role of science in solving problems and improving the quality of life.

(...) is the need to restore respect for science and the achievements of scientists and to treat science as a way to rationally explain various solutions to problems that affect ordinary people - prof. Iwona Hofman.

This is primarily about building relationships between

the academic community and the socio-economic environment, building trust in the university as an institution that is able to solve problems (...) - Prof. Arkadiusz Mężyk

An important aspect in building trust in science is the competence of the recipients. Therefore, in the era of digital culture, one of the social needs is the ability to "screen" information, i.e. assess the truthfulness and reliability of messages - including scientific ones - and distinguish them from the so-called fake news. In this situation, the role of science popularization can be understood not only as the presentation of knowledge itself, but also as good practices in the use of sources.

However, it should be noted that the basis for building a knowledge-based society that uses media messages responsibly and critically should be education provided at all stages of education

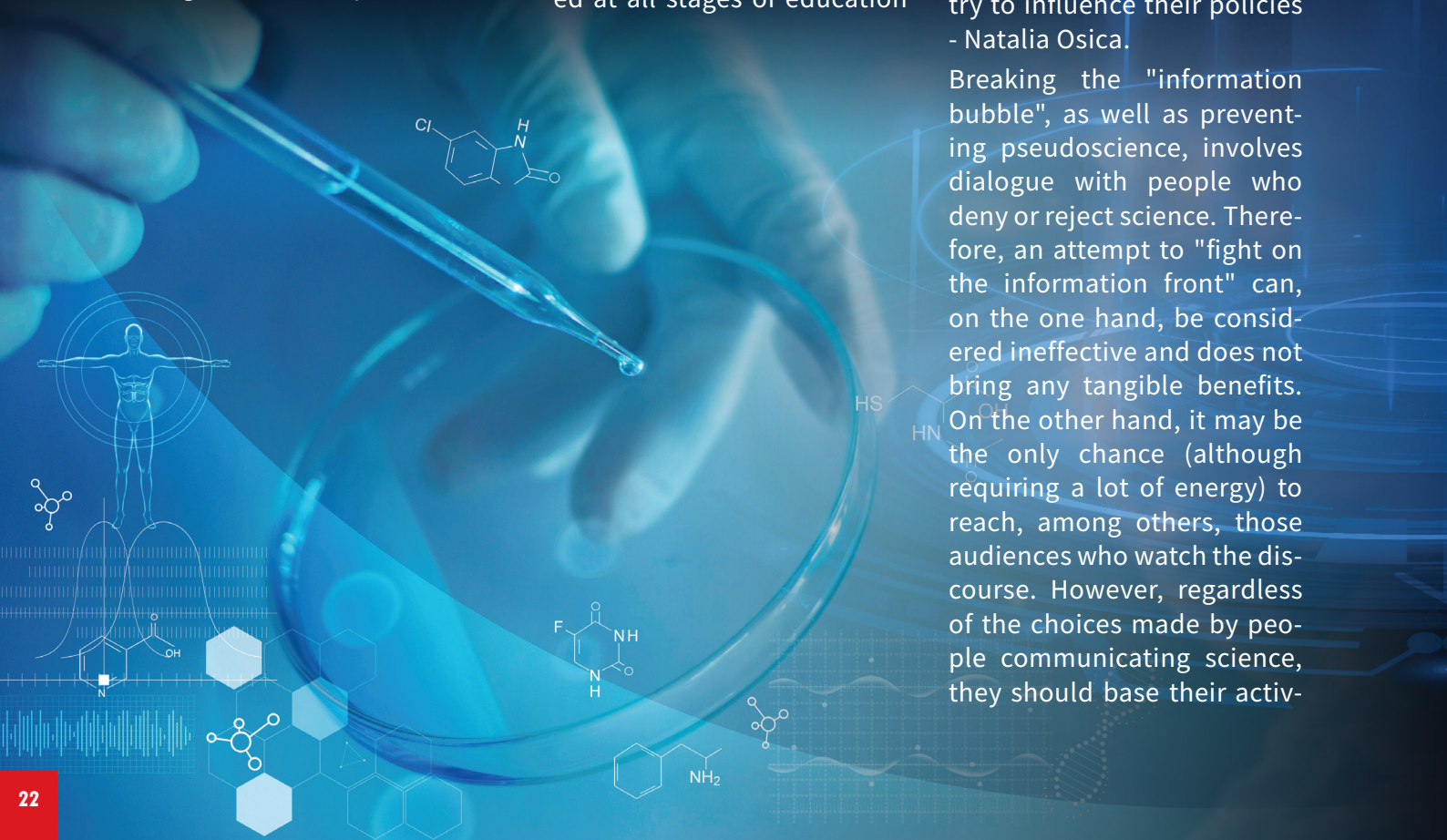
in schools, as well as through upbringing in the family. In this case, the popularization of science may support formal education, but cannot replace it.

The way science is perceived by society also depends on the political situation, and this aspect also poses a significant challenge for both scientists and science popularisers. It involves finding effective ways to contact and cooperate with decision-makers, and preventing the use of science as a tool for political manipulation.

This is a huge role of all of us - employees of universities and institutes - to somehow learn to reach decision-makers - Anna Korzekwa-Józefowicz

We educate adults, youth, or children, and today the world still needs to reach specific stakeholders, industry representatives, and public administration representatives with scientific information to try to influence their policies - Natalia Osica.

Breaking the "information bubble", as well as preventing pseudoscience, involves dialogue with people who deny or reject science. Therefore, an attempt to "fight on the information front" can, on the one hand, be considered ineffective and does not bring any tangible benefits. On the other hand, it may be the only chance (although requiring a lot of energy) to reach, among others, those audiences who watch the discourse. However, regardless of the choices made by people communicating science, they should base their activ-



ities on respect and understanding of people who present doubts.

The basic principle of communication and any education is respect for the other party - dr Tomasz Rożek

Science popularisers face many opportunities to disseminate knowledge and have many channels to choose from for communicating scientific issues and activities. These include festivals, picnics and scientists' nights, events organized on the occasion of days or weeks of a given scientific issue, popular science literature, blogs, film channels, radio shows or podcasts, as well as publishing content on social media profiles such as Facebook, Instagram or TikTok. However, the multitude of possibilities raises questions about how to communicate science so as not to trivialize issues and at the same time fully maintain the substance of the content, and how to choose forms appropriate to the age and education of listeners or readers?

The recipient's involvement in a popular science show is associated with the "wow effect", i.e. the use of visual effects preceding the substantive part of the activity. Appropriate proportions between the "wow effect" and the content are a way to attract the recipient's attention and interest in a given issue. The "wow effect" (as a kind of learning through play) can be extremely effective in contact with children and teenagers - difficult recipients who are easily bored with the mes-



dr Tomasz Rożek

sages conveyed. At the same time, the interlocutors drew attention to the threats related to the "wow effect", i.e. the loss of the substance of the activity, which is partially or completely replaced by a visual effect.

As scientists carrying a substantive message, we want to interest listeners so that they stay with us, so this "wow effect" is absolutely necessary here - Elżbieta Pogoda.

It is worth paying attention to one more issue undertaken by scientists, popularisers and communicators of science, i.e. emphasizing the differences between the pop-

ularization and promotion of science. They often concern the activities of universities, where they are understood equally. However, we cannot forget that although the popularization of science contributes to the promotion of universities, its value lies in talking about science in a broader perspective.

Science is fundamentally collective, it happens around the world through the efforts of hundreds of thousands of people, and it is our responsibility not only to talk about our contributions, but also to help people understand what is happening in global science. And this is the differ-

ence between popularization and promotion - prof. Paweł Golik.

Another way to define concepts is to distinguish between science communication, distribution and popularization of knowledge. The former will concern the scientific sphere and contacts between scientists from particular disciplines. In turn, the distribution and popularization of knowledge relate to the dissemination of research results with the support of appropriate units or individuals who are especially qualified for this purpose.

It seems to me that the goal and a model solution would be to institutionalize the popularization of science, that is, for scientists and universities to have support in the form of foundations and centres that deal with the popularization of research results, because not everyone

has the predispositions to deal with such popularization - prof. Iwona Hofman.

Requirement or choice? Popularization of science at universities.

Promoting science is the third important mission of the university. The academic community must meet this requirement. This is primarily due to the strengthening of the relationship between universities and their surroundings, as they are not only places where people for the economy are trained, but also where society is shaped. Universities are therefore intellectual centres, and the popularization activities of their employees should stimulate creativity and curiosity about the world among outsiders.

This is an investment in the environment, but also in our academic teachers, because the more people we man-

age to attract to the idea of popularizing science, the better will be the teachers' competences in transmitting knowledge (...) so it is also an improvement of the professional competences of our academic staff - prof. Arkadiusz Mężyk.

It should be noted that the need to communicate research, scientific achievements or technological solutions to society results from the implementation of many activities from public sources of financing. Recipients should be aware that money allocated for higher education and science serves the development of research, which then translates into the improvement of many areas, such as the economy, health care, and energy.

There should be a popularization component in every project financed from public





money - prof. Paweł Golik.

Despite such important tasks as popularizing science at universities, it cannot be compulsory or obligatory, because this would affect the quality of the content provided. Therefore, its implementers should be people developing passions or educating themselves in this field. Their activities at universities are supported by the Science Populariser's Charter prepared by the Council for the Promotion of Science of the Polish Academy of Sciences together with the Council of Scientific Societies of the Polish Academy of Sciences. The issues mentioned therein include appreciating the popularization of science in promotion procedures or carrying out popular science activities as part of scientific events.

COOPERATION WITH THE MEDIA

The changes that have occurred over the years in the formula of science journalism are the reason for the increasing presence of Polish science in the media. Scientists want to popularize and promote achievements, which is why they willingly provide journalists with information about their disciplines. This is a significant aspect in communication; Science journalists are "translators" of the world of science, they help audiences navigate complex issues, and they also influence the quality and type of content presented. However, cooperation with scientists requires certain skills from journalists, and above all, self-education in topics and issues that are not always consistent with their field of education.

If someone is a journalist involved in transmitting scientific news, he or she must educate himself or herself - journalist Katarzyna Głuch-Juszkiewicz

Press offices and university spokespersons act as a link between journalists and scientists. The good practices of this cooperation, which allow media representatives to effectively verify specialists, include:

- maintaining a database of experts,
- preparing research workers for media appearances,
- creating press materials.

Scientific journalism, which widely transmits information to society, helps build trust in science and indicates the availability of knowledge.

(...) We can provide simply true knowledge, based on facts supported by scientific



ic research, so that people looking for it can find it – journalist Anna Ślęzak.

However, it should be remembered that activities related to sharing scientific information may involve certain risks. They result from the current state of the media in Poland and include the contemporary work model of journalists - media workers, whose main goal is to effectively acquire readers through "clickbait", sensationalism or in which the time for producing materials is extremely short and regulated by publishers. Content prepared in this way often lacks well-analysed sources, which in turn contributes to the creation of fake news. The answer to this phenomenon should be to equip recip-

ients with the competences mentioned above to select messages.

What is the state of popularization and communication of science in Poland? Summary The role of science popularization is not only to present scientific issues and curiosities in various, attractive forms, often treated as a supplement to school education. First of all, its task is to build a knowledge-based society, and therefore also to strengthen the value of science and prevent disinformation. However, we cannot talk about the popularization of science in a one-dimensional way, because it consists of many interrelated elements, such as cooperation with the media, institutional support, educational oppor-

tunities, ways of disseminating knowledge and reaching recipients.

What comes to the fore is the important function of popularizing science, which is to equip recipients with competences that make it easier to navigate the world where the excess of information in the media (both traditional and social media) requires critical thinking and the ability to filter messages. But how can this function be fulfilled? By supporting formal education, indicating good sources, and drawing attention to valuable content. Of course, this will require the use of effective ways to attract the attention of recipients - but it is important that in those activities combining the visual effect with the substantive

effect, the latter should always be the priority.

We can talk about appropriate competences not only in relation to the recipients, but also to the people communicating science. The lack of establishment of the profession of science populariser does not prevent the implementation of education in the form of postgraduate studies, training, courses, subjects, and even the creation of central centres that will be a distributor of good practices. Prepared in this way, people will be able to respond to the needs of science centres or other entities deciding to employ specialists in the field of science communication.

The popularization or communication of science cannot take place without institutional support, including, for

example, equal treatment of scientific and popularization activities in the case of professional evaluation and promotion of an employee. Such changes are already taking place in many universities, for which popularizing science is a significant aspect of building relationships with business partners or local government representatives, as well as encouraging young people to study at universities or engaging the local community to learn about science.

Popularization and communication activities also need effective methods of reaching recipients, so cooperation with media representatives who provide content in various communication channels: radio, press, television and Internet portals cannot be underestimated. In

this respect, both a journalist and a scientist, populariser or educator should take full responsibility for preparing reliable messages and counteracting disinformation.

Dynamically developing areas - and popularization is certainly such at the moment - always generate many challenges or multi-faceted issues that require discussion and often also the testing of innovative methods. It is therefore important that the environment related to the popularization of science tries to find solutions to existing problems and inspire people to act. This environment should constantly develop and transfer the desire to satisfy curiosity about the world as well as creative and critical thinking to society. ■



“PROVEN, LEARNED”

text: Anna Świdarska

THE SILESIAN UNIVERSITY OF TECHNOLOGY IS CONDUCTING A SERIES OF SIX INTERACTIVE ONLINE SCIENTIFIC LECTURES INTENDED FOR SECONDARY SCHOOL PUPILS. THEIR TOPICS ARE RELATED TO SCIENTIFIC ISSUES THAT SCIENTISTS DEAL WITH WITHIN THE PRIORITY RESEARCH AREAS OF THE UNIVERSITY. THE LECTURES ARE PART OF A PROJECT THAT RECEIVED FUNDING FROM THE GZM METROPOLITAN SCIENCE SUPPORT FUND.

The subject of the project entitled "Proven, learned - a series of six interactive scientific lectures combined with online broadcast", is the organization and production of scientific lectures in a hybrid version, in which participation will be possible both remotely and on-site. The lectures are practical learning of the topics covered; they focus on topics developed in six Priority Research Areas:

- Computational oncology and personalized medicine
- Artificial intelligence and data processing
- The materials of the future
- Smart cities, mobility of the future
- Process automation and Industry 4.0
- Climate and environmental protection, and modern energy

The series began with a lecture given by Dr Hab. Eng. Paweł Kasprowski, prof. SUT, who is the coordinator of POB (Priority Research Area) 2 Artificial Intelligence and Data Processing. The topic of the class was an introduction to machine learning and ar-

tificial intelligence. Another lecture titled „The genius of Gauss, or a few words about the normal distribution" was conducted by dr Eng. Joanna Żyła and dr Eng. Justyna Mika from the Department of Data Science and Engineering at the Faculty of Automatic Control, Electronics and Computer Science of the Silesian University of Technology. They talked about the use of statistical methods to better diagnose and treat diseases. They conduct their research under POB 1 Computational Oncology and personalized medicine. In turn, scientists carrying out research under POB 6 Climate and environmental protection, modern energy showed students what is invisible. Katarzyna Moraczewska-Majkut and Dr Eng. Witold Nocoń from the Faculty of Energy and Environmental Engineering of the Silesian University of Technology talked about the macro threats posed by microparticles, particularly how microplastics penetrate water, and how to avoid this process..

– I am interested in ecology and environmental issues, I really liked the classes,

especially the fact that we could observe experiments, we could physically touch something, pour something – said Zuzanna Nych, a pupil of the Academic Secondary School in Gliwice, who took part in the broadcast of the lecture. – I also liked it very much – added Karolina Tymrakiewicz, a friend from school – it was fascinating to see so much pollution, I didn't think it was possible. Scientists representing POB4 Smart Cities, Future Mobility conducted classes related to rail traffic management. Dr Eng. Szymon Surma and MSc. Eng. Jerzy Łukasik from the Department of Railway Transport, Faculty of Transport and Aviation Engineering, presented in a modern workshop issue including railway signalling, the work of traffic controllers working in local control centres and driving a train based on the rules applicable to the railway.

Dr Eng. hab. Anna Timofiejczuk, prof. SUT, Dean of the Faculty of Mechanical Engineering and coordinator of POB 5 Process Automation and Industry 4.0 together with dr hab. Eng. Damian



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Projekt realizowany w ramach
Metropolitalnego Funduszu Wspierania Nauki
w latach 2022-2024

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Gąsiorek, prof. SUT, Vice-Dean for Cooperation and Development and dr Eng. Artur Pollak, president of the management board of Apa Group, characterized all industrial revolutions and, presenting the modern Industry 4.0 Technology Testing Centre, talked about the latest technologies used in the industry. The series ended with a lesson on materials of the future conducted by dr Eng. Agnieszka Nowak from the Laboratory of Nanotechnology and Material Technologies and dr hab. Eng. Janusz Mazurkiewicz, prof. SUT from the Department of Engineering Materials and Biomaterials, Faculty of Mechanical Engineering. Pupils carried out strength tests of composite materials developed and prepared during the workshops, learned how nanofibers are produced and saw the structures of nanomate-

rials and the arrangement of atoms magnified over 15 million times.

– The Silesian University of Technology not only educates, but also creates solutions that have a real impact on the economy and society of our region, which is why I am pleased with initiatives such as this project, which promote the scientific potential of our University – said dr hab. Eng. Tomasz Trawiński, prof. SUT, Vice-Rector for Infrastructure and Promotion. – Cooperation with local governments is crucial to our activities, also to jointly identify the needs of local communities and respond to them. Thank you all for your involvement in the project, added the Vice-Rector.

The main goal of organizing interactive scientific lectures is to popularize scientific research among secondary school pupils as a necessary condition for the development of an innovative knowledge-based economy and to raise awareness of the benefits of pursuing studies in technical fields.

Broadcasts of all lectures are available on the YouTube channel of the Silesian University of Technology.

The project "Proven, learned - a series of six interactive scientific lectures combined with online broadcast" was co-financed by the Upper Silesian-Zagłębie Metropolis under the "Metropolitan Fund for Science Support in 2022-2024". ■



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Projekt realizowany w ramach
Metropolitalnego Funduszu Wspierania Nauki
w latach 2022-2024

RECLAIM THE RIVER

text: Gabriela Szewiola

editor: Iwona Flanczewska-Rogalska

photos: Krzysztof Kafka, Gabriela Szewiola, istock

INTEGRATED CLASSES IN GERMAN AND SPATIAL PLANNING ARE THE SCOPE OF JOINT PROJECTS OF THE FOREIGN LANGUAGES CENTRE AND THE FACULTY OF ARCHITECTURE OF THE SILESIAN UNIVERSITY OF TECHNOLOGY. EIGHT PROJECTS HAVE ALREADY BEEN IMPLEMENTED AS PART OF THE GERMAN LANGUAGE TEACHING MODEL CALLED CLILIG – CONTENT AND LANGUAGE INTEGRATED LEARNING IN GERMAN. THIS YEAR'S TITLE WAS: "SPATIAL DEVELOPMENT OF AREAS NEAR SELECTED WATERCOURSES IN THE WESTERN PART OF THE SILESIAN VOIVODESHIP."

Content and Language Integrated Learning – this is integrated content and language education. The term CLILiG was adopted as the name of the German language teaching model, and the essence of teaching classes conducted in this mode is the implementation of subject content during language classes, cooperation with external en-

tities - companies, research institutions, offices, local government units, etc., and the development of practical solutions that are "products" of this project, and also - the final presentation of the results and these products in a foreign language.

So far, eight CLILiG projects have been carried out as part of integrated classes in German and spatial

planning. This year's project was titled "Spatial development of areas near selected watercourses in the western part of the Silesian Voivodeship." It was led - similarly to previous projects - by Gabriela Szewiola, M.A. from the Foreign Languages Centre of the Silesian University of Technology and dr hab. arch. Krzysztof Kafka, prof.





SUT from the Department of Urban and Spatial Planning, Faculty of Architecture, Silesian University of Technology.

The project, implemented in 2023, was special for several reasons: due to its connection with several subject modules, the involvement and cooperation of many entities from Poland and Germany, allowing for learning the practical aspects of the topic, and the use of three languages - Polish, German and English.

During German classes, students first presented the guidelines used in planning modern cities and based on lectures, they learned to define and describe basic con-

cepts of spatial planning. Then - after the field survey - they carried out and discussed in German analyses of the researched areas, taking into account various criteria, such as accessibility, connection with the surroundings, functions, natural environment and demography. In the further course of the classes, students attempted to identify the most important problems and spatial conflicts in the riverside area of watercourses - Ostropka and Guido in Gliwice, they also created their own design concepts and outlines of local spatial development plans for the studied areas.

The perspective and knowledge of the project par-

ticipants was significantly expanded thanks to additional events that took place as part of the project or in connection with it. In March 2023, thanks to the help of the Goethe-Institut from Krakow, a study trip of the project participants to the Ruhr Area took place. This trip was also possible thanks to many years of fruitful cooperation between the Department of Urban and Spatial Planning, Faculty of Architecture, and the Technische Universität Dortmund, which has already included guest lectures by scientists from both universities and student exchanges. During their stay in Dortmund, the group of

students listened to lectures and presentations at the university, talked to experts and visited many interesting public spaces that were created in riverside and post-industrial areas. The study trip also included a visit and presentation to the Emschergenossenschaft (Association of Emscher River Municipalities) - an institution dealing with the renaturalization and revitalization of the Emscher River and the areas adjacent to it. Until recently, the river served as an extremely polluted sewage channel, now the sewage is purified and discharged in underground channels, and the river itself is biologically clean. New housing estates

and attractive public spaces have been built there - playgrounds, marinas and rest areas. Visiting these areas and comparing them with the previous state made a huge impression on the visitors and was an impulse for their own design considerations. The study trip to Dortmund contributed to the linguistic activation of students, it also became the topic of lively discussion, and its various aspects contributed to creative German language classes.

Another event as part of this year's spatial planning project, related to the CLiLiG project, was the International Spatial Planning Workshop, which took place on

June 2, 2023, at the Faculty of Architecture. The workshops consisted of a theoretical and practical part. In the first part, participants could listen to lectures by experts from Poland and Germany (prof. Christoph Zöpel - TU Dortmund, Safiye Avci and dr Stephan Treuke - Emschergenossenschaft, prof. Damian Absalon - University of Silesia, dr Agnieszka Szczepańska-Góra - GZM Metropolis, dr hab. engineer arch. Krzysztof Kafka, prof. of the Silesian University of Technology. In the practical part, students worked in groups and consulted the concepts of their projects with experts. At the end of the workshops, there was

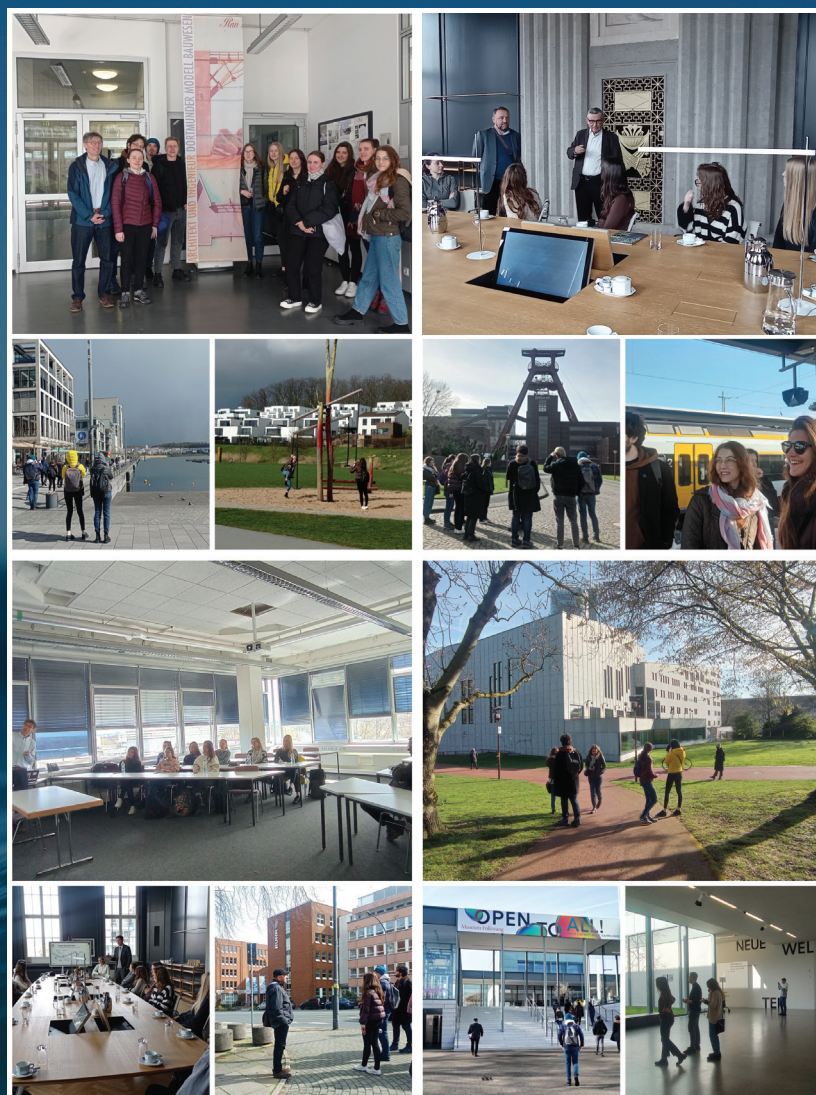


a public presentation of the results of the students' work and a discussion of their proposals. German and English were used during the workshops.

At the end of June 2023, the Faculty of Architecture hosted German-language presentations of analyses of student projects completed in the summer semester. The presentations showed how significant the progress in mastering the German language was - combining proficiency with mastering difficult professional concepts and freedom of expression. The aspect of overcoming the language barrier and immersion in a foreign language, which took place during work in German classes, is of great importance here.

The fruit of spatial planning projects concerning the development of riverside areas is the multi-authored publication "Reclaim the River" edited by dr hab. engineer arch. Krzysztof Kafka, prof. SUT, which was published by the Silesian University of Technology Publishing House. It contains articles by scientists and experts from Poland and Germany, as well as students dealing with this topic. A bilingual exhibition at the Faculty of Architecture is also planned, summarizing projects related to the development of riverside areas, but also the effects of work in the CLLiG project.

CLLiG projects require constant, intensive cooperation between subject and foreign language teachers in the selection and possibility



of teaching complex subject content - so that it is possible to learn and present it in a foreign language. The work of both teachers involves precise, joint preparation of a project plan with the possibility of modification. It is necessary to grade the difficulty and supplement students' skills with the necessary structural tools - e.g. the use of linguistic means necessary for presentation, analysis or expressing subjective opinions.

For years, the Foreign Languages Centre of the Silesian University of Technology has been conducting teaching classes using innova-

tive methods, taking into account the most current determinants and priorities, such as a task-based approach, learner autonomy, intercultural competence, striving for multilingualism, as well as taking into account the professional future, needs and interests of the students.

Modern foreign language learning at a university is a dynamic process, requiring constant research and then the use of optimal approaches and teaching methods tailored to the needs of a student who will soon start their professional career. ■

LIBRARY ON THE COMPUTER

text: Danuta Grabowska
photos: istock

THE LIBRARY'S ELECTRONIC COLLECTIONS HAVE MANY THOUSANDS OF PUBLICATIONS AVAILABLE IN VARIOUS FULL-TEXT AND BIBLIOGRAPHIC-ABSTRACT DATABASES. THE LIBRARY'S WEBSITE IS THE BEST PLACE TO START SEARCHING FOR LITERATURE NEEDED IN SCIENTIFIC RESEARCH AND TEACHING.

Due to the ongoing renovation of the building, the Library of the Silesian University of Technology operates in a slightly changed form, but still offers a wide selection of electronic publications, databases, and digital collections necessary for scientific and teaching work. They are available 24 hours, 7 days a week, both on the uni-

versity network and remotely. Users have a variety of electronic sources at their disposal, including:

- Polish databases providing full texts of books (IBUK Libra, ebookpoint BIBLIO),
- databases recording the content and full texts of Polish magazines (Ba-

zTech, Sigma-NOT, Abrys, Elamed),

- full-text foreign databases enabling access to many thousands of publications, such as magazines, books, conference materials from renowned publishers (Elsevier - Science Direct database, Springer, Wiley, Taylor & Francis, IEEE and many others),



- Knovel database – offering not only full texts of books by the world's best publishers, but also interactive tools (tables, charts, equations),
- bibliographic and abstract databases also containing links to full texts, the most important of which are Web of Science with the InCites tool, Scopus with the SciVal tool, and the Reaxys chemical database.

The collections gathered in the Digital Library of the Silesian University of Technology and in the Didactic Digital Library are worth recommending.

The Digital Library of the Silesian University of Technology is a collection of electronic publications created as part of the activities of the Digitalization Workshop of the Library of the Silesian University of Technology. Its aim is to provide access to teaching and scientific resources, disseminate materials related to the Silesian University of Technology and archive historical bibliophilic collections, mainly in the field of science and technology. Among the several types of collections included in the Digital Library, we can find a collection of publications by employees of the Silesian University of Technology, including, among others, doctoral theses, habilitation theses, monographs and textbooks, and a series of Scientific Journals. The texts are made available in following copyright law, according to the licenses granted by the authors.

The entrance to the Didactic Digital Library of the Silesian University of Technology can be found on the Library's website in the Sources tab. The purpose of creating this collection was primarily to provide teaching materials from the collections of the Silesian University of Technology Library, which are necessary for conducting classes remotely. It provides access to materials collected in the Library that are not available electronically, either in free or commercial information sources. Orders for the digitization of teaching materials can be placed by employees of the Silesian University of Technology via an application containing forms dedicated to particular types of publications.

The available materials may be used only for your own use, for research, teaching and educational purposes.

The RePolis Repository of Scientific Publications also operates on the Library's website. This is a place where authors can post their texts freely under the CC BY license.

How to use resources effectively?

Using electronic resources is simple, just go to the Library's website <https://www.polsl.pl/rjo1-bps/>, select the Sources tab, and from there the List of electronic sources, i.e. an alphabetical list of all available databases and electronic resources, and then specific base. Thanks to the implementation of the HAN system, all employees and students of the Silesian University of Tech-

nology have the opportunity to safely use e-sources, also from outside the University's network. Users using resources on home computers will additionally, after selecting a database available only from the university network, be redirected to the HAN system website, where they must log in. When logging in, you must provide:

- login, i.e. username in the polsl.pl or student.polsl.pl domain, e.g. jkowalski@polsl.pl, anowak@student.polsl.pl,
- email account password.

Please remember that only the use of electronic sources via the Library's website guarantees access to all licensed materials and is necessary for the e-sources to be used effectively.

In order to make it easier for readers to find the materials they need, a PRIMO multi-search engine was purchased, which searches both electronic and printed collections. This tool, available on the Library's home page, significantly speeds up and expands the scope of searches by presenting results from various sources in one place.

The library is constantly changing to meet the expectations of its users. Modernly equipped interiors will be put into use soon, and in the meantime, we encourage you to explore rich electronic resources, follow all current information about the Library's activities on the website and in case of questions, contact the staff. ■

FAR FROM HOME

text: Anna Świdarska, Martin Huć
photos: Maciej Mutwil

STUDYING ABROAD IS, ON THE ONE HAND, A GREAT OPPORTUNITY AND ADVENTURE, BUT ON THE OTHER HAND, IT IS QUITE A CHALLENGE – ESPECIALLY IF THE UNIVERSITY IS LOCATED FAR FROM HOME. THE TURN OF DECEMBER AND JANUARY IS A TIME FOR US TO JOYFULLY CELEBRATE WITH FAMILY AND FRIENDS, REST FROM WORK AND STUDY. WE TALKED TO PEOPLE WHO ARE THOUSANDS OF KILOMETRES AWAY FROM HOME ABOUT HOW OUR TRADITIONS ARE PERCEIVED BY FOREIGN STUDENTS AND PHD STUDENTS STUDYING AT THE SILESIAN UNIVERSITY OF TECHNOLOGY AND HOW THEY FEEL IN OUR COUNTRY, ESPECIALLY DURING THE CHRISTMAS AND NEW YEAR PERIOD.

LONELINESS IS NOT EASY

The vast majority of students, doctoral students, and foreign researchers who are associated with the Silesian University of Technology will spend Christmas and New Year away from their family homes and loved ones. Some reasons are due to lengthy official formalities related to their stay in Poland, but the main problem is the long and expensive trip.

– Airline ticket prices are up to

three times more expensive during this period, we cannot afford them – says Muhammad Fawad, a PhD student at the Silesian University of Technology, who comes from Sargodha in Pakistan, a city that is over 7,000 kilometres away from Gliwice. Muhammad will spend his fourth winter in Poland. – I have many Polish friends, but during the Christmas and New Year period they are rather unavailable, they go away or celebrate with their families. It's a hard

time for us foreigners, we feel isolated, everything is closed. Plus this weather... Even if we wanted to visit Poland or neighbouring countries, it is terribly cold. In the region I come from, the summer temperature reaches up to 50 degrees Celsius, he adds.

– I miss my family very much, especially during this period when the University is closed for 2 weeks – says Zhengqi Li from Chengdu, China, who has started her second year of studies at the Silesian University of Technology as part of the European Institute of Yanshan University. – Even though I already have friends and acquaintances in Poland, sometimes I feel like I'm completely alone here. It was especially hard for me in February when my family sent me videos of them celebrating Chinese New Year – it's a big holiday for us. It is completely different in Poland – last year I was sur-

According to the Central Statistical Office data, as of December 31, 2022, 486 foreigners were studying at the Silesian University of Technology, including 329 students in first-cycle studies and 157 in second-cycle studies. At the Doctoral School, 167 students are foreigners. In recent years, the number of foreign students has been increasing significantly. Most students come from China and Ukraine, followed by citizens of Zimbabwe, India, Ethiopia, Nigeria, Pakistan, Algeria, Bangladesh and Rwanda. Moreover, in the current winter semester, there are 107 students at the Silesian University of Technology under the Erasmus+ program.



from left: Muhammad Fawad, Hamza Mumtaz

prised by fireworks and New Year's Eve parties, I read about it on the Internet that this is the custom. I spent last year's New Year's Eve in a small group in the dormitory, adds Zhengqi.

– That's why we foreigners stick together – explains Muhammad. – I am in a better situation than most, because my wife also studies in Poland, but I do not forget about my friends from Pakistan, whom I met during my doctoral studies at the Silesian University of Technology. We have created a family here, we spend time together, we often cook together.

THROUGH THE STOMACH TO THE HEART

Hamza Mumtaz and Shakir Ul-Azam meet with Muhammad in the evenings in the kitchen at the Assistant's House and prepare their favourite dishes together.

– Polish culture is completely different for us – says Hamza. – For us, the difference is just going to neighbouring India, let alone moving from Asia to Europe. Pakistan is huge, it has over 230 million inhabitants, the three of us come from different parts of the country, we speak completely different languages, but what we have in common is that we like spending time with people. – The biggest differ-

ence for us is that in Poland people participate less in the lives of others – adds Muhammad. – Everyone works, returns to their families and stays at home. Back at home everything is open, even in the middle of the night, people often visit and meet each other, that's what we miss.

– We feel isolated, also due to the language barrier. It affects everything - establishing relationships, everyday communication, for example in stores - says Shakir Ul-Azam. – We are often frustrated by this. Although we are already used to it and I really like living here - he adds with a smile. – The language barrier also affects academic life

– emphasizes Muhammad. – There are more and more students and PH.D. students from abroad at the Silesian University of Technology, but we do not have a representative in the Student Government. It's a pity, because we want to be more involved in the life of the University.

– We would also like to make friends with Poles, because they are nice, but there is no opportunity to do so, we do not have classes with them – says Zhaohui Chen from China, who has been studying in Poland only since October this year. – We only see them during physical education classes. Our large group of students from Yanshan know each other because we studied together for the first year in China, but I would be happy if there were more opportunities to integrate with students from other countries. – I live in the Ziemowit Student Dormitory – says Bochen Chu, who has also been living in Gliwice for a short time. – I love cooking, and many people look at what I do and are impressed. – He is a great cook – praises his colleague Boy Guo. – I can't cook at all, so I miss Chinese food terribly, especially my mother's. – In the dormitory, we connected with other students through the kitchen and thanks to this our friendship is developing – laughs Bochen Chu. – Poles look over my shoulder and ask what I'm preparing. We could cook together - they could give us Polish dishes and I would give them Chinese. It would definitely deepen our relationship.

DIFFERENT BUT INTERESTING

– The biggest differences are the food - it is completely different, says Zhengqi Li. – I found information on the Internet, among other things, about eating dumplings in Poland during Christmas. They look similar to Chinese ones, but the dough and filling are completely different - for example, we never eat them with fruit. In China, we also eat dumplings on various holidays, and there is even a tradition of hiding a coin in them - whoever draws it, will get good luck and wealth. The most important holiday for us is the Chinese New Year, also known as the Spring Festival. Its date is flexible because it is based on the lunar calendar - this winter it will fall on February 10, explains Zhengqi Li. – We then have 7 days off, but we celebrate for up to several weeks – adds Zhaohui Chen. – We decorate windows and doors with red paper with a special symbol that is supposed to bring good luck. The colour red is also symbolic, it is supposed to protect against danger. Sometimes older people give each other money in red envelopes - this is supposed to help them save. – Christmas is celebrated less grandly – says Bochen Chu from Dongying in China – the word "Christmas Eve" in Chinese sounds similar to the word „apple“, some people symbolically give each other apples as gifts.

– Christians celebrate Christmas in Pakistan, but more modestly than in Europe. I really like the Polish Christmas atmosphere, I like visiting fairs,

says Shakir. – For us, Muslims, the most important holidays are Eid al-Fitr and Eid al-Adha, a bit like Christmas and Easter. – In the morning we go to the mosque, we pray, and then we all greet each other and... hug each other – explains Hamza Mumtaz. – This is our tradition, we have to hug all family members, loved ones, friends, even strangers. After leaving the mosque, all houses are open, we visit each other and express our best wishes, even to people we are seeing for the first time in our lives.



LET'S GET TO KNOW EACH OTHER!

– The trip to Poland is my first trip out of China in my life – says Bochen Chu. – It's many thousands of kilometres from home and of course I miss it very much, but I also feel excited that we live in a completely different environment. It is difficult for us, but such life experience gives us many opportunities and occasions for development. – I knew nothing about Poland – recalls Zhaohui Chen. – When

I was flying to Krakow, I noticed that there was a lot of greenery here and I thought that Poland was an environmentally friendly country. In China, I also studied far from home, but the difference is that there we spent more time together with other students after classes.

– For me, this trip is a very important experience – says Boya Guo. – I like the opportunity to live in another country, get to know another culture and make new friends.

– We attend Polish classes

and try to learn basic phrases, days of the week and numbers so that we can move around more freely – says Zhaohui Chen. – Studying at the Silesian University of Technology is a great opportunity for us to experience a different culture. We want to integrate and meet new friends. We hope that they will tell us more about Poland, show us Gliwice, and be our guides. It would be great if that was the case! This is my wish that we meet more people who will be interested in us. ■

from left: Loaf Chu, Boya Guo, Zhengqi Li, Zhaohui Chen



EVENTS

EuroScience Open Forum 2024

We invite you to participate in one of the most important international conferences influencing the transformation of science and the world.

EuroScience Open Forum is a biennial conference aimed at offering the scientific community a platform for interdisciplinary and cross-cutting debate on scientific culture, research and innovation. The conference is addressed to both the research community and the social environment and is carried out with their participation.

The next edition of the event will take place in Katowice from June 12 to 15, 2024.

The ESOF 2024 conference is an integral part of the European City of Science Katowice 2024 initiative, co-organized by the Silesian University of Technology.

The conference programme includes lectures, seminars, debates, workshops, poster presentations and exhibitions, interactive sessions, as well as a wide range of proposed forms of public involvement. The motto of ESOF 2024 is: "Life changes science".

Leading European and global representatives of science, academic and implementation researchers, representatives of public and non-public institutions supporting science, representatives of business and media, as well as people interested in the role of science in the modern world will come to Katowice. The conference will be held in English. ■



EuroScience Open Forum 2024
Life changes science
12-15 June 2024 | Katowice, Poland

Main areas:
Energy Transition | Sustainable Environment
Cultural Identities and Societal Transformations
Change Within Scientific Excellence
Healthy Societies | Digital Transformation

Call for abstracts open.
Deadline: 31 December 2023

Find out more at www.esof.eu

Logos: European City of Science Katowice 2024, EuroScience

The Silesian University of Technology officially begins cooperation with the Lviv University of Technology

The cooperation agreement between the Lviv National University of Technology and the Silesian University of Technology was signed by the Rector of the Ukrainian university, prof. Yuri Bobalo and His Magnificence Rector of the Silesian University of Technology, prof. Arkadiusz Mężyk

The parties agreed to cooperate in all areas of academic activities of mutual interest. Joint activities are intended to improve the quality of education for students and doctoral students, scientific research, academic exchange of students and employees and administrative management.

The cooperation will also cover the implementation of activities to raise awareness of the academic community in the field of activities aimed at improving architectural, communication, information and digital accessibility. ■

photo: Lviv University of Technology



Another edition of the program enabling the employment of outstanding scientists

The ninth edition of the program related to the employment of outstanding and experienced young scientists at the University was launched. The call for applications will last until January 7, 2024.

As part of the implementation of the Excellence Initiative - Research University (IDUB) program, the Silesian University of Technology continues to work on strengthening the scientific staff by employing outstanding and experienced young scientists, in particular from abroad, who can create and lead research teams and submit an application for funding within the year research projects, also in the Horizon program, as well as publications for renowned journals.

Updated competition announcements in Polish and English were published on the University's website, as well as on the website of the Ministry of Education and Science and the international portal for mobile scientists EURAXESS. ■

Meeting of the Colleges of Vice-Rectors

A joint Conference of Vice-Rectors of two colleges was held on November 29 - December 1, 2023: the College of Vice-Rectors for General Affairs, Development and Contacts with the Socio-Economic Environment of public higher technical schools and the College of Vice-Rectors for Science and Development of public higher technical schools.

This time, the conference participants were hosted by the Warsaw University of Technology.

The meeting was attended by 33 representatives of university authorities from all over the country. The Silesian University of Technology was represented by: Vice-Rector for Cooperation with Civic and Economic Environ-

ment - Prof. dr hab. Eng. Janusz Kotowicz, Vice-Rector for Science and Development - prof. Marek Pawełczyk, Vice-Rector for General Affairs - prof. dr hab. Eng. Bogusław Łazarz.

The topics discussed during the conference concerned many challenges currently faced by Polish universities. The topics of the discussion sessions were: evaluation and issues connected with the first years of functioning of the Doctoral School. The next panel discussed the commercialization of science, where an attempt was made to draw conclusions from the University's previous experience in this area. The proceedings ended with a panel whose topic included the revolution related to artificial intelligence. The participants discussed the opportunities and challenges for the University. ■

Competence Centre for managing hazardous situations in industry

An ultra-modern Competence Centre in the field of safety, operational analytics, and management of hazardous situations in the industry will be established at the Silesian University of Technology. This is the result of an agreement between our university and the Institute of Mineral Resources, and Energy Management of the Polish Academy of Sciences.

On December 11, 2023, the Silesian University of Technology and the Institute of Mineral Resources and Energy Management of the Polish Academy of Sciences from Krakow, signed an agreement on cooperation in the implementation of research programs, project initiatives and commissioned works, aimed at improving innovation, technical and economic efficiency of the mineral resources management in Europe.

The agreement was signed by prof. Marek Pawełczyk, Vice-Rector for Science and Development, and Krzysztof Galos, director of the Institute of Mineral Resources and Energy Management of the Polish Academy of Sciences.

The first joint project of the signatories of the signed agreement will be the construction of a Competence Centre in the field of safety, operational analytics and management of hazardous situations in industry at the Faculty of Mining, Safety Engineering and Industrial Automation and at the Institute of Mineral Raw Materials and Energy Management of the Polish Academy of Sciences in Krakow. ■

photo Maciej Mutwil



Declaration of the World Engineers Convention WEC23

How to address the urgent challenges of our planet and ensure that innovations bring benefits for the sustainable development of the environment, society and economy - this is the main message of the Declaration of the WEC23, which was signed in Prague.

The declarations were signed by the participants of the 7th edition of World Engineers Convention WEC23, which took place from October 11 to 13. The congress organized by the Czech Association of Scientific and Technical Societies (CSVTS) in cooperation with the World Federation of Engineering Organizations, gathered leading engineers from around the world. Its aim was to find answers to the planet's urgent challenges and explore how technological innovation and transdisciplinary approaches can deliver benefits for environmental, social and economic sustainability to ensure a safe, just, healthy and peaceful future. ■

International Staff Week at the Silesian University of Technology

This is a great opportunity to establish new contacts, exchange experiences and draw plans for the future—the Silesian University of Technology once again hosted representatives of universities from abroad. Academic teachers, university authorities, and administration employees took part in the International Staff Week.

Representatives of universities from various countries and continents appeared at the Silesian University of Technology— from Jordan, Mozambique, Bangladesh, Romania and Ukraine. – First of all, we would like to show how the Silesian University of Technology has been developing recently and how our priority research areas are being implemented – said Prof. Marek Pawełczyk, Vice-Rector for Science and Development. – We are especially proud of our participation in the European University Eureka Pro. We would like to encourage cooperation; we will look for it in the new perspective of the development of the European University - added the Vice-Rector. ■

photo Maciej Mutwil



Staff Week participants deliberated for a week focused on developing soft skills and communication. During the session, issues regarding the perception of studying and working in Poland by foreign students in an intercultural context and managing a multicultural team were

discussed. There was also a meeting with students and PhD students for whom participation in the Erasmus + program became a ticket to a scientific career.

It was a unique Silesian Science Festival

The seventh edition of the Silesian Science Festival is behind us, which this year also became part of the opening events of the European City of Science Katowice 2024. The Silesian University of Technology is part of the consortium of organizers of this event.

The opening weekend of the EMN (European City of Science) Katowice 2024 celebrations was full of attractions. The extraordinary Katopolis spectacle at Spodek was a praise for the region and its achievements. During the almost two-hour show, viewers saw how Katowice has developed over the years, who were the people who built and continue to build its history, but also how important a role culture and science play in this process. ■

photo Krzysztof Gronowicz



The Silesian University of Technology is expanding cooperation with Intel

On November 22, 2023, representatives of Intel visited the Faculty of Automatic Control, Electronics and Computer Science. The main reason for this visit was to sign a letter of intent regarding further cooperation with the authorities of the Silesian University of Technology and to present the career development offer within the company's structures.

The Faculty of Automatic Control, Electronics and Computer Science of the Silesian University of Technology has been actively cooperating with Intel for several years. The result of this cooperation is the launch of a common field of education and the creation of modern laboratories on the Katowice campus of the Silesian University of Technology. In connection with the letter of intent signed today, both parties declared that their joint activities would expand soon.

- The agreement concerns the part of the company's activities related to the production of processors. We want to cooperate with the company in the field of staff education, but also in conducting research processes - said prof. dr Eng. Janusz Kotowicz, Vice Rector for Collaboration with Civic and Economic Environment at SUT.

- Cooperation with the Silesian University of Technolo-

gy brings many benefits, especially for students. Already during their studies, they take part in lectures and workshops with experts—practitioners associated with our company on a daily basis, so it will be easier for them to find their way in working in this environment - added Bartosz Ciepluch, General Manager of Intel in Poland.

On the day of signing the contract, The Faculty of Automatic Control, Electronics and Computer Science of the Silesian University of Technology also held an open day with Intel, during which students could take part in workshops and lectures conducted by Intel experts, and also had the opportunity to learn about the internship offer at the company. ■

photo Przemyslaw Bratkowski



Cooperation agreement with Sun Moon University

The Silesian University of Technology concluded an agreement with the Korean Sun Moon University, which sealed the developing cooperation regarding the ongoing Global Capstone Design project.

On behalf of the Silesian University of Technology, the agreement was signed by prof. dr Eng. Marek Pawełczyk, Vice-Rector for Science and Development. Sun Moon University was represented by dr Choi Changha, Vice-Rector for Industry Cooperation and External Affairs. ■

photo Maciej Mutwil



Scientific Debut 2023 – Sustainable Development

Once again, the Faculty of Organization and Management hosted a conference summarizing the "Scientific debut 2023– Sustainable development and the European Green Deal" competition. As in previous years, the special guest of the event was prof. Jerzy Buzek, Member of the European Parliament, initiator of the competition.

The plenary session was led and moderated by dr hab. Aleksandra Kuzior, prof. SUT, for Cooperation and Development. The session featured: the dean of the faculty, Prof. Jan Kaźmierczak, the rector of the Academy of Applied Sciences in Racibórz, dr Paweł Strózik, and the director of the office of the mayor of Zabrze, Jan Pawluch.

Prof. Jerzy Buzek, in his speech, explained the correlation between sustainable development and the European Green Deal. – The Green Deal is a grand plan for a lasting, systemic change in thinking about the planet and how to use its resources. If successful, it will change not only Europe and Poland, but also the world - said Prof. Buzek.

The winners of this year's edition of the competition were:

- award – Judyta Rduch, MA (Faculty of Architecture, Krakow University of Technology), distinction for analytical and research work – Eng. arch. Szymon Jackowski from the Gdańsk University of Technology,
- distinction – Vanessa Stawinoga from the Faculty of Organization and Management of the Silesian University of Technology for her work entitled "Challenges of sustainable development in education as a psychosocial aspect of the functioning of the school community",
- special prize for winning the cover design competition - Jakub Ludwig, student of the Faculty of Architecture of the Silesian University of Technology. ■

photo: Silesian University of Technology archives



Science and Journalism Speed Dating and Ars Mollis training are behind us!

Another edition of meetings between scientists and journalists took place at the Silesian University of Technology. In short conversations, representatives of the academic community and the media exchanged topics, experience and good practices in disseminating knowledge. ■

photo Aleksandra Wojczek



Speed Science and Journalism Dating is a project organized by the Science Advocates Association. The host of

the meeting, which took place on November 21, was the Silesian University of Technology.

During the meeting, scientists could cooperate with local media journalists and share the topics of ongoing research and projects. Speed Dating was also an opportunity to exchange experiences and good practices in the field of science popularization. ■

The National Conference of Academic Career Offices at the Silesian University of Technology

On December 7 and 8, 2023, the National Conference of Academic Career Offices was held at the Silesian University of Technology. Representatives of universities from all over the country took part in it. The main topics of lectures and discussions were matters related to the need to adapt the services offered by career offices to the dynamically changing needs of students, doctoral students and employers. ■

photo Maciej Mutwil



The National Conference of Academic Career Offices organized by the Silesian University of Technology is held under the patronage of the Conference of Rectors of Academic Schools in Poland (KRASP) and the Foundation for the Development of the Education System.

Forum of Deans of Architecture Faculties – Kraków 2023

On November 17, the Forum of Deans of Architecture Faculties was held in the Senate Hall of the Krakow University of Technology. On behalf of the Silesian University of Technology, the meeting was attended by the dean of the faculty - dr hab. Eng. arch. Klaudiusz Fross, prof. SUT and vice-dean - dr Krzysztof Groń.

The aim of the Forum of Deans of Architecture Faculties is to consolidate the research and teaching environment for the education of future architects at the highest level. The forum is also to be a partner for the Ministry of Education and Higher Education in the scope of consultations on proposals for changes to the Higher Education Act. It is to strive for appropriate education standards, objectivity of the evaluation process and proper financing of architectural education. Deans and vice-deans of the Faculties of Architecture meet regularly several times a year at various universities. One of the originators and members of

this forum is Vice-Dean dr Krzysztof Groń. ■

We know the winners of the Three Minute Thesis® 2023 competition

On November 17, 2023, the final of the sixth Silesian edition of the Three Minute Thesis competition took place at CKS Mrowisko. The competition was attended by PhD students representing various universities in the Silesian Voivodeship and thus various scientific disciplines, from medicine to psychology, law, materials engineering and environmental protection.

Three Minute Thesis® is a competition held under license from the University of Queensland in Australia. It is attended by PhD students from all over the world who try their hand at scientific communication and self-presentation. The Silesian edition of the competition has been organized for 6 years by the Science Popularization Centre and the University Self-Government Council of the Doctoral Students of the Silesian University of Technology in Gliwice.

- This year, 17 candidates entered the competition. 10 doctoral students advanced to the finals of the competition. After comments received from the jurors during the elimination round, they had to present their doctoral thesis in 3 minutes once again, in an even more interesting way - said dr hab. Aleksandra Ziemińska-Buczyńska, prof. SUT – director of the Science Popularization Centre of the Silesian University of Technology.

In the 2023 edition, the winners were:

1st place: Sylwia Giza (University of Silesia), speech "I know you're watching me! Digital advertising vs privacy"

2nd place: Alicja Kawalec (Medical University of Silesia), speech: "Looking at you - one can't tell"

3rd place: Mikołaj Konofol (Silesian University of Technology), speech "The place of steel in the era of nanotechnology"

Engineering Award: Katarzyna Baluch (Silesian University of Technology), speech "How to make waste-destroying technology indestructible?"

Audience Award: Bartosz Jaroszewski (Medical University of Silesia), speech: "Birch bark and polymers – how to spin a cure for breast cancer from waste?" ■

photo The Silesian University of Technology



To Live in Olkusz – exhibition of pro-

jects by students of the Faculty of Architecture

On November 9, 2023, the opening of the exhibition of student architectural designs made for Olkusz at the Faculty of Architecture of the Silesian University of Technology took place at the Cultural Centre in Olkusz. The exhibition presented 30 residential projects considered innovative and inspiring.

– The M3 M4 MOLKUSZ exhibition: "To Live in Olkusz" is one of the effects of the cooperation agreement between the University and the city's local authorities and summarizes its first stage. The idea was to design a new, multi-family housing development in selected parts of the city. The locations for designing the facilities are actual areas intended for residential development, and the process of designing the architectural concept resulted from the cooperation of the Silesian University of Technology with the City of Olkusz - said dr hab. Eng. arch. Grzegorz Nawrot, prof. SUT

The projects are the result of the activities of the scientific and research team dealing with the issues of Housing Architecture Design, in the field of shaping residential buildings and non-cubature residential space, in cities with various development structures and different functioning patterns. In 2022-2023, over 100 projects were developed, located in areas indicated by the Olkusz authorities, and the exhibition presents 30 of them - the most inspiring and innovative ones. ■

photo Tomasz Wagner



With an educational mission in Azerbaijan

Dr Eng. Grzegorz Kłapyta, head of the International Relations Office of the Silesian University of Technology, was in Baku, the capital of Azerbaijan, in November, on an educational mission organized by the Perspektywy Educational Foundation.

An educational fair was held there, during which candidates for all levels of studies could learn about the educational offers of the Silesian University of Technology and talk to a representative of our University.

There is a very large number of young people in Azerbaijan, and the education system there does not provide them all with the opportunity to study in their own country. Hence the great interest of young people and their parents in such events. The offer of Polish universities is very competitive compared to studies in Western

European countries and even compared to paid studies in Azerbaijan. ■

Scientists from the Silesian University of Technology at the European Hydrogen Week in Brussels

Dr Eng. Karolina Głosz from the Department of Physical Chemistry and Technology of Polymers (Faculty of Chemistry) and dr Eng. Marcin Procek from the Department of Optoelectronics (Faculty of Electrical Engineering) took part in the European Hydrogen Week, which took place on November 20-24, 2023, in Brussels. Scientists presented the HydroSens project at the stand of the National Centre for Science and Development (NCBR).

As part of the HydroSens project, innovative hydrogen sensors based on conductive polymers were developed.

During their speech, dr Głosz and dr Procek promoted the project and its products and presented the capabilities of their units in order to open new paths of cooperation in the field of hydrogen technologies for the Silesian University of Technology. ■

Delegation of the Silesian University of Technology at the educational fair in Indonesia

In November, the delegation of the Silesian University of Technology participated in the European Higher Education Fairs 2023 in Indonesia, dedicated to universities from Europe.

The fair was held in three Indonesian cities: Surabaya, Jakarta and Bandung. Joanna Hanak and Katarzyna Wojewódka, representatives of the Silesian University of Technology from the International Relations Office, took part in meetings with candidates for studies in all three locations. ■

photo: private archive



The event enjoyed great interest from Indonesian candidates, who came in large numbers and actively participated in meetings with representatives of Polish and European universities.

In addition to participating in the fair, representatives of the Silesian University of Technology also went on study visits to renowned secondary schools in Jakarta, where they had the opportunity to personally present the educational offer of our University to candidates interest-

ed in studying abroad. Both at Santa Ursula Highschool and at Canisius College, they were met with a warm welcome, openness of the candidates and factual and interesting questions from them. ■

Visiting Vietnam

Delegations of several Polish universities, including the Silesian University of Technology, embarked in November on an educational mission to Vietnam, organized by the National Agency for Academic Exchange.

The delegations first visited Hanoi, the capital of the country. There was a meeting at the high school named after Polish-Vietnamese Friendship, where representatives of the university had the opportunity to present the educational offer and answer a number of questions asked by young people.

There was also an opportunity to visit Hanoi University and have a round table meeting with several universities from Hanoi and the surrounding area. Both Vietnamese and Polish universities presented their offers, and then a session of individual interviews began.

photo NAWA



A day with Erasmus at Academic Secondary Comprehensive School (ALO) in Gliwice

Presentation of the Erasmus offer for secondary and primary school pupils, a theatre performance of Snow White in English, German and French, as well as interactive reading workshops - this is what the Day with Erasmus looked like, which took place at the Academic Secondary Comprehensive School in Gliwice.

photo NAWA



Pupils and teachers from primary schools from Gliwice and the Gliwice county were invited to the event. The

meeting was an occasion to present the opportunities offered to young people by participating in this project.

– We are organizing an Erasmus day for the first time. In this way, we decided to summarize our activities in this area and invite primary school pupils whom we want to show what else we can do in terms of international cooperation - said dr Małgorzata Borysławska, director of ALO in Gliwice.

So far, pupils of ALO in Gliwice have visited Spain, Turkey and Malta as part of the Erasmus program, as well as ■

Santa Claus at the Silesian University of Technology

On the first December weekend, Santa Claus visited the children of employees of the Silesian University of Technology and their families in a truly winter scenery!

On Friday, December 1, a St. Nicholas Day surprise was prepared for teenagers - a meeting with the famous children's singer Viki Gabor and her band in the "Nowa Hala" of the SUT Sports Centre. Nearly 300 people came

to the concert, including a group of the artist's loyal fans. After the concert, the young singer signed autographs and willingly posed for photos.

On Sunday morning, December 3, the youngest children came with their parents to CKS Mrowisko for animations and games especially prepared for them, as well as a meeting with Santa Claus, Snowflake and the Elves.

In the afternoon, "Teatr Moich Marzeń" invited older children to the play "Maja Saves the World". After the performance, the children received gifts from Santa Claus and his helpers.

There was a photo booth available to everyone throughout the day, which was a great success. ■

photo: private archive



SUCSESSES

High place of the Silesian University of Technology in the latest edition of EngiRank 2023

The results of the European Ranking of Engineering Programs – EngiRank 2023 were announced in Brussels. The Silesian University of Technology was ranked high in the general ranking and in all researched areas, achieving one of the best results for universities in Poland.



In the overall ranking, the Silesian University of Technology took 79th place among 177 classified entities from the European Union, and in the national classification by subject - 1st place in the Civil Engineering category (41st in the EU), 2nd place in the area of Electrical Engineering, Electronic Engineering, Information Engineering (51st in the EU) and of Environmental Engineering - together with the Warsaw University of Technology (74th in the EU), 3rd place in the Materials Engineering category together with the Warsaw University of Technology and the West Pomeranian University of Technology (95th in the EU), and 4th place in the area

of Medical Engineering (64th in the EU) and 5th place in the Mechanical Engineering and Chemical Engineering categories (100th and 103rd place in the EU, respectively).

EngiRank is the first and only ranking in Europe that is not an "excerpt" from the general ranking of universities, but is based on indicators important for engineering education, aimed at educating competent and creative engineers, aware of the social impact of their activities. Its scope covers universities and engineering programs from 27 EU countries, taking into account measures unique to this area, including participation in the Erasmus+ and Horizon programs, but also commitment to the implementation of sustainable development goals. ■

The Doctoral Students Council of the Silesian University of Technology is the most effective in Poland

The Self-Government Council of the Doctoral Students of the Silesian University of Technology won in the Effective Doctoral Students' Self-Government category in the ProDok 2023 competition. The distinction was presented during the gala of the Doctoral Environment, which took place in Zabrze.

Nearly 130 applications were submitted for this year's edition. So far, the ProDok competition has selected the most doctoral-producing universities and institutes. This year, the formula was changed and awards were granted to the most pro-doctoral initiatives of the past academic year.

The main goal of the competition is to motivate and honour the activity of doctoral self-governments, forming the National Representation of Doctoral Students, and other people and entities that have demonstrated significant activity in supporting the development of the doctoral community, in particular entities providing education at doctoral schools.

photo Kamil Pudelko



Awards were presented in seven categories. The Self-Government Council of the Doctoral Students of the Silesian University of Technology won in the Effective Doctoral Students' Self-Government category. ■

Prof. Wojciech Simka is the winner of the Silesian Science Award

Professor Wojciech Simka from the Faculty of Chemistry of the Silesian University of Technology was the winner of the Silesian Science Award 2023. It is awarded to researchers, scientists and creators who significantly contribute to the development and promotion of Silesian science. The initiative takes place as part of the Silesian Science Festival KATOWICE.

The awards gala took place on December 10, 2023, at the International Congress Centre in Katowice. Prof. Wojciech Simka was awarded for his lifetime scientific achievements. The scientist's research topics are mainly related to the modification of the surface of implants made of titanium or its alloys. Another research area is the synthesis and characterization of new anode materials for fuel cells.

– The award is an expression of recognition for many years of work, not only by me but also by my entire team (Electrochemistry Group), without whom publications, patents, and projects would not have been created. This type of award is certainly an inspiration for further, intensive work - said Prof. Simka. ■

photo Rafał Opalski



Scientists from Silesian University of Technology awarded during the jubilee Construction Gala

The Dean of the Faculty of Architecture, dr Eng. arch. Klaudiusz Fross, prof. SUT and dr Krzysztof Groń, vice-dean for cooperation and development were awarded during the 25th Anniversary Civil Engineering Gala. The event took place on November 17, 2023, at the Jan Kiepura Concert Hall in Sosnowiec.

Dr hab. Eng. arch. Klaudiusz Fross, prof. SUT received the honorary title "Personality of Silesian Civil Engineering" – for outstanding achievements in civil engineering. Vice-Dean dr Krzysztof Groń received the honorary title "Authority in Civil Engineering and Silesian Economy".

The gala was attended by over 400 people from the civil engineering industry and invited parliamentarians, representatives of universities and authorities of Silesian cities and communes. The gala was organized by the Silesian Chamber of Civil Engineering and the Silesian District Chamber of Civil Engineering Engineers. ■

Success of Biomechatronics SKN "BIOKRETYWNI" in the StRuNa competition!

The Biomechatronics Student Science Club "BIOKRETYWNI" of the Silesian University of Technology took first place in the StRuNa competition in the StRuNa-MED category for the project "Speech therapy aquarium".

StRuNa is a nationwide competition for students from science clubs. It is organized by the "Student Assistance Fund" foundation, under the patronage of the Ministry of Education and Science. For the 13th edition, 207 applications were submitted, and winners were selected in eleven categories. The final gala, during which the awards were presented, took place at the Academy of Fine Arts in Warsaw. ■

photo Magdalena Szczęśna



The "Speech therapy aquarium" project was implemented by Julia Sadowska, Jakub Pałachniak and Michał Król from Biomechatronics SKN „BIOKRETYWNI”. The substantive supervision of the project was provided by dr Eng. Agata Guzik-Kopyto and MSc. Eng. Marta Chmura. It was carried out in cooperation with thera-

pists from the Special Educational Centre for Children and Youth in Dąbrowa Górnicza: Magdalena Nowak and Jolanta Zabuska-Mamczur.

The designed device supports the everyday work of therapists by using innovative methods of speech therapy for children and adults. The main assumption of the designed platform was its functionality and mobility, as well as the possibility of use with various types of disabilities, including multiple disabilities. ■

Kacper Szczurowski is fighting for the Olympic Games

Kacper Szczurowski, a competitor of the judo section of the Silesian University of Technology AZS, won the bronze medal in the Oceania Open tournament in Perth, Australia. The resident of Gliwice is fighting to go to the Olympic Games, which will be held in Paris this year.

Let us remind you that Kacper won bronze in the Universiade in the summer. This time, the Polish representative, who competes in the over 100-kilogram category, did great in the senior competition. ■

photo: Polish Judo Association



The athlete of KŚ AZS Politechnika Śląska won ahead of time against three higher-classified rivals. They were Munir Ertug from Turkey and Slovenians Vito Dragić and Enej Marinić. Kacper lost only in the semi-finals to the German Erik Abramov. The Australian competition is part of the prestigious IJF World Tour series.

– I am satisfied with the result and winning the medal – explains Kacper Szczurowski. – I managed to get 350 points for the Olympic ranking. I am currently in 37th place. Only 18 people will go to Paris. However, only one competitor from each country can go. There are several representatives from the same country ahead of me in the ranking, which will ultimately result in me being higher in the ranking. I still have a long road ahead of me. However, the tournaments last until June and practically every month there are competitions, the scores of which influence who will go to Paris. ■

A hail of medals in Silesiad

First-year students of the Silesian University of Technology in Silesiad did great, winning as many as eight gold medals.

The gold medal was won by, among others, volleyball players who competed in the tournament held in the sports hall of our University. Volleyball players also competed there and won silver.

Basketball players from the Silesian University of Technology also reached the top of the podium. Second place went to our futsal athletes.

Our University's swimmers won as many as five gold medals, as well as two silver medals in the relay, as well as one silver and two bronze individual medals.

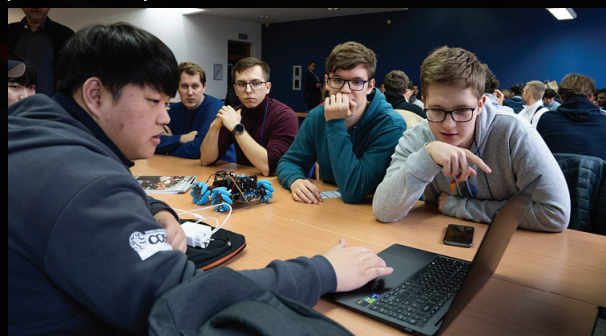
Our representatives won gold and silver in cross-country running and silver and bronze in table tennis. ■

PROJECTS

Global Capstone Design at the Silesian University of Technology

The Silesian University of Technology carries out joint projects with students and scientists from South Korea and the Czech Republic as part of the Global Capstone Design. Delegations of these countries visited the Silesian University of Technology in November.

photo Przemyslaw Bratkowski



Our University has been providing project-oriented education for years. The latest initiative in this area is Global Capstone Design, under which 10 technical PBL projects are implemented in international teams.

– For us, this is the next stage of project-oriented education. Let me remind you that this story began with a small number of students, about twenty. Over time, thanks to the POWER 3.5 project and later as part of the Research University Excellence Initiative, we have greatly developed this form of education. Currently, we implement over 200 projects a year. Both students and scientists benefit from this - said Prof. Dr Eng. Marek Pawełczyk, vice-rector for science and development of the Silesian University of Technology, who welcomed foreign delegations.

Nearly 90 students from 3 countries - South Korea, the Czech Republic, and Poland - participate in the work of Global Capstone Design. The Silesian University of Technology is represented in this project by students of three

faculties - Electrical Engineering, Mechanical Engineering and the Faculty of Automatic Control, Electronics and Computer Science

The main organizers of Global Capstone Design are the Silesian University of Technology and Sun Moon University. Other universities from Korea and VSB Ostrava are also involved in the project. ■

POB6 Monograph

The third monograph in the POB6 series has been published: "Climate and Environmental Protection Modern Energy– selected issues". The collective work was prepared under the editorship of prof. Sebastian Werle and dr hab. Eng. Joanna Ferdyn-Grygierek, prof. SUT

The monograph presents selected aspects of research conducted under POB6 by scientists from the Silesian University of Technology. The monograph includes works on, among others: indoor and outdoor air protection, the use of renewable energy sources, water environment protection, sewage treatment processes and energy-saving construction technologies.

The monograph will be a permanent record documenting scientific activities within POB6. It will allow a wide audience to become acquainted with the results of currently conducted research, while at the same time being a research offer for the socio-economic environment and a proposal for scientific and research cooperation for domestic and foreign scientific and research units. ■



Scientists from the Silesian University of Technology wrote about the materials of the future

The first monograph in the POB3 series– Materials of the Future has been published. The collective work was prepared under the editorship of prof. Przemysław Data and dr hab. Eng. Dawid Janas, prof. SUT

A new monograph on materials of the future is now available. About a hundred people were involved in the preparation of this publication and shared the results of interdisciplinary research conducted at many faculties of the Silesian University of Technology in this monograph.

The monograph documents innovative solutions in the field of electronics, automotive, aviation, construction and medicine that may revolutionize these areas in

the near future. Moreover, the presented methods for modifying materials and techniques for examining their physicochemical properties are universal, making them a valuable tip for other scientists. They will learn how to conduct such work so that the results achieved are as groundbreaking as possible. ■



Project "Science with Culture"

On November 27, 2023, a ceremonial summary of the annual cultural and scientific activities as part of the "Science with culture" project took place at CKS Mrowisko. A group of culture and science promoters met in the audience of the theatre hall, led by director Katarzyna Jankowska and dr Bogusław Ziębowicz, who throughout the year passionately passed on their love for knowledge and art to Silesian youth.

photo: Silesian University of Technology archives

The effect of this work was impressive. During 52 events, meetings with a group of 12,000 young people were held. The conversations concerned music, space, healthy eating, sports and even Nordic mythology. Two festivals were organized as part of the project, i.e. Winter Reggae and the Upper Silesian Comic Book Party. We broke the world record in pumping, staged performances, organized concerts, visited the Silesian Science Festival, met with young people, students and even seniors. We visited the National Stadium in Warsaw, the Coal Mining Museum in Zabrze, the Library Station in Ruda Śląska and the Planetarium in Chorzów.

We would like to thank everyone who contributed to popularizing the beautiful thought of the great Leonardo da Vinci among young people: "Study the science that is art and the art that is science." ■

Competition "For the golden index of the Silesian University of Technology"

For the eighth time, the Silesian University of Technology will host the competition "For the golden index of the Silesian University of Technology". The winners of the competition may obtain the University's index or receive preferential points in the recruitment procedure.

The competition is aimed at secondary school pupils who will be taking the secondary school leaving exam-

ination. It aims to develop young people's interest in knowledge in selected areas and fields, to promote the attitude of independence and responsibility for their development, as well as to promote particularly talented secondary school pupils.



The prize in the competition is places in selected full-time studies at the Silesian University of Technology or additional points in the recruitment procedure. Details on the website of the Silesian University of Technology. ■

The "Young people save the planet" project was inaugurated

At the Academic Secondary Comprehensive School of the Silesian University of Technology in Rybnik, in cooperation with the Department of Applied Geology of the Silesian University of Technology, the "Young people save the planet" project was launched as part of the Erasmus+ program, which was inaugurated with a Youth Scientific Conference.

photo: Silesian University of Technology archives



- During the conference, discussions included, among others, newly defined threats, such as microplastics, whose impact on the environment is only just being recognized - says dr Eng. Jacek Nowak from the Department of Applied Geology.

The possibilities of civilization development in the context of the increasing consumption of renewable and non-renewable resources were also discussed. Behind-the-scenes discussions allowed for a confrontation of the visions of young people and experienced scientists. The participants unanimously emphasized that such an intergenerational exchange of ideas is very valuable for both parties.

The project is scheduled to last until March 2025, when it will end with a summary conference. First and second grade pupils, selected through recruitment due to great interest, take part in it. ■

Be creative

As part of the Deep INVENTHEI project, of which the Silesian University of Technology is a partner, workshops for scientists and students were held. Those interested learned how to unleash their creativity, increase their intellectual abilities and how to turn their idea into a business. And all in an unconventional formula.

Creativity workshops were led by dr Eng. Rafał Setlak, vice-dean for education at the Faculty of Electrical Engineering of the Silesian University of Technology. Students, PhD students and lecturers together faced many challenges that forced them to go beyond conventional thinking. – Creativity is a certain process, we need to train, we need to learn, how not to think, to start thinking better, to free ourselves from the patterns according to which we act all our lives– emphasized the host.

photo Tomasz Stokłosa



The workshops are part of the Deep INVENTHEI project financed by EIT (European Institute of Innovation and Technology) as part of the HEI Initiative program. The project is implemented by a consortium of 18 members, led by the University of Porto (Portugal).

The aim of the project is to increase entrepreneurship among students and university employees - says prof. dr Eng. Beata Orlińska from the Faculty of Chemistry of the Silesian University of Technology. – It is also about creating an international network of regional innovation valleys that will contribute to retaining talents in the field of advanced technologies in Europe, through training and supporting academic spin-offs and start-ups – adds prof. Orlińska.

On behalf of the Silesian University of Technology, the following faculties participate in the project: Faculty of Automatic Control, Electronics and Computer Science, Faculty of Chemistry and Faculty of Energy and Environmental Engineering. The project lasts 15 months. ■

Virtual programming with a real certificate

28 students of the Faculty of Mechanical Engineering of the Silesian University of Technology have so far taken part in the educational program organized by ABB. The program supports universities in practical preparation of students to work in the robotic reality of Industry 4.0. This includes 30 hours of programming classes in the RobotStudio environment, which is used to create virtual robotic installations. ■

POSITIONS, DEGREES AND ACADEMIC TITLES

DOCTORAL DEGREES AWARDED

Dr Eng. Małgorzata ADAMIEC-ORGANOŚCIOK

Silesian University of Technology Faculty of Automatic Control, Electronics and Computer Science - assistant. Supervisor: dr hab. Magdalena Skonieczna, prof. SUT Auxiliary supervisor - dr Eng. Roman Jaksik. Thesis topic: "Regulation of programmed and unprogrammed cell death in various cell lines". Conferring the degree of Doctor of Engineering and Technical Sciences with distinction. Discipline: biomedical engineering. Resolution of the Biomedical Engineering Discipline Council of November 16, 2023.

Dr Michał BATKO

DB Cargo Polska SA. Supervisor: dr hab. Eng Jarosław Kozuba, prof. SUT Thesis topic: "Analysis of the possibility of assessing the technical condition of railway infrastructure based on the use of unmanned vehicle technology, including flying vehicles." Conferring the degree of Doctor of Engineering and Technical Sciences. Discipline: civil engineering, surveying and transportation. Resolution of the Civil Engineering, Geodesy and Transport Discipline Council of October 26, 2023.

Dr Eng. Anna BYCZEK-WYROSTEK

Silesian University of Technology Biotechnology Centre - administrative employee. Supervisor: prof. dr hab. Eng Krzysztof Walczak. Thesis topic: "Synthesis and assessment of biological activity of selected dichloromucic acid derivatives in vitro against model cancer cell lines." Conferring the degree of Doctor of Exact and Natural Sciences. Discipline: chemical sciences. Resolution of the Chemical Sciences Discipline Council of November 15, 2023.

Dr Eng. Marta CHRÓSZCZ-PORĘBSKA

Supervisor: dr hab. Eng Izabela Barszczewska-Rybarak, prof. SUT Thesis topic: "Modifications of dimethacrylate copolymers using compounds containing quaternary ammonium groups to obtain new antibacterial binders for dental composites." Awarding the degree of Doctor of Exact and Natural Sciences with distinction. Discipline: chemical sciences. Resolution of the Chemical Sciences Discipline Council of November 15, 2023.

Dr Eng. Grzegorz CYGAN

Silesian University of Technology Faculty of Civil Engineering - administrative employee. Supervisor: prof. dr hab. Eng Jacek Gołaszewski. Thesis topic: "The influence of temperature and time on the properties of self-compacting mixtures with cement binders." Conferring the degree of Doctor of Engineering and Technical Sciences with distinction. Discipline: civil engineering, surveying and transportation. Resolution of the Civil Engineering, Geodesy and Transport Discipline Council of October 26, 2023.

Dr Eng. Mateusz CZEREPAK

Federal-Mogul Tenneco. Supervisor: dr hab. Eng Jarosław Piątkowski, prof. SUT Auxiliary supervisor - dr Eng. Barbara Juszczak. Thesis topic: "Technological methods for reducing alloy consumption for alfining ring inserts in piston castings for combustion engines." Conferring the degree of Doctor of Engineering and Technical Sciences with distinction. Discipline: materials engineering. Resolution of the Materials Engineering Discipline Council of October 24, 2023.

Dr Eng. Konrad DURAJ

Supervisor: dr hab. Eng Paweł Kostka, prof. SUT Thesis topic: "Deep learning applications in biomedical engineering." Conferring the degree of Doctor of Engineering and Technical Sciences. Discipline: biomedical engineering. Resolution of the Biomedical Engineering Discipline Council of November 16, 2023.

Dr Eng. Paweł GÓRNIOK

Supervisor: dr hab. Eng Katarzyna Dohn, prof. SUT Auxiliary supervisor - dr Eng. Edyta Przybylska. Thesis topic: "Modelling Sustainable Cargo Flows in Urbanized Areas." Awarding the degree of Doctor of Social Sciences. Discipline: management and quality sciences. Resolution of the Social Sciences Discipline Council of November 29, 2023.

Dr Eng. Bartłomiej HRAPKOWICZ

Silesian University of Technology - PhD student. Su-

pervisor: dr hab. Eng Sabina Lesz, prof. SUT Auxiliary supervisor - dr Eng. Aleksandra Drygała. Thesis topic: "Biodegradable magnesium alloys with the addition of rare earth elements for medical applications made by powder metallurgy." Conferring the degree of Doctor of Engineering and Technical Sciences. Discipline: materials engineering. Resolution of the Materials Engineering Discipline Council of October 24, 2023.

Dr Eng. Jerzy KOCERKA

Silesian University of Technology - PhD student. Supervisor: dr hab. Eng Adam Gałuszka, prof. SUT Thesis topic: "Automatic qualitative analysis of textual requirements using natural language processing." Conferring the degree of Doctor of Engineering and Technical Sciences. Discipline: automation, electronics, electrical engineering and space technologies. Resolution of the Discipline Council for Automation, Electronics, Electrical Engineering and Space Technologies of November 21, 2023.

Dr Eng. Patrycja KOWALSKA

Supervisor: dr hab. Eng Janusz Ćwiek, prof. SUT Thesis topic: "The influence of laser remelting on the structure and properties of the surface layer of alpha titanium alloy." Conferring the degree of Doctor of Engineering and Technical Sciences. Discipline: materials engineering. Resolution of the Materials Engineering Discipline Council of October 24, 2023.

Dr Małgorzata MARKOWSKA

Supervisor: dr hab. Magdalena Pichlak, prof. SUT Auxiliary supervisor - dr Eng. Mariusz Kruczek. Thesis topic: "Determinants of the process of generating eco-innovation in SMEs in the Silesian Voivodeship." Awarding the degree of Doctor of Social Sciences. Discipline: management and quality sciences. Resolution of the Social Sciences Discipline Council of November 29, 2023.

Dr Eng. Łukasz PAWLICZAK

Kielce University of Technology. Supervisor: dr hab. Eng Roman Deniziak, prof. SUT Thesis topic: "Methods to increase the effectiveness of virtual consultants by minimizing incorrectly recognized intentions from customers' statements." Conferring the degree of Doctor of Engineering and Technical Sciences. Discipline: technical information technology and telecommunications. Resolution of the Technical Information Technology and Telecommunications Discipline Council of October 31, 2023.

Dr Eng. Bartłomiej PAWŁOWSKI

Abraxas Olgierd Jeremiaś. Supervisor: dr hab. Eng Zbigniew Buliński, prof. SUT Thesis topic: "Developing a new generation of competitive thermal conductive products." Conferring the degree of Doctor of Engineering and Technical Sciences. Discipline: environmental engineering, mining and power industry. Resolution of the Environmental Engineering, Mining and Energy Discipline Council of November 15, 2023.

Dr Eng. Nikoлина PORANEK

Silesian University of Technology - PhD student. Supervisor: prof. dr hab. Eng Krzysztof Pikon. Co-Supervisor: dr hab. Eng Beata Łądzewska-Piekarczyk, prof. SUT Thesis topic: "Assessment of the possibility of using secondary waste from ITPOK in concrete with increased tightness." Conferring the degree of Doctor of Engineering and Technical Sciences. Discipline: environmental engineering, mining and power industry. Resolution of the Environmental Engineering, Mining and Energy Discipline Council of November 15, 2023.

Dr Eng. Adrian RADOŃ

Silesian University of Technology - PhD student. Supervisor: dr hab. Eng Rafał Babilas, prof. SUT Auxiliary supervisor - dr Eng. Katarzyna Cesarz-Andracka. Thesis topic: "Shaping the physicochemical properties of magnesium nanoparticles using selected methods of modifying their structure, shape and surface." Conferring the degree of Doctor of Engineering and Technical Sciences with distinction. Discipline: materials engineering. Resolution of the Materials Engineering Discipline Council of October 24, 2023.

Dr Eng. Bartłomiej RUTCZYK

Silesian University of Technology - PhD student. Supervisor: prof. dr hab. Eng Ireneusz Szczygieł. Thesis topic: "Experimental and mathematical investigation

into the heat-transtes processes within the heat exchangers of an α type Stirling engine". Conferring the degree of Doctor of Engineering and Technical Sciences with distinction.

Discipline: environmental engineering, mining and power industry. Resolution of the Environmental Engineering, Mining and Energy Discipline Council of November 15, 2023.

Dr Eng. Arch. Małgorzata SOKÓŁ

District Office in Gliwice. Supervisor: prof. dr hab. Eng Magdalena Żmudzńska-Nowak. Thesis topic: "Stylish typology of noble residences in Cieszyn Silesia". Conferring the degree of Doctor of Engineering and Technical Sciences with distinction. Discipline: architecture and urban planning. Resolution of the Architecture and Urban Planning Discipline Council of November 20, 2023.

Dr Eng. Anna TARATUTA

Silesian University of Technology Faculty of Biomedical Engineering - assistant. Supervisor: dr hab. Eng Marcin Basiaga, prof. SUT Auxiliary supervisor - dr Eng. Magdalena Antonowicz. Thesis topic: "Structure and physicochemical properties of surface layers of NiTi alloy used for implants in the circulatory system." Conferring the degree of Doctor of Engineering and Technical Sciences with distinction. Discipline: biomedical engineering. Resolution of the Biomedical Engineering Discipline Council of November 16, 2023.

Dr Eng. Marta WALA-KAPICA

Silesian University of Technology, Faculty of Chemistry - assistant. Supervisor: prof. dr hab. Eng Wojciech Simka. Thesis topic: "Development of new electrocatalytic materials using nanotechnology for the oxidation of selected organic compounds." Conferring the degree of Doctor of Engineering and Technical Sciences with distinction. Discipline: chemical engineering. Resolution of the Chemical Engineering Discipline Council of November 8, 2023.

Dr Eng. Bartłomiej WALNIK

Łukasiewicz Research Network - GIT. Supervisor: dr hab. Eng Dariusz Woźniak. Thesis topic: "The influence of technological parameters on the durability of connections of layered flat bars produced by hot rolling." Conferring the degree of Doctor of Engineering and Technical Sciences. Discipline: materials engineering. Resolution of the Materials Engineering Discipline Council of November 21, 2023.

Dr Eng. Patryk WRZEŚNIEWSKI

Loewe Polska Sp. z o.o. Supervisor: prof. dr hab. Eng Anita Olszówka-Myłska. Auxiliary supervisor - dr Eng. Paweł Ostachowski. Thesis topic: "The role of carbon nanotube degglomeration mechanisms in shaping the microstructure and properties of a magnesium matrix composite." Conferring the degree of Doctor of Engineering and Technical Sciences with distinction. Discipline: materials engineering. Resolution of the Materials Engineering Discipline Council of November 21, 2023.

POSTDOCTORAL DEGREES AWARDED

Dr hab. Eng. Sebastian BERHAUSEN

Silesian University of Technology, Faculty of Electrical Engineering - assistant professor. Resolution of the Discipline Council for Automation, Electronics, Electrical Engineering and Space Technologies of October 17, 2023. Discipline: automation, electronics, electrical engineering and space technologies.

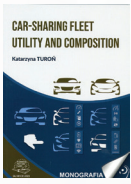
Dr hab. Eng. Maciej GAWLIKOWSKI

Silesian University of Technology Faculty of Biomedical Engineering - assistant professor. Resolution of the Biomedical Engineering Discipline Council of November 16, 2023. Discipline: biomedical engineering.

Dr hab. Eng. Piotr OLCZAK

Institute of Mineral Resources and Energy Economy - Polish Academy of Sciences in Krakow. Resolution of the Environmental Engineering, Mining and Energy Discipline Council of November 15, 2023. Discipline: environmental engineering, mining and energy.

PUBLISHING NEWS



Car-sharing fleet utility and composition

Katarzyna TUROŃ

Ed. I, 2023, PLN 28.35, p. 179

The monograph was devoted to the topic of short-term car-sharing car rental services available on the markets of urban transport systems. The work focuses on the topic of the fleet of cars in car-sharing systems and an aspect that has been overlooked so far, i.e. the appropriate adjustment of car models available in the fleet of car-sharing systems to the needs of their users. To solve this problem, the main goal of the monograph is to develop a method for assessing the usefulness of a car-sharing fleet and to determine its composition.

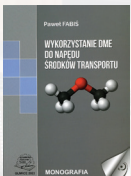


Selected issues of communication networks in industrial computer systems

Jacek STÓJ

Ed. I, 2023, PLN 51.45, p. 367

The monograph is devoted to issues related to communication in industrial IT systems. It is divided into several parts containing the following: introduction to the field, discussion of basic communication protocols, wireless communication, the issue of system integration, selected new technologies for communication in industrial systems, security issues and a description of exemplary research experiments relating to the issue of time determinism in systems computer.



Using DME to power means of transport

Paweł FABIS

Ed. I, 2023, PLN 25.20, p. 193

The monograph presents the possibilities of using dimethyl ether (DME) to power a SI engine. The considerations presented in the publication describe not only the physical introduction of fuel into the combustion engine, but also the modification of the vehicle infrastructure (tank and its accessories) and external infrastructure (refuelling stations).



Modern lasers and laser technologies in welding engineering

Andrzej KLIMPEL

Ed. I, 2023, PLN 50.00, p. 371

The manual describes the theoretical basis of laser radiation, the principle of operation and construction, as well as technical and technological parameters of the latest generation of CO2 gas, fibre, disk and diode welding lasers available on the European market. Examples of typical technological applications of each type of laser are given.

The textbook is intended for students of technical universities studying materials engineering, mechanics and machine construction, metallurgy, mechatronics, energy, as well as production management and engineering.

REPERTOIRE OF THE STUDENT CULTURE CENTRE MROWISKO, JANUARY 2024

14.01 at 16:00

Gliwice New Year's Gala of the Theatre Orpheum

17.01 at 19:00

MrOFFisko Theatre, performance "The Comb Tuner"

19.01 at 19:00

Good Evening with a Vinyl Record - SYNTHPOP

20.01 at 21:00

Rocketka

21.01. at 10:00-14:00

Gliwice Record Exchange

23.01 at 11:00

Learning with culture – a journey into space

27.01 at 21:00

Open Spiral Birthday

07.02 at 19:00

MrOFFisko Theatre, performance "Cantata for Four Wings"

10.02 at 21:00

Technoteka



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2. Municipal Theatre 44-100 Gliwice, 55/57 Nowy Świat
3. Katowice International Airport in Pyrzowice, 42-625 Pyrzowice 90, Wolności Street, Departures terminal
4. Project Management Centre, 44-100 Gliwice 10, Banacha Street
5. NZOZ Academic Clinic, 44-100 Gliwice 5, Łużycka Street
6. Faculty of Automatic Control, Electronics and Computer Science ,44-100 Gliwice, 16, Akademicka Street
7. Faculty of Mechanical Engineering, 44-100 Gliwice 18A, Konarskiego Street
8. Institute of Physics - Centre for Science and Education, 44-100 Gliwice ,22B, Konarskiego Street
9. Faculty of Materials Engineering, 40-019 Katowice 8, Krasieńskiego Street
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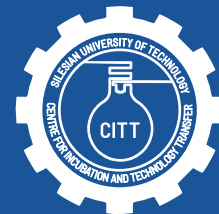
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