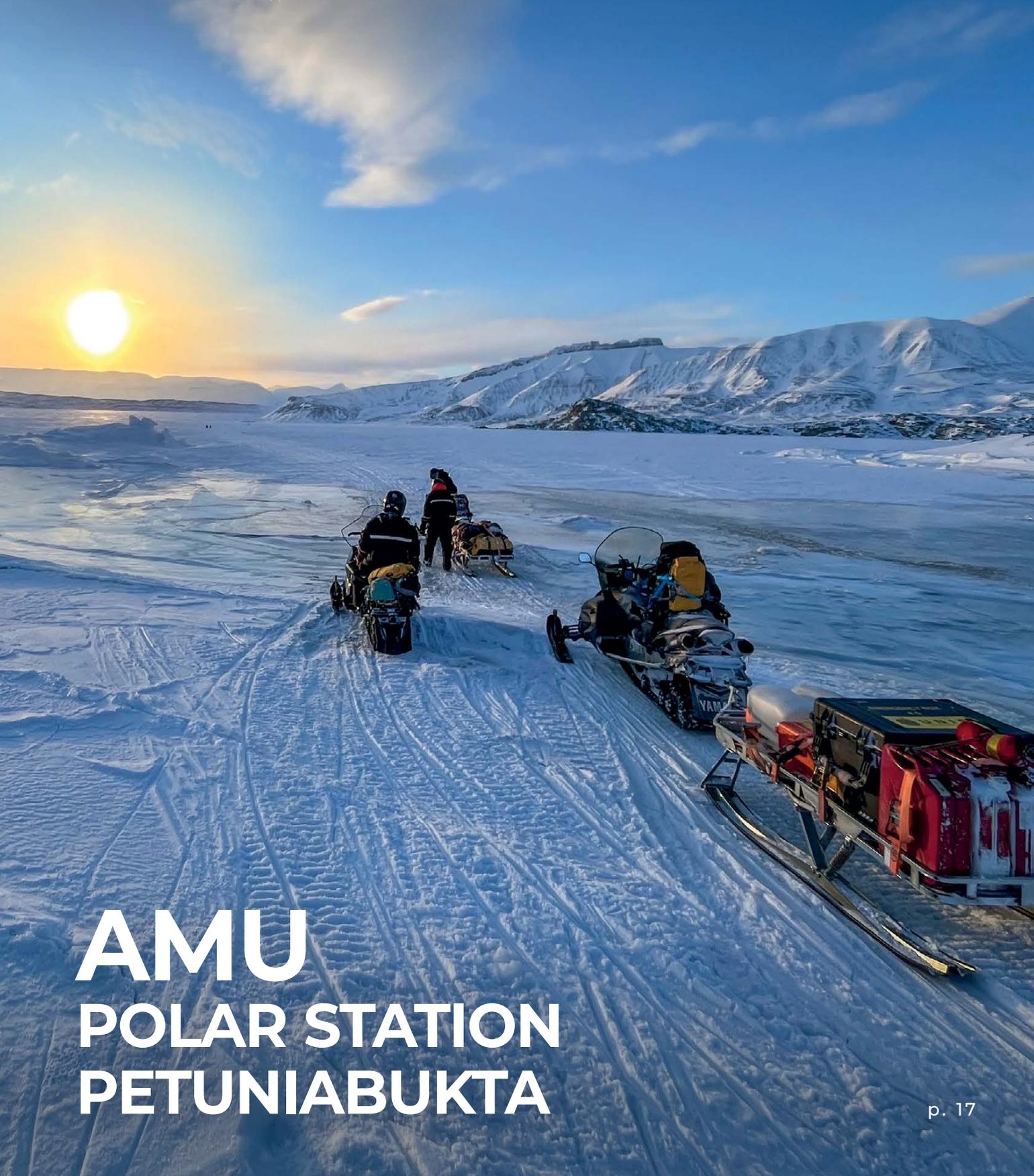




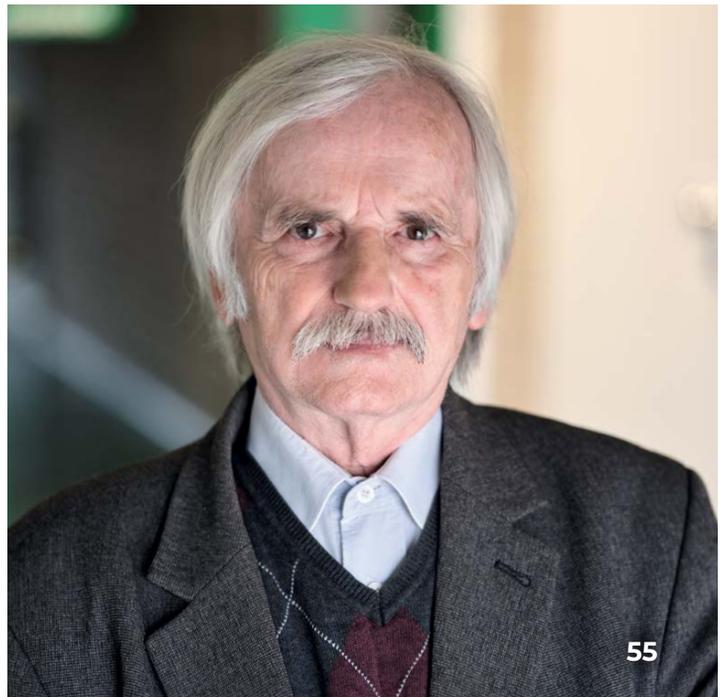
UNIVERSITY LIFE

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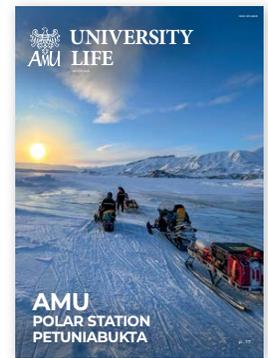


Photo: AMU Polar Expeditions Archive

Logistical transport by snowmobiles across the frozen fjord en route to the AMU Polar Station.

CELEBRATING AMU EXCELLENCE



Prof. Maciej Kozak from the Faculty of Physics and Astronomy and his team received nearly 400,000 PLN in funding to maintain and operate the SAXS/WAXS system. This unique apparatus is used for small-angle and wide-angle X-ray scattering research in Poland. It is one of the few laboratory systems of its kind in Europe.



AMU Prof. Magdalena Wrembel from the Faculty of English was named Teaching Star in the Internationalization Star 2026 poll. She received this honor for her exceptional contributions to the internationalization of the university, including collaborating with international students, overseeing the Bilingualism Matters center, and developing BIP Erasmus+ courses in partnership with institutions in Norway, Iceland, and Germany.



AMU Prof. Iwona Chmura-Rutkowska from the Faculty of Educational Studies and **Antonina Tosiak**, a doctoral student from the Faculty of Polish and Classical Philology, were among the “50 Bold Women of 2025” on the *Gazeta Wyborcza* list. Prof. Iwona Chmura-Rutkowska was honored “for her reports on sexism in education and her commitment to equality.” She is a researcher, educator, and social activist who has worked for years to promote equality, diversity, and women’s rights in education, demonstrating that schools can be spaces free of stereotypes. Antonina Tosiak was recognized for her research on the diaries of rural women.



Prof. Bogdan Marciniak, AMU Rector from 1988 to 1990, celebrated his 85th birthday! On February 4, a ceremonial gathering was held in the office of Rector Prof. Bogumiła Kaniewska to celebrate this occasion. Prof. Marciniak is one of Poland’s leading chemists, a world-renowned specialist in organosilicon chemistry and organometallic catalysis, and an expert in applying catalytic research to organic and nanomaterial synthesis.



Medicine Degree Program in Piła

AMU is to launch a medicine degree program at the Institute of Medical Sciences in the AMU Branch in Piła.

After consulting with the Minister of Health and the Polish Accreditation Committee, the Minister of Science and Higher Education granted permission to establish a six-year degree program in medicine.

“I would like to thank everyone who supported us in our efforts to expand the range of studies offered by AMU,” said AMU Rector **Prof. Bogumiła Kaniewska**. “We are delighted with this positive decision. We have experience managing large educational projects and have the necessary facilities and staff. We will begin training future medical doctors in October.”

“This is a natural step in AMU’s development. It is not an experiment, but a well-considered decision.” emphasized **AMU Prof. Tadeusz Wallas**, the Rector’s Representative for University Development.

The Power of the Team



The 6th AMU Administration Forum “The Power of the Team” took place on February 4-5. The program included lectures by invited guests, such as **Mateusz Kuznierewicz**, as well as workshops.

The first day of the forum culminated in a unique evening program entitled “Sounds and Smiles.” Musicians from the Academy of Music in Poznań, led by Dr. Michał Łaskiewicz, performed a concert *Teamwork the Musical* in the AMU Auditorium. Ewa Błachnio also presented her original stand-up program.



Dr. Jan Kulczyk Scholarships

On January 26, the **Dr. Jan Kulczyk Scholarships** were awarded to AMU students and doctoral students, as well as AMU students of Ukrainian nationality, in the Lubrański Hall of AMU Collegium Minus.

The scholarship recipients were congratulated by Her Magnificence Rector Prof. Bogumiła Kaniewska; Vice-Rector for Student Affairs and Teaching Prof. Joanna Wójcik; Dr. Aleksander Broda from the Kulczyk Foundation; and AMU Prof. Dominika Narożna, Board Member of the AMU Foundation. The jury selected four scholarship winners among doctoral students and four among undergraduates.

Awarded doctoral students:

- Celina Barszczewska, M.A. (Doctoral School of Humanities, history),
- Julia Głowacka, M.Sc. (Doctoral School of Exact Sciences, chemical sciences),
- Anna Olszewska, M.A. (Doctoral School of Languages and Literatures, linguistics),
- Piotr Ostrowski, M.A. (Doctoral School of Social Sciences, law).

Awarded students:

- Marcelina Martyńska (Faculty of Psychology and Cognitive Science, psychology),
- Magdalena Strawa (Faculty of Biology, environmental Protection),

- Jakub Woźniak (Faculty of Geographical and Geological Sciences, geoinformation),
- Jakub Zwoniarski (Faculty of Physics and Astronomy, quantum informatics).

The jury also selected nine winners from among first-cycle, second-cycle, and long-cycle Ukrainian students.

Long-cycle and first-cycle students: Mariia Balakun, Sofia Drost, Alisa Kopysova, Maksym Levanov, Dmytro Muzychuk, Oleh Pilka, Diana Zakharenko.

Second-cycle students: Mariia Kapeliukha, Vladyslava Pedan.

YOUTH AND EXCELLENCE

FULL PROFESSORS BEFORE 40



PROF. PIOTR PAWLUĆ

AMU VICE-RECTOR FOR HUMAN RESOURCES
AND DOCTORAL SCHOOLS

The title of full professor is one of the most important and prestigious achievements in academia. Earning it before turning forty requires outstanding scientific competence, determination, passion, courage, and sometimes a touch of madness. In this issue of *University Life*, we proudly present eighteen AMU academics who achieved this title before turning forty.

They are not only exceptional researchers, but also human beings of flesh and blood. They have their passions, families, favorite foods, and books. They love science, but they live for more than just it. Their careers prove that AMU recognizes their potential and creates an environment in which young scientists can develop faster than anywhere else.

Prof. Tomasz Łuczak, a mathematical genius who became a professor at 31; **Prof. Michał Klichowski**, an educational innovator and one of the youngest research center directors in Poland; and **Prof. Przemysław Czapliński**, a humanist of extraordinary erudition and sensitivity, have spectacular career paths that are a source of pride and inspiration for future generations. Equally encouraging are the young professors who are heads of research units, such as **Prof. Artur Stefankiewicz**, director of the Center for Advanced Technologies, and **Prof. Jakub Rybka**, director of the NanoBioMedical Center. These professors successfully combine scientific passion with exceptional organizational skills.

The professors featured in this issue are chemists, lawyers, linguists, literary scholars, mathematicians, biologists, and political scientists. Each follows their own path, but they all have one thing in common: they are the finest ambassadors of Polish science today.

Their stories also illustrate the strength of the academic community and its systemic support for young researchers. Today, AMU Doctoral Schools are forging future talents by creating an inspiring space for over 850 doctoral students. Here, young scientists and scholars acquire knowledge and become creators and innovators.

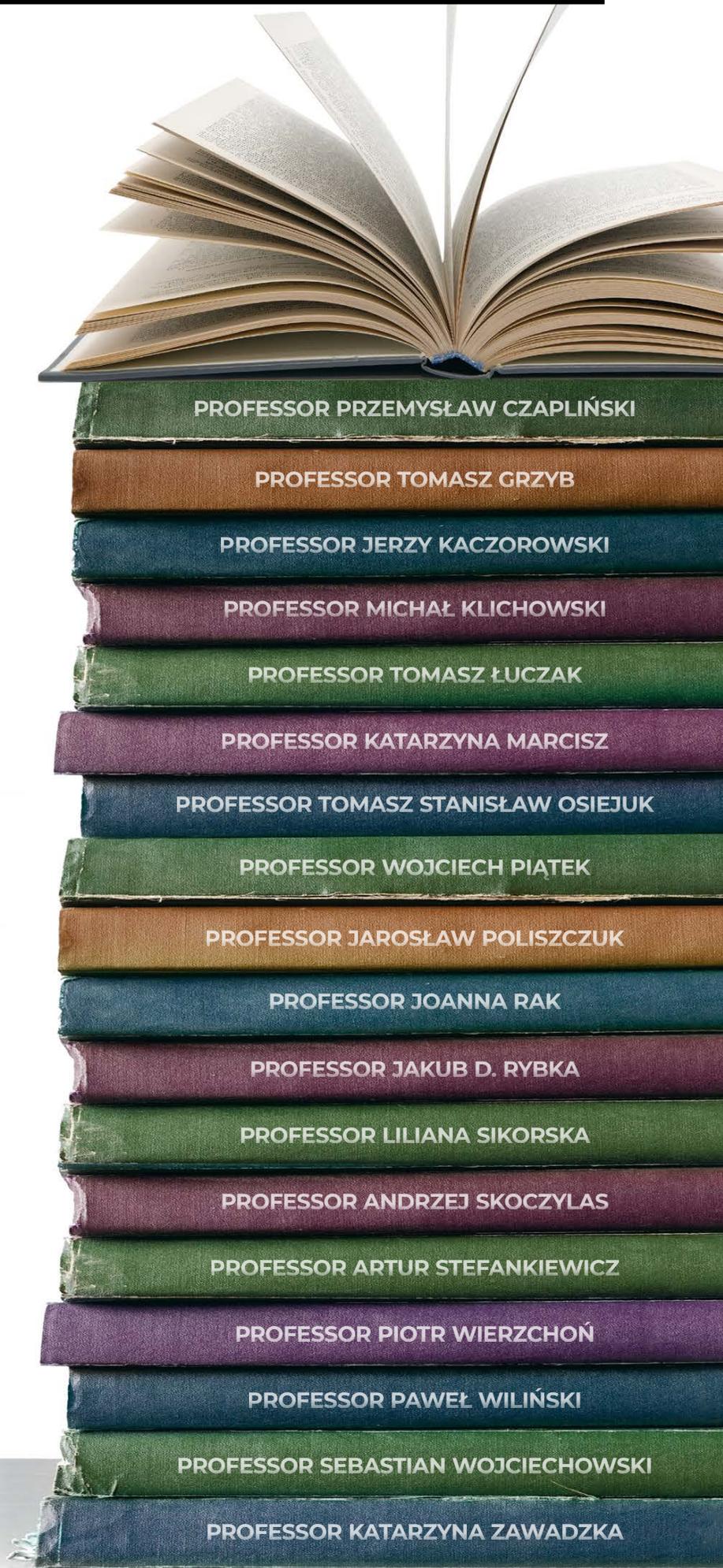
The doctoral schools' mission is to support the comprehensive development of doctoral students – scientifically, intellectually, socially, and professionally. The fact that a large part of their programs are conducted in English gives the doctoral community an international character. Over 120 international students from 38 countries study in AMU's doctoral programs. High-quality research infrastructure, extensive library resources, and close collaboration with supervisors enable ambitious and innovative research. The results of this research are increasingly being applied outside the university, in areas such as public administration, business, and civil society. As a research university, AMU inspires and opens up real career paths for young scientists, including opportunities on the international stage.

Karol Wapniarski's story is proof of this. He is an outstanding student at the Doctoral School of Social Sciences and, at the age of 22, is completing his Ph.D. in cognitive science. He plans to continue his academic career at the University of Cambridge. His story shows that the path "from Poznań to the world" exists and can be quite short when one has talent, works hard, and receives support.

We invite you to discover eighteen fascinating stories. Behind every professorial title is a person and a story that deserves attention.

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**BRILLIANT
MINDS**



PROFESSOR PRZEMYSŁAW CZAPLIŃSKI

PROFESSOR TOMASZ GRZYB

PROFESSOR JERZY KACZOROWSKI

PROFESSOR MICHAŁ KLICHOWSKI

PROFESSOR TOMASZ ŁUCZAK

PROFESSOR KATARZYNA MARCISZ

PROFESSOR TOMASZ STANISŁAW OSIEJUK

PROFESSOR WOJCIECH PIĄTEK

PROFESSOR JAROSŁAW POLISZCZUK

PROFESSOR JOANNA RAK

PROFESSOR JAKUB D. RYBKA

PROFESSOR LILIANA SIKORSKA

PROFESSOR ANDRZEJ SKOCZYŁAS

PROFESSOR ARTUR STEFANKIEWICZ

PROFESSOR PIOTR WIERZCHOŃ

PROFESSOR PAWEŁ WILIŃSKI

PROFESSOR SEBASTIAN WOJCIECHOWSKI

PROFESSOR KATARZYNA ZAWADZKA

COMBINING ENERGY WITH CALMNESS

Professor Przemysław Czapliński is a literary scholar, literary critic, essayist, and translator. He specializes in 20th- and 21st-century Polish and European literature. At AMU, where he studied and works, he co-founded the Department of Anthropology of Literature.

He has received numerous awards for his achievements, including the Kościelski Foundation Award, the Kazimierz Wyka Award, the Jan Długosz Award, the Prof. Tadeusz Kotarbiński Award, and the Marshal of the Wielkopolska Province Award. In 2014, he was awarded the Silver Medal for Merit to Culture – Gloria Artis, and in 2025, the Scientific Award of the City of Poznań.

Przemysław Czapliński is the director of the AMU Centre for Open Humanities, which deals with the relationship between culture and law.

He is the author of several books, including *Polska do wymiany* (Poland up for Replacement) (2009), *The Remnants of Modernity* (2011), *Poruszona mapa* (A Shifted Map) (2016), and *Rozbieżne emancypacje. Przewodnik po prozie 1976–2020*, (Divergent Emancipations: A Guide to Polish Prose, 1976–2020) (2024). His works have been translated into English, French, and German.



PROFESSOR PRZEMYSŁAW CZAPLIŃSKI

Faculty of Polish and Classical Philology

According to Dr. Joanna B. Bednarek, who wrote her doctoral dissertation under Prof. Czapliński, conversation is the most important thing to him. “In his work, he combines apparent contradictions: commitment and energy with absolute calm, focus on detail with synthesis of the whole, and recognition of others’ interpretations with a readiness to defend his own. He attaches great importance to the equal distribution of tasks. Working with him provides a sense of security and the feeling of participating in an adventure,” she says.

Prof. Czapliński is currently working with Dr. Bednarek on a monograph about the relationship between culture and law in Poland since 1989. The book will focus on high-profile lawsuits involving paintings, films, theater performances, literary works, and scientific works. Rather than discussing court cases, the book will synthesize key issues, such as new restrictions on cultural autonomy, the impact of capitalism on the social rights of artists and copyright law, the nationalization of law in Poland, the influence of the Roman Catholic Church on freedom of speech, legal regulations on Holocaust research, and violence intruding into culture and seeking legal justification for itself.

EWA KONARZEWSKA-MICHALAK

I DON'T CARE ALL THAT MUCH ABOUT ACADEMIC TITLES

Professor Tomasz Grzyb is a highly regarded chemist. His early professorship was the result of grants he had obtained.

“When I finished the SONATA grant project, which was funded by the National Science Center, I had already gathered the material for my postdoctoral degree. My professorship coincided with the advanced implementation of the SONATA-Bis project. However, the numerous lockdowns in 2020, when I was preparing my professorship application, proved to be crucial – it is a very time-consuming procedure,” says Prof. Grzyb.

He is the head of the Department of Rare Earths at the AMU Faculty of Chemistry and the leader of the LaNaSyLum research team. His main scientific interests are the synthesis and study of nanomaterials doped with lanthanide ions, particularly the photon up-conversion phenomenon. More recently, he has also studied luminescent nano- and microplastics.



PROFESSOR TOMASZ GRZYB

Faculty of Chemistry

He is the author of over 130 publications, which have been cited over 4,400 times. “Each publication is the result of painstaking work, honing my craft, and gradually pushing the boundaries of knowledge,” says the chemist. “This is accompanied by curiosity, the satisfaction of solving a problem, and the support of a creative, friendly environment,” he adds.

Prof. Grzyb has been awarded the First Degree Award of the Minister of Science and Higher Education for academic teachers for his achievements.

The professorship has not changed much in his professional life. “Most of what I do involves projects that I carry out with my fantastic team, and that is not really related to the professorship. Personally, I don’t care all that much about academic titles, and I feel this attitude is becoming more common, especially in international collaborations. Interesting research projects are much more important than whether someone holds a professorship,” he explains.

EWA KONARZEWSKA-MICHALAK

FROM MATHEMATICS TO ITALIAN CUISINE

Professor Jerzy Kaczorowski is a mathematician who specializes in analytic and algebraic number theory. He has been associated with AMU since the beginning of his career. He graduated with a master's degree in mathematics in 1979 and went on to earn his doctorate and postdoctoral degree at AMU. In 1996, at the age of only 39, he was awarded the title of full professor of mathematics.

As Prof. Kaczorowski emphasizes, his academic path was not the result of calculation but of passion and consistent hard work.

"I disagree with the opinion that the careers of young mathematicians are primarily hampered by the lengthy publication process. While this is certainly a problem specific to our discipline, the main difficulty novice researchers face is acquiring the enormous amount of knowledge necessary to tackle contemporary research issues. Unlike other fields of science, mathematical theorems, once proven, remain true forever," he says.



**PROFESSOR JERZY
KACZOROWSKI**

Faculty of Mathematics
and Computer Science

He explains that his interest in mathematics began in high school when he came across a monograph on abstract algebra. "That's when I first encountered group, ring, field, and module theories. A whole new world opened up to me—full of bold constructions and deep reasoning—which made 'school' mathematics seem extremely mundane, even trivial."

Since 1996, Prof. Kaczorowski has headed the Department of Algebra and Number Theory. He has held the positions of dean twice, vice-dean, head of the doctoral program, and head of the cryptology laboratory. He is also a full member of the Polish Academy of Sciences and an active member of the Polish Academy of Arts and Sciences.

For him, the professorship was never an end in itself, the culmination of his career, but only a certain stage. "Besides mathematics, my passions are sailing, music, and Italian cuisine."

MAGDA ZIÓLEK

AI WILL EXPAND THE SHADOW ZONE

When asked about his mentors, he immediately mentions Professors **Hanna Krauze-Sikorska**, **Zbyszko Melosik**, Carlos Smaniotto Costa, and **Grzegorz Króliczak**. Although he is friends with Prof. Króliczak, he says that he still considers him his teacher. Professor Michał Klichowski, head of the Center for Cognitive Neuroscience, has become one of the most recognizable figures at our university in recent years. This recognition is marked by his recent professorship and last year's publishing success: *Efekt Neuro* (Neuro-Effekt), which, in our opinion, has already become part of the required scientific reading canon.

When asked what he did first after receiving the news about his professorship, Michał Klichowski said he sent a text message to his parents because they are wonderful and always believed in him, telling him he could be whatever he wanted.

Scientific work is his passion. He loves conducting research, analyzing data, and writing articles. Currently, he



**PROFESSOR MICHAŁ
KLICHOWSKI**

Faculty of Educational Studies

is focusing on several new projects based on AI-driven methodology. "AI is a game changer in science, so everything we did before will be overshadowed by new discoveries," he explains.

Prof. Klichowski dislikes uncommitted individuals who do science carelessly and quickly just to publish or earn a degree. He values passion, creativity, and self-distance in others. Although becoming a full professor has not changed his life, he feels that he no longer has to "collect" anything and can focus on what is most important in science: research and publications.

Prof. Michał Klichowski relaxes best when traveling with his wife, Ania, who also works at AMU. They enjoy driving a few hundred kilometers or flying to a place they have never been before and staying there as long as possible. They have lived for several weeks in Lisbon, the frazione of Monticchiello in Tuscany, and a small house by the beach on the French Riviera.

KRZYSZTOF SMURA

I FIND HARMONY AND PEACE IN LIFE AND MATHEMATICS

Professor Tomasz Łuczak is considered one of Poland's most distinguished mathematicians. He received the Foundation for Polish Science Prize, often referred to as the Polish Nobel Prize, for his pioneering work on the theory of random discrete structures. He was the youngest professor in Poland and the youngest member of the Polish Academy of Sciences.

He works at the AMU Faculty of Mathematics and Computer Science but has also conducted research in the United States, the United Kingdom, France, Germany, Australia, and Israel. He quickly progressed through the stages of his academic career. He passed his high school exams at the age of 16 and became a professor at the age of 31. When asked about his reasons for choosing an academic career, he replied: "For me, science is one way of experiencing, understanding, and transforming reality. Others include art and religion, for example. However, I decided that I would be a better scientist than a musician or a monk."

Prof. Łuczak specializes in combinatorics, a rapidly developing field with applications in other areas of mathematics,



PROFESSOR TOMASZ ŁUCZAK

Faculty of Mathematics and Computer Science

computer science, and physics. "Mathematics is the art of solving and formulating problems. We must teach students how to ask questions — it's one of the most important skills we can pass on to them," he emphasizes.

Prof. Łuczak's approach to mathematics is deeply humanistic. He considers it a field closely related to art. "Mathematics is not only logic; it is also beauty. Just as reading Proust or listening to Mozart can change the way you look at the world, mathematics can do the same. It teaches a new way of seeing reality."

He has over 180 scientific publications to his name, covering random structures, number theory, computer science, logic, physics, and biology.

Privately, he is interested in art, literature, and philosophy. Every five years, he tries to expand his interests to include topics with which he is not yet familiar in order to, as he explains, "avoid stagnation." He finds harmony and peace in life and mathematics.

MAGDA ZIÓŁEK

FEARLESSLY EXPLORING NEW FRONTIERS

Professor Katarzyna Marcisz is not afraid of new challenges; on the contrary, she boldly explores new areas.

Prof. Marcisz is a researcher in the Climate Change Ecology Research Unit at the AMU Faculty of Geographical and Geological Sciences. Her research focuses on peatland paleoecology and climate change ecology, more specifically, paleohydrological reconstructions and past fire activity. She specializes in analyzing microorganisms, particularly testate amoebae, and her favorite species is *Hyalosphenia elegans*.

Despite her young age, Prof. Marcisz has many successes to her credit, including last year's expedition to Greenland, where she and her team collected peat cores on Disko Island. Apart from purely scientific considerations, the GREENFIRE project was largely inspired by pop culture and the international hit "Disco Inferno."



PROFESSOR KATARZYNA MARCISZ

Faculty of Geographical and Geological Sciences

Katarzyna Marcisz became a full professor earlier this year thanks to her talent and determination. She is courageous and confident, and she enjoys exploring new areas. She views setbacks, such as the rejection of an article, as learning opportunities and uses them as motivation to publish in even better journals than she initially applied to. She is the co-author of several articles in *Nature Portfolio* journals. "One thing is certain: if you don't try, the article will definitely not be published!" Marcisz argues.

Her excellent knowledge of English and German, as well as her openness to international connections, has led to collaborations with scientists and universities abroad, including those in Switzerland, the United Kingdom, and France. In addition to AMU, she has worked at the University of Bern in Switzerland. This fall, she will leave for the University of Aberdeen under the Bekker NAWA Program. She cares about health and the environment. She does not own a car and rides her bike to work every day.

EWA KONARZEWSKA-MICHALAK

IN PURSUIT OF AVIAN COMMUNICATION

Professor Tomasz Stanisław Osiejuk is a biologist who specializes in behavioral ecology and acoustic communication in animals. He has been the head of the Department of Behavioral Ecology at the AMU Faculty of Biology for twenty years, a department that he co-founded. He earned his professorship thanks to the successful work of his research group.

“My department has made a name for itself with its research on acoustic communication in birds in Europe, Africa, and Australia. This research has been published in renowned international journals and presented at major conferences,” says Prof. Osiejuk.

He is the author of over 130 scientific publications. Articles co-written by members of the department are highly valued. Examples include articles showcasing the use of conventional communication in birds (in which signals have a conventional meaning, as in humans), the impact of wind turbine noise



PROFESSOR TOMASZ STANISŁAW OSIEJUK

Faculty of Biology

on singing, and one of the latest articles, which was highlighted in the *Scientific Reports Earth, Environment, and Ecology* Top 100 of 2024 and provides practical guidelines for the acoustic monitoring of forest birds.

Prof. Osiejuk notes that a professorship awarded with pomp and circumstance by the president of the country is a unique Polish phenomenon. “I would even venture to say that it is something of an aberration on a global scale. Nevertheless, to a certain extent — fortunately, less and less — holding a full professorship in Poland still influences how researchers are perceived, mainly

by people familiar with the hierarchy of academic degrees and titles,” he comments.

In his opinion, further academic degrees after a doctorate are unnecessary. “It would be enough to offer better-paid positions in competitions and projects, which, at some point in their careers, could result in tenure for the most outstanding researchers,” emphasizes Prof. Osiejuk.

EWA KONARZEWSKA-MICHALAK

I HAVE FREEDOM WHEN IT COMES TO EVALUATING MY WORK

First, he made the news as the youngest professor at AMU, and then we met. In a café. It was 2021. Professor Wojciech Piątek arrived for our meeting on a bicycle wearing a helmet. Safe and sound. He received his full professorship in 2020 when he was 37 years old. It is easy to calculate his age today. He is still young at heart, and the Faculty of Law and Administration, where he works, is still his second home.

Wojciech Piątek probably would not have ended up in Poznań if not for health problems. These problems led doctors to order his parents to change their place of residence, so he left Bielsko-Biała for the capital of Wielkopolska. Then came St. Mary Magdalene High School and the start of university. He chose to study law and political science. He was accepted into both programs but ultimately opted for law.

I asked him what being a professor means to him. “I don’t see it as the end, but as the beginning of an adventure with science. I face many challenges at the Polish and European levels. I have



PROFESSOR WOJCIECH PIĄTEK

Faculty of Law and Administration

freedom. I have freedom when it comes to evaluating my work. Professorship has allowed me to become more widely known, not only in the university environment but also beyond it. I am an expert in arbitration proceedings and prepare opinions and analyses. I was once told that my postdoctoral degree would be a breakthrough. For me, it is full professorship,” he replies.

Today, Prof. Wojciech Piątek is the head of the School of German Law at the AMU Faculty of Law and Administration, as well as an employee of the Office of the President of the Polish Supreme Administrative Court. He specializes in administrative and admin-

istrative judicial procedure, as well as enforcement proceedings in administration, both nationally and in comparative law.

Despite his busy schedule, Prof. Piątek occasionally conducts training courses for public administrative procedure employees and lectures for administrative court judges. He does this because he wants to deal with administrative proceedings in practice as well as theory.

KRZYSZTOF SMURA

THE VOICE OF UKRAINIAN HUMANITIES IN POZNAŃ

Professor Jarosław Poliszczuk is a literary scholar, essayist, translator, and literary critic. Since 2021, he has been the head of the Department of Ukrainian Studies at AMU Institute of East Slavic Studies.

Jarosław Poliszczuk was born in Volhynia into a family of teachers. “Our home was filled with a love of our native language and books,” he recalls. As a teenager, he began his writing endeavors by penning poems and editing local newspapers. In addition to literature, he was fascinated by history. “The traces of old manors, castles, and palaces were a source of mystery and inspiration for me.”

He began his academic career with a dissertation on Lukawica, Ukraine, which he defended in 1990 — a symbolic moment in the birth of an independent Ukraine. In his later works, he explored modernism, postmodernism, literature as a geocultural project, collective memory, geopoetics, and ecocriticism.

Prof. Poliszczuk is a passionate translator of Polish literature. He introduced Zuzanna Ginczanka’s poetry to the Ukrainian



PROFESSOR JAROSŁAW POLISZCZUK

Faculty of Modern Languages and Literatures

literary scene for the first time. “Her poems are perfect. I first translated them for myself, then for my friends — that’s how the two volumes came to be.”

He has been closely connected with Poland for over two decades. “I really felt at home here during the Orange Revolution. I met people with open hearts, with whom it was easy to find common ground.” He currently participates in international scientific and cultural projects, collaborating with institutions in Ukraine and Poland.

“I feel like a traveler on an expedition. Time is running out, but as long as I have the strength and inspiration, I want to write,

act, and support young scientists. I don’t want to lose my curiosity about the world,” he said on the eve of his 60th birthday.

Prof. Poliszczuk dreams of writing more books, traveling, and creating art. “I love the guitar and watercolors. I would like to age with dignity—without stagnation or weariness of life. Because anything can still happen.”

MAGDA ZIÓLEK

ON THE POLITICAL VIOLENCE OF PROTEST MOVEMENTS

Professor Joanna Rak specializes in researching social movements using her own analytical tools. Her work contributes to the development of protest movement theory by offering an original interpretation of the relationship between protest movements and political systems, based on a comparative analysis of qualitative data.

“I focus on the culture of political violence in protest movements. I study movements that arose in Europe after governments introduced austerity programs in response to the economic crisis,” said Prof. Rak in an interview with *Życie Uniwersyteckie*. “Despite their common goals and political values, I am researching what makes protest movements use different tools of political contestation and implement different strategies of political violence.”

Prof. Rak is one of the youngest researchers at our university. She received her professorship in political science and administration. She works in the Department of Political



PROFESSOR JOANNA RAK
Faculty of Political Science and Journalism

Culture at the AMU Faculty of Political Science and Journalism.

Prof. Rak was a visiting professor at the Universidad CEU San Pablo, Universidad Carlos III de Madrid, Universidad de Navarra, and Universidad de Valladolid. She has led projects funded by the Polish National Science Center, including “The Dynamics of the Culture of Political Violence in Anti-Austerity Movements in Europe” and “Political Contestation and the New Armored Democracy,” and she is currently leading the project “Civil Disobedience in the Pandemic-Stricken European Union.” She

is the author of monographs and articles on political contestation and serves as an expert for the European Commission, ESF, FWO, NWO, NCN, NAWA, and PKA. Prof. Rak has received the Minister of Science and Higher Education Scholarship for Outstanding Young Scientists, the Barbara Skarga Scholarship, the START Scholarship from the Foundation for Polish Science, and the POLITYKA Magazine Scientific Award in the social sciences.

MAGDA ZIÓLEK

AMONG EXPERTS

Professor Jakub Dalibor Rybka loves to travel and enjoys Italian cuisine, but he offsets the effects of these “hobbies” at the gym. As soon as it gets cold, he can be found winter swimming with a group of fellow scientists and friends in an ice hole.

Prof. Rybka loves vintage cars. His Mercedes convertible is admired by more than just his friends. Family trips with his wife and two sons are a tradition, as are visits to their garden plot near Poznań.

He is extremely effective and enterprising at work. While serving as deputy head of the Center for Advanced Technologies under **Prof. Bronisław Marciniak**, he led an interdisciplinary research group in developing the first Polish immunodiagnostic test during the COVID-19 pandemic.

Jakub D. Rybka is the proud recipient of the Silver Seal of the City of Poznań. He likes challenges. His biggest



PROFESSOR JAKUB D. RYBKA
NanoBioMedical Centre

challenge is currently the NanoBioMedical Centre, which he took over from its founder and former AMU Rector, **Prof. Stefan Jurga**.

Prof. Rybka has gathered an outstanding team around him. His scientific passion is 3D bioprinting, a relatively new tissue engineering technology that creates three-dimensional structures replicating the spatial and biological properties of tissues. This technology has enormous potential in many areas of life science, such as regenerative medicine and cancer therapy. Together with two colleagues, Prof. Rybka also created the first biotechnology spin-off of AMU. Today, SpinBionic’s activities include bio-nanomaterials, bio-inks, and innovations in regenerative medicine.

KRZYSZTOF SMURA

RESEARCH AND PASSION

Professor Liliana Sikorska is a literary scholar and the head of the Department of English Literature, Irish Literature, and Literary Linguistics at the AMU Faculty of English. She has combined her academic work with a genuine passion for literature for years.

“My academic interests include traces of the Middle Ages in contemporary literature, the Orient and the Occident, and women’s writing. I am also interested in issues of claustrophobia and claustrophilia, as well as mental illness,” explains Prof. Sikorska. “I am fascinated by the trope of the labyrinth, representations and perceptions of otherness, and creativity bordering on madness.”

Prof. Sikorska’s academic career began early; even as a student, she knew she wanted to be a researcher. “When I passed my entrance exams, I knew that I wanted to conduct research and write. Writing helped me organize my world. I wrote my first history of English literature at the age of 28,” she recalls. Even before earning her master’s degree, she taught classes on literary theory — an experience that confirmed she had made the right choice.



PROF. LILIANA SIKORSKA
Faculty of English

She speaks with detachment about academic promotions. “The postdoctoral degree taught me humility. I realized how much I still didn’t know. The university professorship and full professorship were the beginning of my academic journey, not the culmination of my career. They gave me the freedom to research but left me with a permanent, chronic thirst for knowledge and the conviction that I had to prove to myself and the academic community that my work was worthy of the distinctions I had received.”

Prof. Sikorska is known for her exceptional commitment to her work, but she also values her time for quiet reflection.

“I shut myself away in a world of fiction. I play the piano and watch movies. I start the day with coffee and nonfiction texts. I relax at the theater, the philharmonic, and the opera,” she says. However, what brings her the greatest joy are meetings with her loved ones. “I spend my free time with friends or with my family. We have a six-year-old gentleman in our family. I really enjoy playing with cars and Legos with him.”

MAGDA ZIÓLEK

I HAVE HAD GOOD MENTORS

Professor Andrzej Skoczylas is a distinguished jurist who specializes in administrative procedure and administrative judicial procedure. He is a professor of law, a judge on the Supreme Administrative Court of Poland, and the head of the AMU Department of Administrative and Administrative Judicial Procedure.

Andrzej Skoczylas completed his law studies at the AMU Faculty of Law and Administration, where he earned successive academic degrees and eventually the title of full professor in 2013. He emphasizes that his choice of field of study was not accidental. "The dynamic changes in Polish law in the early 1990s were decisive in my choice to study law," he explains.

Despite his young age, he quickly progressed through each stage of his academic career. "I was fortunate to meet professors who motivated or even 'pushed' me to obtain further academic degrees. I received enormous support, especially from my mentor, Prof. Roman Hauser, who headed the Polish



PROFESSOR ANDRZEJ SKOCZYLAS
Faculty of Law
and Administration

administrative judiciary for many years and was the main architect of reforms to administrative judicial procedure. To me, he is the ultimate model of combining an academic career with judicial service," he says. He also speaks highly of **Professors Zbigniew Leoński** and **Zbigniew Janowicz**, whose help and kindness were invaluable.

As Prof. Skoczylas argues, "Involvement in teaching and organizational activities at the university is a serious challenge, but it does not preclude research work."

He was the head of the Chair of Administrative Procedure and a member of the Legal Committee of the AMU Senate. He is the author of approximately 180 scientific publications. He has received numerous awards

for his teaching, scientific, and organizational achievements, including the prestigious Golden Paragraph Award in the Best Judge category from *Dziennik Gazeta Prawna*. He enjoys history, art history, and archaeology in his free time.

MAGDA ZIÓLEK

HE SAW IT COMING

Professor Artur Stefankiewicz is currently the head of the AMU Center for Advanced Technologies (CAT). Previously, he was the deputy to **Professor Bronisław Marciniak** in this position. He is proud to cultivate the development of the center, which was launched by its founders.

In 2020, he made a prophetic statement that turned out to be an omen of good things to come: "It's a sign of the times. I think that in the coming years, we can expect a group of full professors of a similar age to mine." Since then, AMU has gained six tenured professors under the age of forty. Six out of sixteen in its history.

Prof. Stefankiewicz values youth. According to his principles, what matters in a scientist's work is ideas and commitment, not academic degrees. He likes to quote his doctoral dissertation supervisor, Nobel Prize winner, and AMU Doctor Honoris Causa, Jean-Marie Lehn: "Don't look at anyone else. Focus on doing good science." One of his mentors is Prof. Jeremy Sanders from the Uni-



PROFESSOR ARTUR STEFANKIEWICZ
Faculty of Chemistry,
Centre for Advanced
Technologies

versity of Cambridge, with whom Prof. Stefankiewicz spent several years of his scientific career. Prof. Stefankiewicz is a supramolecular chemistry specialist and the author of numerous publications in prestigious journals such as *Science*, *Nature Chemistry*, *Nature Communications*, and *Angewandte*. He has been in love with Agata, a dentist, since high school, and they have two children, Hania and Wiktor. Prof. Stefankiewicz is a workaholic. In his free time, he retreats to the countryside, away from the internet, where he cannot work. He is a fan of Asian cuisine, and Asia is his favorite travel destination.

"Our ambition is for the Center for Advanced Technologies to become a dynamic

scientific hub that attracts young scientists with innovative ideas, grants, and original research topics. We want to build the future of CAT on them," said the youngest full professor to date at the Faculty of Chemistry in a recent interview with *Życie Uniwersyteckie*.

KRZYSZTOF SMURA

COMBINING THE HUMANITIES WITH MATHEMATICS

Professor Piotr Wierzchoń is a linguist with a sparkle in his eye who has loved science and patents since childhood. His passion has propelled him into the worlds of linguistics, dictionaries, and computer science.

He graduated with a degree in Polish studies in four years, wrote his doctoral dissertation in two years, spent another four years on his postdoctoral degree, and submitted his professorial application to the former Central Commission for Academic Degrees and Titles at the age of thirty-five.

After graduating, he threw himself into research. He was fascinated by the axiomatic description of language and the algorithmization of grammar. His mentor, **Prof. Jerzy Bańcerowski**, taught him to combine linguistic theory with mathematical logic and computers. His work on inflection earned him an honors degree in 1997, followed by a doctorate in 2000, which was recognized with the Prime Minister's Award.

In 2002, Piotr Wierzchoń left for South Korea, where he taught Polish and conducted seminars at Hankuk University of Foreign Studies. Inspired by the Hangeul script, he conducted



PROFESSOR PIOTR WIERZCHOŃ

Faculty of Modern Languages and Literatures

diacritic research and obtained his postdoctoral degree in 2004. Upon returning, he focused on developing a methodology for bilingual a tergo dictionary indexes. Influenced by **Prof. Jan Wawrzyńczyk**, he also began working on photodocumentation, an innovative method of combining linguistic analysis with photographic documentation of texts.

From 2012 to 2019, Prof. Wierzchoń was the director of the AMU Institute of Linguistics. He is the author and co-author of nearly 200 publications. He developed

the fields of linguochronologization and photodocumentation, which date entire categories of Polish, Russian, Korean, and other vocabulary. His research on affixation has been published in dozens of monographs on 20th-century vocabulary, censorship using AI, as well as literature. For example, he wrote about Adolf Nowaczyński's peculiar language, which combines philology with sociology. Prof. Wierzchoń plays the drums, does bodybuilding, takes care of his lawn, walks a lot, attends death metal festivals, reads a lot of nonfiction (diaries and essays), and leads a family life with pride and satisfaction. EWA KONARZEWSKA-MICHALAK

TO GIVE SOMETHING GOOD OF MYSELF

Professor Paweł Wiliński is a jurist who specializes in criminal proceedings and international criminal law. He heads the Department of Criminal Proceedings at the AMU Faculty of Law and Administration.

He served as an ad hoc judge at the European Court of Human Rights in Strasbourg. He is vice president of the Criminal Law Codification Commission and, since 2016, has been a judge of the Criminal Chamber of the Supreme Court of Poland.

Becoming a full professor motivated Paweł Wiliński to continue his work. Since then, he has published over 70 works, including two monographs, several books as a scientific editor, and collective works. He has also edited an academic textbook.

For Prof. Wiliński, degrees and titles are not an end in themselves. He sees them as steps toward independence and the ability to make his own decisions. "I did what I liked and always tried



PROFESSOR PAWEŁ WILIŃSKI

Faculty of Law and Administration

to do it as well as possible. Thanks to the professors at the Chair of Criminal Proceedings — my supervisor, **Prof. Tadeusz Nowak**, and later **Prof. Stanisław Stachowiak** — I knew that my academic success depended on me and on the quality of my work. This proved to be true. I still consider this to be the foundation of my work," he emphasizes.

For Prof. Wiliński, working at the university fulfills his passion and is an adventure. It is also a way for him to do something important not only for himself, but also for others. "It is also a commitment to give something good of myself," he adds.

Prof. Wiliński actively participates in international research and educational projects, such as Project Sunflowers, which documents war crimes in Ukraine. He is also the originator of the "12 Lessons on the Constitution" calendars, which use infographics to provide accessible information about constitutional guarantees. EWA KONARZEWSKA-MICHALAK

NEVER SAY NEVER

Sebastian Wojciechowski earned his full professorship in 2011. He says that two Prizes of the Foundation for Polish Science, his function as dean, and scientific awards from the Prime Minister of Poland, the European Union, and the U.S. Department of State have taught him humility. These achievements have also reinforced his belief that one should “never say never.”

He learned these values at home and owes a lot to his parents. The most important thing for him in his teaching work is the opportunity to freely exchange ideas with others on common topics. Prof. Wojciechowski’s interest in history stems from family traditions and pride in his grandfather, Józef, a WWII cavalryman who broke through to Warsaw after the Battle of the Bzura in 1939 and continued to fight the Nazi invaders. His interest also derives from the memory of other family members who gave their lives for



**PROFESSOR SEBASTIAN
WOJCIECHOWSKI**
Faculty of Political Science
and Journalism

Poland. Sebastian Wojciechowski’s passion is kobudō, a traditional Japanese martial art that emphasizes practicality over spectacle. It is demanding, and even advanced practitioners say they are still learning and using new accessories, such as the nunchaku. Kobudō remains an important part of his life. “I see in both my sons (Miłosz and Iwo) the seeds of perfection, of both body and spirit, and that is the philosophy of kobudō,” he says. “Maybe there will be someone to pick up the slack.”

Prof. Wojciechowski has always loved sports, especially athletics and running. He also loves tennis. Today, these activities have left him with damaged knee joints. However, he still has dreams. One is to visit seventy countries around the world, and he is already close to achieving this goal. “Things are going to happen.”

KRZYSZTOF SMURA

CHOOSING A GOOD STRATEGY

Professor Katarzyna Zawadzka graduated from the Interfaculty Individual Studies in the Humanities program at Jagiellonian University. After graduating, she moved to the United Kingdom, where she earned her Ph.D. from the University of Southampton. After working for several years as an assistant professor at British universities, she returned to Poland to pursue a grant through the Polish Returns program of the National Agency for Academic Exchange. In 2023, she moved to the AMU Faculty of Psychology and Cognitive Science. Prior to that, she worked at SWPS University in Warsaw for nearly five years. Last year, the President of Poland approved her appointment as a full professor.

Prof. Katarzyna Zawadzka is the head of the Laboratory for Experimental Research on Memory and Metacognition at the AMU Faculty of Psychology and Cognitive Science. Her research focuses on strategies for memorizing and retrieving information,



**PROFESSOR KATARZYNA
ZAWADZKA**
Faculty of Psychology
and Cognitive Science

as well as the interactions between learning and revision. In 2024, she won an award for the best scientific article published in *Memory & Cognition*. The Psychonomic Society recognized her article, “Guessing Can Benefit Memory for Related Word Pairs Even When Feedback Is Delayed.” In the article, Prof. Zawadzka describes a learning strategy that involves guessing the answer to a question as a way to improve memory. However, this method is only effective if the correct answer is presented as corrective feedback.

We asked Prof. Zawadzka what mistakes people most often make when learning. She replied, “Research shows that if we learn something easily and quickly, it usually does not go hand in hand with effectiveness. Memory strategies that require little effort tend to be less effective in the long term than strategies that require more attention, work, or concentration. This is the concept of so-called desirable difficulties. It also has a very strong scientific basis.”

KRZYSZTOF SMURA



AMU POLAR STATION “PETUNIABUKTA”

Svalbard. This is a place close to the heart of every polar explorer, especially AMU researchers. The AMU polar research station has operated here for years.

Krzysztof Smura talks to **Prof. Grzegorz Rachlewicz** from the Faculty of Geographical and Geological Sciences about Petuniabukta and more.

In 2023, the INTERACT (International Network for Terrestrial Research and Monitoring in the Arctic) project, which was implemented under Horizon 2020, came to an end. What has been achieved so far?

Before joining the INTERACT network in 2021 as the AMU Polar Station (AMUPS) and gaining the opportunity to host researchers from different countries, we had repeatedly enjoyed the hospi-

tility of others in various parts of the Arctic. The project was conceived as a way to make 70 scientific bases available for short-term stays, primarily for comparative research in areas with different natural environments. Thanks to our experience in Spitsbergen, we were able to conduct research in Greenland, Alaska, Siberia, and northern Scandinavia. This research resulted

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The AMU Polar Station, Petuniabukta in Svalbard during the summer season.

in several valuable supra-regional publications. Due to Russia's military actions, cooperation with Russia was ruled out, allowing some of the funding to be reallocated, and the project was extended. At the end of the program, the INTERACT Non-Profit Association (INPA) was established to expand the scope of future activities. AMU became a member of INPA, which has the possibility of obtaining grants for further cooperation.

As one of the most experienced polar explorers at AMU, you were there at the beginning of the research station. What was the most difficult thing about setting it up?

The history of our research in Petunia Bay (Petuniabukta) can be divided into three stages. First was the pioneering stage in the 1980s. During this time, we traveled through the Soviet Union and used the historic Skottehytta cabin to conduct unrestricted fieldwork. This allowed us to truly explore the area and set the direction for future research. This period was followed by an interruption and the resumption of activities in 2000. At that time, we had to apply for permission to use the cabin from the Governor of Svalbard. This continued until 2009 when we were denied permission to use Skottehytta and had to decide what to do next.

Those were the most difficult moments, as we tried to secure approval to build our own station with container houses. Thanks to the help of the AMU authorities and diplomatic efforts, however, we finally managed to permanently establish our northernmost facility.

Skottehytta. This name translates to "Scottish cabin." How much does it have in common with the place where AMU's Arctic research began?

That's exactly what it means: "Scottish cabin" or "Scottish hut." The building dates back to the 1910s and was constructed by a Scottish company called the Scottish Spitsbergen Syndicate during the search for mineral resources on Spitsbergen. One summer, while renovating the floor, we found 1917 newspapers under it that had been used as insulation. Unfortunately, they were lost along with our rights to use the hut.

There are probably many anecdotes associated with the cabin. Can you share one?

Oh yes! Skottehytta was our home in every sense of the word. A large group of university faculty and students passed through it, demonstrating considerable imagination. To paraphrase a well-known saying, I might joke, "What happens in Skotte, stays in Skotte." Nevertheless, there was work and fun, joys and sorrows. I still laugh at a video recorded in the summer of 2005 when a polar bear appeared in front of the cabin. The researchers inside were safe, hidden behind walls, and commented on the bear's behavior with some apprehension.

Today, it is probably an open-air museum. Is there a chance to revive this place?

Skottehytta has been entrusted to the care of a local hunting and fishing association that visits it several times during the season. They certainly keep it tidy and renovate it on an ongoing basis. However, it is no longer the same as our annual stays of two to three months. On the other hand, I understand the position of the Svalbard authorities. The hut is a historical monument, like all buildings constructed in this region before 1941. The increasing number of visitors to Spitsbergen has forced the authorities to limit the use of such places to prevent setting precedents. After all, we are dealing not only with a huge increase in tourist traffic but also with scientific expeditions that would love to develop this and similar facilities.

After many years, comfort has increased. Today, we have Petuniabukta. How did the current facilities come about, and what can researchers expect from them?

The most important thing is that we are "on our own turf," and unless the Svalbard Treaty's international community significantly changes the regulations, which must be approved by the treaty's signatories, no one can prohibit us from operating in this area. After obtaining permission, we assembled our container houses in the summer of 2011. The following year, **AMU Rector Prof. Bronisław Marciniak** opened the station and

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gave it university research unit status. The cabins took on their final appearance in 2015 after being moved to the western shore of Petunia Bay. The infrastructure was expanded with a third container, and the total area “under the roof” reached 40 m². An additional 40 m² of space is added during the summer season when a tent hall is set up between the cabins to serve as a warehouse. The station has ten beds in two bedrooms, as well as a room that serves as a kitchen, dining room, living room, and laboratory. The cabins have wood-burning stoves, and we obtain electricity from solar panels. This not only cares for the environment but also increases work comfort because energy for computers, for example, is basically available without restrictions. Remember the phenomenon of the polar day, which we experience at these latitudes.

The AMU Polar Station is inactive for most of the year. How can we take advantage of its benefits year-round?

Our research is seasonal, and we never planned to use the station year-round. However, we did visit Petunia Bay in the spring. It depends on the research programs being carried out. Many observations can now be conducted remotely, and we have sensors in place for this purpose. Another recent development is the use of devices that transmit data via satellite communication systems in real time. Launching a polar station with year-round staffing requires

a significant investment. Poland has two such facilities: the Stanisław Siedlecki Polish Polar Station in Hornsund,

in southern Spitsbergen, and the Henryk Arctowski Polish Antarctic Station on King George Island, Antarctica. Researchers can stay at these stations for a year to carry out their projects. However, each site has its own specific characteristics. This is why we are increasingly integrating a distributed infrastructure, for example through membership in the Polish Polar Consortium, which currently includes 15 universities and the Polish Academy of Sciences. As AMU, we are also a co-user of the BERG Logistics and Research Center in Longyearbyen, the capital of Svalbard. This significantly improves the comfort of our activities in Spitsbergen and fosters national and international cooperation.

How do polar researchers cope with the cold? Petuniabukta is probably not very comfortable.

As I mentioned, the station provides full thermal comfort, and outdoor temperatures in the summer are bearable since they usually do not fall below zero. Of course, you have to be prepared with the right clothing and footwear, but it's comparable to spring or autumn hikes in the Tatra Mountains. You have to prepare more seriously for winter and spring expeditions. However, even then, air temperatures on Spitsbergen rarely drop below -30°C at sea level. In 2024, on the ice dome in the central part of the island, we experienced temperatures below -40°C with fairly strong winds. It's worth mentioning that due to global warming, there's also a problem in the opposite direction. There are already days when the temperature rises above 15°C, and a record high of 20.2°C was recorded near our station. This is a real doomsday scenario for the natural environment.

An aerial view of the ice caps and glacier systems in Svalbard – the Arctic landscape in all its glory.



What major research is being carried out at the AMU Polar Station?

The climate is warming, and this is much more visible in the Arctic than in lower latitudes. This phenomenon is called Arctic amplification. This change has serious environmental consequences, which are our primary focus. Our research mainly concerns contemporary biogeochemical processes on land and at sea, as well as dynamic landscape changes that lead to the reorganization or emergence of new habitats, for example. Paleogeographic research is also an important part of our work because it helps us understand how the environment functioned in the past. We are developing a monitoring network to track changes in individual natural components. This is why we are committed to maintaining research stations and obtaining observation series that are as long as possible and, preferably, comparable to those from other areas.

How does Petuniabukta differ from the Horsund station? Do you complement each other?

We definitely complement each other. What distinguishes our station is its inland location. Unlike other research units, Hornsund operates mainly on the west coast, which has a distinct maritime climate. We have significantly less precipitation and greater temperature contrasts, resulting in unique natural processes. As a year-round station, Hornsund has greater observation capabilities. However, for certain activities, I would recommend Petunia Bay.

Are there any specific places in Spitsbergen that you pay special attention to?

Every potter praises his own pot, so I won't pretend it's not the Petunia Bay area. For one thing, it was my first polar experience, comparable only to wintering in Antarctica. But more importantly, I have traveled extensively throughout this area. When I close my eyes, I see places of unique beauty, such as the Nordenskjöld Glacier cliff and the colorful rock formations on the slopes of Wordeikammen. I could go on and on.

Is there anything that surprises you when you return after a year's absence?

It doesn't surprise me anymore, but during my first expedition in 1987, I was shocked to find that the glacier terminus had receded by 5 m in one month. Every year, we observe the shrinking of the glaciers, and we know that, under current conditions, this process is irreversible. Several places have already lost their glaciers completely, even though 30 years ago they were doing quite well. In today's chaotic world, the tranquility of this place and its wild nature may surprise you, making you want to come back.

Can mere mortals come visit the station? Isn't it quite challenging to get there?

Not at all. We're actually quite well connected to civilization, especially compared to many other places in Spitsbergen. It takes just a few hours to reach us from Longyearbyen, the capital of Svalbard, by fast rigid inflatable boat or yacht. You can reach Longyearbyen on a scheduled flight from Poland. Organized groups

and individual hikers visit us many times during the season, and we always gladly treat them to coffee or tea. However, you need to be properly prepared to reach the station. For example, you should have training in the use of firearms for protection against polar bears. The station also has suitable pontoons for sea transport within the fjord. One good way to start your Arctic research adventure is to submit your own pilot project, which we would be happy to support.

How do you live there? The store is far away. Everything is far away. How do the station staff support themselves?

This is a serious logistical undertaking. At the beginning of the season, a summer expedition lasting about three months is supplied with most of the technical and research-related goods. These goods are transported by ship from Poland to Longyearbyen, the capital of Svalbard. They also purchase fuel and additional food supplies there, which is then transported by local freight to the station. This amounts to several tons of goods in appropriately marked crates and packages. If something is forgotten, the best one can hope for is that someone arriving later for research will bring it. Fortunately, there is satellite communication and mobile phone coverage about an hour's walk from the station.

A silly question, but does someone cook for the expedition members, or are meals a matter of chance?

We cannot afford to hire a cook, so someone is assigned each day to take care of meals and keep the station tidy. It's also a good life lesson if you haven't had such an experience before. I should mention that our expeditions involve many young students who gain scientific knowledge and learn about the harsh life in the polar regions.

If you could name the ten most distinguished Arctic researchers from AMU, who would they be?

I don't want to leave anyone out, but first and foremost, I must mention the individuals who initiated polar research in the 1960s from the generation of my mentors. **Prof. Ryszard W. Schramm**, a mountaineer and explorer; **the AMU Rector Prof. Jerzy Fedorowski**, one of the first to conduct research in Spitsbergen and the Canadian Arctic; **Prof. Stefan Kozarski**, a participant in expeditions to Iceland and Hornsund; **Prof. Piotr Kłysz**, who "discovered" Petunia Bay; **Prof. Andrzej Karczewski**, leader of expeditions in the 1980s and of the research program carried out at that time; **Prof. Wojciech Stankowski**, leader of two expeditions to Petunia Bay, including the first one in 1984; and **Prof. Andrzej Kostrzewski**, a multiple participant in Spitsbergen expeditions and initiator of the AMU research program in Antarctica. In the early days of polar research and even 30–40 years ago, the polar community was almost exclusively male. The first woman from AMU to go to Spitsbergen was **Prof. Anna Stankowska** in 1987. At that time, students also began to participate in the expeditions. Today, the situation has changed significantly, and we can talk about gender parity in all respects. ■



COLLAGEN WITH MATCHA? HERE YOU GO!

Collagen with matcha by SpinBionic —the first AMU spin-off—is already a reality. This innovative product was developed by Prof. Jakub D. Rybka, Dr. Adam Mieloch, and Dr. Eng. Filip Porzucek from the AMU NanoBioMedical Centre.



Prof. Laura Morowitz
with her daughters: Olivia
and Isabelle Schechter.

THE STORY OF ONE PHOTOGRAPH

A photograph from over a century ago, a sprig of lilac, and a forgotten family history —this is how an American researcher of Jewish descent began her extraordinary journey to Poland. The result of the collaboration between scholars and artists is *Lilac/Bez* — a touching photomontage film, i.e. a film made from still photographs, which restores the memory not only of the past, but also of a niche film genre.

EWA KONARZEWSKA-MICHALAK

It all started with a single photograph. The photograph, taken in 1915, shows two boys, their sister, and a lilac branch. One of the children is Julius Morowitz, the grandfather of Prof. Laura Morowitz, an art historian at Wagner College in New York. Prof. Morowitz was planning to come to Poznań for a conference during the COVID-19 pandemic. It would be her first visit to Poland, significant because no one in her family had visited the country of their ancestors since emigrating to the United States in 1921. The researcher was convinced

that there was no trace of her grandparents' presence left in Chmielnik and Stopnica, former Jewish small towns (*shtetls*) near Kielce, where they came from. However, it turned out otherwise. With the support of **AMU Prof. Marek Kaźmierczak** from the Film, Media, and Audiovisual Arts Institute, an expert on the Holocaust, Prof. Morowitz discovered her Polish roots and organized a trip to her family's hometowns.

The beginning was difficult because the only memory of her family's time in Poland was a photograph of lilacs. "Lilacs bloom

in May, so the photo must have been taken that month. I came up with the idea of making a film with a double meaning. The Polish word for lilac is *bez*, which also means ‘without.’ Laura Morowitz liked the idea. I told her that I knew someone who was very knowledgeable about cinema and had experience making documentaries. I was referring to **AMU Prof. Mikołaj Jazdon**, who agreed to join the team. From that moment on, the three of us began working together on the film,” says Prof. Kaźmierczak, the producer and co-director.

Laura’s great-grandparents and grandparents fled the Kielce region to escape severe poverty, but they had modest beginnings in America. Additionally, Julius left with his older brother’s documents. Due to poor health, his brother could not decide to make the long voyage across the Atlantic. The boy was too young to officially board the ship. During the voyage, Julius met his future wife, who lived in the nearby Polish town of Stopnica.

Julius lived knowing until the end that his brother had died in Treblinka because they had switched identities. All of the family members who stayed in Poland lost their lives in this death camp.

Research on the Morowitz family was conducted by freelancers at Yad Vashem and pro bono by Dr. Marek Macięgowski at the State Archives in Kielce. Renowned cinematographer and photographer Piotr Jaxa joined the film crew. Instead of making a documentary about an American woman of Jewish descent traveling to the country of her ancestors, a genre with many existing films, the filmmakers decided to shoot a photomontage film.

“Films made from still photographs are a separate genre in Polish cinema. The first ones, which won awards at international festivals, were made in the mid-1960s and dealt with World War Two. It is a rarely used form found mainly in Po-

land and France and, for a time, in Germany and Canada,” says Mikołaj Jazdon, the screenwriter and co-director. “At the Film, Media, and Audiovisual Arts Institute in Poznań, we researched the history of photomontage films. Dr. Justyna Sulejewska wrote her doctoral dissertation on this topic. This form was familiar to us, so we decided it would be a good tool for telling the story we explore in our film. We decided not to use a film camera; the cinematographer was only to take photos. It was risky because the effect could resemble an ordinary photo display. That’s why I wanted to find an editor who would understand our idea. That’s how we came across a graduate of the Łódź Film School,” he recounts.

That person turned out to be Damian Parobczyk, an extremely creative filmmaker. However it was Piotr Jaxa who was primarily responsible for the film’s success. The cinematographer and co-director of *Lilac/Bez* graduated from the Łódź Film School in the 1960s. He began his career with Krzysztof Kieślowski on the documentary film *Z miasta Łodzi* (From the City of Łódź). Jaxa collaborated working with Kieślowski several more times, most notably on the *Three Colours* trilogy, for which he worked as Second Unit Director of Photography. Primarily, though, he worked on a photography project on set. The result was the „Remembering Krzysztof” exhibition, which toured 14 countries. Professors Jazdon and Kaźmierczak organized this virtual reality exhibition.

Piotr Jaxa (who signed his films as Piotr Kwiatkowski in Poland) collaborated with Andrzej Trzos-Rastawiecki, Tomasz Zygałdo, Marek Piwowski, Sławomir Idziak, and Andrzej Wajda, among other filmmakers. He has lived in Switzerland since the 1980s. Prior to meeting with the Poznań scholars, he was nominated for the Swiss Film Award for Best Cinematography for Greg Zgliński’s *Animals* (2017). He also worked as a cinematographer and photographer in the United States, Canada, India, Brazil, Bolivia, Honduras, Vietnam, Cambodia, Bangladesh, South Africa, Ghana, Egypt, Israel, Jordan, Germany, Great Britain, Romania, Macedonia, Serbia, Portugal, the Czech Republic, Russia, Sweden, Finland, Denmark, France, Switzerland, Ireland, Austria, Spain, China, Italy, Jamaica, and Mauritius.

“He was captivated by the fact that our film would be based on photography. Working with him was a unique experience. He is a living link to the history of cinema, having started out with Kieślowski and made a series of documentaries we wrote about while researching Polish cinema. His photographs of the synagogue and the House of Shadow (symbolizing the Holocaust) in Chmielnik and of the memorial site of the former Treblinka extermination camp are key to our project,” emphasizes Prof. Jazdon.

From the beginning, the filmmakers wanted to take photos in May when the lilacs were in bloom. “The silent heroes of the film are the landscape and nature. Everything changes—places, architecture, and traces of human presence are destroyed. But the seasons remain unchanged, the same as when the former inhabitants looked at the blooming lilacs,” explains Mikołaj Jazdon. Nature was also meant to be a link to the past, especially through the image of spring in the Świątokrzyskie shtetl.”

Photo: Władysław Gardasz



AMU Prof. Mikołaj Jazdon and AMU Prof. Marek Kaźmierczak, co-authors of the project.

In the context of research on memory and post-memory, the team felt it was important that the story be told by women—Laura Morowitz and her adult daughters, Olivia and Isabelle Schechter—and that nature be a witness to the collapse of the human world.

“This context is strongly implied in the title itself. There is tension between the presence of the witness and the absence of what—or who—is no longer there. From a poetics perspective, transitions in the montage between photographs, focus on detail, and pauses are particularly important in photofilm. These formal elements enable viewers to ‘go with the story,’ giving them time to anticipate what will be revealed and endure the pause between photographs. It is a contemplative film,” notes Marek Kaźmierczak.

Lilac/Bez was co-created by its protagonists. During the trip, Laura Morowitz wrote poems and notes, some of which were included in the script and off-screen narration. Olivia Schechter, a singer in her personal life, composed the music, played the guitar, and sang in the recently discovered *mikveh* in Chmielnik. One of her songs was played at the end of the film, and a photo taken in this unique space was used for the project’s promotional poster.

The American women visited Chmielnik. Before the war, Jews made up over 60% of the town’s population. The former synagogue building now houses the Świętokrzyski Shtetl Museum, which honors the memory of the former residents. The women were surprised by the renovated building’s glass *bimah* and the warm welcome they received from the hosts, as they had expected to find emptiness. There were many emotions. In addition to the difficult emotions related to visiting the house commemorating the Kielce pogrom or Treblinka, there were positive emotions as well. They discovered a world in which presence and absence define existence. Therefore, they felt at home and connected to their roots.

“After this trip, Isabelle and Olivia began to reconnect with their Jewish roots,” says Prof. Kaźmierczak. Prof. Jazdon adds, “For them, it was an experience of Poland, where they were met with great warmth. They were very impressed by the beauty of our cities and towns. They were filled with nostalgia, but despite everything, they felt at home here.”

The film could not have been made without the support of Adam Mickiewicz University in Poznań and Wagner College in New York. The filmmakers obtained production funds partly through crowdfunding and partly through a grant from the Hadassah Brandeis Institute in Boston, as well as from donor and executive producer Eric Schechter.

“We are extremely grateful for the help of our university authorities. From the outset, **Rector Bogumiła Kaniewska** agreed that AMU would provide the project with legal and accounting services in Poland. We also experienced the kindness of the dean of the Faculty of Polish and Classical Philology at the time, **Prof.**

Tomasz Mizerkiewicz, as well as the director of the Film, Media, and Audiovisual Arts Institute, **Prof. Wojciech Otto**. I head the AMU McLuhan Communication Study Center. Thanks to this structure, I was able to manage finances with greater flexibility, which facilitated the implementation of the project. I was especially grateful for the support of **Lidia Lipiecka** and **Anna Szafrńska**,” notes Marek Kaźmierczak.

The team also benefited from the support of the Stanisław Lem Experimental Media staff members: **Dominik Cywiński** and **Kacper Jasiński**. They provided the necessary equipment and expertise for filming, sound recording, and interviews with the protagonists.

The film has received recognition at international festivals. It was officially screened in Asbury, received a nomination at the Philadelphia Jewish Film Festival, reached the semifinals

in the competition for Best Short Film in Rome, and was nominated for the Short Film Competition Finals in Vienna.

“We are still waiting for four more decisions,” says the producer. “For our debut, without the support of a professional production company, I think this is a really great achievement.”

The film premiered in Poland on May 26 at the Pałacowe Cinema in Poznań. The filmmakers

are planning screenings in Gdańsk, Oświęcim, Chmielnik, and Warsaw. In the fall, the film will be screened at the University of Massachusetts Amherst in the United States. On July 17, there will be a screening and discussion at the Museum of Jewish Heritage—A Living Memorial to the Holocaust in New York City. Alongside the United States Holocaust Memorial Museum in Washington, D.C., it is one of the most important institutions dedicated to commemorating the Holocaust in the U.S.

“The theatrical premiere is significant not only for us but also in the broader context of Polish documentary film history. After all, photo films and short documentaries were created with the big screen in mind, not for television broadcast or laptop viewing. Only a cinema screening allows the photographs to resonate fully — they then become like billboards, enlarged to a scale the photographer often didn’t imagine. In this form, arranged in a narrative, they cease to be just images — they become cinema,” the screenwriter emphasizes.

The three-year production of the documentary brought unexpected results. “Laura Morowitz has extensive contacts among American scholars of Jewish origin. When a film like this is made under a university’s auspices, it reverberates in this community. By participating in the production, we become ambassadors of our own scholarly community. We and AMU represent a different Poland than the one that often emerges from simplified, stereotypical images,” concludes Prof. Jazdon. ■

*The silent heroes
of the film are
the landscape and nature.*

3D TISSUE ENGINEERING: RESEARCH THAT TRANSFORMS MEDICINE

At first glance, this compact device could be mistaken for an ordinary printer. For **Dr. Jagoda Litowczenko-Cybulska**, the 3D volumetric bioprinter is the starting point for fascinating research into the creation of tissue constructs. She moved to the AMU Center for Advanced Technologies (CAT), where she is working with a newly formed research team on two large projects. These projects are bringing us closer, step by step, to solutions that, until recently, seemed to belong to the world of science fiction.

INTERVIEW BY **MAGDA ZIÓŁEK**

A new team, a new lab, a new beginning?

You could say that, although we have been operating here since last year when I officially moved to the CAT. I am extremely happy with this change. I was given the opportunity to design a laboratory exactly as I had dreamed of, with complete freedom

to decide the layout of the rooms, their functions, and the nature of the individual sections, which cover both bioimaging and mechanical testing of materials.

We have laboratories with 3D printers, as well as separate sections for working with stem cells. This minimizes the risk of contamination between teams.

In biology, this is extremely important – a well-organized, dedicated space guarantees the safety and high quality of the research conducted.

What is the difference between traditional 3D printing and 3D bioprinting, which uses living cells?

Traditional 3D printing involves applying material, usually thermoplastics, layer by layer until a three-dimensional object is formed. These are non-biological plastic structures. With this method, you can print an ordinary utility item, such as a figurine or a technical element.

3D bioprinting works completely differently.

It combines spatial printing technology with biology and materials engineering. Here, we print with biomaterials, usually hydrogels – substances with a high water content that can suspend living cells. During printing, the material containing cells forms into a three-dimensional biological construct.

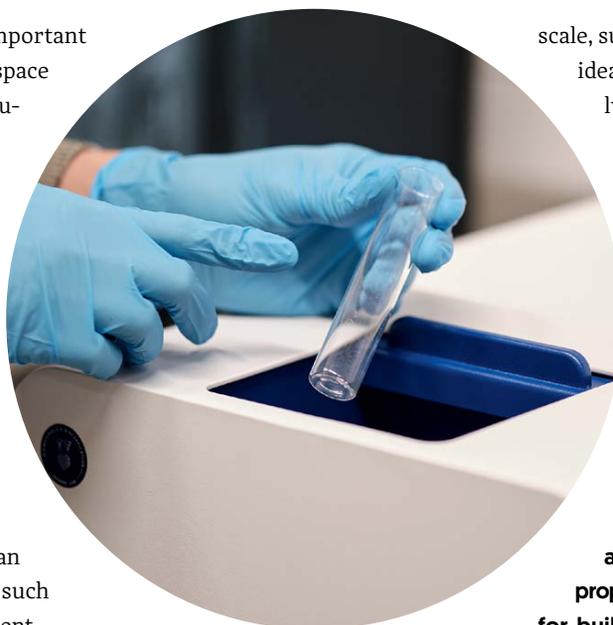
The key stage is hydrogel cross-linking, which creates a stable polymer network that gives the material the proper structure and durability. If this process is not done correctly, the structure may dissolve during cell cultivation. Therefore, bioprinting requires great precision and knowledge of biology, chemistry, and materials engineering. One must know how to produce and modify materials, combine them with cells, and achieve the desired biological effect. This is a highly interdisciplinary task that requires careful planning.

There are many methods of 3D bioprinting. The most common is 3D extrusion bioprinting, in which a hydrogel containing cells is applied layer by layer to create cylindrical structures. I worked with this method during my Marie Curie Individual Fellowship project in Spain.

I also purchased a volumetric printer for the new laboratory. This is an entirely different type of bioprinting. In this method, the 3D structure is formed through the precise cross-linking of the hydrogel with laser light. The entire volume of the hydrogel-filled vessel is irradiated simultaneously – hence the name, volumetric printing.

This technology is based on the opposite principle of computed tomography. While a tomography device rotates around an object to collect its cross-sections, we design these cross-sections and “project” them into the hydrogel. A system of mirrors and a laser beam only irradiates the fragments of the material that are to be cross-linked. As a result, a precise, three-dimensional biological structure is created within a few seconds.

This method enables the extremely fast and precise production of three-dimensional constructs in sterile conditions using bioinks. With it, we can print objects on a micrometer



scale, such as tubular vascular structures ideal for our projects. I had previously tried to achieve similar effects using other methods, but none of them were as accurate. In my opinion, it is currently the best equipment for this type of research.

In your interviews, you compare hydrogels to highly hydrated materials with a gel-like consistency whose mechanical properties resemble those of soft tissues. What exactly are these materials, and what properties must they exhibit to be used for building living tissues and vascular constructs?

In our research, we are trying to produce vascular grafts, which are cylindrical structures commonly referred to as “tubes.” These conduits are filled with various types of cells, such as cardiomyocytes or smooth muscle cells, but endothelial cells play a key role in them. Endothelial cells line the inside of blood vessels and are responsible for their proper functioning. They enable proper blood flow, and damage to them can have serious consequences.

For example, studies show that when a stent is inserted into a patient’s coronary system, it can mechanically damage the endothelium, exposing the vessel’s surface. A stent is a metal cylindrical structure that keeps the vessel open. Blood platelets then accumulate in these areas, promoting the formation of blood clots, which can lead to a stroke. Therefore, maintaining a continuous monolayer of endothelial cells on the inner surface of blood vessels is crucial.

How can blood vessels, which are delicate and complex structures, be recreated in laboratory conditions?

Our research focuses on creating blood vessel models that allow us to study their function, fluid flow in a perfusion system, and response to various factors, such as drugs. This makes it possible to develop personalized medicine. This process uses induced pluripotent stem cells, which are adult cells that have been reprogrammed to behave like stem cells and can differentiate into different types of tissue.

These cells are most often obtained from fibroblasts taken from the patient’s skin. Genetic engineering techniques restore the fibroblasts to an undifferentiated state and direct them to develop into endothelial cells or other necessary cells. The resulting cells retain the characteristics of the original patient, including genetic diseases, enabling us to study their response to treatment.

As part of the Opus LAP project, which will begin next year in collaboration with the Czech Academy of Sciences,

we are developing a new generation of stents. Our goal is to create a biocompatible, hydrogel-based material that will not damage the endothelial layer. Additionally, we plan to incorporate controlled-release drugs into these stents to promote endothelial regeneration after surgery and prevent overgrowth of other cell layers. This is basic research; we are analyzing this type of hydrogel in combination with drugs for the first time.

As part of the First Team FENG grant from the Foundation for Polish Science, in cooperation with the University of Colorado Boulder, the University of Valladolid, Åbo Akademi University, and the Bellvitge Biomedical Research Institute, we aim to develop a new type of bioink — a hydrogel that enables the bioprinting of structures containing living cells. This bioink must allow for adequate nutrient diffusion so endothelial cells can form internal vascular networks.

This is important because gelatin methacryloyl, a well-known material used in tissue engineering, has a fundamental limitation. In large structures, such as those with a diameter of 5 cm, cells located deeper inside do not receive sufficient oxygen and nutrients. This causes them to die and form a necrotic core. Under these conditions, necrotic zones form in the central part of the construct due to limited access to oxygen and nutrients. Therefore, in our project, we are developing two-component hydrogels that contain not only basic cells, such as fibroblasts and cardiomyocytes, but also endothelial cells that can form a micro-network of capillaries. This allows the entire construct to be vascularized, ensuring that the cells remain alive even in its interior.

This solution has many potential applications. For example, it could be used in organoid research, where a lack of blood supply often leads to cell death in the deeper layers. Our material could be used to cultivate organoids, enabling the creation of long-lived, fully functional ones. It also works well in organ-on-a-chip systems and tissue engineering. For instance, it can be used to create thick skin, muscle, and cardiac patches. Ultimately, we aim to develop a bioink that enables long-term cell cultivation and full vascularization of tissues, bringing us closer to applying them in clinical practice.

You mentioned cardiac patches. How close are we to being able to create a new liver this way, for example?

There is still a long way to go before we can grow complete organs, especially complex ones like the liver. It is made up of many types of cells and has an extensive network of vessels, making it extremely difficult to recreate. For this reason, we are currently focusing

on simpler structures that could serve as a foundation for more complex organs in the future.

The most important thing for us is that the constructs created in the laboratory contain the right cells and have mechanical properties similar to natural ones — they must be flexible, durable, and stable. We analyze them in multiple stages, examining their composition and behavior during cultivation. It is a long process, but our first publications are already in the works and demonstrate that we are heading in the right direction.

Simpler constructs, such as muscles, thicker pieces of skin, and cardiac patches, are much closer to realization than full organs. The main challenge with these is that the thicker the hydrogel, the worse the cells function in its deeper layers. That is why we are currently working on smaller, less complex structures that could serve as a foundation for reconstructing more complex organs in the future, including the liver.

We are getting closer and closer to creating truly functional tissues. While it is possible to “print” a heart today, it will not function like a real one because the relationships between different cell types are extremely complex. Our research focuses on developing constructs that are functional and suitable for long-term cultivation and drug testing. We want them to retain their elasticity and have properties similar to those of natural vessels, such as the aorta or coronary arteries, after a month or two. The entire multi-stage process involves cell selection, biomaterial design, bioprinting techniques, and mechanical property analysis. Our goal is to obtain structures that closely resemble natural tissues.

From talking to you, it's clear that you're extremely committed to your research. What drives you?

I'm passionate about my work, so it's challenging for me to discuss “working above and beyond.” That's simply how I operate. I always work intensely and for long hours. It was the same in Spain, where I sometimes spent over ten hours a day in the lab.

I am determined to solve specific research problems and see projects through to completion. If my ideas receive funding and positive reviews, it means they have potential. I believe their implementation could open new avenues in our field. That's why I have clearly defined goals from the beginning—I know what I want to achieve and how to do it.

I usually start alone, and the team forms around the project. I am happy to say that I have managed to recruit highly committed people. It's crucial that the research group members don't just treat it as a job or a temporary stage in their careers — a Ph.D. or post-doc — but rather as an opportunity to make a real impact on scientific development. ■



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NANOPLASTICS UP CLOSE

Klaudia Krysiak-Smułek, M.Sc., is a chemist who is just beginning her academic career. As a doctoral student in **Professor Tomasz Grzyb's** research group at the AMU Faculty of Chemistry, she is studying the impact of nanoplastics on aquatic organisms. A recently published paper that she initiated and co-authored has a charming personal touch: the research used two strains of *KlaKry* bacteria that were isolated from Lake Kierskie by her husband, Dr. Wojciech Smułek, and named in her honor.

MAGDA ZIÓŁEK

While we most often associate plastics with bottles and packaging, Klaudia Krysiak-Smułek points out that microscopic plastic particles are present almost everywhere.

Nanoplastics are tiny fragments of plastic measuring nanometers—billionths of a meter—formed by the decomposition and abrasion of larger items, such as bottles or plastic film. Interestingly, they can also originate from water used to wash polyester clothes.

“The difficulties in studying plastics stem from their chemical specificity,” says the doctoral student. “Plastics are polymers, i.e., organic compounds with a structure similar to that of living organisms. Therefore, it is difficult to determine unequivocally using traditional methods of chemical analysis whether a given fragment of biological material actually contains plastics. This chemical similarity means that scientists still face a serious

challenge: how to effectively identify plastics in biological samples,” she explains.

Klaudia Krysiak-Smułek took on this challenge by developing a method to visualize polyethylene terephthalate (PET) particles in freshwater microorganisms.

The technique involves labeling nanoplastics with special nanoparticles that up-convert photons. When exposed to near-infrared light, the labeled nanoplastics glow green, making them much easier to identify.

Since biological material — such as tissues, plants, animals, or bacteria — does not emit light in the visible spectrum when exposed to near-infrared light, areas with labeled nanoplastics are easily identifiable.

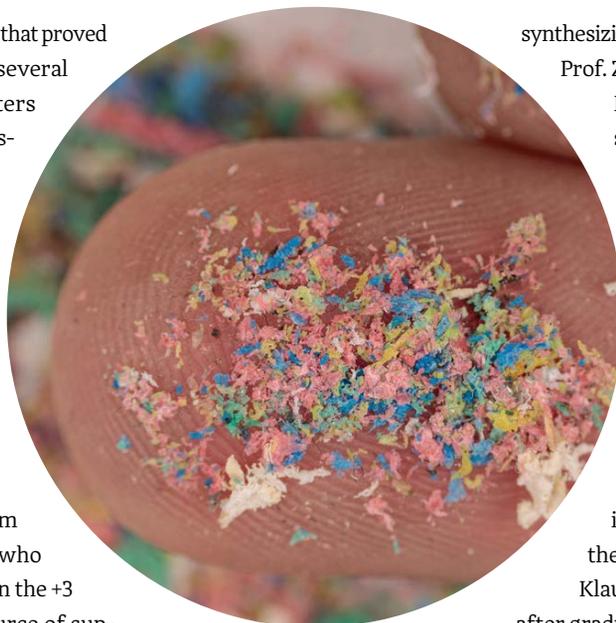
Klaudia Krysiak-Smułek notes that the most difficult stage of the research was obtaining labeled nanoplastics. “Once I had developed a method for obtaining unlabeled nanoplastics, it was

time for the labeled version — and that proved to be very difficult. It took me several months to refine the parameters to obtain a stable colloid.” The plastic and nanoparticles often stuck together, forming lumps instead of a homogeneous colloid. I had dozens, maybe even hundreds, of failed attempts. It was a really difficult time. I began to doubt whether I could achieve this with this method,” she says.

Her collaboration with **Prof. Zbigniew Hnatejko** from the AMU Faculty of Chemistry, who prepared europium complexes in the +3 oxidation state, was a great source of support. Klaudia Krysiak-Smułek attempted to synthesize nanoplastics labeled with this complex, which proved to be more effective. “This time it went much better. I quickly developed a method, and my morale improved immediately. When I returned to working with nanoparticles, I finally managed to select the right parameters,” she recalls.

The publication presents two approaches to nanoplastic labeling: using upconverting nanoparticles and a europium complex. Initially, the plan was to study the impact of nanoPET on aquatic organisms using freshwater organisms — daphnia and rotifers — because they are transparent model organisms that allow for excellent observation of green light emission. With the consent of project manager Prof. Grzyb, research on environmental bacteria was added to the concept as well. “The idea to start with bacteria was mine,” explains Klaudia Krysiak-Smułek. “They are basic model organisms, so I decided to start the research with them before moving on to more complex freshwater organisms.”

She emphasizes that the publication, the first building block of her future doctoral dissertation, would not have been possible without the support of several people. She naturally lists her supervisor, Prof. Tomasz Grzyb, a nanoparticle researcher; **Dr. Wojciech Smułek**; and **Prof. Ewa Kaczorek**, bacterial researchers. The article’s co-authors include **Dr. Dominika Przybylska**, who was responsible for



synthesizing up-converting nanoparticles, and Prof. Zbigniew Hnatejko.

Interestingly, the paper’s findings show that nanoplastics are not always harmful; sometimes, they stimulate bacterial growth.

As the researcher mentions, this came as a surprise to the team at first. However, after reviewing the literature on the subject, they found that other researchers studying nanomaterials had observed similar effects. Furthermore, the results varied depending on the bacterial strain on which the experiments were conducted.

Klaudia Krysiak-Smułek came to AMU after graduating from the Poznań University of Technology, where she wrote her engineering and master’s theses on synthesizing phenol-formaldehyde resins. She then decided to continue her education. She found a job offer for Prof. Tomasz Grzyb’s project researching nano- and microplastics, specifically ways of visualizing these particles in biological materials. “This proposal seemed perfect to me,” says the doctoral student. “Plastics are a very topical issue today, and the demand for this type of research is enormous.”

Klaudia Krysiak-Smułek is young, but she is focused on science. She admits that she would like to tie her future to working at a university and conducting research. “I would like to stay in science and find a job at a university. My goal is to continue my research on nano- and microplastics. This year, I submitted a proposal to the National Science Center’s PRELUDIUM grant competition combining the topics of my engineering, master’s, and doctoral theses. I want to study phenol-formaldehyde resin microplastics, and I am waiting to hear back about the project’s acceptance. That’s what I’d like to do in the future,” adds the young researcher. She is actively involved in the Council of Doctoral Students of the AMU Doctoral School of Exact Sciences. She emphasizes that this involvement allows her to broaden her horizons and get to know the academic environment better. As a young researcher, she is eager to share her reflections on the challenges doctoral students face. ■

Klaudia Krysiak-Smułek, M.Sc., is a Ph.D. candidate in the AMU Faculty of Chemistry. As part of her doctoral project, she is working on obtaining nanopolyethylene terephthalate (nanoPET) and studying its impact on small aquatic organisms. She is also developing methods for labeling nanoplastics with lanthanides, including upconverting photonic nanoparticles. This allows her to track the behavior of nanoplastics in the environment and in organisms. Through international collaborations, she completed two internships at the University of Aveiro in Portugal: one in the Department of Biology and one at the Center for Environmental and Marine Studies (CESAM). She was supervised by Prof. Isabel Lopes and Dr. Cátii Venâncio. She also completed an internship at the Faculty of Chemical Technology at the Poznań University of Technology under the supervision of Prof. Ewa Kaczorek.



The PPNT Research Team: Maciej Sychalski, M.Sc., Dr. Marcin Śmiglak, Dr. Rafał Kukawka

PLANT PROTECTION CAN BE MORE EFFECTIVE

Scientists from the Poznań Science and Technology Park (PPNT) of the Adam Mickiewicz University Foundation have developed active substances called designable salicylates. These substances prevent the negative effects of abiotic and biotic stresses while stimulating plant growth and development.

Krzysztof Smura talks to **Dr. Marcin Śmiglak**, co-creator of the technology, head of the PPNT Materials Synthesis Team, and vice president of the AMU Foundation, about the research, discoveries, and commercialization process.

In 2018, we reported that the PPNT received 4 million PLN for research as part of the Team-Tech project. Are the current activities a continuation of this project?

Yes, the Team-Tech project of the Foundation for Polish Science was a true breakthrough for us. Initially, we identified a group of chemical compounds that could increase plant resistance to disease. However, reports in the literature indicated that

stimulating plant resistance in this way may negatively affect growth processes and reduce the final yield.

Our research focused on the extent of this negative yield impact and whether plants whose resilience is stimulated by our active substances would produce a higher yield in addition to being healthier than unprotected plants. A key factor in this approach is that effective plant protection is becoming increasingly difficult

due to restrictions imposed by European Union legislation on plant protection products.

What makes ionic liquids so fascinating?

They are organic salts with almost unlimited possibilities for structural modification. They consist of a positively charged cation and a negatively charged anion that can be combined to create a molecule with the desired properties. This “designability” makes ionic liquids widely used in many areas of science and industry. Recently, our research team has primarily focused on their use in agriculture and materials engineering.

In agricultural applications, one crucial property of a molecule, apart from its biological activity, is its solubility because it significantly affects a substance’s bioavailability and effectiveness. Selecting the right ions can improve this feature, increasing the bioavailability of the substance to plants while often reducing the required dose of the active substance. This is the simplest modification, but there are many more possibilities. For example, we can introduce additional functions, such as fungistatic activity or controlling the release rate of the substance. My team’s other area of research is using ionic liquids to modify polymers and produce composite materials. However, that is a topic for another conversation.

So, the creation of a molecule is just the beginning of the journey. Then, you still have to develop the technology for its practical use.

Exactly. From a chemical perspective, we can create a wide range of substances by combining different anions and cations, some of which may have the desired effect. The key stage, however, is designing an appropriate research plan. This allows us to narrow down the number of molecules analyzed at the outset of conducting simple experiments. This enables us to select substances with the greatest potential and conduct detailed research or research and development work to determine the best-suited molecule for a specific application.

I have noticed that each scientist on my team has a “favorite” molecule that they designed themselves and treat with great commitment. Their belief in its potential motivates them to continue developing it, often going beyond the typical responsibilities of a chemist involved in synthesizing new compounds.

Am I correct in understanding that the Team-Tech project made it possible to implement such a comprehensive research and development plan?

As part of the project, we developed technology for using so-called designable salicylates,

which allows us to stimulate plant growth and development while activating their natural defense mechanisms. Using these substances appropriately stimulates natural defense mechanisms and plant growth and development simultaneously. We have also demonstrated that these compounds effectively reduce the negative effects of abiotic stressors, such as drought.

It is particularly important to note that the mechanism of action of these substances is universal; we observe a beneficial effect on various plant species, though not all have been tested. So far, we have focused on the most economically important crops, but we plan to extend our research to other species. We are certain that our solution works; now, our goal is to confirm its effectiveness in field experiments on various plants and refine parameters such as dosage and number of treatments.

You recently obtained another patent for active substances developed for agricultural use. The number of these patents is impressive. Does this translate into specific implementations?

In my opinion, a patent should not be filed unless there are real prospects for commercialization. Analyzing such prospects is also crucial for determining the territorial scope of future protection. If we decide to seek patent coverage only in Poland, we are essentially giving away all our generated knowledge, which foreign companies can then use in areas not covered. Therefore, it is not enough to simply patent a solution; it must be secured in a way that allows for commercial use. Therefore, it is sometimes more reasonable to refrain from publishing the results or filing a patent application until a strategy for patenting and subsequent commercialization has been developed, which should be a strong argument for incurring the costs of patent protection covering more than just Poland.

What did the transition from patent to commercial use look like in practice?

Thanks to the determination of **Dr. Rafał Kukawka and Maciej Sychalski**, who have worked with me on developing this technology since the beginning of the Team-Tech project, the commercial use of this patent was possible. Although I initiated this research and managed the project, I must emphasize that their enormous commitment and determination brought this technology to its current stage of development. Then, together with experts from the PPNT, we developed a model for commercializing the technology. These efforts resulted in the establishment of the spin-off company ATI, of which Dr. Rafał Kukawka and Maciej Sychalski are the primary

WHAT IS GREEN CHEMISTRY?

Paul T. Anastas is considered one of the founders of green chemistry. In 1991, he and John C. Warner formulated the twelve principles of green chemistry. They pioneered a new way of thinking about chemistry’s role—not only as a science that creates new substances, but also as a tool for protecting the environment and human health.

Green chemistry is defined as designing chemical products and processes to minimize or eliminate the use and generation of hazardous substances. The key idea is to prevent pollution at the source rather than remove its effects. With the emergence of these principles, the era of responsible chemistry began—chemistry that combines scientific innovation with care for the planet.

shareholders. The PPNT granted ATI an exclusive license for the commercial use of the created intellectual property. ATI has already granted two sublicensing agreements covering the use of the developed active substances, which are components of commercially available products. Our commercialization model required ATI to remain independent from the PPNT. This allows ATI to further develop its technology through research and development projects within research consortia involving the PPNT.

What is most important in the work of a researcher?

In scientific research, you always need a goal. Sometimes the goal is purely scientific or exploratory, and other times it is implementation-focused. Each path is worth pursuing because our commitment to developing knowledge proves our value to society. ■

Dr. Marcin Śmiglak

The vice president of the AMU Foundation and head of the PPTN research team was born in Poznań. He graduated from the Faculty of Chemical Technology at Poznań University of Technology. Even then, he knew he wanted to pursue a scientific career abroad. He applied to many research centers and received offers from Imperial College London and the University of Alabama. He chose the latter and began working under the supervision of Prof. Robin Rogers. From 2003 to 2010, he researched the multifunctionality of ionic liquids, including their use in pharmaceuticals, high-energy materials, and plant protection products. In search of new challenges and opportunities to apply his research findings, he accepted a position as production director at IoLiTec, a German research and development company that synthesizes ionic liquids for companies and research teams worldwide, in 2010. Over time, however, his passion for research and his desire to create his own research team in Poland—preferably in his hometown of Poznań—took over. To make this possible, he needed funding. There was only one solution: to apply for grants from the Polish National Science Center and the Foundation for Polish Science. He won both.

The first grant was for basic research in chemical thermodynamics and analytical chemistry. The second grant was for work on plant resistance induction technology, which eventually became the basis for developing designable salicylates.

Scientists from the Poznań Science and Technology Park (PPNT) first recognized the implementation potential of this project: **Prof. Hieronim Maciejewski**, the current president of the AMU Foundation; **Prof. Bogdan Marciniak**, the former president of the foundation; and **Prof. Jacek Guliński**, the former vicepresident of the foundation. These three chemists, all of whom had extensive scientific and implementation experience, saw great commercialization potential in the proposed research and recommended establishing a research team at the PPNT. As it later turned out, it was a good decision.

WITH A HEART FOR HEART PATIENTS

Dr. Monika Stefańska recently relocated to Poznań. After moving from Kraków, she joined the AMU NanoBioMedical Center, where she will lead a project that will be of great interest to cardiologists. Specifically, she will investigate whether metformin has a cardioprotective effect in a mouse model of autoimmune myocarditis.

INTERVIEW BY KRZYSZTOF SMURA

While preparing for our conversation, I found you listed on the website of the Department of Clinical Immunology at the Institute of Pediatrics of the Jagiellonian University Medical College in Kraków. Did a Google search do the trick?

Yes, it did. I was associated with Jagiellonian University for several years. My job required me to change fields slightly; I transitioned from being a biotechnologist working in a laboratory to being a bioinformatician. At the time, my project focused on researching myocarditis using single-cell RNA sequencing. Advanced bioinformatic analysis is an integral part of this method. So, I took the bull by the horns and learned it myself.

Photo: Władysław Gardasz



By its fruits you will know its worth?

Absolutely. That's why I'm here today at the NanoBio-Medical Center in Poznań, still working on transcriptomics technologies, i.e., studying gene expression profiles with single-cell resolution.

What is transcriptomics?

Building on your fruit analogy, traditional transcriptomics can be explained using the example of a fruit smoothie. First, we blend all the fruit together. Then, in single-cell transcriptomics, we have a fruit salad where we know the individual fruits and can separate the blueberries from the strawberries, for example. The final stage is spatial transcriptomics. With this method, we not only know the individual fruits, but also their location. Single-cell transcriptomics involves working with a large data set because there are several thousand genes on the surface of each of the thousands of cells, and processing all the data is a lot of work.

Thank you very much. I'll keep that in mind when I make my next fruit smoothie. But seriously, because this is a serious matter. In 2022, you received a National Science Center MINIATURA 6 grant. How similar was this project to your current one?

Previous research examined how gene expression profiles change during autoimmune myocarditis in a mouse model using spatial transcriptomics. It was a pilot experiment because no one had done this before in this experimental model. At that time, we did not test the effect of drugs or substances on inflammation.

However, certain drugs are known to have a cardioprotective effect in cardiovascular diseases. One example is metformin, a drug commonly used to treat type 2 diabetes, which has a beneficial effect on the heart;

however, its mechanism of action is unknown. Metformin activates many signaling pathways, so investigating this process would be beneficial. This led to the idea of taking the research further.

What beneficial effects does metformin have on the heart?

It lowers blood sugar levels. People who use it are less likely to develop myocarditis or other cardiovascular diseases. Our goal is to investigate how metformin affects the heart and which cells it influences. There are several types of cells in the heart: those that appear in response to inflammation and those that reside there on a daily basis. It would be interesting to see how inflammatory cells communicate with resident cells and the role metformin plays in this process during inflammation.

The research will be conducted on mice. How?

We will induce inflammation through injection. After about two weeks, the effects, i.e., inflammation of the heart muscle, will be observed. This disease is insidious because it has no specific symptoms and is difficult to diagnose. Administering metformin at this point may result in peripheral blood changes that facilitate an earlier, less invasive diagnosis of the disease.

The project is scheduled to last three years. Will you be working as a team?

Yes. I am joined by Prof. Jakub D. Rybka, Dr. Monika Mańkowska-Woźniak, and Weronika Giebel, a doctoral student. I have had the opportunity to work with this team on previous joint projects, and they are fantastic. I am not worried about the research equipment either. When I submitted the project to AMU, I knew the working conditions would be excellent. ■



GAME-CHANGING TECHNOLOGY

Prof. Krzysztof Dyczkowski, the dean of the AMU Faculty of Mathematics and Computer Science, discusses how computer science in Poznań supports cancer diagnostics, competitive sports, and the development of new technologies.

He also talks about the faculty's staffing challenges.

INTERVIEW BY EWA KONARZEWSKA-MICHALAK

What project did you receive an award for in the first edition of the AMU Foundation's "Excellence in Science – Usefulness in Practice" competition?

At that time, I was working on several research projects, but the most important one involved collaborating with doctors from the Poznań University of Medical Sciences. We were working on diagnosing ovarian cancer, which is extremely life-threatening because it is often detected too late.

We considered how to use computational intelligence to support doctors in the diagnostic process. I specialize in methods of processing incomplete and imprecise information, which is exactly the kind of information available in medicine. This allowed us to develop a system that, after collecting the patient's medical history, suggested to the doctor which additional tests should be performed.

The system was implemented in clinical practice and supported diagnostics for years. We received an award for it at the Polish Gynecology Congress in Łódź. A demo version is still in use today.

You are currently working in slightly different areas.

The starting point is that computers understand the world in binary terms. They excel with numbers but struggle with imprecise concepts such as "fast," "warm," or "young." These concepts are intuitive for humans but not for computers.

That is why I focus on modeling imprecise information. I use fuzzy set theory, which allows me to mathematically describe sets whose elements have degrees of membership. Thanks to this theory, a system can simultaneously recognize that someone is "somewhat young and somewhat old."

This approach is used in decision-making systems that must operate despite incomplete or ambiguous data. Since the 1990s, the Japanese have used it in everyday devices, ranging from washing machines to smart gearboxes. Today, neural networks and large language models dominate, but computational intelligence, including fuzzy sets, is still important.

In my research, I combine these methods with computer vision, image and sound analysis, and sports data analysis, among other things.

How does your faculty collaborate with the Lech Poznań Football Club?

The club has its own research department, and our doctoral student is its head. Together, we develop algorithms that improve the team's performance. Currently, we are working on analyzing the physical preparation of soccer players. Sensors in the players' jerseys record their workload during training sessions and matches. Based on this data, we create models that predict injury risk, optimize workload, and support the training process. Currently, we are implementing a system that monitors data in real time.

Our second area of focus is football scouting and the transfer market. We analyze match data and player tracking systems to create player evaluation models, also known as digital scouting tools.

We also conduct tactical analyses, and our methods are used in sports other than soccer. We collaborate with the AMU fencing club, and we are researching speedway. We also have a Ph.D. student who is a professional speedway commentator for Canal+.

Currently, the sports research team consists of three academic staff members, six Ph.D. students, and several graduate students.

I have heard that you manage the faculty in a modern way. What changes have you introduced?

I ran an IT company for 25 years, so organizational issues are important to me. My team and I have set a goal to make the Faculty of Mathematics and Computer Science the best-managed faculty at AMU.

We have streamlined procedures, created a transparent structure of responsibility, and implemented several IT solutions. These changes did not require significant investments, but rather improvements to existing processes. We revamped the website and developed the intranet so that employees and students could quickly find information without visiting the dean's office. We were the first to launch a large-scale electronic application system in USOS, and now lines at the dean's office have practically disappeared.

We are also investing in building infrastructure and photovoltaic systems to reduce energy costs. These results are the product of the efforts of the administration, IT specialists, and building managers. I only act as a coordinator.

What challenges does your faculty face today?

The upcoming evaluation is extremely important because its results directly affect funding. The biggest challenge is the generation gap. Many professors have retired in recent years, and younger researchers are just starting to build their careers. Competition for

salaries in the private sector is tough, so some people choose to work for companies after completing their doctorates. We are trying to counteract this trend. At the Artificial Intelligence Center, led by **Prof. Krzysztof Jassem**, young researchers can collaborate with companies on projects that combine scientific and commercial activities. This model has proven successful — we have retained several valuable employees thanks to it. However, the lack of stable teaching staff remains a major threat. If we do not reverse this trend, there may be a shortage of people to teach computer science to new generations in a few years.

Does Polish science have a genuine audience in the industry?

This is a complex issue. For one thing, there is a lack of systemic solutions that would make it easier for companies to invest in scientific research. In Germany, for example, cooperating with universities offers tax benefits, but in Poland, such incentives are limited, especially for industries requiring expensive laboratories.

However, computer science is in a privileged position. We don't need large laboratories. We collaborate with numerous companies, including Lech Poznań, Allegro, and PWN. The AI boom means virtually every industry recognizes the value of data and algorithms.

On the other hand, grant programs such as the National Centre for Research and Development (NCBR) or the National Science Centre (NCN) are difficult due to low success rates and complicated procedures. My team has submitted many applications to the NCN without success. An additional barrier to European grants is local regulations that do not take into account the specific nature of computer science. There is much room for improvement here.

What about the situation of women in science?

This is a topic that has been discussed many times at the university. It is more difficult for women because taking a break to have children can be very costly to a scientific career. Progress in the sciences is rapid, so a few years away means a lot of work is needed to get back on track with research. The structure of work and pace of change are different in the humanities and social sciences, which is why there are more women in these fields. Of course, there are female candidates in doctoral programs. However, in computer science, there are fewer of them. When I was a university student, several of my classmates were women. Today, the gender ratio is more balanced at the undergraduate and graduate levels. However, for some reason, women tend to leave academia at the point of deciding on an academic career. The opposite is true in mathematics: more women than men study the subject, yet few decide to stay in academia. ■

HOT TALKING POINTS



FIRST: EDUCATION

Propaganda evolves alongside social media. How does this affect our perception of war, and why is media education essential for combating misinformation?

Ewa Konarzewska-Michalak talks to **Dr. Jakub Jakubowski** from the Faculty of Political Science and Journalism about these questions and more.

How has propaganda changed since the widespread use of social media?

Propaganda has always existed, and technological developments mean it is quickly exploited. Leni Riefenstahl's films, made during the golden age of cinema, illustrate how quickly propagandists recognized the potential of new media as tools for political propaganda. This is still the case today. We live in exceptionally conflict-ridden times, with war raging just beyond our borders. Russia's invasion of Ukraine is often referred to as the first "TikTok" war and perhaps the first in which artificial intelligence plays a significant role.

Modern media are changing the way we share our political views with others. Social media is now more personalized. It is not just states or propagandists behind desks who decide how to shape public opinion anymore. Often, ordinary people create videos from the front lines that seem more credible because research shows that we trust them more than official sources. Social media combines various forms of communication, such as images and music, which are crucial in propaganda because they evoke emotion. Drones are a relatively new technology that provide spectacular shots of war.

Propaganda is undergoing significant changes, including to its most fundamental premises. In the past, propaganda relied on lies, such as exaggerating the number of casualties during war and accusing the enemy of the worst possible crimes. Today, we

have come a long way. Russian propaganda uses dozens of versions to describe a single event. When people see many versions of the same information, they become so confused that they can no longer determine what is true. These days, defining the truth has become extremely difficult. This is problematic because people lack the professional tools to verify information. The average person would have to spend all day conducting journalistic investigations, which they simply do not have time for.



Russia's invasion of Ukraine is often referred to as the first 'TikTok' war.

Meanwhile, Russia's disinformation campaign is paying off. Poles' attitudes toward the war are changing, and the number of people with negative attitudes toward Ukrainian refugees is growing. What happened?

Several things have happened. For the first time this year, social media monitoring centers in Poland recorded more negative comments about Ukraine than positive ones. This is due not only to Russian disinformation but also to the passage of time and the normalization of media discourse in Poland about the war. Unfortunately, we are becoming accustomed to tragic news and events around us. Ukraine no longer evokes the same emotions in Poles as it did two years ago. This is because not much has changed during that time. Everyday life has overshadowed this important issue.

The Ukrainians living among us—those who support and help us—are subject to everyday tensions,

differences of interest, and misunderstandings, like everyone else. In some areas, they are a great support to us; in others, they may seem like an obstacle. Fueled by Russian propaganda, these tensions cause us to perceive these natural difficulties as insurmountable problems. I think this cooling of social moods comes from ordinary conflicts that escalate to nationwide debates. It is a natural process of creating a society with immigrants, and it is something we are only beginning to understand. Let us recall when Poland joined the European Union and the Western media's discourse about the hundreds of thousands of Poles who supposedly "invaded" the West. I use this word with full knowledge of how easily it creates a negative image of newcomers. If we compare those narratives with today's media coverage, we see a striking similarity—only the technology has changed. Social media, which amplifies emotions, fuels fears, prejudices, and feelings of threat even more effectively today.

How can disinformation be effectively countered? It seems that democratic countries are losing this battle. According to British journalist Peter Pomerantsev, the West has been lacking a strategy since the end of the Cold War.

What I am about to suggest may seem trivial to readers of *University Life*, akin to visiting a physical therapist, paying \$150, and being told to exercise. We are disappointed that the solution is so simple yet so difficult to implement. The answer is education. We are incredibly behind in this area and have a lot of catching up to do.

For the past eleven years, we have organized an annual conference at the Faculty of Political Science and Journalism. We invite teachers, children, parents, and experts to develop standards for media education. The faculty has a team that addresses these issues scientifically. We also collaborate with outstanding experts from the Faculty of Educational Studies and the Faculty of Polish and Classical Philology in this area. We try to pressure political decision-makers to ensure that schools offer as much media education as possible, but we continue to encounter considerable resistance.

I like the idea of schools "teaching life" and reflecting the social reality of our everyday lives. Shouldn't young people who spend six to nine hours a day on the internet receive an equivalent amount of internet-related content at school to better prepare themselves

for a world full of pitfalls? Meanwhile, subsequent curriculum changes in recent years have generally been cosmetic. While they acknowledge the dangers, they often fail to keep up with the internet's rapid development. They use outdated methods to teach completely new realities. This approach is ineffective; young people are too critical of the world presented to them in this manner.

Why is there resistance to introducing new content into education?

There are many reasons. One of them is likely that the education system is difficult to change. In Poland, there are a huge number of school employees at every level who are often afraid of change. Introducing subjects that address internet issues would require effort on their part. I don't want to suggest that they're

unwilling to make this effort, but financial support for training and additional courses would be necessary. Unfortunately, as is often the case, certain issues boil down to money.

Short-sightedness and the pressure of Poland's electoral calendar make it difficult to introduce long-term changes. Reforms must produce quick results to gain voter support, but education reform is a process that takes years of preparation, implementation, evaluation, and improvement. Politicians rarely think that far ahead.

Frequent and superficial changes that focus on the number of years spent in primary and secondary school, for example, discourage serious reforms. Meanwhile, schools must quickly adapt to the changing reality and adjust their curricula to new challenges.

You were part of the team of experts who advised the Polish Ministry of Digital Affairs on the Children's Internet Protection Bill. What is the purpose of the bill?

We advised the ministry on this matter alongside **AMU Prof. Agnieszka Stępińska** from the Faculty of Political Science and Journalism, as well as many other academics and representatives of non-governmental organizations from all over Poland. The bill aims to define content that is currently considered inappropriate for young people. This is not about censoring the internet. I firmly believe that the diverse worldviews young people encounter can enrich them. However, some perspectives can harm children during adolescence, negatively affecting their mental development, sense of security, and personality



Meanwhile, schools must quickly adapt to the changing reality and adjust their curricula to new challenges.

HOT TALKING POINTS

formation. Pornographic content is undoubtedly one of these. Several years ago, the Ministry of Justice conducted research showing that 60% of boys and 42% of girls aged 12 had already encountered it. These are still children. It goes without saying that pornography presents an image of human sexuality that is inappropriate for them.

This was the focus of the bill, but we also believe that content depicting or normalizing violence against others should be restricted online. This also applies to brutal images of war. Traditional media has always used similar mechanisms, such as labeling films as suitable for a certain age. However, the internet does not always do this effectively. According to the legislator and the advisory team, clicking “Yes, I am 18” does not sufficiently protect children, who are naturally curious. It is the responsibility of adults, and above all, the state, to effectively restrict such content. We know it’s impossible to completely block access, and some children will find ways to circumvent the safeguards. However, this does not exempt us from our obligation to try to strengthen them. Content providers should implement secure, effective, non-biometric age verification systems that protect user data. This is a challenging undertaking, but the experience of other countries demonstrates that it is feasible.

When can we expect this law?

It’s hard to say. The matter seems obvious and morally unambiguous, requiring swift action. Therefore, it will likely pass through the Sejm quickly. However, this is not the case. Those who see it as censorship of media content oppose it, as do content providers themselves, who fear that their interests will be infringed upon. Implementing the required systems would entail costs for them, and they would need to fulfill their obligations under the law. We are waiting.

Other countries already have such regulations.

Yes, and internet freedom did not suddenly collapse there overnight. In our case, this may require broader political consideration, especially since Poland is currently ruled by a coalition of several parties. The process of finalizing the bill’s content and politics will take time.

You wrote an article with AMU Prof. Jarosław Jańczak regarding the concept of citizen science appears. How could citizen science help society fight negative internet phenomena?

Education is important, but, as research from the AMU Faculty of Political Science and Journalism confirms, restoring trust in science and scientists

is equally crucial. In recent years, the entire academic community has suffered from a lack of trust from ordinary people. People think of scientists as “smart guys” who write long, incomprehensible texts and know better than us. We don’t like those who try to explain the world to us. So, we turn to those who speak more simply and use conspiracy theories that explain the world much more easily than complicated research.

Citizen science aims to overcome this problem, at least to a minimal extent. It involves citizens in research. As part of the EPICUR consortium at AMU, we conducted an interdepartmental project on how young people and adults in different European countries perceive climate change. The topic itself was important, as was the way we conducted the research. We invited students from the 6th High School in Poznań to help us define the problem and develop research tools. The students then surveyed their parents, grandparents, and schoolmates and collaborated on analyzing the results. This experience allowed the young participants to understand what research entails, the importance of credibility, and why scientific knowledge is the most reliable source of information. Although we will never know the truth in its entirety, we are getting closer to it. Apart from education, I think this is another small contribution the university can make to society by trying to involve it in research. This helps us counteract conspiracy theories and propaganda, building a protective barrier against such content among young people. We also show young people that science does not have to be complicated. It can be an interesting adventure, good fun, and a source of satisfaction. Improving the image of science is important because it can reduce the negative effects of modern-world problems.

In your work, you propose introducing algorithm transparency. How can we persuade technology institutions to take responsibility for content published in the media? Currently, digital giants are reluctant to do so.

Large media corporations are primarily profit-driven and treat information as a commodity. Legal regulations and political pressure, especially from the European Union, are needed to change their approach. The EU has greater capabilities than individual governments. These companies should be forced by law to consider social welfare, as they impact billions of people by spreading both true and false information. While publishing falsehoods is not currently illegal, strong, well-prepared legislation is necessary to limit the negative effects of such actions. ■

SURVIVE 72 HOURS



Would you know what to do in the event of a military attack by a foreign state? According to the new Polish Civil Protection and Civil Defense Act (CPCDA), every citizen must be prepared for such a situation. We discuss this topic with **Dr. Dariusz Dymek** from the AMU Department of Security Studies.

INTERVIEW BY **EWA KONARZEWSKA-MICHALAK**

How can you survive the first 72 hours after an armed attack before help arrives?

The new ministerial **Safety Handbook** tells us how to do just that and is currently in print. The CPCDA imposes tasks and obligations on not only the authorities but also ordinary citizens, who must prepare to survive on their own for at least 72 hours. Each of us should stockpile emergency food and water for every family member. Remember, we may not have to evacuate immediately, but if we are left at home without electricity or water, we must ensure that we and our family members can survive for hours or even days.

As part of the Civil Protection and Civil Defense Program, the state will provide local communities with funds for the development of civil defense structures. What will these structures look like? What role will ordinary citizens play in them?

The new law stipulates that rescue services will form the first civil defense teams. Citizens can join by submitting an application to the head of the relevant municipality. Chapter 10 of the CPCDA describes this process in detail, and I strongly encourage you to read it.

The government plans to allocate PLN 5 billion for shelter construction. Will this be enough? What will these shelters be like?

Yes, 5 billion zlotys has already been allocated for civil protection and defense this year alone. This is a substantial amount, but I believe the issue here is time, not money. The war on our eastern border has made us prepare for the possibility of war spreading. Our biggest enemy is time because we don't know how much time we have before an armed conflict occurs. In this regard, we must also remember that shelters are expensive, complex structures that take a long time to build. The Ukrainian experience shows that it is better to create hiding places or temporary shelters that can be organized quickly and cheaply.

As far as I know, construction has not yet begun because we are waiting for the relevant executive regulations regarding the technical requirements protective structures must meet. Starting in January 2026, all newly built public facilities must include collective protection facilities. This means the process of building modern facilities where citizens can take shelter is beginning, and the aforementioned ordinance should be issued soon.

Can emergency shelters protect people from bombings?

In most cases, they should suffice, as the Ukrainian experience has shown. However, it's important to re-

member that shelters cannot guarantee 100 percent protection against the latest means of warfare. Therefore, with funding available, it is better to organize emergency shelters now. In the meantime, we should analyze where and how many shelters should be built.

What should a modern shelter be like? Since the last time shelters for civilians were built in the Polish People's Republic, weapons, combat tactics, and many other factors have changed.

With current warfare technology, it is difficult to identify the specific features a shelter should have. It must certainly be airtight and have reinforced walls. It should be equipped with filtration and ventilation devices, an emergency exit, and an independent water supply and energy source, if possible.

When discussing the construction of shelters in the People's Republic of Poland, the fact that the basic form of civil defense during wartime was dispersing city dwellers to non-urbanized areas is rarely mentioned. It was anticipated that cities would be targets of kinetic weapons attacks, a scenario that has been realized in Ukraine. Shelters were mainly built at large, strategic industrial plants to ensure continuity of operations. These shelters were intended only for employees, while their families were to be evacuated.

Will future shelters be available to the general public or individuals performing important societal functions? Do we already know where they will be built?

As far as I know, shelters have been built for teams of people responsible for maintaining state structures, not for specific individuals or their families. In my opinion, if shelters are built, they will primarily be for the state management system and then for the general public. This was the case years ago, which is why there are not many shelters in Poland. The process of building more shelters for the public was abandoned after the Cold War ended. The ones that remained served the state management structures.

There are many legends about shelters for prominent officials. You can see what one of these shelters looked like at the Wielkopolska Museum of Independence at Słupska 62 in Poznań (Kiekrz). A shelter that was used by the Poznań city management team (including the Mayor of Poznań) is open to the public there. Most of these facilities were built according to the same design, allowing us to infer their intended use. Some people may be surprised to learn that there are no restrooms.



Starting in January 2026, all newly built public facilities must include collective protection facilities.

Due to the multi-criteria analysis required for the location of a shelter, it is more feasible to discuss the potential number of shelter locations than the number of shelters themselves. Logically, potential shelters should be built in highly urbanized areas rather than rural ones.

There is a lot of talk about emergency kits and bug-out bags. As it turns out, you need to put quite a lot of things in them, and they take up space.

Many Polish families live in small apartments, so storing a kit for each family member can be challenging. Which items can we do without, and which items should definitely be in such a backpack?

What goes in an emergency backpack is up to each individual. The *Safety Handbook*, available for download on the website of the Polish Ministry of Internal Affairs and Administration, suggests items to pack. However, we all have different preferences, which can result in significant differences in what we pack. Essential items include a complete set of necessary medications, non-perishable food, water, light but warm clothing, a small first-aid kit, identity documents, and a small amount of cash. It is also worth making copies of important documents (certificates, notarial deeds, etc.) and scanning them to upload to a USB flash drive.

Should we take a survival course, learn how to shoot a gun, or build a neighborhood support network? How can we increase our chances of physical survival and boost morale, which is equally important, especially when bombarded daily with Russian propaganda and disinformation?

Civil defense training, which is no longer taught in schools, provided instruction in basic survival skills, weapon use, topography, and group cooperation. We are now attempting to reinstate these best practices in the form of courses. Participation in such courses or training is not mandatory but definitely recommended. In towns where Territorial Defense Forces units are stationed, as well as in other locations, several hours of intensive training are organized periodically, and I encourage people to attend. Everyone can try it and decide whether to participate in a longer course with a broader scope. Russian propaganda and disinformation are indeed present in our everyday lives, so we should approach all information with caution. Above all, we should check the source and not react too hastily. ■



A TRIPLE DIPLOMA WITHIN EPICUR

Soon, it will be possible to earn diplomas from three renowned universities through a single course of study at the AMU Faculty of Law and Administration.

This achievement highlights the strength of the EPICUR European university alliance and makes studying in Poznań even more worthwhile. In this interview, Krzysztof Smura talks with **Dr. Martyna Kusak**, the faculty's Vice-Dean for Research and Internationalization. Dr. Kusak has led and coordinated the project and discusses the future when graduates will be able to boast about having degrees from Strasbourg, Odense, and Poznań.

Photo: Władysław Gardasz



EPICUR
EUROPEAN UNIVERSITY



UNIWERSYTET
IM. ADAMA MICKIEWICZA
W POZNANIU



UNIVERSITY
OF AMSTERDAM

universität freiburg

ADMINISTRATION

I had already heard about dual degrees within EPICUR. But a triple degree? Things move quickly indeed.

Well, it took two years, but we are very happy with the end result.

How did you achieve such results so quickly?

Teamwork. I was fortunate to work with people who were dedicated to the cause and believed in the outcome. You also need an atmosphere conducive to discussion and the support of the universities' authorities and administrations. Each university contributed. In this case, it worked. Getting the three universities to agree was quite a challenge. Everything had to be consistent. It was difficult and required flexibility, but there was a willingness to cooperate. One problem was the issuance of diplomas because it is regulated differently in different places. We overcame this problem. The same goes for issues related to the study program, retake exams, credits, and writing and defending a master's thesis.

Now, let's talk about the beginning.

The idea originated from the goals set by the EPICUR program and should be considered in the broader context of the European Commission's efforts to create the European Label. This concept involves an EU diploma issued as part of programs implemented through international cooperation. The goal is to increase the attractiveness of European universities and strengthen our position in the world amid increasing geopolitical challenges. The pursuit of the European Label is taking place in stages. The key element is developing solutions that allow universities to award joint diplomas or issue diplomas at each university as part of joint degree programs. However, there are two situations to consider, as a joint program can be run in two ways. In the first case, cooperating units create a study program from scratch that is identical, run jointly, and ends with a single joint diploma. A slightly simpler version with a similar goal is when universities find compatible programs and

merge them. In our case, three programs exist that are not identical, yet they have a common basis.

So, students graduate with a triple degree as if they had completed three cycles at the same time, even though they only completed one cycle?

That's our case. Initially, we considered a joint degree program and a joint diploma, but we quickly abandoned this idea because the institutional barriers to issuing diplomas are difficult to overcome. Additionally, not all institutions have the same freedom and autonomy when opening new programs. Some countries impose or centrally control programs. We combined the three programs from the three universities, found a common denominator, and packaged it into a joint program. We plan to launch it in October.

This is excellent because the double/triple degree and program harmonization are still very difficult.

Here, each university contributes its own program and will proceed according to it. Each university contributes its master's degree to this project, and students will receive diplomas from Poland, Denmark, and France.

EPICUR TRIPLE MASTER'S

The triple degree program within the EPICUR alliance was created at AMU in collaboration with the University of Strasbourg (Sciences Po) and the University of Southern Denmark. The program, called the EPICUR Master's in European Geopolitics, International Security, and Law (EGISL), is based on compatible second-cycle studies offered by partner universities and includes a mandatory mobility path. Students spend three consecutive semesters in Poznań, Odense, and Strasbourg, respectively, and the fourth semester is devoted to preparing a master's thesis at their home university. Upon completing their studies and defending their thesis, graduates receive a master's degree from each partner university.

Prof. Rafał Witkowski, AMU Vice-Rector for International Cooperation, initiated and coordinates the project, with significant support from the university administration, particularly **Dr. Marek Sobczak**, Director of the AMU Teaching and Admissions Center. The agreement was developed in cooperation with **Wojciech Gwoźdź** from the AMU Legal Office.

What are these programs? What do we offer?

They concern international law, international relations, and international security. At AMU, we are a leading center in the field of law. The first semester will take place at our university and will focus heavily on law, although it will also include elements of political science taught in cooperation with lecturers from the Faculty of Political Science and Journalism. This will lay the groundwork for students' knowledge. Upon moving to Denmark, they will transition smoothly to topics related to law and security. They will then complete the cycle in France with topics related to international cooperation, subnational diplomacy, foreign policy, and so on.

Is there still a lot of work ahead of you?

We are developing the second cycle of studies for our contribution

to the EPICUR Triple Master's program. Work on such a complex project is carried out in stages. First, we developed a common curriculum with our foreign partners. The next step is launching the master's degree program at AMU. Combining three programs required attention to every detail, which was a monumental task for the entire team. Since we already have a bachelor's degree program in European Legal Studies, which focuses on EU law and the policies of European Union institutions, we spent a long time looking for direction and ways to create a master's degree program. EPICUR was a perfect fit for our needs. When we started working on it two years ago, we did not fully realize how important our cooperation would become. In the meantime, there was Greenland; now, there is still Ukraine and the Middle East. Thus, our program is very much in line with reality and is gaining importance. Our colleagues in Denmark are already recruiting, and indications show that the program is very popular.

However, it should be noted that not all recruited students will be able to benefit from the international experience.

The program is designed so that each university nominates five students annually. In summary, of the group of students who begin their second-cycle studies with us in Denmark or France, fifteen will complete the program in its international format only. These students will have the opportunity to receive diplomas from three universities. The path to obtaining them is interesting and unique. Students who enroll in Poznań and only want to study there will complete a regular second-cycle program and receive an AMU diploma.

Three countries. Three cultures. Differences.

At the beginning of the first semester, we plan to organize a Welcome Week for students. Lecturers from other universities will visit us as well. We want students to know what their life will be like in six months and beyond. While working on this project, we got the strong impression that this will be a unique study experience. In Poland, students lead a balanced life, while in Denmark, they spend their time at the university and on campus from morning to evening. That's where life happens. Projects are created on campus, and there is a lot of interaction and few lectures. In France, the focus is on independent work. The relationship with lecturers is also approached differently. Our goal is to prepare students to work in diverse, international environments, free from their national habits and standards, so they can find their place in the global community in the future.

How important is May 26 for the project?

It is the official signing date of the agreement to establish the joint EPICUR Triple Master's program, on which we have been working for over a year. It is a moment we have all been waiting for, as it will have a symbolic and ceremonial dimension. It is particularly important to us, as we are completing a long and arduous stage of work. The signing will take place in Strasbourg. ■

MBA IS A DEGREE PROGRAM FOR UNIVERSITY LEADERS

An interview with **AMU Prof.**

Szymon Ossowski, the new head of the Postgraduate MBA Program in Management of Higher Education Institutions

MAGDA ZIÓŁEK

You took over from Prof. Bogusław Mróz together with AMU Prof. Aleksandra Kaniewska-Sęba. How did you feel about that?

The transition was peaceful, but I feel a great sense of responsibility because I know this program is Prof. Mróz's organizational and academic "brainchild." I participated in the last edition of the MBA program when changes in the regulations governing postgraduate studies took effect. At that time, we had to decide which AMU School the program should be assigned to. Discussions took place during our classes. Ultimately, **Dr. Marek Sobczak**, Prof. Mróz, and I decided that the MBA program should be carried out at the School of Social Sciences, specifically the Faculty of Political Science and Journalism, where I am the dean.

This solution seemed natural—our faculty has two scientific disciplines: communication and media studies and political science and public administration. We also have extensive experience running popular postgraduate programs. After all, an MBA is also a postgraduate program, albeit a more prestigious one. That's how I became the director of the program.

ADMINISTRATION



Natalia Pastucha-Kalla, who heads our faculty's main office and is a graduate of the latest MBA program, has taken over some of its administrative tasks. We also work with people who previously collaborated with Prof. Mróz. Everything has gone very smoothly—we are building on what has been created and developing the program together.

You mentioned the prestigious nature of these studies. Could you please remind us who they are addressed to?

The program is aimed at management staff, as well as research and teaching staff and administrative staff, of universities. Most of the students are AMU employees, but there are also representatives from other universities. To enroll in our program, one must have a master's degree and experience in human resource management. The program is not for recent graduates, but rather for individuals with professional experience, often in managerial positions. Some jokingly call it a program "for forty-year-olds," and there is some truth to that, as the participants are experienced individuals looking to develop their managerial skills. Although it is a fee-based program, and some participants must seek funding, its prestige and practical nature mean interest remains high.

The program has been around for several years. Are you planning to update it to include topics related to artificial intelligence, for example?

Personally, as a participant in the last edition, I believe the program is well thought out and valuable. It is organized into four sections: legal, economic, psychological, and managerial. Thanks to this structure, participants gain hard knowledge and soft skills, both of which prove to be equally important in everyday work. At the same time, as you rightly pointed out, the program requires some adaptation to the changing reality. We assume these changes will be primarily at the level of individual classes, such as adding new topics and updating

content. For instance, we have classes on higher education law. The title remains the same, but the content must be updated constantly because the legal landscape is constantly changing. The same is true for artificial intelligence, a subject that is appearing more frequently in the curriculum. We are introducing new elements, including the use of AI in university management.

Regarding the competencies of graduates, the ability to manage people within the specific structure of a public university is paramount. After completing their studies, participants will have a better understanding of how a university operates and will be able to solve problems more effectively. The MBA program also develops teamwork skills, as many subjects relate to team building and cooperation because it is difficult to work alone today. As a lecturer in internal communications, I can attest that effective communication is essential for an institution's success. This program teaches effective team management and communication that supports the development of the entire organization.

Another change is the new location of the classes. Previously, they were held in Gniezno; now, they are held at our faculty. This makes it easier to get there, though it has weakened the integration of the student group somewhat. That is why I plan to organize two or three off-site events next year at university centers, for example, to preserve this important element. Participants unanimously emphasize that one of the greatest values of the MBA program is the opportunity to meet people and exchange experiences.

You noted that the tuition fee may be an obstacle for some.

We have applied for funding for the next MBA program for AMU employees through the FIRST program. In previous editions, the university units—the faculties or institutes that delegated their employees—covered the fees. For now, we are waiting for a final decision on this matter. ■

CAPITAL ANGELS

Dariusz Nowaczyk interviews
AMU Professor Joanna Rękas
from the Institute of Slavic Philology
about her new project.



Where did the idea for the Capital Angels project come from, and what is it really about?

The project began twelve months before I became involved and originated in Unit VII of the Płock Correctional Facility. Interestingly, this institution has a long tradition of handicrafts. For fifteen years, as part of art and craft therapy, prisoners have created stained glass artworks. The prisoners are serving long sentences, including life imprisonment. Although they are not permitted to use tools or sharp objects in their daily lives, they work with knives and glass to create stained glass. Unit VII is unique and therapeutic. Second Lieutenant Joanna Lanycia, their therapist, began looking for a shop or an organization in Płock to which she could donate stained glass panels and other items created by the inmates for charitable purposes. She found Kapitalny Sklep (Capital Store), which accepted the stained glass. However, the store owner, Beata Olszewska—founder of the Human Capital Association and three Capital Stores in Płock—was interested in selling angels made from the leftover materials for charity. A meeting was

WISDOM BEGINS IN WONDER

quickly organized in the prison to see if any inmates would be willing to make such angels and learn how to sew. It turned out that there were. The prison purchased sewing machines, and the production of angels began. Soon after, the inmates began sewing Incognito cat pillows and heart-shaped bags from scraps as well. The proceeds from the sales are donated to charity or used to purchase apartments for children from orphanages. Baby pillows were added to the product line and distributed free of charge to hospitals with pediatric wards.

How did you get involved in this project?

I happened to be in Płock and ended up in Kapitalny Sklep, where I saw one of the angels and learned that the inmates sewed them. Since I work with Dr. Vladimir Bocev, an ethnographer and visual anthropologist from North Macedonia, I asked if we could join the project and make a film about it to help promote the initiative. The idea was quickly approved. Stanisława Kostić, a Serbian language lecturer at the AMU Institute of Slavic Philology and photographer, was extremely helpful. After just six weeks, our university held an exhibition of Kostić's photographs, entitled "Boys of the Angels," documenting the visit to the prison. The angels were available for purchase. In this way, the prisoners symbolically left the prison. The inmates' families came, and it was important for them to see that their loved ones are included in society through their work. In any case, while in prison, you sense that their work is important to them. They embroider each angel's face themselves. Each face is different. Joanna ensures that it is a team effort. They are very divided. They are not allowed to leave their cells. They go out for walks alone and never meet each other. Only those who cooperate in therapy get to meet.

Does this change their approach to life?

I don't know if it changes their approach to life, but it does change their approach to suicide prevention. Their lives gain a purpose lost when they committed a crime and ended up in prison. Now, at least, they go to sleep knowing they have plans for the next day. For example, they may have to sew 12 dresses; their tasks are precisely defined. The purposefulness of their actions calms and quiets them. One thing is that they have a sense of purpose, and another is cooperation, which they were not taught. They are huge individualists when it comes to working in a group. Joanna Lanycia pays close attention to ensuring that each product, whether it is angels, pillows, or bags, comes from the hands of the group. Everyone has their own tasks and complement each other. Sometimes they swap tasks when someone is sick or having a hard time.

I wonder if your involvement in this project impacts your academic work.

Not strictly academic work, but popular science and therapeutic activities. Together with Dr. Joanna Brodniewicz, we submitted an application to the AMU Green Competition for funding for the Open Creative Practices Workshop. The project involves opening a self-regulation workshop through art and crafts for AMU staff and students. It is designed to support mental health, creativity, and emotional self-regulation. The first workshop is set to start soon. The idea is that someone who can no longer cope at work and feels like they are about to yell at someone will come to the studio and release some tension. They will have practically everything at their disposal, including sewing machines, needles, scissors, paints, wood, and mats to lie down on. If someone wants to talk, they can; if they want to put on headphones and sit down, they can do so and relax. Additionally, there will be organized workshops on sculpture, woodcarving, and painting once a week.



The idea is that someone who can no longer cope at work [...] will come to the studio and release some tension.

As far as I know, there are more therapeutic projects.

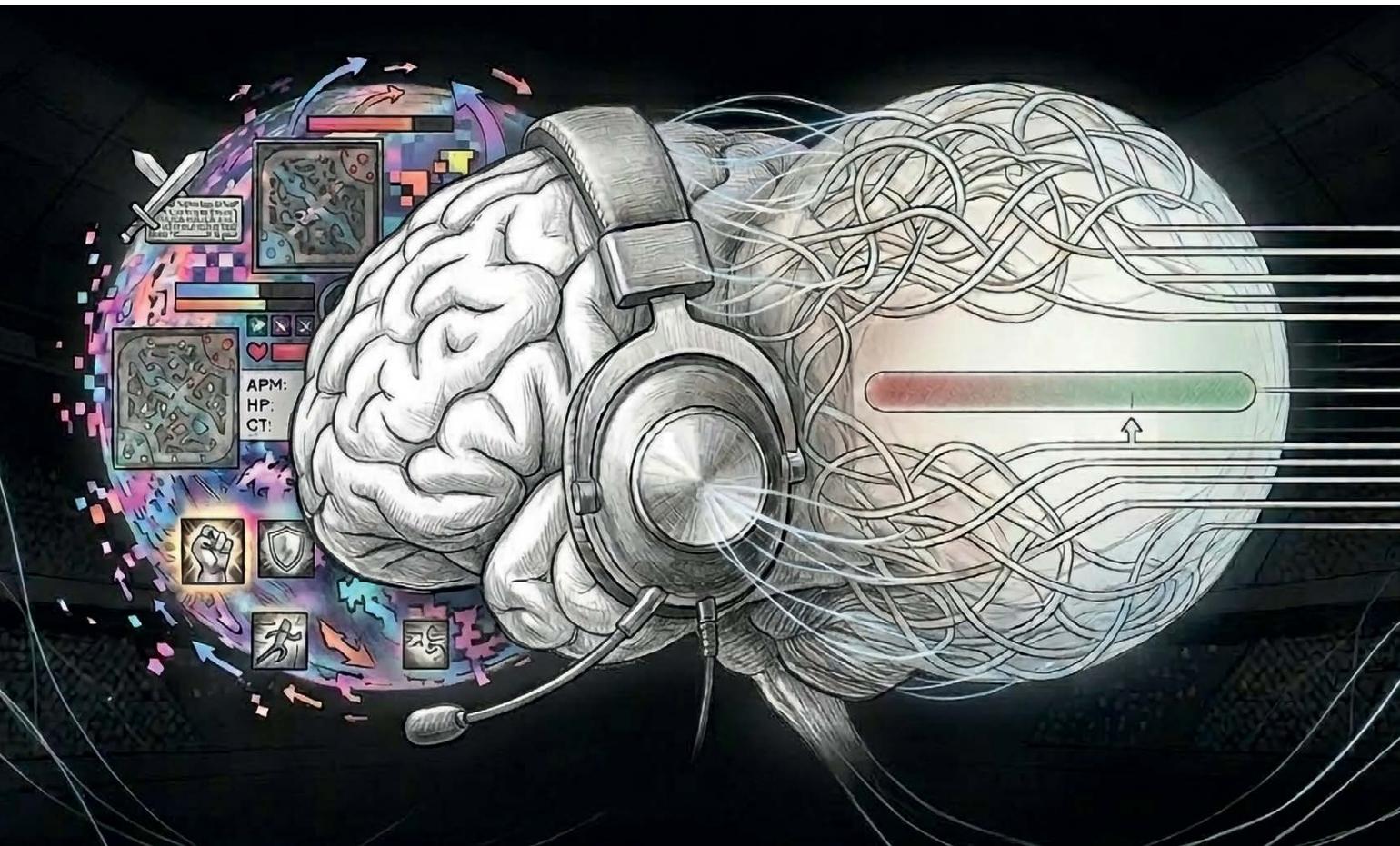
We submitted another proposal to the Inkubator Wielkich Jutra (Incubator of the Greats of Tomorrow) to develop a prototype open creative practice studio. We named it RegArt, short for "regulation through art." Our goal is to create a prototype that can be used in public spaces, offices, and schools. It is very important for neurodiverse people to find themselves in a tolerant space

where there is no shouting or drama. In these rooms, people can come and paint with oil paints, come back the next day and apply another layer, and thus stabilize their mental state. According to our vision, RegArt is a place where people can find help based on their education and experience. Those in need will be able to self-regulate and calm down. This project includes developing a prototype studio, a manual, and an app, as well as testing the idea in the aforementioned places. The studios will be located in workplaces, schools, and urban spaces to make them accessible to everyone, regardless of whether they are users or not. The tests will involve AMU, the City of Poznań, the Płock Correctional Facility, and primary and secondary schools in Poznań. RegArt is intended for working people, students, and, in urban spaces, all residents, including refugees and the Roma community. Our application has undergone two formal evaluations of the project's innovation, social necessity, feasibility, uniqueness, and ability to support excluded or at-risk groups. We received positive reviews. Consequently, the Capital Angels project is evolving into art therapy projects at AMU and in public spaces. ■



MENTAL HEALTH IN ESPORTS

Dr. Maciej Behnke from the AMU Faculty of Physics and Astronomy participated in an international summit on mental health in esports organized by the Movember Foundation. The event, which took place in London, aimed to develop the world's first evidence-based guidelines for the mental well-being of esports players. Krzysztof Smura interviewed the young scientist regarding the specific mental health issues faced by gamers.



What was your role on the Guideline Development Committee, and what did the team's work entail?

Each of the 24 committee members worked together to develop practical guidelines for mental health in esports. As a scientist and physical trainer, I focused on contributing scientific knowledge and experience from traditional sports. Our committee operated as a collective of experts. We were an interdisciplinary team of psychologists, psychiatrists, researchers, and representatives of esports organizations, the International Olympic Committee, World Cup organizers, game developers, and esports teams. This diversity ensured that the proposed guidelines considered many perspectives and would be relevant to the entire esports ecosystem. Therefore, my task was not only to share my scientific expertise but also to listen to others, such as team managers and gaming platform representatives, in order to jointly develop recommendations tailored to the needs of our community.

Why do we need separate guidelines for the mental health of esports players? How do the mental health issues faced by esports players differ from those faced by other athletes or students?

The mental health landscape in esports has its own specific characteristics stemming from the unique conditions in which players operate. Research preceding the summit revealed the following:

► **High levels of anxiety and depression.** Esports players are more likely to experience symptoms of anxiety and depression. According to the study, up to 39% of players experience heightened anxiety and 37% suffer from depression symptoms. These percentages exceed those reported in traditional sports, showing that esports players are under enormous pressure to perform and compete constantly.

► **Stress, exhaustion, and burnout.** Many players experience chronic stress due to rigorous training and tournament participation. This is accompanied by physical and mental exhaustion, which can lead to burnout over time. We also hear about “tilting” in esports, which is frustration resulting from poor performance and is sometimes the result of accumulated stress.

► **Online abuse and harassment.** Unfortunately, exposure to toxic online behavior is a daily occurrence for players. As many as 96% of professional players have experienced cyberbullying or harassment. Importantly, a significant portion of these negative experiences

does not come from anonymous internet users but from the esports community itself, e.g., fans and other players, as well as people in the industry. Such a hostile atmosphere puts additional strain on players' mental health.

► **Irregular lifestyle and career uncertainty.** Unlike traditional sports, an esports career is associated with instability and a chaotic schedule. Players often train and compete late into the night and travel across time zones. Their career path can be short and uncertain. The digital competitive environment, which requires a constant online presence and virtual communication, also poses unique challenges. These factors can lead to sleep disturbances, difficulty balancing life and gaming, and uncertainty about the future.

All of these factors combined necessitate a unique approach to the mental health of esports players. The industry still suffers from a lack of awareness of the problem and a certain stigma — admitting to difficulties is often seen as a sign of weakness. For this reason, we created dedicated guidelines to normalize conversations about mental health in esports and provide players and their supporters with specific tips on how to take care of their mental well-being.

Before the London Summit, you did a tremendous amount of preparatory work. What did those preparations entail, and who did you collaborate with?

I was in contact with the Movember research team, primarily Dr. Dylan Poulus, from the beginning. The Movember Foundation spearheaded the entire project by investing in research and consultations, providing us with solid material for discussion in London. Before the summit, each of us received a comprehensive information package summarizing 18 months of previous research. The package included the results of several key projects. First was a review of scientific literature on mental health in esports — a comprehensive analysis of everything written and researched on the subject to date. Second was a report from a focus study with players. About 40 players from different countries and games talked about their experiences and needs. Third was the results of a Delphi study in which international psychology and esports experts reached a consensus in several rounds on the most important priorities for players' mental health. All of this was complemented by a research protocol that described our methodological approach to developing the guidelines step by step. Before we sat down together, we had all thoroughly familiarized ourselves with these analyses, having done our homework. Thanks to this, in London, we were able to discuss data and specific conclusions rather than just opinions.

Given this wealth of knowledge, creating guidelines should be easy. The harder part is putting them into practice. How do you plan to ensure the recommendations are implemented in the esports industry? What are the most important challenges?

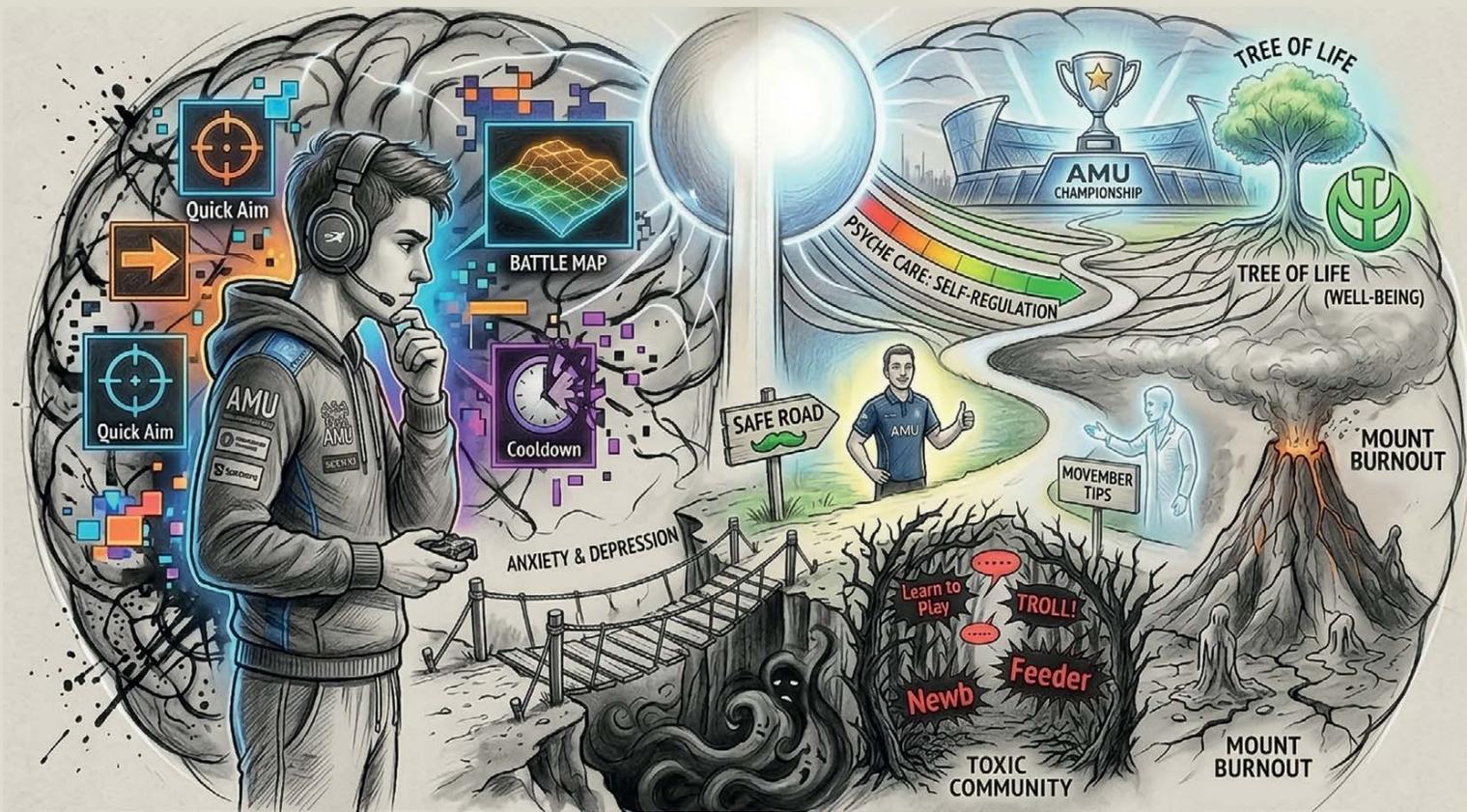
From the beginning, we realized that the success of the project hinges on whether the guidelines change esports practices or remain on paper. There are several challenges:

► **Engaging the entire industry.** Esports is a complex, multilevel ecosystem ranging from global video game publishers and tournament organizers to professional teams, local clubs, and even schools with esports sections. For the guidelines to work, all of these entities must feel jointly responsible for them. Close cooperation between business, science, and medicine is necessary. During our deliberations, we had representatives from most of these groups, which is a good sign. Key market players were part of the process, so it will be easier for them to implement the recommendations later on. The goal is to foster a sense of shared responsibility among the entire esports community for the well-being of players.

► **Overcoming stigma and education.** Implementing the guidelines requires a cultural change within esports. Even the best recommendations will not be implemented if an organization still espouses a “deal with it yourself, don't complain” attitude. Therefore, we must focus intensively on education and raising awareness. One of the recommendations will certainly be mental health literacy training for coaches, managers, and players. This training will help them recognize the first signs of problems in players and respond appropriately. Encouraging young people to seek help is also challenging; we must combat stigmatization. Barriers such as low knowledge of mental health or the belief that “psychologists are for serious issues, not everyday stress” can make excellent support programs difficult to accept. This is why the guidelines emphasize normalizing conversations about emotions and creating safe spaces where players can openly discuss their challenges.

► **Diverse resources and global context.** Another challenge is adapting the recommendations to different contexts. For example, a leading esports team with significant financial backing functions differently than an amateur student league. We have tried to formulate guidelines that are practical, scalable, and culturally universal, meaning they can be implemented in both a large organization in the United States and a small gaming community in Poland. Nevertheless, implementation may require adapting the details to local conditions. For instance, some regions have limited access to professional psychological assistance, ne-

AMU FOR HEALTH



cessitating a focus on developing this infrastructure. In other regions, the problem may be language barriers or cultural differences in attitudes toward mental health. We must take all of this into account. Fortunately, Movember is already considering this stage. A proposal has been made for an additional grant fund for projects that implement our guidelines, such as training programs related to raising awareness. This signals that we will do more than write a document; we will actively ensure that the recommendations translate into real action in the esports community.

The biggest challenge will ultimately be convincing people to change their mindset and recognize that mental health is an integral part of professional esports, just as important as physical training or game strategy. If we succeed, the rest—structures, programs, and resources—will gradually fall into place.

You have been in the industry for many years. What motivates you to address mental health issues in esports?

My motivation stems from my passion for psychology and my love of traditional sports. I have been observing esports for years, both professionally and personally as the brother of two players and enthusiasts. This has given me an up-close view of the challenges players face, such as the pressure to perform well, public scrutiny, an irregular lifestyle, and sometimes a lack of understanding from those around them.

I am deeply moved and frankly irritated by the stigmatization of esports players and the automatic acceptance of stereotypes. During the London meeting, I suggested that the preamble to the recommendations should clearly state that, when practiced responsibly and in accordance with sports training principles, esports can be a valuable developmental activity rather than a “problem in itself.” Whenever I hear that esports are bad, I picture two people: one who sits at the piano for hours and another who sits at a computer, developing their skills. I get the impression that only one of them regularly hears: “You’re wasting your time,” “It’s an addiction,” and “Stop it.” These situations demonstrate how much work needs to be done to protect young people and put an end to simplifications that hinder conversations about mental health. I don’t want future talented esports players to have to choose between success in the game and their well-being. That’s what drives me.

Movember has the opportunity to build something positive and lasting here. Given their consistent creation of recognizable campaigns over the years, such as the mustache-growing campaign, I believe it is possible to develop a global, credible message about mental health in esports. Currently, young gamers often lack a single trusted platform that (1) informs them that what they do can be valuable and, (2) provides practical advice on how to take care of their mental health, where to seek support, and how to recognize signs of overload. ■



A POLISH WOMAN WITH A PERUVIAN SOUL

Professor Leonor Sagermann Bustinza from the AMU Institute of Romance Languages and Literatures spent her early childhood in Puno, on the shore of Lake Titicaca — her mother’s homeland. Although she was born in Poland, her birth certificate states: “Peruvian born abroad.” As an academic lecturer today, she strives to bring the culture of her ancestors closer to her students. As she says, she bridges two worlds and cultures, both of which are close to her heart.

MAGDA ZIÓŁEK

We meet in a room on the ground floor of Block A of Collegium Novum. Prof. Sagermann Bustinza prepares coca leaf tea, which we drink from decorative cups—as it turns out later, they were brought from Peru for occasions like this. Inca culture flourished in the country where chewing coca leaves or drinking coca tea is not only part of everyday practice but also an important tradition, especially in regions located over 4,000 meters above sea level. “This infusion gives you strength and makes breathing easier,” Prof. Sagermann Bustinza explains.

The professor’s mother came to Poland in the 1970s on a Peruvian government scholarship through an agreement with Eastern Bloc countries. “At that time, knowledge competitions were organized in Peru, and the winners received scholarships to study in friendly socialist countries. My mother chose Gdańsk, where she studied pedagogy. That’s where she met my father.” The couple quickly started a family, and in the early 1980s, Leonor was born. The phrase “Peruvian born abroad” on the birth certificate was standard practice at the time. Peruvian parents whose children were born outside of Peru were required to specify their children’s citizenship this way.

After graduating, my parents moved to Peru, which was a condition of the scholarship awarded by the Peruvian government. Their return coincided with a difficult moment in Peru’s history. It was the 1980s, and Peru was home to the Shining Path (Sendero Luminoso), a left-wing terrorist organization. It is estimated that around 70,000 people were killed as a result of assassinations, murders, and bombings. Although the organization claimed to be fighting social inequality, it actually spread violence, and most of the victims were civilians. At that time, no one knew who really belonged to the guerrillas, recalls Prof. Leonor Sagermann Bustinza. “They could have been people we met every day. I knew people who later turned out to be members of the Shining Path. One of them was my teacher—I only found out years later.”

These events, which made adults feel threatened, were part of everyday life for children. Leonor Sagermann Bustinza remembers broken windows and news reports about car bombings and attacks on police stations in various parts of the country. “At the time, it didn’t seem unusual. We knew it was a difficult time, but we didn’t live in fear unless someone was directly affected,” she says.

Family trips to the countryside remain in her memory. Children in Peru spent most of their time at home,

although there were exceptions, such as day trips outside the city by car or walks in the neighborhood. “I remember going to Lake Titicaca with my grandfather. We didn’t swim because the water was too cold. Instead, we walked and played. Then, we stood at the end of the pier and admired the expanse of the world’s highest navigable lake. In the summer, during school holidays, we sometimes went with our parents to the coast. The waters of the Pacific weren’t much warmer, but the weather was perfect for sunbathing,” she recalls.

Leonor Sagermann Bustinza gained knowledge related to the first stage of education from her schooling in Peru, and she also learnt to play the panpipe. During our conversation, she played the popular “El

Cóndor Pasa” for us. This Peruvian song is known worldwide thanks to the version by Simon & Garfunkel.

She also remembers the tastes and aromas of that time—dishes, vegetables, and fruits—and long family gatherings. In Peru, the rhythm of the year is different, and food and shared feasts play a special role.

“When I count the years I spent in Peru, it turns out there weren’t

that many. I’ve lived in Poland longer,” she says. “But those short, intense childhood memories shaped me the most.”

She returned to Poland in late fall. “I was curious but also a little anxious about what awaited me,” she recalls. “I wondered what Poland, which I had heard so much about, was really like. I also dreamed of seeing snow, which I had only seen once in Peru as a three-centimeter weather anomaly that disappeared after a few hours.” However, as is often the case, the beginning was not easy, especially for a girl who knew only a dozen or so Polish words and stood out because of her appearance. “At school, I became an object of curiosity,” Prof. Sagermann Bustinza recalls. “Everyone knew my name, but no one could pronounce it correctly. Sometimes, on my way home, I would hear unpleasant comments behind me.”

She took extra Polish lessons at her Polish elementary school. “My Polish teacher, wanting to help me, shared her hours with a history teacher so that I could learn more about Polish history,” she says. It was a fruitful time; regular language learning and studying Polish history provided her with support and a respite from everyday life.

However, she had to wait a little longer for new, lasting relationships. “In high school, I found myself in an open, warmhearted class. I began to feel like I belonged — and that’s when I really started to get used to Poland and its reality.” At the same time,



Contemporary Peruvian society comprises many different cultures.

VENI, VIDI, VICI

however, she missed Peru and the Spanish language. She describes herself as a hybrid of two identities — Polish and Peruvian — both of which are equally important to her. Perhaps it was this Peruvian part of her personality that brought Prof. Leonor Sagermann Bustinza to Poznań. “I had a somewhat naive but beautiful conviction that I wanted to share my knowledge of Peru with others. Luckily, this youthful dream came true, and I have been working as a lecturer for many years.”

During her studies, Leonor Sagermann Bustinza began traveling to South America. “I completed a tour guide course and started showing groups around Peru,” she recalls. “At the same time, I was gathering material for my doctorate. Later, I spent almost a year researching in libraries and archives. I gathered a huge amount of material at that time—to this day, I find it difficult to part with it,” she says with a laugh.

Her travels also enriched her classes at the university. At the beginning of the 21st century, the internet did not provide the same access to information as it does today, so she brought back newspapers, photos, and trinkets to show her students authentic materials. “I teach the history and culture of Latin America from pre-Columbian times to the independence movements, so these experiences are invaluable to me. Thanks to them, I can talk not about abstract facts, but about the places I have seen and the people I have met,” she says.

On the website of the travel agency with which Prof. Leonor Sagermann Bustinza is still associated, one can read: “I am fascinated by Peruvian cuisine, and fruit stalls are a real paradise for me. I love chewing coca leaves and eating local delicacies — I especially recommend guinea pig.” “Students react very emotionally to this element of Peruvian culinary tradition,” notes Prof. Sagermann Bustinza. “I understand this because in Poland, guinea pigs are cute pets, but in Peru, they’re a dish served on special occasions.” The cavy motif appears not only in cuisine but also in Peruvian art. In the cathedral in Cusco, the former capital of the Inca Empire, there is a painting of the Last Supper in which the apostles are shown eating guinea pig.

This intermingling of traditions is also clearly visible in colonial architecture. Buildings designed by Europeans were constructed in collaboration with local craftsmen who often “smuggled” motifs from their own culture



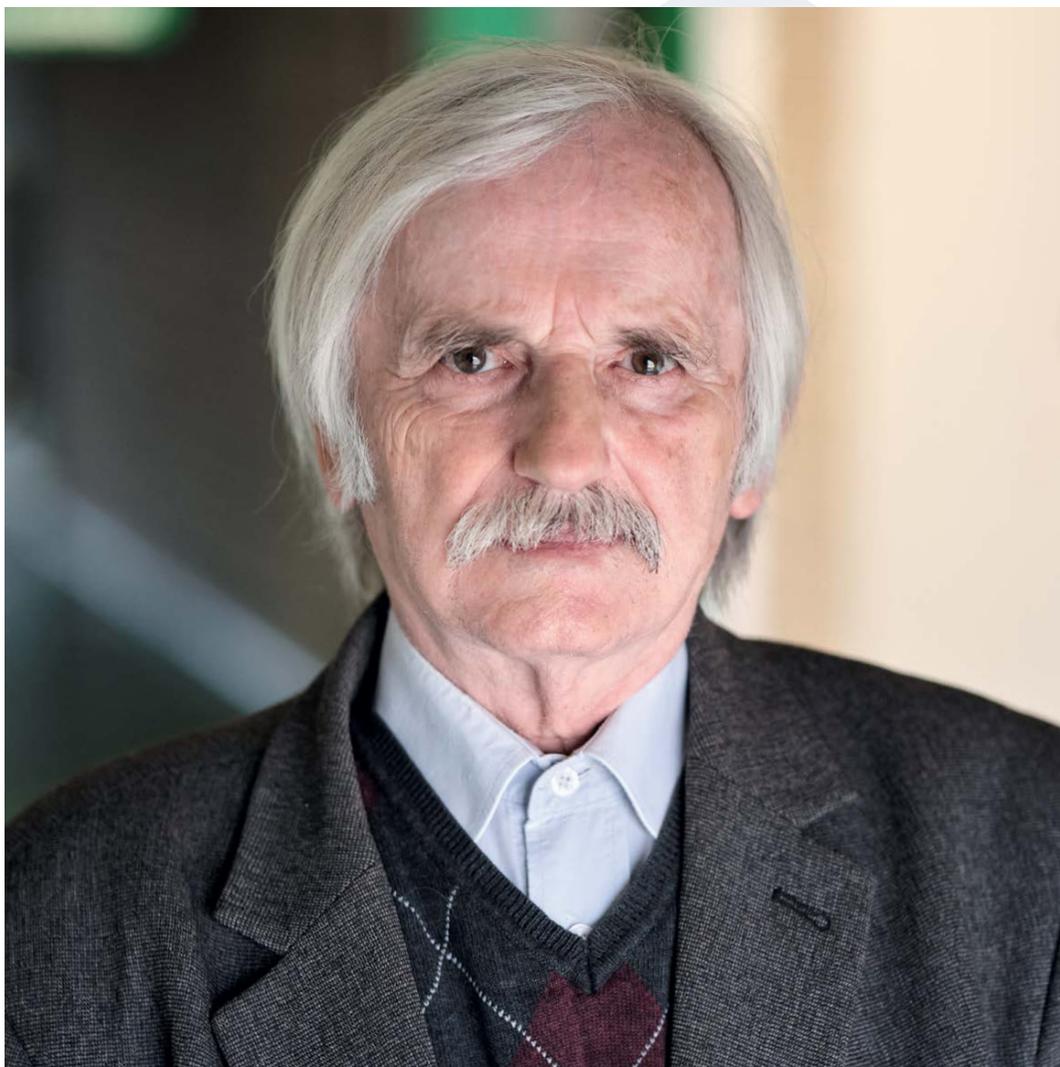
into the facades and details. “Contemporary Peruvian society is made up of many cultures,” explains Prof. Leonor Sagermann Bustinza. “People usually talk about the Incas, but in the Puno department, where I grew up, the Aymara people dominate with their own rich traditions. There are also numerous Amazonian tribes that the Incas knew about, but who never settled there. The Spanish imposed a new order, and as a result of this encounter, something completely new emerged—visible in architecture, art, and everyday life.”

She adds that colonial social and economic divisions are still visible in Peru.

“People from the Andes or indigenous communities are still sometimes discriminated against, even though formally everyone is equal before the law. In Lima, people from the provinces are often treated with condescension, even if they have lived there for generations,” she says. “But there are also examples to the contrary. Some families welcome girls from the provinces with kindness, treating them almost like family members. In Peru, as everywhere else, different attitudes coexist, and we are still learning that equality requires daily practice.”

Prof. Sagermann Bustinza discusses all of this with her students. She organizes and participates in meetings where she introduces them to the local culture and nature. She has also been involved in organizing a Spanish language competition for years. “When I was choosing my field of study, my mother advised me against studying pedagogy. She told me to look for something else and not to go into teaching. Yet, teaching seems to be a natural calling in my family. My grandparents, Leonor and Héctor, were teachers in the city and in small villages in Peru. It was a significant undertaking because, thanks to them, people in remote areas had access to education.”

Prof. Sagermann Bustinza’s mother and sister were also teachers, and her cousins followed this path in the next generation. “I think there really is something in those genes because I feel that I have found the right place. I really like my job, and I identify with what I do. Working at the university allows me to combine knowledge, passion, and a sense of identity. Sometimes, a small piece of trivia is enough to spark someone’s interest and set them on the path to their own research path,” she argues. ■



A STEP AWAY FROM THE NOBEL PRIZE

Professor Józef Barnaś from the AMU Faculty of Physics and Astronomy is considered a pioneer of modern spintronics—the study of the physical properties of electron spin and its practical applications. He provided a theoretical explanation for the giant magnetoresistance phenomenon discovered by Nobel Prize winners Albert Fert and Peter Grünberg.

MAGDA ZIÓŁEK

Prof. Barnaś has received numerous awards for his research, including the Foundation for Polish Science Prize (also known as the Polish Nobel Prize), the Maria Curie-Skłodowska Award, and the Marian Smoluchowski Medal, which is conferred by the Polish Physical Society. He has been in the top ten of our university's rankings of scientists with the highest *h*-index for several years.

Józef Barnaś's passion for the natural sciences began in high school. I graduated from 3rd General Secondary School in Tarnów in Tarnów, which was renowned for its excellent science teachers who had been trained at the famous pre-war Lviv school. I had been interested in biology since elementary school. This continued in high school, but it was only in my junior year that I became interested in chemistry. In my senior year, I developed a liking for physics, and that's how it stayed. After graduating, I decided to study physics at AMU. I chose Poznań, even though Kraków was closer. I considered changing my mind once or twice later on, but ultimately, looking back, I think I made the right decision," he says.

STUDIES AT AMU

Józef Barnaś became interested in condensed matter physics and magnetism during his studies. He recalls that this was largely thanks to **Prof. Janusz Morkowski**, who lectured on solid-state physics at the time. These classes shaped his scientific interests. However, he did not remain at the university because compulsory military service proved to be an obstacle. As a young man with his sights set on a doctorate, he was reluctant to take a year-long break from his studies. A friend suggested he look for a job, which is how he ended up at the Poznań University of Technology (PUT). Nevertheless, he could not avoid military service.

Initially, Barnaś worked at the Institute of Physics. He remembers most the classes he taught to students from all technical university departments. There were so many students that, during exam sessions, hundreds of them would knock on his door to take their exams. Later, while working at AMU, he no longer had such a heavy teaching load.

"In addition to teaching, I was working on my doctorate. It wasn't easy," says Prof. Barnaś. "In order to have access to literature, one had to go through a complicated procedure. Only a few journals were available in the library. There were also brochures containing information about what had been published

in scientific journals during a given period. Based on this information, you had to fill out a postcard-sized card with a request to the author to send a reprint of their work. Then, you had to wait patiently, sometimes for two or three months. Sometimes, the article did not arrive at all because the author no longer had any copies or forgot to send them. Those were the times."

Today, in the age of the Internet, this seems inconceivable. However, in the 1980s, no one was surprised by it. Scientists in Poland had limited contact with their foreign colleagues, and scientific cooperation was mainly established through personal connections. As Prof. Barnaś recalls, it was practically impossible to make great discoveries in Poland at that time. There was not only a lack of access to literature but also to the necessary equipment for experimental research. Therefore, it was common practice at Polish universities to hold workshops where scientists, assisted by technicians, assembled measuring equipment themselves.

"People often asked me how working conditions compared between Poland and other countries. As a theorist, I did not feel the differences that much. Of course, the library and computing center in Germany made a big impression on me, especially since I initially worked on a calculator and later on the first small Meritum computers in Poland, if I remember correctly."

Nonetheless, Prof. Barnaś has fond memories of his early years at the Poznań University of Technology because they played a significant role in his development as a scientist. In the theorist group he joined, no one was particularly interested in the progress of his research. This taught him self-discipline and independence. In return, he gained the freedom to choose his own research topics.

"I started with topics that seemed simple to me. Today, I am surprised but also satisfied to see that many of them, such as magnonics or the magnetoelectric effect, have become popular again. Recently, as part of a project led by **AMU Prof. Anna Dyrdał**, we published a paper on the interaction of plasmons with spin waves in the van der Waals systems, an area that is currently experiencing a surge in popularity. This was the subject of my first papers published in *Acta Physica Polonica*, but they were about completely different materials," he adds.

KERNFORSCHUNGSANLAGE JÜLICH

Józef Barnaś's decision to go abroad coincided with the PUT authorities' decision to reorganize the team

*Shortly after its discovery,
the magnetoresistance
effect was put to practical
use for reading and writing
information on computer
hard drives.*

of theorists and include him in the group of teachers. Fortunately, an opportunity arose at that time to work with Prof. Peter Grünberg's group. Barnaś recalls arriving at the Jülich Kernforschungsanlage (now the Jülich Research Center) in June 1988. This trip marked a turning point in his scientific career.

"I ended up in a really good place. Peter Grünberg was working on materials that would earn him the Nobel Prize in Physics—which we didn't know at the time. In the laboratory, he studied structures made up of two magnetic layers and one non-magnetic layer, measuring spin waves and magnetoresistance in them. My first task after getting there was to determine the interlayer exchange coupling from the spin wave spectrum. Thanks to my experience working at PUT, I was able to solve this problem quickly. This collaboration resulted in many excellent publications that are still widely cited today," Prof. Barnaś recalls.

In 1988, Peter Grünberg and Albert Fert (from the Unité Mixte de Physique in Paris) independently discovered the giant magnetoresistance effect, a phenomenon considered to be the basis of a new era in physics. They received the Nobel Prize for this discovery in 2007. Prof. Józef Barnaś and Prof. R. E. Camley from the University of Colorado authored a theory describing the mechanism of this phenomenon and its basic physical properties.

"I think Grünberg knew what he was working on from the beginning. Shortly after its discovery, the magnetoresistance effect was put to practical use for reading and writing information on computer hard drives. Later, it also found application in memory components. The discovery of giant magnetoresistance by Peter Grünberg and Albert Fert, as well as my theoretical work on its physical basis, contributed to the emergence of a new field of knowledge: spintronics."

After his time in Jülich, Prof. Barnaś collaborated with another Nobel Prize winner, Prof. Albert Fert. He also conducted research in Belgium at the Catholic University of Leuven in Yvan Bruynseraede's team.

RESEARCH AT AMU

After six years of research trips, Józef Barnaś decided to return to Poland. Earlier, between his time in Jülich and his departure for France and Belgium, he accepted an offer from **Prof. Zbigniew Jacyna-Onyszkiewicz** to join the AMU Faculty of Physics, where he currently works in the Department of Mesoscopic Physics, which he founded and is currently headed by Prof. Anna Dyrdał.

Professor Barnaś says that he does not like to dwell on a single topic. He prefers to forge paths that other scientists will follow. This is evident in the multi-faceted nature of his scientific achievements. These include publications on giant magnetoresistance,

as well as works related to electrically induced magnetic dynamics, quantum dots, magnetic molecules, and, in particular, two-dimensional materials, such as graphene and other graphene-like materials. When asked about the common denominator of all this research, he points to the properties of electrons, particularly spin and spin-orbit. The spin of the electron invariably aroused his scientific curiosity and found a special place in his publications.

"Most of the problems I was interested in concerned pure physics. Calculations were a way to learn and understand it—a very important way—but only a way. Today, I observe how easily some young researchers use ready-made computational packages and publish results adorned with pretty, colorful pictures, the meaning of which is not always clear. I preferred to make the calculations myself, which gave me control over the final result of my work. I also don't understand the obsession with publication points. I feel that it leads to a devaluation of our professional ethics. If I have the opportunity, I choose *Physical Review B* or *Physical Review Letters* from the many available scientific journals rather than some attractively decorated, high-scoring magazines."

Prof. Barnaś announced his intention to retire from AMU this year. However, he is not giving up science; he will continue his work at the Institute of Molecular Physics of the Polish Academy of Sciences. "There are many topics that I would still like to explore. Recently, I have become interested in cosmology, but more as a hobby. I have no illusions that I could achieve anything significant in this field. I will definitely stick with condensed matter physics, looking for doors that have not yet been opened to knowledge."

NOBEL PRIZE

After Grünberg and Fert won the Nobel Prize in Physics, Professor Barnaś was asked repeatedly to comment on the matter. His colleagues wondered why he was not among the winners. The then-AMU Vice Rector, **Prof. Bogusław Mróz**, explained the situation in an interview with the daily newspaper *Gazeta Wyborcza*, citing inadequate marketing on the part of the university.

"I never aspired to this award," Barnaś replied calmly. "The Nobel Prize was for the discovery of the giant magnetoresistance effect, and this discovery was made by Grünberg and Fert. My contribution was limited to explaining the physical mechanism of the giant magnetoresistance effect and providing a theoretical description of its main properties. Recently, I came across Grünberg's autobiography, which included a photo of me and a paragraph about our joint research. It was flattering, and I took it as a tribute to our collaboration," he adds. ■



SIGN LANGUAGE HAS ITS OWN GRAMMAR

“Because this community is so quiet...” says **Dominika Mroczek-Dąbrowska**, an AMU administrative staff member, sign language interpreter, and lawyer. She has worked for years promoting cultural accessibility, interpreting films, plays, and concerts. She introduced sign language to two performances in Poznań and has numerous conference and occasional interpretations to her credit. She has also published works on communicating with deaf people and has many years of experience working with deaf students.

INTERVIEW BY **MAGDA ZIÓLEK**

What made you decide to learn sign language?

I was driven by pure curiosity. I once saw two deaf people talking to each other on the street. They were communicating in a way that was so beautiful and fascinating to me that I decided to “decode” this language. Since I love learning new things, I embarked on this adventure. First, I taught myself, and then I gradually enrolled in more courses. Step by step, I earned certificates until finally passing the exam in Warsaw and obtaining my qualifications. That’s how my professional career as a sign language interpreter and trainer began. I work in the AMU administration, but I am still involved in accessibility issues. I interpret for the AMU Rector,

participate in conferences, and teach sign language and nonverbal communication classes.

You are also the author of a brochure on communicating with deaf and hard-of-hearing people at universities. Did your work in the AMU administration prompt you to write this guide?

Ten years ago, the university hired me as a sign language interpreter. I remember that, at the time, it was somewhat novel. A deaf student who had been accepted into the first year of studies approached me and asked for support regarding accessibility. At the time, we organized this on an individual basis, directly with

the Rector. After receiving approval, I accompanied the student to all classes, workshops, and internships.

Today, accessibility is much easier and has become standard. However, I decided to see how things were after ten years, so I conducted a short survey of current students with hearing impairments, graduates I knew, and AMU teaching and administrative staff. It turned out that the level of awareness, among both students and staff, has remained virtually unchanged. I am convinced that this is not due to ill will, but rather a lack of knowledge. When we rarely encounter something, we simply do not know how to deal with it. This is why I decided to prepare a handbook containing the basic principles of communication and work organization when collaborating with someone who has a hearing impairment. As evidenced by the extensive feedback I received, the handbook was much needed.

Well, I learned from your guidebook — which surprised me greatly — that deaf people do not always use written Polish proficiently.

Yes, that's true. Their first language is sign language, which is a fully-fledged language with its own distinct grammar, not just a symbolic means of communication. Although they are Polish, Polish is their second language — and a very difficult one at that — because it is based on completely different rules than sign language.

There's still a myth that if someone can't hear, they can see and read, so they can easily read a book, take notes in class, or read a message on a piece of paper and write back. In practice, this is often not the case. Many deaf people know Polish words but can't put them together in correct sentences because of grammatical differences. This causes difficulties and means that relatively few deaf people decide to study. The idea that they can study is only recently becoming more widely accepted — previously, this simply did not exist.

In Poland, deaf people usually attend special schools where sign language is used, and the education focuses on specific professions. The situation is changing, of course, but only a very small percentage pass their high school exams and decide to attend college. They often associate college with a lack of communication — as if they suddenly found themselves in a place where people speak a language they don't know and have to learn complicated new subjects at the same time. For many, this becomes an insurmountable barrier: on the one hand, difficult topics; on the other, a lack of communication.

Sometimes, graduates of these schools attempt to enroll in college, go through the recruitment process, and are accepted, but unfortunately, they often fail due to a lack of adequate communication support.

In the 21st century, how is it possible that there are still barriers, and that there is a community among us with limited access to basic necessities like education?

One might say it's paradoxical, but it's true because this community is so quiet. For years, there have been efforts to recognize deaf people as a linguistic minority. Unfortunately, another attempt

was rejected by the Speaker of the Sejm this year. We can help such people ourselves, and that is what my guidebook is about.

What should this help look like?

First, it must be tailored to the individual and their communication needs. As mentioned earlier, not all deaf people can read or write, nor do they all use sign language. This is why sign language interpreters play such an important role. When it comes to activating deaf people at the university, the interpreter is the main source of support. While a deaf student can obtain class notes or materials from a lecturer or classmates, assistance is invaluable for administrative tasks such as visiting the dean's office, filling out applications, responding to emails, and submitting documents.

In my brochure, I explain who a deaf person is. Most people associate this with "someone who cannot hear," but hearing impairments can vary in severity, so deafness is understood in different ways. From a medical point of view, hearing loss is clear. However, in an academic environment, the sociocultural context is more important because deaf people have their own culture, environment, and identity, apart from not being able to hear. This must be taken into account when interacting with them.

Now, let's discuss your experiences accompanying deaf individuals in an academic setting. How does this work in practice?

First, a deaf student needs a dedicated interpreter throughout their entire educational journey. The interpreter should accompany the student to classes, lectures, administrative situations, and online interactions, such as writing an email or scheduling an appointment. This contact is absolutely necessary. In my experience, lecturers and administrative staff have always been open and cordial. No one has ever taken issue with my presence.

It was a great adventure for me. I learned many things that I would have probably never learned otherwise. You could say that, together with my last student from the Faculty of Geographical and Geological Sciences, "we graduated with a bachelor's degree." This student graduated, obtained a higher education, and now works professionally. The other students have found fulfillment as medical technicians, artists, teachers, administrative staff, and more. It's wonderful because they've overcome a major barrier: communication. Once that barrier is broken down, deaf people can gain knowledge, fulfill themselves at work, pursue their dreams and passions, and live life on their own terms. I am satisfied knowing that I can participate in this as a sign language interpreter. ■

Dominika Mroczek-Dąbrowska is the author of *Komunikacja z osobami z wadami słuchu na uczelni wyższej. Poradnik dla pracowników i studentów* (Communication with People with Hearing Loss at University. A Guide for Staff and Students). The brochure was prepared as part of a project funded by the Fund_Akcja program of the Poznań Science and Technology Park, and it is the first initiative of its kind at our university.



THE AUDACITY OF A POLITICAL SCIENTIST

In March 2011, **AMU Prof. Beata Bochorodycz** was flying from Tokyo to Fukuoka when Japan was hit by an earthquake and tsunami. The disaster damaged the Fukushima Daiichi Nuclear Power Plant. This event prompted the Poznań-based political scientist to study the Japanese anti-nuclear movement. The result is a book that, after finding success in the West, was also published in Japan, causing quite a stir.

EWA KONARZEWSKA-MICHALAK

Demonstrations in Japan reached a scale not seen in six decades and lasted several years. Prof. Bochorodycz's project began with an examination of Japan's energy policy and the entities trying to influence it. She published the results of her work over several years in her book, *Fukushima i społeczeństwo obywatelskie: Japoński ruch denuklearny w perspektywie politologiczno-socjologicznej* (Fukushima and Civil Society: The Japanese Anti-Nuclear Movement from a Socio-Political Perspective) (Adam Mickiewicz University Press, 2018). She translated the book into English and published it in the West (Routledge), where it received widespread attention. This led to its publication in Japan in 2024, giving it a second life.

Prof. Bochorodycz conducted field research in Japan for a year. She observed and analyzed groups involved in weekly demonstrations held in front of the prime minister's residence in Tokyo. She spoke with individuals directly affected by the nuclear disaster, as well as representatives of businesses and organizations that bring together people with diverse views ranging from left-wing to conservative. This forced

Prof. Bochorodycz to adopt a civil society perspective in her research.

Although not all researchers agree, grassroots social activism in Japan is not a new phenomenon. “A specific feature of civil society in Japan that is difficult for many American researchers to accept is the close links between social organizations and state structures,” Prof. Bochorodycz explains. “Critics accuse these organizations of collaborating too closely with local authorities, which, in their opinion, compromises their independence. However, the forms of associations in Japan are, in reality, extremely diverse and rich, and there are many such organizations. To consider them ‘insufficiently civil’ simply because they cooperate with the administration means ignoring a whole range of grassroots activities.”

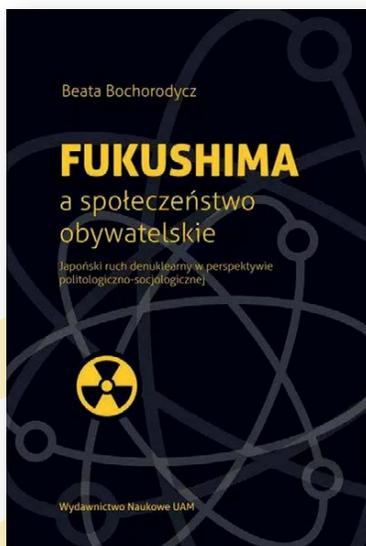
The protesters demanded an immediate end to nuclear energy. They did not achieve this goal, but the effects of the protests were significant. First and foremost, they led to the greatest social mobilization since the 1960s.

“The anti-nuclear movement in Japan can be described as an entire civic ecosystem,” the author explains. “It is much more than just traditional protest groups — alongside classic social movements, there was an extensive network of civic and business initiatives.”

The most visible part of the movement was direct-action groups, protests, and demonstrations — “the flower of the movement,” as sociologist Eiji Oguma put it. In addition to this layer, however, there are also key elements of the ecosystem that are less media-friendly, such as foundations that provided financial support to protesters and NGOs that popularized knowledge about nuclear energy. There were also entities that collected data and provided expert analysis.

Public opinion influenced the government to introduce stringent safety standards in nuclear power plants, and demonstrators contributed to the widespread use of renewable energy sources. Interestingly, attitudes toward demonstrations as a means of expressing opposition to state policy have changed.

“After the events of the 1960s, demonstrations in Japan began to be viewed very negatively and were associated with radicalism and violence,” says Prof. Beata Bochorodycz. “Anti-nuclear protests, on the other hand, resembled festivals or celebrations. They were attended by entire families with children. These events



Beata Bochorodycz
Fukushima a społeczeństwo obywatelskie: japoński ruch denuklearny w perspektywie politologiczno-socjologicznej
Wydawnictwo Naukowe UAM, 2018

were joyful gatherings, which is why they began to be seen as a peaceful form of civil opposition.”

Prof. Bochorodycz’s monograph received a warm reception in Japan. “I was most pleased by the comments of Professor Oguma and other Japanese sociologists who invited me to their seminars. They said that only a foreigner could have come up with the idea of addressing the topic of social activism so comprehensively. In Japan, anti-nuclear movements are mainly studied by sociologists. They usually focus on clearly defined phenomena. They considered treating the anti-nuclear movement as part of civil society to be an innovative approach. They admitted that they themselves would be afraid to approach the subject so broadly. They concluded that such a perspective requires ‘the audacity of a political scientist’ — someone who is not overly concerned that reality does not fit into classic analytical categories and decides to depict it as it is.”

In his preface to the Japanese edition, Professor Oguma noted that it was no coincidence that a researcher from Poland—the birthplace of Solidarity—had adopted such a perspective. He that Beata Borochodycz reached out to diverse social groups. Few people know that right-wing circles organized anti-nuclear protests as well.

Prof. Borochodycz was most surprised and delighted by a positive review in the *Asahi Shimbun*, one of the two largest Japanese daily newspapers with a circulation of millions. There is no equivalent in Poland.

What does Prof. Beata Borochodycz herself think about nuclear energy? “At first, I was rather opposed to it, though not because of concerns about the technology’s safety. Almost every scientist I spoke to emphasized that modern reactors are very safe and are constantly being improved. My doubts stemmed from the fact that nuclear energy brings with it a whole range of problems — from costs and logistics to public trust. Over time, with geopolitical changes and increasingly pressing climate challenges, my approach began to evolve. I am increasingly inclined to believe that nuclear energy may be the best solution here and now. At the same time, however, we must work intensively on alternatives because the problem of radioactive waste has still not been solved. Leaving it to future generations would be irresponsible.” ■

EVERY MORNING, I GET UP, GET DRESSED, GO OUTSIDE AND RUN

AMU Prof. Krzysztof Cichy from the Faculty of Physics and Astronomy, is one of the winners of the Wiosenny rozRuch na UAM, the AMU spring sports challenge. He ran 628 kilometers in 30 days. His result attracted a great deal of interest and admiration. Many people wondered how he did it. Rough calculations show that Prof. Cichy ran an average of 20 km per day in less than a month. Is that a lot? We decided to ask the man behind this success!

MAGDA ZIÓŁEK

When asked about his impressive result, Prof. Cichy responded evasively. He said he was surprised by his colleague **Patrycja Tulewicz's** result; she cycled over 2,000 km. He sees nothing extraordinary in his own achievement. As he emphasizes, it is a standard effort he undertakes every month.

As it turns out, Prof. Cichy has had the same training program for several years and sticks to it with mathematical precision every week. He runs six days a week (except Fridays, which he sets aside for rest). Each day, he runs a different route averaging just over 20 km. These routes are assigned to the days of the week: one on Monday, another on Tuesday, and so on. The exception is Sunday, when he runs 26–30 km. He says this is his routine: He gets up in the morning, gets dressed, goes out, and runs. There is no need to increase his daily effort. This training regimen seems optimal to him.

Daily exercise allows him to collect his thoughts and start the day positively with a boost of good energy. Admittedly, he feels physically tired after the run, but mentally relaxed. Rest, a shower, and a good breakfast are essential after the run.

Contrary to the prevailing trend, the professor does not often participate in events such as marathons or half-marathons. Such sporting events are currently very popular, with runners combining them with tourism by selecting attractive locations as their starting points. This is not the case here.

“I like to run alone,” says Prof. Cichy. “Many people take part in these types of events, and you usually run in a crowd, which bothers me a lot. I make one exception to this rule: the Poznań Half Marathon. I try to participate in it every year.”

There's a story about how he first got into running. In 2018, Prof. Cichy attended a conference at the Poznań Supercomputing and Networking Center. Among the goodies that the speakers received was a smartband fitness tracker. The professor was



planning a vacation with his family in the Tatra Mountains and decided to try running with the smartband to improve his fitness level before his mountain adventures.

“I was in very poor shape, and at first, running was exhausting. I started with 5–7 kilometers, and after each run, I was exhausted. However, I saw progress in the statistics, and that motivated me to continue. I saw my running pace gradually increase and my heart rate decrease. I was able to run longer distances and felt less tired. My fitness improved, and

thanks to that, I continued running. I had tried running before during my studies, but I naturally lost interest. This time, the fitness tracker and statistics helped. I have a mathematical mind, so these statistics served as additional incentives, which I believe allowed me to persevere,” he says. Ultimately, the smartband helped him improve his fitness before going to the Tatra Mountains, allowing him to enjoy mountain trips even more.

Prof. Krzysztof Cichy currently works at the AMU Faculty of Physics and Astronomy, though he began his academic career at the Academy of Economics, now the Poznań University of Economics and Business (PUEB).

“My love for physics won out. For a while, I tried to pursue both fields simultaneously, studying mathematical economics and econophysics at PUEB. In the end, though, physics triumphed. Currently, I don't work in economics anymore, though I sometimes think about returning and applying certain physical methods to economics.” At the Faculty of Physics and Astronomy, Prof. Cichy specializes in quantum chromodynamics, a theory that describes one of the four fundamental interactions of nature. This strong interaction occurs between quarks and gluons, the particles that make up protons and neutrons (nucleons), which account for over 99% of the visible universe's mass. Prof. Cichy explains these topics in a very interesting way, but that is a subject for another article. ■

UPCOMING EVENTS

MARCH 26-27, 2026

10th Forum of University Representatives for Persons with Disabilities: Accessibility and Support in Times of Change

The event will provide a space for joint reflection on how to build truly accessible universities — ones that not only meet formal requirements but also offer a supportive environment for people with disabilities.

Representatives from the Poznań University of Medical Sciences, the Poznań University of Technology, the Poznań University of Economics and Business, the Poznań University of Physical Education, and accessibility and disability support experts will attend the Forum.

The program includes an exchange of experiences among Poznań universities regarding accessibility and support for neurodiverse students, a presentation of best practices for sports and physical activities for people with disabilities, and discussions about the design of accessible infrastructure and academic spaces. There will also be practical workshops, including one on using an age simulation suit.

► **Venue:** Auditorium of the AMU Faculty of Political Science and Journalism

APRIL 17-18, 2026

2nd Interdisciplinary Conference on Antiquity

The event is intended for students and doctoral candidates. The conference will explore the antiquity of the Mediterranean from a broadly defined perspective of the humanities. It is organized by the AMU Archaeology Student Research Club, the Archaeological Museum in Poznań, and the AMU Art History Student Research Club's Ancient Art Section.

► **Venue:** Poznań Archaeological Museum

APRIL 20-21, 2026

Omega-PSIR User Days

This is the largest conference in Poland dedicated to managing information about scientific activities and research achievements. The conference will provide an opportunity to discuss the challenges and development directions of CRIS systems. Topics covered in the program include the practical use of Omega-PSIR in reporting and evaluation, its integration with other university systems, and the exchange of experiences in the field of scientific information infrastructure. Adam Mickiewicz University in Poznań, the University Library in Poznań, and the Warsaw University of Technology are organizing the event.

► **More information:** du.omegapsir.io/agenda/2026

► **Venue:** AMU Collegium Minus

MAY 7-8, 2026

2nd Student and Doctoral Student Scientific Conference: Archeology Near and Far, or Research on Past Communities

The conference focuses on humans in the past in light of archaeological research. The event is intended for undergraduate, graduate, and doctoral students, especially those studying archaeology, archaeometrics, history, and the history of art. It is organized by the AMU Archaeology Student Research Club.

► **Venue:** AMU Faculty of Archaeology (Collegium Historicum)

PUBLISHER:

Adam Mickiewicz University, Poznań
Rector's Office, ul. Wieniawskiego 1
60-712 Poznań

redakcja@amu.edu.pl
www.uniwersyteckie.pl

EDITOR-IN-CHIEF: Krzysztof Smura, krzsmu@amu.edu.pl

ENGLISH LANGUAGE EDITOR: Tomasz Skirecki, tomski@amu.edu.pl

EDITORIAL SECRETARY: Magda Ziółek, magdazio@amu.edu.pl

EDITOR: Ewa Konarzewska-Michalak

CONTRIBUTOR: Dariusz Nowaczyk

PHOTOGRAPHER: Władysław Gardasz, vlagar@amu.edu.pl

EDITORIAL REVIEWERS: Tomasz Skirecki and Elżbieta Gola

EDITORIAL OFFICE: Ewa Konarzewska-Michalak, ewakon2@amu.edu.pl,

ul. Święty Marcin 78, 61-809 Poznań, phone no: +48 61 829 46 37

GRAPHIC DESIGN: Zosia Komorowska

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ul. Ziębicka 17, 60-164 Poznań

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The editors are not responsible for the content of advertisements, announcements, or other notices published in the magazine.

We look forward to working with all interested parties.

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*In today's chaotic world,
the tranquility of this place and
its wild nature may surprise you,
making you want to come back.*

Prof. Grzegorz Rachlewicz



The AMU Polar Station "Petuniabukta"
in a winter landscape under the moonlight.