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UNIVERSITY LIFE

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AMU IN THE CITY OF THE FUTURE

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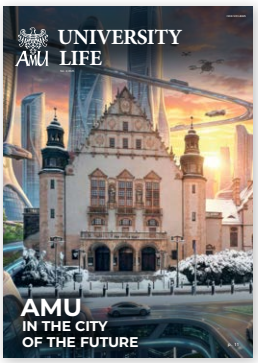


Photo: Władysław Gardasz/Google Gemini

WELCOME ADDRESS OF HER MAGNIFICENCE RECTOR FOR THE 2025/2026 ACADEMIC YEAR

PROF. BOGUMIŁA KANIEWSKA
RECTOR OF ADAM MICKIEWICZ UNIVERSITY, POZNAŃ

As a literary scholar, I would like to begin today's reflections with a personal note by quoting a masterpiece.

"Alice never could quite make out, in thinking it over afterwards, how it was that they began: all she remembers is, that they were running hand in hand, and the Queen went so fast that it was all she could do to keep up with her: and still the Queen kept crying 'Faster! Faster!' but Alice felt she *COULD NOT* go faster, though she had not breath left to say so.

The most curious part of the thing was, that the trees and the other things round them never changed their places at all: however fast they went, they never seemed to pass anything. 'I wonder if all the things move along with us?' thought poor puzzled Alice (...)

The Queen propped her up against a tree, and said kindly, 'You may rest a little now.' Alice looked round her in great surprise. 'Why, I do believe we've been under this tree the whole time! Everything's just as it was!'"

This quote from one of Lewis Carroll's most mysterious and ambiguous children's books seems to be an apt metaphor for our situation at the beginning of the new academic year.

Photo: Władysław Gardasz

The quoted scene defies common sense, the laws of physics, and everyday experience. It is also an excellent commentary on the film you have just seen, which captures the events of the past academic year. It shows that the raison d'être of the academic community is constant movement and progress. The pursuit of excellence and surpassing oneself, both individually and collectively, has enabled Adam Mickiewicz University to remain among the top Polish universities, attract prospective students, and strengthen its position as a research and European university.

As we climb the ladders of rankings and projects, we never forget that a university is a community of passionate, curious, and creatively restless people.

The opening ceremony of the new academic year is an excellent opportunity to thank all those who created our successes and stabilization, which is no small feat.

Thank you for raising bold issues, for your uncompromising attitude, meticulousness, systematic approach, and scientific and administrative diligence. Thank you for your commitment and concern, often expressed through difficult questions. Thank you for your responsibility, sense of community, and desire to express your individuality and uniqueness.

I would like to thank everyone in our university community: researchers, teaching staff, doctoral students, graduate and undergraduate students, administrative staff, library staff, publishing staff, laboratory staff, and service staff. I would especially like to thank our seniors. You are an important and necessary part of our academic community as guardians of values and traditions. Thank you to the university's graduates and reliable friends who support us in many ways.

We live in difficult and demanding times. We are concerned about our future, about maintaining peace in Europe and around the world, and about the future of our planet. We all struggle with anxiety and uncertainty, which can be especially challenging for young adults. Reality presents us with global challenges that demand action, critical thinking, and wisdom. It asks us to take responsibility for a world in which information is easily manipulated and manipulates us. Finally, it asks us to consider the human dimension of artificial intelligence.

Meanwhile, it is difficult to resist the impression that, even though we are running faster and faster, we are not moving forward but backward. Not because we are running too slowly, but because the path we are running on is moving backwards. Why?

Perhaps we should refer to Alice again.

"'Well, in *OUR* country,' said Alice, still panting a little, 'you'd generally get to somewhere else—if you ran very fast for a long time, as we've been doing.'

'A slow sort of country!' said the Queen. 'Now, *HERE*, you see, it takes all the running *you* can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!'

'I'd rather not try, please!' said Alice. 'I'm quite content to stay here— only I *AM* so hot and thirsty!'

'I know what *YOU'D* like!' the Queen said good-naturedly, taking a little box out of her pocket. 'Have a biscuit?'

Alice thought it would not be civil to say 'No,' though it wasn't at all what she wanted. So she took it, and ate it as well as she could: and it was *VERY* dry; and she thought she had never been so nearly choked in all her life."

Let's take a look: 2025 set a record for GDP expenditure on science and higher education. This is a record because there has not been such low spending since the beginning of the 21st century. In 2025, university employees will receive a 5% pay raise, and it is expected to be 3% in the following year. This academic year, we recruited fewer international students for full-time studies: only 666. Of those, only 30 received visas.

The opening ceremony of the academic year is a celebration for the university—a joyful occasion—and not the place to recap all our efforts, both as AMU and the Conference of Rectors of Academic Schools in Poland, to change the course of events and give Alice at least a little water instead of a dry biscuit. Unfortunately, we have failed. However, we may succeed if a clear change takes place. Declarative support that is not followed by constructive dialogue with the academic community and does not translate into concrete action remains an empty slogan. So, let's not talk about innovation as long as Polish researchers lack funding for research. Let's not talk about security if it relies on purchasing foreign equipment and licenses without investing in domestic technologies. We should not discuss a knowledge-based economy without developing a system that encourages Polish companies to collaborate with Polish universities. Finally, let's not talk about Poland's importance on the international stage while closing the doors of Polish universities to students and researchers from other countries and making it difficult for them to obtain visas or permanent residence rights.

Sending one astronaut — albeit a wonderful one — into space, even if he flew there in the company of tardigrades bred with the help of scientists from AMU, will not bolster Polish science. Polish universities need young people to stay and conduct experiments, searching for truth, and feeling needed and valued.

The principle of collective responsibility, which extends to all institutions of higher education and

science, is not helpful when no consequences are drawn for the few who are actually at fault. Nor is it served by the lack of a coherent, nonpartisan strategy for developing science and education, including plans for financing science and systematically encouraging businesses to cooperate with scientific institutions.

I am convinced that there is still time to turn things around: time to reflect and fulfill the declarations we have heard so many times.

Yes. Science carries risks, does not yield quick profits, and does not guarantee commercial or economic success. However, as has become a truism, every dollar invested in science and the education of young people pays for itself many times over. This occurs not only in the form of measurable profit, but also in the development of an educated, wise society that preserves the memory of the twists and turns of its own fate. No one has calculated the growth rate of each zloty invested in education, nor the value of supporting individuals who will one day take responsibility for our country's development.

Science simply pays off. The risk is worth the price. Without science, we would live among flat-earthers.

Learning is attractive. One of our graduates decided to share his dreams of doctoral studies at Cambridge and found funding from private individuals, as well as a generous institutional sponsor. He is a classical philologist and philosopher. He is also a dreamer who has inspired many with his passion.

I wish for all of us to have a passion that makes every job beautiful and a sense of purpose that allows us to overcome all obstacles.

The well-known philosopher and physicist Father Professor Michał Heller said: "Although we may not always realize it, it is the progress of science that changes the face of the world." It is time for us all to understand this.

Ladies and Gentlemen, in a moment, I will recite the magic formula that opens the academic year. I wish you all a good, prosperous, and happy year. May these wishes come true collectively and individually, in small, everyday matters, and in great, memorable projects. May they come true for the youngest and the oldest. May they come true for all of us.

Quod bonum, felix, faustum, fortunatumque sit!

MEDAL AWARD CEREMONY: *PALMAE UNIVERSITATIS STUDIORUM POSNANIENSIS*

At its April 28, 2025 meeting, the Senate of Adam Mickiewicz University, Poznań awarded the Palmae Universitatis Studiorum Posnaniensis medals to distinguished professors and, above all, to former AMU Rectors: Professor Bronisław Marciniak and Professor Andrzej Lesicki.

Photos: Władysław Gardasz

AWARDS FOR AMU SCIENTISTS

Prof. Adam Miranowicz (Faculty of Physics and Astronomy) has been named this year's winner of the Heisig Award.

He was recognized for his pioneering achievements in researching the theoretical and empirical foundations of quantum technologies. This includes developing new methods for generating, controlling, and detecting the quantum states of single photons.

Established in 2020, the Heisig Award is presented every two years by the University of Wrocław. Candidates are nominated by universities participating in the Excellence Initiative – Research University (IDUB) program.

Dr. Justyna Prusinowska (Faculty of Ethnolinguistics) has been awarded an honorary doctorate by the University of Latvia in Riga. This prestigious award recognizes her contributions to Baltic studies and her long-standing collaboration with the Latvian academic community.

Prof. Marek Kwiek (Faculty of Philosophy) has received an honorary doctorate from WSB University in Dąbrowa Górnicza. He is one of the most frequently cited scientists at AMU and undertakes internships at foreign universities. He also combines scientific research with expert activities in the field of higher education. ■

Photos: Toms Grinbergs; Paweł Piotrowski, Uniwersytet Wrocławski

PROF. PRZEMYSŁAW WOJTASZEK

AMU VICE-RECTOR FOR FINANCE AND RESEARCH PROJECTS, SCHOOL OF NATURAL SCIENCES

THE FUTURE IS IN US

The editors of *University Life* asked me to write the lead article for this issue, which is about research that may shape our future. So, does AMU conduct research that aligns with the latest scientific trends in terms of quality? Undoubtedly. Will this research have an impact on our future? No one can say for sure at this point.

"I learned very early the difference between knowing the name of something and knowing something"

Richard Feynman

First, let us look at what science is. As a biologist, I will consider the Anglophone definition of the word "science," which is described as a systematic activity that expands and organizes knowledge about the world around us through verifiable explanations and predictions. Two elements of this definition are key for me: systematicity and verification. The first element indicates that current discoveries are based on those made in previous centuries. The second element indirectly places science in a social context: First, it places science in a community of researchers whose activities verify the reliability and accuracy of results, their interpretation, and possible consequences. Second, it places science in society at large, which assimilates the acquired knowledge and uses it in practice.

In recent years, there has been much talk about scientific excellence, both in the context of its "cult" significance and in relation to evaluating the quality of scientific research. "We are what we repeatedly

Photo: Władysław Gardasz

do. Excellence, then, is not an act, but a habit," a quote often attributed to Aristotle, fits perfectly with the above-mentioned feature of science—systematic activity. It also shows that scientific excellence is not a one-time event but rather a process—a continuous pursuit resulting from reliable work.

This is the first important aspect of scientific excellence. Now, let us discover the next aspect by answering the question: Can excellence be measured, and if so, how? To call something or someone "excellent," we need tools to compare and indicators to distinguish between "bad" and "good" or "excellent." For centuries, and even today, the distinguishing feature for researchers has usually been recognition by their contemporaries for their research. The extremely long process of "building a name for oneself," which is familiar to everyone in the scientific community, is an obvious continuation of this phenomenon. This leads us to conclude that scientific activity is social. Scientists may conduct research individually but cannot determine on their own whether it is perfect. For this to happen, they need an audience and confrontation with other members of the scientific community.

"Sometimes, you have to look back in order to understand the things that lie ahead"

Yvonne Woon, *Dead Beautiful*

Recently, on the occasion of Polish Science Day, I said that, to me, science is a gateway to the unknown. So, how should we talk about the future? Should we approach it intentionally or existentially? Do we want to actively shape it or merely observe and receive a changing reality? Beyond the classic or legal definitions of basic research and applied research, the key difference lies precisely in the dualism outlined above. It is hard to imagine applied research, the commercialization of its results, and its practical use not looking to the future. Meanwhile, basic research is conducted solely for the purpose of understanding the surrounding reality. Whether ideas for applications will ever emerge from it is unpredictable.

Let us therefore take a look at the history of our civilization. There, we can find examples illustrating every path scientific life has taken. Recalling a few of these examples helps us understand the differences in character between us and others, which we, as representatives of the basic sciences, understand perfectly well.

For example, Gregor Mendel discovered the laws of biological inheritance while breeding and studying plants in a monastery garden in Brno in 1865. However, his work, which we now recognize as one of the foundations of modern biological science, was completely forgotten. It was only when Hugo de Vries revisited the problems of inheritance in fruit flies in 1900 that Mendel's discoveries were restored to the scientific community.

I often ask my students, who attend my lectures on the theoretical foundations of biology, the following question: Is the development of contemporary disciplines in biology due more to the development of scientific ideas or research techniques? One useful way to approach this question is to look at Nobel Prizes. Throughout most of the 20th century, Nobel Prizes were awarded for scientific discoveries. However, in recent decades, the development of new research methods or tools has been increasingly recognized. Examples include PCR methods, green fluorescent protein, super-resolution microscopy, and cryogenic electron microscopy. Therefore, it should come as no surprise that Ernst Ruska received the Nobel Prize in Physics in 1986 for designing the first electron microscope. It is surprising, however, because the first transmission electron microscope was constructed in 1931. This is not an isolated example. Barbara McClintock discovered mobile genetic elements and their transposition phenomenon in the maize genome in the late 1940s and early 1950s but was not awarded the Nobel Prize in Physiology or Medicine until 1983.

An interesting example is the spontaneous generation theory, whose origins can be traced back to Aristotle. For centuries, this theory was so popular that virtually every scientist tried to contextualize their work within it. It is no wonder, then, that Matthias Schleiden and Theodor Schwann, the founders of cell theory—one of the two great theories of modern biology—accepted the assumption that cells can arise spontaneously when publishing their discoveries. It took several decades to eliminate this assumption from the foundations of cell theory and to supersede spontaneous generation theory.

Currently, institutions that fund scientific research are dominated by the desire to demonstrate science's usefulness to society, especially in economic terms. I will mention only the observation of J.J. Thomson, winner of the 1906 Nobel Prize in Physics, regarding the practical use of X-rays. This method became widespread during World War One, when X-rays were used in surgery to locate bullets in soldiers' wounds. However, Wilhelm Röntgen was not seeking surgical methods. This new method was an unintended consequence of basic research aimed at understanding a specific part of the electromagnetic spectrum.

Science also has its dark sides. Some are immediately apparent, while others only become apparent after many years. U.S. space flights owe much of their success to Wernher von Braun, an SS Sturmbannführer and the head of the Third Reich's rocket technology programs. During World War Two, his team developed the V-2 rocket. After the war, von Braun became the chief designer of the Saturn V rocket, which took the first humans to the moon. More difficult to accept is that certain areas of medicine developed not only because of the discovery and introduction of antibiotics but also because of the results of Nazi experiments on concentration camp prisoners.

"The future is not in front of us, for it is here already in the shape of a germ. Sometimes we seem to smell of decay, encumbered by the faded remains of the past, but the future is in us, and we are its gardeners."

Karel Čapek, *The Gardener's Year*

In the field of experimental science, the research process always involves a series of trials and errors, testing solutions, and verifying new ideas. Achieving something requires being one step ahead of others, which is not easy. At the turn of the century, the human genome was sequenced. The sequencing program took many years, involved hundreds of researchers in laboratories around the world, and cost hundreds of millions of dollars. Today, the most important data about a single human genome can be obtained in a few hours for a few hundred dollars. What was once considered excellent has become routine.

This is happening in many areas. ARPANET and its protocols laid the foundation for today's internet. The World Wide Web was initially developed as an internal communication tool for CERN research teams. When we use our cell phones, we do not consider that they were made possible by people like James Clerk Maxwell, Ernest Rutherford, and the other great contributors to quantum mechanics, such as Max Planck, Erwin Schrödinger, and Werner Heisenberg.

However, I would like to end on an optimistic note. In 1972, the Club of Rome published a report entitled *The Limits to Growth*, which presented a rather catastrophic description of humanity's future. Though the report was heavily criticized, it inspired action to reduce fossil fuel consumption and promote energy efficiency. The discovery of the ozone hole and its causes led to the adoption of the Montreal Protocol, an international treaty, in September 1987. This treaty significantly reduced the use of substances responsible for ozone depletion. Subsequent reports by the Intergovernmental Panel on Climate Change (IPCC) are also having an impact, becoming catalysts for changes that lead to sustainable human development.

"A future is not given to you.
It is something you must take for yourself."

Pod 042, *NieR: Automata*

MULTIFUNCTIONAL UNIVERSITY

"When we think about the contemporary university in the context of the future, we must consider the changes taking place within it, as well as the external transformations that directly affect it," says Dr. Łukasz Rogowski from the AMU Faculty of Sociology. He carried out the Open Space research project with other faculty members and the Sociology Students Club. Funded by the Excellence Initiative – Research University (IDUB) program, the project provided an assessment of the needs related to the use of university infrastructure. Interview with **Dr. Łukasz Rogowski**

MAGDA ZIÓŁEK

This issue of *University Life* focuses on the university of the future. Could you name a few characteristics that describe such a university or, more broadly, a higher education institution?

There are certainly several elements. First, the concept of work-life balance is a very important phenomenon that influences how we think about our professional and educational lives. It involves achieving a balance between activities related to professional and educational life and private life. This balance is necessary because how we function in university life can be positively or negatively affected by the attention we devote to non-professional or non-educational activities.

Photo: Władysław Gardasz

OGRODY CAMPUS

Other important factors shaping the modern university are sustainable development goals, promoted by the United Nations, among others. These include high quality of life, gender equality, climate protection, and sustainable urban development. If we accept that these values are important for social life, then the university must take on new commitments. Rather than closing itself off from the outside world, the university should strengthen its role in city-building and establish relationships with non-university institutions. This is also important from an internal perspective, such as how the university values its ecological role, which is undoubtedly linked to sustainable development.

Third, the university is—and I think this role is becoming increasingly significant in today's world—a place where people not only acquire knowledge but also spend their free time establishing new relationships and pursuing hobbies. In short, the university fosters social skills, and, therefore, it must meet these needs.

How will these demands be implemented in practice?

First and foremost, I think the university will become multifunctional. Even today, campuses are slowly shifting away from being solely focused on education and scientific research. This does not mean that educational and scientific functions are no longer important. However, if we want campuses to be more welcoming and open places, it is crucial to address the other trends I mentioned.

When we started our research on diagnosing student needs we had various concepts in mind. We refined all of them during the creation of consultation stands, which we set up on all of our university's campuses in Poznań. During the consultations, we identified four functions that we incorporated into our research: the educational function related to learning and knowledge acquisition; the relationship-building function related to the creation of social relationships and bonds; the social function related to the pursuit of well-being and improvement of quality of life; and the ecological function related to environmental sustainability. In addition to the stands in the Open Space project, we interviewed AMU building managers, conducted a university-wide survey of students, and organized research walks around the campuses.

Which suggestions for change were mentioned most frequently in the survey? What would students like to change on campus?

The most frequently mentioned issue, at consultation stands and in university-wide surveys, was the lack of places to prepare and reheat meals. This shows that we study on campus and also want to spend time there. We are aware of the rising cost of living, as well as the relatively poor social infrastructure in the immediate vicinity of the Morasko Campus. This explains the demand for meal preparation facilities on campus as an alternative to fast food. Meals prepared on campus would often be healthier and cheaper than food available in cafeterias or vending machines.

Were cafeterias not included in the list of student demands?

This is not out of the question, as cafeterias play a very important role on campuses. One of the back issues of *University Life* featured an interview with Ms. Karolina Łatwis, a student at our faculty who is conducting research on university cafeterias. She also participated in the Open Space project. Her research shows that these places are used for non-institutional meetings where people from different departments and campuses can establish relationships. However, in our research, we pointed out that cafeterias can also be places where students and lecturers meet and get to know each other. This gives the university an informal integrative function.

Students also requested places where they can do individual or group work in a non-commercial setting. They do not want to have to pay extra for coffee or tea. The idea is to find a space

Graph: Władysław Gardasz/Adobe Firefly

in the building where people can meet to discuss a class project or simply talk and relax.

We discussed relationship-building functions that used to be fulfilled by student clubs.

Our research focused on AMU campuses, so student clubs were not a direct topic of study. However, one interesting aspect of the research was showing the relationship between the campus and its surroundings. In fact, if we look at the campus on a map—and it often differs from the mental map we have of the area—its boundaries shift, annexing adjacent parts of the city.

This is the case with the Ogrody Campus and the Śródmiejski Campus, whose social infrastructure was rated lower by respondents than the Morasko Campus. However, when the perspective broadened to include nearby amenities, such as the aforementioned clubs, cafés, shops, restaurants, and parks, the rating clearly increased. This also entails a certain paradox, though: in such a situation, university life is sucked out of the university and into its immediate surroundings. The definition of campus boundaries also varies significantly when considering the university ecological function.

That's interesting. How does the ecological function affect our perception of the university?

The Śródmiejski Campus is a paradox because its buildings are located within or in close proximity to green areas. This makes the entire space appear "green," even though Collegium Novum, for example, has no park within its boundaries. In students' minds these boundaries become blurred.

However, regarding the ecological function itself, all of our respondents—not only students, but also the building managers we interviewed—are aware that its significance will increase. This is something that cannot be ignored. Furthermore, according to our respondents, proximity to nature and green spaces gives the university a modern image.

At the same time, green areas are important places due to thermal comfort. In the summer, for instance, we are more likely to sit on the grass under a tree than on a sunny bench. Shade and greenery allow us to escape external conditions and enjoy the benefits of green areas.

All of this sounds interesting, but what are the chances that the findings of this research will be translated into action?

This is the first nationwide project examining university infrastructure so comprehensively. These issues have been studied before, of course, but only selectively and in relation to narrow areas. In our project, we examined campuses and buildings multidimensionally. In my opinion, this project is paving the way for a new approach to university culture and infrastructure.

To answer your question, our research will be used to implement specific changes at AMU gradually. For example, we are considering changing the status of meal preparation areas or placing greater emphasis on creating "chill-out rooms" for informal rest. Please note that not all students have the opportunity to relax at home, which is highly relevant for people with ASD. Perhaps, in the future, the university will become an enclave where these individuals can escape the hustle and bustle of family, social, and professional life, promoting their overall well-being and work-life balance.

Catering facilities at AMU:

30 social rooms (chill-out zones, study rooms, kitchens, and dining rooms). With 14 more to be added soon

19 dining facilities in Poznań and 6 at AMU branch campuses

39 vending machines in Poznań and 4 in AMU

7 self-service cafes

NEW! Healthy food vending machines will open in 8 locations, including 2 in Collegium Rubrum.

I have reviewed the recommendations prepared as part of the project. Surprisingly, there is a diversity of ways in which students use chill-out rooms.

One hypothesis regarding our research results suggests that the assessment by students from different campuses may be the result of the specific nature of the fields of study at each campus.

Another notable recommendation is the proposal to "unschool" the university space. Students want to feel that they are in a place that differs from their high school experience, for example university architecture, which is different from school buildings. It could also be the "unschooling" of furniture, which allows for greater flexibility and different arrangements during classes. One of our respondents summed this up well when he said that he feels pushed into a small, uncomfortable chair that reminds him of school. In an ecological context, one proposal was to create a participatory green budget that would increase students' responsibility for how the university's common spaces function and are used.

Significantly, our research was conducted jointly by the Faculty of Sociology and the Sociology Students' Research Club. We assumed that it would be more reliable if the students themselves took part in diagnosing their needs. The project was carried out under the supervision of the Faculty of Sociology, and the students' participation and opportunity to express their opinions on important issues was valuable in itself. Our project's role was to show students that they and their voices matter to us, and that they are experts in understanding the university space because they use it most effectively. ■

AMU PROF. LIDIA MIERZEJEWSKA
AMU Faculty of Human Geography and Planning

CITIES OF THE FUTURE: THE CASE OF POZNAŃ

Architects and urban planners have always striven to design the ideal city of the future. However, the concept of the ideal city has evolved over time in relation to the functions cities were expected to perform, the threats and problems they faced, the challenges they encountered, and the changing needs of their inhabitants.

The situation is no different in modern cities. Common demographic problems include an aging population, migration of young people to larger cities or suburbs, and climate-related issues such as heat waves, flash floods, environmental pollution, high noise levels, limited access to nature, inefficient transport and energy management systems, waste management systems, a lack of available housing, and growing investment pressure on green areas.

These issues have been exacerbated in recent years by public health crises, including the ongoing effects of the COVD-19 pandemic. The pandemic has not only caused infection but also chronic stress, leading to an increase in mental illness, including anxiety attacks, depression, addiction, and burnout. In the face of changing development conditions, cities cannot be viewed as static structures but rather as dynamic ones that respond organically to changes. Ensuring the survival and sustainable development of cities seems to require building adaptive capacities and the ability to reconfigure and flexibly adjust to new conditions. The city of the future should therefore be viewed as one that builds resilience to various threats and skillfully exploits emerging development trends.

The city of the future should therefore be viewed as one that builds resilience to various threats and skillfully exploits emerging development trends.

This raises the question: How should cities develop to become healthy, safe, and attractive places that satisfy the needs of their residents?

A geo-questionnaire survey of residents in Poznań, Swarzędz, and Puszczykowo shows that future cities should primarily provide access to green spaces, including undeveloped areas. Within the city's spatial structure, single-family housing areas are more desirable than multi-family housing areas. Changing shopping habits indicate a preference for small, local stores and online shopping, meaning large shopping malls are becoming less attractive. In terms of mobility patterns, there is a clear need to increase space for nonmotorized users and improve public transportation accessibility. There is also noticeable interest in remote work, which became widespread during the pandemic.

Can the changes desired by city residents be observed in Poznań? The demolition of shopping malls, development of pedestrian and cycling spaces, and quieting of traffic in the city center seem to align with the results of the aforementioned studies. These changes meet residents' expectations and contribute to Poznań's appeal as a place to live. However, the cities of the future should, above all, bring residents closer to nature, of which they are a part. The biophilia hypothesis assumes that people have a deep-rooted love of nature and can be used as a model for designing such cities on various spatial scales. Healthy, safe homes built from natural materials and surrounded by greenery with good access to shopping, services, public transportation, and alternative transportation options should encourage people seeking greater contact with nature and privacy in suburban areas, including young people, to live in the city. ■

Photo: Władysław Gardasz

ELECTRIC MOBILITY IN THE CITIES OF THE FUTURE

DR. RAFAŁ SZYMANOWSKI
AMU Faculty of Political Science and Journalism

Electric mobility (EM) is one of the essential elements of sustainable transportation and has already changed the way we move around cities. The ITEM (Inclusive Transition to Electric Mobility) project analyzes the extent to which this transition can be equitable and the challenges it faces.

An international research consortium consisting of four universities—the University of Oxford, Utrecht University, the Norwegian Institute of Transport Economics, and AMU—and the Heksagon Research company carried out the project. Research was conducted in Oslo, Utrecht, Bristol, and Poznań, with a project budget of €1,220,365. In Poznań alone, the researchers collected data through three expert workshops, 46 in-depth interviews, and a large-scale survey of 900 residents.

The project's results showed that many measures have been taken in Poznań in recent years to develop EM. The city has installed more than 127 publicly accessible electric vehicle charging stations, offering a total of over 330 socket outlets — nearly 100 more than expected by mid-2024. Although the pace of infrastructure development is promising, access to EM remains limited, primarily for wealthier residents.

The survey shows that electric cars are perceived as luxury products available only to a select group of people. This perception is due to the high purchase costs and limited electric vehicle charging infrastructure, especially in residential areas. Many residents of Poznań do not have access to charging stations near their homes or workplaces. Combined with concerns about battery life, this effectively discourages them from purchasing expensive electric cars.

Meanwhile, the city authorities are taking measures to increase the share of electric vehicles in public spaces. The strategy for 2035 includes plans for the further electrification of the city bus fleet, the development of charging infrastructure, and incentives for residents to switch to more environmentally friendly means of transportation. An increasing number of Poznań residents are using park-and-go and park-and-ride facilities and traveling to the city center by public transportation. Electric city buses are significantly improving travel comfort and reducing smog in the city center.

Other forms of so-called new mobility are also gaining popularity. Electric scooters and bicycles are being used more and more by Poznań residents, especially in the city center. In 2024, 268 Hop & Go points were launched. These are designated parking spaces for shared scooters and bicycles. They are intended to help organize their use. Micromobility is changing the culture of urban travel by providing a competitive alternative to cars and offering a different way to experience the city.

However, shortcomings in charging infrastructure and unequal access to technology remain key problems. For sustainable transportation to become widespread, affordable public transportation options must be further developed, systemic support must be provided, such as subsidies for purchasing electric bicycles, and serious discussions about the dominant culture of mobility must be engaged in. Parking lots that pervade the landscape, which are necessarily equipped with parking spaces reserved for management, including at public university buildings, are a relic of the past that is nowhere to be found in academic centers outside of Poland.

Other forms of so-called new mobility are also gaining popularity. Electric scooters and bicycles are being used more and more by Poznań residents.

One of the most important challenges for EM is to develop it in a way that does not further increase dependence on private cars, which is already strong. Integrating EM with other forms of transportation, such as state-of-the-art mobility as a service systems, and developing shared electric vehicles are also crucial.

Although Poznań is increasing the importance of sustainable transport, the city still faces many challenges. Ensuring fair access to electric transport and developing infrastructure that includes not only cars but also bicycles, scooters, and public transportation will be key. Integrating various forms of mobility can make Poznań a modern, environmentally friendly, and accessible city for all. ■

Photo: Private archive

AMU PROF. JUSTYNA WILAND-SZYMAŃSKA
Director of the AMU Botanical Garden

SUPPORT NATIVE SPECIES

Green spaces are one of the most important components of the well-being of city inhabitants. However, there is often a conflict in urban areas between the need to develop housing and road infrastructure and the need to preserve green spaces.

Long-standing lawn-mowing habits, excessive tree pruning, landscaping trends, and the perception of vegetation as purely decorative are causing species impoverishment. Often, non-native species are used for planting, and these choices are repetitive. Some of these species have already become invasive. They are undoubtedly one of the greatest challenges cities face today. In our part of Poland, the ailanthus tree stands out among them due to its expansiveness. Once planted for its decorative qualities and high resilience to urban conditions, this beautiful tree is now becoming a real problem due to its expansiveness and ability to adapt to urban spaces. One might wonder why such a fast-growing species should be controlled. It is related to maintaining the food chain in cities, which starts with plants that serve as a food source for our native insect species. These insects are then eaten by animals such as amphibians, reptiles, birds, and mammals. Invasive species compete with our native plants for space and resources, and by displacing them, create a kind of food desert. This is important to remember not only when planting in urban areas but also when selecting plants for our own gardens and balconies.

Fortunately, urban gardening trends support developing semi-natural plant communities to create sustainable, attractive, and biologically active urban spaces. Recreational areas are important because of the soil they contain and the living organisms it harbors, as well as their potential for rainwater retention.

Fortunately, urban gardening trends support developing semi-natural plant communities to create sustainable, attractive, and biologically active urban spaces.

Urban green spaces include not only parks and other facilities but also urban forests, which are of great importance to residents. We have such forests in Poznań, and Poznań Forests undoubtedly strives to keep them in the best possible condition. This is evident in activities in the Żurawiniec Reserve and the Piątkowo Forest, where rainwater has been directed. Inevitably, progressive climate change leads to reduced water availability and cloudbursts. This makes it necessary to consider urban vegetation in the context of its ecological services and balance these phenomena in urban spaces. In Poznań, city authorities are developing blue-green infrastructure. At the same time, regulations are being introduced to protect trees during construction, for example. However, it is important that the creation of various elements of the urban environment be carried out in close cooperation with scientists, including biologists, to maximize the impact on maintaining biodiversity.

Species not adapted to current urban conditions will gradually disappear from our cities. Those that cannot compete with other organisms, such as insects, will also vanish. Examples include the horse chestnut, an invasive species in Poland, as well as the small-leaved lime, Norway maple, birch, and others. These species are vulnerable to the effects of lowered groundwater levels or increased soil salinity, which prevents them from absorbing water. One visible sign of reduced tree resistance is the widespread occurrence of mistletoe. Therefore, greening the city must be a comprehensive process that takes into account all aspects related to plant life, such as water, light, and temperature conditions, as well as the selection of species that are sufficiently resistant yet harmless to native nature. ■

Photo: Władysław Gardasz

THE ANTICIPATORY ROLE OF THE HUMANITIES

PROF. EWA DOMAŃSKA
AMU Faculty of History

CAN HISTORY PREPARE US FOR THE FUTURE?

The word "anticipation" originally meant acting in advance to prevent future events, rather than waiting for them to happen. This aspect of anticipation—the ability to prepare for the future, adapt, and build resilience—has become the subject of **Professor Ewa Domańska's** research at the AMU Faculty of History as part of the Anticipatory History Project.

Can historical knowledge help prevent future disasters? Does it play any role in the survival of humanity and the Earth?

IS THE POZNAŃ UNIVERSITY TIME CAPSULE A MARKER OF THE FUTURE?

Anticipatory thinking permeates the Poznań University Time Capsule project, which spans from 2019 to 2119. The initiative was launched to commemorate the University of Poznań's 100th anniversary. In 2019, the capsule was placed in front of Collegium Minus and will be opened in 100 years. Among the 27 artifacts placed inside are some rather unconventional objects, such as 100 tardigrades, 41 grams of the Morasko meteorite from the AMU Museum of the Earth collection, coal, and seeds of two plant varieties originally bred by the Department of Genetics and Plant Breeding at the Poznań University of Life Sciences.

These items are not only traces of the present but also potential historical sources that can provide future researchers with information about how we thought about the world and tried to predict its future. The tardigrades, seeds, meteorite, and coal placed in the time capsule are also "anticipators" of a possible future. Thanks to their ability to undergo anabiosis, tardigrades could inspire survival strategies in extreme space conditions and human adaptation to life beyond Earth. The meteorite, a remnant of distant worlds and the history of the solar system, underscores humanity's connection to space and serves as a reminder of potential dangers from interplanetary space. Coal, a symbol of the Industrial Revolution and environmental degradation, warns future civilizations of the need for responsible resource management and a transition to sustainable energy sources. Seeds, on the other hand, could be crucial for rebuilding agriculture after a catastrophe or for establishing a new ecosystem on another planet. Together, these four artifacts tell a story of resilience and adaptation, which is crucial for survival and development in the future.

Thanks to their ability to undergo anabiosis, tardigrades could inspire survival strategies in extreme space conditions and human adaptation to life beyond Earth.

IS HISTORY A STUDY OF THE FUTURE?

I find it interesting that anticipation occurs in many living organisms, not just humans. The ability to anticipate and respond to changing conditions is fundamental to the biological and cognitive evolution of different species. Research on anticipatory history shows that predicting and preparing for future changes is vital for societies to adapt. The formative and educational role of the humanities is essential here. There is increasing talk of the need to develop "anticipatory competencies" — the ability to analyze long-term trends, recognize early symptoms of impending change, and shape positive values, or "anticipatory virtues," such as critical hope, responsibility, and trust — as well as the "duty of anticipation," or the duty to plan ahead. Does a historian also have a duty of anticipation?

In a world full of crises, anticipatory history can serve as both a warning and a guide to possible survival and adaptation strategies. Memories and testimonies from people who survived extreme conditions, such as war, gulags, camps, and resettlements, are important for building knowledge in times of growing threats.

I am one of those researchers who recognize the need to create knowledge about how to coexist amid multidimensional conflicts. This knowledge would offer hope that the world could be different and help us invent other worlds. I also take as my life motto the saying attributed to Abraham Lincoln: "The best way to predict the future is to create it." ∎

Photo: Władysław Gardasz

AMU IS NOT A SMART CITY

An interview with **AMU Prof. Michał Rzeszewski** from the Faculty of Human Geography and Planning

KRZYSZTOF SMURA

In January, you completed your research on smart cities as part of the OPUS 17 grant. You studied smart cities' development trends. In consideration of the theme of this issue of *University Life*, I would like to ask about the role the university plays and will play in smart cities.

As a critical and digital geographer, critical thinking is my top priority. In my opinion, universities should be very critical of technology and not assume its neutrality. We must always ask why we are doing something and what the consequences will be. Often, we force ourselves to look for innovation, but a university should be a scientific institution that takes its time and upholds universal values. It should observe technology from the sidelines, so to speak, but also shape it. While we have excellent scientists creating 21st-century technologies, we must also recognize their implications and how to improve their effects. A smart city is only as smart as its residents who use and shape it. We, the scientists at AMU, are part of this group.

A smart city is...

A city where technological tools have a designated role to improve quality of life. It is a city where intelligence also means the ability to opt out of modernity. Being aware of these possibilities allows us to use them consciously where needed. However, a smart city can also cope without technology; it is resilient to its absence.

Is Poznań a smart city?

There was a time when Poznań's initiatives, such as the Geographic Information System Portal, promised access to a wide range of data. Although this trend has weakened somewhat, we remain at the forefront of Polish cities. For a city to be considered smart, several conditions must be met. Technology is only one of them. Above all, a smart city is a place where life is good and technology improves quality of life through sustainable development. Thank goodness for that. This is also thanks to the aforementioned critical thinking, because technology introduces a range of problems, such as inequality and access issues. We thoroughly researched this aspect using augmented reality as an example. Augmented reality superimposes digital content on material reality. For instance, it can provide urban information or allow people to move around more easily. Unfortunately, it is not for everyone because it can be exclusionary. Some people may not be able to use the technology, while others may simply choose not to. This creates divisions.

What conclusions can be drawn from your research?

I think we are facing a future in which technology will become less noticeable. It will disappear from the foreground. We will become accustomed to its presence in our lives and accept it as a natural part of our reality. Physical meetings are already becoming special events. In my opinion, this uniqueness will not be a bad thing because we will value it more. Emails and social media will remain in the background. Smart cities are becoming less "obvious" and more "natural," making them increasingly difficult to find. The university's role is to recognize this and determine where the line is that indicates whether we are losing something. Over time, as researchers, we will try to identify the technology sinking into the background of our lives. We must extract it and get to know it. We must make people aware of the social processes behind it. Someone creates it, someone else profits from it, and someone else uses it—for example, when making decisions involving artificial intelligence.

Is AMU a smart city?

I would not say so. This is due to our organizational culture and the various cultures of resistance within it. We are very individualized. Perhaps that is why the university is an extremely interesting testing ground for a smart city. ∎

Photo: Władysław Gardasz

FUTURE?

COLLEGIUM MINUS

COLLEGIUM CHEMICUM

Graph: Władysław Gardasz/Adobe Firefly

WE CARE ABOUT VISIBILITY

An interview with Anna Zakrzewska, the head of the AMU Research and Rankings Office

EWA KONARZEWSKA-MICHALAK

Photo: Władysław Gardasz

Why did you decide to work at AMU? How did you become the head of the Research and Rankings Office?
I am a sociologist by training. For twenty years, I worked in social and market research for a research company in Poznań. I progressed from assistant project manager to research director. At some point, I felt that I was repeating the same projects and not growing professionally. I needed something new.

I found a job opening in the rankings division at Adam Mickiewicz University. I applied because I have experience in this field. I conducted research and compiled results in automotive research. We analyzed sales networks and the ranking of dealerships in Poland and abroad. I was accepted. At that time, the university's rankings came directly under the authority of **Vice-Rector Katarzyna Dziubalska-Kołaczyk**, who decided to merge the Research Support Office with the Rankings Team. Thus, in 2023, the AMU Research and Rankings Officewas formed.

What do you do?
Our office has several key areas of activity, but we are mainly associated with evaluating the quality of scientific activity, promotional procedures, civil law contracts, ministerial projects, and, of course, rankings.

In practice, we carry out many other activities as well. We support POL-on, an IT system that collects data on science and higher education in Poland, in two modules: staff members and promotion procedures, as well as science promotion projects. We process applications for ministerial and municipal awards and scholarships, register conferences and symposia, and collect data on the scientific activities of units and researchers. We assist the Rector in supporting scientific journals and participate in advisory bodies at AMU, such as the University Research Council and the Committee for Research Projects and International Cooperation. We support and participate in meetings of the AMU Scientific Advisory Board (SAB). The AMU SAB assists the university with proper management. We also participate in the HR Excellence in Research initiative.

When I became Head of Office, I was surprised by the large volume of documents, particularly civil-law contracts, that must be registered manually. I am striving to eliminate paper from the office. We scan important documents and store them on disks. I am looking forward to the day when contracts can be processed through the AMU Employee Portal.

There is so much to do! What is your management style?
In both my previous job, where I managed a team of 20 people, and at AMU, I prioritize direct contact with employees. I want to ensure that the atmosphe-

re is conducive to good teamwork. At the same time, I know that, as a manager, I must take care of implementing our tasks and responsibilities, which sometimes involves making difficult decisions. However, I believe that good relationships and professionalism can go hand in hand.

How has AMU's ranking policy developed in recent years?

AMU has focused on four important rankings: the Academic Ranking of World Universities (ARWU), also known as the Shanghai Ranking; the Times Higher Education (THE) World University Rankings; the QS World University Rankings; and the U.S. News & World Report Best Global Universities Ranking. We have identified indicators in each of them that can help us achieve a higher position. For example, in the QS ranking, the reputation indicator in the areas of teaching and research is significant, so we provide data to help us maintain or improve our position.

The Shanghai Ranking's methodology is not entirely clear, but we know that our position largely depends on publications in *Science* and *Nature*. I would like to emphasize that the number of universities included in this ranking is always one thousand and never changes. In other rankings, the number of universities increases every year. This means that even if our position remains the same or is lower than in previous years, we are constantly improving percentile-wise. This is a great success for the university.

I am looking forward to the day when contracts can be processed through the AMU Employee Portal.

What must be done to move up in the rankings?

First, our researchers must publish and participate in various research teams. Basically, ranking methodologies focus on citations and name recognition. I would like to emphasize that all activities related to rankings focus on strengthening the university's visibility. It is a system of interconnected vessels because visibility translates into citations of works. At the Research and Rankings Office, we care about visibility, and so do the AMU Marketing Centre and all initiatives promoting AMU in Poland and abroad.

Every year, you encourage AMU researchers to fill out ranking survey questionnaires. Why?

The QS and THE rankings are based on recognition, but they also evaluate universities based on their contributions to global science through education and research. One element of this evaluation is a survey of scientists. These indicators are important to the methodology, which is why we strongly encourage researchers to participate. While researchers cannot always vote for their own university, completing the survey promotes the university's visibility and enhances its prestige. We are working to invite more researchers to participate in the survey and increase the response rate.

What are the results?

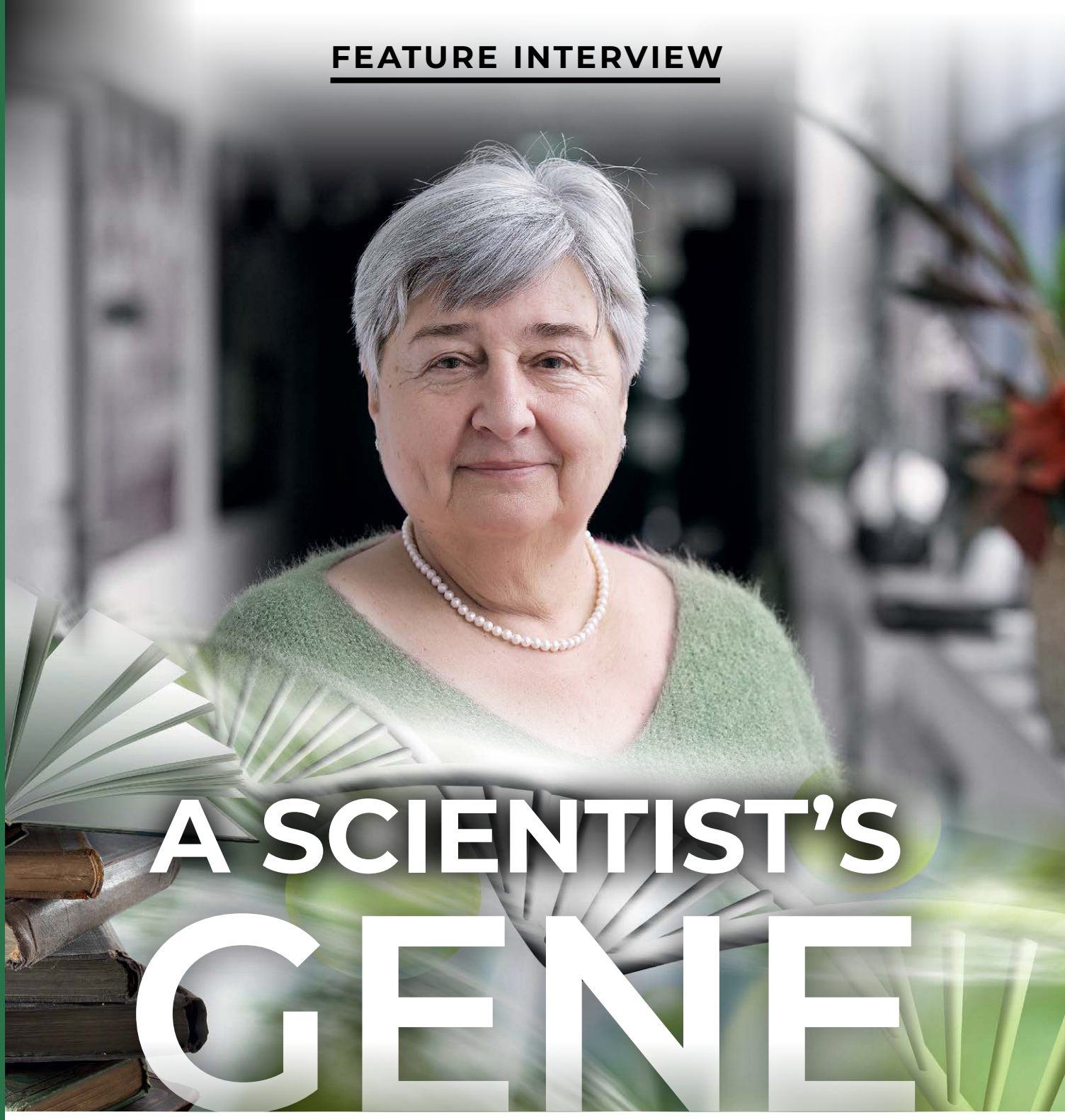
There has been clear progress. In the case of the QS ranking, the AMU Research and Rankings Office can impact the reputation-related results. Each unit participating in the ranking can provide up to 400 contacts of people who will receive an invitation to fill in the survey: 200 will be sent to scientific partners from other universities, and 200 will be sent to potential employers of our graduates. The more valuable the contact, the greater the chance that person will vote for AMU. Last year, together with **Paulina Czapracka** and the rankings coordinators at AMU faculties, we did a tremendous amount of work. We spent two months obtaining these contacts from AMU faculty staff members. This work significantly impacted the ranking results. It is a personal success for us! The process is difficult because we not only have to fight for contacts, but we also have to send emails according to the QS template asking for consent to participate in the survey. We could only do this once. This year, we developed additional procedures to streamline the process. I hope we see the results again.

What challenges are you facing this year regarding rankings?

We are monitoring the implementation of the AMU ranking strategy. The strategy focuses on five key objectives: an effective publication policy to increase citations, internationalization of the university, increased recognition and reputation, sustainable development of the university (green rankings), and management of the rankings area (related to the development of the office and staff). Originally, these tasks were entrusted to the AMU Rector and Vice-Rectors, but this did not work out due to the high level of detail involved. We are currently transferring these responsibilities to the faculty deans. In June, the University Research Council, which monitors the strategy, will issue its opinion on the first report on the implementation of the ranking strategy. I am convinced that the changes will be noticeable, though some tasks will require updating or reformulation because they necessitate tools we currently lack.

You recently refreshed the Research and Rankings Office website on the AMU intranet. What has changed?

We reorganized it. Now, users can easily find out what we do. We are also updating the documents made available for various proceedings and processes conducted with our office's involvement. Take a look—you are welcome! ∎



A SCIENTIST'S GENE

An interview with **Professor Zofia Szweykowska-Kulińska** from the AMU Faculty of Biology

MAGDA ZIÓŁEK

You come from a family with a long tradition of scholarship. I was wondering how this was passed on. Apparently, your grandfather, Professor Zygmunt Szweykowski, an eminent literary historian, engaged his three sons in conversation to develop their curiosity about the world.

If you would allow me, I would like to start my family story a little earlier, with Wojciech Anzelm Szweykowski - the first rector of the University of Warsaw, an exceptional linguist and educator, and a member of the Warsaw Scientific Society. Whenever I visit the Staszic Palace in Warsaw and see

Photo: Władysław Gardasz

the painting on the first floor depicting scholarly debates led by my ancestor and others, I am struck by the family resemblance — perhaps not to me, but to my grandfather Zygmunt Szweykowski's brothers. This is probably the first "scientific" link in my family's history.

In 1939, my grandfather took over the Chair of Literary Studies at the University of Poznań. When World War Two broke out, he joined the underground University of the Western Lands in Warsaw, which was essentially a continuation of the University of Poznań. He served as dean of the faculty of humanities.

A few years ago, I participated in a ceremony to unveil a plaque commemorating my grandfather in Collegium Maius. **Professor Edward Pieścikowski**, one of my grandfather's students, attended the event and recalled that my grandfather used to say he became dean not because of his organizational skills, but because he had ... a bicycle. This would indeed have made travelling between underground university classes in Nazi-occupied Warsaw much easier for him.

Sometimes, when I think that I am the third generation to work at this university, I feel very emotional.

Zygmunt Szweykowski was a literary historian who specialized in the Positivism period. He was passionate about the life and work of Bolesław Prus. I have several editions of Prus's works at home, complete with my grandfather's pencil annotations in the margins. I would like to donate these to our university library so they can take their rightful place on the shelves. I know my grandfather only through memories. While I don't recall the discussions you mention, I do remember that he was a great lover of music, especially operettas. He apparently knew *Die Fledermaus* by heart. He often went to concerts with his sons. All three followed in his academic footsteps: Piotr, the youngest, was a physics professor at Adam Mickiewicz University, but sadly died prematurely. My second uncle, Zygmunt Szweykowski — we called him Uncle Zyzio — was a professor of musicology at Jagiellonian University in Krakow. He passed away a year and a half ago. My father, on the other hand, was a biology professor, plant taxonomist, and population geneticist.

Like your mother?

Although academic pursuits were not a tradition in her family, they were landowners with a strong focus on grassroots work. One of my maternal grandmother's brothers, Michał Grobelski, founded the first orthopaedic department in Poznań, where one of his students was Professor Wiktor Dega. During World War Two, my uncle was active in the Polish Home Army and fought in the Warsaw Uprising. Because of this, he was not allowed to return to his position as head of orthopedics in Poznań in the People's Republic of Poland after the war. He then moved to Bydgoszcz, where he continued his orthopedic practice with great success. Many people remember him as an excellent doctor. My mother, **Professor Alicja Szweykowska**, introduced research on plant hormones at AMU. At that time, this was an entirely new field of study.

Growing up in such a family must have been challenging for a young person...

My childhood revolved around my parents, my sister Marynka, my beloved grandmother Helena (my mother's mother), and books. I remember books being everywhere: in my family home and in my grandparents' house. If I took anything away from my family home, it was definitely my love of books — my most faithful companions.

I was a rather unruly child until about sixth grade. I wasn't interested in school. As soon as I could, I would run away to play with other children, skipping rope or playing hide-and-seek or tag. At that time, we lived in blocks of flats on Szydłowska Street in Poznań that belonged to the Higher School of Agriculture (now the University of Life Sciences in Poznań). Several flats were also occupied by university employees, including Professor Maciejewski from the Polish Studies Department — my grandfather's student — and our family. That's where I led an intense life on the playground.

What happened in sixth grade that changed your perspective?

I got into reading. Like many kids my age, I became interested in archaeology. Then I discovered paleontology, and my commitment to science grew significantly. I am grateful to my parents for instilling in us the importance of education and finishing school. I believe these are two very important elements of life. I also remember having long conversations at home. We used to watch *Teatr Telewizji* (Television Theatre) together every Monday and *Kobra*, a TV crime drama series, on Thursdays. Afterwards, we would discuss them for hours, talking about the acting and interpretations of the roles, or simply coming up with possible solutions to the mysteries.

Did the university come up in these conversations?

My parents talked about it among themselves. I remember snippets of these conversations, but they mostly consisted of comments about mutual acquaintances or work events. They didn't really talk about it with me or my sister. My parents were very attached to the university. Sometimes, when I think that I am the third generation to work at this university, I feel very emotional. This makes me feel emotionally connected to Adam Mickiewicz University. I've had several opportunities to change jobs, but I've always said that I couldn't do it.

< Holidays in Brok, 1962. From left: grandfather Zygmunt Szweykowski, Marynka Szweykowska-Muradin, great-grandmother Aniela Janiszewska, father Jerzy Szweykowski, mother Alicja Szweykowska, Zofia Szweykowska--Kulińska, and Zygmunt Szweykowski (father's brother).

Holidays in Masuria, 1963. > Jerzy Szweykowski with his daughters (Marynka Szweykowska-Muradin on the left, Zofia Szweykowska-Kulińska on the right)

I found an article in the archives of *Życie Uniwersyteckie* dedicated to your parents' memory. They made a significant contribution to the university. Was that the reason you wanted to study biology?

My interest in biology certainly came from home. I remember how, on various family trips, my sister and I would collect plants for my dad. We both took it very seriously and enjoyed it immensely. Once, while collecting flowers and seeds in Tatra National Park, a man approached us, surprised by what we were doing. I definitely inherited my passion for observing nature from my parents.

So, is there such a thing as a "scientist's gene"?

I think so. Curiosity about the world and the desire to discover how it works are inherited traits. I definitely have that "something" in me. It's evident in the way I explore a topic, strive to comprehend it, and uncover what I wish to learn. When I finally learn something, I feel great happiness, satisfaction, and fulfilment. These are extremely important moments in my life. My colleagues accompany me on these journeys of discovery, but I think I am good at interpreting data. My husband, children and grandchildren also support and inspire me.

There is stress along the way, such as worrying that someone else will discover what I am working on before I do.

A few years ago, an article about your family was published in the academic journal *Forum Akademickie*, suggesting that the Szweykowskis have a tendency to take on challenges or topics that no one else has addressed before. Would you agree with this assessment?

Relating this to myself, I would say that I have always been interested in organisms that differ slightly from those that my colleagues have worked on. I began my research with **Professor Jacek Augustyniak** in the late 1970s, at a time when molecular biology was still in its infancy. While my supervisor recognized the need to develop the field, he was a chemist by training and focused more on the processes occurring within the organisms than on the organisms themselves. In the laboratory, we worked with wheat embryos obtained from a mill. No one bothered to find out what variety they were.

I started researching liverworts, an area of expertise of my father's. He studied them using population and systematic genetics techniques and published numerous works on the liverwort flora of Poland. However, he did not have access to the molecular biology tools that were slowly becoming my area of expertise. In one of my first independent research projects, I was able to prove something that my father had proposed using biochemical tools, but which I was able to demonstrate at the molecular level. It was extremely satisfying.

After completing my doctorate, I was awarded a Humboldt Research Fellowship at the Institute of Biochemistry in Würzburg. In retrospect, I believe this experience was pivotal in shaping my scientific development. It was 1988, and as we all know, things were bleak in Poland at that time. There, I met people who had mastered laboratory techniques and had access to equipment and reagents that we in Poznań could only dream of. Fortunately, I quickly realized that my theoretical preparation at Adam Mickiewicz University was much better, and that if you understand and can interpret an experiment, it is very easy to catch up with the equipment. And that's what happened.

Upon my return, I quickly earned my postdoctoral degree, after which I could finally consider what I really wanted to do. In plant biology, the model organism is *Arabidopsis thaliana*.

Photo: Private archive

I started working with this model organism at the beginning of my career, when **Professor Artur Jarmołowski** introduced it to our institute. Later, I embarked on a molecular research project focusing on liverworts. After microRNA was discovered in 2000, I became involved in this field of research, continuing to work on *Arabidopsis* and, a little later, on liverworts as well. In this respect, liverworts were completely terra incognita.

I have also led research subgroups studying barley and potatoes, and we have had considerable success. The key is to ask a practical research question, as this makes it much easier to obtain funding. The challenge then is to find the time to research the topics that really interest us. For me, a vital issue is understanding plant reactions at a molecular level that determine agronomic traits under the influence of climate change, such as high temperatures or droughts. If we understand these mechanisms well, we will be able to obtain crop varieties that are better adapted to climate change.

Is science your calling?

I have always believed that you should follow your dreams and pursue your passions. In the past, all you had to do to get a grant was ask an interesting question. Unfortunately, this has become increasingly difficult in recent years. Now, scientists are being told what to research and how to work through targeted funding allocations.

Science is my life. I love it. Of course, there is stress along the way, such as worrying that someone else will discover what I am working on before I do. In the case of liverworts, I don't have much competition, but with *Arabidopsis thaliana*, it's more of a race. Overall, we're doing quite well: we're well recognized in the field, and we have good results.

I enjoy working with young people and nurturing their interests. As I've got older, I've become gentler, even though I have a reputation for being decisive and demanding. But that's what scientific work is like – you have to be very self-disciplined. I think I'm a good example of why it's worthwhile.

You said that books are your most loyal companions. Do you have any particular favorites?

My love of books began with J. R. R. Tolkien. When I was about 11 years old, my aunt **Deja Lehmann-Szweykowska,** a retired physics professor at AMU, lent me the first volume of *The Lord of the Rings*. I was ill at the time and lying in bed, and I became so engrossed in the story that my body temperature rose a few degrees. It is the book of my life — I have read it in English, German, and Polish. Then there's *The Hobbit*, which still moves and amuses me to this day — especially when I realize that the inhabitants of Hobbiton reveal some of the flaws of the English. One of the inhabitants of Hobbiton is a hobbit named Proudfoot. A few years ago, a wonderful British scientist named Prof. Nick Proudfoot visited our institute. During the official dinner, I mentioned that I particularly liked his surname because I knew it from Tolkien's trilogy, which lightened the atmosphere. As it turned out, it was no coincidence. Professor Proudfoot explained that his family home was next door to the house of the famous writer, who had used the name in one of his novels.

Apart from Tolkien, I also like Andrzej Sapkowski's books, especially *The Hussite Trilogy*. However, I was not impressed by Frank Herbert's *Dune*. One of the books I am currently reading is Plautus' comedy *Curculio*, translated into Polish by **Ewa Skwara**, a renowned professor of classical philology at AMU. She gave me a copy of her translation.

My other passion is porcelain figurines. In the 1950s, the newly established Institute of Industrial Design employed many talented artists. They designed furniture and decorative items for homes, including porcelain figurines. These figurines, which are small works of art in their own right, were produced by porcelain factories in Ćmielów, Bogucice, Chodzież and Karolin. This made the wonderful designs widely popular. I remember seeing figurines of a deer and an African with a slit drum on TV sets when I was a child. I have been collecting figurines since 2001 and have amassed quite a sizeable collection, yet I am still discovering new pieces that I want to add to it.

Are you professionally fulfilled?

Yes, I feel fulfilled, but that doesn't mean I want to stop working. Quite the contrary! ∎

THIS IS A REVOLUTION!

Our scientists have developed an algorithm that analyzes viruses more quickly than supercomputers can. Researchers from AMU developed a tool that radically accelerates the classification of viruses and the analysis of genetic data. The Vclust algorithm completes four years of work in just four hours. An interview with AMU Professors **Andrzej Zieleziński** and **Jakub Barylski** about the algorithmic revolution.

KRZYSZTOF SMURA

What was the basis for your program? What made you decide to work on Vclust? Would it be fair to say that it was "dissatisfaction" with research programs that took too long?

Prof. Andrzej Zieleziński: Yes, you could say that. The starting point was impatience — analyses that took weeks or months effectively blocked research. The second equally important problem was that each existing tool calculated different measures of genome similarity and was recommended for different tasks. For instance, one method was recommended by the International Committee on Taxonomy of Viruses (ICTV) for classifying virus species, while another was recommended for grouping genomes from environmental studies. In practice, this meant that several programs had to be installed and run for different analyses, which was time-consuming and complicated. Vclust was developed to combine these approaches into one consistent tool that is fast, accurate, and universal.

Today, the amount of biological data, especially viral data, is growing exponentially. We discover about a million new viruses every year. Is Vclust the solution to this chaos?

Prof. Jakub Barylski: Indeed, every year, we learn about hundreds of thousands, even millions, of new viral sequences. At first glance, it might seem that each newly discovered genome represents a new virus, but often, these are variants of already known genomes. This is where Vclust comes in handy. The program compares each new sequence with a large database of previously described virus genomes to show whether we are dealing with a new virus or a variant of one we already know. This allows us to make sense of the flood of data and quickly grasp the actual diversity of viruses.

What is the reason for this incredible explosion of research data that we face daily?

JB: It is primarily the result of the technological revolution in molecular biology. Just a dozen years ago, sequencing a single genome was a huge undertaking, but modern sequencers can now analyze millions of DNA fragments from a single sample in a short amount of time. Metagenomics, the study of genetic material taken directly from the environment (e.g., water, soil, or intestinal contents), is particularly important here. Each sample reveals thousands, sometimes hundreds of thousands, of genomes, most of which have never been described before. As a result, our datasets are growing exponentially. This wealth of information is both an opportunity and a challenge, which is why we need tools like Vclust to help us organize this material quickly and reliably.

What makes Vclust so beneficial? In which scientific fields can it be used?

AZ: The biggest advantage of Vclust is its speed. Analyses that previously took weeks or months can now be performed in hours, even with large datasets. Of course, other programs could work just as fast, but only if they were run on supercomputers with the computing power of thousands of regular computers combined. Unfortunately, not every research facility has access to such infrastructure. Vclust is available to everyone because it works efficiently on standard office computers.

We believe our program will be useful in virus taxonomy and ecology, virome analysis (i.e., the total collection of viruses in an organism), and environmental monitoring. It can be used to search for new, potentially dangerous pathogens and detect new variants of known pathogenic viruses.

How does the research process used in the program work?

AZ: The advantage of Vclust is that it quickly screens out pairs of viruses that are definitely not similar. Then, it precisely checks and organizes into groups of related sequences those that are worth consideration. This process can be divided into three main stages:

1. *Initial selection of sequences for comparison.* The program calculates the common DNA substrings, or k-mers, of all pairs

Photo: Władysław Gardasz

of virus genomes. Based on this, it selects only those pairs that have a sufficient number of common k-mers. This means that only these pairs have a chance of demonstrating similarity in a detailed comparison. This eliminates the need to compare every possible pair of viruses, significantly speeding up the analysis.

The project was met with great enthusiasm, including by ICTV members, who appreciated its speed.

2. *Accurate comparison:* Selected genome pairs are compared using a new, highly efficient algorithm. The algorithm determines the degree of similarity by checking the extent to which one sequence can be "assembled" from fragments of the other. This allows for quick and accurate comparisons, even if the genome is fragmentary or contains various changes, such as insertions or deletions.

3. *Clustering*: The program groups sequences into clusters of high similarity, selects representative genome variants, and creates an ordered data structure. Many different clustering methods can be used that are optimized to work with millions of sequences in a short amount of time.

Vclust completed a task that would normally take about four years in four hours. Could this be a breakthrough that will lead to a wave of scientific discoveries?

JB: The tool itself does not make discoveries. However, we hope that Vclust will accelerate virology research and facilitate the discovery of new species and their relationships. Importantly, this also applies to viruses that threaten human health.

The comparison of "four hours versus four years" refers to BLAST, the most accurate program currently available in bioinformatics. Vclust returns equally accurate results while performing the analysis in just four hours. While there are programs that can perform this task in a few days, their results are less accurate than BLAST. In this context, Vclust combines high accuracy with exceptional speed.

During your research, you collaborated with universities in Jena and Gliwice. How were the tasks divided?

AZ: Thanks to close cooperation between our team from the AMU Faculty of Biology and teams from the Silesian University of Technology in Gliwice and the University of Jena, the project was developed. Each team participated in developing the concept and designing the research, with the Poznań and Gliwice teams playing leading roles.

Our colleagues from Gliwice excel at creating highly efficient programs — their code is almost like touching the metal of the computer, and it allows millions of genomes to be analyzed in a time that would have been unthinkable before. They developed and refined the key modules of the Vclust tool, including those for the initial selection of genomic sequences, accurate comparison, and effective clustering.

Jakub Barylski contributed a virologist's perspective to the project, suggesting practical solutions and advising on how to make the program more useful for researchers. I, in turn, gave the project shape. I designed the research process, tested the quality of the obtained results, and created an interface and website that enables the use of Vclust in a browser.

Our partners at the University of Jena contributed their extensive experience in metagenomics and microbial ecology, helping us identify the needs of the international scientific community.

What did your colleagues at ICTV and VISTA think of your discovery? Did they congratulate you?

AZ: We don't know the VISTA authors personally, but our ICTV colleagues were very happy with the new tool. Until now, ICTV has recommended using VIRIDIC to determine virus species. It is very accurate but slow and can only analyze a maximum of several thousand genomes.

On the day the paper on Vclust was published, I was at a large conference on virus bioinformatics and metagenomics, the International Virus Bioinformatics Meeting (ViBioM2025), where I presented Vclust. The project was met with great enthusiasm, including by ICTV members, who appreciated its speed, accuracy, and ability to work with huge collections of virus genomes.

I know you plan to add more features and eventually expand Vclust to analyze bacterial genomes. Please tell us more about this.

AZ: Indeed, we are planning to expand Vclust's capabilities in the near future with additional features that will increase its versatility. Currently, the tool focuses on analyzing viral genomes, but a similar approach could be useful for bacterial genomes as well. Extending to bacteria poses several challenges. Their genomes are larger and more complex, requiring additional optimization of algorithms in terms of speed and memory. We also plan to implement methods for analyzing sequences at the amino acid level. This will enable us to compare not only DNA, but also proteins. This will enable grouping sequences at a higher level of generality and discovering larger taxonomic units and relationships between different species.

With these enhancements, Vclust could support not only virologists but also microbiologists and bioinformaticians working with large bacterial datasets. This would facilitate research on microbiome diversity, epidemiology, and the evolution of microorganisms. ■

SCIENCE IS FOR DREAMERS

"Science is for dreamers, and ERC grants are for the brave," says AMU Professor and chemist **Róża Szweda**, whose ambition and creativity are changing how we think about polymers. Earlier this year, she moved her Programmable Polymers Team to the AMU Center for Advanced Technologies, bringing with her a spirit of innovation and one of Europe's most prestigious research grants.

MAGDA ZIÓŁEK

Photo: Władysław Gardasz

Though still in the early stages of her professorial career, Róża Szweda has secured multiple research grants, including the highly competitive ERC Starting Grant. This grant is often seen as the ultimate recognition of scientific excellence and originality. Her work explores how synthetic polymers can be programmed to fold and function like proteins — a frontier at the intersection of chemistry and biology. For Prof. Szweda, science is more than a career; it is a space where imagination meets reality. "Every great discovery begins with a dream," she says. "But it also takes courage to question, to fail, and to try again."

"ERC programs make it possible to carry out high-risk, high-reward research," says Prof. Szweda. "Scientists often come up with what might seem like 'blue sky' ideas, and yes, they do involve risk. But without risk, there can be no real breakthroughs. That's what makes the ERC special. It gives us the freedom to dream big and the resources to make those dreams a reality."

ERC programs make it possible to carry out high-risk, high-reward research.

She admits, however, that turning such ambitious ideas into funded projects is no easy feat. "In addition to the panel review, my ERC proposal was evaluated by nine independent experts. I don't know of any other organization that examines projects with such extraordinary detail."

Róża Szweda is a scientist who has been steadily and purposefully building her research career. At the heart of her professional journey lies a clear scientific focus, which she has developed and enriched through collaborations with leading research institutions in Poland and abroad.

A graduate of the Silesian University of Technology, Szweda began her scientific career at the Center for Polymer and Carbon Materials of the Polish Academy of Sciences, where she conducted research for her doctoral dissertation. After earning her Ph.D. from the AGH University in Krakow, she continued her career abroad. In 2015, she joined Prof. Jean-François Lutz's group in Strasbourg as a postdoctoral fellow, conducting pioneering research on polymers designed for information storage. During this time, she worked on an ERC-funded project and managed a large European initiative within the MSCA Innovative Training Networks program.

"It was an essential experience," she recalls. "I had the chance to take part in innovative, groundbreaking research and to learn how to manage large-scale European grants."

Later, Dr. Szweda joined Prof. Thomas Hermans's group at the Supramolecular Science and Engineering Institute of the University of Strasbourg. She describes this period as formative for her scientific interests. At the same time, she applied for funding from the National Science Center (NCN) in Poland by submitting a proposal to the SONATA grant competition. "A few months later, I received word that my project had been funded. That gave me the opportunity to return to Poland and begin developing my own research program."

"I was ready to form my own team," she adds with a smile. "Returning home gave me the chance to pursue my scientific dreams and develop my own research direction."

She chose the Wrocław Research Network — the Polish Center for Technology Development of the Łukasiewicz Research Network — to carry out her grant. She was determined to combine basic and applied research, an approach that fit perfectly with the Center's mission.

"Many scientists focus primarily on publications, and of course, that's an essential part of our work. We have to share our findings with the world," she explains. "But I've always dreamed of going a step further, of seeing my ideas translated into practical solutions. The greatest satisfaction for me comes from knowing that my research can make a real difference in society."

Róża Szweda decided to return to Poland at the end of 2019, a time that turned out to be far from ideal for making big changes. The onset of the COVID-19 pandemic severely limited research opportunities and disrupted project implementation worldwide.

"I quickly realized that to conduct high-quality research, I needed adequate funding," she recalls. "Research institutions don't usually provide the necessary resources to conduct experiments. Scientists must find support themselves by applying to external funding agencies, such as the National Science Center or the National Center for Research and Development." Fortunately, I managed to do so successfully and was able to raise funds to pursue my scientific goals."

At the beginning of this year, Dr. Szweda joined Adam Mickiewicz University, Poznań. She chose AMU because she sees it as a place full of young, energetic, and ambitious people eager to take on new challenges. Designing synthetic materials that can mimic the functions of living matter is both fascinating and futuristic.

Róża Szweda often compares her work to that of an artist—a sculptor who shapes new forms from macromolecules. "Beyond their chemical structure, the shape that macromolecules adopt is crucial because it largely determines their function," she explains. "In our ERC project, SHAPE, we are taking on the challenge of controlling molecular shape — the key to unlocking new levels of material functionality."

"All living organisms are made of molecules," she says. "As a chemist, I ask myself, 'How did these molecules organize themselves perfectly enough to move, respond to their environment, and, in short, live?' Where does this energy come from, and what laws govern these processes?" In chemistry and materials science, we dream of recreating the functions of these 'molecules of life' and using them to build synthetic materials." Nature's key concept lies in controlling the sequence of building blocks, as represented by DNA and proteins. In our work, we translate this concept into the world of synthetic macromolecules.

This fundamental question continues to fuel Róża Szweda's scientific imagination. Today, she leads several interconnected projects, all of which are united by a single vision. "In the ERC project, we aim to use shape control to program catalytic function," she says. "Our goal is to direct selected chemical reactions along specific pathways. Achieving this would represent a major breakthrough in chemistry — one that could enable us to perform reactions in the lab that are currently beyond our reach."

"The way our bodies function depends on the selectivity of the reactions that occur within them," explains Prof. Szweda. "From a chemist's point of view, many different reaction pathways are possible because the body is essentially a complex mixture of molecules. So we ask ourselves, 'Why do these two specific molecules bind together, generate a signal, and send it to the brain, allowing us to perceive stimuli?' That's selectivity. If we can understand its mechanisms, we can learn to control selected processes, which would bring us closer to designing materials that mimic the functions of living systems."

During her time in France, Róża Szweda worked on projects involving macromolecules synthesized from specific sequences of subunits similar to those found in natural systems such as proteins or DNA. The next challenge, she says, is determining how to assign particular functions to these synthetic structures.

"My first NCN SONATA grant, ConFold, set out to answer a fundamental question: Can we give a synthetic macromolecule a predetermined shape?" she recalls. "The answer turned out to be yes. In laboratory conditions, we succeeded in controlling the folding of man-made, non-biological polymers. The next step is to build larger structures that can interact with one another. The dream is movement and communication between molecules."

As part of her NCN SONATA BIS grant, Prof. Szweda's team is exploring ways to store information in macromolecules. She believes this line of research has real potential for practical applications.

"We believe these materials could be used for information storage, particularly for long-term data archiving," she explains. "This kind of technology is becoming increasingly essential, given the exponential growth in data generation. With the rapid development of artificial intelligence, the demand for storage capacity is rising at an alarming rate."

This research builds directly on her postdoctoral work with Prof. Jean-François Lutz, a pioneer in encoding binary information in macromolecules. "Our goal now," Szweda adds, "is to develop a method that allows for easy reading of stored information. Achieving that would be a major milestone on the path to real-world implementation of this technology."

For Prof. Szweda, maintaining a healthy work-life balance is just as important as her research.

For Prof. Szweda, maintaining a healthy work-life balance is just as important as her research.

"Without my family and the responsibilities of motherhood, I would probably lose myself in my work and quickly lose touch with reality," she reflects. "Family is a central part of life—it's in our DNA. Through motherhood, women help raise the next generation, ensuring that a part of us continues on." She also emphasizes the importance of having passions outside of work. "I climb mountains. It's character training and preparation for tackling everyday challenges. Pursuing ambitious goals means operating outside your comfort zone, and the mountains have taught me that."

As Prof. Szweda begins her collaboration at Adam Mickiewicz University, she warmly invites researchers from various disciplines, including chemists, physicists, biologists, and computer scientists, to participate in her projects. "I particularly value working with young, creative minds. I encourage anyone interested to reach out!" More information about her team's work can be found on the Roza Szweda Research Group website (szwedalab.com) and through the Programmable Polymers Research Group on social media (Facebook, LinkedIn, and X). ■

I LIKE BEING AN EXPLORER

Visiting **Professor Artur Ciesielski**, Ph.D., is one of those AMU scientists who took risks and made bold decisions, reaping satisfaction from their choices. He is a two-time recipient of the Outstanding Pole in France Award and the Saint Thomas Foundation Award for the best doctoral dissertation. He is also a CNRS Research Director at the ISIS laboratory at the University of Strasbourg. Artur Ciesielski is currently leading the Caffeine project at the AMU Center for Advanced Technologies (CAT). He and Professor Xuecheng Chen decided to transform coffee grounds and lignin — waste typically destined for landfills — into components for modern energy storage systems.

INTERVIEW BY **KRZYSZTOF SMURA**

Your X profile reads: "father, bookworm, scientist, sci-fi/fantasy geek." Would you change, add, or remove anything?
I am first and foremost a father.

For such a dedicated scientist, this is a bold statement. How do you find time to be a father?
I always make time for my family and children. It is a priority. Of course, I have limited time because research consumes most of my efforts, but I try my best. I work seven days a week, but I am there for my family when they need me. Trips to the mountains around Strasbourg are not uncommon for us. It is a passion that I hope my children will share with me as they grow older (laughing)

And science fiction?
It's an escape. It's a passion I inherited from my father. I've been reading fantasy books since I was a child. Andrzej Sapkowski and J.R.R. Tolkien are at the top of my list, of course. I also recommend Steven Erikson and Brent Weeks. However, I must admit that I approach Stanisław Lem with some distance.

Did you enjoy the TV series *The Witcher*?
Are you kidding? I most definitely prefer the books!

I've heard about your interest in psychology.
I'm fascinated by it, too, and I read a lot about psychology and psychoanalysis. It's useful when working with people, and I've found it helpful many times. For example, in Poznań, I work with a group that includes Italians, Spaniards, Ukrainians, and Pakistanis. They each have different perspectives on the world and science, so they need to know how to communicate effectively.

Now, let's move on to chemistry, which also captivates you. Was it a conscious choice?
Let's call it a string of coincidences. I wanted to become a military officer, but unfortunately, recruitment was suspended the year I was eligible. That threw me off, so I took a combined exam that guaranteed entry into chemistry studies. There, I met **Professor Violetta Patroniak,** who played a significant role in my scientific career. I hate being bored, and routine kills me. I also love puzzles, and I found chemistry to be fascinating. It allows me to work on things that no one has done before. To be a discoverer!

After your ERASMUS trip to Strasbourg, you wanted to pursue your Ph.D. under Professor Lehn, a Nobel laureate. He declined.
I was disappointed, but as they say, every cloud has a silver lining. Professor Lehn is a renowned scientific

Photo: Artur Ciesielski's Archive

figure, but his work revolves around fundamental problems of organic chemistry. I was looking — and still am — for something different.

Are you a restless spirit?
To some extent, yes. Fortunately, I ended up with Professor Paolo Samorì, an exceptional physical chemist at the Institut de Science et d'Ingénierie Supramoléculaires at the University of Strasbourg. I joined his research group in its early stages when there were only a few of us. Now, some years we have fifty young scientists in the group.

Is Strasbourg your first or second home?
I've been living there with my family since 2007. In France, people still say I'm Polish. In Poland, people increasingly call me French. But home is where your family is, and Strasbourg is home to me. I'm currently a visiting professor at AMU. I have my own research team here. We carry out projects, supervise Ph.D. students, and conduct research.

In 2011, you received the prestigious Prix Jean Kepler, awarded by the Saint Thomas Foundation to one person per year for the best doctoral dissertation. Two years later, *Scientific American* ranked you among the thirty most promising young scientists in the world. You have also won the Outstanding Pole in France Award twice. How have these awards impacted your life?
Each distinction has been a source of temporary pride, but they have also motivated me to take on new challenges and explore new topics.

One of those topics was graphene. How relevant is it today?
I would say less and less, but that might offend some people. I studied it for years. It was a continuation of my doctoral work. Andre Geim and Konstantin Novoselov won the Nobel Prize in Physics for discovering graphene, a new form of carbon and the thinnest, most durable material known. They isolated a layer from the same graphite that I had studied for years. The difference was that I threw away those single layers during graphite purification, while they placed them on silicon surfaces and studied their electronic properties.

In other words, you almost won a Nobel Prize?
Well, I don't know what to say (laughing). It was a turning point in my graphene research. At some point, we realized that we had achieved everything possible in that area. In 2020, two papers on graphene were published every hour. There was oversaturation. So, we started exploring its practical applications. As early as 2014, we concluded that graphene's greatest potential lies in its use as an ultra-thin, single conductive layer. We also discussed its potential applications in various industries, such as tire manufacturing, where graphene could significantly improve mechanical properties. My research showed how graphene could enhance the properties of concrete, for example.

You are the research director at ISIS. Professor Samorì is...
A scientist who supports you when things are going well rather than forcing changes. We understand each other without words because we are on the same wavelength. Our team has tons of ideas — some better than others — but we listen to and support one another and can admit when we're wrong. I follow the principle that I am always right, but if you think otherwise, prove it. We embrace various ideas, shift our interests, and explore. As the saying goes, "jack of all trades, master of none," but sometimes better than a master of one. There's a lot of truth in that. Currently, we're working on completely different projects. Professor Samorì focuses on optoelectronics, while I have moved toward energy storage.

In fact, you are working on a project at the Center for Advanced Technologies that involves storing energy in coffee grounds.
Funded with 2.5 million PLN from the National Science Center, the Caffeine project addresses the global shortage of raw materials like lithium and natural graphite. Rather than relying on scarce resources, we use materials that are readily available and usually wasted. After proper chemical and thermal treatment, it turns out that highly porous coffee grounds can become a valuable resource, and lignin can gain new, eco-friendly applications. How? Simply put, we convert coffee waste into activated carbon for supercapacitors and use lignin, a byproduct of the paper industry, to make materials for metal-ion batteries. Combining these two materials creates a hybrid system that exhibits the properties of both, enabling us to develop materials with new characteristics. We are moving toward industrial applications. Though I am not an entrepreneur, I am interested in proving that something can work. Who knows? Maybe in ten years, my perspective will change, and we will start a big company. For now, together with Professor Xuecheng Chen and the CAT team, I am working on the Caffeine project.

What do you think of young scientists? You have probably worked with people from nearly every nationality?
Indeed, aside from Americans, my teams have hosted researchers from nearly every nationality. What do I think of them? Unfortunately, they are often impatient and demanding from the start. Not everyone, though. Much depends on the people who shape them early on. I am very pleased with the Poznań group. We have a knack for identifying young, ambitious, and talented individuals. **Dr. Dawid Pakulski,** who oversees my CAT team, **Dr. Włodzimierz Czepa**, and **Dr. Samanta Witomska** are a few examples. They are incredibly intelligent and dynamic people who want to break out of Polish mediocrity. I often joke that it's probably Stockholm syndrome because it's unusual for someone pursuing a Ph.D. to want to tie their professional future to their supervisor. In my case, however, it has happened, and I am thrilled about it. On the other hand, when I see a willingness to work, I do my best to facilitate it, resulting in progress in their scientific careers. ∎

TAMING FOREST FIRES

Their project sparked a nationwide debate in South Korea. As it turns out, scientists from AMU predicted the effects and possible paths of spread of one of the largest fires in the country in recent years. The authors of the report prepared for Greenpeace are AMU graduates: Dr. Andrzej Kokosza, who is currently working at the University of Calgary on mathematical plant development design, and **Dr. Wojciech Pałubicki** from the AMU Faculty of Mathematics and Computer Science.

KRZYSZTOF SMURA

Dr. Pałubicki leads a faculty group that models natural phenomena, often related to vegetation. In this group, scientists study how to mathematically capture the shape and development of trees and other plants and visualize their research results using computer graphics.

Greenpeace commissioned the project. In an email to Poznań researchers, Greenpeace representatives wrote that they wanted a simulation of the potential consequences of implementing the Korean plan to clearcut the beautiful mixed conifer forest on Mount Manisan. The South Korean government intends to establish a monoculture forest industry there.

"We took up the challenge and tried to visualize what the area would look like after the changes and introduction of monoculture and determine growth parameters related to climatic constraints. At the same time, we found that, by introducing this model, we could visualize what we thought the degradation of the area would look like in the event of a disaster, such as a fire or part of the area caving in," they said.

Greenpeace applauded the project, and the scientists set to work. Further simulations were created, and analyses were carried out related to fires, for example. Importantly, this was the first time such work had been done using computer technology, which allowed for a very accurate description of the trees' shape. Previous work tended to provide only a rough description of the shape and distribution of the "fuel" associated with the predicted disaster. Thus, the AMU scientists' project was groundbreaking.

"We simulated the development of the forest, taking into account lighting, changes in the soil, and climatic conditions. The description was very accurate," says Dr. Pałubicki. Once we had finished the first part of the research, we applied an advanced fire simulator, including simulations of fluids, gas distribution, and air temperature changes," says Dr. Pałubicki.

The project was carried out last year, and a fire broke out in the study area in early 2025. The Poznań scientists' simulation turned out to have surprising predictions that significantly enriched the Koreans' knowledge. After examining and quantifying the extent of the forest damage, it became apparent that the pattern obtained by the Koreans was consistent with the AMU scientists' predictions.

In a monoculture, when a fire breaks out and spreads across the grass, there is a high probability that it will not spread to the tree crowns. However, if this happens due to wind, for example, then a real inferno ensues. The forest burns down instantly because the trees are more or less the same height, and their crowns touch. Mixed conifer forests, on the other hand, largely limit the spread of fire, and species such as oaks and redwoods are largely fire-resistant. They create natural barriers.

"Our claims sparked a national debate about which type of forest is better and 'safer,'" says Dr. Pałubicki. "Previously, the narrative was that monoculture is more resistant to fires. Our simulation confirmed that mixed forests are much more resistant in the vast majority of cases. This was proven during the disaster at the beginning of this year and acknowledged by the President of South Korea, who encouraged further examination of the issue," he adds.

The scientists collaborated with centers in Germany, the United States, and Canada in developing the project. Given the fires in Polish forests—it has been 33 years since the tragic fire in Miały—it is odd that the research has not attracted interest in Poland. When asked what we have learned from previous disasters in Polish forests, Dr. Pałubicki responded, "In Poland, a large part of the forests are monocultures. Germany has moved away from this model, and today, more than half of its forests are mixed forests. For climatic reasons, we are more concerned with disasters related to river flooding than fires. The latter are strongly correlated with population density. Over 90% of fires are caused by humans and human activities."

Next, the Poznań team (now expanded to include members from the Christian-Albrecht University of Kiel) plans to continue its research and identify threats to areas where forests meet urban environments. ■

Photo: AI

REMAINS OF THE PAST ARE BEST SEEN UNDER A MICROSCOPE

AMU Professor Iwona Sobkowiak-Tabaka is an archaeologist who specializes in Stone Age communities. Using found artifacts, she reconstructs prehistory and talks with storytelling verve about this fascinating process made possible by modern scientific achievements

INTERVIEW BY **MAGDA ZIÓŁEK**

Today, there is much discussion about the interdisciplinary nature of archaeological research. How does this look in practice? Is the work of an archaeologist primarily teamwork or an individual pursuit?

My research on Late Paleolithic, Mesolithic, and Neolithic communities in Central and Eastern Europe can be pursued in a laboratory setting through literature studies or, as is most often the case for me, by working with specific evidence. I analyze objects—i.e., excavated materials left behind by communities from what is now Central and Eastern Europe. These are primarily flint artifacts. By studying their technology, typology, and traces of use, I try to reconstruct the activities these communities undertook and what their lives were like.

Since gaining the opportunity to work in a microscopic laboratory, my research has become even more exciting. Using both a digital microscope and a scanning electron microscope, you can see the real "remains of the past" under high magnification. These tools allow us to paint a broader picture of the people who once lived, worked, and created.

Please tell us how archaeological knowledge is built from these remains.

We can tell this story because we stand on the shoulders of giants. Much has already been discovered, but we have newer, better methods and can further research that was once begun. Research from

Photo: Władysław Gardasz

the 1950s did not allow for the absolute dating of objects of human activity. We have had this capability for seventy years.

Today, we can examine microparticles. I think our older colleagues—and myself, as I began my studies thirty years ago—could not have imagined such possibilities. By analyzing the dental calculus of prehistoric communities, we can reconstruct their diet. We analyze the oral microbiome to determine which diseases afflicted them. Thanks to research on starch granules and phytoliths - siliceous plant remains on flint and stone tools such as handstones and quernstones - we can determine which species of cereals and other plants were processed even if their remains have not been preserved. It is almost as if we can take prehistoric humans by the hand and observe their daily activities.

Based on this information, we can paint a broader picture of the lives of prehistoric communities, which makes me very happy. Until recently, these communities were viewed somewhat pejoratively as being less technologically advanced and leading difficult lives. However, when we took a close look, we saw that their lifestyle closer to nature was an added benefit. They knew how to navigate their environment and respond to changes. They were not just passive participants in reality but also its creators.

During one of your lectures, I was surprised when you determined what children were fed based on the marks their teeth left on spoons. Isn't that taking it too far?

There were indeed differences in how children were fed by hunter-gatherer and agricultural communities. The latter had access to grains and could prepare various types of gruel, making it easier to feed and wean children more quickly.

Of course, many issues remain difficult to investigate. The spiritual sphere of these communities is extremely elusive because it is difficult to reconstruct their beliefs. We are trying to do so using various methodological approaches, but much information remains inaccessible. We often rely on ethnographic analogies, but we must remember that contemporary hunter-gatherer communities are not "fossil" copies of ancient peoples. These comparisons cannot be transferred directly.

You mentioned the benefits of being in close contact with nature. Could you elaborate on that?

Hunter-gatherer communities that lived on the North European Plain between 15,000 and 10,000 BCE are often perceived as being heavily dependent on the natural environment. However, our recent research shows that they functioned very well in this environment and changed their habitat or modified their lifestyle when necessary. These communities were highly mobile and are often referred to as "reindeer hunters." Reindeer migrations organized their lives to some extent during periods when the park tundra was present, but this is only part of the picture. Analyses of starch granules, phytoliths, and isotopes show that a plant-based diet was equally important. During warmer periods, smaller animals than reindeer—hares, beavers, and deer—were also hunted.

These communities adapted well to local conditions, as seen in their processing of raw materials to make tools. Depending on the material — whether 'chocolate flint,' which has excellent knapping quality, or erratic flint, which is small and was brought by the Scandinavian Ice Sheet and repeatedly exposed to weather conditions — they found solutions. Their greatest advantages were their flexibility and their ability to cope with a difficult landscape.

They also had a significant impact on the environment. Some researchers believed that such an impact only appeared during the Neolithic period when agricultural communities began raising animals and cultivating the land. However, hunter-gatherers also intensively exploited their surroundings. Imagine a shrubby tundra with dwarf birch or polar willow trees. These communities needed large amounts of fuel for their fires. Fire was an extremely important element of the camp. It was used not only for cooking food, but also for providing light, which made it possible to repair tools and stay warm. Conversations took place around the fire. I believe this is one of our atavistic traits—to this day, people enjoy spending time around a fire, roasting sausages or singing. I have such memories from my time in the Scouts.

There was a shortage of fuel, so frequent changes in living areas were caused not only by migrating with reindeer herds but also by the need to obtain fuel and satisfy basic needs related to fire. Animal bones are often said to have been used, but rather to maintain embers than to light fires because they were usually damp.

The issue of clothing is similarly difficult to investigate. The oldest needles date back almost 40,000 years. In addition to skins, evidence shows that various types of mats were woven. In warmer periods, such as the Neolithic and the Warm Period, clothing may have been made from plant fibers, such as bast or flax. Experimental archaeology attempts to answer these questions. We often imagine clothing as shapeless garments made of overlapping skins, but it actually looked quite different. Ethnographic analogies and bog finds from later periods have preserved entire outfits.

Where does your critical attitude toward the term "Neolithic Revolution" come from?

I think hunter-gatherer communities are one of the most interesting forms of existence. They were certainly healthier than previously thought. Agriculture was long considered the "Neolithic Revolution," and some researchers have compared the transition from a hunter-gatherer lifestyle to an agricultural one to "expulsion from paradise." Hunter-gatherer communities could supplement their supplies with fishing. Of course, there were periods of famine, but with the development of agriculture, life was theoretically easier because it was sedentary. However, it was also associated with the risk of failed crops or harvests, grain diseases, and animal pests. Additionally, people lived

in close proximity to animals, which facilitated the spread of disease.

This is most evident in the condition of their teeth. Hunter-gatherers had healthier teeth than agricultural communities due to the presence of carbohydrates in grains and limited oral hygiene options.

Dr. Aldona Krurzawska

I watched several of your popular science lectures on YouTube. What questions do participants ask most often?

Viewers often ask about what life was like in ancient communities, and these questions are not always easy to answer. They ask about family size, life in camps, and childhood. Archaeology provides some interesting examples here. We know that, just like today, children played and had toys. These toys were often miniature tools, but there were also thaumatropes, which are discs with a hole and a drawing of an animal. When set in motion, they gave the impression of animation.

They were also familiar with customs related to music and dance, as evidenced by finds. This everyday life is fascinating, though it is the most difficult to reconstruct. This is what makes archaeology so fascinating—we are constantly learning something new, and prehistoric communities continue to surprise us. Despite lacking modern technology, they coped very well in their world.

If you could ask people from the Stone Age one question, what would it be?

That's a tough one. I've never thought about it. One of the most difficult issues for me was the lack of light — the fact that these communities depended on natural light and possibly fire. I would ask how they coped with this and if they even saw it as a problem.

I would also like to ask about their diet because we can only reconstruct it based on what has survived to this day. Some things seem difficult to accept, or rather, difficult to imagine eating.

For example?

Raw meat. If we consider communities living far north, such as the Inuit, reindeer tongues are considered a delicacy, but they would be very difficult for me to accept. I would like to know how they perceived these flavors and how they dealt with them.

The third and most important question, which is also the most difficult to answer, is: What did they believe in? Did they have any beliefs about death and life after death? Did these ideas occur to them, and what did they imagine?

Don't burial sites tell us this?

In Poland, such examples can be counted on one hand. However, if we broaden our scope to the Upper Paleolithic, we find ample evidence of how the dead were prepared for the afterlife. Of course, this is our modern perception.

Various everyday items and tools, as well as beautifully decorated clothing adorned with shells and shell beads, have been found in graves. This further confirms that our perception of clothing as purely practical is incorrect. We also find headgear completely trimmed with beads made of bone, shells, or animal teeth.

Based on this evidence, we can draw conclusions and compare them with those of contemporary societies, but we will never know exactly how things were.

Finally, I wanted to ask when you became interested in archaeology.

My path to archaeology was not straightforward. It began with a trip to Biskupin when I was ten years old. There, I learned for the first time that you can determine a person's gender from their bones. This sparked my fascination, which survived despite my decision to attend an economics high school. Ultimately, archaeology was the only major I applied for, and I have never regretted that decision.

I have always been most interested in Stone Age communities. Initially, I focused on the Neolithic period. However, during my studies, I began working at the Institute of Archaeology and Ethnology of the Polish Academy of Sciences. There, my focus shifted towards earlier periods of human prehistory. That's how it stayed, and archaeology became my passion.

To me, archaeology is not a "job" in the traditional sense. It is a field that presents new challenges daily and gives me the opportunity to work with young people. Their curiosity and inquisitiveness mean that I must keep up to date with research results. It requires effort, but it is hugely satisfying. Even less pleasant tasks, such as writing articles or publication scoring, are worthwhile when the team's efforts result in a coherent text and new discoveries. ∎

Prof. Iwona Sobkowiak-Tabaka and Dr. Aldona Krurzawska

oversee the Microscopic Laboratory at the AMU Faculty of Archaeology. The lab is equipped with stereo, digital, and metallographic microscopes, as well as a scanning electron microscope. These instruments support experimental archaeology research aimed at confirming or refuting theories. Specimens from the Paleolithic and Neolithic periods, the Roman Empire, the early Middle Ages, and more modern times have been examined in the laboratory. Both researchers have also worked on ceramics, textiles, and shell decorations, the latter of which are Dr. Krurzawska's main area of interest.

WISDOM BEGINS IN WONDER

WE THINK IN IMPOSSIBLE WAYS

We empathize with invisible and distant beings, yet we can also use a drone to kill someone on the other side of the world from the same emotional distance. This is what makes us unique, said Professor **Robert A. Sapolsky** in his lecture at Adam Mickiewicz University.

EWA KONARZEWSKA-MICHALAK

Professor Robert A. Sapolsky, a distinguished neurobiologist and primatologist from Stanford University, gave a talk in September at the 50th anniversary session of the Polish Anthropological Association (PTA) National Scientific Conference. The conference was co-organized by the AMU Faculty of Biology. Prof. Sapolsky delivered a lecture titled "Our Lives as Animals" as a special contribution to the PTA's centennial celebrations.

Robert Sapolsky is one of the world's leading scientists. His groundbreaking research on the social hierarchy of baboons in East Africa has shown how stress strongly affects health. His scientific work also includes neuroendocrinology and the study of biological attitudes toward aggression and empathy. Additionally, he has researched the complex relationships between the brain and behavior.

"Among his notable publications for the general public is his book *Why Zebras Don't Get Ulcers*, in which he popularized knowledge about the complex relationship between stress and human health, both physical and mental. His *Behave* is a monumental synthesis of biology, psychology, and sociology that explains how human actions are shaped by neurobiology, personal experiences, and evolution," said **AMU Prof. Tomasz Hanć**, who introduced the American scientist.

In his latest book, *Determined*, published in 2023, Sapolsky argues that human free will is an illusion. He claims that every decision we make is the result of biological and environmental factors beyond our control. Human behavior is determined by genes, hormones, brain structure, and previous experiences. Decisions are made in the brain in a fraction of a second, before we are even aware of them. Rather than blaming individuals for their actions, we should focus on changing the social and biological conditions that shape human life.

Prof. Sapolsky has received numerous prestigious awards for his achievements, including the MacArthur Fellowship (also known as the "Genius Grant"), the Lewis Thomas Prize for Writing About Science, the Carl Sagan Prize for Science Popularization, and the Bruce McEwen Lifetime Achievement Award.

In Poznań, Prof. Sapolsky said that humans are biologically similar to other animals yet unique. "We have the same basic building blocks for our nervous

Photo: Christopher Michel, Wikipedia

systems and physiology, and we use them in ways that no other animal does, in completely unprecedented ways. Finally, there are domains where what we do has absolutely no precedent in other animal species," Sapolsky argued. One example is chronic social stress, which is unknown to other animals. You sit there and think about global warming or your own mortality, and you activate the same stress response as a dinosaur from a hundred million years ago. The system evolved to be activated for three minutes or three hours. If you activate it for three months or three decades, you get all sorts of stress-related diseases that are characteristic of humans, Sapolsky explained. This gives us tremendous insight into human health and disease. For millions of years, the stress response evolved to deal with short-term physical crises.

Let's consider another behavior: the extermination of individuals of the same species. Chimpanzees do this too. They are capable of killing not because of who the individuals are but because of the group to which they belong—an unrelated, strange group. What sets us apart is our ability to commit violence in a way that is unheard of in the animal world.

Professor Sapolsky cited the example of death squads that massacred people in Indonesia in the 1960s. While traveling around the country, Nobel Prize–winning writer V. S. Naipaul heard a story about soldiers massacring villages while a traditional gamelan orchestra played music. One day, Naipaul encountered an old man who was a veteran of one of those death squads. He was a national hero for killing the enemies of the people. The man said they did so "to make it all more beautiful, of course." No other species in the world is capable of this. Fortunately!

It was once believed that only *Homo sapiens* had a theory of mind—the ability to understand that other people have thoughts, feelings, beliefs, desires, and intentions that differ from our own. However, research shows that chimpanzees can also interpret the behavior of other individuals based on their thoughts and feelings. For instance, when a zookeeper deliberately drops food out of an ape's reach, the ape reacts aggressively. This does not happen when the chimpanzee interprets the situation as an accident or awkwardness. It seems that only humans are capable of a secondary theory of mind, the ability to think about what others think about us or other people.

The less likely something is to happen, the more we want it to. This is what sets us apart as a species.

It would seem that only we humans are capable of empathy. Nothing could be further from the truth. Primatologist Frans de Waal documented a remarkable case of empathy. He observed that when a chimpanzee provoked an attack, the other group members were less likely to comfort it. However, if the attack was deemed unfair, then within an hour, the chimpanzee would be intensively cared for and comforted by the others.

Is there something that makes our empathy unique? We can sympathize with victims of violence in Ukraine, Gaza, or Sudan. We can also empathize with other species, such as a dog suffering in a trap. But we go even further. We can empathize with imaginary beings like the horse in Picasso's *Guernica*, even though it is just paint on canvas. "Our empathy extends to invisible and distant beings. At the same time, we can use a drone to kill someone on the other side of the world from the same emotional distance. That's what makes us unique," said Prof. Sapolsky.

Dopamine drives motivation and anticipation in both humans and animals, but only we are able to maintain them for a very long time—years, even a lifetime. We learn for rewards that are decades away, such as a stable job, a good life, or even life after death.

Other species, like us, can repay evil with evil or good with good. We also do not have a monopoly on culture — chimpanzees can make 27 different types of tools. Young chimpanzees learn how to use these tools through observation and practice. What sets us apart is the complexity, beauty, and ambition of what we create. Humans build cathedrals and skyscrapers, while monkeys only build basic tools.

Robert Sapolsky concluded his lecture by reflecting on the human ability to create abstractions and paradoxes. He quoted Kierkegaard, who said that being a good Christian means believing two contradictory things at once. A similar paradox exists in life: people are capable of forgiveness in the face of violence or evil. The more difficult it is to forgive someone, the stronger the motivation to do so becomes. The harder it is to love someone, the harder we try to find a way to love them. In short, the less likely something is to happen, the more we want it to. This is what sets us apart as a species. Although our brain structure is similar to that of chimpanzees, we can use it to think in ways that are impossible for other species. ■

A BREAKTHROUGH IN CROSSING OVER

Professor Piotr Ziółkowski's team discovered a universal mechanism that regulates crossing over, or the exchange of DNA segments between chromosomes during the formation of sex cells. This mechanism can accelerate the creation of new crop varieties. This opens up the possibility for plant breeders to combine beneficial traits precisely without genetic modification.

EWA KONARZEWSKA-MICHALAK

In practice, this greatly simplifies the breeding process. By selecting the appropriate parental lines, crossing over can be directed to a specific location in the genome. This enables the faster combination of desirable traits, such as disease resistance and high yield, in new crop varieties. Importantly, this process does not require genetic modification or risky procedures that interfere with chromosome segregation.

This discovery is groundbreaking because it involves two plants that are very distant from each other evolutionarily — *Arabidopsis* and maize — separated by approximately 140 million years of evolution. This suggests that the mechanism regulating crossovers is universal in the plant world.

Prof. Piotr Ziółkowski's team conducted the study in collaboration with breeders from Moldova and published it in the prestigious journal *Nature Plants*. The study showed that if a small heterozygous chromosome segment is surrounded by long homozygous chromosomal segments, the frequency of crossing over increases up to threefold. This phenomenon has been confirmed in both male (pollen) and female (ovules) meiosis.

Furthermore, the effect is most pronounced when the boundary between the homozygous and heterozygous segments is adjacent to the region under study. The opposite situation — the insertion of a small homozygous block into a heterozygous segment — inhibits recombination. This indicates that the mechanism shifts crossing over between different areas of the chromosome rather than creating additional occurrences.

Until recently, this phenomenon was thought to be specific to *Arabidopsis*, a self-pollinating model plant with a small genome. However, it has now been confirmed in maize, an allogamous plant with a large genome full of repeats. Researchers constructed special near-isogenic lines (NILs) and analyzed the segregation of genetic markers in thousands of seeds, allowing them to clearly capture the effect.

Crossing over is fundamental to the diversity of all organisms, from radishes to giant trees. Thanks to crossing over, every plant (and every child) is a unique combination of its parents' genes. This mechanism is essential for plant breeders because it allows them to combine beneficial traits that occur separately in different varieties.

In the current era of high-throughput sequencing and thousands of well-characterized crop lines, the discovery of the juxtaposition of heterozygous and homozygous regions provides scientists and breeders with a new tool. This is not just a scientific curiosity but also a potential milestone in modern plant breeding.

The editors of *Nature Plants* recognized the work of the AMU researchers with a two-page editorial in the News & Views section and featured a photo of maize taken by the team on the cover of the September issue. ■

Photo: Mikhail Mikhailov (Państwowy Uniwersytet Mołdawski w Kiszyniowie), graphic design: Julia Ziółkowska

I I LIVE IN TWO COUNTRIES

An interview with **Krum Krumov**, a lecturer at the AMU Institute of Slavic Philology and a translator of Polish literature into Bulgarian

EWA KONARZEWSKA-MICHALAK

Are you an adventure seeker? The internet says you are.

But the internet doesn't know everything. I don't think that term quite covers the spectrum of my explorations. I'm driven by the search for freedom and the liberation of the soul. I want to break down mental and physical barriers, which are intertwined in my case. I like to push myself to the limit, for example, while biking. It's a sport for the nervous. I burn off a lot of anger and dissatisfaction through it. However, adventures are not just about adrenaline. I still have a hunger to learn and experience. If I can combine that with movement and dynamism, I feel alive. Working at the university is not an adventure for me. It started as a mission and a dream come true from my student days. Now, with the overload of subjects in the summer semester, it has become more of a duty.

Why?

I have been assigned many new courses, and I lecture with my whole heart, which is exhausting. I want there to be dialogue in my classes. As we all know, this is very difficult. There will always be someone who is daydreaming or not interested. When students aren't fully engaged, I feel like I've failed. Maybe I care too much about it.

You were supposed to become a soccer player, but you became a translator. Why did you choose philology?

My dad wanted me to play soccer. Although it wasn't my conscious choice, I don't regret it. Soccer gave me two things. First, it awakened my thirst for learning. Years later, this thirst led me to become fluent in Polish while studying Slavic studies in Bulgaria. Second, soccer made me realize who I am not and who I don't want to be.

When I suffered a serious injury at 18, I had to make a decision. One evening, I asked myself an honest question: What am I best at? It turned out to be literature and languages.

I approached my former Bulgarian teacher, an exceptional educator, and asked her to prepare me for the entrance exams. She agreed on the third try, but there was a catch: I had to write two essays, and then she would make her decision. She saw something in me because she accepted me immediately after

Photo: Władysław Gardasz

reading the essays and improved my Bulgarian in less than six months. I passed the entrance exams at all the universities.

Why Poland and Polish?

My mother has always respected Poland and knows a lot about it. She was the one who helped me choose Polish. When I enrolled at the University of Plovdiv, I could have chosen Czech, Polish, or Serbo-Croatian. Since the Czechs had a better soccer team, I initially chose Czech studies. However, when I returned home, my mother gently convinced me otherwise. My university teachers, Mr. and Mrs. Wojtczak from Poznań, also played a huge role. They were both young and passionate at the time. I remember my first lesson in Polish phonetics. Olga Wojtczak had perfect pronunciation, and the sounds of the letters sz, cz, ć, ż, ź, ą, and ę were rich and delicious. The language sounded as if I had just taken a bite out of a peach—like the most perfect poetry. I was hooked.

During my studies, I came to Poznań for a summer semester. I had such a good time that, when offered the position of Bulgarian language lecturer, I didn't hesitate. For me, my time at university was the happiest period of my life. I love the Polish language and always will.

How long have you been living in Poland? How do you feel about our country?

I came to Poland at the end of 2007. Before that, I worked with Poles for four seasons in Bulgarian tourism while I was a student. I improved my language skills, met many people, and learned from my mistakes. Ultimately, I ended up in Poland, even though I never wanted to emigrate. I don't consider myself an immigrant because I live in two countries.

Poland was completely different then than it is now. In Łódź, where I lived, everything was gray, and I was often treated like an exotic creature — people would almost point at me on the street. On the other hand, there was much more freedom, and people had endless energy for multitasking. What didn't I do?!

You translate Olga Tokarczuk's books. You are also the winner of the Wanda Smochowska-Petrowa Award. What was it awarded for?

I was largely awarded the prize for my translation of *The Tender Narrator*, which was considered very good. Currently, I am only translating Olga Tokarczuk's works. I feel comfortable in her world. It's like a cocoon where I feel safe and loved. I'm not limited by the writer's style or beliefs. Tokarczuk's novels have a special melody and rhythm that I try to capture. Sometimes I have to "burn out" first so that later, humble as a lamb, I can surrender to the flow of the text without losing my sensitivity. I must learn to trust my voice while maintaining my uncertainty and doubts.

I love the Polish language and always will.

I would also like to mention Prof. Wanda Smochowska-Petrowa. Although we never met, I know from her book and her daughter's stories that she was a truly exceptional woman. She was a true scholar who had a very difficult life and became a distinct person because of it. In her home, it was forbidden to say anything negative about Bulgaria or Bulgarians. She loved our country for its hospitality, generosity, and magnanimity. To her, Bulgaria was a land of wonders. I was the first winner of the award named after her. I was invited to be on the jury for the next edition.

You haven't given up your passion for sports. You graduated from the tourism program in Łódź, and your achievements include organizing cycling trips around Europe, some of which were charity tours. The title of your book about your trip to the island of volcanoes is *Around Iceland in 14 Days*. What drives you to accomplish such feats?

Sport has been a part of my life since early childhood. However, it was only a few years after I arrived in Poland that I discovered running because I wanted to prepare for the Camino Francés. I walked it with my friend Piotr in 2011. I remember wearing out my Reeboks and playing an hour-long Iron Maiden album on repeat on my MP3 player. I knew that if I managed to run through the album without stopping, then I had completed my training. Before leaving for the Camino, I ran my first half marathon. I didn't know my time because I didn't have a watch.

During the walk, Piotr and I came up with the idea of biking from the Promised Land to the Eternal City. I bought a bike, and that's how my childhood love for two-wheelers was rekindled. After Rome, my dreams became bolder. The idea that I could run and cycle anywhere made me burst with excitement. The feeling of freedom, meeting wonderful people, experiencing different cultures, and, above all, overcoming myself dozens of times a day made me fall head over heels in love with traveling by bike.

Iceland was an idea that came to me: I hate cold weather, strong winds, and rain the most, but if I manage to survive, I will deserve to admire this land of ice and fire's raw beauty. I fell madly in love with Iceland, even though I don't know it very well. I cycled around the entire island during three trips.

There is a Bulgarian word that emerged thanks to the literary translation of *Pippi Longstocking*. We owe it to Astrid Lindgren and her translator, Vera Gancheva. It is нещотърсач. In English, it means "seeker of things," but in Bulgarian, it refers to someone who seeks something intangible: something to experience, smell, see, live through, or long for. I find this on my travels, on the long road, and in the people I meet along the way.

Thank you very much for this interview and the opportunity to tell my story. ∎

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PARENTING PRACTICES AND CHILD WELL-BEING

How do parenting practices affect a child's well-being? This question was the focus of the 4th National Parentology Conference, which took place in May at the AMU Faculty of Psychology and Cognitive Science. **AMU Professor Lucyna Bakiera** initiated and organized the event.

INTERVIEW BY **MAGDA ZIÓŁEK**

The concept you were discussing at the conference is "child well-being." What exactly is it? How can it be measured?
It cannot be measured directly, but it can be indexed — transferred from the abstract to empirical levels. However, this is still difficult, hence the decision to address this topic at the conference. Although there has been little research in psychology explaining what child well-being is, it often appears in psychological practice. This is particularly evident in the context of the judiciary, e.g., in divorce cases or when determining custody. In such cases, each party to the conflict invokes child well-being in various contexts, which leads to its instrumentalization.

Given that it is such a problematic category, how does it fit into the theme of this year's conference?
Since the beginning—this is our 4th conference—we have wanted to create a space for discussion. This is what sets us apart from many other events of this type. In addition to the usual sessions with presentations, we decided to organize open discussion panels accessible to all participants. Each panel has a moderator who formulates opening theses and presents them to the forum. Then, there is an open discussion with researchers who can refer to their empirical studies and with practitioners, such as psychologists, educators, lawyers, and people from non-governmental organizations. They often contribute highly valuable, specific experience. They demonstrate what works, what is challenging, and what is worth further investigation. This time, we will reflect on understanding child well-being and how parents can achieve it.

You mentioned divorce as a conflict situation. There are other situations in which parents subject their children to a strict diet or controversial therapeutic practices in the name of their well-being. Who should assess what is good for the child in these situations?
This is a very important and difficult question that touches on the boundaries of parental autonomy, the child's well-being, and social or legal intervention. The answer depends on the controversy surrounding the practices and their potential risks. During the conference, **Prof. Joanna Haberko** from the AMU Faculty of Law and Administration addressed this issue from a legal perspective. Generally, parents have a constitutional right to raise their children according to their beliefs. However, if there is a serious violation of the law and the child's well-being is at risk, there is a moral and legal obligation to react. This includes notifying law enforcement agencies and relevant institutions, such as the Committee for the Protection of Children's Rights. Jolanta Graczyk-Öğdem, Chair of the Board of the Local Committee for the Protection of Children's Rights in Poznań, also gave a lecture at the conference.

Photo: Władysław Gardasz

Many parents believe that raising children today is more difficult than it used to be. Do you agree?

Modern parenting differs significantly from how we were parented ourselves. This is natural because we do not operate in a void. We live in a world that constantly influences us. Consider the enormous impact of social media, the internet, and the flood of often contradictory information, for example. All of this shapes our attitudes, values, and expectations toward ourselves and our children.

If I had to point to one characteristic that distinguishes modern parenting, it would be feeling lost. Modern parents are under enormous pressure. It is not enough to simply be a parent today; you have to be the perfect parent. Consequently, we witness phenomena such as excessive involvement, perfectionism, and fixation on parenting. These issues manifest in different ways, but they all stem from the pressure to strive for perfection.

From the perspective of human development psychology, which I have studied for many years, we know that overprotection or too much freedom can have adverse consequences for a child.

It is said that young people are less resilient to stress.

Many people who work with young people point out that the current youth generation has less mental resilience, which is indeed a commonly recurring observation.

What is the reason for this? A child's, teenager's, or adult's personality is shaped by many factors, but it must be emphasized that parents play a key role. They are the main factor in socialization and upbringing. If parents are confused or uncertain, or if they change their minds easily, their child will sense it.

Today, many parents try to give their children a lot of freedom and independence, which is honorable. However, from a developmental perspective, we know that, in order to build autonomy, children first need secure dependence and clearly defined boundaries. These boundaries give children a sense of stability and order. When adults are unable to set these boundaries, they give children too much freedom, which children are not yet able to handle. The child then begins to adopt the attitude: "I decide. I have the right to choose. I am the master of my space." This attitude can become ingrained and lead to difficulties later in life.

Studies of teenagers show that those who have been given too much freedom often interpret it as a lack of interest on the part of their parents. Sometimes, they even envy their friends whose parents are more restrictive.

Parenting relationships are demanding and challenging. No one teaches us how to be a parent or how to influence a child's development wisely. That is why I would like to see elective courses in schools devoted to social influence, including parental influence. It is important to raise awareness that unreflective submission to influence and reckless exertion of influence can lead to disturbed relationships and lasting consequences. The role of a parent involves responsibility and awareness. Being a parent means having the right to raise a child and accepting responsibility for the consequences of one's decisions.

You mentioned perfect parenting. One aspect of that is undoubtedly the need for a thorough diagnosis.

I am glad that we had a panel discussion on sensory processing sensitivity therapy at the conference led by Dr. Agnieszka Sternak.

Today, many parents and teachers are under pressure to "correct" all of their children's shortcomings and imperfections. There is no room for imperfection.

This controlling attitude stifles freedom in relationships, weakening mutual trust and a parent's belief in their competence. It takes away children's space to develop in ways that are not planned or supervised. The pressure to be a perfect parent and have a perfect child leads to the need for constant diagnosis and correction. From my perspective, this limits the child's natural potential. No one is perfect, and children have the right to make mistakes and be imperfect.

This is linked to another important issue: the fear of boredom. Modern parents often fear that their child will be bored, so they fill their time with extracurricular activities, workshops, and training sessions. It seems that the same perfectionism is behind the concern of "wasting" a single moment and the desire for children to develop skills under the guidance of specialists.

However, boredom is not a threat and does not have to be. In fact, it can provide children with the opportunity to discover, develop their creativity, and come up with something on their own rather than just following an enforced plan of action.

Can a misdiagnosis pose a threat to a child?

This is a sensitive issue. Many years ago, when I started my professional career, I felt that many children, pupils, and students were unable to take full advantage of educational opportunities precisely because of a lack of adaptation to individual needs.

In this sense, a diagnosis can play a very important role. It opens the way to support and sensitizes teachers, including academics, to the need to use appropriate techniques and methods of adaptation. This is real help. However, sometimes, rather than supporting development, a diagnosis can become a limitation or a kind of label.

This brings us to a difficult topic: the reliability of diagnoses. An incorrect diagnosis can lead to ineffective therapeutic or educational methods. A child may receive support that does not address their actual difficulties, which can exacerbate the problem or create new ones. Additionally, a misdiagnosis can cause the child to be unnecessarily labeled, affecting their self-esteem and relationships with peers and adults.

Parenting is difficult...

Extremely difficult. But, as someone who deals with parenting in terms of development, I wouldn't be myself if I didn't say that, despite all of this, it can be an extremely valuable experience. My research confirms this: if parenting is not excessive or characterized by fixation or anxiety, but rather undertaken with a positive attitude, it can become a very rich space for development. ■

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WE LET THE "SHOCK" BE AVOIDED

An interview with **Marek Fertig**, Director of the AMU Project Support Center

KRZYSZTOF SMURA

Although the AMU Project Support Center has a short history, it has seemed from the beginning to be an antidote to the fragmentation of the individual AMU divisions. Established in 2019, it has been under your supervision ever since.

Indeed, six years of operation is not a long time in the history of AMU. However, it stems from specific needs and expectations resulting from the development of science in Poland and worldwide. To keep up with new ideas and technologies and be part of teams developing key concepts and inventions, one must participate in projects whose funding often comes from sources outside the home university's budget. I am honored to be entrusted with the mission of implementing the strategic goals outlined by a team of research and administrative staff members chaired by **Prof. Michał Karoński**. In appointing this team, **Rector Andrzej Lesicki** wanted the organization of the research project support system at AMU to be as concentrated as possible, regardless of whether the projects were financed from domestic or foreign sources. We have combined the forces of previously separate administrative units, and now, as a center, we support the preparation of applications and the project implementation process. Our employees actively support researchers from our headquarters and from offices on AMU campuses. We inform, encourage, and help obtain more funds for the benefit of science and AMU.

Will artificial intelligence not help you?

We train employees to use AI. We are doing this on an increasingly wider scale. One of our recent meetings was about "The Use of AI in Preparing Grant Applications." Unfortunately, AI still makes a lot of mistakes. It can generate content that reads well but is superficial or inaccurate. Additionally, it sometimes creates nonexistent quotes, publications, statistics, or author names and generates text containing contradictions. While AI is useful for identifying certain imperfections, we cannot afford to do anything more at this stage. Mistakes are costly.

Photo: Władysław Gardasz

The center is made up of sections. These sections consist of people. Do you have the strength to achieve your goals?

Since its inception, the AMU Project Support Center has grown in terms of the scope of issues it addresses and the groups that manage them. We started with sections that supported application preparation and research project implementation because those were our main focus. However, we were quickly joined by the Research University Project Management, Commercialization and Project Implementation, Investment and Infrastructure, and Legal and Organizational Support sections. As the needs and expectations of our researchers grow, we must develop our human resources and potential for competence. Currently, we are implementing over 500 projects, and each Grant Implementation Support employee is responsible for several dozen projects at a time. The June and December calls for proposals to the National Science Center result in over 200 proposal submissions each time, which are processed with the help of the Operations and Grant Application Support sections.

The employees of the Research University Project Management section deserve recognition for their significant contributions. They handle project applications from the initial stage of drafting the rules and configuring the grant competition in the system. They then verify the applications, oversee their implementation, and manage the settlement and report submission.

In 2024, 1,866 applications were co-financed under the Excellence Initiative — Research University (IDUB) program for a total amount of 58,988,277.96 PLN. We are proud of the growing number of projects implemented within the Horizon Europe Framework Program, especially the European Research Council. We are also pleased to be involved in raising funds for AMU's infrastructure development. A great example is Collegium Rubrum, which was co-financed with over PLN 22 million from European funds.

It is a beautiful example. Without a doubt. Are there any more?

We have submitted an application to the Marshal's Office of the Wielkopolska Region for funding to comprehensively revitalize and reconstruct the Adam Mickiewicz University facilities in the historic center of Poznań. The project's activities concern the protection and promotion of Poznań's cultural heritage, strengthening the cultural identity of Wielkopolska, and positively impacting the city's image. The project also expresses responsibility for the heritage of the past by ensuring its durability and accessibility for future generations while introducing modern functions and technologies that meet the needs of contemporary society. The revitalized buildings will regain their former glory and take on new representative functions, disseminating knowledge to the public.

Six years have passed since the establishment of the Project Support Center. Has Prof. Karoński's idea of creating a strong, consolidated center to oversee and support the university's grant processes been successful?

I believe so, although our needs far exceed what we have at our disposal. To meet all our objectives, we would need to expand the structure significantly, but we also have to consider the university's financial condition, which is not always possible. Nevertheless, we have something to be proud of, and we will certainly have more in the future as the number of research grants continues to grow at a rapid pace. The most prestigious ERC grants are an example of this: Four are currently underway, and two more will start soon. This is a new era for us.

As one of ten universities in Poland, we are proud to have the opportunity to implement a project as part of the Ministry of Science and Higher Education's Excellence Initiative – Research University program and to comprehensively develop science at our university so that it can compete with the best.

Horizon Europe is your pride and joy. And it is no wonder why. That is where the big money is. Let's talk about it.

The Horizon Europe budget is €95.5 billion. It is the largest budget to date for framework programs. The program aims to support scientific research, innovation, and technological development in Europe. Participation in Horizon Europe brings a number of significant benefits for AMU employees.

Horizon Europe offers extensive funding opportunities for basic and applied research projects. AMU employees can apply for individual projects (e.g., Marie Skłodowska-Curie Actions or the European Research Council) and team projects, allowing them to develop their own scientific paths and build interdisciplinary research teams.

The program promotes international cooperation, enabling AMU researchers to establish contacts

In 2024, 1,866 applications were co-financed under the Excellence Initiative — Research University (IDUB) program for a total amount of 58,988,277.96 PLN.

with partners in other EU member states and with those associated with Horizon Europe. This allows for participation in research consortia, knowledge exchange, and access to research infrastructure at the European level.

Participation in Horizon Europe projects increases AMU's international recognition. Publications, patents, and innovations resulting from these projects raise the university's prestige, which translates into a higher position in rankings and greater interest from international students and doctoral candidates.

The program significantly supports the career development of young researchers by offering scholarships, training, and mobility opportunities.

For AMU doctoral students and postdoctoral researchers, this means the opportunity to gain experience at renowned research centers and develop their skills in an international environment.

Horizon Europe emphasizes openness of research results, access to data, and social engagement. As a result, AMU employees can implement social innovations, collaborate with non-governmental organizations and local governments, and amplify the impact of their research on the local community.

The ERC is a prestigious research funding program that supports the most promising projects in Europe. For Adam Mickiewicz University researchers in Poznań, applying to the ERC is an opportunity not only to obtain significant funding but also to conduct ambitious, groundbreaking research on a global scale.

The ERC offers various types of grants, including Starting Grants for early-stage researchers, Consolidator Grants for mid-career researchers, and Advanced Grants for experienced research leaders. Each enables independent research, team building, and the development of research infrastructure.

Participating in ERC projects significantly raises the prestige of researchers and universities, increases their visibility in the international academic community, and opens the door to collaborating with the world's best research centers. Moreover, the ERC promotes complete research freedom — researchers decide on the topic and methodology of their projects.

For AMU, a greater number of ERC applications strengthens the university's position. It also inspires young scientists who see that world-class research can be conducted in Poznań. The competitions here are multi-stage. Having a good idea is necessary, but often not enough. This is said to be research on the edge of risk — something that goes beyond accepted research standards. It is supposed to bring new quality, new ways of thinking, and solutions — not only in the exact and natural sciences, but also in the humanities and social sciences.

Participating in ERC projects significantly raises the prestige of researchers and universities.

Does the ERC guarantee freedom of research?

For example, with structural funds, which we also manage as a center, we are held strictly accountable for every result. If we fail to achieve the desired outcome, we must return the money. However, an ERC grant guarantees freedom of research. There is also greater flexibility, and there are no "penalties" for certain deviations from the set research path. These projects are designed to challenge stereotypical views of science. They are extremely interesting, non-standard, and unconventional.

In turn, the Marie Skłodowska-Curie Actions grants focus not only on individual scientists but also on creating teams, connections, and research networks. Receiving such a grant is probably the most accessible way to go abroad and conduct research, invite interesting scientists, or invite doctoral students to gain experience and observe how research is conducted. You can travel and visit research units to implement your ideas or create a group that conducts research on the go. This is the path to the next stage of research activity.

How do you encourage people to take advantage of the Horizon Europe program?

We educate, organize training, and overcome resistance. This is effective because, like scientists, we are constantly acquiring new skills. To promote scientists and increase their participation in project applications, the AMU Rector's Team decided to award bonuses for submitting applications, recognizing the time and effort devoted to them, as well as for successful applications. I say "decided" because the system changed in 2025. We limited funding for application preparation to the most prestigious research programs only. However, we reward grant success in every case. The higher the funding, the higher the bonus. The response has been very positive.

Current projects under the Horizon Europe program aim to increase accessibility. What has been the greatest challenge so far?

As the successor to Horizon 2020, Horizon Europe was designed to simplify procedures, increase transparency, and improve accessibility for participants. These simplifications are crucial for institutions such as our university that actively participate in EU-funded projects.

Horizon Europe introduces a transparent structure based on three pillars: scientific excellence, global challenges and industrial competitiveness, and an innovative Europe. This division makes it easier to identify relevant competitions and thematic areas, reducing the time needed to prepare applications.

In two-stage competitions, short applications can be submitted in the first stage, reducing the workload for projects that do not proceed to the next stage.

Horizon Europe promotes open access to publications and research data and supports this initiative with simplified data management guidelines. Additionally, it introduces lump-sum payments. Rather than settling project costs on the basis of actual expenditures, a lump sum is paid once certain results or project milestones have been achieved. Beneficiaries do not have to submit detailed invoices, bills, or accounting documents, only evidence that the planned activities have been implemented.

Horizon Europe also makes it easier to combine funding with other sources, such as structural funds. This increases the flexibility and accessibility of funds for research institutions.

We are still learning how to obtain grants at the level of "Old Europe." The European Commission's rules are completely different from those of the National Science Center. Everyone who applies experiences stress and sometimes "shock," and the center is supposed to guide researchers through this process. We show researchers what reviewers expect in the application preparation process and what officials involved in grant settlement expect later on. It is a completely different approach.

However, Polish grant recipients have reported issues with remuneration. They are dissatisfied with the lack of a transparent system.

The biggest problem with Horizon Europe projects is how they are compensated. There is a domestic problem here because, when introducing the Horizon 2020 program, the European Commission decided that we could only cover basic remuneration. In short, if someone earned 6,000 PLN on a full-time basis and worked half their hours on the project, we could include 3,000 PLN in the project costs. The scientist would not notice a difference in their pay because their salary would be divided between two sources of funding. The Ministry of Science and Higher Education compensated for this by awarding researchers a "Horizon Premium," but this placed a burden on the state budget. Therefore, when implementing the Horizon Europe program, the Ministry proposed the "Premium for ACTive Researchers" project. After consulting with the European Commission, the Ministry presented sample solutions according to which scientists could receive higher remuneration for their involvement in projects. This opened up a whole host of problems and countless solutions.

At AMU, in accordance with the Ministry of Science and Higher Education's recommendations, a supplementary remuneration system was introduced. The hourly rate is determined based on several criteria: project budget size, the employee's role in the project, and AMU's role as leader or partner in the project. However, Polish universities lack a consistent system for compensating researchers for their work on projects, which is why we are still adapting this tool to meet researchers' needs and the legal possibilities resulting from funding program guidelines.

Digital transformation and climate change. These are hot topics. The EU wants to be climate-neutral. What does that mean?

We are facing climate instability, which the European Commission considers a threat. The Commission is proposing to finance projects that aim to reduce emissions and waste. It is allocating significant funds for this purpose.

The European Commission defines climate neutrality as a comprehensive transformation of the economy, society, and lifestyle that will ultimately lead to a significant reduction in CO_2 emissions. From 2025 to 2027, the Horizon Europe program will support technologies enabling the transition to clean energy, sustainable mobility, efficient construction, and a circular economy.

At the same time, the digital transformation is underway. Horizon Europe will fund the development of artificial intelligence, advanced data processing, the Internet of Things, and cloud computing under the assumption that AI should serve society rather than replace it.

Horizon Europe will also fund research into the resilience of critical infrastructure, protection against hybrid threats, and the development of dual-use technologies. Support is provided for innovations in digital forensics, explosives detection, data analysis, and countering disinformation. Although Horizon Europe focuses on civilian applications, many of the technologies being developed—such as AI, satellite communications, and advanced materials—have potential defense applications, which have been important in recent times.

The European Commission promotes pro-Ukrainian activities and supports scientists from Gaza.

Since the beginning of the war in Ukraine, Adam Mickiewicz University has been actively helping Ukrainian universities. These activities include humanitarian and scientific support implemented with national and international funds. This support has enabled AMU to organize several dozen workshops and summer schools attended by approximately 1,500 participants from Ukrainian universities.

AMU participates in programs that offer Ukrainian scientists jobs in research projects, as well as access to scientific infrastructure. Currently, Vice-Rector Rafał Witkowski is collaborating with King's College London on developing an application for the MSCA4Ukraine competition. This European initiative, under the Horizon Europe program, provides support to Ukrainian scientists and researchers affected by the war. It enables them to continue their work in research institutions in EU member states and associated countries. The program organizes competitions to fund internships for Ukrainian researchers.

International conflicts also affect the ability and willingness of research units from different countries to collaborate. Recently, we have had trouble implementing projects with institutions from Israel. In one project led by AMU and funded by Horizon Europe, a dispute arose when the war in Gaza broke out. The dispute escalated to the point where one of the partners refused to work with an Israeli university in protest against the actions of the Israeli Defense Forces. Others were planning similar actions. However, the project was saved from premature termination.

Whether we like it or not, science and the geopolitical situation are intertwined. ∎

UNIVERSITY OPEN TO PEOPLE

An interview with **Professor Maciej Walkowski**, the new Rector's Representative for the Open University at Adam Mickiewicz University

KRZYSZTOF SMURA

What makes open universities unique, and what are their main goals?

Since their inception, open universities have promoted lifelong learning as an integral part of a holistic view of education and human life. This applies to both further professional development and cultivating various passions and interests. Open universities mainly offer programs and courses to adults and working professionals who are not students, although no one is excluded. It is widely recognized that individuals focused on development and learning contribute to a mature and educated society. At the same time, they contribute significantly to the development of a knowledge-based economy. Promoted intensely by UNESCO, the OECD, and the European Commission since the late 1960s, the concept of lifelong learning is closely linked to the paradigms of social integration, cohesion, and intergenerational education, all of which are currently being promoted strongly in the European Union.

So, how does this look in Poland and Poznań?

The AGH University of Kraków and the University of Warsaw were the precursors of open universities in Poland. They have over 20 years of tradition. There are several open universities in Poland, three of which are in Warsaw. As for our university, September of this year marked nine years since the first courses were launched at AMU. By the end of March 2025, nearly 900 courses had been offered to over 17,000 full-time and remote students. Although more than

Photo: Władysław Gardasz

twice as many courses were offered, not all of them attracted the required number of students. This excellent result was the product of many people's hard work, including the AMU OU Office staff and the former Rector's Representative for the Open University, **Prof. Witold Mazurczak**. It is worth noting that the AMU authorities, led by Rector **Prof. Bogumiła Kaniewska**, and the Open University Program Council, led by **Vice-Rector Zbyszko Melosik** and responsible for ensuring the quality of education, have always fully supported this idea.

Foreign language courses still dominate, though not as much as in the past.

What are the most important actions you have taken since becoming Rector's Representative for the Open University?

First, operationally, the "heart and foundation" of our unit, i.e., the IT system, will improve significantly. It will become more responsive to the expectations of students and teachers alike. The layout of our website will also be more user-friendly. After consulting with course instructors and faculty representatives, I concluded that there is a need for a significant increase in remuneration rates. This widely expected demand has also been met. Furthermore, I believe our strategic goal should be to diversify our course offer and promote in-demand courses requested by institutions and organizations that cooperate with our university. The first demand has been met. Regarding the latter, in addition to providing an individually tailored offering, I will leverage my personal contacts. I also want to see greater activity from doctoral students and wider use of the competencies and professional experience of our university's administrative staff. Their courses would add value to the AMU Open University, and the AMU Vice-Rector for Human Resources and Doctoral Schools' understanding of this issue significantly increases the chances of this demand being met.

We have also launched a broad promotional campaign, mainly through social media. For years, Dr. Krzysztof Duda has been doing this professionally in cooperation with well-known advertising agencies in Poland. Of course, this does not exclude other forms of visibility. With the support of the AMU Marketing Center, we debuted at the 2025 European Science Fair. We will also participate at future Education Fairs. New posters with QR codes will appear in AMU faculties and other divisions. I consider greater visibility desirable and necessary in general. This interview with the Editor-in-Chief of *University Life* serves this purpose as well. I also plan to connect with directors of similar institutions in Poland to share ideas, experiences, and effective practices. One noteworthy development is that, in the coming winter term, we plan to launch a new module, "With a Good High School Diploma to College." These will be high-quality courses that prepare high school students for exams in the most important subjects.

Have the measures already taken brought the desired results?

Yes, and I am very happy about that. The number of courses proposed for the fall 2025 trimester was a record high, almost twice the previous average. If this trend continues, we will be able to offer nearly 500 courses throughout the academic year. This is how I assess our current capabilities. This result is excellent, but there's no reason it can't be even better in the future.

One last question: What types of courses are currently available, and which ones are the most popular?

Foreign language courses still dominate, though not as much as in the past. However, they remain our strong point, and I would like it to stay that way. This applies not only to English, German, Italian, and Spanish, which are offered at various proficiency levels and with different profiles. We also offer courses in Chinese, Japanese, Arabic, and sign language. There are courses in marketing, IT, security, traditional and new media, psychology, law, entrepreneurship, environmental protection, energy, and — something new — sports, physical culture, and health. The range of courses is extensive. It includes databases, data analysis using Python and ChatGPT, numerical methods and statistics in Excel, corporate communication models, personal development workshops, voice emission workshops, therapeutic techniques for working with children and young people, classes on understanding Generation Z and South Korea, animal welfare in practice, workshops on making natural soaps and reverse glass painting, and courses for mushroom hunting enthusiasts.

The registration for the AMU Open University fall trimester began on September 15 this year.

Explore the courses offered by AMU's Open University

SHAMANISM IS ALSO AN ART

An interview with **Professor Andrzej Rozwadowski**, an archaeologist who researches rock art and shamanism

EWA KONARZEWSKA-MICHALAK

Who was the first to study shamanism at AMU?

Researchers who traveled to Siberia partially dealt with this topic. However, I believe that it was Dr. Maria Kośko who was the first researcher in Poznań to dedicate herself fully to the study of Siberian shamanism. Shamanism was her life's passion. We worked together for many years at the Institute of Eastern Studies. In 2000, she invited me to participate in a project on the adaptation of shamanism in contemporary Siberian culture. Given my academic specialization, she entrusted me with researching the relationship between rock art in Siberia and shamanism.

The international community valued Dr. Kośko's work. In 2011, we co-organized the World Congress of the International Society for Academic Research on Shamanism in Warsaw. Earlier, in 2002, we organized the conference "Shamanism Today: Transformations of the Traditional Beliefs of the Inhabitants of Siberia" in Poznań, attended by scholars from all over the world. In 2014, we initiated a special issue of the *Shaman* magazine, published by the Society, dedicated to Polish research on shamanism.

Dr. Kośko had a talent for networking, including with shamans, which made her a unique researcher. She brought a collection of drums from her many trips to Siberia. Some are modern copies of historical shamanic drums, but at least one is an authentic drum used in rituals. Following her passing in 2022, her husband, Professor Aleksander Kośko, donated the drums to the Museum of Musical Instruments in Poznań. I had the privilege of reviewing this collection. Around that time, Robert Urbanowski, a student of Eastern Studies, approached me with a proposal to write his bachelor's thesis on shamanism. I suggested he analyze the drums from the collection, specifically those from Khakassia and Altai. I am impressed with his work, which will undoubtedly enrich the knowledge of the collection.

What is a drum to a shaman?

It is a living being, an animal, a helping spirit, and a guardian. The shaman communicates with this spirit during rituals. Together, they travel to different regions of the cosmos. Almost all Siberian shamans had drums; it was a deeply rooted tradition. The drumhead was often made of horsehide, an important animal for Turkic peoples in southern Siberia and Yakutia. During the symbolic revival ceremony, the drum becomes a horse. The symbols painted on the drum are complemented by rituals. For instance, depictions of human figures on horses reflect the shaman's cosmic journey on the drum, which becomes his steed during the ritual.

After the shaman's death, the drumhead is cut — the drum "dies" because it is believed that spirits still live in it and can

Photo: Władysław Gardasz

harm people. When Maria Kośko and I visited the National Museum in Yakutsk, we learned that the exhibition displayed copies of shamanic attributes because the originals were hidden in the archives due to fear of their power.

What role do shamans play in their communities?

They mainly heal mental and somatic ailments. They also help search for lost parts of herds, predict the future, and change the weather. The healing function of shamans is based on the belief that every illness is caused by an "evil spirit." By entering other spheres, the shaman searches for the spirit responsible for introducing the destructive element into the body of the sick person. Healing takes place in the cosmic sphere.

Communist atheism greatly affected Siberia. Shamans were killed or sent to labor camps.

Do people still believe in their powers?

Communist atheism greatly affected Siberia. Shamans were killed or sent to labor camps. For several decades, they were not spoken about; they were incognito. After the fall of the Soviet Union, there was a widespread return to old beliefs and new forms of them emerged. Now, scholars are describing the phenomenon of urban shamanism. In cities, there are shamanic organizations that accept verified members and issue permits to perform rituals. Some might argue that this is not real shamanism. However, the world is changing, and urban civilization, with all its advantages and disadvantages, has arrived. It is difficult to imagine shamans continuing to live in yurts in the taiga. Shamanism is evolving, which is natural, but many of its ideas and attributes are rooted in tradition. Many of these traditions are preserved in museums. Today, some people are inspired by these ethnographic sources, creating new attributes for modern rituals. One could say that history has come full circle.

When was the last time you visited Siberia?

Six years ago. Of course, trips to Russia are no longer possible. However, I saw a lot over the last twenty years. I conducted research in Yakutia, Khakassia, and the Altai Mountains. I also traveled outside Siberia to Uzbekistan, Kazakhstan, and Kyrgyzstan, where I gave lectures on rock art. Recently, Mongolia opened up to me. In total, I took more than twenty trips.

My interests are strongly focused on rock art. Years ago, I established a partnership with the Rock Art Research Institute at the University of the Witwatersrand in South Africa. Last year, for example, I attended a symposium in Johannesburg to celebrate the 90th birthday of Professor David Lewis-Williams, the founder of the Institute. This year, together with **Prof. Iwona Sobkowiak-Tabaka** from the AMU Faculty of Archaeology, I interviewed Prof. Lewis-Williams at his home. We recently hosted Dr. Jeremy Hollmann, also from the Institute, who participated in the interview. We are currently preparing a project with him that showcases the diversity of shamanic traditions in rock art.

The term "shamanism" originates from Siberia but has also been used in science to describe trance-like ritual practices in cultures worldwide. Our goal is to create a new synthesis demonstrating how shamanism is applied to both Siberian and South African art, which has sparked a global discussion about the relationship between rock art and shamanism.

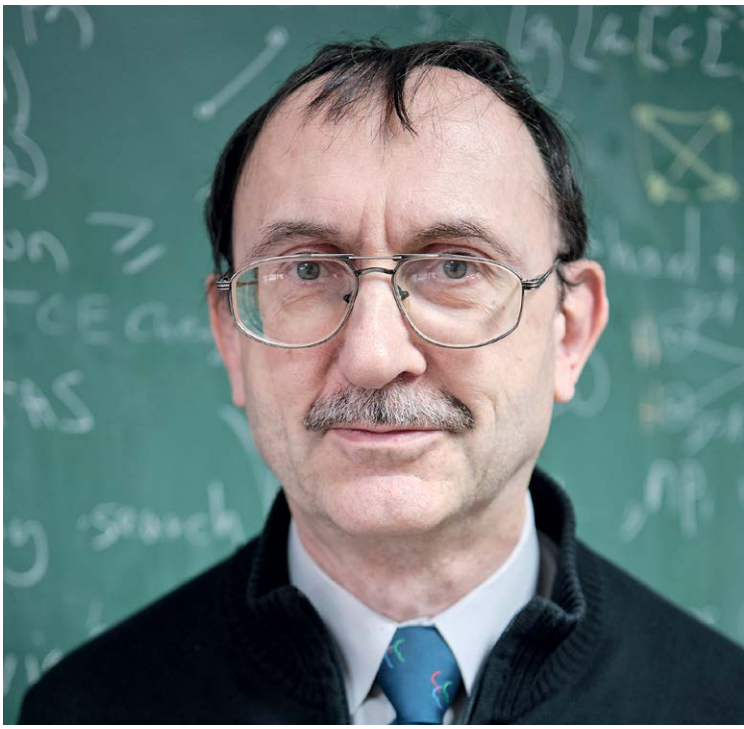
What else do you do?

I have been fascinated by contemporary art created by indigenous artists for decades. One summer, while conducting research in the Altai Mountains, I came across paintings featuring numerous rock art motifs in a local craft gallery. I recognized them and documented many of them myself. I started exploring and discovered that rock art is an important part of contemporary Siberian art and identity processes. It is an unknown aspect of Siberian culture where an original artistic movement known as Siberian Neo-Archaic has developed. I have recently completed a research project on this topic in Siberia, Kazakhstan, and Canada. Shamanism has returned as well and many indigenous Siberian artists are turning to their indigenous religion, although some scholars may not agree with it (it is often believed that shamanism is merely a ritual technique of ecstasy). In Khakassia, for example, Alexander Domozhakov (who died tragically in 1998) created his works. His paintings depict moving images of shamans, some of which are inspired by petroglyphs. For Domozhakov, shamanism and rock art were sources of rediscovering his identity. He grew up in a communist family and did not know the Khakas language. He began to discover his Siberian identity through his contact with archaeology and ethnography. I am completely absorbed by this topic, from both the Siberian and Canadian perspectives.

How do contemporary artists experience ancient art?

They often say, "This is ours." I remember asking one of the artists at the opening of Kanat Shukirbekov's exhibition in Kazakhstan two years ago where the rock art image in her painting came from. "How come? It's from here; it must be in our art," she replied. I felt like I was in Canada, where representatives of indigenous peoples also use old motifs that refer to a mystical connection with ancestors and the landscape. The use of rock art motifs also has political connotations. In Canada, they are symbols of indigenous identity, which was partially attempted to be destroyed through the system of residential schools. Therefore, today, they are a healing medium that restores tradition. At the 2014 Winter Olympics in Sochi, the Kazakhstani team wore costumes adorned with petroglyphs, which became a national symbol representing the country. Researching this topic is a fascinating adventure. ■

I CHOSE ACADEMIA, ALTHOUGH I HAVE ALWAYS BEEN ATTRACTED TO CHESS



Apparently, Ernest Hemingway had amassed a sizeable collection of paintings, which he liked to show his guests. Once, he was visited by a man who was not particularly interested in art. The man looked at the paintings without much enthusiasm until he finally stopped at one and analyzed it for a long time. Intrigued, Hemingway asked his guest if he liked the painting. The man replied, "Yes, it's a very nice checkmate in three moves." "Chess players are a peculiar group of people," concludes **Professor Stanisław Gawiejnowicz**.

MAGDA ZIÓŁEK

Prof. Gawiejnowicz is the Head of the Algorithmics Research Unit at the AMU Faculty of Mathematics and Computer Science. His scientific interests include task scheduling theory, algorithmic theory, complexity theory, and applications of algorithmics. He is the author or co-author of dozens of articles in highly rated journals and three monographs. He has also promoted three doctors of computer science. Privately, he is a chess enthusiast. His peak rating in the International Chess Federation (FIDE) has been 1761 points.

Prof. Gawiejnowicz recalls that his father taught him how to play chess. Initially, they played as amateurs, unaware that chess had a rich literature. However, soon after discovering its existence, his father began to have more and more trouble winning. To this day, the professor's private library contains many chess books, including literary works. One gem in the collection is a tournament bulletin autographed by former world champion grandmaster Mikhail Tal and former runner-up in the World Chess Championship, grandmaster David Bronstein. Prof. Gawiejnowicz also has various chess sets that he brought back from his research trips abroad. For example, he has a set of Chinese chess pieces from Taiwan.

"A few years ago, I competed twice in the European Speed Chess Championships," he says. "These were large events, attracting two to three thousand participants at a time, including many children. I remember the huge hall at the Torwar indoor arena in Warsaw with hundreds of tables set up with chessboards and clocks. It was a beautiful sight," he recalls.

While studying at the university, Stanisław Gawiejnowicz developed his passion for chess in the newly formed chess section of the AMU Academic Sports Association (AZS UAM). Candidates had to perform well in a tournament to join the university team.

"We played half-hour games—today we would call it speed chess. I remember luck was on my side because I beat a player with 2,000 points in the FIDE ranking in the last round.

Photo: Władysław Gardasz

Although my opponent initially had the advantage, I showed greater composure in the final stages. That win secured me a good position in the tournament," he recalls.

Gawiejnowicz played in the AZS UAM chess section for several more years. He won the title of AMU vice-champion and participated in the Polish Academic Championships. After graduating, he pursued a research career at AMU but remained drawn to chess. As a researcher, he became interested in studying chess in mathematics and computer science.

"One of the first master's theses I supervised was about chess software. As part of the thesis, we created a chess computer program that participated in the Polish Chess Programming Championships. We consulted with the late Poznań grandmaster Włodzimierz Schmidt on certain issues. It was a very interesting intellectual challenge," recalls Prof. Gawiejnowicz.

Professor Gawiejnowicz has a mechanical chess clock from the 1980s in his private collection. He says that he has personally learned that time is an important factor in the game. It was in Poznań. The tournament was held in a tin-roofed building. Because it was hot outside, it quickly became hot and stuffy inside. Therefore, the conditions were not favorable for the players.

"I played against a player who had a good opening. Later in the game, however, I gained the advantage until a third player entered our battle: time. We played for a very long time, and it soon became clear that we were the last two players remaining. Other players who had already finished their games gathered around us. I had two minutes; my opponent had twenty. I had a king, a rook, and a pawn; he had a king and a rook. We were playing a rook endgame. I knew I was in a winning position, but I couldn't remember how to win! I saw the flag on the clock rise, felt the stress mount, and counted different variations, but nothing came to me. The crowd around our table was getting denser. I heard voices behind me asking, 'Why isn't he winning?' I couldn't find the solution that everyone else seemed to know. Suddenly, I came up with a solution—I had to hide the king behind the rook to avoid being checkmated—and, finally, after a dramatic ending, I won on the hanging flag. "It was a great emotional struggle — something that computers, for example, do not experience," says Prof. Gawiejnowicz.

Since the IBM Deep Blue computer defeated world champion Garry Kasparov in May 1997, chess has changed significantly. Gawiejnowicz categorizes these changes as either positive or negative. Traditionally, a chess game has three parts: the opening, the middlegame, and the endgame. Computer programs have thoroughly analyzed the first and last stages of the game, creating databases that describe all possible positions and provide the best move for each one.

"A human has virtually no chance of beating a computer in the endgame. The middlegame still offers opportunities for original moves, i.e., moves not described in the database. Computers handle these moves worse because the number of possible positions is so large that even a computer cannot find the best move during the game. This is sad news because it suggests that the era of unexplored chess positions is coming to an end. What will happen when computers analyze all these positions? From a theoretical point of view, the game will be solved. This may no longer be interesting to many players," wonders Prof. Gawiejnowicz.

The rankings achieved by computers are also unattainable for the average chess player. Garry Kasparov, the 13th world champion, ended his career with a rating of around 2800 points, and no one came close to his score for a long time. However, a few years ago, one of the chess programs, Commodo, reached 3,300 points.

Prof. Gawiejnowicz listed further changes related to the rules of the game. FIDE shortened the time for tournament games and also abandoned the so-called adjournment. These changes were made out of fear that players could use chess engines (e.g., Crafty, Shredder) to analyze their positions during breaks in the game.

If these non-standard properties dominate a given chess position, then, in my opinion, AI will be ineffective.

Modern chess owes a lot to computers. They create pairing systems that determine who plays whom in a given round (e.g., ChessArbiter and ChessManager), manage chess databases (e.g., Fritz and Scid), and operate chess servers (e.g., ChessBase and Chess.com). Today, there is a lot of talk about the capabilities of artificial intelligence programs, such as AlphaZero. The professor is skeptical of them. He explains that the operation of "traditional" chess programs is based on exact algorithms that check all possible moves and select the best ones, either directly or indirectly. Programs such as AlphaZero, however, make decisions based on heuristics — algorithms based on artificial neural networks. Although these programs find acceptable solutions quickly, they are not optimal from the perspective of game theory. These programs can achieve excellent results in sports games where time is a critical factor. However, according to him, they are not effective in determining the optimal move in a given position.

"Chess is full of paradoxes. There are many chess position with hidden properties that contradict the rules we previously knew. If these non-standard properties dominate a chess position, then, in my opinion, AI will be ineffective. Currently, computers have the advantage because they can check millions of positions in a second. Unfortunately, humans do not have such capabilities. Who will prove to be better: humans or machines? Only time will tell." ∎

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HUMAN FATE: BETWEEN CHANCE, NECESSITY, AND FREEDOM

An interview with **Professor Krzysztof Stachewicz**, Head of the Department of Philosophy and Dialogue at the AMU Faculty of Theology and author of *Myśleć los człowieka. Studium filozoficzne* (Thinking Human Fate: A Philosophical Study) nominated for the Prof. Tadeusz Kotarbiński Award.

DARIUSZ NOWACZYK

Is human fate always associated with suffering?

I don't think so. However, we often discover the idea of fate in situations that are most often crises associated with suffering. When life goes according to our expectations, we have a sense of agency and believe that we are the reason things are happening the way they are. However, when life spirals out of control, we feel a sense of uncontrollability over our existence, and the idea of fate as predetermination becomes apparent. In this sense, suffering reveals to a person that fate largely comes from outside them and that their influence on specific things happening in life is often limited or nonexistent. This is a difficult truth about the human condition, especially in an age of hyperactivity and omnipotent feelings about one's life. Fate constitutes an insurmountable horizon for realizing one's life and indicates the limits of human self-creation, teaching humility.

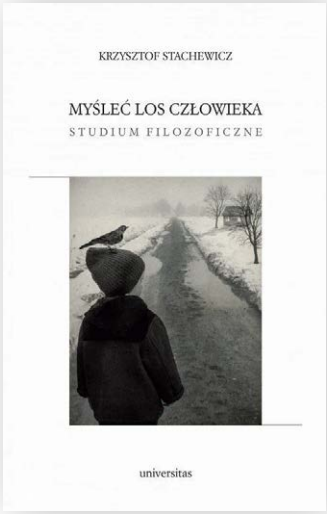
So, life is really determined by chance. If we can manage our lives, then it is by managing chance events.

I think two elements need to be distinguished here: chance and necessity. Of course, the definition of chance and necessity is a separate discussion dating back to Aristotle. However, we intuitively sense this difference quite well. Something happens out of necessity when it occurs according to recognizable and predictable laws. Chance, on the other hand, completely eludes these laws and breaks away from causality. Greek mythology illustrates this perfectly with the figures of two goddesses who controlled human fate: Ananke, the goddess of necessity, and Tyche, the goddess of chance. Tyche's whims determined how fortune and misfortune would be distributed among people. Where we recognize necessity and have insight into the underlying laws, there is the possibility of influencing our own fate. In the case of chance, however, there is virtually no such possibility. We must find ourselves and act within its limits. "One goes as the road leads," as Józef Tischner used to say.

In your book, you mention that when we talk about human fate, we are also dealing with collective fates: the fate of a community or a nation, for example. What are the relationships here?

There is a distinction between fate in the collective sense, which is described by terms such as death, loneliness, and

the contingency of existence, and fate in the distributive sense, which is one's own individual fate. In fact, these two concepts are closely related. My fate as a specific human being is part of the fate of humanity, with certain individual characteristics, of course. My fate is also shaped by the era in which I live: a time of upheaval, drama, and tragedy. We often refer to the war generation as people "crushed by fate." Imre Kertész coined the term "fatelessness." The time of war and the Holocaust made him feel as if his fate had been taken away. All of these concepts are intertwined.



I cannot shake the belief that fate is primarily associated with irrationality. So, I wonder if fate is truly a philosophical category.
This is a valid question because fate is a cultural universal. Virtually every mythology and religion includes this concept, whether named or not. Why this is so, however, is a separate question. Why does fate, or the sense of predetermination, appear in all cultures? On the other hand, the idea of fate is somewhat irrational, if only because chance plays a fundamental role. However, fate also appears as an idea without which it is impossible to fully conceive of or understand human existence. Why? Because it arises from an opposition to the randomness, senselessness, and chaos of life. The idea of fate attempts to connect all of this and give it a rational character, which is revealed in narrative and in telling the story of one's life. Philosophical reflection on humanity has two possibilities: to break down the idea of fate and consider its fragments as parts of life or to incorporate fate into one's thinking by reflecting on intuitions embedded in ancient mythologies, religious traditions, and philosophical thinking. Since the pre-Socratic philosophers, the idea of fate has appeared in philosophy and is present in all the great thinkers of antiquity. Later, mainly in the Middle Ages and among the Stoics, it was replaced by the idea of providence. However, this is merely another form of the same idea of fate—a religious form in which providence takes over the functions of chance and necessity. It is associated with the belief that a divine force controls the course of one's life, which is understood in Christianity as a personal God.

There is a considerable amount of determinism in this.
In my book, I discuss "gaps of freedom," which are moments when people make decisions about the shape of their lives. The existence of freedom in these areas is supported by our ability to achieve certain life goals despite numerous obstacles. However, most of what we think is subject to our decisions is appropriated by necessity, determinism, and randomness. Note that when we talk about fate as a form of life—being entangled in something over which we have no direct influence that significantly determines the shape of our lives—we are not talking exclusively about something external. Two elements must be taken into account: first, this externality—what we might call the stage of our lives, what happens, and how we respond—and second, how we respond is also determined by factors inherent in us, such as genetic makeup, character, personality, experience, and traumas. All of these factors were shaped in us beyond our control at a fairly early stage in life. Not only are certain events sent into my life by chance and necessity, but the way I react to these events is also not entirely subject to my control.

In your book, you use the interesting metaphor of fate as a drama taking place on a stage. It is like an actor performing in a play he did not write; he only has the opportunity for a small amount of interpretation.
Plotinus uses this same metaphor in *The Enneads* to illustrate the human condition. Our roles have been assigned, the script has been written, and our task is to play our roles well. That's all there is to it.

Is there a reason why philosophy today does not deal intensively with the fate of humankind, and why this book has been published now? Is it a result of your research?
My research in philosophical anthropology and ethics and my reflections on human beings and the moral areas that constitute the ethos of human existence led me to write this book. While searching for ideas that fundamentally define human existence, I started thinking about the fate of human beings—that is, thinking about the form of existence and the framework of life from within existence itself. This idea seems to me to be cognitively operative in strictly ethical analyses as well.

In your book, you mention that you are working on another monograph. Can you tell us more about it?
My new monograph addresses a more specialized topic: the relationship between fate and ethics. In other words, I intend to outline areas of human independence in relation to axiological and ethical spheres. In a sense, it will be an ethical supplement to the more general and introductory book we have discussed. ∎

SŁAWOMIR ERKIERT

DIRECTOR OF THE AMU PUBLISHING HOUSE

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Photo: Władysław Gardasz

CAN COLLECTING BOTTLE CAPS BE EDUCATIONAL?

An interview with **AMU Prof. Sylwia Jaskulska** from the Faculty of Educational Studies and co-author of the bestseller *Ocenianie zachowania. Jak robić to lepiej? Trzy modele oceniania zachowania z komentarzem* (Assessing Students' Conduct: The Best Way to Do It? Three Assessment Models with a Commentary).

DARIUSZ NOWACZYK

Photo: Władysław Gardasz

What inspired you to address the issue of grading students' conduct in schools?

I became interested in graded assessment many years ago while writing my doctoral dissertation. I realized then how little research had been done on the subject and that grading students' conduct was rarely discussed. Initially, I approached the topic academically, but recently, I have started dealing with it more practically.

What do you mean?

I am one of the few researchers in Poland who study the grading of students' conduct. People experiencing problems with conduct grades — teachers, parents, and students — sometimes find me online. For example, one of the schools in Poznań that wanted to modify its conduct assessment rules contacted me this way. It was the first large practical project I had ever undertaken. It went so well that my colleagues from that school and I decided to write a book (*Ocenianie Zachowania. Jak robić to lepiej? Trzy modele oceniania zachowania z komentarzem?* AMU Publishing House). The book was very much needed, and the snowball started rolling. I am invited to many schools where I collaborate with the teaching staff to implement my ideas.

If such profound changes are necessary, does that imply that the education law is flawed?

In my opinion, the law is very good. We have statutory provisions and appropriate regulations, and school statutes are created on these grounds. This is where the miracles begin. However, schools often misinterpret the law, and in most cases, I would call it "school mythology"—things are done the way they used to be done. Why change anything? There are generally two dominant conduct grading systems: a points system where students receive negative or positive points for their conduct and a system that focuses on exemplary students. However, neither of these systems is described in the law except in school statutes. In our book, we describe three new models for assessing student conduct.

Please introduce them.

For the youngest students, we use the projection method. The teacher reads stories to the class about students behaving in different ways and then asks the students to draw or write about themselves, depending on their age. The problem with Polish schools is that students are always assessed the same way, even though teenagers have a different sense of self. Therefore, in the second model, students set goals at the beginning of the school year and conduct assessments are based on conversations with teachers about achieving these goals. This method is already used in some schools, and it works well because teenagers understand that they have some control, so they think more about their actions. We also have a model that focuses on the process and the relationship with the class teacher. This is, of course, a great simplification of these models. They are described in detail and comply with education law. The book's main message is that meaning is often lost in the grading process. We are trying to find it.

Why doesn't traditional conduct assessment make sense?

Because it is a purely behavioral tool based on punishment and reward. In a point-based system, students can earn points for bringing bottle caps to school. If we ask them why they do it, they probably won't know. They bring the caps because they can earn seven points for them. They bring potted flowers to class not to brighten the classroom but to earn points. Yesterday, they hit a classmate and received twenty negative points. Now, they have to make up for it, and the easiest way is with bottle caps and flowers. These are my favorite examples.

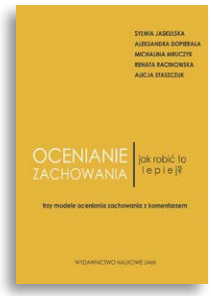
The problem with Polish schools is that students are always assessed the same way, even though teenagers have a different sense of self.

I get the impression that the assessment models you propose will increase the workload for students and teachers.

It depends on how teachers view their work. However, parents are often the most resistant. They say, "When I see how many points my child has, I know what's going on. If you are 'educating' them and talking to them, I don't see it in the report card." They are rooted in the reality of school as they know it from their own experience. Fortunately, more and more teachers in Poland are using descriptive grading and formative assessment in their classes. To be clear, the conduct grade must be determined at the end of the year for fourth grade and above, as required by law, but the path to that grade can be more developmental.

What are the advantages of descriptive grading over point-based grading of students' conduct?

Descriptive grading complies with education law, which defines the objectives of assessment as informing, motivating, and showing students how to work and what needs improvement. Second, descriptive grading gives students a chance to plan their development. Third, it removes the competitive elements. Polish schools focus on competition through grades. In some classes, the student with the best grades wins, while in others, being the champion means having the lowest



Ocenianie zachowania. Jak robić to lepiej? Trzy modele oceniania zachowania z komentarzem, Sylwia Jaskulska, Aleksandra Dopierała, Michalina Mruczyk, Renata Racinowska, Alicja Staszczuk

grades. How can you compare descriptions? You can't. Descriptive grading is meant to provide students with information about their work and development. It does not rank students from best to worst.

Does this type of assessment impact the relationship between students, teachers, and parents?

Yes, although I have not yet conducted any research on this topic, I am in constant contact with many schools and have formed some conclusions. Let's use improving a test grade as an example. How does this usually work? A student receives a C and, wanting to improve their grade, takes a similar test again. From legal and psychological points of view, this makes no sense because students should only improve what they did poorly. On the other hand, a descriptive grade allows for clear communication. For example, a student might be told, "Don't bother learning the multiplication table, because you're great at it, but you need to work on division." This is important information for students and their parents. When a parent comes to school for a conference, they feel they have been in contact with the teacher throughout the year and already know everything. Descriptive assessment provides solid information. In a descriptive assessment of behavior, there will be notes that the student had a problem with something but is now doing very well. I cannot imagine this relationship when the only means of communication is a number or grade.

Should descriptive assessments or other models discussed in the book be based on certain criteria?

Each school should establish its own criteria and include them in its statutes. Although descriptive assessment may seem like a relaxed approach, there are specific criteria to which we refer. For example, a student fulfills their school obligations by having everything they need for class and being punctual. Then, we have a framework. The description is not a stream of the teacher's thoughts but a specific form described in the statutes. I am a strong advocate for clearly defining the criteria for evaluating students' conduct in statutes. The law requires clear definitions of who assesses, under what circumstances, and what the criteria are. Often, school statutes lack clear criteria that students, parents, and teachers can refer to. Students should work on areas they are familiar with, and adults should demonstrate the values of the school. Can such conversations even take place when students thoughtlessly bring in five bottle caps just for a few points? No. That is why we need well-defined criteria relating to values. Life isn't always about collecting bottle caps, but rather developing dispositions, traits, or competences to help others. After all, that's usually the purpose of collecting bottle caps.

Do other countries emphasize descriptive assessment, or do grades dominate student conduct evaluations?

It is difficult to find examples of systems around the world that use grades for student conduct assessment. However, there are many examples of various types of descriptions or student portfolios. Proper conduct is emphasized everywhere, of course, but the process rarely ends with a grade. Poland is an unfortunate exception in this regard. ■

Photo: AI

THE CHINESE PIANO

PROF. MARCIN GMYS
Acting Director
of the AMU Institute of Musicology

This year's International Chopin Piano Competition was of an exceptionally high caliber. Eighty-four participants qualified, including twenty-nine representatives from China. The organizers introduced several new rules, the most significant of which required contestants to perform a solo piece of Chopin's most sophisticated work, the *Polonaise-Fantaisie*, in front of the philharmonic musicians already seated on stage before performing with the orchestra in the final round. For the first time, the chairman of the jury was a non-Polish musician: Garrick Ohlsson (USA), winner of the 1970 competition. The number of Polish jurors on the seventeen-member panel was reduced from seven to five. Both decisions sparked criticism from patriotic circles. But was this justified? Apart from Mateusz Dubiel's unfortunate elimination in the first round due to illness on the day of the performance, it was not particularly surprising that only four out of thirteen Polish pianists advanced to the second round. Considering that reaching the finals is what really counts, no disaster occurred. After all, Jakub Kuszlik, the best Polish pianist in 2021, won the 4th Prize and a special award for the best mazurka performance. Now, we can add to Polish historical successes the 5th Prize won by 25-year-old Piotr Alexewicz, as well as distinctions for the mazurkas performed by 19-year-old Jehuda Prokopowicz and the ballads performed by 28-year-old Adam Kałduński. Neither Prokopowicz nor Kałduński made it to the final round. Considering the profound crisis in young Polish piano playing, which has been evident for over three decades and marked by a lack of success in major international competitions outside of the Chopin Competition — Rafał Blechacz's victory in 2005 notwithstanding — it can be said that the Nineteenth International Chopin Piano Competition, with its weakened Polish juror influence, only confirmed the sad status quo.

Eric Lu's controversial victory in the Nineteenth Chopin Competition came as an unpleasant surprise to most observers. Lu, an American pianist, returned to Warsaw after ten years. He had previously won the 4th Prize in the seventeenth competition. He is a very good pianist, but not an electrifying one. His sound is often ugly and aggressive (which could be heard in the hall but not necessarily in the streaming, which artificially "leveled the playing field" for all recorded musicians). The key question is whether the nearly 28-year-old Lu, an artist with an established international career and a lucrative recording contract with Warner Classics, will bring a breath of fresh air to the world of piano playing and help the most important competition in the music world maintain its position. Recently published scores showed that Lu, of Chinese descent, beat his younger rival, Canadian Kevin Chen, also of Chinese descent, who was favored to win, by just 0.27 points on a scale of 0–25. It is unfortunate that soulless arithmetic prevailed, and the judges considered not awarding the 1st Prize (which would have been scandalous!) for longer than announcing the Canadian genius as the winner, as Garrick Ohlsson admitted.

The absolute revelation of the competition was 16-year-old Chinese pianist Tianyao Lyu. She has been studying at the Academy of Music in Poznań with Professor Katarzyna Popowa-Zydroń since March 2024, preparing for university. Affectionately known as Marysia in Poznań, Lyu was quietly tipped to win after the first stage. Ultimately, she took "only" the fourth place, tied with the outstanding 31-year-old Shiori Kuwahara. Both were rated slightly lower than the 3rd Prize winner, the poetic 26-year-old Chinese pianist Zitong Wang. Fortunately, Lyu received a special award for the best performance with an orchestra. She was the only finalist who could impose her interpretive ideas on the sluggish national philharmonic orchestra despite her modest experience working with large ensembles.

Ignoring the media frenzy surrounding the Nineteenth Chopin Competition, if we take a cool-headed look at which recorded performances have a chance to go down in the history of Chopin playing, I would first bet on Kevin Chen's epoch-making performance of the complete 12 Études, Op. 10. This performance dethroned the studio recording made over 50 years ago by Maurizio Pollini, the winner of the Chopin Competition six and a half decades ago. I would also pair this with Lyu's interpretation of the Piano Concerto No. 1 in E minor, Op. 11. We can already start discussing whether her rendition of the concerto is more electrifying than those of memorable Chopin Competition winners such as Martha Argerich (1965), Krystian Zimerman (1975), Stanisław Bunin (1985), Rafał Blechacz (2005), and Bruce Liu (2021). ■

Photo: Władysław Gardasz

UPCOMING EVENTS

JANUARY 11, 2026, 6:00 P.M.
AMU NEW YEAR'S CONCERT

The following AMU ensembles have announced their participation in the upcoming 2026 New Year's Concert: the Adam Mickiewicz University Choir, conducted by Beata Bielska; the AMU Chamber Choir, conducted by Krzysztof Szydzisz and Joanna Piech-Sławecka; and the AMU Chamber Orchestra, conducted by Aleksander Gref.

The concert program is currently being prepared. It will feature contemporary arrangements of well-known melodies, as well as Christmas carols and other light entertainment in keeping with the New Year's atmosphere.

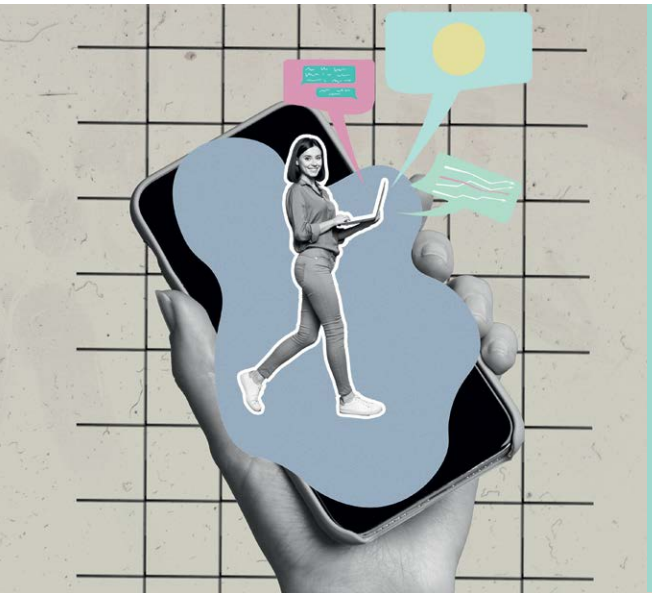
FEBRUARY 4–5, 2026
6TH AMU ADMINISTRATION FORUM

The theme of the 6th forum for AMU administrative staff is "The Power of the Team." This event provides a space for faculty and central administration representatives to network, share experiences, and develop solutions together to improve their daily work.

The first day will include presentations on cooperation and building effective teams:

- Prof. Małgorzata Rosalska: "Synergy Does Not Arise on Its Own: What Are We Really Building When We Build a Team?"
- Andrzej Ostrowski: "How to Build and Integrate a Team"
- Mateusz Kusznierewicz: "Power Speech: Team Cooperation During a Storm and in Constantly Changing Conditions"
- Prof. Rafał Witkowski: "AMU Administration in 2040: Why Will Humans, Not AI, Prevail?"

There will also be networking breaks, as well as breakfast and lunch. The second day of the forum will be devoted to workshops.



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We look forward to receiving your submissions, but please do not exceed 4,000 characters with spaces. The editorial team reserves the right to select texts for publication and to edit them.

The Editors of *University Life*

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We look forward to working with all interested parties.

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