



ADAM MICKIEWICZ
UNIVERSITY
POZNAŃ



**ENGAGED
UNIVERSITY
2024**



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Prof. Bogumiła Kaniewska

RECTOR OF THE ADAM MICKIEWICZ UNIVERSITY IN POZNAŃ



“Science is at the heart of any progress that makes people’s lives easier and reduces suffering”

Maria Skłodowska-Curie



Ladies and Gentlemen,

It gives me great pleasure to invite you to read the newest edition of the ‘Engaged University’ report. I am proud of the projects and initiatives implemented at our university, which directly relate to the social and environmental challenges of these fascinating, dynamic, and complex times.

Many of these initiatives have been developed together with partners from various industries, which significantly increases the real-world effectiveness and impact of these projects. Such partnerships not only enrich our research and educational perspective, but also build spaces for dialogue, exchange of ideas and experiences. This is how we strengthen the local communities surrounding our university, which we serve, and to which we belong.

This report present the activities of our academic community, including our efforts to reach the Sustainable Development Goals that I consider particularly important. In the coming term, I plan to devote my efforts to this field. I believe that sustainable development is the key to the future.

Even though this report features only some of the many initiatives implemented within the framework of the engaged university, it demonstrates that we are on the right track. Our university is where talented and passionate scientists, students and employees ask important questions and look for innovative, creative solutions, and often find them!

I invite you to read the report, and hope that the presented projects will inspire you and demonstrate how we can effect positive change together.

Kindest Regards,

AMU in numbers

21

faculties

.....

4

branches

.....

13 292

enrolled students

.....

28 988

full-time and part-time students

.....

1 191

doctoral students

.....

1 016

postgraduate students

.....

145

degree programmes

.....

218

specialisations

.....

38

postgraduate programmes

.....

255

science clubs

.....

2 829

academic staff

.....

2 055

administrative staff

.....

4 392

scientific publications

.....

740

ongoing scientific and research projects with budgets > PLN 712 million

.....

735

foreign students

.....

Rankings

Perspektywy Ranking

(2024)

3 University in Poland
6 Higher education institution in Poland

QS Sustainability Ranking (2023) **434**

QS Europe University Rankings (2024) **258**

QS Europe University Rankings – Eastern Europe (2024) **15**

Times Higher Education

World Ranking (2024)
1001-1200

World thematic ranking

LIFE SCIENCES	601-800
PHYSICAL SCIENCES	801-1000
PSYCHOLOGY	501-600
EDUCATION	301-400
SOCIAL SCIENCES	601-800
ARTS AND HUMANITIES	301-400

IMPACT Ranking

1000+

GOOD QUALITY EDUCATION (SDG 4)	601-800
LESS INEQUALITY (SDG 10)	201-300
CLIMATE ACTION (SDG 13)	401-600
PARTNERSHIPS FOR THE GOALS (SDG 17)	601-800

Shanghai Ranking

World ranking (2024)
901-1000

World thematic ranking (2023)

ATMOSPHERIC SCIENCES	301-400
COMMUNICATION	201-300
ECOLOGY	201-300
EDUCATION	301-400
GEOGRAPHY	201-300
MATHEMATICS	301-400

Green Metric

(2023)

339

QS

World Ranking (2025)
761-770

World thematic ranking (2024)

LINGUISTICS	151-200
ENGLISH LANGUAGE AND LITERATURE	251-300
MODERN LANGUAGES	301-340
ARTS AND HUMANITIES	401-450
CHEMISTRY	551-600
BIOLOGY	551-600
ARCHAEOLOGY	151-200
EDUCATION	401-420
LIFE SCIENCES	401-450
PHYSICS AND ASTRONOMY	401-450
AGRICULTURE AND FORESTRY	251-300

US Best News

World ranking (2024)
935

World thematic ranking (2024)

ARTS AND HUMANITIES	123
BIOLOGY AND BIOCHEMISTRY	648
ENVIRONMENT / ECOLOGY	439
MATERIAL CHEMISTRY	688
PLANT AND ANIMAL SCIENCE	475
EARTH SCIENCES	424
CHEMISTRY	602
PHYSICAL CHEMISTRY	493
PHYSICS	657
SOCIAL SCIENCES AND PUBLIC HEALTH	436

PEOPLE *and* SOCIETY

Universities are about people. It is important to be integrated not only within the academic community, but also with the communities surrounding and affecting our university.



Prof. Tadeusz Strykiewicz

Reducing inequality through cultural and natural heritage

At the level of socio-economic development, inequalities persist, not only on a global scale, but also within Poland.

> The situation of rural areas, located on the periphery, far from highways and metropolitan agglomerations, is particularly worrisome.

One such area is the rural municipality of Wągrowiec, where natural and cultural heritage can be an important impetus for development. The municipality has become a kind of testing ground for students of spatial management and integrated development planning. Under the guidance of researchers (Prof. T. Strykiewicz, Dr. B. Kołsut, Dr. P. Ciesiółka, K. Koliński M.A. eng.), students participated in the project "Learning through practice – students working with the local government" that was conducted as part of the "University of Tomorrow" initiative. The aim of the project was to develop ideas for the use of natural and cultural resources in cooperation with residents and local government representatives and create a plan for the integrated development of the municipality.

The students inventoried the natural and cultural resources across selected areas of the municipality. They conducted interviews with members of the local community and local government and used the information to propose spatial development concepts for the villages and other areas in need of intervention. Through their work, they (1) enriched the rural regeneration plan for the village of Łekno by adding a number of social postulates from residents, and (2) designed a sightseeing and educational trail along the Głaniec-Wągrowiec lakes, which included the blueprint for a suspension bridge, a musical bridge, a sightseeing tower, and renewed access to the forgotten heritage of the Pałuk family in Danabórz.

The completed project is a great example of planning synergy. It also showcases the benefits of participatory planning. It demonstrates the principles of the action research approach to research and teaching, based on the philosophy and methodology of problem-driven research. This type of methodology combines scientific knowledge and collaboration with the local community and organizations affected by the issue in question.



Project participants in front of the Municipal Office in Wągrowiec

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Prof. Andrzej W. Nowak

Tricks of the sowers of doubt

Professor Andrzej W. Nowak of the AMU Faculty of Philosophy is the principal researcher in the project “Fear, Uncertainty, Doubt: The Social Production of Ignorance in Poland,” which aims to understand and combat disinformation.

> The project is practical and focused on real-world applications.

The starting point for analysing how fears and insecurities are produced in society is agnotology: the study of ignorance. Public debate often uses strategies for generating fear and uncertainty. One of them is to create the impression that there is a symmetrical argument, for example, in discussions on climate change. Another is to demand 100 percent certainty from experts. Meanwhile, in science, judgments are made conditionally and based on available evidence. This can be misinterpreted as lack of certainty. This kind of manipulation leads to a sense of confusion and disorientation.

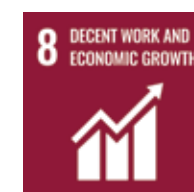
The project aims to educate the public about manipulative techniques. It teaches people how to recognize manipulation, identify propaganda and conspiracy theories, and track information sources. Podcasts, videos and a manual for detecting bad practices will be an important part of the project. This kind of education is meant to help navigate a world full of misinformation. Professor Nowak mentions that disinformation often thrives on social media, where messages are crafted to provoke a reaction. The project teaches people how to verify sources and avoid drawing hasty conclusions.

The project curriculum will be introduced into schools in cooperation with the teacher training centre, providing teachers with lesson plans and educational tools.

One of the goals of the project is to restore confidence in science through systemic action, patience and a non-condescending approach to citizens. Many people believe that science can magically solve problems. In reality, the scientific process is pragmatic and based on diligent research. Modern science involves large research teams and complex technologies. This can make it inaccessible to the layperson. However, the researchers believe that explaining the basics of science in an accessible way remains possible.



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Prof. Wojciech Szafranski and Dr. Alicja Jagielska-Burduk

Culture at risk

UNITWIN “Culture in Emergencies” is the world’s first network for the preservation of at risk cultural heritages.

> **UNITWIN will work closely with UNESCO, aspiring to be the flagship project for the protection of culture at risk.**

“The protection of cultural heritage is affected by constant changes, from natural threats to armed conflicts. So, there is a very timely debate on how to respond and prepare,” says Dr. Alicja Jagielska-Burduk, head of the UNESCO Chair for Cultural Property Protection.

The consortium, of which AMU is a member, will study the role of culture, effective protection of cultural heritage and protection of cultural diversity in crisis situations, such as conflicts and disasters. It will also investigate how to protect, reconstruct and build the resilience of societies. The network supports the implementation of legal and extra-legal tools related to cultural heritage, and assists in preparedness, protection and the reconstruction of cultural property in crisis situations.

“We already have experience in international cooperation and we are practitioners in the field of heritage protection”, says Prof. Wojciech Szafranski from the AMU Faculty of Law and Administration. For example, Dr. Jagielska-Burduk has been an arbitrator of the first international art arbitration court in The Hague since 2020.

In practice, the network facilitates meetings, project implementation, consultations and training. “Our international team includes people with recognized contributions to heritage preservation, which gives us hope that the cooperation will be fruitful”, says Dr. Jagielska-Burduk.

“We want to manage and protect our heritage for future generations, even if we cannot be sure whether our choices are correct,” says Prof. Szafranski.

The network includes Adam Mickiewicz University in Poznań and the Sydney University of Technology (coordinator), University Berkeley, UNESCO Regional Office for the Pacific States, Jumbunna Institute for Indigenous Education and Research, Mexican Centre of Uniform Law, African Institute of International Law and Arab Regional Centre for World Heritage.



Accompanying event: Culture and Arts Education in Emergencies organized by the Arab Regional Center for World Heritage and attended by network partners

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AMU Prof. Grażyna Liczbińska

Learning about Poznań through family

So far, the structure of the Poznań family has not been extensively studied.

> **Soon, everyone will be able to take a deep dive into family history and enrich their understanding with facts.**

This will be made possible thanks to a database of information on the population of the city of Poznań from the 19th and early 20th century. The database will be created by AMU biologists in cooperation with the State Archives in Poznań as part of the project "Family as a source of knowledge about historical Poznań", headed by Prof. Grażyna Liczbińska from the AMU Faculty of Biology.

Despite numerous studies on the socio-demographic structures of the historical family in Poland, research is still lacking on well-being and social inequalities.

"We wanted to study the impact of the family's social, economic and psychological well-being on the biological and social condition of their children", says Prof. Liczbińska. Participants in the project conducted multifaceted analyses to broaden our understanding of family in Poznań over the last 100 years, filling the gaps in knowledge about the interactions between parents and children and their social, cultural and biological consequences.

The project investigates, for example, if the environmental stressors affecting pregnant mothers interact with the gender ratios in newborns; if the number and gender of children born per mother were related to

her life expectancy; and whether the stress caused by the loss of a parent influenced when women decided to marry and have children. Information on all aspects of natural movement from the first half of the 19th century to the interwar period will be available in the Poznań Historical Population Database. A free online app will give interested parties access to information about their ancestors. The database will be free to use, so that everyone will be able to look for their ancestors and play family detective. In addition to the database, the archives of the Polish Registry Office (USC) for the years 1874-1930 have been scanned and uploaded to the public domain (<http://www.szukajwarchiwach.pl/>).



The Poznań family in the 1940s

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Dr. Maciej Frąckowiak

Disrupted routines. Everyday life during the energy crisis

The eponymous crisis was the focus of a research and education project carried out at AMU by Dr. Maciej Frąckowiak from the Faculty of Sociology.

> The study was carried out in the tradition of everyday sociology, in which each crisis can be treated either as a threat (impacting the quality of life, inequalities, social conflicts, etc.), or as an opportunity to reflect on and change existing routines.

The sociological study was carried out in two stages: a nationwide online survey based on quotas and random sampling, and subsequent qualitative research carried out in Konin. Additionally, the researcher organised a series of meetings discussing the causes and consequences of the energy crisis, recommendations for crisis resilience and non-discriminatory prevention methods.

The empirical study asked how the general public views the energy crisis caused by the war in Ukraine, as well as how they are affected by its aftermath (rising energy prices, supply uncertainty, austerity policies). Researchers were also interested in the transformative potential of the energy crisis, asking whether the crisis accelerates the journey towards sustainable energy management or hinders development. How does it affect individual efforts and innovation at an institutional level? The centre for qualitative research was established in Konin. The city can be viewed as a testing ground for energy transition and social innovation, due to the challenges faced by the eastern areas of the Wielkopolska region (depopulation, aging, deindustrialization, etc.). Additionally, there are plans to locate a nuclear power plant in this city.

The study is part of the international project “Disrupted Routines”, an ad hoc initiative undertaken by members of the Sociology of Consumption group of the European Sociological Society in response to the energy and social crisis caused by the war in Ukraine. Therefore, it is also an opportunity to promote researchers from our region and build a network of cross-border cooperation.



Presentation of research results for the residents of Konin





Dr. Maciej Głowczyński

Humans in digital space

Dr. Maciej Głowczyński, who received the Polish Prime Minister's Award for his doctoral dissertation "The impact of spatial media on the process of production of digital spaces", studies how humans experience space through digital technologies.

> His dissertation explains a process called digital place-making, or, in other words, the relationship between humans, space and digital technologies.

Spatial media that combine information about the location and characteristics of a specific place play a key role in this process. For example, a restaurant might offer additional information via digital platforms.

Dr. Głowczyński explores how digital representations of places influence people's perceptions and behaviours, and how devices mediate this process. He would like to learn how much of our decision-making is based on our own perceptions, and how much is affected by technology. Indeed, the digital representations of places created by apps influence our perceptions and behaviours. On the one hand, personalization of content limits which information is available to the user; on the other hand, algorithms can broaden the user's choices by providing them with new information.

Dr. Głowczyński analysed tens of thousands of reviews on Google Maps, focusing on shopping centres, cinemas and restaurants in Poznań. To understand whether reviews provide new information about user experiences, the researcher looked for similarities between them.

His study showed that reviews often homogenize information about places rather than enrich it. Digital representation often presents a false image of a place. This stems from the use of algorithms, but also from human behaviour, such as, for example, our tendency to focus on the most flattering aspects of a given space on social media.

The researcher emphasizes that virtual and augmented reality change the relationships between humans and space. With the help of VR goggles, we can step into the virtual world and modify the space or completely change how we relate to it. There are ethical questions, such as who can overlay digital content on a space and where that would be acceptable.



We can step into the virtual world using VR goggles





Dr. Iwona Mazur

Translating images into words

Dr. Iwona Mazur from the AMU Faculty of English is currently working on the project “People with visual impairment and the functions of multimodal texts: Development of a functional model of audio description”.

> Objectivity is a controversial issue in audio description.

Even an experienced audiographer views a movie through their own lens, unconsciously assigning certain interpretations to it.

“My model reduces the subjectivity of description by thoroughly analysing the source text, including the functions assigned by its creators, such as the director of the film”, says the researcher.

Dr. Mazur created an original classification of multimodal texts, distinguishing five basic functions: narrative, informational, persuasive, aesthetic and entertaining. The narrative function in her model is performed by all films and series; informational – by news broadcasts and documentaries; persuasive – by advertising; entertaining – by entertainment programs; and aesthetic – by, for example, experimental cinema, where an important role is played by music and cinematic poeticism. In addition, she distinguished more than a dozen auxiliary functions, including suspense and comedy. The strategies used in audio-description will depend on the primary function of the film.

“I propose a framework for the multidimensional analysis of text, which will help determine the functions of a given film or program, and understand the semiotic codes used to perform them”, the researcher explains.

The analysis looks at the semiotic codes in order to establish which modality is responsible for a given function: the image, dialogue or narration. The latter two are, naturally, more accessible to our audience. This, in turn, will affect the level of detail in the description.

Audio description is becoming more and more common in cinemas, theatres and museums. This helps people with visual disabilities integrate into society. The demand for audio description will increase due to EU legal regulations, which will soon require selected entities to ensure accessibility of products and services.

The project is funded by the National Science Centre, OPUS 24 grant.



Dr. Iwona Mazur working on audiodescription





Prof. Małgorzata Rutkiewicz-Hanczewska

I have aphasia – I want to be heard, I want to be understood

This two-stage project is coordinated by Prof. Małgorzata Rutkiewicz-Hanczewska from the Faculty of Polish and Classical Philology.

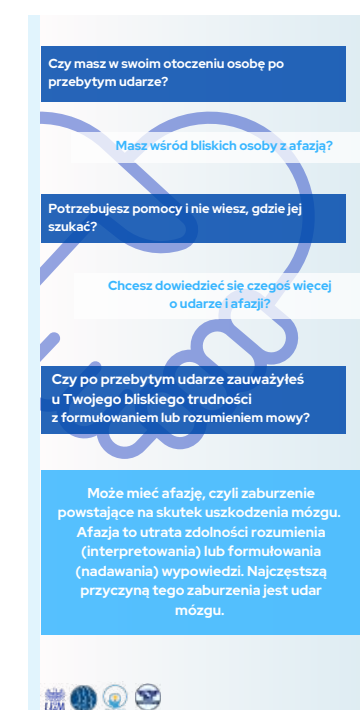
> The goal is to raise public awareness of language disorders resulting from neurological incidents, including stroke, injury and cancer.

The number of patients diagnosed with aphasia is growing. Every year, 20 thousand people develop post-stroke aphasia. Nevertheless, little is known about people struggling with aphasia.

A website that contains knowledge about aphasia, its causes, types, symptoms, and methods of rehabilitation, has been created in the first part of the project. The website offers medical information on aphasia, as well as an address book of treatment centres where patients and their families can seek help. In an effort to explain neurological language disorders, the website contains interviews with a psychologist and phoniatrics expert, as well as patients with aphasia and their families.

The aim of the second phase of the project was to prepare and carry out an information campaign about aphasia. Leaflets and posters were distributed in hospitals with neurological wards that care for stroke patients. Thanks to these efforts, people struggling with aphasia can learn about opportunities for speech therapy, while the patients' friends and family can get more informed about communicating with a person affected by aphasia.

To prevent social exclusion of aphasia patients and alleviate their social anxiety, the initiative offers business cards specifically prepared for people with aphasia. This is a simple way to break down communication barriers.



Information leaflet on aphasia





From left to right: Anita Kokot, Stanisław Kaczmarek, Weronika Hytra, Dawid Sas, Aleksandra Basaj, Laura Adamski, Aldona Płachtij, Dr. Kamil Wasilkiewicz, Adam Doruchowski

Small idea for a great cause

This innovative project is jointly implemented by the AMU Institute of European Culture in Gniezno and the Aleksander Piotrowski Regional Mental Hospital “Dziekanka”.

> As part of the initiative, third-year students of culture design conducted a series of workshops for patients of the Women’s Addiction Treatment Unit.

The idea behind the workshop was to help the women recover from addictions by developing new passions; to strengthen the patients’ social skills; to enrich the therapeutic offer of the hospital; and to help the students gain experience in organising socio-cultural activities for people experiencing temporary exclusion. The project included a class to prepare the student group for work in the hospital environment, followed by five workshops attended by nearly 80 female patients. First, there was a team-building meeting, followed by workshops on candle painting, collage making, fire dancing and Japanese calligraphy.

The classes were based on the skills of the students who held them. This is because inspiring people is much easier if you are passionate about what you are doing.

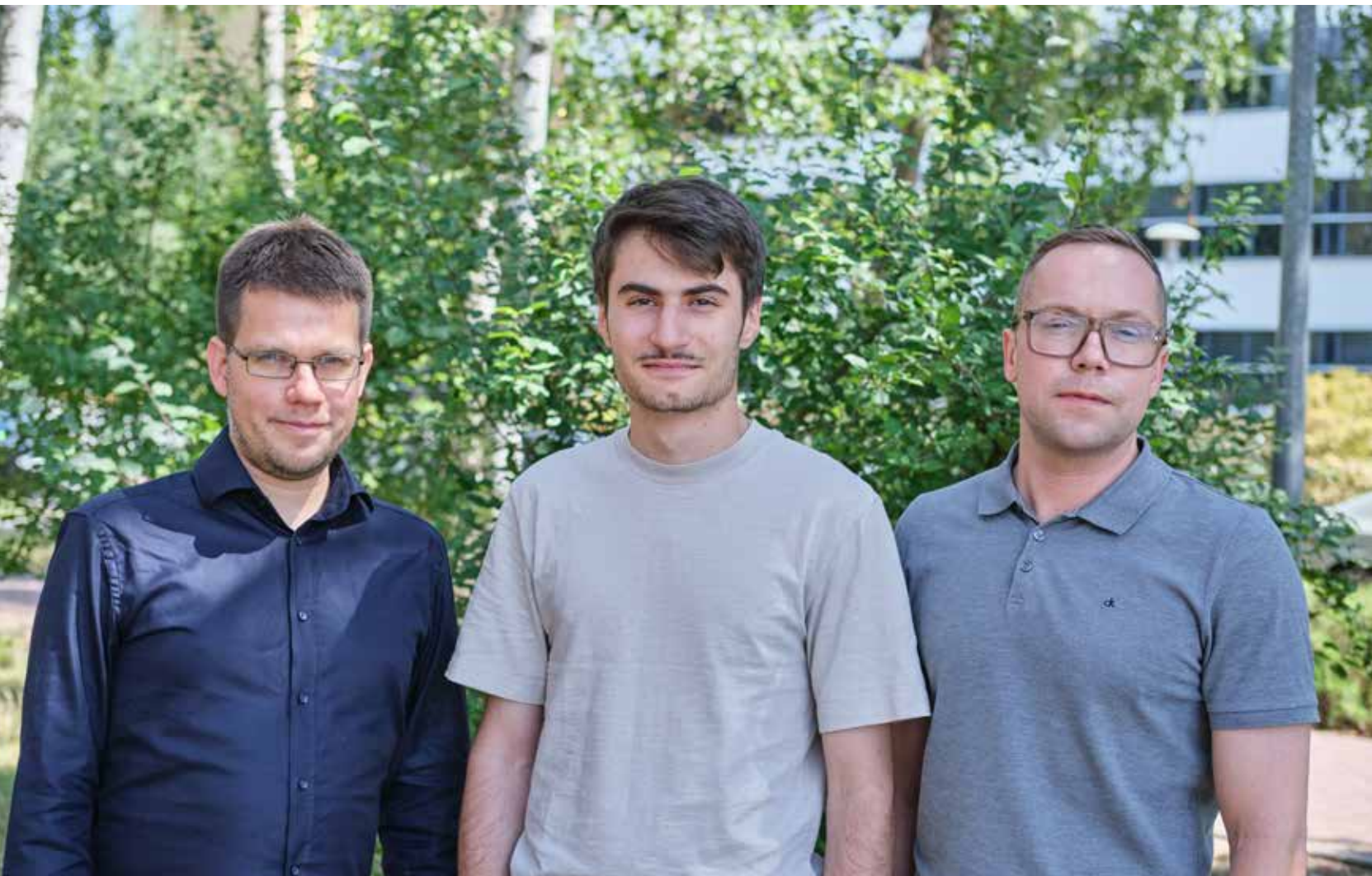
The project was a continuation of a similar initiative from 2018. It was headed by Dr. Kamil Wasilkiewicz from the AMU Institute of European Culture in Gniezno and Aldona Płachtij, head of the Women’s Addiction Treatment Unit at the “Dziekanka” Mental Hospital.

Workshops were led by: Laura Adamski, Aleksandra Basaj, Adam Doruchowski, Weronika Hytra, Stanisław Kaczmarek, Gabriela Knap, Anita Kokot and Dawid Sas.



Candle painting workshop





From left to right: Dr. Jakub Barylski, Piotr Rozwalak and Dr. Andrzej Zieleziński

Secrets of bacteriophage fossils

The reconstruction and analysis of the genomes of bacteriophage fossils is the subject of research by Piotr Rozwalak, an expert in geology and bioinformatics.

> **Bacteriophages are viruses that infect bacteria and are important for the human microbiome; that is, the microorganisms that inhabit the human body. The microbiome is particularly robust in the gut.**

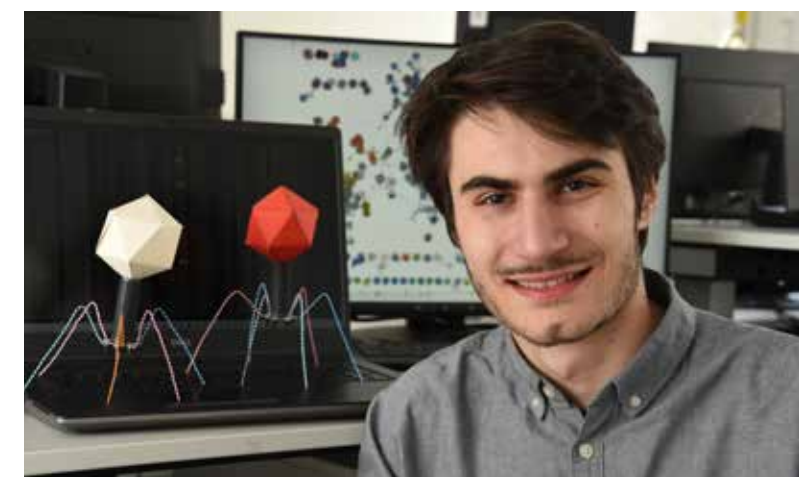
However, most of our knowledge of bacteriophages comes from modern samples, which limits our perspective on their ecology and evolution.

The young scientist and his colleagues are the first to reconstruct the genomes of bacteriophages from ancient human intestines. The samples can be as old as 5000 years. The biggest surprise was discovering that a virus found in dried human excrement in a cave in Mexico has remained practically unchanged for 1300 years. This study is the first step toward understanding the diversity of bacteriophages of the past. "I would like to analyse publicly available data from the teeth or faeces of prehistoric humans and Neanderthals to better understand the complex history of these viruses. I think that just as we cannot understand the landscape outside our window without understanding the history of the great glacial movements, we cannot fully understand the diversity of bacteriophages without analysing their genomes from the past. My project combines the thinking of a geologist with the skills of a bioinformatician," says the young scientist.

This finding is particularly important because the virus interacts with bacteria that is key for human health, including the genus *Faecalibacterium*. The bacteria are currently being clinically tested as a new form of therapy for Crohn's disease and as support in cancer immunotherapy.

Currently, we do not know a lot about how viruses affect microbiome-based treatments. The discovered correlations date back thousands of years, suggesting that the topic is important and requires further research.

The findings, published in Nature Communications, are the result of a master's thesis by Piotr Rozwalak, who was awarded the Polish Ministry of Science and Higher Education grant "Pearls of Science", under the supervision of Dr. Andrzej Zieleziński and Dr. Jakub Barylski, and in collaboration with scientists from Friedrich Schiller University in Jena and the University of Greifswald.



Piotr Rozwalak with bacteriophage models

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Prof. Anna Weronika Brzezińska and Dr. Karolina Dziubata-Smykowska

Excursions with the Ethno-team

For several years, the AMU Institute of Anthropology and Ethnology has organised classes in regional education.

> They teach practical skills in the design of educational activities based on ethnographic field research and the dissemination of scientific knowledge in local communities.

AMU Professor Anna Weronika Brzezińska and Dr. Karolina Dziubata-Smykowska were the initiators or executors of many projects based on the principles of public participation. As the researchers collaborate on projects, they make sure the results are promoted through a variety of channels, including regional and local conferences and cooperation with local communities during field work.

The National Institute of Rural Heritage and Culture asked Prof. Brzezińska to develop a concept for a series of educational books aimed at children. The books inspire children to learn more about their environment, practice mindfulness and pay attention to the history of the local area. Readers are encouraged to travel through the Polish countryside in both time and space. Their guide through this world is the Ethno-team, consisting of characters based on creatures from Polish folk myths. Chmuri, Bazyl, Bebe and Buczka talk about tangible and intangible culture, send the readers on quests, and encourage children to conduct their own field studies.

To ensure that the booklets include stories from different regions, scientists from outside AMU were invited to join the team: Dr. Katarzyna Ceklarz from the Academy of Applied Sciences in Nowy Targ, Dr. Katarzyna Waszczyńska from the University of Warsaw, and UMCS Professor Katarzyna Smyk from the Maria Curie-Skłodowska University in Lublin. All of the authors are known for their efforts to promote ethnological and anthropological knowledge within the framework of the Polish Ethnological Society.

The book series "Excursions with the Ethno-team: Learn about the Old Countryside" includes the following volumes:

- "Hearth and home. Where and how did people live?"
- "Not just farming. Where and how did people work?"
- "Do it yourself. How did people make various things?"
- "Looking your best. What did people wear?"
- "Stirring the pot. How did people make food?"
- "Save the date. How did people celebrate special occasions?"

<https://nikidw.edu.pl/etnoekipa/>
<https://etnoekipa.pl/>



The researchers are pictured doing field research on the weaving traditions of the southern Podlasie region





Dr. Mariusz Przybyła

The power of fairy tales

People have told each other fairy tales since the dawn of time. They have an extraordinary power and play an important role in education in preschool and primary school. Fairy tales convey moral values, teach how to distinguish good from evil and develop imagination.

> A team of creative people, members of the MEDIOcratum Science Club, have been working to organize national and international conferences, research seminars, and charity toy drives for children in hospitals and for Ukrainian children on the Polish-Ukrainian border. These are the people leading pedagogical discussions on mountain trails and in school corridors.

Through fairy tales, children learn about diverse cultures, which supports their emotional and social development. Fairy tales are also an excellent tool for teaching languages and literature. For this reason, fairy tales are at the heart of the activities of the MEDIOcratum Science Club. The club used to run the "Audiobookersj_UAM" YouTube channel with fairy tales and therapeutic stories and was then incorporated into project "MEWA", funded by the Polish Ministry of Education.

The idea to record fairy tales as audiobooks was born when Dr. Mariusz Przybyła was waiting for his daughter's diagnosis in the diabetes ward. He decided to give children in hospital wards access to the fairy tale world. Today, hundreds of thousands of listeners access the audiobooks created by MEDIOcratum.

The MEWA project includes cultural and social analysis of fairy tales and cartoons, a selection of fairy tales and films for intercultural education, and development of tools for their evaluation. The project has a website and its own channels on YouTube, Spotify, Instagram and Facebook, where the audience can access educational materials, dubbed audio files, lesson plans and short educational videos.

Members of the club adapted the content of the fairy tales to fit various age groups, edited the language of the text and created illustrations.

Research was conducted, including the evaluation of animated and feature films for children, the selection of fairy tales and films from different countries, and the analysis of research material. Teaching materials created as part of the project include lesson plans on intercultural education, as well as audio files and educational videos.



Members of the science club during the recording of the fairy tale





From left to right: Julia Kwaśny, Zuzanna Koczorowska, Zuzanna Kicka, Aleksandra Jędrzejczyk and Dr. Izabela Cytlak

Forest business or economics for kids

The “Forest Business” was originally the final paper for a class on entrepreneurship in education.

> The task was to prepare teaching materials for early childhood education on the topic of economics and entrepreneurship.

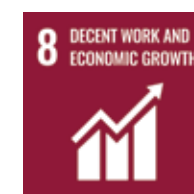
Students: Aleksandra Jędrzejczyk, Zuzanna Kicka, Zuzanna Koczorowska and Julia Kwaśny are the authors of the book “Forest Business: Economics for Children in Early Childhood Education,” which they prepared under the supervision of Dr. Izabela Cytlak from the AMU Faculty of Educational Studies. The textbook will soon be sent to schools and kindergartens in the Wielkopolska region. The graphic design is delightful, and the content will interest any teacher or parent who would like to talk to children about economics.

“Money has always fascinated children. My observations show that despite the fact that the core curriculum contains a provision on economic education and shaping entrepreneurial attitudes, there are few such classes available in Polish schools and preschools”, explains Dr. Izabela Cytlak. Since 2009, the researcher has been conducting entrepreneurship classes at AMU.

“I think it is very important to promote economic education from an early age. This is because for children, money is an abstract concept. If we ask them where money comes from, children will often tell you that money comes from a phone or a watch. Electronic payments cause a lot of difficulties for children, making it difficult to understand that there is no unlimited supply of cash. This creates conflict, which you can often witness in stores”, she explains.

“I also wanted to highlight that if a child grows up without ever having their own money, or has no decision-making powers regarding spending or saving, that creates a problem too. Children and teenagers are often excluded from household budget planning at levels appropriate to their age. The book advises how to solve these issues and how to talk to children about finances,” Dr. Cytlak adds.

In the book, difficult issues in economics are explained to children by forest creatures. They are the heroes of an economic fairy tale with practical exercises (the book calls them economic challenges). There is also an economical glossary and plenty of interesting tips and advice. The project also created a tool for teachers called the “Economic toolbox”. Workshops in the field of economic education for schools and kindergartens are also organized.





Prof. Izabella Main

Minigrants on migration

The AMU Centre for Migration Research (CeBaM) has been operating since 2009. It is co-created by leading figures in the field of local, national and international migration.

> Their activities produce scientific results, but also recommendations or activities in cooperation with NGOs (for example, the Migrant Info Point) and local government entities (for example, the Poznań City Hall).

These activities are not only undertaken by experienced researchers. In order to encourage student participation, the Centre offers so-called Migration Minigrants that offer funding for research and activism. Every year, three students or graduates from a variety of disciplines and academic centres receive funding and mentoring that helps them implement their ideas. The results are then presented at a CeBaM webinar and published in a report.

More than a dozen people apply for funding, which shows that there is a need for this form of support for young male and female researchers. Some winners go on to continue academic work, while others see the grant competition as a test of their competences. In recent years, some of the winning projects were directly related to Poznań and the Wielkopolska region:

- the role of the Greek-Catholic parish in Poznań in the Ukrainian community,
- access to vaccinations for the Roma immigrants of Romanian origin in Poznań,
- the importance of migration for The Church of Jesus Christ of Latter-day Saints.

Other projects focused on different locations and aspects affected by migration:

- EU border crises and interventions (Wallob-server.eu),

- a comparative analysis of online discourse about Ukrainians before and after the Russian invasion of Ukraine,
- social support networks for migrant women and migrant workers from Ukraine in Zakopane during the COVID-19 pandemic.

Thanks to the competition, young researchers receive support that allows them to take a closer look at topics and challenges they consider particularly important. They also have the opportunity to share their discoveries and thoughts, influencing the shape of the world around us. The competition committees have so far been headed by Dr. Izabela Czerniejewska, Dr. Klaudia Gołębiowska, Dr. Izabela Kujawa and AMU Prof. Izabella Main.



Competition poster





From left to right: AMU Prof. UAM Kinga Kuszak, Dr. Grażyna Barabasz, Dr. Monika Christoph, Veronika Soloshenko

Together towards the future

The Faculty of Educational Studies spearheaded the joint implementation of scientific, educational and therapeutic projects that answer the needs of students from Poland and Ukraine.

> Nine original projects were launched, involving students from both countries.

The leaders of each project were the academic and teaching staff of the Faculty of Educational Studies. 107 people took part in the project work, including 49 students from AMU and 39 students from 11 universities in Ukraine.

The effects of this collaboration include:

- research on the involvement of Polish and Ukrainian students in volunteering; on mutual online student support; and on the image of women in history textbooks in Poland and Ukraine;
- organisation of two exhibitions: the “Granice” exhibition and a photo exhibition with a follow up publication of postcards made by special needs students from Poland and Ukraine;
- collaboration on the development of teaching materials for civic studies in Polish and Ukrainian;
- publication of a bilingual story about the adventures of Ania and Mania, as well as narrative-picture cards for the Kamishibai theatre;
- cooperation on bilingual songs for children, teaching them about emotions;
- design and development of the virtual game Ukrapol.

The project ended with a summer school in June 2024, organised with students from Ukraine. The culmination of a series of lectures, workshops and group activities was a joint performance of “Wdzięczność” (“Gratitude”), a song that became the anthem of this initiative. The most important part of the project, however, was the international scientific conference “Together Toward the Future” that took place on June 28, 2024. During the conference, participants presented the results of the project.



Workshop participants





Dr. Małgorzata Zofia Kowalska and Prof. Aleksandra Lis-Plesińska

Centre for research on ecological and energy challenges

The unit was established in 2024 at the AMU School of Humanities, following the initiative of AMU Prof. Aleksandra Lis-Plesińska and Dr. Małgorzata Zofia Kowalska from the AMU Institute of Anthropology and Ethnology.

> **“We are committed to moving the debate on the environment and the climate crisis beyond academia” the scientists declare.**

“Opening this centre at our university was an obvious choice,” said Prof. Lis-Plesińska at the inaugural meeting. It was basically a matter of time. For years, AMU has been conducting research in these areas by representatives of various disciplines: biology, Earth sciences, social sciences and humanities. As the scientist pointed out, her own institute has been working on research projects that address the energy transition, environmental problems and climate challenges for over a decade.

“For quite a long time now, our students have been studying topics related to ecology and energy transformation. We know that they care about the future of our planet, because many of them are activists as well as AMU students”, says the researcher.

Our Centre strives to bring together researchers from a variety of disciplines, launching a broad discussion about the ongoing change. For this reason, the program board includes representatives of various AMU faculties, as well as researchers from other academic institutions in Poland and around the world.

“Our goal is to create a space for interdisciplinary cooperation and conversation not only inside our university, but also outside of it”, adds Dr. Małgorzata Kowalska.





Katarzyna Wala and Anna Schmidt-Fiedler

Office for Social Innovation and Sustainable Development

The office was established in May 2024, and aims to nurture and develop existing initiatives in these areas.

> The activities of the office are perfectly in line with the idea of an engaged university, which focuses on active participation in society and establishing and then developing cooperation with a wide range of stakeholders.

A wide variety of initiatives that fit into the area of social responsibility and sustainability are taking place at our university. One of the first tasks of the office will be to take stock of the existing projects and subsequently promote them to the academic community, as well as the general public. In recognition of its efforts to date, AMU received a prestigious honour in 2022: the international accreditation of the ACEEU (Accreditation Council for Entrepreneurial and Engaged Universities). This means we have earned the title of an engaged university.

Future plans include further development of the Science Shop model, which has been already tested at AMU. It supports the implementation of student projects that are socially valuable. Projects can be conducted as part of BA/MA theses responding to the real needs reported by stakeholders from the social and economic environment of the university. Sustainable Development Days, competitions and other events promoting sustainable practices will also be organised. A research report on volunteering at our university, conducted as part of the "Empathy Map" project in cooperation with the Poznań University of Economics, will also be prepared.

"I am happy to see this kind of office open at AMU. This will frame current activities in a new way and increase the number of people dedicated to sustainable initiatives", says Anna Schmidt-Fiedler, head of the Office.

The team is made up of Anna Schmidt-Fiedler and Katarzyna Wala, both of whom are passionate about the topic of social responsibility at AMU and have extensive experience in implementing social projects in academia and outside it.



Presentation of the "Engaged University" reports

ADAM MICKIEWICZ UNIVERSITY - POZNAŃ





Dr. Łukasz Dulęba

Digital change

We are witnessing a technological transformation that determines not only how we work and what we do in our leisure time, but also how we think and what we think about.

> We are slowly getting used to the impact of machine learning algorithms on our everyday life. Students of Digital Entrepreneurship at AMU Collegium Polonicum are studying the applications of the algorithms, and how future of economy is shaped by new technologies.

Members of the Digital Studies Science Club organised in Collegium Polonicum under the supervision of Dr. Łukasz Dulęba participate in workshops and study trips to learn more about how to manage big data and which social and economic problems stem from the use of algorithms in management. "Our students come from all continents except Antarctica. They are focused on studying economic innovation and its consequences for local communities.

As part of the discussions and workshops, students have the opportunity to take on the roles of various public actors and see the struggles of the modern digital economy from a completely different perspective. This is how they realise the importance of a social engagement, a factor that is often absent from the narratives pushed by large digital platforms", explains Dr. Dulęba.

The project received co-financing from external entities (including the Marshal's Office of the Lubuskie Region), thanks to which students are able to visit science and technology parks and participate in workshops conducted by scientists and practitioners. This is a valuable addition to the knowledge they gained during their studies in AMU Collegium Polonicum.



Workshop meeting





Organizers issuing the ballots to voters in the mock-elections

Young voters. Mock-elections in Ostrów Wielkopolski

The second edition of the “Young Voters” project in Ostrów Wielkopolski was organised by the staff and students of the AMU Faculty of Political Sciences and Journalism and aimed to increase turnout in the local elections.

> On Monday, October 2, 2023, mock elections were held at schools in Ostrów Wielkopolski. Students of the Faculty played the roles of heads of local election committees.

The mock elections were organised in high schools for students who will soon be first-time voters. The organisers explained voting procedures, how to prepare to vote and how to cast a valid vote. The mock elections, which simulated elections to the Polish Sejm and Senate, also showed the political preferences of young people prior to the local government elections.

The event was preceded by a series of lectures on elections and election campaigns, delivered on September 29 by lecturers from the AMU Faculty of Political Sciences and Journalism.

A total of 1,182 people participated in the mock-elections for the Sejm, casting 1,081 valid votes. Koalicja Obywatelska won the largest number of votes (37.28%). Konfederacja was second, with a score of 21.18%. Third place went to the Nowa Lewica, who gained 16.28% of votes. The rest of the votes went to Trzecia Droga (9.72%), Prawo i Sprawiedliwość (9.71%) and independent candidates (5.83%).

In the Senate election, 1,104 valid votes were cast out of 1,172 ballots issued. Here, too, Koalicja Obywatelska, Lewica and Trzecia Droga came in first, with a combined score of 52%. Konfederacja came second, winning 26% of the vote. Independent Candidates (13%) and Prawo i Sprawiedliwość (11%) came last.

The students were also given a questionnaire in which they could comment on whether they intended to take part in the actual elections. Out of 1,134 valid votes cast, as many as 79% confirmed they are going to vote. 10% of students said no, while 11% were unsure.

Thanks to this initiative, students looked behind the scenes of an election committee and participated in mock elections. Hopefully, when the time comes, they will be prepared to cast a vote in the real elections.



Participants in the mock-election casting votes into the ballot box





Dr. Lucyna Myszka-Strychalska and Prof. Iwona Piotrowska

LiMA for internationalization

The project develops student mobility through exchange programs and trains skills relevant on the job market .

> It is addressed to academic communities, including research and teaching staff and students of partner universities.

LiMA (Lehramt International in Marburg / International Teacher Education in Marburg) is an international project that improves the internationalization of teacher education and the intercultural competence of students and faculty by letting them experience an international learning and teaching environment. LiMA initiatives took the form of online meetings and site visits, such as trainings, lectures and talks. Topics included education for sustainable development, globalization, hybrid education, teacher education, civic education, intercultural competence, people with disabilities, discrimination and the learning process.

The LiMA project is funded by the German Academic Exchange Service (DAAD) under the “Lehramt.international” program for 2021-2024. Coordinated by Philipps University in Marburg, it includes partnerships with AMU, the University of Lisbon (Portugal), “Luciana Blaga” University in Sibiu (Romania) and the University of Kragujevac (Serbia). At AMU, the project was coordinated by Dr. Lucyna Myszka-Strychalska from the Faculty of Educational Studies and AMU Prof. Iwona Piotrowska from the Faculty of Geographical and Geological Sciences.

LiMA activities at AMU included:

- #TravelToTeach – a series of workshops and lectures,
- International Quiz Night– an evening of quizzes organized by students from all partner universities, where the students became experts on their country, life, studies, and experiences,
- International Christmas Coffee Break
- “Teaching for Sustainable Development” Summer School – a summer school dedicated to teaching for sustainable development.



Piotrowska Meeting of project participants during the Summer School “Teaching for sustainable development”.





Dr. Anna Jelec, AMU Prof. Maciej Karpiński, Prof. Krzysztof Jassem,
Prof. Piotr Podlipniak, Dr. Kamila Kludkiewicz, AMU Prof. Mirosław Wobalis

Dariah.pl

The project is part of a European network and creates a digital research infrastructure for the arts and humanities.

> It supports public entities, cultural institutions, NGOs and enterprises in researching and processing cultural data.

Dariah.lab is a set of tools that enable work with multimedia materials such as text, music, graphics and spatial models. This solution supports interdisciplinary research and establishes a link between academic work and business.

Six modules of Dariah.lab digital infrastructure have been established at AMU:

- Multico multimodal corpus and studio – developed at the Faculty of Modern Languages under the supervision of Prof. Maciej Karpiński. It collects audio and video recordings with a description of the participants' gestures. The recordings are, for example, videos from conferences or debates in the Polish Sejm.
- Philology Node - coordinated by AMU Prof. Mirosław Wobalis. It creates tools for literary and linguistic research, including the analysis of sources and mapping of literary works.
- HANOI tool and corpus for the analysis of note-taking of conference interpreters – created at the Faculty of English by Dr. Anna Jelec. This is a set of tools that help interpreters increase their competences.
- Linguomusa – coordinated by AMU Prof. Piotr Podlipniak at the Institute of Musicology, this module assists research on music, speech and gesture. It offers rooms and equipment for recording physiological parameters of sound and creates software for analysing recordings.

- Audio-visual Archive – created under the supervision of Dr. Kamila Kludkiewicz at the Faculty of Art Sciences. It is a digital archive of unique collections, including art reproductions and sound recordings. Additionally, audio and visual equipment was purchased.
- Tools for dating, normalization and text search – created at the Faculty of Mathematics and Computer Science under the supervision of Prof. Krzysztof Jassem. One of the tools enables automatic diachronic normalization of Polish texts by translating historical texts into modern language.

The DARIAH-PL project, in which AMU was a partner, was completed in December 2023.





Dr. Aneta Judzińska

Zone of educational and social projects

The aim of this project is to combine theory with practice by creating projects that activate local communities.

> The initiative came about as a result of cooperation between the supervisors and students of the three science clubs at the Faculty of Educational Studies: KRAM, at the Department of Socio-Pedagogical Problems of the Youth; Intercultural Education Club at the Department of Pedeutology; and “Socialis” at the Department of Educational Discourse Research.

Due to its popularity, the event has been held annually since 2017. The conference is coordinated by Dr. Aneta Judzińska and Dr. Agnieszka Nymś-Górna. The Zone of Educational and Social Projects is a space where socially-engaged individuals and organizations can promote good practices and share project experiences.

Participants have a unique opportunity to network, present their successes, or discuss challenges they have encountered in their ventures.

The egalitarian nature of the conference fosters the integration of a variety of academic, educational and social environments. The organizers are constantly enriching the program of the event, adapting it to contemporary challenges. In 2023 and 2024, a new group of speakers was introduced: secondary school students. This expanded the exchange of experiences by a new level and allowed contact with participants whose experiences of life and education is still new.

The conference is accompanied by the publication of an Interdisciplinary Scientific Journal Socjalizacja-Edukacja-Transgraniczność, addressed to young scientists and practitioners, including those active in the Zone.

This journal provides an additional platform for the exchange of ideas and research results, promoting cooperation between different fields of science and social practice.

The Zone of Educational and Social Projects is an important point on the map of social and educational programmes in Poland. Thanks to the formula and participants, the Zone became a space for development, learning and inspiration.



Project team, from left to right: Dr. Marlena Kazimierska, Jagoda Górecka, Dr. Lucyna Myszka-Strychalska, Stefaniya Abbasova, Dr. Aneta Judzińska, Dr. Agnieszka Nymś-Górna, Dr. Jonasz Pawlaczyk



ENVIRON- MENT

Nature and the environment are key areas of activity at AMU. Our researchers are working on issues such as environmental education, soil quality, sustainable agriculture and promoting empathy towards nature.



Dr. Mateusz Rogowski

Challenges of overtourism

Overtourism is a relatively new concept referring to excessive tourism that negatively affects nature, culture, local communities and tourists themselves.

> In addition to being an issue in popular cities, overtourism increasingly affects natural areas.

This can be attributed to the growing popularity of staying in nature, camping and physical activity. The Góry Stołowe National Park is among the smallest parks in Poland, but it is nevertheless visited by more than a million people every year. Half of these visitors hike to Szczeliniec Wielki and Błędne Skały.

counters if they are available, and tourists who are unable to enter are redirected to other attractions. In addition, efforts are made to promote a variety of local sight-seeing spots, including remains of quarries, disappearing villages, places of religious significance or wooden bell towers.

In 2016, the park established cooperation with the AMU Faculty of Geographical and Geological Sciences. As part of this initiative, Dr. Mateusz Rogowski from the Department of Tourism and Recreation and Bartosz Małek, park director, developed the Tourist Traffic Monitoring System. The system counts the number of tourists currently inside the park and its attractions. In addition, surveys of tourists are conducted on an ongoing basis.

After two years, the number of tourists on Szczeliniec Wielki and Błędne Skały markedly decreased, while more tourists visited the alternative attractions. Quality of life has improved for the residents; traffic has decreased, and the trails have become more comfortable for hikers.

The system measures the intensity and variability of tourist traffic in the park and its attractions. It also helps monitor a variety of phenomena, including the seasonal changes in tourist traffic or the impact of climate change. Stakeholders, such as park employees, local residents and tourists helped to develop acceptable ways to optimize tourist traffic.



AMU students – volunteers in the project

The biggest achievement was the introduction of entry limits in 2022, which was widely viewed as controversial. The number of visitors on routes toward Szczeliniec Wielki and Błędne Skały was limited to 400 per hour. These restrictions were implemented through the online ticket system, giving tourists the opportunity to buy the ticket in advance. Those who haven't pre-purchased tickets can buy them at ticket

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AMU Prof. Karolina Lewińska

Soil death means hunger

AMU Professor Karolina Lewińska is interested in soils and their reclamation. Soils are completely ignored in public discussion, even though they are the source of life.

> “95 percent of our food comes from soil-based production. If we don’t keep the soil in good shape, we could soon have a serious problem,” says the researcher.

Prof. Lewińska is the team leader in the LOESS project, implemented as part of the Horizon Europe program by 20 partners from 16 countries. The project educates everyone, from preschoolers to adults, about soil. In cooperation with local gardeners and teachers, researchers will develop innovative teaching materials. In addition, the team led by Prof. Lewińska will create a soil garden accessible to the public on the premises of Collegium Geographicum. “Our task is to promote knowledge that soil is a non-renewable resource. It takes tens or even hundreds of thousands of years to develop a full soil profile”, says the researcher.

Researchers say that is necessary to educate the public about soil preservation, otherwise we may be facing hunger in 30 years. In pursuit of higher yields, we use more and more fertilizers and pesticides. It is also important that as much as 75 percent of agricultural land is intended for crops that are fodder for slaughter animals.

“Only a quarter of these soils is used to grow plants for human consumption. Meanwhile, 88 percent of the calories we consume comes from plants. This means we are using a lot of water and soil for grazing and production of animal feed, getting relatively little in return”, says Prof. Lewińska.

“Unfortunately, the world’s agricultural land resources are shrinking at an alarming rate. In Poland alone, 10.5 hectares of agricultural soil is earmarked for construction and industry purposes every day. We may think that a lot of land is available, but not all soils are suitable for agricultural production. Only 10 percent of soil is usable without special treatments. We assume that soil is everywhere, but in fact our resources are running out”, the scientist warns.



Fields near the Wartowice sump reservoir in the vicinity of Bolesławiec

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Dr. Jakub Alejski

Epicnutrients – sustainable soil improvers

The project aims to create a collaborative framework for scientists from different fields to search for an innovative way to produce a soil improver that fits into a sustainable agriculture strategy.

> **AMU is represented in the project by Dr. Jakub Alejski and Elżbieta Kowalska, from the Faculty of Anthropology and Cultural Studies.**

As part of the EPICUR Alliance, researchers are trying to convert agricultural solid waste into biocarbon, then enrich it with cold plasma and using it as a soil improver. Participants include AMU and partner universities: Aristotle University in Thessaloniki, Upper Alsace University in Mulhouse, and the University of Stuttgart. This would not only help reduce the amount of chemical fertilizers in agricultural crops, but also mean we can process agricultural waste to re-circulate the nutrients contained in it, in accordance with the principles of sustainable development. At the same time, the project analyses the social and cultural aspects of science, including the relationships between humans and objects that affect the production of scientific knowledge.

The uniqueness of the project stems from its interdisciplinary nature. The team includes experts from various fields: environmental process engineering, material research, agronomy, social studies of science and technology. This allowed for the development of methods of communication and cooperation between representatives of various fields of science and between academics and society. The project was widely consulted on with representatives of academia and industry dealing with agricultural innovation (Corteva Agriscience, BioSolids).

The project creates a framework for interdisciplinary cooperation between European scientific entities. After the end of the project, research results assessing the use of biocarbon in agriculture will be published. The temporal, spatial, ecological and cultural changes related to trans-European scientific cooperation on sustainable development will be visualised through open interactive digital media.



Working with biocarbon





Dr. Szymon Chowański and Dr. Jan Lubawy

Insect protein on plate

High-quality insect protein may replace meat in the future. AMU biologists Dr. Jan Lubawy and Dr. Szymon Chowański, together with a team from the Department of Physiology and Biology of Animal Development, are studying how to optimize the farming of edible insects.

> The researchers received an international grant from the Polish National Science Center (NCN) and the Joint Programming Initiative “A Healthy Diet for a Healthy Life” (JPI HDHL).

In the face of climate change and growing demand for water, the current food production system may collapse in the coming decades. Insect farming may be the answer to these problems. The European Union has already allowed human consumption of meal from the larvae of the *Tenebrio molitor* beetle, as well as products from certain species of crickets and the larvae of the *Hermetia illucens*.

The project “Edible insect breeding as an example of sustainable animal production and a source of packaging systems: new technologies to improve food quality and safety and increase public acceptance” focuses on water conservation and zero waste production. Insect farming consumes much less water than traditional animal breeding. This is because insects get their water from food.

The main objective of the project is to optimize the *Tenebrio molitor* diet to reduce water consumption while maintaining protein and fat quality. The research will also include the analysis of microtoxins and potential allergens in the food products. Dr. Chowański emphasizes that plant waste is used to feed the insects, which means a reduced need for agricultural crop production.

AMU biologists will also explore the possibility of using by-products from insect processing to produce biodegradable packaging. Chitosan, obtained from chitinous insect fractions, is a popular material in the production of eco-friendly packaging.

Insect breeding is supported by ecological, economic and health considerations. Insect protein is full of nutrients, containing beneficial amino acids and more unsaturated fats than animal meat.

The project has high implementation potential. It would not have been possible without cooperation with international partners, including the University of Rennes, FH Joanneum in Austria and the Ynsect company, a leader in insect farming.



Dr. Szymon Chowański during research

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AMU Prof. Robert Przekop

Polymers and the circular economy

More than 50 years have passed since the publication of the Club of Rome's report entitled "Limits to Growth".

> This document drew attention to the fact that there are limits on civilization growth in the context of the consumption of natural resources.

The conclusion of the think tank was clear: in order to ensure sustainable development, we must strive to reduce the consumption of non-renewable resources of the Earth. In practice, this means we need closed loop systems for the circulation of raw materials and waste. This requires the coordination of hundreds of cycles in which we combine energy and organic matter to create the resources necessary to maintain an acceptable standard of living.

Modern civilization would not have been possible without plastics. However, these materials should not be seen as only single-use packaging. In fact, plastics are ubiquitous in our environment.

Professor Robert Przekop and his colleagues from the AMU Centre for Advanced Technologies focus on developing plant-based plastic materials, which eliminates the need to use fossil fuels. Replacing current polymers with new materials requires extensive research and cooperation with various stakeholders, including local governments, NGOs, schools and teachers, as well as the business sector.

The implementation of new biomaterials requires the development of new recycling procedures and technologies. Therefore, scientists from the Centre strive to ensure that the new materials are more durable than the existing plastics. Researchers are looking for opportunities to use bio-waste, such as straw, reed, fruit waste or coffee grounds which, combined with biopolymers, can be used to produce green materials of the future in the spirit of circular economy.

Scientists who design polymer-based materials of the future need to go beyond their narrow field of expertise and focus on the bigger picture goal: the circular economy.



3D print of the head of Prof. Bogdan Marciniec, the creator and first director of the Centre. The printout was made of biomaterial and was based on a laser scan





AMU Prof. Justyna Wiland-Szymańska

AMU Botanical Garden – green oasis in the heart of the city

“Visit the AMU Botanical Garden, our green oasis and centre for environmental education”, encourages AMU Prof. Justyna Wiland-Szymańska, the director of the Garden.

> In recent years, climate change has affected the quality of life all over the world.

Mitigating its impact on local communities is particularly important in cities. Here, urbanization and lack of contact with nature means that more and more people are experiencing so-called plant blindness. The term was coined 20 years ago by two botanists, Elizabeth Schussler and James Wandersee, and means failure to notice plants in one's immediate vicinity.

The AMU Botanical Garden offers a solution to this problem. It is accessible for free all year round, drawing as many as 250,000 people a year. Above all, it is a refuge for many protected and endangered species. The genetic material of many plants is stored here for future generations in the form of living collections and seeds. The garden is also inhabited by many animal species, including insects, birds and amphibians.

The staff promotes knowledge about the natural environment, encouraging visitors to understand and respect nature. Year-round educational activities are addressed to organized groups of all ages. Trips and workshops are professionally conducted and attractive, making them very popular.

Outdoor exhibitions are often organised in the garden, discussing various aspects of biodiversity and educating the public. Art events organised in the Garden increase people's sensitivity to nature through art and implement the Garden's mission to connect people and nature. Athletes also find space for themselves here, as the grounds are open to runners.

The employees of the Botanical Garden share their experience and knowledge about plants as part of cooperation with various institutions and organizations in Poznań and Poland, consistently promoting sustainable development and the protection of biodiversity.



A garden nook

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Dr. Piotr Lupa

Model climate garden

The garden serves an educational purpose but is also a space where academics and local community members can relax and talk to one another. The garden is also used for learning and teaching.

> The idea was developed jointly by students and employees of AMU and the local community as part of the “Local Climate Action Plan” workshop in the international project “Terrifica”.

The idea was developed jointly by students and employees of AMU and the local community as part of the “Local Climate Action Plan” workshop in the international project “Terrifica”, says participant, Dr. Piotr Lupa from the Faculty of Human Geography and Planning.

- Photovoltaic panels and additional landscaping have also been installed. The project was co-financed by the Regional Fund for the Environment and Water Management in Poznań.

The garden will host activities for university and high school students, as well as meetings with local residents. Topics include combating climate change and adapting to its effects, with a focus on the role of green-blue infrastructure and nature-based solutions (NBS). Among the solutions already showcased in the garden are:

- vertical greenery (climbing plants), prairie flower beds, a wildflower meadow. These solutions enhance biodiversity and improve air quality, as well as provide significant aesthetic benefits.
- a rainwater capture system consisting of a rain garden and a rainwater tank. This system stores rainwater that can be later used during drought. It demonstrates the principle of water retention in natural infiltration basins with vegetation, which in turn counters surface runoff and protects against the effects of drought.
- Planting trees plays a key role in thermoregulation, mitigating the urban heat island effect and counteracting heat waves, improving comfort and bringing health benefits.



Classes held in the climate garden

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Prof. Marlena Lembicz

Eco-education using the STEAM model

The STEAM educational model is an innovative approach that integrates science, technology, engineering, art and mathematics.

> For the last two years, the AMU Faculty of Biology has been training future teachers of biology and natural sciences in accordance with this model. We are the only institution in Poland certified by the Foundation for the Development of the Education System for teachers of biology and natural sciences.

The programme aims to prepare graduates who:

- implement interdisciplinary educational projects that use computer technology and engage students as explorers and researchers;
- effectively integrate teachers of various subjects into local communities to drive joint action for the benefit of our planet.

- A video promoting education according to the STEAM model, featuring Prof. Marlena Lembicz and Tomasz Ordza, supervisors of the project;
- “Education of the Future”, a student conference organized by AMU in cooperation with Gdańsk University, which hosted a representative of the European Commission on Climate Change.

The STEAM approach fits into a wider trend for cross-sectoral partnerships that combat contemporary challenges. The motto of the students’ projects in 2023 was “Rivers of our Planet”.

The STEAM model enriches the learning process and shapes future leaders who will be ready to face any modern challenge through innovative approaches to learning and education.

The results of these educational activities include:

- four interdisciplinary projects for students demonstrating the practical applications of knowledge in the field of STEAM. The main objectives of the projects were to teach about: (1) the diversity of rivers in the world, (2) the shrinking biodiversity of rivers, using the example of the Atlantic sturgeon, (3) the importance of beavers for river infrastructure, (4) and the work of hydrologists, researchers who study the aquatic environment;
- four articles written by students, one article written by the lecturers and one chapter published in a monograph in English. All publications have been made available on eTwinning, an international platform for teachers;



Field classes with students from AMU partner school, Kazimierz Nowak Community Elementary School in Dąbrówka

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Prof. Damian Łowicki

Code for Green

Adam Mickiewicz University is participating in the Code for Green project, run by the Forum of Social Initiatives Foundation in partnership with Poznań University of Technology.

> The project educates children and teenagers about environmental protection using modern technologies and programming.

Eight schools from Polkowice, Września and Poznań are involved in the programme. Each school is equipped with a modern Code for Green classroom. Professor Damian Łowicki from the AMU Faculty of Human Geography and Planning plays the role of the teacher, mentor, and workshop organizer.

Students participate in classes on programming and robotics in environmental protection, field classes in the Ujście Warty National Park, lectures on environmental protection and classes at Poznań University of Technology and Adam Mickiewicz University. Working methods develop students' soft skills necessary for the professions of the future: initiative, creativity, sharing responsibility, empathy, cooperation, and critical thinking.

Teachers use the modern tools in friendly classrooms to engage the students and build a space for social dialogue, becoming ambassadors for the protection of the climate, water resources and biodiversity.

Professor Łowicki also organizes a series of webinars with AMU professors and conducts workshops using MobiLab – a mobile laboratory that combines new technologies with field classes and data analysis. Classes focus on the protection of air and climate, biodiversity and water, as well as the use of modern technologies for protecting the natural environment. The results of the students' work include a solar

bench, the FLODA application for monitoring the water level, a water retention fence, power turbines on residential blocks and interactive hives. The project also supplies educational equipment, such as measuring instruments, microscopes and computers, helping young people gain marketable skills.

Code for Green also promotes dialogue between young people and the local authorities, giving students a sense of agency and teaching them about activism and civic engagement. By June 2024, workshops with MobiLab had been conducted in 30 schools. The project is funded by the Terre des hommes foundation and Volkswagen Belegschafts-stiftung.



Workshop in the palace park in Zaniemyśl

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Exploring nature at night

Night in the woods

Night in the Woods is a unique event organized by the AMU Nadnotecki Institute in Piła, in cooperation with the Forest District in Zdrojowa Góra (Regional Directorate of State Forests in Piła).

> The aim of this project is to promote knowledge about nature, organise educational hiking trips through the forests of the Piła region, and promote environmental health.

The four editions of the event held so far have been hugely popular among the inhabitants of the city of Piła and the surrounding area. The latest edition was attended by over 140 participants. The theme and route of the trip are accessible to all age groups, from seniors to preschoolers.

“Night in the Woods” consists of two parts. First, a lecture is conducted at the AMU Nadnotecki Institute in Piła by a researcher who specializes in the subject of a given trip. Later that evening, participants go on a field trip through the forests of the Piła region and the Natura 2000 natural reserve. The trip is conducted by Dr. Paweł M. Owianny, director of the AMU Nadnotecki Institute in Piła, and the forest wardens from the Zdrojowa Góra Forest District. The event finishes with a bonfire, where the visitors can participate in a competition to win prizes.

Each “Night in the Woods” has a theme related to one of the many animal species that live in the forests around Piła. So far, participants have had the opportunity to expand their knowledge and learn a lot of interesting facts about the nightlife of owls, bats, small mammals and amphibians, the incredible species that live in the water and on land.

The initiative is a unique opportunity for participants to learn new information, get close to nature and take care of their mental and physical health through outdoor activities.



Dr. Paweł Owianny and a group of participants during the walk

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Kaleidoscope: promotion of science, integration, activation

In addition to research and education, AMU hosts many initiatives that integrate and activate local communities. We promote science and raise awareness of the needs of other people, nature and culture.



Climate Person of the Year 2023

– a competition of the Ministry of Climate and the Environment. Dr. Krzysztof Zawierucha from the AMU Faculty of Biology won the award in the “Young Scientist” category. The jury appreciated his contributions to the biodiversity of the cryosphere and its protection. Despite the fact that glacial ecosystems seem distant to Europeans, the melting and disappearing cryosphere causes global problems, affecting every inhabitant of our planet.



A charity concert

was organized by the Social Economics Science Club at the Faculty of Political Science and Journalism. The concert is an annual event. This year, it took place on June 5 in the Adam Mickiewicz University Auditorium. Members of the Science Club are looking for ways to reach a wider audience and promote important values: support, volunteering, social involvement and empathy toward others. This year’s concert was held under the motto “Republic of the unheard” and was devoted to fighting depression among children and adolescents. The concert raised 66,301 PLN for charity.



“Direction: Space”

is a science competition. Among its finalists are students of the AMU Faculty of Chemistry: J. Wojtukiewicz, G. Ławiński, G. Fita, N. Bogdanowicz, and A. Taras. The task was to design an innovative experiment that would only be possible under microgravity conditions on the International Space Station. The AMU team proposed an experiment to study the effect of reduced gravity on the direction of plant root growth, the results of which would allow better agricultural planning on other planets.



A textbook on cybercrime

will be prepared by employees of the AMU Faculty of Law and Administration, Dr. Martyna Kusak and Dr. Łukasz Szoszkiewicz. Their submission won a tender from the EU Agency for Fundamental Rights to draw up a handbook facilitating the application of EU and Council of Europe law in cases related to cybercrime and electronic evidence. The proposal submitted by the Faculty of Law and Administration received the highest markings, due to the competences of team members and the proposed methodology.



Show your language

“Show your language. A word about words” is a book authored by AMU Germanists Dr. Violetta Frankowska and Dr. Miłosz Woźniak. The book introduces children to Polish grammar in an accessible way. The publication was inspired by the German book “Wer denkt sich die Wörter aus?” It was created through the cooperation of AMU researchers with Martin Luther University in Halle. The content was adapted to Polish readers, and new chapters were added on, for instance, diminutives. The textbook contains hand-painted illustrations by Dieter Gilfert.



The AMU Preschool

for children as young as 2.5 years of age has been opened in the “Meteor” Student Dormitory on the Morasko Campus. The facility is run by the Poznań Science and Technology Park. Its unique teaching concept was created in cooperation with the Astrid Lindgren Institute for Young Children. The preschool has two classrooms, a gym, an educational garden and a playground. It supports the AMU academic community by integrating education and family life.



Social innovation and sustainable development

were the subject of a summer school that hosted nearly 30 representatives of Ukrainian universities in April 2024. People expect universities to be actively engaged in the problems of their environment. Additionally, leading global rankings require complex reporting of initiatives that fit into the sustainable development framework. The summer school was organized by the team consisting of A. Fiedler, Dr. A. Kozłowska, K. Wala, and Dr. K. Mazur. It was an excellent opportunity to network and exchange experiences.



The flower market

is an initiative of Prof. Mirosław Makohonienko, who for several years now has been sharing homegrown plant cuttings and baby plants with the staff and students of our university. Visitors can pick up a variety of plants of different sizes, from baby plants to seasoned vegetation. The initiative is incredibly popular, and hundreds of plants find new homes in the span of a couple of days. Additionally, AMU employees are asked to bring used plastic plant pots with them, putting the principle of zero waste into practice.



The Great Reading of Wisława Szymborska's poems

was the final point on the agenda of events celebrating the hundredth anniversary of the poet's birthday. AMU faculty and students, as well as schoolchildren and Poznań residents, gathered in the Lubrański Hall to read selected works by the Nobel Prize winner. “We need poetry to be able to stop and wonder, think about ourselves and the world. Such moments of reflection are priceless in this perpetually rushing world”, says AMU Rector Prof. Bogumiła Kaniewska in her opening address.



A state-of-the-art cryo-imaging centre

will be created at the AMU Faculty of Biology. In microscopy, freezing is used to preserve the immunogenic properties of the biomedical material, maintain the chemical composition of microscopic samples and observe the structure of molecule and protein complexes at a near atomic resolution. The head of the project team is AMU Prof. Sławomir Samardakiewicz.



“Encounters with Science”

is a series of popular science lectures conducted by employees of the AMU Faculty of Biology and coordinated by AMU Prof. Małgorzata Wojtkowska. Residents of the Kórnik municipality learned about the botanical research conducted on a nearby peninsula; compared animal and human communication; studied forest ecosystems and cellular molecular power plants; listened to talks on human genome and intelligence research; and gained a better understanding of personalized medicine.



The Digital Plan of Poznań

is a project carried out by Dr. Dawid Abramowicz from the Faculty of Geographical and Geological Sciences and the Student Geographers' Science Club together with geography teachers, the Poznań City Hall and the Poznań Supercomputing and Networking Centre. The map is addressed primarily to geography teachers and residents of Poznań, as well as people interested in the geography of the city. The map lists facilities that can be used for geographic and environmental education in the city.



Workshops and lectures

on the Dutch language and the culture of the Netherlands and Belgium are organized by Prof. Robert de Louw and his team for secondary schools in Wielkopolska. Students have the opportunity to participate in a Dutch lesson, during which they learn basic speech sounds and useful expressions. Then, a quiz tests their knowledge of the history and culture of these countries, including facts about the famous canals, bicycles and traditional food.



Increasing the accessibility

and communicative effectiveness of official documents and promoting straightforward language that is easy-to-read (ETR) is the goal of an initiative by AMU Prof. Jarosław Liberek and Dr. Karolina Ruta-Korytowska. The researchers have been working on the project at the request of the Poznań City Hall. The researchers conduct workshops and training in order to make communication more straightforward. They also collaborated with the Poznań Supercomputing and Networking Centre PCSS on a tool for text simplification that can find broad applications on the market.



The Wielkopolska High School Superleague

is a prestigious competition for 180 students and 30 teachers from 30 of the best high schools in the region. The goal of the competition is to identify and support particularly talented students by testing their knowledge in four subjects: biology, chemistry, mathematics and English. The project is implemented by the Local Government of the Wielkopolska Region, together with the Teacher Training Centre. AMU faculty are responsible for the content of the competition. The work is coordinated by AMU Prof. Sebastian Paczos.



“Lilac/Bez”

is a short, professionally filmed documentary by AMU professors Marek Kaźmierczak and Mikołaj Jazdon, based on a film composed from photographs by the outstanding photographer Piotr Jaxa. After more than a century, three women arrive from the US to visit the old shtetls where their ancestors used to live. The story is told from a Polish, Jewish and American - but primarily female - perspective. It focuses on how we experience “lacking something”. The eponymous Lilac (In Polish, “bez”) is the name of a plant, as well as the absence of something or someone.



Generation Z in the face of truth,

post-truth and manipulation in social media is the subject of a pilot study by Dr. Artur Urbaniak from the Institute of Applied Linguistics. Generation Z is believed to be fluent in the language of the Internet, a skill that does not seem to go hand-in-hand with critical thinking. The researcher will also continue to study this topic in the context of non-verbal communication.



Science Club Day

was held on April 7, 2024. It is an annual university-wide event for all AMU science clubs and student associations, bringing together active students looking for new development opportunities. This is an excellent opportunity to showcase achievements and projects, venue for integration, inspiration and idea exchange.



Project “Polish PIE”

(Pedagogical Innovation in Education) is implemented by AMU as part of an international consortium. It supports teachers and school management in Polish schools by expanding their social skills and knowledge about nature using digital technologies. A book will also be created, which will include theoretical chapters and lesson plans. Sightseeing tours will be organised, with participants completing tasks related to the fauna and flora from each project country. All materials will be available in open access on the project website. Funding: EU; coordination: Dr. Michalina Kasprzak.



The Festival of Independent Belarusian Culture

took place in May at the AMU Faculty of Political Science and Journalism. During the festival, visitors could take part in an interactive quiz about Belarus, practice straw weaving during workshops, see the play “Dziady”, listen to a Belarusian music concert, and visit an exhibition on the history of Belarusian symbols. The festival was organized by the student organization Lichtar, which has operated at the Faculty since 2023.



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IDEA:

Dr. Joanna Morawska

EDITOR:

Anna Schmidt-Fiedler

COOPERATION:

Petra Janowiak, Anna Kuca-Szpytko, Adriana Machowiak

TEXT:

**Anna Schmidt-Fiedler, Krzysztof Smura, Magda Ziótek,
Ewa Konarzewska-Michalak, managers of the projects**

PHOTOS:

Adrian Wykrota, Władysław Gardasz

and

Łukasz Gdak – page 60, 64

Maciej Nowaczyk – page 56, 78

Maciej Fabiszak – page 28

Annegret Günther – page 31

Violka Kuś – page 33

Adam Czerneńko – page 47

Joanna Dębicka-Jocka – page 75

Paulina Michątek-Komorowska – page 76, 77

Natalia Kostić – page 79, concert

Managers of the projects

PROOFREADING:

Elżbieta Gola, Sabrina Haenze

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Krzysztof Molenda

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