



# OU Science & Society

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## Inno-Techno Park in Uzbekistan Nears Completion

Prof. Dr. Levente Kovács, Rector of Obuda University, held an in-person meeting with a delegation of the Uzbek Presidential Administration, led by Ulugbek Husainov, to discuss the opening of the Inno-Techno Park in Jizzakh, Uzbekistan, as well as opportunities for further cooperation.

During the meeting, the Uzbek delegation informed Obuda University that construction of the Inno-Techno Park building in Jizzakh is expected to be completed within the next one to two months. The parties agreed on ensuring the essential conditions required for launching the Park, including the development of a favorable tax and legal status, as well as an appropriate organizational framework to support operations and investments.

In addition, the partners agreed to establish a joint higher-level

training center, with a primary focus on market-based continuing education programs. Cooperation will also extend to the development and long-term sustainability of research and development projects.

The official opening of the joint Inno-Techno Park in Jizzakh is planned for March 2026 and is expected to take place in a ceremonial setting with high-level diplomatic participation.





## Educational and Research Fellowship Program to Launch with the Fulbright Foundation

A new chapter is opening in international relations as the Hungarian-American Fulbright Commission and Obuda University have signed a cooperation agreement to implement educational and cultural exchange programs. The partnership aims to broaden the University's academic and research portfolio and to strengthen cultural exchange with U.S. partners.

Fulbright is one of the world's most prestigious scholarship programs. For a university, becoming an official partner of the Foundation represents a kind of "quality seal" on the international higher education market, making the institution more attractive to international students and researchers alike. The agreement also establishes a living channel through which top-tier American expertise can flow into Hungarian higher education. At the same time, it offers students first-hand insight into how leading universities around the world think and operate.

Participants were welcomed by Prof. Dr. Enikő Maior, Vice-Rector for Education. She emphasized that the agreement aims to strengthen the Fulbright program at the University, enabling American faculty members to teach at Obuda University.

As highlighted during the event, the central element of the cooperation is the "Fulbright-OU Fellowship." The program will allow Obuda University to host native English-speaking American Fulbright scholars each year. The University commits to covering specified



- » costs related to the visiting professors' stay, thereby supporting the successful implementation of the program.

Obuda University has also seen a significant strengthening of student excellence in recent years. "With the scholarship made possible through our agreement with the Fulbright Foundation, we can effectively reach these outstanding young talents," stressed Prof. Dr. Levente Kovács, Rector of the University. He added that partnerships established with U.S. universities in recent weeks also offer numerous opportunities, further contributing to the expansion of joint education and research programs and to the creation of an inspiring, globally minded environment for both students and faculty.

Tamás László Magyarics, Chair of the Fulbright Board, noted that one of the original goals of the program's founders was not only to benefit the individual grantees, but also to ensure that their home institutions gain lasting value from these connections. U.S.–Hungarian educational and cultural relations are of key importance, and their strengthening is greatly supported by the Fulbright community, which today includes tens of thousands of members worldwide. The program is gaining momentum, supported in part by significant funding from the Hungarian government. Beyond higher education institutions, the Hungarian economy itself can also benefit from the outcomes of these partnerships.

Subject to the approval of the Fulbright Commission and the J. William Fulbright Foreign Scholarship Board (FSB), the program will become ongoing starting in the next academic year, from September 1, 2026. Fulbright scholars will spend at least one semester at Obuda University (a minimum of four and a half months) as visiting Fulbright faculty. During this period, and in line with University requirements, they will teach one or two courses. Each course will carry at least three credits, include two contact hours per course, offer consultations and office hours, and involve participation in standard faculty responsibilities.

An important component of the program is that Fulbright scholars take part in the Fulbright Commission's regular monthly events for grantees, known as "enrichment activities." In the case of a joint teaching or research plan, there is also the option to deliver courses in an intensive eight-week format, with the remaining time dedicated to individual research.

A strategic goal of Obuda University is to host Fulbright scholars in clearly defined academic fields. These include engineering sciences; information technology, with a particular focus on computer science and information systems; architecture and civil engineering; business, management, and marketing; environmental engineering; light industry and environmental studies; applied mathematics; and the natural sciences.



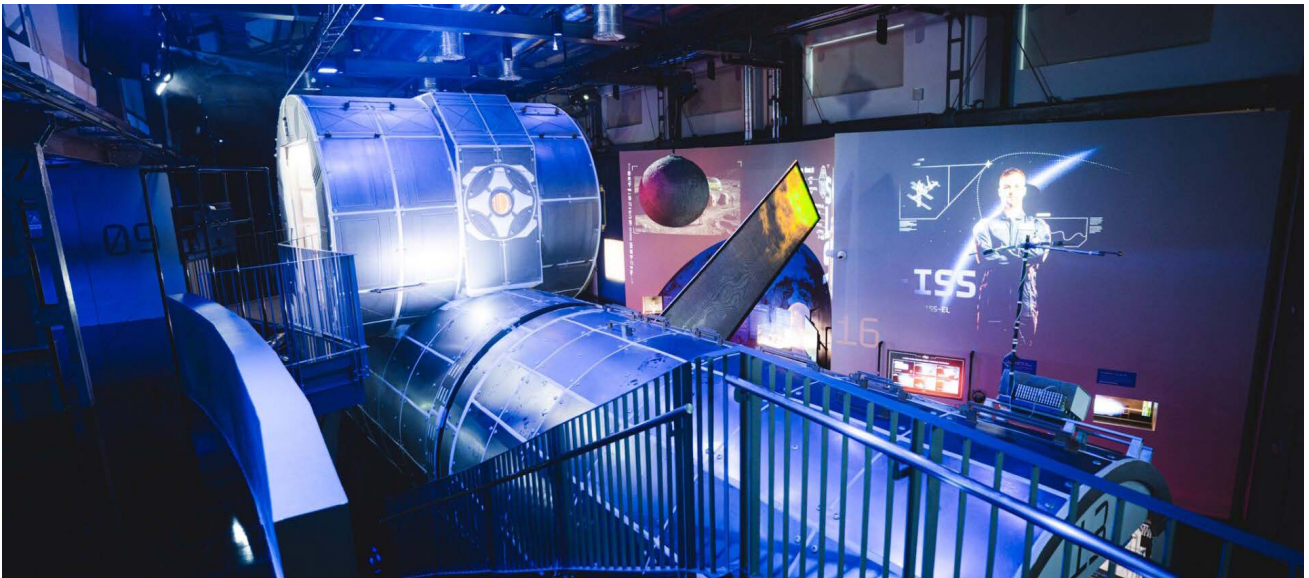
## Strategic Cooperation Opportunities with Hebei University

As part of its efforts to expand its international partnerships, Obuda University welcomed a delegation from Hebei Railway Transportation University (Shijiazhuang Tiedao University).

The visit focused on exploring opportunities for cooperation in education and research and development. As one of the Far East's leading technical universities, the Chinese institution plays a prominent role in transportation, engineering sciences, and applied technologies, making the partnership highly promising for both sides.

Discussions during the meeting centered on student and faculty mobility as well as the launch of joint research projects. Professional consultations also addressed cutting-edge solutions in railway transportation, potential applications of artificial intelligence, and current trends in engineering education.

Prof. Dr. Levente Kovács, Rector of Obuda University, expressed his conviction that this dialogue could open new horizons in education, research, and industrial cooperation alike. "International partnerships like this strengthen our University's global presence, broaden professional opportunities for our students and faculty, and contribute to jointly addressing the technological challenges of the future," he said.



## Obuda University can strengthen its international positions in the field of space research within the framework of the 'HU-RIZONT International Excellence Research Cooperation Program'

Obuda University's proposal entitled 'New Horizons in Transatlantic Space Innovation: Advancing Sustainable Robotic and Human-centric Systems for Near-Earth and Cislunar Exploration (HORIZON-X)' was successful in the call of the HU-RIZONT International Excellence Research Cooperation Program announced by the National Research, Development and Innovation Office.

As a result, over the next three years we will implement the submitted research program in cooperation with Rice University in Texas, a leading institution in space research, ranked 103rd worldwide by Times Higher Education and 119<sup>th</sup> in the QS rankings.

Rice University located in Houston – often referred to as the space capital of the United States – has been a key player in the country's space research and space industry ecosystem for many decades. President Kennedy delivered his famous 'We choose to go to the Moon' speech here in 1962, and it is also the university where Peggy

Whitson, commander of the Axiom-4 mission that brought Tibor Kapu to the International Space Station, as well as three other Nobel Prize-winning scientists earned their doctoral degrees.

The Rice Space Institute operating at the university is an internationally recognized center of excellence in research on space robotics, human spaceflight, sustainable space activities, and the cislunar economy, actively linking academic research with governmental and industrial space programs. The institute's innovation and entrepreneurship activities are complemented by the Ion innovation



- » hub, one of Houston's key technology and startup centers, which supports the commercialization of university research, industrial collaborations, and the creation of deep-tech spin-offs, with a particular focus on space, digital, and dual-use technologies.

The international consortium, expanded to include Sapientia Hungarian University of Transylvania, aims to establish a transatlantic collaboration that will make a significant contribution to the development of sustainable space technologies and to laying the foundations of the cislunar space economy.

The HORIZON-X project promises not only new scientific results but also tangible technological innovations. One of the key research objectives is the development of an AI-supported autonomous lunar rover prototype which, following field testing in environments simulating extreme conditions, may be capable of identifying water ice on the lunar surface. The data generated during the development will be stored in a structured, searchable database, providing long-term support for further research and industrial utilization.

In addition, the project will contribute to increasing the reliability of space robotic systems by integrating formal methodologies and prognostic digital twin models in a unified framework. This approach enables predictive analysis of critical systems and reduces operational risks.

Within the human-centered research pillar, the project will develop an interface module that can be integrated into a spacesuit and is based on biometric feedback,

aiming to enhance astronaut safety and performance. In connection with this system, a digital twin-based simulation environment will also be created to examine ergonomic and human-machine interaction aspects, which may also be relevant for terrestrial applications, such as in healthcare or industry.

As a comprehensive outcome of the project, a cislunar sustainability and space economy framework will be developed to serve as a foundation for future lunar infrastructure and economic planning. The framework integrates in-situ resource utilization (ISRU), space situational awareness (SSA), space debris management, and circular economy principles, as well as investment considerations, thereby contributing to the establishment of responsible and economically viable space activities in the long term.

The leadership of our university's space technology proposal is provided by SpaceLab, which is part of the University Research and Innovation Center, which has gained recognition through its dynamic development in recent years. The research will also make a significant contribution to enhancing the international visibility and competitiveness of the Hungarian space sector, while creating new opportunities for the involvement of PhD students and early-career researchers.

Securing HU-RIZONT funding reinforces Óbuda University's position at the forefront of international space research and space industry collaborations, and provides long-term support for Hungary's active participation in the global space economy and in shaping sustainable space activities.



## A new international project for sustainable cities is being launched with the participation of Obuda University

With the significant involvement of Obuda University, the ResSuDSCita project is being launched within the framework of a broad European cooperation, aiming to revolutionize urban water management and make it more sustainable and resilient, with the participation of several universities and organizations.

The steadily growing urban population poses significant challenges for professionals. Increasingly extreme weather conditions raise the risk of flooding, while soil degradation is intensifying and the urban heat island effect is becoming stronger. The ResSuDSCita project offers solutions to these problems by enabling the development of nature-based drainage systems that restore the balance of nature in densely built urban environments.

Between 2026 and 2028, experts will focus on several areas. First, they will engage in data collection and innovation, using sensors to measure water flows and local biodiversity. Future technologies

will also play a key role, as artificial intelligence and drones will support the precise analysis of data. In addition, the principles of the circular economy will be examined, exploring how industrial by-products can be reused in the development of drainage systems in order to create solutions that reduce flood risk and significantly improve urban quality of life.

Obuda University is a key participant in the project. Our institution is represented in a professional leadership role by Dr. Andrea Pődör, PhD, Associate Professor at the Alba Regia Faculty and Director of the Institute of Geoinformatics.



## UNEC Delegation Meets with Obuda University to Discuss Future Cooperation

Obuda University hosted a delegation from the Azerbaijan State University of Economics (UNEC) to review ongoing academic relations and identify areas for further institutional cooperation.

At the beginning of the meeting, UNEC reaffirmed its intention to formalize the partnership in the form of a Memorandum of Understanding.

The meeting was opened by **Eszter Turopoli**, Deputy Director General for International Affairs. In her remarks, she highlighted the university's aim to strengthen its international partnerships. **Prof. Dr. Mónika Garai-Fodor**, Dean of the Keleti Károly Faculty of Business and Management (KGK), provided an overview of the faculty's long-standing collaboration with UNEC, including joint research activities, publications, and participation in professional networks such as the Women Research Council.

The UNEC delegation was led by **Dr. Huseyn Hasanov**, Vice Rector for International Relations, who introduced UNEC's institutional profile, noting that the university currently serves more than 20,000

students across six campuses and offers multilingual academic programs. He also presented the university's international strategy, which focuses on program accreditation, English-language research output, and expanding global partnerships.

The parties reviewed several potential areas of cooperation:

### Dual degree programs

Both universities expressed interest in exploring joint degree opportunities. As an initial step, curriculum alignment will be examined.

### Joint research activities

The institutions agreed to organize an online meeting dedicated to collaborative research, with a particular emphasis on sustainability-related topics. Joint PhD supervision was also identified as a possible area of cooperation.

### Academic events

UNEC shared its recent experience in organizing international conferences and indicated openness to co-hosting events with Obuda University.

### Mobility programs

Building on the successful cooperation within the 2022 Erasmus+ KA171 project—during which 22 incoming and 23 outgoing mobilities were completed—the universities discussed expanding staff and student exchange opportunities, including short-term programs. The existing collaboration under the Pannónia Program was also noted.

Obuda University will continue discussions in the coming period to develop a framework for further cooperation with UNEC.

# Artificial Intelligence in Medical Imaging: New Pathways in Cancer Diagnosis and Therapy

Prof. Habib Zaidi, Professor of Excellence at Obuda University, recently presented new and innovative imaging solutions at an English-language educational workshop for master's and PhD students and early-career researchers. The event was held at the PhysCon Laboratory of the University Research and Innovation Center (EKIK).

Prof. Habib Zaidi is Professor of Excellence at Obuda University, Head Physicist at Geneva University Hospitals, Head of the PET Instrumentation and Imaging Laboratory, and a full professor at the University of Geneva. He also serves as a visiting professor in Groningen and Southern Denmark. An internationally recognized researcher, Prof. Zaidi has made major contributions to the advancement of quantitative PET imaging, hybrid imaging systems, computational modeling, and deep learning. His work includes more than 385 peer-reviewed publications, substantial international research funding, numerous awards, and extensive editorial activity.

During the three-day professional workshop held at the PhysCon Research Center within EKIK, Prof. Zaidi demonstrated how machine learning and artificial intelligence are driving progress in medical imaging. His lectures focused on modern diagnostic approaches that combine multiple imaging modalities, such as hybrid PET-CT systems. PET (positron emission tomography) is an advanced nuclear medicine technique that visualizes metabolic activity at the cellular level, while CT (computed tomography) provides high-resolution structural imaging. The workshop also addressed SPECT (single-photon emission computed



tomography), which offers detailed layered visualization of organs using a different technical approach.

Hybrid imaging techniques are now widely used not only in oncology, but increasingly in cardiovascular and rheumatological diagnostics as well. Prof. Zaidi traced the evolution of artificial intelligence over the past fifty years, highlighting how it has become one of the most important tools in modern medicine. Participants gained insight into how PET and SPECT examinations work, making physiological processes within the body visible. The importance of image quality was strongly emphasized, as even minor inaccuracies can lead to significant artifacts. The lectures also addressed how radiation exposure can be minimized while preserving diagnostic accuracy, whether imaging the chest, brain, heart, or the entire body.

A key message of the workshop was that molecular imaging complements conventional techniques such as CT, MRI, and ultrasound. Prof. Zaidi also discussed how artificial intelligence supports image analysis, including the identification of suspicious areas and the comparison of results from different imaging studies.

"The future of medicine lies in personalized computational models that can describe the functioning of the human body with increasing precision. Artificial intelligence does not replace physicians; rather, it supports them in building more accurate diagnoses, predicting disease progression, and making optimal treatment decisions, especially in the field of cancer research," Prof. Habib Zaidi concluded.



## Journey into a Hydrogen-Based Future – Innovation and Partnership at Obuda University

**This is no longer science fiction, but today's reality. Hydrogen technology, sustainable energy and artificial intelligence are now among the most important strategic pillars of both the European Union and industry.**

The successful collaboration between Obuda University and Toyota Sakura, now in its fourth year, is a clear example of how global R&D know-how can be combined with talent development.

As one of the most important Central European partners of the world's leading car manufacturer, Toyota Sakura provides not only theoretical knowledge but also a fresh perspective, hands-on expertise and joint research opportunities for students of Obuda University, through the Industrial Department of Hydrogen and Hybrid Systems at the Kando Faculty and the Hydrogen Research Center (H2T) of the University Research and Innovation Center (EKIK).

Organised by the Talent Management Office at Obuda University, the latest professional day gave

Excellence Scholarship holders and members of student special colleges the chance to explore future energy solutions at the Toyota Sakura Fleet Center on Bécsi Road. The programme not only presented the technology behind the Toyota Mirai and the challenges of hydrogen storage, but also offered insight into real research and development projects. It is especially encouraging that this knowledge-sharing already reaches high school students (e.g. Berzsényi Dániel Secondary School, AKG), helping to build the next generation of engineers.

Welcome remarks were given by Prof. Dr. Zoltán Rajnai, Vice-Rector General, János Szilasi, CEO of Toyota Sakura, and Dr. habil István Szabó, Head of the Talent Management Office.

Dr. Zsombor Zrubka, General Director of EKIK, gave a lecture titled "Industrial Innovations in EKIK Projects at Obuda University".

On the topic "The Challenge of Supplying Energy Networks with Green Energy", István Szén, Head of the H2T Research Center at Obuda University, delivered a presentation.

The research center's motto is: Innovation is born where industrial experience meets academic curiosity. "Our joint work with Toyota Sakura, the TDK opportunities, elective courses and hands-on demonstrations all help to build this bridge. We are proud that the researchers of Obuda University and EKIK are helping to shape the technologies of the green transition" - summarised István Szén.



## Strengthening Industry–University Cooperation at Kandó

On 11 December 2025, Óbuda University's Kandó Kálmán Faculty of Electrical Engineering hosted a professional consultation with its industrial partners and officially inaugurated a shared Industrial Department Office. The initiative strengthens practice-oriented education and deepens long-term university–industry cooperation.

On 11 December 2025, the Institute of Electronics and Communication Systems (EKRI) at the Kandó Kálmán Faculty of Electrical Engineering, Óbuda University (H-1084 Budapest, Tavaszmező Street 17, Building C), hosted a professional meeting of representatives of its affiliated industrial departments, followed by the ceremonial opening of the Industrial Department Office.

The Evosoft Industry 4.0 Affiliated Department was represented by György Sándorfalvi, Péter Sárdi, and Ádám Szigeti, while Dr. László

Naszáros attended on behalf of the Automotive Electronic Systems – Thyssenkrupp Affiliated Department. The Faculty was represented by Dr. István Németh, Dr. Péter János Varga, and Tamás Sándor.

Discussions focused on advancing practice-oriented engineering education, broadening industrial collaboration, and identifying new opportunities for joint research and development projects. Particular attention was given to aligning academic training with

current technological and industrial demands, as well as to expanding student involvement in applied projects.

The establishment of the shared Industrial Department Office provides an institutional framework for sustained cooperation. Beyond its symbolic significance, the office is expected to facilitate continuous professional dialogue, improve coordination of joint activities, and further consolidate strategic ties between the University and its industrial partners.



## Hour of Code and Pedagogical Workshop on AI and Education

The John von Neumann Faculty of Informatics organized the Hour of Code and a related Workshop for educators in December: AI and Education. The aim was to bring students and teachers closer to artificial intelligence and future educational opportunities.

Despite the harsh weather, nearly 300 students from 11 institutions participated in the seventh edition of the event, arriving at the university building with great enthusiasm. This year, in addition to the basics of algorithmic thinking, coding, and programming, they were also introduced to the fundamentals of artificial intelligence from a practical perspective.

Lectures and professional presentations were given by István Szabó, PhD, head of the Talent Development Office, Gergő Keszthelyi,

representing Robert Bosch Kft., and Tamás Piricz, young researcher of the University Research and Innovation Center, who gave students a first-hand look at the opportunities offered by computer science, engineering careers, and the opportunities offered by higher education.

### Pedagogical Workshop: AI and Education

Parallel to the student program, a workshop was held for teachers. The workshop provided practical

inspiration and methodological support for teaching programming and artificial intelligence to the 40 teachers who participated.

<https://nik.uni-obuda.hu/kodolatoraja-es-ii-jovomuhely-ai-es-oktatas-pedagogiai-workshop/>

