RESEARCH NEWSLETTER

IN THIS ISSUE

NU ANNUAL RESEARCH CONFERENCE 2024:
SHAPING THE FUTURE OF RESEARCH IN KAZAKHSTAN

From September 19-21, 2024, Nazarbayev University proudly hosted its inaugural NU Annual Research Conference (NU ARC) 2024, under the theme "*Shaping the Future of Research in Kazakhstan: Working Together for Success.*" The conference brought together leading researchers, academics, and innovators from NU and beyond to strengthen research networks and foster collaborative efforts across a wide range of disciplines. The success of NU ARC 2024 marks the beginning of an annual event that aims to position NU as a central hub for research excellence and collaboration in Kazakhstan.

High-caliber keynote speakers from various fields headlined the conference, each leading plenary sessions dedicated to one of NU's five key research priorities:

- *Artificial Intelligence* - **Prof. Mohan Kankanhalli**, Provost's Chair Professor, Deputy Executive Chairman, AI Singapore Director, NUS AI Institute, National University of Singapore

- *Energy and the Environment* - **Prof. Veena Sahajwalla**, Australian Research Council Laureate Professor, University of New South Wales

- *Health and Wellbeing* - **Prof. John Rogers**, Founding Director of the Querrey-Simpson Institute of Bioelectronics, Northwestern University

- *New Materials & Technologies* - **Prof. Rashid Bashir**, Grainger Distinguished Chair, Professor of Bioengineering, Dean, Grainger College of Engineering, University of Illinois Urbana-Champaign; **Prof. Nigel Browning**, Director of the Albert Crewe Centre for Electron Microscopy, University of Liverpool

- *Socio-economic Transformation* - **Prof. Eyal Winter,** Silverzweig Professor at the Hebrew University, Brunner and Andrews Professor of Economics, Lancaster University

These sessions provided participants with cutting-edge insights into current trends and future challenges in research.

In addition to the plenaries, the conference featured two pivotal panel discussions: "*21st Century University Leadership*" and "*Commercialization of University Research*," both topics highly relevant to Kazakhstan's evolving academic and research landscape. **Andreas Cangellaris**, founding president of NEOM University, NU President Professor **Waqar Ahmad**, **Laura Karabassova**, Rector of Aktobe Regional University, and **Sayasat Nurbek**, Kazakhstan's Minister of Science and Higher Education, shared their perspectives on how contemporary challenges are reshaping educational governance and research commercialization.

The conference also included two symposia: *The 3rd International Symposium on Emerging Materials and Devices*, which explored advancements in optical, magnetic, catalytic, and electronic materials with applications in energy, catalysis, sensors, and biomedicine, and a symposium on *AI Research in Kazakhstan*, where scientists discussed generative AI models, applications, and the broader societal impact of AI research.

In parallel with the symposium sessions, the conference offered hands-on workshops designed to enhance research skills. These parallel workshops covered key topics such as "*How to Get Published in Top Journals*," "*Exploring Journal and Author Metrics*," led by Prof. Shazim Memon, and "*'My research won't harm anyone!': Deeply (Re)-considering Issues of Risk in Human Research*," conducted by Prof. Elaine Sharpline, providing attendees with practical tools and critical insights to improve their research practices.

A highlight of the event was the poster competition, where researchers showcased cutting-edge findings across NU's priority fields. Posters were judged for excellence in each category, with participants and attendees also voting for the People's Choice Award.

Additionally, the conference hosted the final competition of the Three Minute Thesis (3MT), a global academic contest where PhD students present the significance of their research in just three minutes. **Zhuldyz Yelzhanova**, a doctoral student from the School of Engineering and Digital Sciences, won first place for her presentation on perovskite solar cells, while **Hafiz Muhammad Waqar Abid** from the School of Sciences and Humanities took second place for his research on creating porous materials to convert CO_2 emissions into valuable products. **Aida Kabibulatova**, from the School of Medicine, received the audience's award for her research on genetic approaches to protect the hearts of diabetic patients.

The event culminated in an awards dinner, where the best posters from each research priority were recognized:

• *Health and Wellbeing*: **L. Mukhangaliyeva, B. Kurbanova, C. Kharmyssov, S. Alisherov, Zh. Ashikbayeva, Zh. Katrenova, A. Sametova, C. Molardi, D. Tosi, and Z. N. Utegulov**.

• *Socio-economic Transformation*: **S. Orazgaliyev, S. Xenarios, A. Shaikenova, N. Kapasheva**.

• *New Materials and Technologies*: **A. Mukhatov, I. Hayat, Ton Duc Do**.

• *Artificial Intelligence*: **G. Tolebi, G. Nauryzbayev**.

• *Energy and Environment*: **N. Nurlan, M. Nurmyrza, Woojin Lee**.

The People's Choice Award was presented to **Zh. Sapargaliyev, A. Tuyakova, I. Lukmanov,** and **A. Kubasheva**. Congratulations to all winners and participants for their outstanding contributions!

Over the three-day event, participants had the opportunity to explore innovative research ideas, engage in meaningful discussions, and build interdisciplinary collaborations. As the first of many to come, NU ARC 2024 sets the stage for the university's ongoing commitment to advancing research excellence in Kazakhstan.

CALL FOR APPLICATIONS UNDER THE GRANT FUNDING FOR SCIENTIFIC AND/OR TECHNICAL PROJECTS FOR 2025-2027

The Science Committee of the Ministry of Science and Higher Education of the Republic of Kazakhstan is pleased to announce a competition for Grant Funding of scientific and/or technical projects for 2025-2027 years.

(Source:ncste.kz)

PRIORITY DIRECTIONS

• Ecology, environmental protection, and sustainable resource management;

• Energy, advanced materials, and transportation;

• Advanced manufacturing, digital, and space technologies;

• Intellectual potential development;

• Life sciences and health;

• Sustainable development of the agro-industrial complex;

• National security, defense, and biological safety, along with other specialized scientific fields as outlined in the Competition Documentation.

APPLICATION PROCESS

• Applications must be submitted electronically, signed with the digital signature of the applicant through the «NCSTE» Information System.

• **Start of application submissions**: September 16, 2024

• **Internal NU deadline**: October 10, 2024

• **Deadline for submissions**: October 17, 2024 (inclusive).

CONTACTS

Feel free to contact our Grant and Review Managers:

• For GSB, GSE, GSPP, NUSOM, SMG: Sanam Israilova (sanam.israilova@nu.edu.kz)

• For SEDS: Albina Fairuzhanova (albina.fairuzhanova@nu.edu.kz)

• For SSH: Madina Koshtayeva (madina.koshtayeva@nu.edu.kz)

For any questions, please contact us at preaward@nu.edu.kz.

We look forward to receiving your research proposals!

NU PROFESSORS ARE IN THE TOP 2% SCIENTISTS AROUND THE GLOBE

NU professors are ranked in the top 2% of scientists in the world, according to a systematic bibliometric study by researchers from Stanford University. This list is based on bibliometric data from the Scopus database of over 180 000 top-scientists, as of August 1, 2024 (source).

Prof. John Loannidis and his colleagues at Stanford University classified scientists into 22 scientific fields and 174 sub-fields based on a Science-Metrix classification. The database provides information on citations, h-index, co-authorship adjusted hm-index, and a composite indicator (c-score). The study presents two lists - career-long data, which is updated to the end-of-2023, and single recent year data covering citations received during calendar year 2023.

The lists of NU faculty members are as follows:

№	Name	Field	Sub-Field
	2023 updated career-long		
1	Akcil, Ata	Mining & Metallurgy	Environmental Sciences
2	Paunov, Vesselin N.	Chemical Physics	Nanoscience & Nanotechnology
3	Pignatelli, Massimo	Oncology & Carcinogenesis	Pathology
4	Memon, Shazim Ali	Building & Construction	Energy
5	Yagiz, Saffet	Geological & Geomatics Engineering	Artificial Intelligence & Image Processing
6	Singh, Prim B.	Developmental Biology	Biochemistry & Molecular Biology
7	Tosi, Daniele	Optoelectronics & Photonics	Analytical Chemistry
8	Kalendar, Ruslan	Plant Biology & Botany	Developmental Biology
9	Zondy, Jean Jacques	Optics	Optoelectronics & Photonics
10	Atabaev, Timur Sh	Materials	Nanoscience & Nanotechnology
11	Lee, Woojin	Environmental Sciences	Strategic, Defence & Security Studies
12	Akhtar, Muhammad Tahir	Networking & Telecommunications	Artificial Intelligence & Image Processing
13	Desyatnikov, Anton S.	Optics	General Physics
14	Karaca, Ferhat	Environmental Sciences	Meteorology & Atmospheric Sciences
15	Hazlett, R. D.	Energy	Geochemistry & Geophysics
16	Maham, Behrouz	Networking & Telecommunications	Artificial Intelligence & Image Processing
17	Bakenov, Zhumabay	Energy	Materials
18	Do, Ton Duc	Electrical & Electronic Engineering	Networking & Telecommunications
19	Sarria-Santamera, Antonio	General & Internal Medicine	Public Health
20	Brus, Viktor V.	Applied Physics	Nanoscience & Nanotechnology

№	Name	Field	Sub-Field
	Single year 2023		
1	Memon, Shazim Ali	Energy	Built Environment & Design
2	Akcil, Ata	Environmental Sciences	Engineering
3	Yagiz, Saffet	Artificial Intelligence & Image Processing	Engineering
4	Tosi, Daniele	Analytical Chemistry	Enabling & Strategic Technologies
5	Paunov, Vesselin N.	Nanoscience & Nanotechnology	Enabling & Strategic Technologies
6	Cruz, Jonas Preposi	Microbiology	Public Health & Health Services
7	Kalendar, Ruslan	Developmental Biology	Biology
8	Poddighe, Dimitri	General & Internal Medicine	Clinical Medicine
9	Satyanaga, Alfrendo	Energy	Engineering
10	Riazi, Masoud	Chemical Physics	Enabling & Strategic Technologies
11	Hernández-Torrano, Daniel	Experimental Psychology	Social Sciences
12	Atabaev, Timur Sh	Nanoscience & Nanotechnology	Enabling & Strategic Technologies
13	Araby, Sherif	Polymers	Enabling & Strategic Technologies
14	Bagheri, Mehdi	Electrical & Electronic Engineering	Enabling & Strategic Technologies
15	Varol, Huseyin Atakan	Biomedical Engineering	Engineering
16	Bakenov, Zhumabay	Materials	Enabling & Strategic Technologies
17	Do, Ton Duc	Networking & Telecommunications	Engineering
18	Akhtar, Muhammad Tahir	Artificial Intelligence & Image Processing	Information & Communication Technologies
19	Malafarina, Daniele	Astronomy & Astrophysics	Physics & Astronomy
20	Aljofan, Mohamad	Education	Clinical Medicine
21	Zorbas, Dimitrios	Artificial Intelligence & Image Processing	Information & Communication Technologies
22	Desyatnikov, Anton S.	General Physics	Physics & Astronomy
23	Sarria-Santamera, Antonio	Public Health	Clinical Medicine
24	Bolla, Srinivasa Rao	Pharmacology & Pharmacy	Clinical Medicine
25	Molardi, Carlo	Optics	Enabling & Strategic Technologies
26	Yousafzai, Shumaila	Business & Management	Economics & Business
27	Brus, Viktor V.	Nanoscience & Nanotechnology	Physics & Astronomy

We would like to honor the memory of our two colleagues, Prof. Alex Ruderman and Prof. Kumar Nunna H. S.V.S., who were also ranked among the top 2% of scientists. Their dedication to advancing knowledge is inspiring, and they will always be remembered for their invaluable contributions to the NU Community.

School of Engineering and Digital Sciences News

EVALUATION OF LARGE LANGUAGE MODELS IN KAZAKH

Prof. Pavel Braslavski

In August 2024, Pavel Braslavski, Assistant Professor in the Department of Computer Science, attended the 62nd Annual Meeting of the Association for Computational Linguistics (ACL'2024) in Bangkok, Thailand. ACL is the world's leading conference on Natural Language Processing (NLP) and Artificial Intelligence (AI). At the TurkicNLP workshop, Pavel presented a joint project with NU students Akylbek Maxutov and Ayan Myrzakhmet «Do LLMs Speak Kazakh? A Pilot Evaluation of Seven Models». The study is the first attempt to systematically evaluate the quality of available large language models (LLMs) in Kazakh.

Large language models such as ChatGPT have taken the world by storm. LLMs have great potential to transform many fields -- education, information access, communication, software development, etc. They increase human productivity and eliminate routine tasks in many areas, making them a powerful economic driver. At the same time, LLMs can lead to inequality between different language communities and a widening gap between developed and developing countries. LLMs are most proficient in high-resource languages, primarily English, where there is a wealth of training data. However, many modern LLMs are multilingual, and open LLMs can be adapted to less resourced languages.

The study included five closed models (OpenAI's GPT 3.5 and 4, Google's Gemini 1.5 Pro, YandexGPT 2 and 3) and two open models (Meta's Llama 2 and Aya, a massively multilingual model from Cohere). Experiments were conducted on six datasets corresponding to different tasks - question answering, causal reasoning, middle school math problems, machine translation, and spelling correction. Three of the datasets were specially prepared for this study. As expected, the quality of the LLMs on the Kazakh tasks is lower than on the parallel English tasks. GPT-4 shows the best results, followed by Gemini and Aya. In general, LLMs perform better on classification tasks, such as answering multiple choice questions, and struggle with language generative tasks, such as spelling correction. Thus, online translation services such as Google translate are still a more reliable option for translating between Kazakh and English and Kazakh and Russian. As we anticipate the emergence of more LLMs that understand Kazakh, the methodology and datasets for their evaluation become crucial.

The paper is available via the link.

NAZARBAYEV UNIVERSITY JOINS HORIZON 2020 PROJECT ON INFRASTRUCTURE RESILIENCE

Prof. Jong Kim

Nazarbayev University (NU) has become a key partner in a newly launched Horizon 2020 project, spearheaded by Prof. Jong Kim, Head of the Department of Civil and Environmental Engineering (CEE) at the School of Engineering and Digital Sciences (SEDS). The project, titled «mUltiscale IoT equipPed lonG linear infRastructure resilience built and sustAinable DevelopmEnt (UPGRADE),» will run for four years and involves collaboration with two other faculty members, Dr. Sung-Woo Moon and Dr. Alfrendo Satyanaga, both Associate Professors in the CEE department.

The UPGRADE project addresses the growing vulnerability of long linear infrastructure (LLIs) such as road and railway slopes, pipeline bedding, and flood protection structures. These infrastructures, due to their extended operational lifespan and geographical span, are increasingly prone to cascading failures, exacerbated by severe weather events linked to climate change. This vulnerability necessitates significant maintenance investments, especially for aging infrastructures, yet current understanding of deterioration processes remains fragmented.

Conventional engineering approaches are no longer sufficient to tackle these complex challenges. The UPGRADE project seeks to harness cutting-edge technologies, integrating Internet-of-Things (IoT) systems and artificial intelligence (AI) to enhance the safety and performance of LLIs. This approach promises to revolutionize the monitoring and maintenance of critical infrastructure through digitalization.

The project unites 10 world-leading research organizations and 7 industry partners from Europe, Asia, and Oceania. These partners bring expertise in areas such as Earth observation, geo-material testing, data mining, machine learning, and data-driven design. The goal of the consortium is to develop comprehensive and sustainable solutions for enhancing the resilience of LLIs.

№	Partner name	Country	Academic Sector
1	Consiglio Nazionale delle Ricerche (Research Institute for Geo-Hydrological Protection (IRPI)	IT	Yes
2	Universidad de Alicante	ES	Yes
3	Université Gustave Eiffel	FR	Yes
4	Kungliga Tekniska Hoegskolan	SE	Yes
5	F&m Ingegneria Spa	IT	No
6	Levels & Measures, Lda	PT	No
7	Skein-Ukraine	UA	No
8	GEOAPP Srl	IT	No
9	Nhazca Srl	IT	No
10	Nanjing University	CN	Yes
11	Tianjin University	CN	Yes
12	University of Tsukuba	JP	Yes
13	University of Technology Sydney	AU	Yes

№	Partner name	Country	Academic Sector
14	Servicio Geologico National	DM	No
15	Nazarbayev University	KZ	Yes
16	Community CPR Trust CIC	UK	No
17	University of Warwick	UK	Yes

The project will also facilitate a robust staff exchange program, providing financial support of €2,300 per month for participants. Researchers and practitioners will benefit from interdisciplinary collaboration, gaining valuable experience through secondments, network-wide events, and training sessions.

This consortium is a step forward in addressing global infrastructure challenges, advancing both academic research and industry innovation.

School of Sciences and Humanities News

PSIR STUDENTS PUBLISHED CONSTITUTIONAL COURTS DATASETS IN THE HARVARD DATAVERSE

This summer, three undergraduate Political Science and International Relations students collected and coded data about constitutional courts and published their datasets in the Harvard Dataverse. Alua Akhmolda and Karakoz Abilazhova published their dataset "Constitutional Court of the Republic of Kazakhstan: Members, Decisions, Budget," which includes information about the biographies of the Constitutional Court justices, characteristics of the Constitutional Court decisions, and the annual budget of this tribunal, which was re-established in January 2023. Vladislav Lisitsyn published his dataset "Constitutional Court of Russian Federation: Members and Their Income," which contains biographical information for and income information of the Constitutional Court justices for 2010-2021. The Harvard Dataverse Repository is a free data repository containing nearly 100,000 datasets and is open to all researchers from any discipline, both inside and outside of the Harvard community. Associate Professor Alexei Trochev (PSIR Department) supervised their research.

Karakoz Abilazhova   **Alua Akhmolda**   **Vladislav Lisitsyn**
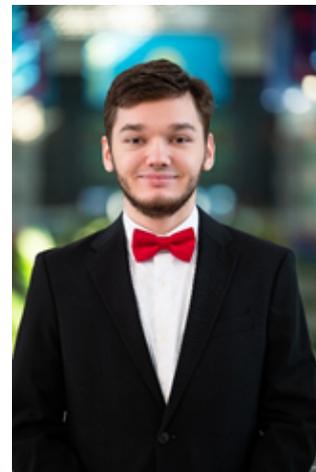
THE PROTEOLYTIC ACTIVITY OF NEUTROPHIL-DERIVED SERINE PROTEASES BOUND TO THE CELL SURFACE ARMING LUNG EPITHELIAL CELLS FOR VIRAL DEFENSE

The collaboration between cellular proteases and host cells is pivotal in mounting an effective innate immune defense. Of particular interest is the synergistic interaction of cathepsin G (CatG) and neutrophil elastase (NE), which are proteases secreted by activated neutrophils, with the human alveolar basal epithelial cell line (A549) and the human lung epithelial-like cell line (H1299), due to the potential implications for viral infection. Our study aimed to investigate the binding capacity of CatG and NE on the surface of A549 and H1299 cells through preincubation with purified CatG and NE; thereby, the proteolytic activity can be detected using activity-based probes. Both CatG and NE were capable of binding to the cell surface and exhibited proteolytic activity, leading to increased cell surface levels of MHC I molecules, which is crucial for displaying the endogenous antigenic repertoire. In addition, CatG cleaved the S2' site of the SARS-CoV-2 spike protein at two specific sites (815RS816 and 817FI818) as well as NE (813SK814 and 818IE819), which potentially leads to the destruction of the fusion peptide. Additionally, furin required the presence of Ca^{2+} ions for the distinct cleavage site necessary to generate the fusion peptide (Figure below). Overall, the findings suggest that CatG and NE can fortify target cells against viral entry, underscoring the potential significance of cell surface proteases in protecting against viral invasion.
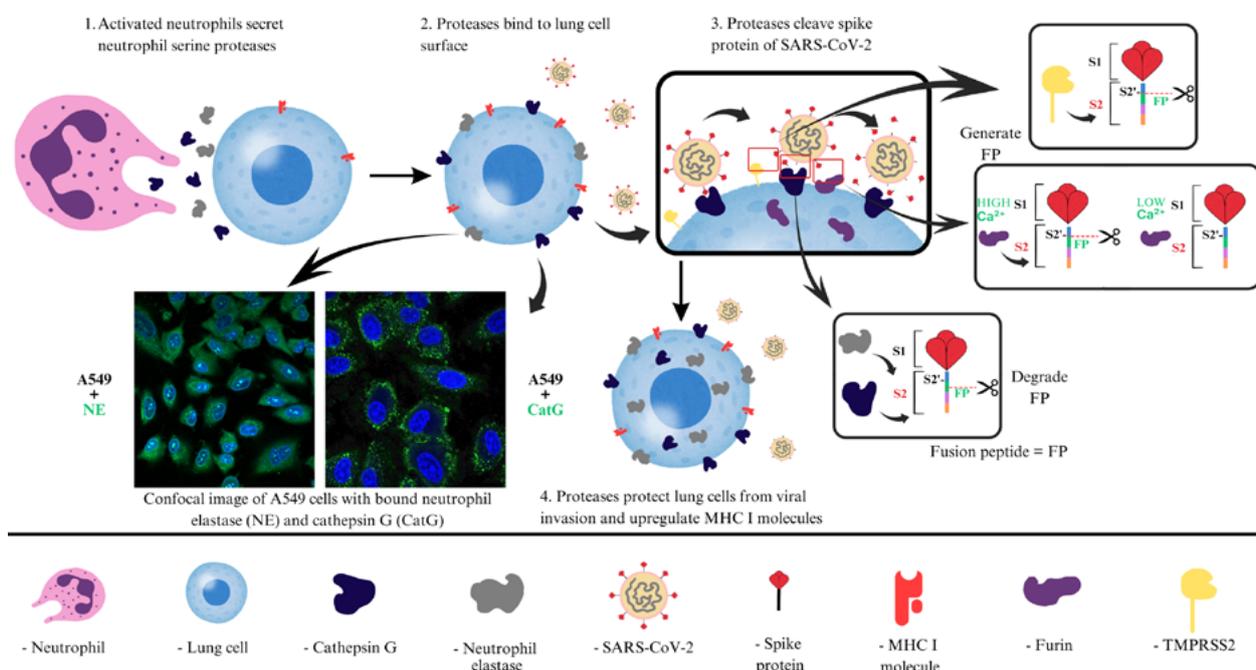
Akmaral Assylbekova*, Maiya Allayarova*, Moldir Konysbekova, Amanbek Bekturgan, Aiya Makhanova, Samantha Brown, Norbert Grzegorzek, Hubert Kalbacher, Ruslan Kalendar, and Timo Burster.

SHARED BY PROF. TIMO BURSTER

UNCOVERING KAZAKHSTAN'S PENAL HERITAGE: THE 'CENTRAL ASIA'S GULAG' PROJECT

In part of a Collaborative Research Project between Nazarbayev University and Karaganda State University, a research project titled "**Central Asia's Gulag: Mapping and Managing Penal Heritage in Kazakhstan**" (CAG project) has been making strides in uncovering and preserving Kazakhstan's penal history. Led by Dr. Katherine M. Erdman as a Director of Field Research, and Dr. Gavin Slade as a Principal Investigator, both from SSH, as well as Dr. Aziz Burkhanov (GSPP), this project explores the impact of the Gulag era penal systems on Kazakhstan's social and economic development.

To establish a core line of inquiry, the CAG project aims to answer two fundamental research questions: What impact have the geography and practices of punishment historically had on Kazakhstan's economic and social development? And how can this historical geography be studied and preserved? These questions are key to understanding the significant, but often overlooked, history of Kazakhstan's penal system and its enduring imprint on the landscape.

Drone photo of the kartzer (punishment cell) in Aktailak, May 2024

FIELDWORK IN AKTAILAK: KEY ACTIVITIES

In May 2024, a group of 10 NU students spent three weeks conducting extensive archaeological research in the village of Aktailak, in the Zhana-Arka district of Ulutau Oblast. Aktailak was one 'camp-point' within the Bidaik subdivision of the Karlag camp system. Karlag was one of the biggest camp systems of the Soviet Gulag, encompassing an area roughly the size of the country of Wales. At Aktailak, historical records analysed by the student team indicate that more than 2,000 prisoners worked in irrigation, dairy farming, and livestock farming at the site. The ruins of the camp are still visible today, making it a valuable site for archaeological research.

With the support of local and regional akimats, the student team conducted:

- Surveys of the geographic extent and layout of the camp

- A cleanup and registration of key Gulag-era structures

- Small-scale excavations to identify prisoner barracks and other significant buildings

- An analysis of prisoner-built waterways and irrigation systems to understand the role of forced labor in the development of agriculture in the region

- Sociological interviews with local residents to document oral histories and local perceptions of Karlag's presence in their community

In addition to the archaeological work, the team organized educational workshops for local schoolchildren, introducing them to the basics of archaeological research. The project team also participated in the Day of Remembrance for Victims of Political Repression, which took place on May 31, 2024, further anchoring their work in the cultural memory of Kazakhstan.

KEY FINDINGS AND RECOMMENDATIONS

The most notable discovery at Aktailak was a stone punishment block (pictured above), one of the most well-preserved structures from the Karlag era. Despite the dilapidated state of this structure, it represents a particularly important piece of penal history.

Fieldwork also revealed the remains of collapsed buildings, presumably prison barracks. In addition, irrigation canals built by prisoners to convert the steppe into agricultural land were noted. All artifacts found during the survey were donated to the local ethnographic museum in Zhana-Arka to ensure that these important finds are accessible to the public. However, the condition of the camp's ruins is of immediate concern. The punishment block and other buildings are at serious risk of further deterioration due to weathering and interference by animals and humans, including vandalism. As part of the study, the student team made a number of recommendations, including fencing off key structures, installing informative and commemorative signage for visitors about their historical significance, and potentially restoring parts of the punishment block to ensure its structural integrity.

CONCLUSION

The CAG project has broad ambitions that go beyond academic research. One of its main goals is to re-evaluate Kazakhstan's place in the global history and development of prison and convict settler colonialism. As part of this goal, the project aims to influence the teaching of Gulag history in Kazakhstan's schools. To this end, this summer Dr. Burkhanov and a team of GSPP students conducted a content analysis of history textbooks used in Kazakhstani schools and held interviews with schoolteachers in Gulag villages near Karaganda. These activities will contribute to providing supplementary digital and physical teaching materials about the Gulag in the Kazakh language.

More generally, the project also aims to promote heritage tourism in Kazakhstan. To this end, the project team has written up a report to the Ulutau Oblast' Akimat which recommends transforming the Aktailak site into an open-air museum due to its accessibility and historical significance.

This initiative will not only help preserve the site for future generations, but will also stimulate the local economy by increasing tourism activity.

By combining archaeological research, community engagement, and long-term conservation efforts, the CAG project aims to make a significant contribution to the understanding of the Gulag history in Kazakhstan, offering new perspectives on the global history of punishment while fostering a deeper understanding of the country's penal legacies.

School of Mining and Geosciences News

AN INVITATION FROM A CHINESE UNIVERSITY TO AN SMG RESEARCH GROUP
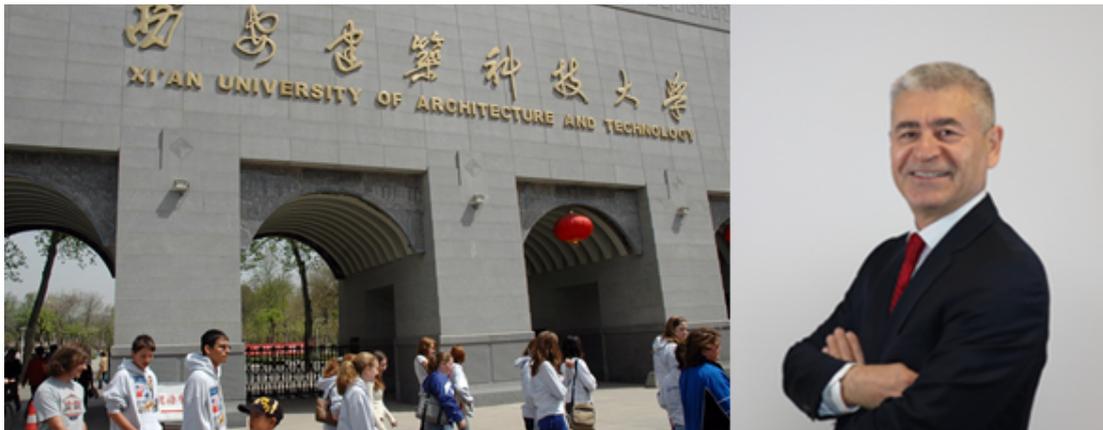
The Xi'an University of Architecture and Technology (XAUAT), China, has officially extended an invitation to Prof Saffet Yagiz and his Research Assistant from the School of Mining and Geosciences (SMG) at Nazarbayev University (NU), to visit the university in October 2024.

Dr. Yagiz is the Principal Investigator of the Rock Excavation & Automation Research (REAR) group at the SMG. REAR comprises a diverse group of members, including a professor as the PI, researchers, postdoctoral fellows, undergraduate and postgraduate students, and collaborators.

The goal of this visit is to foster academic cooperation and knowledge exchange between two universities, specifically between the School of Civil Engineering (SCE) of XAUAT [and Shaanxi Key Laboratory of Geotechnical and Underground Space Engineering] and SMG of NU. The visit will focus on advanced investigations in the fields of geotechnical engineering, mechanized rock excavation and tunneling. The delegations from Nazarbayev University will deliver presentations, have debates with SCE students and faculty members, and share the outcomes of completed and current inter-disciplinary research projects in geotechnical engineering, rock mechanized tunneling through leveraging advanced machine learning techniques in the field.

The invitation emphasizes XAUAT's interest in establishing international cooperation and progress in the areas discussed. Hence, this can be a significant sign of progress in the academic relations between Kazakhstan and China, creating new room for the development of cooperation between the research groups of the two universities.

XAUAT is one of China's eight historic institutions, offering the disciplines of Civil Engineering and Architecture as its characteristic specialties, engineering as the major discipline, and also other disciplines. At present, the university has 16 schools and departments offering 56 undergraduate programs to students in China. The US News & World Report ranks XAUAT 66th in Civil Engineering, 92nd in Environmental Engineering, and 178th in Chemical Engineering globally. The university was established in Xi'an, Shaanxi province of China, and its history began with Beiyang University in 1895. Xi'an is the center of politics, culture, and economy of northwest China.

Graduate School of Public Policy

SOCIAL CAPITAL AND PERFORMANCE OF PUBLIC COUNCILS IN KAZAKHSTAN

Gulnur Makulbayeva, Associate Professor at Academy of Public Administration

This study applies the Putnam's social capital thesis to an examination of the impact of social capital (social trust, formal networks and norms) on public councils' performance in Kazakhstan. As public councils aim to express citizens' opinions on socially significant problems, this inquiry measures their performance by examining their impact on social issues in various policy domains.

Dina Sharipova, Associate Professor at Graduate School of Public Policy

Our study suggests that social capital is an important factor that influences the performance of public councils. Drawing on data collected from four regions of Kazakhstan, we found that social trust and cooperation norms have a positive impact on public councils' effectiveness, while formal networking has no influence. Councils with strong internal networks and trust among members tend to perform better in terms of policy impact and citizen engagement.

While public councils were created to increase transparency, their performance has been mixed. There are several challenges in Kazakhstan, such as limited authority of the councils, government reluctance to fully engage with civil society, and a lack of resources. These issues weaken the potential for councils to leverage social capital effectively. In addition, the broader political and institutional environment in Kazakhstan affects the councils' ability to generate and utilize social capital. A lack of transparency and high centralization of power in the government are key barriers to the success of public councils. The limited significance of formal networking in the local context is explained by the state-led nature of civil society.

The authors conclude that while social capital is an essential factor in the performance of public councils in Kazakhstan, the institutional environment must also be reformed to enable these councils to reach their full potential. The success of public councils depends on both the strength of internal networks and their ability to build external connections with key stakeholders. However, without greater political will and structural changes, the councils may continue to face limitations in their effectiveness. Additionally, training and capacity-building programs for council members could improve their performance.

This article contributes to the literature on social capital and government performance in authoritarian states. To read the full article proceed with the following link.

NURCE.KZ

40TH EGOS COLLOQUIUM 2024: CROSSROADS FOR ORGANIZATIONS: TIME, SPACE AND PEOPLE

Nurlykhan Aljanova, in collaboration with Sneh Shakti, Anjan Ghosh, and Bakyt Bokebayev, presented the paper on emerging business dynamics and organizational decolonization at the 40th EGOS Colloquium 2024. The event, themed «Crossroads for Organizations: Time, Space, and People,» was hosted by the University of Milan-Bicocca, July 2, 2024 to July 6, 2024.

The work was well received by the audience. The presenters received valuable suggestions from the experts," Nurlykhan shares.

Research Orda Kazakhstan (ROK) is an advanced summer program designed to immerse high-achieving high school students from across Kazakhstan in the world of scientific research. Combining theoretical coursework with hands-on projects in STEM fields, ROK aims to nurture the next generation of scientists and engineers.

NURCE's distinguished researches like Nurlykhan Aljanova, Indira Alibayeva, and Nurlyayim Zhaksybayeva have been mentoring Kazakhstan's promising and aspiring students into the world of innovative and impactful research.

EMPOWERING CONNECTIONS: INNOVATING WOMEN'S ENTREPRENEURSHIP AT TALPYNUP 3.0 EVENT

At Nazarbayev University in Astana, a significant networking event for the «TalpynUp 3.0» mentorship program recently demonstrated the transformative power of new approaches in empowering women entrepreneurs. The event provided attendees with valuable insights and the opportunity to forge impactful business strategies.

The session commenced with a facilitation segment called «Trend Map,» conducted by business coach and facilitator Orynkul Saduakasova.

Here, participants explored cutting-edge trends that are shaping the marketplace, using this knowledge to craft strategies that stand out in today's competitive environment. This engagement not only spurred innovative thinking but also highlighted ways to leverage these trends for substantial business growth.

Gulmira Samuratova, a digital marketer and business trainer, followed with a masterclass on «Communication Strategy in Business: Making Sure the Client Hears You.» She introduced advanced communication techniques that ensure more effective engagement with clients, essential for amplifying the reach and success of their entrepreneurial ventures.

The meeting thrived in an atmosphere of collaboration and support, providing not just new knowledge but also the opportunity to establish valuable business contacts through engaging networking games. These activities were designed to promote deeper connections and collaboration, fostering a network that supports ongoing growth and impact.

ANOTHER NETWORKING SESSION FOR WOMEN ENTREPRENEURS WAS HELD BY TALPYNUP IN ALMATY

The session kicked off with networking games, enhancing open communication among attendees. Highlighted by Yekaterina Tsabinova's «Kinetic Intelligence» training, participants actively learned to refine their nonverbal communication, enhancing their negotiation skills. The most engaged attendee received Igor Ryzov's book on advanced communication techniques.

Aigerim Tarbagatayeva led a «Business Model Canvas» workshop, where she outlined a strategy for analyzing and optimizing business models, focusing on improving competitiveness and sustainability. An exemplary participant was awarded Daniel Kahneman's «Thinking, Fast and Slow.»

The event proved to be a fruitful platform for knowledge exchange, inspiration, and networking, empowering attendees to strengthen their business acumen and connections.

The TalpynUp team thanks the USAID Business Environment and Enterprise Performance Project for supporting the «TalpynUp 3.0» mentorship program and our center, NURCE for its role in organizing this enlightening event.

NEW PUBLICATIONS

We are delighted to announce that a groundbreaking paper titled «What Drives Corporate Entrepreneurship? A Multilevel Meta-Analysis,» co-authored by Professor Shumaila Yousafzai, has been accepted for publication in the Journal of Product Innovation Management, a prestigious 4* journal according to the ABS ranking.

The study, a collaborative effort between Prof. Yousafzai from Nazarbayev University, Saadat Saeed of Durham Uniersity, UK, Mohammad S. Alasadi from Taibah University, Saudi Arabia, and Professor
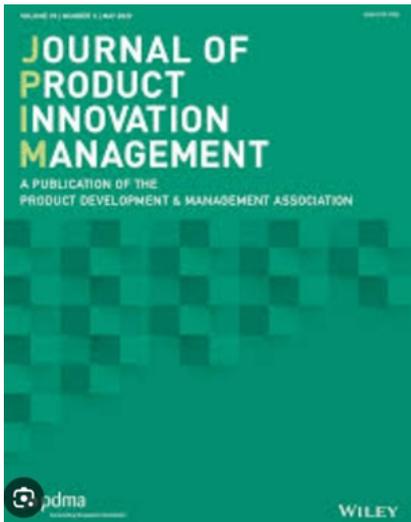
Shaker A. Zahra, from University of Minnesota, delves into the factors that drive corporate entrepreneurship.

This research contributes significantly to our understanding of entrepreneurial behaviors within corporate settings across multiple levels, offering insightful perspectives and valuable implications for practitioners and academics alike.

The acceptance of this paper highlights the global impact and the innovative, research-led approach that NURCE brings to the field of entrepreneurship studies. This publication is a testament to the significant research contributions being made at Nazarbayev University, furthering the discourse in corporate entrepreneurship and setting a benchmark for future studies.

Jessica Neafie, Editor of Serpin and Assistant Professor of Political Science and International Relations, alongside Simon Land and Matthew Courtney, Head of Institutional Research & Analytics at NU, have investigated the effects of "Silk Road" slogans in their article «The Role of Identity and Strategic Narratives on Public Perceptions of China: The Case of the New Silk Road in Kazakhstan.» The paper examines how China's Belt and Road Initiative (BRI) leverages strategic narratives tied to the historical Silk Road to shape public perceptions in Kazakhstan. Based on a survey of 965 Kazakhstani citizens, their study explores how local identity and historical beliefs influence views on China's economic, political, and technological presence in the region. The findings highlight that strategic narratives are most effective when they resonate with local identities and historical connections.

This paper's contribution is significant in understanding the role of identity and historical narratives in shaping public opinion. Focusing on Kazakhstan, a key player in China's BRI, the authors offer empirical insights into how strategic use of the «Silk Road» narrative influences local perceptions of foreign policy and investment. This study is impactful because it provides a deeper understanding of how strategic narratives, like «Silk Road», can influence public perceptions, particularly in regions like Kazakhstan where geopolitical sensitivities are high.

By linking identity and historical context to modern-day foreign policy, the research demonstrates how cultural and historical ties can mitigate or exacerbate public scepticism. The findings are crucial for policymakers, as they offer a blueprint for framing international cooperation in ways that resonate with local populations. Moreover, the study addresses how nations like China can improve their soft power and people-to-people connectivity, making it relevant for shaping future diplomatic and economic strategies in Central Asia and beyond.

RESILIENT AND UNSTOPPABLE: HOW WOMEN ENTREPRENEURS IN KAZAKHSTAN AND BEYOND DEFY BARRIERS, REDEFINE SUCCESS. SHUMAILA YOUSAFZAI'S INTERVIEW WITH ASTANA TIMES

Professor Shumaila Yousafzai, director of NURCE, was featured in an in-depth interview with The Astana Times. As one of Kazakhstan's leading English- language news outlets, The Astana Times is a crucial source of information for international audiences interested in the region's political, economic, and cultural affairs.

In her turn, Professor Yousafzai shared her insights on the challenges and triumphs of women entrepreneurs in Central Asia. Drawing on her extensive research, she discussed the resilience and resourcefulness of women across the region, particularly highlighting their ability to redefine success beyond traditional Western entrepreneurial frameworks.

"*It is in each one of us to be an entrepreneur,*" she stated, challenging the common notion that entrepreneurship requires substantial capital and connections. "Y*ou don't need a lot of money; you don't need a lot of connections or a brilliant business idea. You just start with what you have in hand.*"

She also reflected on the narrow Western concept of success in entrepreneurship, which often revolves around the "hero man" image. "*The idea of success and value that we attach with entrepreneurship – I did not like that idea,*" she noted. Instead, she observed that for many women entrepreneurs, success is measured not just by financial gain but by the value they create for their families and communities. «*We have to reevaluate the concept of value and success. For them, value is giving to their community, and to the other people around them... They are real hero entrepreneurs.*»

The interview also highlighted the essential role of male allies in supporting women's journeys in entrepreneurship. Professor Yousafzai emphasized, "*Men are not always creating barriers. They are helping women. It could be a father, it could be an uncle, it could be a neighbor, it could be a politician in your neighborhood... We need more of them to come and to be cheerleaders.*"

Her insights into the empowerment of women in Kazakhstan, influenced by the country's nomadic heritage, offer a powerful perspective on how cultural contexts can shape gender roles and opportunities. Through her work and advocacy, Professor Yousafzai continues to inspire and empower women across Central Asia.

SDSN KAZAKHSTAN WILL BE PART OF A SNAPP-FUNDED RESILIENT RANGELANDS PROJECT

The SDSN Kazakhstan became a member of inter-disciplinary working group to implement the "**Resilient Rangelands: Balancing rural economies and ecosystem integrity**" project, funded by Science for Nature and People Partnership (SNAPP). SNAPP is an initiative that aims to develop models that will underpin the next phase of nature conservation and sustainable development and it is founded as a partnership between The Nature Conservancy (TNC), the Wildlife Conservation Society (WCS) and the National Center for Ecological Analysis and Synthesis (NCEAS) at the University of California.

This Resilient Rangelands will be led by a consortium of partners including the Royal Society for the Protection of Birds (RSPB) in the UK, the Association for the Conservation of Biodiversity (ACBC) in Kazakhstan, and the World Conservation Society in Mongolia. Rangelands cover more of the Earth's land surface than any other land type and include some of its last great wild spaces. The Eurasian Steppe, including Kazakh and Mongolian rangelands, harbours unique species and has a rich pastoralist history embedded in the proud cultures of both nations. As both countries transition into market economies after communist pasts, finding a balance between wildlife conservation (with concomitant ecosystem and societal benefits) and increasing pressures to intensify use of rangeland systems for rural and national economic development is an urgent question facing custodians of these rangelands.

Together with other 16 institutions comprising conservation NGOs, herder associations, university researchers, and the UN FAO, the SDSN Kazakhstan will help explore the ways to optimize management of Kazakh and Mongolian rangeland ecosystems to harmonise objectives of nature conservation and agricultural development. The project will use participatory approaches to develop scenarios for the western Kazakhstan and eastern Mongolia regions under different developmental pathways. The project outputs will result in spatial plans and management options to guide project delivery and provide evidence to develop supportive policy frameworks at national levels. In addition, project timing allows for the research findings to feed into the global platform on rangelands discourse provided by the FAO-led UN International Year of Rangelands and Pastoralists (2026), offering valuable insights to the global rangelands debate.

SDSN'S SDG BAROMETER PROJECT RECOGNIZED FOR OUTSTANDING RESEARCH EXCELLENCE AT THE NU ANNUAL RESEARCH CONFERENCE

The SDSN's SDG Barometer Project received a certificate of recognition for outstanding excellence in presenting the Best Poster in the research priority of "*Socio-Economic Transformation*". The conference judges evaluated the posters along several criteria, including the importance of research, priority, research methods, and impact. Based on judges' voting, the research team of S. Orazgaliyev, S.Xenarios, A.Shaikenova and N. Kapasheva won the competition for the SDG Barometer research project.

The SDG Barometer Kazakhstan 2024 survey is an initiative of the Sustainable Development Solutions Network Kazakhstan. The survey targeted more than 3000 respondents across Kazakhstan's 17 regions and 3 major cities, attempting to gather comprehensive, inclusive, and consultative data to ask for public opinion, expectations and prioritization of the most pressing problems towards the UN Sustainable Development Goals in Kazakhstan at national, subnational, and individual levels. The methodology adhered to the «leaving no one behind» principle, emphasizing the collection of granular data to reflect diverse population segments.

On September 19-21, 2024, Nazarbayev University hosted the first NU Annual Research Conference, a pivotal event that unites leading researchers, scholars, and students from across Kazakhstan. The conference theme was "Shaping the Future of Research in Kazakhstan: Working Together for Success", which underscores the collaborative spirit that drives innovation. By intersecting experts and researchers in diverse fields, the conference created an intellectually stimulating space designed to foster collaborative solutions to both current and future challenges facing Kazakhstan.

The conference in general and the poster session was a unique platform to highlight SDSN research. The event facilitated interactions with researchers from other schools, faculty members, offering valuable feedback. Presenting their research in this format allowed the faculty to visually communicate complex concepts in a more accessible way, fostering engaging discussions with attendees.

NUARC

SDG Barometer survey findings: climate change perceptions, SDG awareness and other findings

Serik Orazgaliyev, Stefanos Xenarios, Anar Shaikenova, Nargiz Kapasheva

Graduate School of Public Policy, Sustainable Development Solutions Network (SDSN) Kazakhstan

SDG BAROMETER

INTRODUCTION

The SDG Barometer: Kazakhstan 2024 survey attempted to gather comprehensive, inclusive, and consultative data across 17 regions of Kazakhstan to ask for public opinion and expectations regarding the United Nations' Sustainable Development Goals in Kazakhstan.

The SDG Barometer: Kazakhstan 2024 survey is an initiative of the Sustainable Development Solutions Network (SDSN) - a research center based at Nazarbayev University Graduate School of Public Policy Nazarbayev (Astana, Kazakhstan). The survey aimed to investigate the prioritization of the most important problems at national, subnational, and individual levels using the SDG framework as one of the most comprehensive development frameworks. Furthermore, the survey evaluated public awareness of Sustainable Development Goals (SDGs) across Kazakhstan as well as public perceptions towards climate change risks.

METHODS

- The survey was conducted online from April 1 to May 30, 2024, targeting a diverse audience across Kazakhstan's 17 regions and three major cities.
- Data was collected through a 34-question questionnaire, primarily online, with 3,295 respondents providing insights on various topics, including national and regional SDG priorities, well-being, and civic trust.
- The methodology adhered to the "leaving no one behind" principle, emphasizing the collection of granular data to reflect diverse population segments.

CLIMATE CHANGE

A

OLS Regression Results

	Climate Warnings Seriousness
Rural area	-0.3567** (0.0597)
Flooded regions	0.1156* (0.0526)
Income	0.0684*** (0.0159)
Age 31-40	0.2558** (0.0840)
3-4 Children	-0.2667** (0.0925)
Constant	3.2791*** (0.1062)
Additional controls	Yes
Regional dummies	Yes
N	1686

Living in a rural area is linked to less serious attitude about climate warnings, while experiencing flooding, higher income, older age, and having fewer children are associated with taking them more seriously.

NATIONAL LEVEL

Overall public awareness of SDGs is rather low.

- Only 20% of survey respondents claimed a good understanding
- 24% possessed a general understanding
- 19% had heard the term without understanding its meaning
- 37% had never heard about SDGs

C

SDG Awareness

20.33%
37.01%
23.90%
18.77%

🟥 Yes, I am very familiar with the SDGs   🟪 Yes, I know what the SDGs are, but I don't know the details
🟦 I've heard the term but don't know what it means   🟩 No, I have never heard of the SDGs
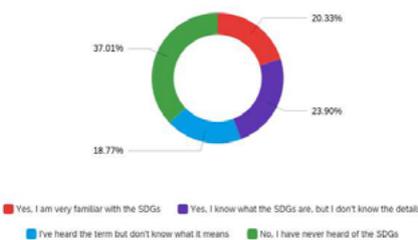
In terms of SDG prioritization, the top five SDG priorities at the country level included:
1. Quality Education (SDG 4) (71%),
2. Good Health and Well-Being (SDG 3) (65%),
3. Decent Work and Economic Growth (SDG 8) (48%),
4. No Poverty (SDG 1) (40%), and
5. Peace, Justice and Strong Institutions (SDG 16) (39%).

B

SDG Priorities

Quality education (SDG 4)	71%
Good health and well-being (SDG 3)	65%
Decent work and economic growth (SDG 8)	48%
No poverty (SDG 1)	40%
Peace, justice, and strong institutions (SDG 16)	39%
Clean water and sanitation (SDG 6)	35%
Industry, innovation and infrastructure (SDG 9)	28%
Partnerships for the goals (SDG 17)	22%
Climate action (SDG 13)	20%
Affordable and clean energy (SDG 7)	19%
Sustainable cities and communities (SDG 11)	18%
Responsible consumption and production (SDG 12)	17%
Zero hunger (SDG 2)	17%
Gender equality (SDG 5)	17%
Life on land (SDG 15)	16%
Reduced inequalities (SDG 10)	14%
Life below water (SDG 14)	13%

Scan the QR Code!

INDIVIDUAL LEVEL

While the respondents are relatively satisfied with education access and interpersonal relationships, they feel less safe and struggle with maintaining a work-life balance.

The nine categories of well-being were aggregated to compose an Individual Well-Being Index (IWI) and to observe regional differences. The Karaganda region leads in individual well-being (4.15), while the Almaty region lags (3.11).

D

Life Aspects Rating:
1 is very bad and 5 is very good

Feeling safe	Work-life balance	Feeling appreciated
3.39	3.49	3.72
Freedom to choose how to live	Mental and emotional well-being	Health
3.73	3.74	3.79
Quality of interpersonal relationships	Life satisfaction	Access to education
3.8	3.87	3.96

Preliminary results

- Respondents prioritize people-centered SDGs (education, health, work, poverty) over environmental ones.
- Regression results show that living in a rural area is associated with taking climate warnings less seriously, while experiencing flooding increases the seriousness. 50-70% of respondent express concerns about climate-related issues like flooding, fires, and air quality, particularly in Almaty, Kyzylorda, and Mangystau.
- According to the responses in governance section of the survey, corruption is perceived as the top national problem (50%), the primary issue with government institutions (65%), and the main concern at the local level (53%).

Sustainable Development Goals

Reference to Funder:

NAZARBAYEV
UNIVERSITY

CENTRAL ASIAN RESEARCH CENTRE
FOR EDUCATIONAL INNOVATION
AND TRANSFORMATION (CARCEIT)

CARCEIT news

The **Central Asian Research Centre for Educational Innovation and Transformation (CARCEIT)** continues its ambitious mission to become the leading hub for education research in Central Asia. Operating under the Graduate School of Education at Nazarbayev University, CARCEIT strives to advance global knowledge, shape education policy and leadership, and foster a strong regional research community. Through its various projects, CARCEIT is dedicated to driving innovation and transformation of educational practices across the region.

Dear Readers,

I am delighted to extend a warm welcome to the new academic year and this latest edition of the CARCEIT Research News, your gateway to educational innovation at the Central Asian Research Centre for Educational Innovation and Transformation (CARCEIT). Since our launch on November 15, 2022, CARCEIT has become a thriving centre of excellence and innovation in Central Asia, thanks to the generous support from the Nazarbayev Fund and the dedicated leadership of Dr. Aida Sagintayeva, Dean of the Graduate School of Education (GSE). Situated within the GSE and guided by its Steering Committee chaired by Professor Chester Jablonski, NU Vice Provost for Research, we are focused on making a meaningful impact on educational research, policy development, and the application of research in practice.

Even though the new term has just started, we've already made significant strides in our initiatives. In this edition, we're thrilled to highlight a variety of research events, stakeholder engagements, capacity-building initiatives, publications, research partnerships, and staffing updates that reflect our progress since August. I invite you to be part of this exciting journey of educational transformation. Get involved as an active participant, stay connected through our social media channels, and help shape the future of education in Central Asia and beyond.

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New publications

Is the higher education system in Kazakhstan oriented towards sustainable development? An analysis of national and institutional policies

Dr. Gulzhanat Gafu and her colleagues have published a paper that explores the concept of education for sustainable development (ESD) in educational policy in Kazakhstan by employing a qualitative content analysis of the national and institutional level policy documents. The review of national and institutional policies reveals a fragmented integration of ESD principles, with only partial inclusion of elements such as active citizenship, lifelong learning, healthy lifestyles, and student government.

This finding resonates with international discourse highlighting that sustainability and ESD concepts are still evolving. Kazakhstan's case reflects the need for a more comprehensive and systematic approach to ESD implementation.

Gafu G., Terlikbayeva H., & Zhanseitova, A. (2024). Is the higher education system in Kazakhstan oriented towards sustainable development? An analysis of national and institutional policies. Bulletin of L.N. Gumilyov Eurasian National University. *Pedagogy. Psychology. Sociology Series.*, 147(2), 259–281.

Perspectives of healthcare practitioners on environmental sustainability in healthcare: A qualitative study

Dr. Jonas Cruz and his research team published the findings of their qualitative study aiming to explore the perspectives of Kazakhstani healthcare professionals on environmental sustainability in healthcare.

The findings highlighted the perceptions and practices of healthcare professionals on environmental sustainability's purposes in healthcare, its impacts on patients and its implementation challenges. The study also underscored the critical role of strong and active leadership in ensuring a sustainable implementation of green policies in healthcare facilities and achieving successful results of environmentally conscious healthcare practices.

Cruz, J. P., Balay-Odao, E. M., Almazan, J. U., Manabat, A., Smagulova, M., Kavashev, Z., Gusmanov, A., Syzdykova, A., Dauletkaliyeva, Z., Seidakhmetova, A., & Colet, P. C. (2024). Perspectives of healthcare practitioners on environmental sustainability in healthcare: A qualitative study. *Journal of Advanced Nursing*, 10.1111/jan.16327. Advance online publication. https://doi.org/10.1111/jan.16327
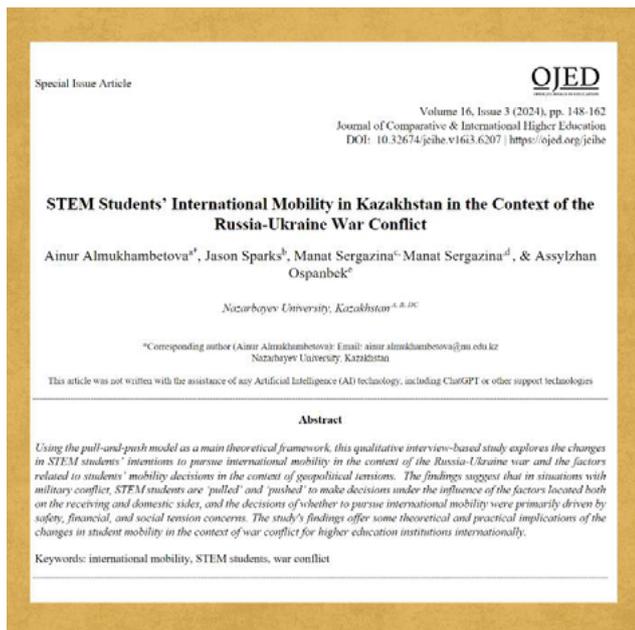
STEM Students' International Mobility in Kazakhstan in the Context of the Russia-Ukraine War Conflict

CARCEIT is happy to announce a publication by Dr. Ainur Almukhambetova and her colleagues. This qualitative interview-based study explores the changes in STEM students' intentions to pursue international mobility in the context of the Russia-Ukraine war and the factors related to their mobility decisions.

The findings suggest that in situations with military conflict, STEM students are 'pulled' and 'pushed' to make decisions under the influence of the factors located both on the receiving and domestic sides, and the decisions of whether to pursue international mobility were primarily driven by safety, financial, and social tension concerns.

Almukhambetova, A., Sparks, J., Sergazina, M., & Ospanbek, A. (2024). Exploring STEM students' international mobility in Kazakhstan in the Context of the Russia-Ukraine War Conflict. *Journal of Comparative & International Higher Education*, 16(3), 148–162. https://doi.org/10.32674/jcihe.v16i3.6207

School Leaders' Well-Being during Times of Crisis: Insights from a Quantitative Study in Kazakhstan

CARCEIT director Professor Naureen Durani and Zhadyra Makhmetova have published the findings of their study on Kazakhstan's school leaders' well-being during times of crisis. The study revealed significant challenges they face, including gender biases and limited resources. Analyzing responses from 1,299 school leaders, the research identifies key factors affecting their well-being, particularly for female leaders.

Findings underscore the importance of integrating crisis management courses in professional development, implementing policy initiatives to handle contextual factors like equitable resource distribution and increased school autonomy, promoting self-care practices, and advocating for gender perspectives in institutional policies to bolster support for women school leaders.

Many thanks to PEER Network for funding the APC.

Durrani N, Makhmetova Z. School Leaders' Well-Being during Times of Crisis: Insights from a Quantitative Study in Kazakhstan. *Education Sciences*. 2024; 14(9):942. https://doi.org/10.3390/educsci14090942

The Evolution of English Medium Instruction Research in Higher Education: A Bibliometric Study

Akmaral Karabay and CARCEIT director Professor Naureen Durrani have published a bibliometric study on the evolution of English Medium Instruction (EMI) in higher education. The study examines 1522 publications in the Scopus database to explore the intellectual, conceptual, and social structure of the EMI literature in higher education.

Nazarbayev University ranks as the second most productive institution in EMI research, boasting 36 publications. Notably, it stands as the only representative from the post-Soviet region among the top universities making significant contributions in this field.

Karabay A, Durrani N. The Evolution of English Medium Instruction Research in Higher Education: A Bibliometric Study. *Education Sciences*. 2024; 14(9):982. https://doi.org/10.3390/educsci14090982

Conference appearances

BAICE 2024

CARCEIT Director, Professor Naureen Durrani, presented a paper at the British Association for International & Comparative Education (BAICE) conference on September 5, 2024. The study, titled "The Role of Gender-Focused Courses in Higher Education in Fostering Student Agency for Gender Equality in Kazakhstan," was co-authored by Dr. Zumrad Kataeva, Prof. Naureen Durrani, Ms. Aliya Olzhayeva, and Dr. Aray Rakhimzhanova. This research explores the impact of gender-focused courses on promoting student agency and advancing gender equality in Kazakhstan's higher education system.

At the same BAICE 2024 conference, on September 4, Professor Naureen Durrani also chaired a session titled "Decolonial Challenges to Dominant Frames: Reworking Education in (Neo)Liberal Times." The session brought together critical discussions on the intersections of decoloniality and neoliberalism in education. Presenters explored how colonial legacies and neoliberal frameworks shape education systems globally, while offering decolonial perspectives to challenge and reframe educational practices toward justice and equity. The session fostered meaningful dialogue on the future of education in a postcolonial world.

European Conference on Educational Research (ECER 2024)

At the ECER 2024 conference (August 27-30), Aida Nuranova and Inara Akhmetova presented a poster titled "Changing Academic Profession in Kazakhstan: Examining Faculty's Research Performativity and Accountability in the Post-Socialist Context of Higher Education." The presentation outlined the research problem, questions, methodology, and preliminary findings, with a focus on performativity and accountability in regional universities. It concluded with suggestions for enhancing research sustainability through PDP program opportunities.

At the same ECER 2024 conference, Alexandra Nam presented a paper titled "Visualizing Success Using AI-generated Images: Unveiling Challenges and Success Strategies of Undergraduate Women in IT Degrees". Preliminary findings from the project exploring experiences and perspectives of undergraduate women majoring in IT were presented as part of the session devoted to "Addressing and Identifying Gender Inequalities in STEM". The paper contributed to the discussion of gender inequalities in STEM education, and highlighted intrinsic motivation, early childhood and school experiences, and support from family and peers as positive experiences contributing to persistence of women in IT.

DKU International Conference "Central Asia's Transformations: Politics, Economics and Society"

Assel Sadykova delivered a presentation on "Students' Transition and Navigation of Language, Identity, and

Culture in Academic Texts" at the conference held at Kazakh-Germany University in Almaty, Kazakhstan on September 6-8. The conference brought together researchers from Central Asia and beyond to discuss changes occurring in a wide range of fields, including education, society, ecology, and geopolitics. The presentation was well-received, sparking several questions from the audience, particularly regarding the methodology and theoretical framework. The panel also included discussions on digital shifts in education, featuring researchers from Nazarbayev University and Astana IT University.

Shaping the Future of Research in Kazakhstan: Working Together for Success

At Nazarbayev University's annual research conference held on September 19-21, CARCEIT showcased four posters from its various projects, highlighting its ongoing research.

Knowledge exchange

Student Peace Ambassadors
- collaborative workshop for students and their teachers

The research team of "Positive Peace Education in Kazakhstan" ICEP project has launched a "Student Peace Ambassadors" workshop, in July 2024. With the purpose of disseminating the impact of the project, the research team organised and ran an intensive 3-days workshop for 10 high school students and their 10

teachers, representing different schools from different regions of Kazakhstan (funded through a grant from the Social Development Fund).

The workshop provided a comprehensive introduction to the concept of peace, emphasising its importance both on a personal level and within broader social contexts. Participants explored key concepts, including the distinction between positive peace (characterised by justice and equality) and negative peace (defined by the absence of conflict) and types of violence.

The session introduced the peace matrix, a practical tool designed to analyse and promote peace initiatives. Participants were encouraged to apply this tool to real-world scenarios, aiding their understanding of peace efforts.

The workshop also placed a strong emphasis on empathy development, helping participants build their ability to understand and connect with the emotions of others. Active listening skills were another focus, aimed at enhancing respectful and effective communication.

Finally, the workshop provided training in facilitation, empowering participants to take on roles as facilitators of peer leadership and support within their schools. They were encouraged to advocate for and lead peace initiatives in their educational settings, fostering a culture of peace and understanding.

Following the workshop, from September to December 2024, participants will embark on a journey of creating tangible change within their schools. They will design and implement thoughtful strategies and meaningful projects aimed at resolving conflicts, preventing bullying, and fostering a harmonious school environment.

With the tools and skills acquired, these young leaders will work to transform their school communities into safe spaces where peace, empathy, and mutual respect thrive. Their efforts will contribute to the cultivation of a more compassionate and inclusive environment, paving the way for lasting positive change.

Take a look at the media coverage of this event

A Seminar on Preventing Bullying Among Schoolchildren

https://nu.edu.kz/news/v-astane-sostoyalsya-seminar-po-predotvrashcheniyu-bullin-ga-v-shkolakh

https://el.kz/astanada-oqushylar-arasyndagy-bullingtin-aldyn-alu-zhoninde-seminar-otti_125979/

Астанада оқушылар арасындағы буллингтің алдын алу жөнінде семинар өтті

Capacity building events

Exploring Body Mapping as a Research Method
Workshop by Dr. Janet Helmer

CARCEIT is excited to share the success of the workshop on art-based research methods, held on 9th of September, led by Associate Professor Janet Helmer from Nazarbayev University's Graduate School of Education. The workshop introduced CARCEIT researchers and Year 1 PhD students to body mapping — an innovative research method particularly useful for working with children, adolescents, and other vulnerable groups.

Body mapping is a visual, arts-based research tool that encourages participants to express their experiences, emotions, and identities through drawings on life-sized human body outlines. Scenarios are used within the body mapping method to help participants articulate their thoughts. By focusing on these scenarios rather than on individuals themselves, body mapping creates a sense of distance that can make it easier for participants to open up. While qualitative researchers typically rely on interviews, there are times when direct answers are difficult to obtain, and body mapping provides a valuable alternative for uncovering deeper insights.

Workshop participants learned the basics of body mapping, worked collaboratively in groups to write scenarios, created body maps based on these scenarios, and presented their work. The session concluded with a lively Q&A session where they exchanged ideas and reflections. It was a rewarding and engaging experience for everyone involved.

Introduction to Qualitative Research Methods
- professional development course

CARCEIT is pleased to announce the successful delivery of the professional development course "Introduction to Qualitative Research Methods" for professors at the Kazakh National Women's Teacher Training University in Almaty from August 19 to September 13, 2024. The course was initiated by the Dean of the Graduate School of Education at Nazarbayev University, Dr. Aida Sagintayeva and developed with the guidance of CARCEIT director, NU GSE Professor Naureen Durrani. It was facilitated by post-doctoral fellows Laura Ibrayeva, Assel Sharimova, and Assistant Professor Gulzhanat Gafu through a combination of in-person and online sessions, totaling 72 hours.

The course covered key areas, including an overview of qualitative research, literature review, human research ethics, data collection and analysis, as well as interpretation and reporting. The course participants highly praised the program for its quality and clarity. "Despite the complexity of the material, the course was delivered in an exceptionally accessible and engaging manner," noted Aigul Yessengalieva, Professor at the National Women's Teacher Training University in Almaty.

This initiative marks a significant step toward enhancing the research proficiency of educators in Kazakhstan, fostering academic collaboration, and supporting the development of educational research in the country.

Workshop on Systematic Literature Reviews
by Dr. Alper Çalıkoğlu

CARCEIT workshop on Systematic Literature Reviews
by **Dr. Alper Çalıkoğlu**

16.9.2024

As part of CARCEIT's ongoing capacity-building efforts, a workshop on conducting systematic literature reviews (SLR) was held by Assistant Professor Alper Çalıkoğlu on September 16, 2024. The session aimed to enhance the research skills of CARCEIT researchers and PhD students by providing a solid understanding of SLRs, covering their definition, relevance, and key features, along with the main types used in academic research.

The workshop delved into the stages of conducting an SLR, from planning and formulating research questions to defining inclusion-exclusion criteria and conducting literature searches. Participants were guided through the processes of screening and evaluating studies, extracting relevant data, and synthesizing results, ensuring a thorough and systematic approach to their reviews.

The session concluded with hands-on practice, allowing attendees to apply the methods discussed. This practical component strengthened participants' ability to conduct their own SLRs, contributing to their overall research capacity.

This workshop is aligned with CARCEIT's mission to advance research capacity and foster innovative transformations in education across Central Asia.

CARCEIT seminars

CARCEIT continues to hold regular seminars featuring professors, researchers and PhD students from the Graduate School of Education. Below is a brief overview of the seminars held between July and September.

The intersection of gender and national identity in history textbooks in Kazakhstan

Dr. Bekzhanova and Prof. Durrani delivered an insightful seminar on August 22. They revealed their groundbreaking research on gender and national identity in Kazakhstan's history textbooks. The findings highlight how educational materials influence students' perceptions of gender roles and shape future perspectives.

The discussion revealed how masculinity takes center stage in history textbooks, often reinforcing traditional stereotypes. Men—scientists, artists, politicians—dominate the narrative, especially in the context of politics.

Women, in contrast, are depicted in more passive, domestic roles—caring for children or as victims of male violence. This portrayal strengthens the narrative of female submission and marginalises women's broader contributions.

One key discussion point from the audience was the consistent depiction of men as heroes, even in violent roles, while female historical figures like Queen Tomyris of the Massagetae are given masculine attributes, overshadowing their leadership as women.

The seminar raised important questions about how these representations impact students' understanding of gender and society. It emphasized the urgent need to rethink educational content to promote more balanced and inclusive depictions of gender in Kazakhstan's history.

The enactment of English Medium Instruction (EMI) policy in state and national universities in Kazakhstan: A multi-level, multi-actor perspective

On August 29, Akmaral Karabay, already a PhD Graduate of the NU GSE, held a seminar weeks before her thesis defence. Akmaray specializes in Higher Education, Policy Enactment, and Language Policy. She is also a Research Assistant for a collaborative research project exploring education in times of disruption. In her own research, Akmaral integrates theories of policy enactment and language-in-education planning to explore how these policies are enacted at various institutional levels, aiming to bridge the gap between policy and practice for more effective educational reforms.

As universities worldwide embrace internationalization, the adoption of English-medium instruction (EMI) has surged in non-English speaking countries. In Kazakhstan, the momentum behind EMI in higher education institutions (HEIs) is driven by various governmental initiatives. However, the top-down nature of EMI policy, coupled with its ambiguous articulation at the national level, has led to diverse interpretations and enactment practices across institutions.

While this study investigates both the interpretation and enactment of EMI policy within two distinct Kazakhstani HEIs—a state and a national university—across different levels of governance and practice, this presentation will focus exclusively on the aspect of interpretation. By concentrating on how the policy is interpreted by various stakeholders, the presentation aims to facilitate a thorough and deep discussion of these findings within the broader context of higher education policy.

Leadership Identity Construction: An embedded multiple case study of middle leaders developing their identity in centralized, hierarchical educational and societal contexts

Dr. Aisulu Badanova, a recent PhD graduate of the NU GSE delivered a seminar titled: "Leadership Identity Construction: An embedded multiple case study of middle leaders developing their identity in centralized, hierarchical educational and societal contexts" on September 19.

Her research focuses on the development of leadership identity among heads of departments (HoDs) in Kazakhstan's centralized education system. Kazakhstan, striving to rank among the 30 most developed economies by 2050, has initiated reforms to improve the quality of teaching and learning. Despite these efforts, the education system remains influenced by Soviet-era centralization, which continues to shape leadership structures and practices in schools.

Through a qualitative multiple case study of six HoDs in two state schools, Dr. Badanova's research explored how middle leaders construct their leadership identity and the challenges they face. The findings revealed that while HoDs are increasingly recognized by school leaders and local authorities, they are still primarily seen as teachers, not leaders. This study offers important insights for policymakers and educational leaders on the development of middle leadership in hierarchical, centralized educational contexts.

Other news

Future Planning: Professor Naureen Durrani recently participated in a two-day planning and brainstorming meeting in Brighton (September 6-7, 2024) with her international partners: Professor Mario Novelli and Dr. Birgul Kutan from the University of Sussex, Professor Kelsey Shanks from Ulster University, and Professor Azeem Badroodien from the University of Cape Town. They gathered to discuss their new proposal, "Exploring the Geopolitics of Education in a Multipolar World," which will be further developed during a writing retreat in Istanbul at the end of September.

The research team of the EIP Project **"Students' Transition and Navigation of Language, Identity and Culture in Academic Texts: Exploring Systemic Functional Linguistics and Bourdieu"** is happy to share the news that their chapter proposal "The Obvious but the Overlooked: Western Culture in English Academic Texts" for the upcoming book titled "Supporting Cultural and Linguistic Differences Through Literacy Education" has been approved, and they are now in the process of preparing the chapter.

In addition, their poster has also been accepted to the NU Annual Research Conference (NU ARC) 2024.

Researcher development: One of the key goals in setting up CARCEIT was to provide opportunities and experience for the next generation of education researchers in Kazakhstan and Central Asia. One of our founding RAs, Assylzhan Ospanbek, will be leaving her RA position in the "Positive Peace Education in Kazakhstan" project at the end of September to begin a PhD in peace education at Cambridge University. Assylzhan has already contributed hugely to this CARCEIT project, and she very much deserves this PhD place and the full scholarship from Cambridge University based on her own achievements and potential and the work she has done in this project. We will miss her daily presence, hard work, motivation and humour, but we are proud that she will continue this peace education work into the future for teachers and students in Kazakhstan, and she will still be part of our circle of research, even if she will no longer be doing 40 hours of work a week on the project. Thank you Assylzhan, for everything you have done and for being the person you are!

CARCEIT is delighted to welcome Tatia Johnson as its Research Communicator. With extensive experience in academic communication and a passion for translating research findings into accessible formats, Tatia will play a vital role in enhancing our dissemination efforts. We look forward to her contributions in promoting our research initiatives and engaging with our research community and partners. Welcome aboard, Tatia!

RESEARCH PERFORMANCE OVERVIEW
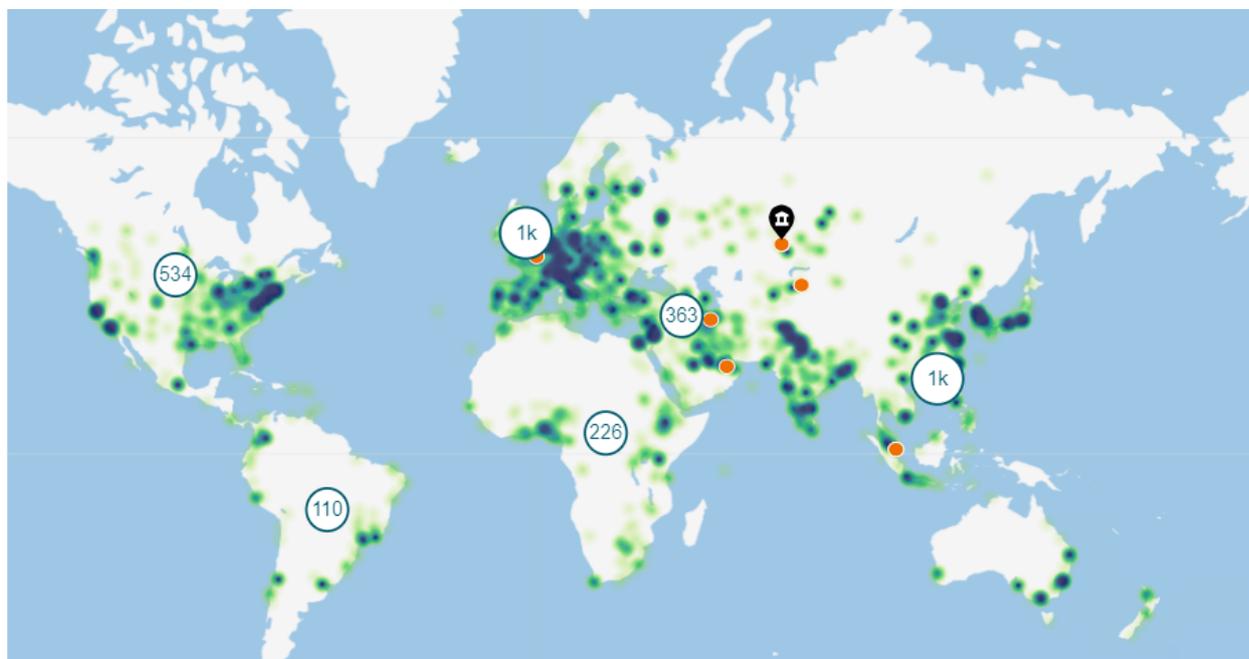
In this issue, we are delighted to present you an overview of research activities conducted under the auspices of Nazarbayev University.

Since its inception in 2011, Nazarbayev University faculty members and researchers have released 9,104 peer-reviewed publications indexed by Scopus, and have been cited 129,299 times for 2011-2024 period (Source: SciVal, September 2024). The approximate number of citations per peer-reviewed publication is 14.2. The overall H-index of NU is 107, whereas H5-index is 77 (Scopus: September 2024).

The Field-Weighted Citation Impact of NU over 2019-2024 years is 1.8, meaning that our publications have been cited 80% more than would be expected based on the world average for similar publications.

International collaboration is widely recognized as a key factor that positively influences citation metrics. By expanding professional networks and fostering global partnerships, collaboration often leads to the production of highly cited publications.

During the period from 2019 to 2024, NU exhibited a significant commitment to international collaboration, as evidenced by the production of 4,244 research papers in partnership with 3,486 organizations from 131 different countries. These collaborative efforts accounted for 64.8% of the total number of publications indexed by Scopus. The map above illustrates how these collaborations are spread throughout the world. The overall Field-Weighted Citation Impact of these co-authored papers is 2.09, meaning that these papers are cited more than twice as much as would be expected based on the world average for similar publications.

For getting more comprehensive information on the research performance at NU, please have a look at the following report generated by SciVal research evaluation platform.

If you have any questions regarding the provided information, please contact Saule Sadykova (ssadykova@nu.edu.kz)

FUNDING OPPORTUNITIES

#	Opportunity	Funder	Deadline	Source link
1	Phased Large Awards for Comparative Effectiveness Research (PLACER)	The Patient-Centered Outcomes Research Institute (PCORI)	1-Oct-24	URL
2	Early and Late Stage Clinical Trials for the Spectrum of Alzheimer's Disease/Alzheimer's Related Dementias and Age-Related Cognitive Decline (R01 Clinical Trial Optional)	NIH	5-Oct-24	URL
3	Lustgarten Foundation-AACR Career Development Award for Pancreatic Cancer Research, in Honor of John Robert Lewis	AACR	10-Oct-24	URL
4	Lustgarten Foundation-AACR Career Development Award for Pancreatic Cancer Research, in honor of Ruth Bader Ginsburg	AACR	10-Oct-24	URL
5	Pilot Studies for the Spectrum of Alzheimer's Disease/Alzheimer's Disease-Related Dementias and Age-Related Cognitive Decline (R61 Clinical Trial Optional)	NIH	18-Oct-24	URL
6	2024 Part the Cloud Translational (PTC) Gene Targeting Challenge	The Alzheimer's Association	24-Oct-24	URL
7	STANDARD AWARD IN NATIONAL GLAUCOMA RESEARCH	Bright Focus Foundation	31-Oct-24	URL
8	Kaleidoscope Pro-Only Grant	Wildlife Acoustics	15-Nov-24	URL
9	The Early Faculty Development research grant	American society for transplantation	1-Dec-24	URL
10	Research Grants: Academic Year 2025-2026	American Parkinson Disease Association	16-Dec-24	URL
11	American Tinnitus Association`s grant program	The American Tinnitus Association	rolling basis	URL
12	ARequest for Proposals (RFP) for preclinical and clinical translational research with the potential for high impact on diagnosis, treatment, or survivorship of colorectal cancer	Colorectal Cancer Alliance	rolling basis	URL
13	ATA Innovative Grants Research Program (Awards for Student and Postdoctoral Investigators, travel grants)	The American Tinnitus Association (ATA)	rolling basis	URL
14	Carl Zeiss Humboldt Research Award	the Humboldt Foundation	rolling basis	URL
15	Clean Energy Accelerator	Amazon	rolling basis	URL
16	DIAGNOSTICS ACCELERATOR: PERIPHERAL BIOMARKERS PROGRAM	The Alzheimer's Drug Discovery Foundation	rolling basis	URL
17	Energy Foundation`s grants	Energy Foundation China	rolling basis	URL
18	Fraunhofer-Bessel Research Award	the Humboldt Foundation	rolling basis	URL
19	Friedrich Wilhelm Bessel Research Award	the Humboldt Foundation	rolling basis	URL

FUNDING OPPORTUNITIES

#	Opportunity	Funder	Deadline	Source link
20	HODGKIN-HUXLEY RESEARCH GRANT	The FamilieSCN2A	rolling basis	URL
21	Impact Collaboration Programme (ICP 2023)	The Geneva Science-Policy Interface	rolling basis	URL
22	Project Grants	The Myrovlytis Trust	rolling basis	URL
23	Research Core Award: Non-rodent Large Animal Model for Inherited Retinal Disease (worldwide)	Foundation Fighting Blindness	rolling basis	URL
24	Research Grants and Support	Nestlé Foundation	rolling basis	URL

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