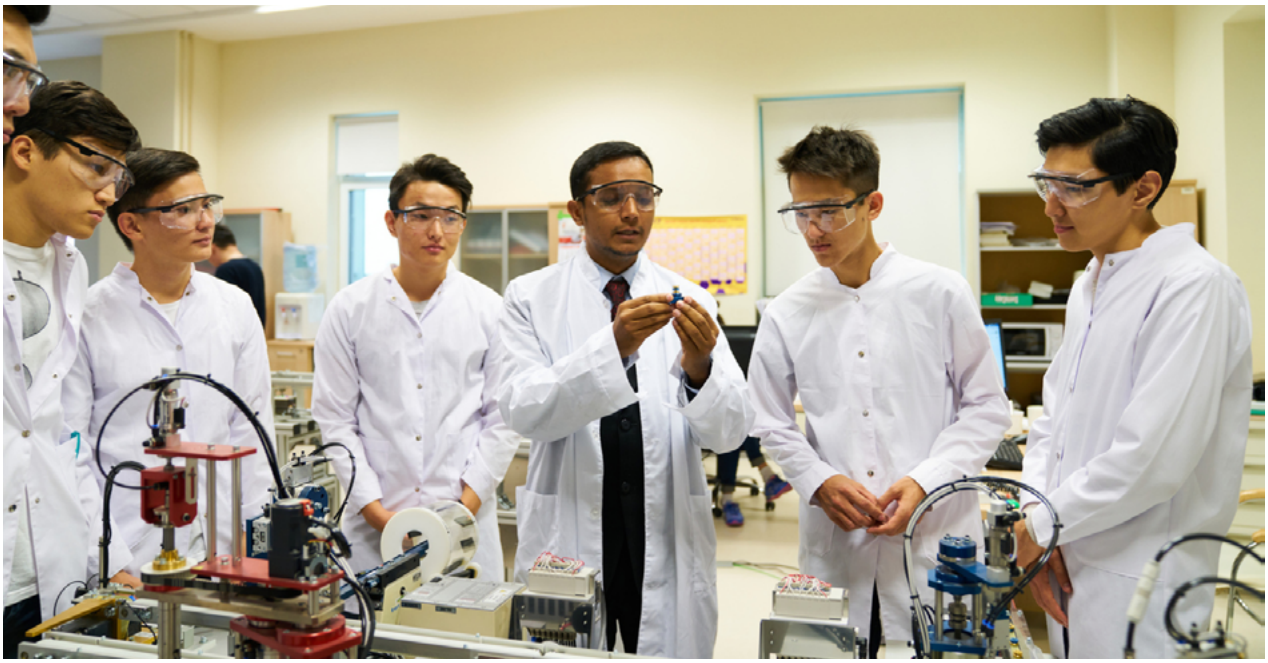
RESEARCH NEWSLETTER

OFFICE OF THE PROVOST - RESEARCH ADMINISTRATION
QUARTERLY EDITION

April - June, 2024 | Issue 43

IN THIS ISSUE

FACULTY DEVELOPMENT COMPETITIVE RESEARCH GRANTS PROGRAM FOR 2025-2027 YEARS



Nazarbayev University is pleased to announce the call for research proposals under the Faculty Development Competitive Research Grants Program (FDCRGP) for the 2025-2027 period.

PROGRAM DETAILS

The FDCRGP was initiated in 2017 and is one of the funding instruments of Nazarbayev University to advance its research excellence. The program supports both basic and applied research and is open to all NU faculty members. It aims to promote professional research development, training, and mentoring of emerging researchers while advancing knowledge across all areas of research.

SUBMISSION PERIOD

- Preliminary Technical Internal Review: Proposals may be submitted from June 3, 2024, to August 5, 2024, at 11:00 AM Astana Time via the Pure system.
- Final Submission Deadline: The final deadline for submission is **August 15, 2024, at 11:00 AM Astana Time**. Please note that proposals received after this deadline will not be considered.

CONTACTS

Feel free to contact our Grant and Review Managers:

- For GSB, GSE, GSPP, SSH, SMG: Kamil Abenov (kamil.abenov@nu.edu.kz)
- For SEDS: Albina Fairuzhanova (albina.fairuzhanova@nu.edu.kz)
- For NUSOM: Sanam Israilova (sanam.israilova@nu.edu.kz)

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

We look forward to receiving your research proposals!

ANNOUNCED RESULTS FOR YOUNG RESEARCHERS GRANT FUNDING FROM THE MINISTRY OF SCIENCE AND HIGHER EDUCATION

Last year, the Ministry of Science and Higher Education of the Republic of Kazakhstan (MSHE RK) announced a competition for Young Researchers under the Grant Funding scheme to support research projects for 2024-2026 years. The grants were offered in the following priority areas of science development:

- Ecology, Environment, and Rational Use of Natural Resources
- Energy, Advanced Materials, and Transportation
- Advanced Manufacturing, Digital, and Space Technologies
- Intellectual Potential of the Country
- Life Science and Health
- Sustainable Development of the Agro-Industrial Complex
- National Security and Defense, Biological Security

In June of this year, the results of the competition were announced, and we are pleased to share that three researchers from Nazarbayev University have been awarded these grants. They will begin their projects this year. Below is the list of awardees:

1. Project: ***Intelligent solutions for self-interference cancellation and signal redefinition in integrated sensing and communications***

PI: Sultangali Arzykulov

Area: Advanced Manufacturing, Digital, and Space Technologies

2. Project: ***Improving the Image Quality of Magnetic Particle Imaging by Optimizing the Scanning Paths***

PI: Ton Duc Do

Area: Advanced Manufacturing, Digital, and Space Technologies

3. Project: ***Enhancement of the Initial Coulombic Efficiency of the Biowaste-derived Hard Carbon as an Anode for Sodium-ion Batteries***

PI: Aishuak Konarov

Area: Ecology, Environment, and Rational Use of Natural Resources

We congratulate all awardees and wish them successful completion of their projects!

School of Medicine News

NU SCHOOL OF MEDICINE OPENS THE «INNOVATIVE TRAINING CENTER»

On May 22, 2024, at 12:00 PM, the NU School of Medicine held a grand opening ceremony for Kazakhstan's first and only training center for laboratory diagnostics. The project is a collaboration with Roche Diagnostics, a global leader in pharmaceuticals and diagnostics, and a key partner in the development of Kazakhstan's pharmaceutical industry and healthcare system, supported by the Ministry of Healthcare of the Republic of Kazakhstan and «SK-Pharmacy» LLP. The primary goal of the training center is to enhance the skills of local specialists. The opening ceremony was attended by the Minister of Healthcare of the Republic of Kazakhstan, Akmaral Alnazarova, Vice President and Dean of the School of Medicine of the Nazarbayev University, Dr.Massimo Pignatelli, Head of Roche Diagnostics for Central Asia and the Caucasus, Hasan Demirci, the Chairman of the Board of the «University Medical Center» Corporate Fund (UMC), Dr. Yuriy Pya, Executive Director and Member of the Executive Board of the UMC, Kanybek Ashirov, Chairman of the of the Board of «SK-Pharmacy» LLP, Yerkhat Iskaliyev, as well as representatives from various departmental structures and medical organizations. "By opening an innovative training center, we are introducing advanced technologies for processing large volumes of laboratory data, allowing us to diagnose diseases even more accurately. Our specialists can now develop and implement advanced diagnostic methodologies aimed at improving the health of our population,» - emphasized Minister Akmaral Alnazarova.

The launch of the training center at NU will boost the development of scientific and medical research in Kazakhstan and positively impact the healthcare system as a whole, as approximately 70% of all clinical decisions are based on laboratory test results. Additionally, the advancement of diagnostic capabilities will strengthen efforts to create domestic medical-pharmaceutical clusters in the country.

COMMUNICATED BY DR. DIETER RIETHMACHER

NU SCHOOL OF MEDICINE HOSTS SEMINARS ON HEALTH TECHNOLOGY ASSESSMENT FOR HEALTHCARE EXPERTS

From April 9 to June 17, 2024, Nazarbayev University School of Medicine conducted a Professional Development Seminar Series Program for experts from the National Research Center for Health Development named after Salidat Kairbekova and the «University Medical Center» Corporate Fund (UMC) within the framework of the Memorandum of Cooperation dated August 22, 2023.

The seminar, led by **Professor Antonio Sarria-Santamera**, Acting Chair of the Department of Biomedical Sciences and Ph.D. Program Director in Global Health, focused on «Health Technology Assessment (HTA) Methodology Based on International Best Practices.» Saida Shakenova, Manager of the Office of Medicine, facilitated the event. Professor Sarria-Santamera introduced HTA methodologies, emphasizing their importance in optimizing healthcare systems and improving patient outcomes. He discussed global best practices and their applicability to Kazakhstan's healthcare challenges. The session aimed to enhance the assessment and implementation of health technologies in Kazakhstan. The attendees, including healthcare professionals from various disciplines, engaged in discussions and practical exercises. These activities highlighted current HTA practices in Kazakhstan and identified opportunities for improvement. The seminar was designed to equip participants with the necessary skills to conduct effective health technology assessments that align with international standards and respond to local needs. Also attendees, working in groups, completed a task aimed at creating and implementing a framework for assessing health technology that uses AI. By defining the criterion for evaluating AI health technologies and giving a description of each evaluation criterion, they created a decent foundation for further use in their work. Upon completing the training, experts received certificates recognizing their successful completion.

This educational event is part of a professional development program organized for the continuing education of National Research Center for Health Development professionals named after Salidat Kairbekova. It underscores NU Medicine's commitment to advancing healthcare innovation and research through international best practices and expert-led training sessions. This program will continue throughout the year with various seminars and workshops.

COMMUNICATED BY SAIDA SHAKENOVA AND DR. ANTONIO SARRIA-SANTAMERA

PALLIATIVE CARE IN KAZAKHSTAN - THE GOOD DEATH INVENTORY

A recent publication in the *International Journal of Nursing Studies Advances* (Q1 journal) entitled «Number of palliative care nurse home visits and duration of palliative care associated with domains of the Good Death Inventory: A national survey of bereaved family caregivers in a middle income country» a team of researchers from the school of Medicine (1st author **Prof. Byron Crape** and corresponding author **Dr. Lyazzat Toleubekova**) collaborating with one faculty from AMU is describing the study conducted nationwide in Kazakhstan with the aim to investigate the determinants of a good death among deceased palliative patients from the perspective of family caregivers. This is the first study to assess opportunities and challenges of a nascent national palliative care system in a low- and middle-income country (LMIC) by evaluating the association of the quality of palliative process and structural determinants with a Good Death outcome, as derived from the Good Death Inventory (GDI). Major important outcomes of this study are:

Corresponding author Dr. Lyazzat Toleubekova

- Increased number of palliative care visits to patient homes by nurses prior to in-patient palliative care services and longer duration of palliative care both provided positive associations for achieving a Good Death.

- Added value of more frequent palliative care home visits by nurses was found to be uniquely associated with assisting patients to choose favorite place to die, improving patients' relationships with family members, and promoting patients' feeling that their lives were worth living to the time of their death, whereas duration of care was not associated with any of these domains.

- Both more frequent palliative home visits by nurses and longer duration of care were independently associated with enhanced environmental comfort, improved relationships with medical staff, elevated patients' feelings of not being a burden to others and more control over patient's future.

These findings provide us with a roadmap for setting palliative care budgetary policy priorities in resource-limited settings to assure a Good Death for the most people possible at end-of-life.

COMMUNICATED BY DR. DIETER RIETHMACHER

KIHE - 30TH KAZAKHSTAN INTERNATIONAL HEALTHCARE EXHIBITION

Prof. Abduzhappar Gaipov at the KIHE meeting in Almaty

Nazarbayev University had held a great session of «INNOVATION in NU MEDICINE» during the #KIHE 29th Kazakhstan International Healthcare Exhibition MEDInnovations Forum 2024 in Almaty, Atakent, moderated by Abduzhappar Gaipov and Mohamad Aljofan on May 15-17 2024. Several Faculty and researchers from the NU have participated with their presentations.

KIHE is the largest exhibition platform in Central Asia for demonstration of achievements in the field of scientific and practical medicine and pharmaceuticals industry. Every year the event brings together doctors of various specialties, pharmacists, lab assistants, researchers, representatives of government and business from different countries. This year KIHE allocated a full 4 hours session for the NU to demonstrate our valuable achievements in the field of AI and healthcare. Nine faculty from SOM, SEDS, NLA and ISSAI presented the following lectures: «*Nazarbayev University Medicine: from scientific discoveries to innovation in patient care*» by **Massimo Pignatelli**, «*Next Generation Sequencing Technology in the Clinic and Its Challenges*» by **Ainur Akilzhanova**, «*Robot-Assisted Rehabilitation: Advancing Gait and Balance in Pediatric Cerebral Palsy*» by **Prashant Jamwal**, «*Drug Discovery in Academia*» by **Mohamad Aljofan**, «*AI and Big Data in clinical science*» by **Abduzhappar Gaipov**, «*Engaging scientists in Kazakhstan for Nutrition Projects for Societal Impact*» by **Mei Yen Chan**, «*Innovating Sports Medicine and Rehabilitation: NU's AI integration journey*» by **Yeltay Rakhmanov**, «*Image Captioning for Visually Impaired and Blind*» by **Batyr Arystanbekov** and «*Augmented Reality for Cognitive Impairments*» by **Zhanat Makhatayeva**.

During the Q&A session, several interesting questions and future research collaborations were discussed.

COMMUNICATED BY DR. ABDUZHAPPAR GAIPOV

CANDIDATE PROTEIN BIOMARKERS IN CHRONIC KIDNEY DISEASE: A PROTEOMICS STUDY

Researchers from the School of Medicine have conducted a study to identify protein biomarkers that can be useful in diagnosing and monitoring chronic kidney disease (CKD) in the early stages. Using a proteomics-based approach, the team analyzed urine samples from CKD patients with stages 1-3, employing advanced mass spectrometry to identify proteins associated with the disease.

CKD is characterized by the gradual loss of kidney function. Early detection is essential for managing and treating the disease, and these newly identified biomarkers could assist in this process. The identified proteins are involved in various biological processes, including inflammation, fibrosis, and metabolism, providing insights into the disease's complexity.

1st author PhDBS student Zhalaliddin Makhammajanov

Current diagnostic methods for CKD, such as serum creatinine and glomerular filtration rate (GFR) measurements, have limitations in sensitivity and specificity. Protein biomarkers can offer a more direct reflection of the underlying disease processes, potentially improving diagnostic accuracy. The use of these biomarkers could facilitate earlier diagnosis and timely intervention, thereby slowing disease progression and improving patient outcomes.

This study by **Professor Gaipov** and his team including collaborators in the school of Sciences and Humanities as well as AMU and NCB contributes to the ongoing research efforts in nephrology. The research findings were published in the journal *Scientific Reports*, a Scopus Q1 journal (top 10 percentile), with Professor Gaipov as the corresponding author and his PhDBS student **Zhalaliddin Makhammajanov** as the first author.

The implications of this research include the potential for these biomarkers to be used in early and accurate detection of CKD, offering a non-invasive tool for disease monitoring. Future directions may involve conducting longitudinal studies to assess the predictive and prognostic value of these biomarkers and exploring their molecular mechanisms to identify new therapeutic targets for CKD.

COMMUNICATED BY DR. DIETER RIETHMACHER AND MR. ZHALALIDDIN MAKHAMMAJANOV

THE VI INTERNATIONAL EDUCATIONAL FORUM «NEUROLOGY UPDATE IN KAZAKHSTAN-2024»

Dr. Dieter Riethmacher with Dr. Saltanat Kamenova - Doctor of Medical Sciences, Professor, President of the ALE KNANN and Dr. Alfiya Shamsutdinova - Doctor of Medicine at the Asfendiyarov Kazakh National Medical University in Almaty during the opening of the VI International Educational Forum awarding the honorary membership.

School of Medicine is pleased to inform that **Dr. Dieter Riethmacher**, Vice Dean for Research and Graduate Studies, has been awarded honorary membership in the Kazakhstan National Association of Neurologists «Neuroscience» (KNANN). This recognition was bestowed during the VI International Educational Forum «Neurology Update in Kazakhstan-2024» held in

Almaty. This event was organized by the KNANN and supported by the Asfendiyarov Kazakh National Medical University, the European Academy of Neurology and the Central City Clinical Hospital of Almaty.

During this event the latest research and technologies in diagnosis, treatment, and rehabilitation of patients with various nervous system disorders were discussed. The main goals and objectives were:

- To enhance the skills of neurologists, general practitioners, rehabilitation specialists, neurosurgeons, and anesthesiologists
- To develop research potential
- To expand scientific and educational activities with international partners

Professor Riethmacher's contributions to the field of neuroscience and his dedication to advancing medical research and education have been instrumental in fostering international collaboration and enhancing the quality of neuroscience research / neurological training in Kazakhstan.

COMMUNICATED BY BAYAN ABILOVA

School of Engineering and Digital Sciences News

BUILDING CAPACITY TO IMPROVE AIR QUALITY IN CENTRAL ASIA

Chiamaka Iheanyi[1], Vivian Adotey[1], Dhawal Shah[2]

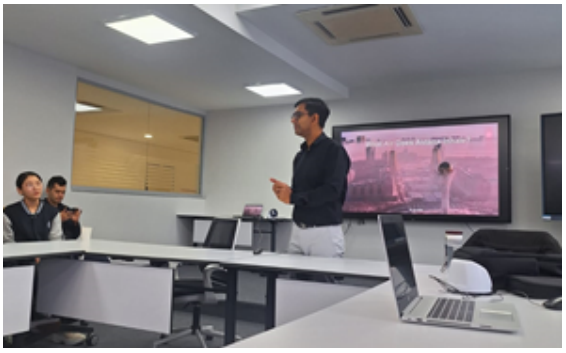
[1]*Graduate School of Public Policy, Nazarbayev University*

[2]*Department of Chemical and Material Engineering, School of Engineering and Digital Sciences, Nazarbayev University*

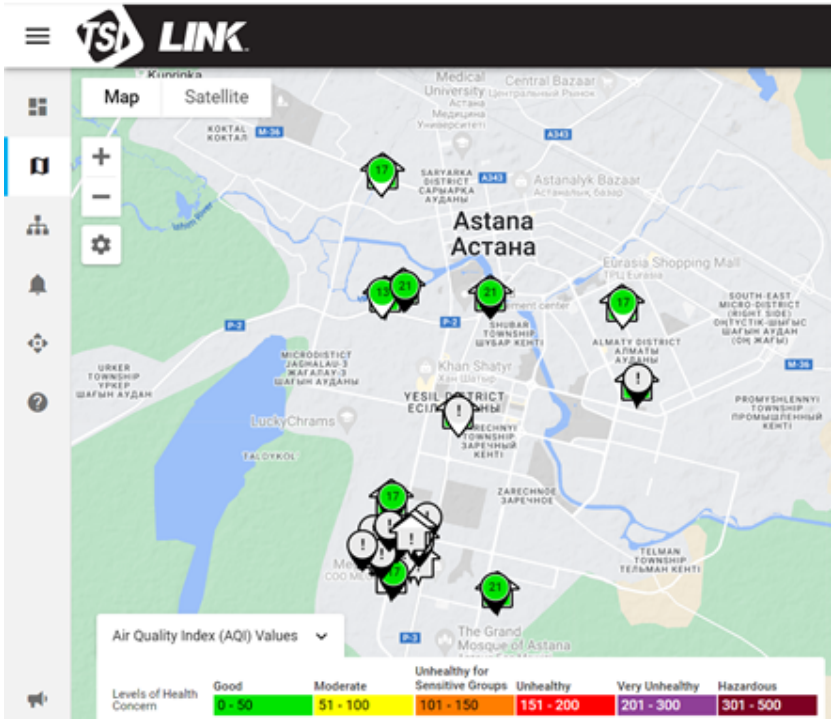
The latest initiative of the Air Quality team, led by Dr. Dhawal Shah from the School of Engineering and Digital Sciences, «Building Capacity to Improve Air Quality in Central Asia» aims at addressing the pressing issue of air pollution in the region, a problem affecting lots of people and has detrimental impacts on health, economy, and the environment at large. Air pollution in South & Central Asia has become a critical issue as the quality of air has significantly deteriorated due to rapid urbanization, industrial growth, and increasing vehicular traffic. Consequently, the public suffer from numerous health issues including respiratory diseases and other pollution-related illnesses.

Our team is actively engaged in monitoring and analyzing air quality in Astana using a network of low-cost sensor technology. By installing indoor sensors (TSI® Air Assure) and outdoor sensors (TSI® BlueSky), we collect real-time data on $PM_{2.5}$ levels, a crucial indicator of air pollution. Some of the location sensors have been installed include: Technopark (Nazarbayev University), QSI, NIS IB, Bilim Boys, Bilim Girls, Nurorda schools.

The research team engages high school students in discussions and projects related to air quality. Sensitizing them on the importance of air quality and the impacts of pollution on the population and environment. To inculcate in them the consciousness and the need to protect the environment as well as empower the next generation to advocate for cleaner air, we are developing educational programs and resources to increase awareness and inspire action among young people.



The project also invests in building local capacity for maintaining sensor networks. It includes training individuals in the installation, maintenance, and calibration of these devices, ensuring their long-term operation and reliability. These sensors provide real-time data on local air quality, enabling us to identify pollution hotspots. All real time data can be gotten from https://tsilink.com. We urge you to browse the link to keep abreast with the live air quality data.



You can also install *AirKZ* app for the same purpose, wherein the data is provided from the Kazhydromet.

An insight into the research study Assanov, et al. 2021 shows that certain areas may exhibit higher $PM_{2.5}$ concentrations due to traffic, industrial activities, or construction. Seasonal variations are also likely to affect the quality of air, for example, winter months may see spikes in pollution levels due to heating and temperature inversions. Recent study by Agibayeva, et al. (2024) delved into how residents perceive air quality in the urban environment of Central Asia. Using Structural Equation Modeling (SEM), they explored factors influencing public perception, including pollution sources, health impacts, and community awareness. Findings revealed that prioritizing online channels for public education, especially via social media, is vital for effective air pollution mitigation. Also, individuals with low environmental literacy tend to underestimate Astana's pollution levels, while industrial workers perceive higher pollution and health risks. Hence a major area in our research is centralized on engaging high school participation in creating awareness of air quality.

To ensure that data is accessible for the entire populace in KZ, we are equally developing software tools for stakeholders. These tools will allow users to visualize air quality data, track changes over time, and identify trends. This will empower policymakers, researchers, and community leaders to make informed decisions and implement effective strategies to improve air quality.

Together, we can build a future where clean air is not a luxury, but a right for all.

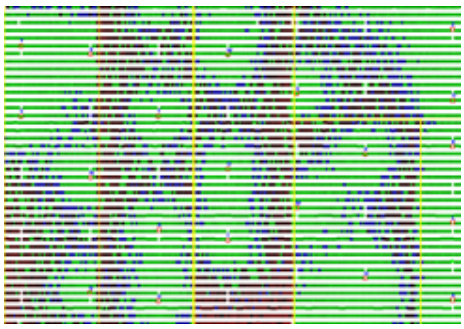
Let's breathe healthier air together!

References:

1. Agibayeva, A., Tleuken, A., Karaca, F., Avcu, E., & Guney, M. (2024). Understanding Public Perception of Air Quality in the Urban Environment of Central Asia: An Empirical Assessment Using Structural Equation Modelling. Environment and Urbanization ASIA, 15(1), 39-58. https://doi.org/10.1177/09754253241240155
2. Assanov, D.; Zapasnyi, V.; Kerimray, A. Air Quality and Industrial Emissions in the cities of Kazakhstan. Atmosphere 2021, 12, 314. https://doi.org/10.3390/atmos12030314

ENHANCING LORAWAN NETWORKS FOR GLOBAL PHOTOVOLTAIC SYSTEMS: A COLLABORATIVE INNOVATION

The NU IoT lab recently started collaborating with one of the biggest companies in the Photo-Voltaic (PV) world industry. The purpose of the collaboration is to conduct research and find innovative solutions to improve the LoRaWAN networks of the company. LoRaWAN is a long-range communication protocol for low-cost Internet of Things (IoT) devices, capable of achieving up to 10km of range with low power consumption. The company owns LoRaWAN deployments consisting of multiple thousands of IoT devices around the world spanning areas that exceed 10 km2. The devices are used to remotely control PV panels and rotate them according to the position of the sun, thus, improving the power generation during the day. The IoT lab is developing simulation software to assess network behavior and generate network performance maps, as well as embedded software for low-power microcontrollers.



During the last year, the lab has deployed several antennas around the campus to facilitate the research activities. The antennas are connected to a network server where all data is collected for further analysis.

As deployments and networks become more massive and complex, Machine Learning (ML) tools are developed to make the organization of the devices self-sufficient and reliable without compromising their energy efficiency.

However, as the number of devices switches from a few hundred to a few thousand, an excessive number of collisions occur which deteriorates the network performance. To avoid such cases and alleviate network congestion, researchers of the lab have developed low-cost synchronized solutions with the help of ML. These solutions fit perfectly into the scenario of PV control due to the fixed payload and position of the devices in such deployments. The developed solution improves the packet reception ratio (i.e., percentage of received transmissions) to over 90%, while conventional solutions cannot exceed 65%.

The lab members aim to commercialize the developed solutions and assist in PV deployments in Kazakhstan and abroad by further collaborating with world PV manufacturer leaders.

SHARED BY PROF. DIMITRIOS ZORBAS

School of Sciences and Humanities News

DEPARTMENT OF MATHEMATICS HOSTS SECOND WORKSHOP ON EQUIVALENCES, NUMBERINGS, AND REDUCIBILITIES

From May 20 to May 24, 2024, the Department of Mathematics proudly hosted the Second Workshop on Equivalences, Numberings, and Reducibilities (ENR). This event brought together leading researchers, scholars, and students to discuss the latest trends and developments in computability theory and computer science.

THE WORKSHOP AIMED TO:

- **Provide a Venue for Leading Researchers**: Facilitate meetings and discussions among top researchers in computability theory and computer science.
- **Support Younger Researchers**: Offer a platform for early-career researchers to present their work and gain valuable feedback.
- **Encourage Interdisciplinary Projects**: Promote joint projects that bridge different areas of study.

PROGRAM COMMITTEE

The program committee consisted of the scholars from various institutions:

- Serikzhan Badaev, Kazakh-British Technical University, Kazakhstan
- Su Gao, Nankai University, China
- Nikolay Bazhenov, Sobolev Institute of Mathematics, Russia

- **Alexander Melnikov**, Victoria University of Wellington, New Zealand
- **Ding Longyun**, Nankai University, China
- **Manat Mustafa**, Nazarbayev University, Kazakhstan

PLENARY SPEAKERS

The workshop featured 12 plenary speakers who presented their topics:

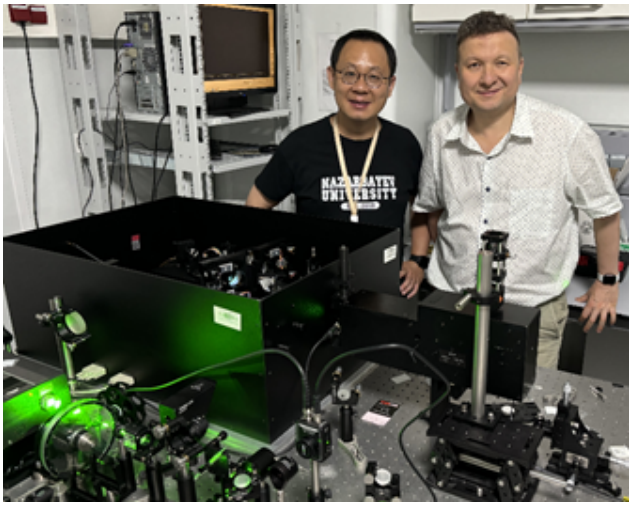
1. *Serikzhan Badaev* (Kazakh-British Technical University, Kazakhstan): ***Problems on Computable Numberings***
2. *Sergey Goncharov* (Sobolev Institute of Mathematics, Russia): ***Computable Numberings and Their Rogers Semilattices***
3. *Victor Selivanov* (A.P. Ershov Institute of Informatics Systems, Russia): ***On Some Numberings in Computability Theory, Algebra, and Topology***
4. *Wu Guohua* (Nanyang Technological University, Singapore): ***Sacks Splitting Theorem revisited***
5. *Andrey Morozov* (Sobolev Institute of Mathematics, Novosibirsk, Russia): ***On algebraic and algorithmic properties of some classes of functions***
6. *Uri Andrews* (University of Wisconsin–Madison, USA): ***Word problems of groups and the structure of Ceers***
7. *Iskander Kalimullin* (Kazan Federal University, Kazan, Russia): ***Punctual degrees of presentability and categoricity for algebraic structures***
8. *Mathieu Hoyrup* (Universit´ e de Lorraine, CNRS, Inria, LORIA, Nancy, France): ***The fixed-point property for represented spaces***
9. *Luca San Mauro* (University of Bari, Italy): Exploring the learning power of Borel equivalence relations
10. *Ruiwen Li* (Nankai University, Tianjin, China): ***Equivalence Relations Inspired by the Conjugacy on Minimal Systems***
11. *Yang Zheng* (Nankai University,Tianjin, China): ***On equivalence relations induced by Polish groups***
12. *Josiah Jacobsen-Grocott* (University of Wisconsin–Madison, USA): ***A Ceer that is uniformly effectively inseparable but not uniformly finitely pre-complete***

Several bachelor's and Ph.D. students from Nazarbayev University participated in the workshop, gaining invaluable opportunities to advance their research and network with leading experts in the field.

The previous ENR workshop have been held virtually in Udine, Italy in 2021. This year NU had the honor of hosting ENR-2024. The workshop is partially supported by Nazarbayev University Faculty Development Competitive Research Grant **201223FD8823** and the Mathematical Center in Akademgorodok under the agreement No. 075-15-2022-282 with the Ministry of Science and Higher Education of the Russian Federation.

All abstracts and talks' recordings can be found on the workshop website.

MESOSCALE PHONON-MEDIATED THERMAL TRANSPORT IN NANOSTRUCTURED SEMICONDUCTORS: LASER-BASED METROLOGY & ATOMISTIC SIMULATION



Three papers have been recently published in leading applied physics & material science journals by students and researchers directed by Prof. Zhandos Utegulov of SSH Department of Physics and Prof. Yanwei Wang of SEDS Department of Chemical & Materials Engineering in their international collaborative research. Published research revealed new important results on nano- and micro- scale phonon-mediated thermal transport in ion irradiated, nano-crystalline and nano-porous semiconductors for applications involving thermal energy management in solid-state devices. In particular, their research findings promote:

1) nanoscale heat conduction across ionization-controlled annealing of nanoscale defects in wide-bandgap semiconductors by femtosecond laser-based time-domain thermoreflectance measurements coupled with molecular dynamics simulation:

Azat Abdullaev, Kairolla Sekerbayev, Ruslan Rymzhanov, Vladimir Skuratov, Jacques O'Connell, Bekdaulet Shukirgaliyev, Artem Kozlovskiy, Yanwei Wang, Zhandos Utegulov «Impact of swift heavy ion-induced point defects on nanoscale thermal transport in ZnO», *Materials Research Bulletin*, 175, 112786 (2024) (Q1, Scopus 92%) DOI: 10.1016/j.materresbull.2024.112786 – this work was done in collaboration with scientists from Kazakhstan, Russia and South Africa.

2) the development of nanoscale spatially-resolved control of thermal energy in nano-crystalline ceramics with tunable interfacial and nanoscale phonon hydrodynamic properties:

Omid Farzadian, Kairolla Sekerbayev, Yanwei Wang and Zhandos N. Utegulov «Nanoscale spatially resolved thermal transport in nanocrystalline 3C-SiC», *Applied Physics Letters* 124, 232203 (2024) (Q1, Scopus 87%) DOI: 10.1063/5.0206189

3) nano-to-micro- meter scale thermal depth profiling in semiconductors with inhomogeneous porosity distributions by a suite of advanced laser-based thermoreflectance, micro-Raman opto-thermal spectroscopy and Monte-Carlo simulation:

Bayan Kurbanova, Dhritiman Chakraborty, Azat Abdullaev, Anna Shamatova, Oksana Makukha, Ali Belarouci, Vladimir Lysenko, Alexander Azarov, Andrej Yu Kuznetsov, Yanwei Wang, Zhandos Utegulov «Multiscale phonon thermal transport in nano-porous silicon», *Applied Physics Letters* 124, 252202 (2024) (Q1, Scopus 87%) DOI: 10.1063/5.0205455 – this work was done in collaboration with scientists from UK, France and Norway.

The funding by NU 20122022CRP1608, NU 11022021CRP1504, NU 20122022FD4130 and MSHE AP19679332 grants is acknowledged.

WHAT FUNCTIONS A NEURAL NETWORK CAN APPROXIMATE?

We are pleased to share that Assistant Professor Rustem Takhanov's paper, "*Multi-layer random features and the approximation power of neural networks*," has been accepted to the Conference on Uncertainty in Artificial Intelligence (UAI).

The approximation power of neural networks (NN) is a classical research topic. A foundational result in this area is the Kolmogorov-Arnold representation theorem, which states that any multivariate continuous function on a compact set can be represented as a finite composition of continuous functions of a single variable and addition. Since single-variable functions can be approximated with arbitrary precision using linear combinations of sines and cosines (such as Fourier expansions), this theorem implies that multi-layer neural networks with a cosine activation function can approximate any continuous function, a phenomenon known as the Universality of NNs.

However, while the Kolmogorov-Arnold theorem provides a theoretical guarantee of existence, it does not offer optimal parameters, prompting mathematicians to explore new approximation mechanisms for NNs. A key question in this research is identifying the "native" functional space for a given NN architecture. Here, «native» means that the norm of a function in that space correlates well with the number of neurons needed to approximate it.

One promising candidate is the Reproducing Kernel Hilbert Space (RKHS) induced by the Neural Network Gaussian Process Kernel of a given architecture. The paper demonstrates that any function in this space can be approximated by a corresponding NN architecture, with the number of neurons depending linearly on the function's norm in the RKHS.

In the experimental part of the paper, it is shown that NNs trained by gradient descent can succinctly approximate functions with large RKHS norms. This suggests that real-world NNs can perform even better than theoretical guarantees.

The mathematical methods developed in this research have significant implications for designing more efficient NN architectures.

UAI is one of the leading international conferences focused on research in knowledge representation, learning, and reasoning under uncertainty. Supported by the Association for Uncertainty in Artificial Intelligence (AUAI), the conference has been an annual event since 1985. The 40th edition of UAI will be held from July 16th-18th, 2024, at Universitat Pompeu Fabra in Barcelona, Spain.

School of Mining and Geosciences News

PROF. SAFFET YAGIZ JOINS THE WATER RESOURCES SECURITY CONFERENCE IN OMSK, RUSSIA AS PLENARY SESSION CHAIR AND KEYNOTE SPEAKER

From May 14-16, 2024, the 1st International Conference «Water Resources Security – 2024» was held in Omsk, Russia. The conference comprehensively addressed all aspects related to the safety of water resources. It was attended by representatives of Federal authorities, various regions of the Russian Federation, the scientific and expert community (including international participants), as well as representatives from industry and businesses.

Prof. Saffet Yagiz was invited as the Plenary Session Chair and delivered a keynote speech in the session titled «**Seminar 8. The Development of Underground Space. The Negative Impact of Groundwater in the Construction and Operation of Buildings and Structures**».

In his keynote speech, «Rock Mass and Groundwater Interaction for Underground Excavations,» Prof. Yagiz emphasized the importance of groundwater for urbanization and human life. He highlighted that while groundwater is essential, it can pose significant challenges in underground construction and infrastructure development. Specifically, he noted that high groundwater levels can reduce rock mass quality and effective stress at construction sites, leading to potential construction and design problems. The session focused on the negative impacts of groundwater on the construction, buildings, and structures within rock masses.

The picture provided from https://watercon.ru

Additionally, Prof. Yagiz gave a brief speech on a Russian TV channel, discussing the critical interaction between rock mass characteristics and groundwater properties. He stressed that these interactions should be carefully evaluated, especially when dealing with construction foundations where the groundwater level is very shallow.

Graduate School of Business News

A MEMORANDUM OF UNDERSTANDING SIGNED BETWEEN NUGSB AND KIA CORPORATION

NUGSB has entered into a Memorandum of Understanding (MoU) with KIA Corporation. This notable agreement was formalized during the Business Forum coinciding with the President of Korea's visit to Kazakhstan.

The partnership is set to provide substantial benefits to students, including opportunities for internships, collaborative research projects, and a range of workshops and seminars. The collaboration will particularly enhance the NUGSB MBA capstone projects and facilitate the organization of joint workshops, fostering an environment of shared learning and innovation. Anticipation is high for the significant academic and professional advancements this collaboration will bring to the community.

NUGSB RESEARCHERS WIN NATIONAL BANK OF KAZAKHSTAN GRANT

NUGSB researchers learned in May of their success in the January 2024 grant competition of the National Bank of Kazakhstan, based on their research proposal, «Market power, optimal investment and sustainable economic growth in Kazakhstan.» Assistant Professor **David De Remer** will serve as the head of a research team featuring Assistant Professor **Aigerim Yergabulova** and Dean **Joep Konings**. The project will calibrate models of optimal investment for Kazakhstan's economy, while accounting for variation in markups and intermediation across industries.

NUGSB FACULTY HONORED WITH NU RESEARCH EXCELLENCE AWARDS

In the latest round of NU Research Excellence Awards, NUGSB is proud to announce the following achievements:

Dr. Thierry Post was awarded the 2024 NU Outstanding Career Achievement Research Excellence Award.

Dr. Thierry Post has worked with leading scholars like Richard Thaler (Chicago), Haim Levy (Jerusalem), Oliver Linton (Cambridge) and Peter Wakker (Erasmus), and also produced independent work and guided young scholars. He has published over 60 papers in international peer-reviewed top journals.

A common theme is the development of concepts and tools to help policy makers and managers solve problems in various areas in Economics and Business. His multidisciplinary approach often combines economic decision theory, numerical optimization, asymptotic statistical theory and statistical estimation and testing. His agenda actively involves local PhD students and Research Assistants.

Dr. Thierry Post's work broadly falls into six areas in Economics and Business: (I) Asset Pricing; (II) Portfolio Theory; (III) Behavioural Economics; (IV) Efficiency and Productivity Analysis; (V) Forecasting; (VI) Welfare Analysis.

Dr. Shumaila Yousafzai received the 2024 NU Outstanding Scholar Research Excellence Award.

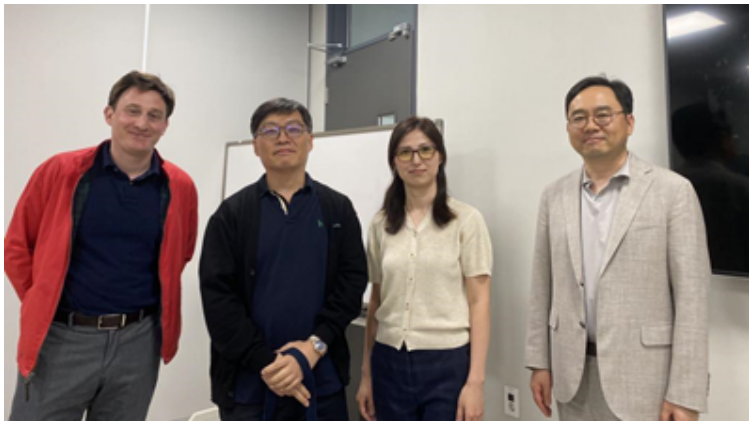
Dr. Shumaila Yousafzai is a leading scholar in entrepreneurship whose pioneering research over two decades has profoundly impacted societal and economic policies, particularly focusing on gender equality and sustainable development. Her extensive publications, including over 30 influential articles and 10 groundbreaking books, have positioned her at the forefront of global academic discussions, evidenced by her top rankings among academics worldwide (3% on academia.edu; 2% in Stanford's list, 7000 citations, and h-index 25).

As the founder of the Nazarbayev University Research Centre for Entrepreneurship (NURCE), Dr. Yousafzai has transformed it into a hub that significantly contributes to community development by empowering underrepresented groups and fostering sustainable business practices in Central Asia. Her innovative educational initiatives and strong mentorship have guided numerous students to academic and professional excellence, furthering her impact on the entrepreneurial landscape. Dr. Yousafzai's work not only advances knowledge but also drives real-world changes that enhance the human condition, aligning seamlessly with the United Nations Sustainable Development Goals such as Gender Equality (SDG 5), Decent Work and Economic Growth (SDG 8), and Reduced Inequalities (SDG 10).

PUBLICATIONS

- **Joep Konings** has his paper accepted to the International Economic Review (A* on the ABDC list and Scopus Q1). The title is «The Impact of a Large Devaluation on the Cost of Living of Rich and Poor Consumers» (with Joris Hoste and Anatoli Colicev).
- **Joep Konings** has another paper accepted to Journal of International Economics (A* on the ABDC list and Scopus Q1). The title is «FDI Superstar Spillovers: Evidence from firm-to-firm transactions» (with Mary Amiti, John Van Reenen and Cedric Duprez).
- **Joep Konings** has the third paper accepted to the Economic Journal (A* on the ABDC list and Scopus Q1). The title is «Price-Cost Margins, Fixed Costs and Excess Profits» (with Mary Amiti, John Van Reenen and Cedric Duprez).

RESEARCH SEMINARS



- Aigerim Yergabulova, a Postdoctoral Scholar at NUGSB, as part of her Asian Universities Alliance Scholarship Program, recently conducted a research seminar at Seoul National University. The seminar, attended by several Economics faculty and PhD students, focused on firm employment dynamics in Kazakhstan following sudden Russian immigration.
- On April 10, Alexander Krasnikov (Marketing, NUGSB) presented his work «***Distinctiveness of Trademarked Words and Marketing Productivity***».
- On April 24, David De Remer (International Business, NUGSB) presented his work «***External Shocks, Industrial Policy and Regional Value Chain Upgrading in an Emerging Economy: the Case of Kazakhstan***».

NURCE.KZ

CELEBRATING THE LAUNCH OF «TRAILBLAZERS OF THE STEPPES: INSPIRING STORIES OF KAZAKHSTANI BUSINESSWOMEN»

On 18 th April, the Nazarbayev University Research Centre for Entrepreneurship (NURCE) proudly announced the launch of a monumental book, «Trailblazers of the Steppes: Inspiring Stories of Kazakhstani Businesswomen.» This publication is a culmination of extensive research and passion for sharing the profound narratives of women entrepreneurs who are reshaping the economic landscape of Central Asia.

FROM KYRGYZSTAN TO KAZAKHSTAN: A JOURNEY OF DISCOVERY AND EMPOWERMENT

he idea for «Trailblazers of the Steppes» originated from the impactful experiences documented in «Together We Have It All,» which explored the lives of women entrepreneurs in Kyrgyzstan's Community-Based Tourism (CBT) sector. The project illuminated the critical role these women played in fostering sustainable tourism, empowering communities, and preserving cultural heritage.

Inspired by the resilience and ingenuity of these women, we expanded our focus to include 50 trailblazing women entrepreneurs from across Kazakhstan. This new project aims to spotlight the diverse industries these women excel and the unique challenges they overcome. «Trailblazers of the Steppes» not only highlights individual success stories but also addresses the broader issues of gender inequality and the underrepresentation of women in business.

INSPIRING CHANGE THROUGH NARRATIVE

By chronicling the journeys of these extraordinary women, the book seeks to inspire and empower others to pursue their entrepreneurial aspirations. Each story is a testament to the power of determination and innovation, serving as a beacon for current and future generations of business leaders. The narratives provide valuable insights into the ways that these women navigate and succeed in traditionally male- dominated industries.

A CELEBRATION OF WOMEN' S ENTREPRENEURSHIP

The book launch event featured discussions on the role of storytelling in creating impact, emphasizing how personal and professional triumphs can inspire broader societal changes. «Trailblazers of the Steppes» is not just a collection of stories; it is a movement towards greater gender equality and empowerment in Central Asia.

The event was attended by the First Vice Minister of Trade and Integration of the Republic of Kazakhstan Aizhan Bizhanova, as well as the Provost of Nazarbayev University represented by The Vice- Provost for Academic Affairs Loretta O' Donnell, Associate Provost for Graduate Studies Luis Ramón Rojas- Solórza, Doctor of Business Administration Assel Uvaliyeva. Women entrepreneurs attended the book launch among which were Bulbul Kapkyzy, Aigerim Karibayeva, Irina Shvygova, Aiko Token etc.

NURCE HONORED WITH CERTIFICATE OF RECOGNITION FOR WOMEN'S ENTREPRENEURSHIP

The Nazarbayev University Research Centre for Entrepreneurship (NURCE) has been awarded a prestigious Certificate of Recognition for its outstanding contributions to women's entrepreneurship. This accolade was presented by the Deputy Minister of Trade and Integration during the recent book launch of «Trailblazers of the Steppes: Inspiring Stories of Kazakhstani Businesswomen.»

This recognition from the Ministry of Trade and Integration highlights NURCE's significant impact and commitment to advancing the role of women in entrepreneurship. The certificate was awarded in acknowledgment of the research center's efforts to illuminate the challenges and successes of women entrepreneurs through fundamental research that is both impactful and relevant.

IMPACT AND RELEVANCE OF RESEARCH

This recognition is a testament to the effectiveness of NURCE's approach to research, which combines rigorous academic methods with real- world relevance. By focusing on women's entrepreneurship, NURCE not only contributes to academic discourse but also plays a crucial role in shaping policies and practices that support women' s roles in the business sector.

The Deputy Minister of Trade and Integration, during the presentation of the award, commended NURCE for its innovative approach and its contribution to empowering women entrepreneurs in Kazakhstan and Central Asia. The ceremony highlighted the importance of collaborative efforts between governmental bodies and educational institutions in fostering an inclusive and dynamic entrepreneurial ecosystem.

INDIRA ALIBAYEVA AND ALIMA BISSENOVA TALK ABOUT CULTURAL RELATIVISM IN RESEARCH AT ' SANA' TV PROGRAM

Alima Bissenova, an Associate professor from the Anthropology Department, and Indira Alibayeva, a postdoctoral researcher at NURCE, recently spoke on the 'Sana' program on Abay TV. This appearance is part of their effort to popularize science communication in the Qazaq language.

In the program, invited speakers discussed cultural relativism as a method and approach in anthropological and sociological research. Cultural relativism involves examining each culture using its own categories and concepts of good and bad, right and wrong. As a methodology for writing and describing culture, it advises researchers to avoid imposing their own judgments on the context they are studying. Instead, it encourages sensitivity to the studied context.

The same action or phenomenon can be interpreted differently by various cultures, depending on the time, space, and context in which it occurs. Tastes, smells, and objects can be classified entirely differently in each culture. Researchers aim to show how people involved in a certain process consider and interpret it. Cultural relativism has become a useful tool to overcome ethnocentrism and cultural imperialism.

Click here to watch the full program (in Qazaq language).

«ENTREPRENEURSHIP AND SOCIAL CHANGE IN CENTRAL ASIA, SOUTH CAUCASUS, AND EASTERN EUROPE: DECOLONIZATION, IDENTITIES, AND EMPOWERMENT»

Join us for a pivotal workshop that dives deep into the legacy of colonialism and its enduring impact on entrepreneurship across Central Asia, South Caucasus, and Eastern Europe. Explore how entrepreneurial efforts can drive social change, empower local communities, and challenge colonial narratives.

KEYNOTE SPEAKER: Professor Bobby Banerjee, Bayes Business School, City University, UK

DISCUSSION TOPICS:

- Entrepreneurial strategies and their impact on empowerment and identity
- Key industries and markets for entrepreneurial activity and social change
- Government efforts vs. legal and cultural challenges in promoting entrepreneurship
- The overarching influence of entrepreneurship on postcolonial social and economic development

DATES: October 10-15, 2024

LOCATION: Nazarbayev University, NURCE, Astana

CONTACTS:

Prof. Dr. Alexander Ebner (a.ebner@soz.uni-frankfurt.de)

Shumaila Yousafzai: (shumaila.yousafzai@nu.edu.kz)

Nurlykhan Aljanova: (nurlykhan.aljanova@nu.edu.kz)

NAZARBAYEV UNIVERSITY

DAAD Deutscher Akademischer Austausch Dienst German Academic Exchange Service

GOETHE UNIVERSITÄT FRANKFURT AM MAIN

TEDX CONFERENCE: THIS IS HOW IT IS TURNING OUT

On April 6 th, the Red Hall hosted a TEDx conference titled «This is how it is turning out», featuring five speakers. Among them was Ekaterina Chegnova, whose topic, «Rethinking the Art of Networking», shed a light on three crucial steps she learned through her business education. She emphasized the importance of being prepared to give, creating a striking self-presentation, and having two things ready to offer assistance with in advance.

Adding her own essential insight, Chegnova introduced a fourth step: being ready to receive. Highlighting the necessity of maintaining balance, she warned that without the ability to receive, one might end up an empty jar. Encouraging her audience to keep the world in balance, she stressed the significance of both giving and receiving in the art of networking.

Aigerim Tarbagatayeva shares her journey to mastering the skill of happiness and provides life hacks to help others do the same. She emphasizes the importance of:

1. Trusting the process and maintaining a long- term perspective, using the analogy of investing in the financial market.

2. Practicing mindfulness and being fully present in the moment, letting go of things beyond our control.

3. Working on self- esteem to find balance internally rather than relying on external validation for happiness.

Mastering happiness as a skill can positively impact various aspects of life, leading to greater satisfaction and success.

DECOLONIZING CRAFTSMANSHIP: AN EXPLORATION OF HOW UZBEK ENTREPRENEURS IN THE CRAFT SECTOR ENGAGE WITH TRADITIONAL CULTURAL INSTITUTIONS

From May 17 to May 20, 2024, the NURCE research team, including Indira Alibayeva, Nurlykhan Aljanova, Smirti Kutaula, Alvina Gillani, and Emina Yessekeyeva, revisited and interviewed Uzbek artisans and craftsmen for the project titled 'Decolonizing Craftsmanship: An Exploration of How Uzbek Entrepreneurs in the Craft Sector Engage with Traditional Cultural Institutions.'

This paper explores the role of Uzbek entrepreneurs in the craft sector as agents of decolonization. Based on 35 in-depth interviews conducted in Uzbekistan, the study reveals how these entrepreneurs challenge colonial legacies within economic, social, and cultural frameworks. By drawing on traditional Uzbek cultural institutions like Mahalla and Ustoz-Shogird, these entrepreneurs navigate a post-Soviet landscape to revitalize traditional crafts. Their businesses are rooted in local knowledge and cultural identity, offering an alternative to Western-centric economic paradigms.

The paper highlights both the transformative potential of entrepreneurship for decolonization and the substantial challenges these entrepreneurs face. These challenges include resource constraints, a lack of governmental support, and the risk of commodifying cultural heritage. The study cautions that entrepreneurship can be co-opted to reinforce colonial power structures and advocates for broader structural changes to address systemic inequalities.

Despite these challenges, the entrepreneurs emphasize the importance of collaboration with local communities for cultural sensitivity and appropriateness. The paper concludes with policy recommendations that encourage an enabling environment for cultural entrepreneurs, including heritage preservation policies and educational initiatives. This study offers a nuanced understanding of entrepreneurship's potential and limitations in fostering decolonization, specifically within Uzbekistan's craft sector. It contributes to the discourse on entrepreneurship, cultural heritage, and decolonization, advocating for systemic changes alongside entrepreneurial efforts for a more equitable and sustainable future.

ALISHER RAHIMOV - RAKHIMOV' S CERAMIC STUDIO, TASHKENT

Unique ceramic masterpieces by hereditary potters with a history over 232 years

The Rahimov dynasty boasts six generations of ceramic masters. One of its most prominent representatives was Mukhitdin Rahimov, who left a significant mark on the development of Uzbekistan' s national ceramics. The main mission of the Rahimov Ceramics Studio is to preserve and revive the traditional heritage of ceramic art in Uzbekistan. Ancient ceramic artifacts are an extremely important material for our research projects aimed at reviving this art form. Mukhitdin Rahimov began collecting information about the traditional heritage of ceramic production during his l i fetime. The history of traditional ceramic art in Uzbekistan has been shaping up over many years. The traditions of this ancient technology have been

passed down from generation to generation, from master to apprentice. Mukhitdin Rahimov dreamed of opening his own studio and starting to teach during his l i fetime.

Alisher, a skilled ceramic artist, adeptly maneuvers through the shifting tides of artistic expression in Uzbekistan from the Soviet era to the post- Soviet period. During the Soviet times, despite l imited resources and constraints imposed by factory work, Alisher honed his craft, drawing inspiration from traditional techniques passed down through generations.

The period also saw the emergence of accessible art education centers, providing opportunities for aspiring artists regardless of their background. However, it wasn' t until the post- Soviet era that Alisher truly thrived. With newfound independence came increased opportunities for artistic exchange and growth. Alisher seized the moment, establishing his own studio with support from local authorities. The studio became a hub of creativity, attracting students eager to learn about Uzbek cultural heritage. Alisher' s journey reflects the adaptability of Uzbek artists, adjusting to changing times while preserving the rich artistic traditions that define their identity.

ZAINAB BADGHISI - HANDMADE CARPET FACTORY / SAMARKAND BUKHARA SILK CARPETS, SAMARKAND

In the early 20th century, Central Asia became part of the Soviet Union, prompting Haji Baba's family to leave their Turkmen homeland for Afghanistan to safeguard their property and weaving heritage. There, Haji Baba diligently preserved Central Asian designs and weaving techniques, even lecturing in the United States about natural dyes and carpets. However, conflicts interrupted their peace, leading them to settle in Uzbekistan in 1992. In Samarkand, Haji Baba opened a school-workshop, passing on his traditions to his children, Abdullah and Zainab.

Today, Zainab run the workshop, welcoming visitors with their infectious energy and vast knowledge. She guides guests through every stage of silk carpet creation, from dyeing with natural

ingredients to weaving on traditional looms. The workshop honors the role of women in weaving, a tradition vital to nomadic life and urban households alike. Visitors are invited to explore the showroom, where carpets, kilims, and suzani are displayed without pressure to purchase. The workshop ensures fair employment practices, providing training, regular hours, and opportunities for women, creating a convivial atmosphere and high-quality craftsmanship.

DAVLAT TOSHEV, MINIATURIST, USTOZ SHOGIRD ART SCHOOL, BUKHARA

Davlat Toshev, born in 1975 in Bukhara, Uzbekistan, showed a keen interest in art from a young age, particularly in painting. After completing school in 1991, he immersed himself in the art world, studying under local artists to refine his skills. In 2004, Davlat was recognized as a master artist of miniature painting by the regional association «Xunarmand,» marking a significant milestone in his career.

Reflecting on his early years, Davlat recalls discovering the beauty and richness of his homeland through his artwork. Inspired by Uzbekistan's vibrant culture, breathtaking landscapes, and warm people, his paintings capture the essence of everyday life with depth and sensitivity.

Driven by a deep love for his country and its traditions, Davlat's art reflects his soul. Each brushstroke conveys emotions—joy, sorrow, hope, and resilience—celebrating nature's beauty, cultural richness, and the human spirit's strength.

Over the years, Davlat's art has gained recognition locally and internationally. His exquisite miniatures adorn galleries and exhibitions worldwide, captivating audiences with their beauty and depth. Through his art, Davlat preserves and shares Uzbek cultural heritage, fostering a deeper appreciation for his homeland.

Today, Davlat continues to create masterful works of art, each painting a testament to his passion, talent, and dedication to his craft. His journey as an artist serves as an inspiration to aspiring creators everywhere, reminding us of the power of art to transcend boundaries, unite hearts, and preserve cultural essence for generations to come.

MAKHFUZA SALIMOVA, GOLD EMBROIDERY - MALIKA SULTAN, BUKHARA

Malika Sultan is a seasoned artisan specializing in gold and silk embroidery. With years of experience, her craftsmanship showcases intricate and traditional techniques.

Makhfuza Salimova, hailing from Bukhara, Uzbekistan, represents the fifth generation of her family involved in the art of gold embroidery. Her family's history is deeply rooted in this delicate craft, with ancestors creating garments for royalty before the 1917 revolution. Despite the challenges posed by the Soviet era, which led them to work in state-run artels, the family persevered, passing down their skills through generations.

Makhfuza herself spent 37 years as a golden seamstress at the Bukhara Golden Sewing Factory. With Uzbekistan's independence, she seized new opportunities and established her own workshop, employing over 150 artisans. Her workshop has flourished, gaining international recognition for its exquisite craftsmanship.

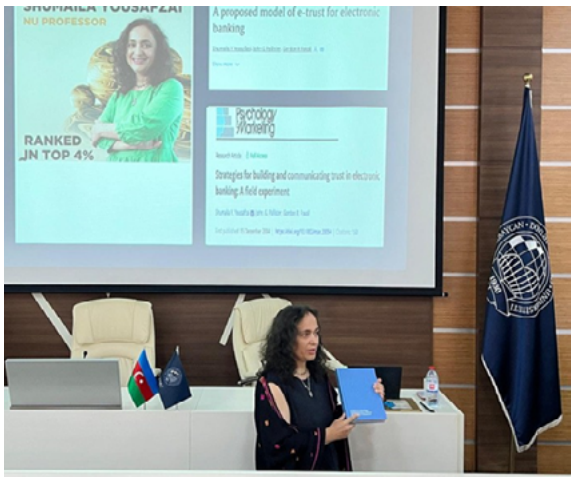
Beyond her workshop, Makhfuza actively participates in international exhibitions, forging partnerships with artisans and buyers from neighboring countries. Despite competition from mass-produced goods, she remains committed to preserving Uzbek craftsmanship, emphasizing the unique quality and authenticity of handmade products.

Deeply rooted in her community, Makhfuza mentors the next generation of artisans through masterclasses and workshops. She attributes her success to the support of her family, the resilience of her community, and the vision of Uzbekistan's leadership in promoting traditional crafts.

Reflecting on her journey, Makhfuza sees the evolution of her craft as a testament to the resilience of her people. Each golden stitch weaves a story of tradition, innovation, and the enduring spirit of Uzbekistan's artisans.

RESEARCH SEMINAR AT UNEC

On April 24, 2024, Dr. Shumaila Yousafzai held an informative research seminar at Azerbaijan State University of Economics (UNEC). The seminar focused on the intricacies of publishing in Scopus indexed Q1 journals, providing valuable insights and strategies for researchers aiming to enhance their academic profiles. The event attracted a diverse audience of faculty members, researchers, and students, all eager to learn from Shumaila's expertise and experience in navigating the rigorous publication process.



EXMILITARY NESPI - FORUM

FORMER SERVICEMEN TO RECEIVE ASSISTANCE IN ADAPTING TO CIVILIAN LIFE

On May 1st, 2024, the NESPI project was presented in Astana, aiming to help former servicemen transition into new fields and acquire new skills after their military service. The retraining program includes education, job placement consultations, psychological support, and legal assistance.

«*The project is designed to assist those leaving the military—whether due to reaching the maximum age, illness, or other reasons. Many servicemen transitioning to civilian life struggle to integrate and find their place. We have developed a comprehensive adaptation algorithm to ensure a smooth transition, helping individuals find employment, undergo training, and acquire basic financial literacy skills*» says reserve colonel Rustem Zhantenov, the author of the NESPI project.

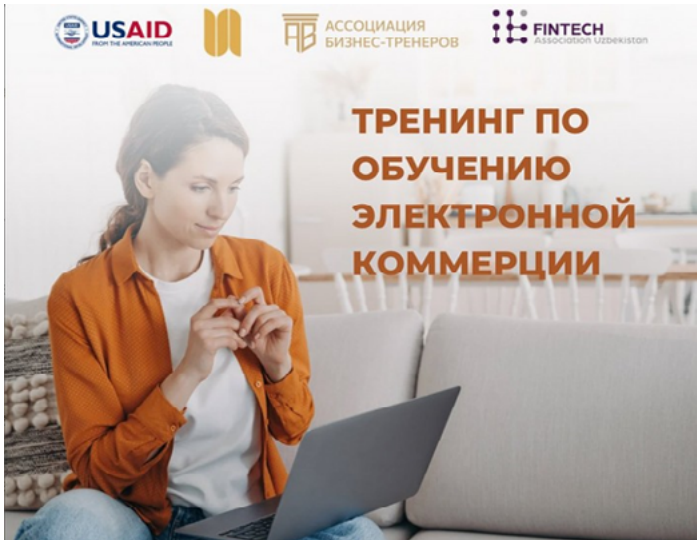
Former servicemen often find leaving the armed forces to be a traumatic experience, especially for those whose lives and careers have been closely tied to the military. «*When a serviceman has been following orders for over 25 years and then transitions to civilian life, they have no superiors, no commander, no one to report to or receive reports from. This can lead to a search for new ways to realize themselves and be useful*» notes reserve colonel Rakhat Karsembayev, co-founder of the NESPI project.

One of the speakers at the event was Kazakhstan weightlifter and two-time Olympic champion Ilya Ilyin. The forum also featured businessmen, public figures, business trainers, coaches, and psychologists.

PUBLIC TALK CONFERENCE IN DUBAI: THE BALANCING ACT

On May 11th, at the Public Talk Conference in Dubai, Alua Nurbayeva presented on «The Balancing Act,» discussing cases of women entrepreneurs who participated in a mentorship program led by her team. This program, aimed at guiding women through their entrepreneurial journeys, was funded by the Asian Development Bank with support from the Ministry of Economy and the «Atameken» National Chamber of Entrepreneurs of Kazakhstan.

In 2023, they worked with 54 women, of whom 34 successfully completed the six-month mentorship program. Throughout this period, Alua and her team closely observed their work and outcomes, allowing her to formulate a definition of success tailored to their experiences. Her presentation delved into these observations and the meaning of success for these resilient businesswomen.



FINTECH TRAININGS

From May 16th to 18th, 2024, Astana hosted the WE (Women Entrepreneurs) FinTech Program at Nazarbayev University. The event brought together over 50 women from across Kazakhstan for intensive training in business and e-commerce.

The program covered financial literacy, e-commerce basics, market analysis, sales strategies, and promotion techniques, featuring practical workshops led by industry experts. Supported by NURCE and the Business Trainers Association of Kazakhstan, the initiative also provided micro-grants and business tour opportunities to standout participants.

FREE PUBLISHING IN WILEY OPEN ACCESS JOURNALS UNDER TRANSFORMATIVE AGREEMENT 2024

We are pleased to announce that NU Library has signed a Read & Publish (Transformative Agreement) with Wiley for the year 2024. The agreement includes the Article Processing Charge (APC) in the fee that institutions pay for their subscription to publishers. This fee not only covers the cost of accessing (reading) research outputs but also includes the Open Access publishing cost (APC) for authors in certain journals from the publisher's collection. In these agreements, authors usually get to keep the copyright for their articles, and the articles are published under Creative Commons licenses, allowing flexible reuse and broader sharing of research. The outcome is that articles published through these agreements become freely accessible in journals following either the Gold or Hybrid models for Open Access.

AGREEMENT SPECIFICATIONS

Nazarbayev University's corresponding authors are eligible to make their articles published in Wiley journals open access without paying a fee upon publication. The agreement covers the APCs for the eligible authors who are going to publish their works in the journals covered by the agreement depending on the **allocated budget and approval**.

AUTHORS ELIGIBILITY

- Faculty members may use this APC agreement to publish only in Q1 journals indexed by Scopus.
- Other researchers, including instructors, students, or staff may use the agreement to publish in Q1 or Q2 journals indexed by Scopus.
- Corresponding authors should be NU-affiliated and use their corporate email address with the university domain **@nu.edu.kz.**

Please visit the **LibGuide** to get more information on the publication requirements and agreement terms.

In the LibGuide, you will find the **list of journals** covered by this agreement. Note that the selected journals should be in Q1-Q2 depending on the corresponding author status.

Please feel free to share this exciting news with anyone who may find it relevant or beneficial.

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

Central Asian Research Centre for Educational Innovation and Transformation (CARCEIT)

Dear Readers,

I am delighted to extend a warm welcome to the newest edition of CARCEIT Research News, your window into the dynamic world of educational innovation at the Central Asian Research Centre for Educational Innovation and Transformation (CARCEIT). Since our inception on November 15, 2022, supported generously by the Nazarbayev Fund and driven by the unwavering dedication of Dr. Aida Sagintayeva, Dean of the Graduate School of Education (GSE), CARCEIT has flourished into a vibrant hub of excellence and innovation in Central Asia. Situated in the GSE and overseen by the esteemed Steering Committee led by Professor Chester Jablonski, NU Vice Provost for Research, CARCEIT is dedicated to making a tangible impact on educational research, policy development, and translating research to practice.

In this edition, we are thrilled to present a rich array of research events, stakeholder engagements, capacity-building initiatives, publications, research partnerships, and exciting staffing updates that have defined our path from April to June 2023. I warmly invite you to be a part of this journey of educational innovation and transformation. Join us as an engaged participant, stay connected through our social media channels, and actively participate in our initiatives to help shape the future of education in Central Asia and beyond.

Professor Naureen Durrani
Director, CARCEIT
Phone: +7 (7172) 70 63 51 | Email: carceit@nu.edu.kz | Website: carceit.nu.edu.kz
Address: 53 Kabanbay Batyr Avenue, Astana, Kazakhstan | Block C3, Office 5063
Follow CARCEIT: Facebook NUGSE | Instagram | LinkedIn | X (Twitter)

Publications

We published two papers during this quarter. While the first focuses on school leadership practices in Kazakhstan, the second examines the inclusion of marginalized populations in social policy in seven countries across Africa and Asia:

1. **Durrani, N., Makhmetova, Z.,** Kadyr, Y., & Karimova, N. (2024). Leading Schools during a Global Crisis: Kazakhstani School Leaders' Perspectives and Practices. *Sage Open*, 14(2). https://doi.org/10.1177/21582440241251606

2. Mir, G.; **Durrani, N.**; Julian, R.; Kimei, Y.; Mashreky, S.; Doan, T.T.D. Social Inclusion and Sustainable Development: Findings from Seven African and Asian Contexts. *Sustainability* 2024, 16, 4859. https://doi.org/10.3390/su16114859

sustainability

MDPI

Article

Social Inclusion and Sustainable Development: Findings from Seven African and Asian Contexts

Ghazala Mir [1,*], Naureen Durrani [2], Rachel Julian [3], Yasah Kimei [4], Saidur Mashreky [5] and T. T. Duong Doan [6]

[1] Nuffield Centre for International Health and Development, University of Leeds, Leeds LS2 9JT, UK
[2] Graduate School of Education, Nazarbayev University, Astana 010000, Kazakhstan; naureen.durrani@nu.edu.kz
[3] School of Humanities and Social Sciences, Leeds Beckett University, Leeds LS1 3HE, UK; r.julian@leedsbeckett.ac.uk
[4] Haki Africa, Mombasa P.O. Box 1286-80100, Kenya; yassahmusa@gmail.com
[5] Centre for Injury Prevention and Research, Bangladesh, Dhaka 1206, Bangladesh; mashreky@cipvb.org
[6] College of Health Sciences, Vin University, Hanoi 10000, Vietnam; duong.ttt@vinuni.edu.vn
* Correspondence: g.mir@leeds.ac.uk; Tel.: +44-113-3434832

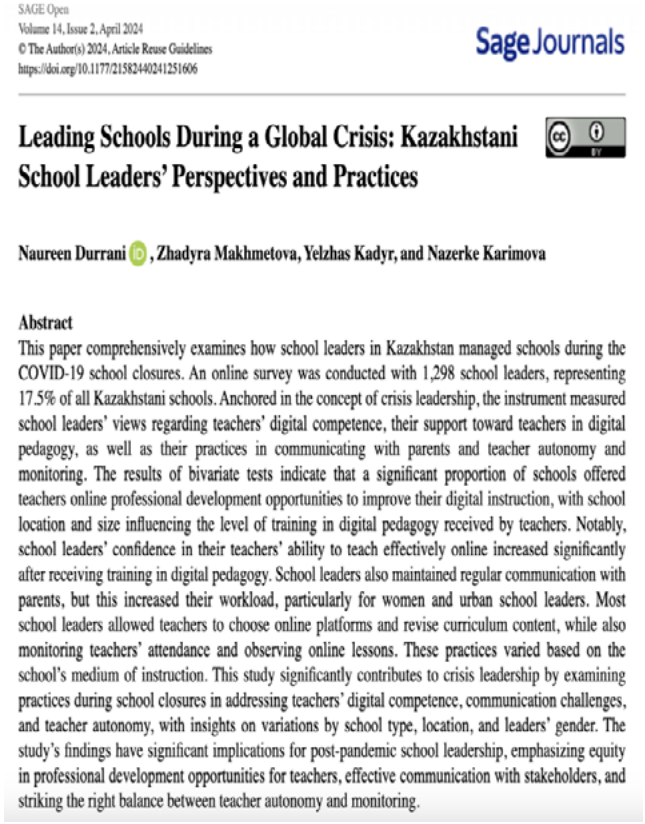
Abstract: Social inequities have widened divisions between diverse population groups. Inequity is associated with social exclusion, structural and physical violence and reduced development, which in turn are linked to civil unrest, conflict and adverse health and social outcomes. Public services are key institutions through which social inequities are created and maintained, but evidence on viable interventions to reduce institutional exclusion is limited for low- and middle-income (LMIC) contexts. We identify common drivers of institutional exclusion across diverse populations in LMICs and inclusion strategies that could potentially work across populations, public service sectors and country contexts. Seven studies engaged with over 385 key stakeholders in healthcare, education and local government settings in Bangladesh, Kazakhstan, Kenya, Myanmar, Nepal, Nigeria and Vietnam. Participatory research, in-depth interviews, policy reviews and multi-stakeholder workshops focused on a range of disadvantaged groups. A multi-sector partnership co-produced recommendations at each site. Findings were synthesised to identify common themes and a framework for social inclusion across disadvantaged populations. The invisibility of disadvantaged communities in public service planning and delivery processes helped maintain their exclusion from opportunities and resources. A spectrum of neglect, restrictions and discriminatory practice reflected structural violence linked to poor life chances, illness, physical abuse and death. Key recommendations include the representation of disadvantaged groups in service staffing and decision-making and the transformation of public service policy and practice to develop inclusive, targeted, collaborative and accountable systems.

Keywords: social exclusion; public services; structural violence; sustainable development

check for updates

Citation: Mir, G.; Durrani, N.; Julian, R.; Kimei, Y.; Mashreky, S.; Doan, T.T.D. Social Inclusion and Sustainable Development: Findings fromSeven African and Asian Contexts. Sustainability **2024**, 16, 4859. https://doi.org/10.3390/su16114859

Academic Editor: Laurie Buys



SAGE Open
Volume 14, Issue 2, April 2024

https://doi.org/10.1177/21582440241251606

Sage Journals

Leading Schools During a Global Crisis: Kazakhstani School Leaders' Perspectives and Practices

Naureen Durrani, Zhadyra Makhmetova, Yelzhas Kadyr, and Nazerke Karimova

Abstract

This paper comprehensively examines how school leaders in Kazakhstan managed schools during the COVID-19 school closures. An online survey was conducted with 1,298 school leaders, representing 17.5% of all Kazakhstani schools. Anchored in the concept of crisis leadership, the instrument measured school leaders' views regarding teachers' digital competence, their support toward teachers in digital pedagogy, as well as their practices in communicating with parents and teacher autonomy and monitoring. The results of bivariate tests indicate that a significant proportion of schools offered teachers online professional development opportunities to improve their digital instruction, with school location and size influencing the level of training in digital pedagogy received by teachers. Notably, school leaders' confidence in their teachers' ability to teach effectively online increased significantly after receiving training in digital pedagogy. School leaders also maintained regular communication with parents, but this increased their workload, particularly for women and urban school leaders. Most school leaders allowed teachers to choose online platforms and revise curriculum content, while also monitoring teachers' attendance and observing online lessons. These practices varied based on the school's medium of instruction. This study significantly contributes to crisis leadership by examining practices during school closures in addressing teachers' digital competence, communication challenges, and teacher autonomy, with insights on variations by school type, location, and leaders' gender. The study's findings have significant implications for post-pandemic school leadership, emphasizing equity in professional development opportunities for teachers, effective communication with stakeholders, and striking the right balance between teacher autonomy and monitoring.

Conferences

Invited Keynote and talks

May 13, 2024 - a team member and international consultant of the education for sustainable development project **Professor Tristan McCowan, University College London, Institute of Education** was a keynote speaker at the **2nd SDSN Conference on "Localisation of Sustainable Development Goals (SDGs) across sectors in Central Asia"**. His topic was *"Achieving the SDGs through higher education"*. Tristan McCowan is a Professor of International Education at the Institute of Education, University College London.

He is the author of the book 'Higher Education for and Beyond the Sustainable Development Goals' (Palgrave Macmillan, 2019). In his keynote talk, he highlighted the importance of the agency of higher education institutions in achieving sustainable development globally and locally.

Photo credits: Gulzhanat Gafu

Citation: McCowan, T. (2019). Higher Education for and beyond the Sustainable Development Goals. 10.1007/978-3-030-19597-7.

On June 11, 2024, Professor **Naureen Durrani** delivered a keynote presentation titled ***"Transforming Educational Research into Practice in the CAMCA Region"*** at the **2nd Education, Science, and Technology Conference (ESTEC2024**).

The conference, hosted by the American University of Central Asia in Bishkek, Kyrgyzstan, brought together scholars, educators, policymakers, and practitioners to discuss and share insights on the educational landscape and future directions in Central Asia, Mongolia, the Caucasus, and Afghanistan (CAMCA) region.

Citation: Durrani, N. (2024, June 11). *Transforming Educational Research into Practice in the CAMCA (Central Asia, Mongolia, Caucuses and Afghanistan) Region* [Keynote Speech]. The 2nd Education, Science, and Technology Conference (ESTEC2024), The American University of Central Asia. https://www.camca.academy/estec-conferences

Additionally, on June 13, 2024, **Professor Durrani** was also invited as a ***panelist*** at the ***CAMCA Regional Forum,*** where she answered questions related to innovations in and internationalization in CAMCA's Education. The CAMCA (Central Asia-Mongolia-Caucasus-Afghanistan) Regional Forum, organized by the CAMCA Network, Central Asia-Caucasus Institute, and the Rumsfeld Foundation, is dedicated to promoting region-wide discussions on economic growth and development across Afghanistan, Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan, Turkmenistan, and Uzbekistan.

Citation: Durrani, N. (2024, June 13). *Embracing Innovation in Regionalization and Internationalization in CAMCA's Education: Are We Making Enough Progress?* [Invited Panelist]. CAMCA Regional Forum. https://camcaforum.org/speakers

Refereed conference presentations

On May 13, 2024, **Anara Zhanseitova**, CARCEIT research assistant and team member of the project on education for sustainable development, presented at the **2nd SDSN Conference on "Localisation of Sustainable Development Goals (SDGs) across sectors in Central Asia".** Her presentation titled "Sustainability Education and Higher Educational Institutions in Kazakhstan: a Qualitative Content Analysis" focused on the team's qualitative content analysis findings. These findings highlighted five central themes from the national and institutional policy documents. The team's primary inquiry centered on "Is Education for Sustainable Development reflected in national policies?"

Photo credits: Aizat Arystanbek

Knowledge Exchange

Policy dialogues

Dr. **Madina Tynybayeva, co-PI of the Positive Peace Education in Kazakhstan project** and President of Altynsarin National Academy of Education attended the ***UNESCO Asia-Pacific Regional Policy Dialogue*** from June 5-7 in Bangkok. The event marked the launch of the ***"Recommendation on Education for Peace, Human Rights and Sustainable Development."*** Dr. Tynybayeva's participation underscores the dedication of all team members of the project.

Citation: UNESCO. (2024, June 3). UNESCO and partners to host Asia-Pacific Policy Dialogue and Launch of Recommendation on Education for Peace, Human Rights, and Sustainable Development. UNESCO. https://www.unesco.org/en/articles/unesco-and-partners-host-asia-pacific-policy-dialogue-and-launch-recommendation-education-peace

Research seminars at Kazakhstani universities

On May 15-17, 2024 - International consultant and research team member of the Education for Sustainable Development project (PI, Dr Gulzhanat Gafu), **Professor Tristan McCowan** visited AlmaU and KazNU universities in Almaty, Nazarbayev University in Astana, and Yessenov University in Aktau and gave presentations on the topic of *"Achieving SDGs through Higher Education"*. The seminars hosted at various universities catered to diverse audiences.

At AlmaU University, the seminar was predominantly attended by students. In contrast, the seminar at KazNU University attracted experts in sustainability along with faculty members.

☐Yessenov University saw a mixed audience that included both students and faculty.

Lastly, at NU, the seminar was primarily attended by researchers and the scholarly community. This wide variety of audiences highlights the team's commitment to sharing knowledge across different groups and fostering a broad-based understanding of the subject matter. All presentations were followed by lively discussions.

Photo credits: Gulzhanat Gafu, Aizat Arystanbek

Externally Funded Visiting Positions

The Werklund School of Education at the University of Calgary generously sponsored a weeklong visit by Professor Durrani from May 13th to 17th, 2024. During her stay, Professor Durrani engaged in productive meetings with key figures, such as Dr. Shelly Russell-Mayhew, Associate Dean for Research, Dr. Sarah Eaton, Chair of Leadership, Governance, and Policy Specialization, and Dr Aliya Kuzhabekova, Principal Investigator of the grant that funded Professor Durrani's visit. These discussions centered around shared research interests and potential funding opportunities. Together with Dr. Kuzhabekova, Professor Durrani finalized the manuscript for the upcoming edited volume titled "Gender and Education in Central Asia."

Additionally, Professor Durrani delivered a public lecture on the *Intersection of gender, education, and conflict*, as well as conducted a seminar for master's students on *Researcher positionality, methodological challenges, and ethical considerations*.

The seminar received positive feedback, with one student highlighting the enriching nature of the discussion: "*I really enjoyed listening to Naureen Durrani in class tonight and I found her presentation about power and ethics and the swirls of layers around research really good in grounding the chapters and making the content of this course more 'real' in a way*."

Citation: Durrani, N. (2024, May 15). Gender, education, conflict and peacebuilding Intersections, challenges and possibilities [Public Lecture]. Werklund School of Education, University of Calgary. https://werklund.ucalgary.ca/internationalization/about

---

Capacity Building

Digital training in research interviews

Professor Mustafa Sever from Ankara University conducted an online training session via Zoom on April 17, 2024, for the team members of the **Strengthening Regional Universities in Kazakhstan** research project (PI, Prof Ahmet Aypay). The training aimed to enhance essential interviewing skills to maximize the quality and depth of data collected. The session covered practical techniques for establishing rapport with interviewees, ensuring a comfortable and trusting environment, and addressing ethical considerations before, during, and after interviews. Additionally, it provided best practices for asking clear, focused questions, minimizing redundancy, and adapting to the interviewee's comprehension level.

Professional Development in qualitative research

Under the initiative of Dean Aida Sagintayeva, the Nazarbayev University Graduate School of Education (NUGSE) proudly organized the professional development program "***Introduction to Qualitative Research Methods***" in collaboration with the Central Asian Research Centre for Educational Innovation and Transformation (CARCEIT) from June 18th to 22nd, 2024. This intensive course was led by post-doctoral researchers of NUGSE **Dr. Gulzhanat Gafu**, and Dr. Assel Sharimova, and CARCEIT post-doctoral research fellow, **Dr. Laura Ibrayeva**, under the expert guidance of Professor **Naureen Durrani,** director of CARCEIT.

Designed after a thorough needs analysis by the GSE faculty team, this course was perfect for early career faculty members from Kazakhstani universities in social sciences and humanities eager to dive deep into qualitative research. Participants explored both the theoretical and practical sides of qualitative research methods, significantly enhancing their research skills.

The team welcomed 33 participants from five universities across Kazakhstan, including Margulan University, Astana International University, Eurasian National University, Buketov University, and Zhubanov University. By the end of the course, participants presented their research project proposals, demonstrating the knowledge they gained throughout the course.

Training peace ambassadors in conflict resolution

Team members of the **Positive Peace Education project in Kazakhstan** are conducting the SDF project to disseminate and share knowledge about **Peace Education**. This project features a 3-day seminar from July 9-11 at Nazarbayev University on **'Conflict Resolution Strategies to Maintain and Build Peaceful Schools.'** After reviewing 34 applications and conducting interviews, 10 students from various regions, including Akmola, Zhambyl, East Kazakhstan, Ulytau, and Mangystau, as well as cities such as Taraz, Zhezkazgan, Astana, Kokshetau, and Aktau, were selected to participate along with their teachers. Following the workshop, from September to December 2024, participants will develop and implement strategies and/or small projects to resolve conflicts, prevent bullying, and create a peaceful school environment in their schools.

Awards

CARCEIT is delighted to announce that **Dr. Jonas Preposi Cruz**, Professor at the Department of Medicine, School of Medicine, Nazarbayev University and Principal Investigator of the QazGreen project on Environmental Sustainability in Healthcare at CARCEIT, has won the **Integrating Research and Teaching – The Sofiya An Award at the annual NU Teaching Awards**. Dr. Cruz is recognized for his outstanding work in merging interdisciplinary research with teaching. Congratulations to Dr. Cruz on this remarkable achievement!

Ongoing data collection

Strengthening Regional Universities in Kazakhstan - PI Ahmet Aypay

The research project is now in the data collection stage. ERIC approved the data collection's ethical approval. The research team collected the quantitative data (n=320) and case studies in 5 regional

universities, which included individual and focus group interviews with faculty, middle management, and top management of the universities. Besides, the research team wrote the manuscript based on the document analysis of strategic development policy documents of regional universities.

Sustainability Education and Higher Educational Institutions in Kazakhstan: a student perspective - PI Gulzhanat Gafu

The research team had data collection trips from late April to early May, conducting focus groups in different universities in south, west, east, north, and central Kazakhstan. Then the team had a team meeting with the international consultant, Professor Tristan McCowan, on May 14, 2024, where they discussed the project timeline and the findings of the quantitative and qualitative analysis. Following the meeting, the team has been working on the transcription of the focus groups, and currently are working on the data analysis.

"Nurturing Young Minds: Exploring the Role of Positive Early Childhood Education and Care in the Health and Well-being of Young Children in Kazakhstan" PI Daniel Hernández-Torrano

During this period, a key milestone was the completion of a 62-page section on **Early Childhood Education for the National Report**, now under review by the **Taldau team**. The team is also actively working on a **Systematic Literature Review protocol**, aligning with the Campbell Systematic Review journal guidelines. Additionally, interviews with **over 200 children in Astana and Shymkent have been conducted, gathering both quantitative and qualitative data.** Data collection efforts are ongoing in various parts of Kazakhstan, with collected data being transcribed and organized for analysis.

Positive Peace Education in Kazakhstan - PI Lynne Parmenter

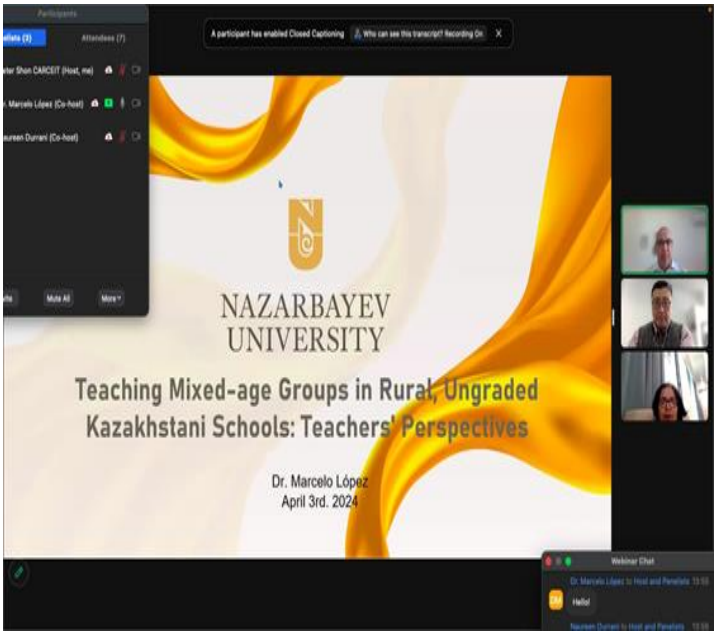
In recent school visits, the team held successful **Positive Peace workshops** for teachers tailored to specific requests in **three schools**. These workshops covered project overviews, peace education concepts, the Positive Peace Matrix, violence types, research methodologies, and ethical considerations. Following these workshops, teachers actively engaged and shared knowledge.

The team completed the **first data collection round** involving observations, interviews, and questionnaires with 32 teachers from 7 schools, leading to 14 Action Research projects on peace education. Individual feedback was provided, and suggestions for project development were given. Currently, the team is conducting a **systematic literature review** on positive peace education, analyzing global studies to refine findings for future educational initiatives.

CARCEIT Seminars

April 3rd, 2024

On **April 3rd,** Dr. Marcelo J. López Lara, PhD Lopez, an alumnus of Nazarbayev University Graduate School of Education (NUGSE), delivered a webinar titled "**Teaching Mixed Age Groups in Rural, Ungraded Kazakhstani Schools: A Teacher's Perspective**" to the research community



The webinar addressed challenges in rural contexts, such as population migration and curriculum misalignment, particularly in ungraded schools catering to mixed-age groups. There's a notable need for a tailored curriculum recognizing unique rural skills and circumstances. Despite efforts from stakeholders, tensions persist due to stagnant living conditions. Teachers aim for improved teaching quality, requiring training and resources for effective implementation of a mixed-age curriculum. The government has yet to explore international models as potential solutions, highlighting the under-researched rural education setting that warrants further investigation.

April 17, 2024

On ***April 17***, CARCEIT hosted a seminar by **Dr. Duishon Shamatov and Dr. Mir Afzal Tajik** who presented their ongoing research on Stakeholders' Perspectives on School Education Quality in Kyrgyzstan and Tajikistan in the Context of School 2030 Initiative. Key research findings underscored the urgent need for a holistic approach to education, emphasizing not just academic achievement but also overall student well-being and development. Additionally, strong school leadership and management alongside enhancing parental involvement in decision-making emerged as crucial pillars for fostering a conducive learning environment and driving innovation. Lastly, addressing resource deficiencies emerged as a critical challenge, underscoring the importance of ensuring schools have the necessary tools and facilities to provide quality education. Wrapping up with important takeaways, the audience actively participated in

thought-provoking dialogue, presenting insightful queries that greatly contributed to the team's ongoing research endeavors.

April 24, 2024

On ***April 24,*** CARCEIT had the pleasure of hosting **Vanessa Ozawa's** enlightening seminar on the topic of "**Construction of Uzbekistani Youth National Identities through 'External Others': Post-Structuralist Analysis of School and Youth Discourses**."

Vanessa's presentation was insightful, as she shared some of her key findings on the outcomes of the school education processes in constructing youth national identities.

One of the fascinating findings was the discourse in the textbooks, specifically Tarbiya, which highlighted Uzbekistan as a peaceful and peace-loving country in contrast to perceived "external others." This portrayal not only instilled a sense of national pride but also delineated external threats as the catalyst for solidarity.

Another noteworthy point was the comparison of suffering in Soviet times with peaceful post-independence times, intricately interwoven with the figure of President Islam Karimov. Moreover, Vanessa keenly observed discrepancies in national awareness across various social groups, offering a nuanced understanding of identity formation within Uzbekistani youth.

May 14, 2024

On May 14, **Professor Tristan McCowan**'s talk shed light on how universities can tackle climate change. Professor McCowan introduced the **Climate-U project**, a practical approach to empowering universities, especially in lower-income countries, to tackle the challenges of climate change head-on.

One universal finding from the large-scale survey conducted as part of the Climate-U project revealed that university students are eager to learn more about climate change. We also explored the unique contexts of Brazil, Fiji, Kenya, and Mozambique, countries selected based on their vulnerability to climate-related disasters and the potential of their higher education systems to drive change. With distinct features in culture, politics, economics, and geography, there's vast potential for cross-country learning and collaboration.

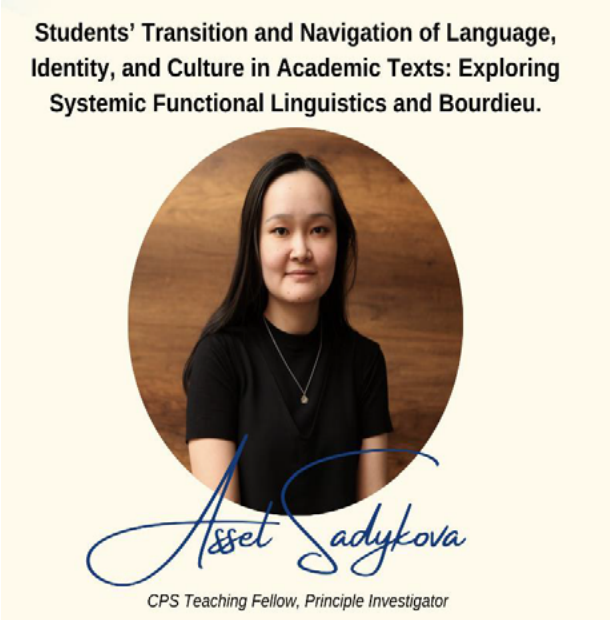
May 28, 2024

On ***May 28*** CARCEIT held a seminar titled "**Politics of Knowledge in Higher Education**", where professors **Brendan Cantwell and Riyad A. Shahjahan** from Michigan State University, provided a critical examination of the dynamics shaping higher education today.

Dr. Cantwell explored the evolving governance structures in higher education, particularly in the US, arguing that the traditional world-class university (WCU) model, characterized by resource intensity, institutional autonomy, and academic freedom, is under significant strain. He discussed how expanding enrollments and research orientation, driven by substantial investments through excellence initiatives, challenge the sustainability of the WCU model.

Dr. Riyad A. Shahjahan's presentation delved into the influence of global university rankings (GURs) on Bangladesh, examining how local media perpetuates Western academic norms through these rankings. His analysis revealed a reliance on GURs as indicators of educational quality, reinforcing external standards and neglecting local knowledge systems and cultural contexts. This reliance on Western benchmarks can narrow the definition of quality and may not align with local educational requirements. He emphasized the need for a more inclusive evaluation approach that values local practices and priorities in higher education, advocating for a context-sensitive perspective.

June 5, 2024



On ***June 5*** CARCEIT started seminars on new Educational Impact Projects (EIP). The first project was presented by **Assel Sadykova**. Supported by an incredible team, this project explores how students navigate language, identity, and culture in academic texts using **Systemic Functional Linguistics and Bourdieu's theories.** Her research delves into the representation of Western culture in academic materials and the essential linguistic and cultural capital students need for academic success. She aims to understand how these cultural representations affect students' sense of belonging, identity formation, and academic integration within the university environment. She highlights that we need not only knowledge of the language but also our in-the-head knowledge—about the world, genre, and culture—to make meaning from written material. Assel and her team believe that understanding these dynamics is crucial for fostering an inclusive and supportive academic environment.

June 12, 2024

On ***June 12***, CARCEIT presented two Educational Impact Projects (EIPs).

Faculty mentor **Kairat Kurakbayev, Principal Investigator Aida Nuranova**, and **Co-PI Inara Akhmetova** introduced their project "***Changing Academic Profession in Kazakhstan: Examining Faculty's Research Performativity and Accountability in the Post-Socialist Context of Higher Education***". This project focuses on examining how faculty members at three regional universities in Kazakhstan are navigating neoliberal reforms within the post-socialist higher education landscape. It critically assesses the impact of neoliberal policies on faculty research performance, emphasizing areas such as institutional autonomy, accountability, academic excellence initiatives, and research grant competition. The team will employ a mixed-methods approach involving surveys and interviews to gather insights. Anticipated outcomes include a professional development program, a guidebook, and workshops. Data collection for the project is presently ongoing.

The second project, titled "***Visualizing Success Using AI-generated Images: Unveiling Challenges and Success Strategies of Undergraduate Women in IT Degrees***" was presented by **Dr Munyaradzi Hwami** (mentor) and led by Principal Investigator **Alexandra Nam**. This research aims to explore the journeys of female undergraduate students in IT programs and uncover pivotal elements contributing to their achievements. The team will employ a two-stage qualitative approach involving AI visualization and semi-structured interviews. The outcomes will be disseminated through an AI image gallery, roundtable discussions, a policy brief, and a conference presentation.

Staff updates

CARCEIT is pleased to welcome its new members and would like to extend heartfelt gratitude to those who have concluded their time with us but have contributed greatly to our success.

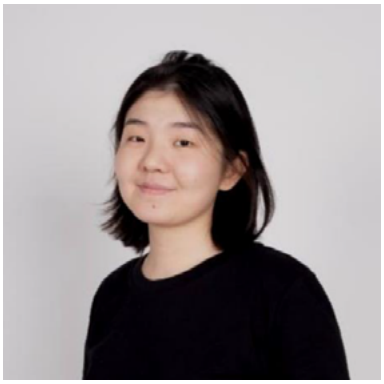
Peter Shon, *PhD in Education, NUGSE*

Peter served as a Research Communicator at CARCEIT from September 2023 to June 2024. During his tenure, he successfully established communication with wide audiences through seminars, social media, and the CARCEIT website. He was a delightful member of the CARCEIT community, and while we are sorry to see him go, we wish him all the best in his future endeavors.

Zhadyra Makhmetova, *Ph.D. in Education*

Zhadyra joined CARCEIT as a ***postdoctoral fellow*** on May 15, 2024. She holds a PhD in Educational Leadership and aims to contribute to the body of knowledge and practice in teacher education, educational assessment, and gender and inequality in Central Asian and post-Soviet contexts. She is currently mentoring research assistants of CARCEIT, as well as working on the Regional Universities' status project with Professor Ahmet Aypay.

Danagul Yembergenova, PhD in Education Management, University of Geneva, Switzerland, is an Open Science activist, she promotes and practices Open Science principles. She is a Research Assistant on the Regional Universities' status project with Professor Ahmet Aypay.



Gulbakhyt Tursymbayeva, MSc in Development Studies, SOAS University of London, UK, is a Research Assistant on the EIP 2024 project led by Alexandra Nam, "***Visualizing Success using AI-generated Images: Unveiling Challenges and Success Strategies of Undergraduate Women in IT Degrees***."

Roza Sagitova, *M.Sc. in Educational Leadership, Nazarbayev University Graduate School of Education, is* a Research Assistant on EIP 2024 project led by Aida Nuranova, "***Changing Academic Profession in Kazakhstan:*** *Examining Faculty's Research Performativity and Accountability in the Post-Socialist Context of Higher Education*".

Zhansaya Tatyyeva, MSc in Educational Leadership, Nazarbayev University is a Research Assistant on the EIP 2024 project led by Assel Sadykova, "***Students' Transition and Navigation of Language, Identity, and Culture in Academic Texts: Exploring Systemic Functional Linguistics and Bourdieu***".

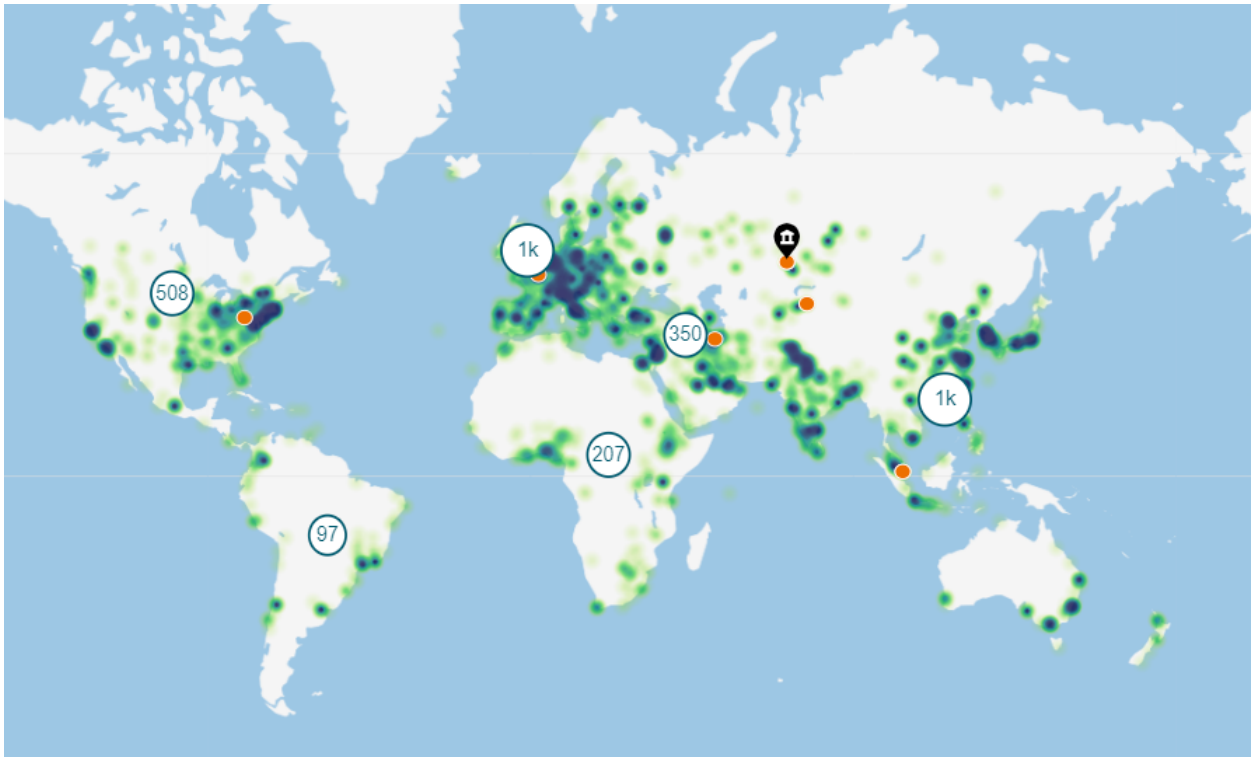
Gulbagira Toleu, Master in Public Policy, Nazarbayev University, is a Research Assistant on the ***Positive Peace Education in Kazakhstan*** project led by Professor Lynne Parmenter.

Anara Burambayeva, Master of Education, University of Toronto, Canada, is a Research Assistant on the project on ***positive early childhood*** education led by Professor Daniel Torrano. She is also currently a PhD student at Nazarbayev University.

We welcome all our new members onboard and wish them luck in their research endeavors!

Photo credits: *Meruyert Smagulova & Anara Zhanseitova.*
Editors: *Meruyert Smagulova & Anara Zhanseitova.*

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 8,779 peer-reviewed publications indexed by Scopus, and have been cited 118,663 times for 2011-2024 period (Source: SciVal, June 2024). The approximate number of citations per peer-reviewed publication is 13.5. The overall H-index of NU is 107, whereas H5-index is 77.

The Field-Weighted Citation Impact of NU over 2019-2024 years is 1.64, meaning that our publications have been cited 64% 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 4,051 research papers in partnership with 3,327 organizations from 131 different countries. These collaborative efforts accounted for 65.1% of the total number of publications indexed by Scopus. The map on above illustrates how these collaborations are spread throughout the world. The overall Field-Weighted Citation Impact of these co-authored papers is 1.84, meaning that these papers are cited 84% more than 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	Partnerships for sustainable solutions with the countries of the South Caucasus and Central Asia	BMBF	8-Jul-24	URL
2	FANCONI CANCER FOUNDATION – AACR NEXTGEN GRANT FOR TRANSFORMATIVE CANCER RESEARCH	The Fanconi Cancer Foundation	9-Jul-24	URL
3	Macular Degeneration Research Program Request for Proposals	Bright Focus Foundation	25-Jul-24	URL
4	SANDY KIRKLEY CLINICAL OUTCOME RESEARCH GRANT	AMERICAN ORTHOPAEDIC SOCIETY FOR SPORTS MEDICINE	31-Jul-24	URL
5	Alzheimer's Disease Research Program Request for Proposals	Bright Focus Foundation	2-Aug-24	URL
6	Faculty Development Competitive Research Grants Program for 2025-2027	Nazarbayev University	15-Aug-24	URL
7	AACR-ASTRAZENECA BREAST CANCER RESEARCH FELLOWSHIP FOR ENDOCRINE THERAPY RESEARCH	AstraZeneca	15-Aug-24	URL
8	The Andrew McDonough B+ Foundation Childhood Cancer Research Grant	The Andrew McDonough B+ (Be Positive) Foundation	3-Sep-24	URL
9	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
10	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
11	STANDARD AWARD IN NATIONAL GLAUCOMA RESEARCH	Bright Focus Foundation	31-Oct-24	URL
12	Kaleidoscope Pro-Only Grant	Wildlife Acoustics	15-Nov-24	URL
13	HODGKIN-HUXLEY RESEARCH GRANT	The FamilieSCN2A	rolling basis	URL
14	American Tinnitus Association`s grant program	The American Tinnitus Association	rolling basis	URL
15	Research Grants and Support	Nestlé Foundation	rolling basis	URL
16	Carl Zeiss Humboldt Research Award	the Humboldt Foundation	rolling basis	URL
17	Fraunhofer-Bessel Research Award	the Humboldt Foundation	rolling basis	URL
18	Friedrich Wilhelm Bessel Research Award	the Humboldt Foundation	rolling basis	URL
19	Clean Energy Accelerator	Amazon	rolling basis	URL
20	Project Grants	The Myrovlytis Trust	rolling basis	URL
21	Small/ Pilot Studies	The Myrovlytis Trust	rolling basis	URL
22	Energy Foundation`s grants	Energy Foundation China	rolling basis	URL
23	Impact Collaboration Programme (ICP 2023)	The Geneva Science-Policy Interface	rolling basis	URL

FUNDING OPPORTUNITIES

#	Opportunity	Funder	Deadline	Source link
24	Research Core Award: Non-rodent Large Animal Model for Inherited Retinal Disease (worldwide)	Foundation Fighting Blindness	rolling basis	URL
25	DIAGNOSTICS ACCELERATOR: PERIPHERAL BIOMARKERS PROGRAM	The Alzheimer's Drug Discovery Foundation	rolling basis	URL
26	ATA Innovative Grants Research Program (Awards for Student and Postdoctoral Investigators, travel grants)	The American Tinnitus Association (ATA)	rolling basis	URL
27	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

New research publications indexed by Scopus (count: 332 as of 26.06.24)

- Abaunza, C.M. (2024).Return Migration and Return Intention in Times of Crisis: Dominican Return During the COVID-19 Pandemic. Mobility and Politics,2596193-213
- Abbas, Q., Golman, B., Skrzypacz, P. (2024).Modeling and numerical analysis for cylindrical flow-through catalytic membrane reactor with power-law reaction kinetics: Revealing dead-core phenomena. Chemical Engineering Science,297
- Abdelaziz, A.A., Lim, S.Y., Kim, J.R. (2024).Bankline Abutment Scour in Compound Channels. Water (Switzerland),16(11)
- Abdi, A., Ranjbar, B., Kazemzadeh, Y. and 2 more (...) (2024).Investigating the mechanism of interfacial tension reduction through the combination of low-salinity water and bacteria. Scientific Reports,14(1)
- Abdikarimov, A., Bekenova, A., Nurmakhan, N. and 2 more (...) (2024).Simultaneous surgery for coexisting heart disease and non-cardiac malignancy: Assessment of feasibility in case series. Journal of Surgical Case Reports,2024(5)
- Abdildin, Y., Tapinova, K., Nemerenova, A. and 1 more (...) (2024).The impact of ketamine on outcomes in critically ill patients: a systematic review with meta-analysis and trial sequential analysis of randomized controlled trials. Acute and Critical Care,39(1) 34-46
- Abdirakhman, T., Balay-Odao, E.M., Aljofan, M. and 1 more (...) (2024).Highly Educated Mother's Perception of Childhood Vaccination Hesitancy in Kazakhstan: A Thematic Analysis. International Journal of Community Based Nursing and Midwifery,12(2) 86-97
- Abdulkarim, A., Ehile, I.E., Kizilirmak, R.C. (2024).Utilizing Machine Learning for Sensor Fault Detection in Wireless Sensor Networks. International Conference on Advanced Communication Technology, ICACT,343-349
- Abdullaev, A., Sekerbayev, K., Rymzhanov, R. and 6 more (...) (2024).Impact of swift heavy ion-induced point defects on nanoscale thermal transport in ZnO. Materials Research Bulletin,175
- Abdullin, K., Gabdullin, M., Kalkozova, Z. and 5 more (...) (2024).Enhancing the Electrochemical Performance of ZnO-Co3O4 and Zn-Co-O Supercapacitor Electrodes Due to the In Situ Electrochemical Etching Process and the Formation of Co3O4 Nanoparticles. Energies,17(8)
- Abedinia, O., Shakibi, H., Shokri, A. and 4 more (...) (2024).Optimization of a syngas-fueled SOFC-based multigeneration system: Enhanced performance with biomass and gasification agent selection. Renewable and Sustainable Energy Reviews,199
- Abenova, M., Shaltynov, A., Jamedinova, U. and 2 more (...) (2024).The Association between Parental Child Vaccination Refusal Rate and the Impact of Mass Vaccination against COVID-19 in Kazakhstan: An Interrupted Time Series Analysis with Predictive Modelling of Nationwide Data Sources from 2013 to 2022. Vaccines,12(4)
- Abileva, G., Turzhanova, A., Zhamangara, A. and 2 more (...) (2024).Environmental DNA reveals the ecology and seasonal migration of a rare sturgeon species in the Ural River. Environmental DNA,6(2)
- Abishev, R., Satyanaga, A., Pernebekova, G. and 5 more (...) (2024).Stability of soil slope in Almaty covered with steel slag under the effect of rainfall. Scientific Reports,14(1)
- Abotaleb, B., Takeyeldein, M.M., Huzayyin, O. and 1 more (...) (2024).Impact of Negative Camber for Performance of Vertical Axis Wind Turbine. Evergreen,11(1) 286-294
- Absalyamova, M., Nurmyrza, M., Nurlan, N. and 2 more (...) (2024).The effect of carbonized zeolitic imidazolate framework-67 (ZIF-67) support on the reactivity and selectivity of bimetal-catalytic aqueous NO3− reduction. Chemosphere,358
- Adebunmi, K.O., Marzuki, A., Ng, A. and 1 more (...) (2024).CMOS-Based Ripple Correlation Control MPPT DC-DC Boost Converter for Perovskite Solar CellEnergy Harvester. 2024 IEEE 4th International Conference in Power Engineering Applications: Powering the Future: Innovations for Sustainable Development, ICPEA 2024,246-251
- Adhikari, B., Kato, G. (2024).Russian adventurism and Central Asian leaders' foreign policy rhetoric: Evidence from the UN General Debate corpus. Research and Politics,11(2)
- Adhikari, B., King, J., Santoso, L.P. (2024).The limits of shame: UN shaming, NGO repression, and women's protests. Conflict Management and Peace Science,41(3) 197-217
- Adilkhanova, A., Ormantayeva, A., Kaziullayeva, A. and 7 more (...) (2024).Electrofermentation increases concentration of poly γ-glutamic acid in Bacillus subtilis biofilms. Microbial Biotechnology,17(3)

- Admoni, H., Szafir, D., Johal, W. and 1 more (...) (2024).Designing an Introductory HRI Course. ACM/IEEE International Conference on Human-Robot Interaction,1302-1304
- Afzal, M., Safdar, M., Alahmadi, H.N. (2024).Analyzing the impact of flexible shells and sound absorbent lining on acoustic wave behavior in ducts. Mathematical Methods in the Applied Sciences,
- Agibayeva, A., Tleuken, A., Karaca, F. and 2 more (...) (2024).Understanding Public Perception of Air Quality in the Urban Environment of Central Asia: An Empirical Assessment Using Structural Equation Modelling. Environment and Urbanization ASIA,15(1) 39-58
- Ahmad, J., Hashmi, M., Bakytbekov, A. and 1 more (...) (2024).Design and Analysis of a Low Profile Millimeter-Wave Band Vivaldi MIMO Antenna for Wearable WBAN Applications. IEEE Access,1270420-70433
- Ahmed, K., Sheikh, A., Fatima, S. and 7 more (...) (2024).Differential analysis of histopathological and genetic markers of cancer aggressiveness, and survival difference in EBV-positive and EBV-negative prostate carcinoma. Scientific Reports,14(1)
- Akhmedullin, R., Kyrgyzbay, G., Kimadiev, D. and 1 more (...) (2024).New-onset psychogenic nonepileptic seizures after intracranial neurosurgery: A meta-analysis. Seizure,11912-16
- Ali, A., Khan, M., Khan, K. and 2 more (...) (2024).Sentiment Analysis of Low-Resource Language Literature Using Data Processing and Deep Learning. Computers, Materials and Continua,79(1) 713-733
- Aljofan, M., Gaipov, A. (2024).Drug discovery and development: the role of artificial intelligence in drug repurposing. Future medicinal chemistry,16(7) 583-585
- Almukhambetova, A., Hernández-Torrano, D., Nam, A. (2024).Correction to: Fixing the Leaky Pipeline for Talented Women in STEM (International Journal of Science and Mathematics Education, (2023), 21, 1, (305-324), 10.1007/s10763-021-10239-1). International Journal of Science and Mathematics Education,22(5)
- Alyukov, M., Erpyleva, S., Colinas, J. and 2 more (...) (2024).FROM ASCRIPTIVE TO PARTICIPATORY CITIZENSHIP: SOCIAL CONFLICT, POLITICAL BELONGING, AND THE LIBERAL NATION-STATE. Drustvena Istrazivanja,33(1) 31-52
- Amiriara, H., Mirmohseni, M., Ashtiani, F. and 2 more (...) (2024).A Novel Stochastic Model for IRS-Assisted Communication Systems Based on the Sum-Product of Nakagami-m Random Variables. IEEE Open Journal of the Communications Society,1-1
- Arbuz, A.S., Panichkin, A.V., Popov, F.E. and 2 more (...) (2024).Using the radial shear rolling method for deep development of the cast structure of ingots of special materials. Metallurgist,
- Artyk, Z., Kuan, Y., Zhang, D. and 3 more (...) (2024).Development of engineered geopolymer composites containing low-activity fly ashes and ground granulated blast furnace slags with hybrid fibers. Construction and Building Materials,422
- Arynov, Z., Orazgaliyev, S., Issova, L. (2024).Non-recognizing the Other? Discursive deligitimation of the EAEU by the EU. Journal of Contemporary European Studies,32(2) 524-537
- Arzykulov, S., Celik, A., Nauryzbayev, G. and 1 more (...) (2024).Aerial RIS-Aided Physical Layer Security: Optimal Deployment and Partitioning. IEEE Transactions on Cognitive Communications and Networking,1-1
- Asanov, N., Schopp, N., Valagiannopoulos, C. and 1 more (...) (2024).Optical and photovoltaic properties of organic solar cells versus bulk-heterojunction morphology. Physical Review B,109(20)
- Ashikbayeva, Z., Bekmurzayeva, A., Ayupova, T. and 2 more (...) (2024).Optical fiber biosensors and lab-on-a-device/chip. Handbook of Nanomaterials, Volume 2: Biomedicine, Environment, Food, and Agriculture,47-75
- Asif, U., Javed, M.F., Abuhussain, M. and 3 more (...) (2024).Predicting the mechanical properties of plastic concrete: An optimization method by using genetic programming and ensemble learners. Case Studies in Construction Materials,20
- Asif, U., Javed, M.F., Alyami, M. and 1 more (...) (2024).Performance evaluation of concrete made with plastic waste using multi-expression programming. Materials Today Communications,39
- Asif, U., Memon, S.A., Javed, M.F. and 1 more (...) (2024).Predictive Modeling and Experimental Validation for Assessing the Mechanical Properties of Cementitious Composites Made with Silica Fume and Ground Granulated Blast Furnace Slag. Buildings,14(4)

- Askar, R., Karaca, F., Bragança, L. and 1 more (...) (2024).The Role of BIM in Supporting Circularity: A Conceptual Framework for Developing BIM-Based Circularity Assessment Models in Buildings. Lecture Notes in Civil Engineering,489649-658
- Askar, T., Yergaliyev, A., Shukirgaliyev, B. and 1 more (...) (2024).Exploring Numba and CuPy for GPU-Accelerated Monte Carlo Radiation Transport. Computation,12(3)
- Assanbayev, A., Makoelle, T.M. (2024).Practices Promoting the Inclusion of Adult Students with Disabilities in the Classroom: A Case of a Technical Vocational Education and Training College in Kazakhstan. Education Sciences,14(5)
- Atakhanova, Z., Meirambayeva, M., Baigaliyeva, M. (2024).Mine Water Use in Kazakhstan: Data Issues, Risks, and Regulations. Sustainability (Switzerland) ,16(6)
- Ayub, R.M., Bashir, S., Dawood, A. and 7 more (...) (2024).Spatial confinement offered by a blocker on the laser-induced breakdown spectroscopy of Ti plasma. AIP Advances,14(5)
- Baigadilov, A., Colombano, S., Omirbekov, S. and 5 more (...) (2024).Surfactant foam injection for remediation of diesel-contaminated soil: A comprehensive study on the role of co-surfactant in foaming formulation enhancement. Science of the Total Environment,930
- Balay-odao, E.M., Cruz, J.P., Almazan, J.U. (2024).Consequences of the hospital nursing research culture: Perspective of staff nurses. International Journal of Nursing Sciences,11(2) 233-240
- Balay-odao, E.M., Mesde, J., Bajet, J.B. and 4 more (...) (2024).Caring Behavior and Compassion Competence and Their Association With Readiness for Interprofessional Education Among Student Nurses. Health Professions Education,10(2) 114-122
- Balay-odao, E.M., Omirzakova, D., Bolla, S.R. and 2 more (...) (2024).Health professions students' perceptions of artificial intelligence and its integration to health professions education and healthcare: a thematic analysis. AI and Society,
- Baltash, Y., Kydyrbayeva, U., Yelemessova, Z. and 2 more (...) (2024).Red phosphorus coated by buckwheat-derived hard carbon as an anode material for lithium-ion batteries. International Journal of Electrochemical Science,19(1)
- Bayramov, E., Tessari, G., Kada, M. and 4 more (...) (2024).Quantitative Monitoring of Differential Deformation for Marine Kashagan Oilfield in Kazakhstan using PS-InSAR. Proceedings of the European Conference on Synthetic Aperture Radar, EUSAR,343-348
- Bazhenov, N., Mustafa, M. (2024).On Learning Families of Ideals in Lattices and Boolean Algebras. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics),146371-13
- Bedeker, M., Kerimkulova, S. (2024)."I notice I'm getting more involved, interested, and excited about my future topic." Action research as a transition from research steps to navigating graduate students' scholarly dispositions. Journal of English for Academic Purposes,68
- Beeks, V.V., Achilleos, S., Quattrocchi, A. and 28 more (...) (2024).Cause-Specific Excess Mortality During the COVID-19 Pandemic (2020–2021) in 12 Countries of the C-MOR Consortium. Journal of Epidemiology and Global Health,14(2) 337-348
- Begimbetova, D., Burska, A.N., Baltabekova, A. and 8 more (...) (2024).The Vitamin C Enantiomers Possess a Comparable Potency in the Induction of Oxidative Stress in Cancer Cells but Differ in Their Toxicity. International Journal of Molecular Sciences,25(5)
- Berdikhan, D., Esimbek, J., Henkel, C. and 11 more (...) (2024).Ammonia observations of Planck cold cores. Astronomy and Astrophysics,684
- Berekeyeva, A., Sharplin, E., Courtney, M. and 1 more (...) (2024).Ethical human participant research in Central Asia: a quantitative analysis of attitudes and practices among social science researchers based in the region. Research Ethics,20(2) 304-330
- Bjørklund, G., Semenova, Y. (2024).Serum Levels of Cortisol and Adrenocorticotropic Hormone and their Association with Depression in Environmentally Exposed Populations in Kazakhstan. Molecular Neurobiology,61(6) 3715-3723
- Bogdanova, E., Titterton, M. (2024).Statebuilding and the Modernisation of Welfare Governance in Russia. Journal of Intervention and Statebuilding,
- Bolatov, A., Yessenbayeva, A., Yazici, A. (2024).GLULA: Linear attention-based model for efficient human activity recognition from wearable sensors. Wearable Technologies,5

- Boribayeva, A., Gvozdeva, X., Golman, B. (2024).Numerical Analysis of Non-Sphericity of Particles of Powder Material and Their Effect on Packing Structure for Concentrated Solar Power Applications. Defect and Diffusion Forum,432109-114
- Borrero, J.D., Yousafzai, S. (2024).Circular entrepreneurial ecosystems: a Quintuple Helix Model approach. Management Decision,62(13) 188-224
- Bukutova, A., Tajik, M.A. (2024).Myths and realities of school development planning: Kazakhstani principals' and teachers' perspectives. Redefining Educational Leadership in Central Asia: Selected Cases from Kazakhstan and Kyrgyzstan,131-151
- Cao, J., Saravanan, S., Kashkynbayev, A. and 2 more (...) (2024).International Conference on Mathematical Modeling 2023. Mathematics and Computers in Simulation,2221-2
- Capraru, M. (2024).Teleological Functional Explanations: A New Naturalist Synthesis. Acta Biotheoretica,72(2)
- Chemaitelly, H., Finan, R.R., Racoubian, E. and 2 more (...) (2024).Estimates of the incidence, prevalence, and factors associated with common sexually transmitted infections among Lebanese women. PLoS ONE,19(4)
- Chen, Y., Fazli, S., Wallraven, C. (2024).An EEG Dataset of Neural Signatures in a Competitive Two-Player Game Encouraging Deceptive Behavior. Scientific Data,11(1)
- Chepushtanova, T., Yessirkegenov, M., Mamyrbayeva, K. and 2 more (...) (2024).Extraction of Copper from Pregnant Leach Solution (PLS) and Reduction of Crud Formation. Mineral Processing and Extractive Metallurgy Review,
- Colicev, A., Hoste, J., Konings, J. (2024).THE IMPACT OF A LARGE DEPRECIATION ON THE COST OF LIVING OF RICH AND POOR CONSUMERS. International Economic Review,
- Collins, N., Sharplin, E. (2024).Sources of authority influencing the development of research ethics policy in Muslim-majority secular jurisdictions: compatibility, contradiction and compromise. Contemporary Islam,
- Collins, N., Sharplin, E., Burkhanov, A. (2024).Challenges for Political Science Research Ethics in Autocracies: A Case Study of Central Asia. Political Studies Review,22(2) 330-346
- Cruz, J.P., Almazan, J.U., Kuntuganova, A. and 3 more (...) (2024).Standard precautions compliance and its associated factors among nurses in Kazakhstan: A cross-sectional study. American Journal of Infection Control,
- Czuba, K. (2024).Electoral contestation, goods provision, and construction of devolved government in Northern Kenya. Journal of Eastern African Studies,
- Czuba, K. (2024).State Capacity and Elite Enrichment in Uganda's Northeastern Periphery. Africa Spectrum,59(1) 25-48
- D'Hyon, S., Widzyk-Capehart, E., Zeng, S. and 2 more (...) (2024).Determination of Incombustible Content with Portable Spectrometers Using Chemometric Modelling: Preliminary Results. MINEXCHANGE 2024 SME Annual Conference and Expo,
- Daks, A., Parfenyev, S., Shuvalov, O. and 4 more (...) (2024).Lysine-specific methyltransferase Set7/9 in stemness, differentiation, and development. Biology Direct ,19(1)
- Daulet, G., Helmer, J. (2024).Kazakhstani principals' views on equity in gifted education programs. Redefining Educational Leadership in Central Asia: Selected Cases from Kazakhstan and Kyrgyzstan,113-130
- Daurenbekova, L.N., Kartayeva, A.M., Zhumatayeva, Z.N. and 2 more (...) (2024).The first educational directions and issues of literary translation in the Kazakh steppe. Cadernos de Traducao,44(1) 1-12
- Dautov, T., Kozhakhmetova, Z., Kaliyev, B. and 2 more (...) (2024).Radiology Loading and Coverage Hours in Kazakhstan. Korean Journal of Radiology,25(6) 508-510
- Dawood, A., Bashir, S., Khan, M.A. and 5 more (...) (2024).Optimizing Cu-alloy surface characteristics through magnetic field-enhanced fs laser treatment. AIP Advances,14(5)
- Dawood, A., Khan, M.A., Bashir, S. and 4 more (...) (2024).Examining the role of magnetic fields in plasma behavior and surface evolution of a Mg alloy with varied irradiances in a femtosecond laser treatment. Applied Optics,63(13) 3585-3599
- Dillinger, A., Chanvry, E., Bolat, Y. and 1 more (...) (2024).Architecture and history of uranium-bearing Palaeocene–Eocene strata deposited on the eastern margin of the Peri-Tethys (Chu-Sarysu Basin, south Kazakhstan). Sedimentary Geology,468

- Drensky, V., Ismailov, N., Mustafa, M. and 1 more (...) (2024).Free bicommutative superalgebras. Journal of Algebra,652158-187
- Dufhues, T., Buchenrieder, G., Runschke, D. and 3 more (...) (2024).Migrant Agency in an Institutional Context: The Akmola–Astana Migration System. Europe - Asia Studies,76(3) 433-460
- Durmanova, A., Slyamova, G., Rakhimzhanova, M. and 12 more (...) (2024).Glycemic control in children with type 1 diabetes: Insulin pump therapy versus multiple daily injections. Electronic Journal of General Medicine,21(2)
- Durrani, N., Makhmetova, Z., Kadyr, Y. and 1 more (...) (2024).Leading Schools During a Global Crisis: Kazakhstani School Leaders' Perspectives and Practices. SAGE Open,14(2)
- Emerald, L., Oen Paulsen, M. (2024).Long time well-posedness and full justification of a Whitham-Green-Naghdi system. Journal of Differential Equations,403188-234
- Emerald, L., Paulsen, M.O. (2024).Rigorous derivation of weakly dispersive shallow-water models with large amplitude topography variations. Studies in Applied Mathematics,
- Emmanuel, B.N., Peter, D.A., Peter, M.O. and 2 more (...) (2024).Helicobacter pylori infection in Africa: comprehensive insight into its pathogenesis, management, and future perspectives. Journal of Umm Al-Qura University for Applied Sciences,
- Esfahani, A. (2024).Angular traveling waves of the high-dimensional Boussinesq equation. Studies in Applied Mathematics,
- Esfahani, A. (2024).Traveling waves for a nonlinear Schrödinger system with quadratic interaction in R4. Mathematical Methods in the Applied Sciences,
- Esfahani, A., Levandosky, S. (2024).Traveling waves of a generalized sixth-order Boussinesq equation. Mathematical Methods in the Applied Sciences,47(11) 9180-9206
- Esmaeili, M.E., Khonsari, A., Sohrabi, V. and 1 more (...) (2024).Reinforcement learning-based dynamic load balancing in edge computing networks. Computer Communications,222188-197
- Fakhr, E.A., Spitas, C. (2024).Finite element analysis of studded tyre performance on snow: a study of traction. Vehicle System Dynamics,62(6) 1380-1400
- Fan, H., Dukenbayev, K., Nurtay, L. and 4 more (...) (2024).Mechanism of the antimicrobial activity induced by phosphatase inhibitor sodium ortho-vanadate. Journal of Inorganic Biochemistry,258
- Farzadian, O., Sekerbayev, K., Wang, Y. and 1 more (...) (2024).Nanoscale spatially resolved thermal transport in nanocrystalline 3C-SiC. Applied Physics Letters,124(23)
- Farzadian, O., Yousefi, F., Shafiee, M. and 3 more (...) (2024).Thermal rectification in novel two-dimensional hybrid graphene/BCN sheets: A molecular dynamics simulation. Journal of Molecular Graphics and Modelling,129
- Fathaddin, M.T., Sari, A.K., Sutansyah, D. and 4 more (...) (2024).Application of Artificial Neural Networks for Predicting Relative Permeability in Talang Akar Formation. E3S Web of Conferences,500
- Foster, F., Kanderzhanova, A., Umbetkulova, S. and 3 more (...) (2024).“Who Else If Not Us”: An Exploratory-Descriptive Qualitative Study of Kazakhstani Frontline Professionals' Experience and Perceptions During the Coronavirus Disease 2019 Pandemic. Qualitative Health Research,34(6) 507-516
- Fustic, M., Plink-Björklund, P., Shchepetkina, A. and 1 more (...) (2024).A typical point bar with atypical strata in the McMurray Formation, Alberta, Canada: Floods, tides and high suspended sediment concentrations. Sedimentology,
- Gao, C.H. (2024).ASSESSMENT OF CLASSIC MULTIPHASE FLOW MODELS IN SHALE GAS WELLS. Multiphase Science and Technology,36(3) 71-78
- Gao, C.H. (2024).Experimental research of paraffin deposition with flow loops. Reviews in Chemical Engineering,
- Gao, C.H., Liu, G. (2024).Field pilots of carbon dioxide huff and puff method at a shale oil field. Greenhouse Gases: Science and Technology,14(3) 352-355
- Gasmi, A., Bjørklund, G., Mujawdiya, P.K. and 3 more (...) (2024).Coenzyme Q10 in aging and disease. Critical Reviews in Food Science and Nutrition,64(12) 3907-3919
- Gasmi, A., Noor, S., Dadar, M. and 4 more (...) (2024).The Role of Traditional Chinese Medicine and Chinese Pharmacopoeia in the Evaluation and Treatment of COVID-19. Current Pharmaceutical Design,30(14) 1060-1074

- George, P.M., Harlov, D.E., Windley, B.F. and 3 more (...) (2024).High-grade metamorphism of banded iron formations: the role of saline fluids in promoting the growth of pyroxene and garnet reaction textures along magnetite-quartz grain boundaries. Mineralogy and Petrology,
- Getachew, T., Tesfahun, A., Belayneh, B. (2024).On the persistence of spatial analyticity for generalized KdV equation with higher order dispersion. Mathematische Nachrichten,297(5) 1737-1748
- Ghorbani, E., Yagiz, S. (2024).Predicting disc cutter wear using two optimized machine learning techniques. Archives of Civil and Mechanical Engineering,24
- Gofar, N., Pangestika, E.N., Harianto, Y. and 2 more (...) (2024).Effect of near-surface heterogeneities on the pore-water pressure distribution and slope stability. Sinergi (Indonesia),28(2) 327-336
- Goponenko, D., Zhumanova, K., Shamarova, S. and 3 more (...) (2024).Hydrophobic and Luminescent Polydimethylsiloxane PDMS-Y2O3:Eu3+ Coating for Power Enhancement and UV Protection of Si Solar Cells. Nanomaterials,14(8)
- Gu, C., Manan, S.A. (2024).Transliterated multilingualism/globalisation: English disguised in non-Latin linguistic landscapes as new type of world Englishes?. International Journal of Applied Linguistics (United Kingdom),
- Gu, C., Singh, R., Li, G. and 6 more (...) (2024).Development of W-Type Four-Core Fiber-based WaveFlex Sensor for Enhanced Detection of Shigella Sonnei Bacteria Using Engineered Nanomaterials. Journal of Lightwave Technology,1-13
- Gulumbe, B.H., Haruna, U.A., Yusuf, Z.M. (2024).Diphtheria outbreak in Nigeria: What do we know so far?. Microbes and Infectious Diseases,5(2) 676-677
- Güngör, B., Askar, R., Agibayeva, A. and 2 more (...) (2024).Development of Circularity Assessment Indices for Construction Sector: A Critical Review. Lecture Notes in Civil Engineering,489381-391
- Hadavimoghaddam, F., Pourafshary, P., Rozhenko, A. and 2 more (...) (2024).Advancing Predictive Precision in CO2 Minimum Miscibility Pressure: An Interpretable AI Approach for CO2-EOR and CCUS Applications. Society of Petroleum Engineers - GOTECH Conference 2024,
- Hajar, A. (2024).Learning in the shadows: exploring primary school students and their parents' perceptions of fee-charging private tutoring in Kazakhstan. Globalisation, Societies and Education,
- Hajar, A., Karakus, M. (2024).Correction to: Throwing light on fee-charging tutoring during the global pandemic in Kazakhstan: implications for the future of higher education (Asia Pacific Education Review, (2024), 25, 2, (313-325), 10.1007/s12564-023-09831-7). Asia Pacific Education Review,25(2)
- Hajar, A., Karakus, M. (2024).Five decades of language learning strategy research: a bibliometric review and research agenda. Language Learning Journal,
- Hajar, A., Karakus, M. (2024).Throwing light on fee-charging tutoring during the global pandemic in Kazakhstan: implications for the future of higher education. Asia Pacific Education Review,25(2) 313-325
- Hajar, A., Mhamed, A.A.S. (2024).Investigating language identities of international postgraduate students in Britain: a qualitative inquiry. Journal of Multilingual and Multicultural Development,45(4) 1127-1142
- Hajar, A., Mhamed, A.A.S., Owusu, E.Y. (2024).African international students' challenges, investment and identity development at a highly selective EMI university in Kazakhstan. Language and Education,
- Hajar, A., Tabaeva, A. (2024).Being participatory: employing geographic lenses to understand young people's experiences of private supplementary tutoring in Uzbekistan. Compare,
- Hajibolouri, E., Roozshenas, A.A., Miri, R. and 3 more (...) (2024).Permeability modelling in a highly heterogeneous tight carbonate reservoir using comparative evaluating learning-based and fitting-based approaches. Scientific Reports,14(1)
- Hamed Mashhadzadeh, A., Zarghami Dehaghani, M., Hamed Mashhadzadeh, A. and 4 more (...) (2024).Machine Learning-Assisted design of boron and nitrogen doped graphene nanosheets with tailored thermomechanical properties. Computational Materials Science,240
- Hazlett, R.D., Syrymov, T., Younis, R. (2024).Analytic representative element rate decline models for naturally fractured reservoir depletion. Scientific Reports,14(1)
- Hernández-Torrano, D., Ibrayeva, L. (2024).Who Feels Good at University? Exploring the Prevalence, Profiles, and Determinants of Mental Health in Higher Education Students Using a Person-Centered Approach. Asia-Pacific Education Researcher,
- Howie, P., Akmetov, D. (2024).Socio-economic constraints to low-carbon transitions: insights from Kazakhstan's Emissions Trading Scheme. Climate Policy,

- Hwami, M. (2024).A geopolitics of knowledge analysis of higher education internationalisation in Kazakhstan. British Educational Research Journal,50(2) 676-693
- Ievlev, E., Good, M.R.R. (2024).Thermal Larmor Radiation. Progress of Theoretical and Experimental Physics,2024(4)
- Imanbayeva, M., Masalimov, Z., Yurievich, P.A. and 2 more (...) (2024).Fermentation Conditions of Lactobacilli for the Production of Lactose-Free Starter Culture. OnLine Journal of Biological Sciences,24(2) 282-294
- Imashev, A., Suimbayeva, A., Zhunusbekova, G. and 2 more (...) (2024).Assessing stability of mine workings driven in stratified rock mass. Mining of Mineral Deposits,18(1) 82-88
- Irawan, S., Wayo, D.D.K., Satyanaga, A. and 1 more (...) (2024).Global Genetic Algorithm for Automating and Optimizing Petroleum Well Deployment in Complex Reservoirs. Energies,17(9)
- Issakhov, M., Khanjani, M., Muratkhozhina, A. and 3 more (...) (2024).Experimental and data-driven analysis for predicting nanofluid performance in improving foam stability and reducing mobility at critical micelle concentration. Scientific Reports,14(1)
- Issilbayeva, A., Kaiyrlykyzy, A., Vinogradova, E. and 9 more (...) (2024).Oral Microbiome Stamp in Alzheimer's Disease. Pathogens,13(3)
- Issin, N., Salamat, A., Aidarkhan, A. and 1 more (...) (2024).Enhanced Web Platform for Optimizing Medical Fundraising for a Charitable Fund. Lecture Notes in Networks and Systems,937215-225
- Isupova, O. (2024).Learning, Performance, Fatigue and Regret: Tales of Motherhood on Russian Social Media in the 2010s–2020s. Europe - Asia Studies,76(2) 247-264
- Jafari, N., Shukirgaliyev, B. (2024).Nonrelativistic limits of the Klein-Gordon and Dirac equations in the Amelino-Camelia DSR. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics,853
- Jafarigol, F., Yousefi, S., Darvishi Omrani, A. and 5 more (...) (2024).The relative contributions of traffic and non-traffic sources in ultrafine particle formations in Tehran mega city. Scientific Reports,14(1)
- Jahanbani, Z., Mortazavi, A., Ataee-pour, M. (2024).A Causal Analysis of the Influential Criteria in Underground Mining Method Selection. Rock Mechanics and Rock Engineering,
- Janani, K., Mohanrasu, S.S., Kashkynbayev, A. and 1 more (...) (2024).Minkowski distance measure in fuzzy PROMETHEE for ensemble feature selection. Mathematics and Computers in Simulation,222264-295
- Javeline, D., Orttung, R., Robertson, G. and 14 more (...) (2024).Russia in a changing climate. Wiley Interdisciplinary Reviews: Climate Change,15(2)
- Jobalayeva, B., Khismetova, Z., Glushkova, N. and 4 more (...) (2024).The impact of incentive scheme on rural healthcare workforce availability: a case study of Kazakhstan. Human Resources for Health,22(1)
- Junussov, M., Mohammad, A., Longinos, S. (2024).Geochemical analysis of organic matter associated with gold in ore deposits: A study of Kazakhstan and Hungary. Acta Geochimica,
- Kaisha, A., Caffrey, D., Ainabayev, A. and 5 more (...) (2024).Examining the Desirable Properties of ZnSnOy by Annealing Treatment with a Real-Time Observation of Resistivity. ACS Omega,
- Kanbay, M., Copur, S., Topçu, A.U. and 7 more (...) (2024).An update review of post-transplant diabetes mellitus: Concept, risk factors, clinical implications and management. Diabetes, Obesity and Metabolism,26(7) 2531-2545
- Karaca, F., Tleuken, A., Pineda-Martos, R. and 7 more (...) (2024).Analysing Stakeholder Opinions Within the COST Action CA21103 CircularB and Beyond: Circular Economy Implementation in Construction. Lecture Notes in Civil Engineering,489335-345
- Karaca, F., Tleuken, A., Pineda-Martos, R. and 8 more (...) (2024).Cultivating Sustainable Construction: Stakeholder Insights Driving Circular Economy Innovation for Inclusive Resource Equity. Buildings,14(4)
- Kargar, A., Zorbas, D., Tedesco, S. and 2 more (...) (2024).Detecting Halyomorpha halys using a low-power edge-based monitoring system. Computers and Electronics in Agriculture,221
- Karimov, D., Toktarbay, Z. (2024).Enhanced Oil Recovery: Techniques, Strategies, and Advances. ES Materials and Manufacturing,23
- Kashiri, R., Bukayev, A., Pourafshary, P. (2024).Investigating Imbibition Rate and Oil Recovery Mechanisms from Fractured Formations by Hybrid EOR Approaches. Proceedings - SPE Symposium on Improved Oil Recovery,2024-

- Kassym, L., Kussainova, A., Semenova, Y. and 1 more (...) (2024).Antimicrobial Effect of Honey Phenolic Compounds against E. coli—An In Vitro Study. Pharmaceuticals,17(5)
- Kazbek, R., Erlangga, Y., Amanbek, Y. and 1 more (...) (2024).Pricing Convertible Bonds with the Penalty TF Model Using Finite Element Method. Computational Economics,
- Kechagias, G.A., Diamantidis, A.C., Dimitrakos, T.D. and 1 more (...) (2024).Optimal maintenance of deteriorating equipment using semi-Markov decision processes and linear programming. International Journal of Industrial Engineering and Management,15(1) 81-95
- Keutayeva, A., Abibullaev, B. (2024).Data Constraints and Performance Optimization for Transformer-Based Models in EEG-Based Brain-Computer Interfaces: A Survey. IEEE Access,1262628-62647
- Khamitova, A. (2024).Reimagining higher education learning spaces in a new social contract for education. Prospects,
- Khan, M.A., Khan, K., Aloraini, A. and 1 more (...) (2024).Saraiki language characters dataset (SLCD). Data in Brief,54
- Kizilirmak, R.C., Ehile, I.E., Kabdrashev, B. and 1 more (...) (2024).Enhancing Inter-Satellite Data Relay in Dynamic Space Communication. International Conference on Advanced Communication Technology, ICACT,79-83
- Knox, C., Carmichael, P. (2024).Local government in Northern Ireland: partnerships, minimalism and marginalisation. Local Government Studies,
- Kohzadvand, K., Mahmoudi Kouhi, M., Ghasemi, M. and 1 more (...) (2024).Novel robust Elman neural network-based predictive models for bubble point oil formation volume factor and solution gas–oil ratio using experimental data. Neural Computing and Applications,
- Komesh, T., Garay, G., Henkel, C. and 13 more (...) (2024).Infall Motions in the Hot Core Associated with the Hypercompact H ii Region G345.0061+01.794 B. Astrophysical Journal,967(1)
- Kotowski, M., Świerszcz, S., Nobis, M. and 3 more (...) (2024).People and plants-close relationships at the crossroads of the Silk Roads: the case of Tajikistan. Ethnobotany Research and Applications,27
- Kozhikov, M., Janelidze, P., Seitmukhanbet, A. and 3 more (...) (2024).Community-Centric Carbon Reduction Initiatives and Their Impact on Grid Emission Factors: A Case Study in Kazakhstan. Polish Journal of Environmental Studies,33(4) 3721-3731
- Kuandyk, A., Ortega, M.-A., Ntegwa, M.J. and 1 more (...) (2024).Impact of the COVID-19 pandemic on access to and delivery of maternal and child healthcare services in low-and middle-income countries: a systematic review of the literature. Frontiers in Public Health,12
- Kuanysh, K., Singh, D., Ukaegbu, I.A. (2024).A Survey on Channel Estimation Technique Classifications and Various Algorithms. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics),14532205-215
- Kuchumova, G., Kuzhabekova, A., Almukhambetova, A. and 1 more (...) (2024).Women's Science, Technology, Engineering, and Mathematics Persistence After University Graduation: Insights From Kazakhstan. Journal of Career Development,51(3) 408-428
- Kudaibergen, G., Mukhlis, S., Mukhambetova, A. and 7 more (...) (2024).Repair of Rat Calvarial Critical-Sized Defects Using Heparin-Conjugated Fibrin Hydrogel Containing BMP-2 and Adipose-Derived Pericytes. Bioengineering,11(5)
- Kudaibergenova, Z., Hashmi, M., Nauryzbayev, G. (2024).Incorporation of DNG Metamaterial for Enhancing Efficiency of RF WPT. 2024 United States National Committee of URSI National Radio Science Meeting, USNC-URSI NRSM 2024 - Proceedings,138-139
- Kulimbet, M., Davletov, K., Saliev, T. and 6 more (...) (2024).Assessment of hypercholesterolemia prevalence and its demographic variations in the Republic of Kazakhstan. Scientific Reports,14(1)
- Kulumkanov, N., Memon, S.A., Khawaja, S.A. (2024).Evaluating future building energy efficiency and environmental sustainability with PCM integration in building envelope. Journal of Building Engineering,93
- Kumar, S., Iadicicco, A., Kim, S. and 2 more (...) (2024).Introduction to the feature issue: Advances in Optical Biosensors for Biomedical Applications. Biomedical Optics Express,15(5) 3183-3190
- Kurenkov, A., Kussanova, A., Barteneva, N.S. (2024).Advancing precision single-cell analysis of red blood cells through semi-supervised deep learning using database of patients with postCOVID-19 syndrome. Progress in Biomedical Optics and Imaging - Proceedings of SPIE,12846

- Kurmangali, Z., Abdykalykova, B., Kurmangali, A. and 2 more (...) (2024).The Influence of Vitamin D on Pregnancy and Outcomes: Current Knowledge and Future Perspectives. Gynecologic and Obstetric Investigation,159-164
- Kuryshchuk, S.I., Andrushchak, G.O., Kovaliuk, T.T. and 5 more (...) (2024).Simulation and numerical modeling of CuO films thickness influence on the efficiency of graphite/CuO/Ni solar cells. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields,37(2)
- Kushekov, R.M., Sagyndikov, M.S., Ispanbetov, T.I. and 2 more (...) (2024).Full-Field Polymer Flooding Project - Principles and Challenges at the Kalamkas Oilfield. Proceedings - SPE Symposium on Improved Oil Recovery,2024-
- Kuzdeuov, A., Mukayev, O., Nurgaliyev, S. and 2 more (...) (2024).ChatGPT for Visually Impaired and Blind. 6th International Conference on Artificial Intelligence in Information and Communication, ICAIIC 2024,722-727
- Kuzhabekova, A. (2024).Returning through Front or Back Door: Legibility Sorter for Overseas Ph.D. Holders in Kazakhstan. Journal of International Students,14(3) 232-253
- Kuzhabekova, A., Mukhamejanova, D., Almukhambetova, A. (2024).Experiences of female early-career professionals in male-dominated STEM companies in Kazakhstan. Central Asian Survey,
- Lagunay, R.A.E., Akhetova, B., O'Reilly, R.J. and 1 more (...) (2024).Tailoring the Optoelectronic Properties of Soybean-Derived Nitrogen Self-Doped Carbon Dots through Composite Formation with KCl and Zeolite, Synthesized Using Autogenic Atmosphere Pyrolysis. Crystals,14(4)
- Li, Y., Han, Y., Li, H. and 4 more (...) (2024).Chitosan synergizes with bismuth-based metal-organic frameworks to construct double S-type heterojunctions for enhancing photocatalytic antimicrobial activity. International Journal of Biological Macromolecules,265
- LingHu, R.-B., Chen, J.-X., Zhang, J.-H. and 6 more (...) (2024).Concurrent hetero-/homo-geneous electrocatalysts to bi-phasically mediate sulfur species for lithium–sulfur batteries. Journal of Energy Chemistry,93663-668
- Longinos, S.N., Serik, A., Bayramov, E. and 3 more (...) (2024).Laboratory Study of Liquid Nitrogen Cryo-Fracturing as an Environmentally Friendly Approach for Coalbed Methane (CBM) Reservoirs. Energies ,17(10)
- Luo, C., Yao, W., Zhang, H. and 3 more (...) (2024).Shedding light on imaging safety: Decoding the origin of photocytotoxicity in RhB-assisted fluorescence imaging. Journal of Biophotonics,17(6)
- Madhukesh, J.K., Prasannakumara, B.C., Shehzad, S.A. and 2 more (...) (2024).Endothermic and exothermic chemical reactions' influences on a nanofluid flow across a permeable microchannel with a porous medium. International Journal of Ambient Energy,45(1)
- Maken, S., Kuanysh, K., Ukaegbu, I.A. and 1 more (...) (2024).Navigating the Complexities of 60 GHz 5G Wireless Communication Systems: Challenges and Strategies. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics),14532193-204
- Makhammajanov, Z., Gaipov, A., Myngbay, A. and 3 more (...) (2024).Tubular toxicity of proteinuria and the progression of chronic kidney disease. Nephrology Dialysis Transplantation,39(4) 589-599
- Makin, M., Arzykulov, S., Celik, A. and 2 more (...) (2024).Optimal RIS Partitioning and Power Control for Bidirectional NOMA Networks. IEEE Transactions on Wireless Communications,23(4) 3175-3189
- Makoelle, T.M. (2024).Educational leadership: Secondary education perspectives from Kazakhstan. Redefining Educational Leadership in Central Asia: Selected Cases from Kazakhstan and Kyrgyzstan,37-48
- Manan, S.A. (2024).'English is like a credit card': the workings of neoliberal governmentality in English learning in Pakistan. Journal of Multilingual and Multicultural Development,45(4) 987-1003
- Manan, S.A., Kairatova, S., Mukhamediyeva, S. and 2 more (...) (2024).From policy dumping to a participatory framework: re-envisioning the English medium instruction policy in Kazakhstan's mainstream schools. Asian Englishes,
- Masood, Z., Usama, M., Khan, S. and 2 more (...) (2024).Generative vs. Non-Generative Models in Engineering Shape Optimization. Journal of Marine Science and Engineering,12(4)
- Mauyey, B., Amangeldi, N., Raiymbekov, Y. and 5 more (...) (2024).Deuteron breakup effects on the d + 12C, 15N, 16O, 24Mg, 32S, 58Ni, and 70Ge elastic scattering angular distributions. Chinese Journal of Physics,90155-165

- Medeuov, D. (2024).Friendship via a bus ride: urban mobility and social life in Nur-Sultan, Kazakhstan. Eurasian Geography and Economics,65(3) 398-423
- Mehrjoo, H., Safaei, A., Kazemzadeh, Y. and 2 more (...) (2024).Investigating the vaporization mechanism's effect on interfacial tension during gas injection into an oil reservoir. Journal of Petroleum Exploration and Production,
- Mir, G., Durrani, N., Julian, R. and 3 more (...) (2024).Social Inclusion and Sustainable Development: Findings from Seven African and Asian Contexts. Sustainability (Switzerland) ,16(11)
- Mitra, A., Orel, D., Abylkairov, Y.S. and 2 more (...) (2024).Probing nuclear physics with supernova gravitational waves and machine learning. Monthly Notices of the Royal Astronomical Society,529(4) 3582-3592
- Moradian, M., Dadlani, A., Khonsari, A. and 1 more (...) (2024).Age-Aware Dynamic Frame Slotted ALOHA for Machine-Type Communications. IEEE Transactions on Communications,72(5) 2639-2654
- Morey, M., Golla, M., Garg, M.M. and 2 more (...) (2024).A high gain Z-source boost DC–DC converter with common ground for solar PV applications. Electric Power Systems Research,232
- Mukasheva, F., Moazzam, M., Yernaimanova, B. and 4 more (...) (2024).Design and characterization of 3D printed pore gradient hydrogel scaffold for bone tissue engineering. Bioprinting,39
- Mukasheva, F., Zhanbassynova, A., Erisken, C. (2024).Biomimetic grafts from ultrafine fibers for collagenous tissues. Bio-Medical Materials and Engineering,35(3) 323-335
- Mukhamadiyeva, S., Hernández-Torrano, D. (2024).Adaptive Learning to Maximize Gifted Education: Teacher Perceptions, Practices, and Experiences. Journal of Advanced Academics,
- Mukhatayev, Z., Adilbayeva, A., Kunz, J. (2024).CTHRC1: An Emerging Hallmark of Pathogenic Fibroblasts in Lung Fibrosis. Cells,13(11)
- Mukhatayev, Z., Le Poole, I.C. (2024).Vitiligo: advances in pathophysiology research and treatment development. Trends in Molecular Medicine,
- Munir, M.T., Jamwal, P.K., Li, B. and 2 more (...) (2024).Revolutionising engineering pedagogy: The role of 3D printing in modern engineering education. Innovations in Education and Teaching International,
- Musa, M.K., Eshun, G., Modber, M.A.A. and 7 more (...) (2024).Public health consequences of armed conflict in Sudan in the face of global donor fatigue. Public Health Challenges,3(1)
- Mussabay, K., Kozhakhmetov, S., Dusmagambetov, M. and 10 more (...) (2024).Gut Microbiome and Cytokine Profiles in Post-COVID Syndrome. Viruses,16(5)
- Mussakhojayeva, S., Gilmullin, R., Khakimov, B. and 4 more (...) (2024).Noise-Robust Multilingual Speech Recognition and the Tatar Speech Corpus. 6th International Conference on Artificial Intelligence in Information and Communication, ICAIIC 2024,732-737
- Muxunov, A., Alibekova, R., Shokhbutova, T. and 1 more (...) (2024).Knowledge, Attitudes, and Practices of Sun Exposure and Sun Protection among the Population of Kazakhstan: A Cross Sectional Study. Asian Pacific Journal of Cancer Prevention,25(5) 1681-1689
- Myrkhiyeva, Z., Kantoreyeva, K., Bekmurzayeva, A. and 5 more (...) (2024).Dynamic Measurement of a Cancer Biomarker: Towards In Situ Application of a Fiber-Optic Ball Resonator Biosensor in CD44 Protein Detection. Sensors,24(6)
- Myrzagali, S., Omarova, Z., Zeitkaziyeva, D. and 2 more (...) (2024).Carbon nanoparticle-induced cell death. Carbon Trends,15
- Myrzakhmetov, B., Karibayev, M., Wang, Y. and 1 more (...) (2024).Density Functional Theory Investigation of Intermolecular Interactions for Hydrogen-Bonded Deep Eutectic Solvents. Eurasian Chemico-Technological Journal,26(1) 29-36
- Naem, A., Krentel, H., Moawad, G. and 5 more (...) (2024).Hormonal Therapies before in vitro fertilization in women with endometriosis: The Minotaur's Labyrinth and the Ariadne's Thread. Best Practice and Research: Clinical Obstetrics and Gynaecology,
- Naghdipour, B. (2024).Google Translate in EFL writing: Managing contradictions and conflicts. TESOL Journal,15(2)
- Naizabekov, A., Lezhnev, S., Panin, E. and 5 more (...) (2024).COMPUTER SIMULATION OF PRELIMINARY HEAT TREATMENT AND RADIAL-SHEAR ROLLING OF BRASS. Journal of Chemical Technology and Metallurgy,59(3) 661-671
- Nasiri, S., Bubin, S., Adamowicz, L. (2024).Oscillator strengths for P 2 - S 2 transitions in neutral boron. Physical Review A,109(4)

- Nasretdinova, M., Madani, N., Maleki, M. (2024).A Stepwise Cosimulation Framework for Modeling Critical Elements in Copper Porphyry Deposits. Natural Resources Research,
- Nemati-Kande, E., Faramarzi, S., Yavari, S. and 1 more (...) (2024).Density Functional Theory Study of AlN Nanosheets with Biphenylene Structure: Stability, Electronic, Thermoelectric, Mechanical, and Optical Properties. ACS Applied Nano Materials,
- Nurbekova, R., Shi, X., Hazlett, R. and 3 more (...) (2024).Geomechanical characterization and mineralogical correlation of compositionally diverse world-class Kazakhstani source rocks: Insights from nanoindentation testing. International Journal of Coal Geology,289
- Nurlan, N., Nurmyrza, M., Han, S. and 1 more (...) (2024).Enhanced reductive removal of aqueous Hg(II) by a novel Pd-Cu-BTC catalyst. Chemical Engineering Journal,489
- Nurlankyzy, M., Kantoreyeva, K., Myrkhiyeva, Z. and 5 more (...) (2024).Label-free optical fiber biosensor for the detection of CD44-expressing breast cancer cells. Sensing and Bio-Sensing Research,44
- Nwaogu, E.C., Bakenov, Z., Nurpeissova, A. (2024).Three-dimensional copper current collector as an anode for rechargeable anode-less lithium-ion batteries. International Journal of Electrochemical Science,19(2)
- Ocheme, J.I., Kim, J., Moon, S.-W. (2024).Enhancing geomechanical characteristics of calcium sulfoaluminate (CSA) cement-treated soil under low confining pressures. Scientific Reports,14(1)
- Odetayo, A.F., Abdulrahim, H.A., Fabiyi, O.T. and 4 more (...) (2024).Synergistic Effects of Vitamin D and Exercise on Diabetes-induced Gonadotoxicity in Male Wistar Rats: Role of Xanthine Oxidase/Uric Acid and Nrf2/NfkB Signaling. Cell Biochemistry and Biophysics,
- Okesanya, O.J., Alnaeem, K.F.H., Hassan, H.K. and 9 more (...) (2024).The intersectional impact of climate change and gender inequalities in Africa. Public Health Challenges,3(1)
- Okon, I.I., Akpan, U.U., Lucero-Prisno, D.E. and 18 more (...) (2024).Global Neurosurgical Challenges: A Focus on Central Asia. World Neurosurgery,
- Omran, W., Yousafzai, S. (2024).Epistemic Injustice and Epistemic Resistance: An Intersectional Study of Women's Entrepreneurship Under Occupation and Patriarchy. Entrepreneurship: Theory and Practice,48(4) 981-1008
- Oralbayeva, N., Aly, A., Sandygulova, A. and 1 more (...) (2024).Data-driven Communicative Behaviour Generation: A Survey. ACM Transactions on Human-Robot Interaction,13(1)
- Orel, D., Kuzdeuov, A., Gilmullin, R. and 2 more (...) (2024).TatarTTS: An Open-Source Text-to-Speech Synthesis Dataset for the Tatar Language. 6th International Conference on Artificial Intelligence in Information and Communication, ICAIIC 2024,717-721
- Ormanova, G., Hopke, P.K., Omrani, A.D. and 3 more (...) (2024).Particulate black carbon mass concentrations and the episodic source identification driven by atmospheric blocking effects in Astana, Kazakhstan. Science of the Total Environment,939
- Otkel, M., Ganesan, S., Rajan, R. and 1 more (...) (2024).Finite-time/fixed-time synchronization of memristive shunting inhibitory cellular neural networks via sliding mode control. Mathematics and Computers in Simulation,222252-263
- Ou, Y., Wang, L., Bian, H. and 5 more (...) (2024).Numerical Analyses of the Effect of the Freezing Wall on Ground Movement in the Artificial Ground Freezing Method. Applied Sciences (Switzerland),14(10)
- Ozawa, V., Durrani, N., Thibault, H. (2024).The political economy of education in Central Asia: exploring the fault lines of social cohesion. Globalisation, Societies and Education,
- Panin, E., Esbolat, A., Arbuz, A. and 8 more (...) (2024).Investigation of the Efficiency of Roll Profiles and Technological Schemes of Deformation of Asymmetric Rolling in Relief Rolls of C11000 Copper Alloy by FEM Simulation. Modelling and Simulation in Engineering,2024
- Parajuli, H.N., Ashimbayeva, A., Nakarmi, U. and 5 more (...) (2024).Multi-radar Interference Mitigation in Photonics-based Radar with Sliding Window LSTM Recurrent Neural Network. Journal of Lightwave Technology,1-10
- Parajuli, H.N., Bakhtiyarov, G., Nakarmi, B. and 1 more (...) (2024).Interference Mitigation in Multi-radar Environment Using LSTM-Based Recurrent Neural Network. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics),14532151-161
- Parkhomenko, H.P., Yerlanuly, Y., Brus, V.V. and 1 more (...) (2024).Effect of mild mechanical stresses on device physics of slot-die coated flexible perovskite solar cells. Organic Electronics,129

- Passeka, Y., Somerton, M. (2024).Bridging the gap: special educators' perceptions of their professional roles in supporting inclusive education in Kazakhstan. Disability and Society,39(6) 1380-1401
- Pastor-Marcos, C., Cerdá-Durán, P., Walker, D. and 4 more (...) (2024).Bayesian inference from gravitational waves in fast-rotating, core-collapse supernovae. Physical Review D,109(6)
- Piacentini, L., Slade, G. (2024).East is East? Beyond the Global North and Global South in Criminology. British Journal of Criminology,64(3) 521-537
- Poudel, M.B., Balanay, M.P., Lohani, P.C. and 2 more (...) (2024).Atomic Engineering of 3D Self-Supported Bifunctional Oxygen Electrodes for Rechargeable Zinc-Air Batteries and Fuel Cell Applications. Advanced Energy Materials,
- Pourmirasghariyan, M., Yazdi, S.S.H., Milimonfared, J. and 2 more (...) (2024).A strategy for optimal and selective utilization of multiple interline DC power flow controllers in VSC-HVDC grids. Electrical Engineering,
- Pozo, A., Broadhurst, T., Smoot, G.F. and 4 more (...) (2024).Dwarf galaxies united by dark bosons. Physical Review D,109(8)
- Prikhodina, L., Komissarov, K., Bulanov, N. and 56 more (...) (2024).Capacity for the management of kidney failure in the International Society of Nephrology Newly Independent States and Russia region: report from the 2023 ISN Global Kidney Health Atlas (ISN-GKHA). Kidney International Supplements,13(1) 71-82
- Prisiazhniuk, D., Makoelle, T.M., Zangieva, I. (2024).Teachers' attitudes towards inclusive education of children with special educational needs and disabilities in central Asia. Children and Youth Services Review,160
- Qanay, G., Courtney, M. (2024).Exploring the development of teacher leadership in Kazakhstan: Results from two successive studies. Redefining Educational Leadership in Central Asia: Selected Cases from Kazakhstan and Kyrgyzstan,75-101
- Qanay, G., Courtney, M., Nam, A. (2024).Building teacher leadership capacity in schools in Kazakhstan: a mixed method study. International Journal of Leadership in Education,27(2) 385-411
- Rakhymbay, L., Bazybek, N., Kudaibergenov, K. and 3 more (...) (2024).Present development and future perspectives on biowaste-derived hard carbon anodes for room temperature sodium-ion batteries. Journal of Power Sources,602
- Razavifar, M., Khoshsima, A., Riazi, M. and 2 more (...) (2024).Recent developments, challenges, and prospects of carbon dots (CDs) for fluid flow investigation in porous media. Petroleum Research,
- Raziyeva, K., Zharkinbekov, Z., Kim, Y. and 1 more (...) (2024).Targeted delivery of factors and cells for improving cardiac tissue regeneration and heart function following myocardial infarction. Engineered Regeneration,5(2) 210-227
- Reihanian, S., Dougherty, E.R., Zollanvari, A. (2024).Optimal Bayesian Regression With Vector Autoregressive Data Dependency. IEEE Transactions on Signal Processing,721854-1864
- Ren, K.-F., Liu, H., Guo, J.-X. and 9 more (...) (2024).Working Principles of High-Entropy Electrolytes in Rechargeable Batteries. ACS Energy Letters,2960-2980
- Richards, F. (2024).Student and Lecturer Perspectives on Proofreading and Academic Integrity. Proofreading and Editing in Student and Research Publication Contexts: International Perspectives,68-87
- Ríos, E.H., Guzmán, J.D., Ribadeneira, R. and 6 more (...) (2024).Effect of the oil content on green hydrogen production from produced water using carbon quantum dots as a disruptive nanolectrolyte. International Journal of Hydrogen Energy,
- Rocciolo, F., Gheno, A., Brooks, C. (2024).CEO overcaution and capital structure choices. Financial Review,
- Rodionova, Y., Nemec, J., Tkachenko, A. and 1 more (...) (2024).Informal practices and efficiency in public procurement. Public Money and Management,44(3) 225-233
- Rouse, L.M., Doumani Dupuy, P.N., Abdykanova, A. and 10 more (...) (2024).[Re]Integrating a dispersed agenda: advancing archaeological research in Central Eurasia. Antiquity,
- Rubagotti, M., Incremona, G.P., Ferrara, A. (2024).A Discrete-Time Integral Sliding Mode Control Law for Systems With Matched and Unmatched Disturbances. IEEE Control Systems Letters,8448-453
- Rustembekkyzy, K., Sabyr, M., Kanafin, Y.N. and 2 more (...) (2024).Microwave-assisted synthesis of ZnO structures for effective degradation of methylene blue dye under solar light illumination. RSC Advances,14(23) 16293-16299

- Rutskaya-Moroshan, K., Abisheva, S., Sarsenova, M. and 4 more (...) (2024).Autoimmune rheumatic diseases and COVID-19 vaccination: a retrospective cross-sectional study from Astana. Reumatologia,62(1) 26-34
- Sabanov, S., Nikitin, O., Qureshi, A. and 1 more (...) (2024).Corrigendum: A case study to improve blasting efficiency by the use of emulsion explosives (Oil Shale, 2023, 40(3), 10.3176/oil.2023.3.05.). Oil Shale,41(2)
- Sagdat, K., Batyrkhan, A., Kanayeva, D. (2024).Exploring monkeypox virus proteins and rapid detection techniques. Frontiers in Cellular and Infection Microbiology,14
- Sagintayeva, A. (2024).Academic leadership and navigating changes: The case of Kazakhstan's higher education leadership. Redefining Educational Leadership in Central Asia: Selected Cases from Kazakhstan and Kyrgyzstan,171-179
- Sagitova, R., Syrgak kyzy, Z., Parmenter, L. (2024).Negotiating local and global: Developing Social Science research ethics policy in a Central Asian context. Research Ethics,
- Saidaliyeva, Z., Muccione, V., Shahgedanova, M. and 3 more (...) (2024).Adaptation to climate change in the mountain regions of Central Asia: A systematic literature review. Wiley Interdisciplinary Reviews: Climate Change,
- Sajwani, A., El Setohy, A., Mekky, A. and 15 more (...) (2024).FRAPPE: FRAming, Persuasion, and Propaganda Explorer. EACL 2024 - 18th Conference of the European Chapter of the Association for Computational Linguistics, Proceedings of System Demonstrations,207-213
- Sakhaei, Z., Ghorbani-Saadatabadi, N., Escrochi, M. and 1 more (...) (2024).Mechanistic insight into the colloidal gas aphrons stability in the presence of petroleum hydrocarbons. Fuel,368
- Salikhanov, I., Yuliya, S., Aceti, M. and 5 more (...) (2024).Challenges of palliative care identified by stakeholders in resource-limited settings: A multi-regional study in Kazakhstan. Journal of Cancer Policy,40
- Sattari, S., Yazici, A. (2024).Semantic deep learning and adaptive clustering for handling multimodal multimedia information retrieval. Multimedia Tools and Applications,
- Satyanaga, A., Rahardjo, H., Zhai, Q. and 2 more (...) (2024).Modelling Particle-Size Distribution and Estimation of Soil–water Characteristic Curve utilizing Modified Lognormal Distribution function. Geotechnical and Geological Engineering,42(3) 1639-1657
- Scarborough, D. (2024).The Embodiment of Orthodox Christianity in Central Asia: Sacred Objects and Orthodox Nationalism in Revolutionary Turkestan. Kritika,25(2) 243-271
- Schenk, C. (2024).Counting Migrants in Russia: The Human Dimension of Administrative Data Production. International Migration Review,58(2) 936-963
- Schröder, P. (2024).»Made in Kyrgyzstan»: An ethnographic exploration of «new entrepreneurs» entering the Eurasian Economic Union. The Elgar Companion to the Eurasian Economic Union,240-251
- Schröder, P. (2024).Translocality, Entrepreneurship and Middle Class Across Eurasia: Kyrgyzstan's 'First Capitalists' Since the Late Soviet Era. Translocality, Entrepreneurship and Middle Class Across Eurasia: Kyrgyzstan's 'First Capitalists' Since the Late Soviet Era,1-242
- Seliverstova, E., Serikov, T., Nuraje, N. and 3 more (...) (2024).Plasmonic effect of metal nanoparticles on the photocatalytic properties of TiO2/rGO composite. Nanotechnology,35(32)
- Semenova, Y., Beyembetova, A., Shaisultanova, S. and 4 more (...) (2024).Evaluation of liver transplantation services in Kazakhstan from 2012 to 2023. Scientific Reports,14(1)
- Semenova, Y., Lim, L., Salpynov, Z. and 2 more (...) (2024).Historical evolution of healthcare systems of post-soviet Russia, Belarus, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Armenia, and Azerbaijan: A scoping review. Heliyon,10(8)
- Semenova, Y., Shaisultanova, S., Beyembetova, A. and 5 more (...) (2024).Examining a 12-year experience within Kazakhstan's national heart transplantation program. Scientific Reports,14(1)
- Sghaier, I., Sheridan, J.M., Daldoul, A. and 5 more (...) (2024).Association of IL-1β gene polymorphisms rs1143627, rs1799916, and rs16944 with altered risk of triple-negative breast cancer. Cytokine,180
- Shafiei, M., Kazemzadeh, Y., Escrochi, M. and 3 more (...) (2024).A comprehensive review direct methods to overcome the limitations of gas injection during the EOR process. Scientific Reports,14(1)
- Shakeel, M., Sagandykova, D., Mukhtarov, A. and 4 more (...) (2024).Maximizing oil recovery: Innovative chemical EOR solutions for residual oil mobilization in Kazakhstan's waterflooded sandstone oilfield. Heliyon,10(7)

- Shakeel, M., Yerniyazov, D., Yesmukhambet, M. and 8 more (...) (2024).Screening, Design, and Application of Chemical EOR to Control High Water-Cut and Reduce Residual Oil in a Complex Sandstone Oilfield in Kazakhstan. Society of Petroleum Engineers - GOTECH Conference 2024,
- Shaltynov, A., Jamedinova, U., Semenova, Y. and 2 more (...) (2024).Inequalities in Out-of-Pocket Health Expenditure Measured Using Financing Incidence Analysis (FIA): A Systematic Review. Healthcare (Switzerland),12(10)
- Shaltynov, A., Semenova, Y., Abenova, M. and 3 more (...) (2024).An analysis of financial protection and financing incidence of out-of-pocket health expenditures in Kazakhstan from 2018 to 2021. Scientific Reports,14(1)
- Sharip, A., Rakhimova, S., Molkenov, A. and 13 more (...) (2024).Transcriptome profiling and analysis of patients with esophageal squamous cell carcinoma from Kazakhstan. Frontiers in Genetics,15
- Shon, P. (2024).Higher education reforms and policy context: Implications for leadership in Kazakhstan. Redefining Educational Leadership in Central Asia: Selected Cases from Kazakhstan and Kyrgyzstan,181-199
- Shulgau, Z., Palamarchuk, I.V., Sergazy, S. and 3 more (...) (2024).Synthesis, Computational Study, and In Vitro α-Glucosidase Inhibitory Action of 1,3,4-Thiadiazole Derivatives of 3-Aminopyridin-2(1H)-ones. Pharmaceuticals,17(3)
- Shulgina, G., Fanguy, M., Zhang, H. and 3 more (...) (2024).The moderating effects of total comments on the relationship between comment implementation and online peer-supported writing performance. Computers and Education,219
- Siddiquee, N.A., Hamiduzzaman, M., McLaren, H. and 1 more (...) (2024).Older women's experience with COVID-19 pandemic: A study of risk perception and coping among culturally and linguistically diverse population in South Australia. PLoS ONE,19(3)
- Slade, G., Turlubekova, Z., Piacentini, L. (2024).Who recounts the Stalinist past? Mnemonic roles, acts of remembering and life-scripts in Russian families. Current Sociology,
- Slade, G., Zeveleva, O. (2024).The pains of prison reform: Informal prisoner governance and penal subjectivities in Estonia and Lithuania. Punishment and Society,
- Smith, B. (2024).John Locke on historical injustice: the redemptive power of contract. Critical Review of International Social and Political Philosophy,27(4) 488-510
- Soltabayev, B., Raiymbekov, Y., Nuftolla, A. and 3 more (...) (2024).Sensitivity Enhancement of CO2 Sensors at Room Temperature Based on the CZO Nanorod Architecture. ACS Sensors,9(3) 1227-1238
- Soltabayeva, A., Kurmanbayeva, A., Bekturova, A. and 6 more (...) (2024).Endogenous ureides are employed as a carbon source in Arabidopsis plants exposed to carbon starvation conditions. Plant Science,344
- Soltabayeva, A., Sagi, M. (2024).Determination of ROS Generated by Arabidopsis Xanthine Dehydrogenase1 (AtXDH1) Using Nitroblue Tetrazolium (NBT) and 3,3'-Diaminobenzidine (DAP). Methods in Molecular Biology,279865-77
- Steinmetz, J.D., Seeher, K.M., Schiess, N. and 1,261 more (...) (2024).Global, regional, and national burden of disorders affecting the nervous system, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. The Lancet Neurology,23(4) 344-381
- Tajik, M.A. (2024).Leadership context. Redefining Educational Leadership in Central Asia: Selected Cases from Kazakhstan and Kyrgyzstan,3-17
- Tajik, M.A., Makoelle, T.M. (2024).Leadership lessons from the great steppes of Central Asia: Opportunities, obstacles, and the way forward. Redefining Educational Leadership in Central Asia: Selected Cases from Kazakhstan and Kyrgyzstan,221-234
- Tajik, M.A., Makoelle, T.M. (2024).Redefining educational leadership in Central Asia: Selected cases from Kazakhstan and Kyrgyzstan. Redefining Educational Leadership in Central Asia: Selected Cases from Kazakhstan and Kyrgyzstan,1-256
- Tajik, M.A., Yesselbayev, R. (2024).Educational leadership in Post-Soviet Kazakhstan: Historical evolution and reconceptualization of leadership. Redefining Educational Leadership in Central Asia: Selected Cases from Kazakhstan and Kyrgyzstan,19-35
- Tanko, N.M., Pignatelli, M., DeFrances, M.C. and 1 more (...) (2024).Navigating the challenges of establishing a new residency program in anatomic pathology based on the Accreditation Council for Graduate Medical Education International standards in the post–Soviet era Kazakhstan: strategies and successes. Academic Pathology,11(2)

- Tao, D., Kalendar, R., Paterson, A.H. (2024).Editorial: Interspecific hybridization in plant biology, volume II. Frontiers in Plant Science,15
- Temireyeva, A., Sarbassov, Y., Shah, D. (2024).Process simulation of flax straw pyrolysis with kinetic reaction Model: Experimental validation and exergy analysis. Fuel,367
- Tokayev, K., Park, J.-G. (2024).Uniformly Distributed Data Effects in Offline RL: A Case Study in Gridworld Setting. Proceedings - 2024 IEEE International Conference on Big Data and Smart Computing, BigComp 2024,159-166
- Tokazhanov, G., Tokbolat, S., Tleuken, A. and 1 more (...) (2024).The pandemic readiness assessment of building design and engineering service-related legislation in Kazakhstan and the EU. Engineering, Construction and Architectural Management,31(4) 1585-1607
- Tu, N.A., Abu, A., Aikyn, N. and 4 more (...) (2024).FedFSLAR: A Federated Learning Framework for Few-shot Action Recognition. Proceedings - 2024 IEEE Winter Conference on Applications of Computer Vision Workshops, WACVW 2024,270-279
- Tumakov, D., Rzhevskii, P., Shomenov, T. and 1 more (...) (2024).Relativistic corrections in the ground and excited states of positronic beryllium. Physical Review A,109(4)
- Turmukhambetova, L., Makoelle, T.M. (2024).Fundamental educational reforms shaping school leadership in Kazakhstan. Redefining Educational Leadership in Central Asia: Selected Cases from Kazakhstan and Kyrgyzstan,49-73
- Umirbaeva, A., Kurenkov, A., Makhanbetova, A. and 3 more (...) (2024).Systematic review and meta-analysis of cryopreserved bovine sperm assessment: harnessing imaging flow cytometry for multi-parametric analysis. Frontiers in Veterinary Science,11
- Uyumaz, F., Nurgaziyeva, E., Kalybekkyzy, S. and 1 more (...) (2024).Thiol-Ene Photo Crosslinked PUA-PUMA-Based Flexible Gel Polymer Electrolyte for Lithium-Ion Batteries. Macromolecular Materials and Engineering,
- Villero-Mandon, J., Pourafshary, P., Riazi, M. (2024).Oil/Brine Screening for Improved Fluid/Fluid Interactions during Low-Salinity Water Flooding. Colloids and Interfaces,8(2)
- Vitasovic, T., Caniglia, G., Eghtesadi, N. and 8 more (...) (2024).Antibacterial Action of Zn2+ Ions Driven by the In Vivo Formed ZnO Nanoparticles. ACS Applied Materials and Interfaces ,
- Wade, A.J., Yapiyev, V., Shahgedanova, M. and 17 more (...) (2024).Cryosphere and land cover influence on stream water quality in Central Asia's glacierized catchments. Science of the Total Environment,939
- Xenarios, S. (2024).Water Resources Management in Central Asia. Elgar Encyclopedia of Water Policy, Economics and Management,371-374
- Yankin, A., Murtaza, H.A., Ospanov, A. and 4 more (...) (2024).Comprehensive analysis of ultrasonically atomized 316L stainless steel powder using adjusted additive manufacturing suitability factor. Powder Technology,444
- Yaou Balarabe, B., Bomokayi, P., Adjama, I. and 3 more (...) (2024).Unlocking the magnetic potential of Fe2O3 nanoparticles by single-step synthesis of cobalt-infused nanomaterials for chromium removal. Nanotechnology for Environmental Engineering,9(2) 239-253
- Yapiyev, V., Ongdas, N., Pinkerneil, S. and 8 more (...) (2024).The exploratory dataset of isotopic composition of different water sources across Kazakhstan. Data in Brief,54
- Yazici, A., Taşkomaz, E. (2024).BF-BigGraph: An efficient subgraph isomorphism approach using machine learning for big graph databases. Information Systems,124
- Yegorov, S., Kadyrova, I., Korshukov, I. and 16 more (...) (2024).Application of MALDI-TOF MS and machine learning for the detection of SARS-CoV-2 and non-SARS-CoV-2 respiratory infections. Microbiology Spectrum,12(5)
- Yerezhepov, D., Gabdulkayum, A., Akhmetova, A. and 6 more (...) (2024).Pulmonary tuberculosis epidemiology and genetics in Kazakhstan. Frontiers in Public Health,12
- Yergabulova, A., Alpysbayeva, D., Subramanian, V. (2024).Wage dispersion and firm performance: evidence from Kazakhstan. International Journal of Manpower,45(3) 425-448
- Yessenbayeva, K., Turdiyeva, K., Ramazanova, E. and 1 more (...) (2024).Water Chemistry, Source Identification, and Health Risk Assessment in Surface Water of the Ural River. ACS ES and T Water,4(4) 1620-1628
- Yunussova, N., Tilegen, M., Pham, T.T. and 1 more (...) (2024).Rapid detection of carcinoembryonic antigen by means of an electrochemical aptasensor. iScience,27(5)

- Zhalmurziyeva, K., Tokbolat, S., Durdyev, S. and 2 more (...) (2024).Assessment of sustainability indicators for urban water infrastructure in a developing country. International Journal of Building Pathology and Adaptation,42(3) 337-351
- Zhang, Z., Hu, J., Lu, J. and 3 more (...) (2024).Detection and Defense Method Against False Data Injection Attacks for Distributed Load Frequency Control System in Microgrid. Journal of Modern Power Systems and Clean Energy,12(3) 913-924
- Zhao, K., Cai, R., Guo, S. and 4 more (...) (2024).Mechanically robust, corrosion and impact resistance polyimide nanofiber/epoxy composite by mechanochemical fabrication. Polymer Composites,
- Zhengis, A., Amrenova, Y., Yergesheva, A. and 6 more (...) (2024).Structural Studies and Applications of Sulfobetaine-Based Polybetaines at Interfaces. Eurasian Journal of Chemistry,29(1) 24-32
- Zhernokleev, D., Braslavski, P. (2024).Needle in a Haystack: Finding Suitable Idioms Based on Text Descriptions. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics),14486185-196
- Zhetenbayev, N., Sergazin, G., Jamwal, P. and 2 more (...) (2024).Development of a portable and compact robotic ankle rehabilitation system. Vibroengineering Procedia,54128-134
- Zhetmekova, Z., Kassym, L., Kussainova, A. and 8 more (...) (2024).The prevalence and risk factors of pressure ulcers among residents of long-term care institutions: a case study of Kazakhstan. Scientific Reports,14(1)
- Zholtayev, D., Rubagotti, M., Do, T.D. (2024).Deep reinforcement learning for PMSG wind turbine control via twin delayed deep deterministic policy gradient (TD3). Optimal Control Applications and Methods,
- Zhumakhanova, A., Mirasbekov, Y., Meirkhanova, A. and 5 more (...) (2024).From colonial clusters to colonial sheaths: Imaging flow cytometry analysis of Microcystis morphospecies dynamics in mesocosm and links to CyanoHABs management. Ecological Indicators,163
- Ziyaden, A., Yelenov, A., Hajiyev, F. and 2 more (...) (2024).Text data augmentation and pre-trained Language Model for enhancing text classification of low-resource languages. PeerJ Computer Science,10
- Zuo, Q., Li, X., Li, P. and 2 more (...) (2024).Surrounding rock instability mechanism for fault-crossing tunnels in water-rich soft rock. Bulletin of Engineering Geology and the Environment,83(6)