



REGISTER

of Academicians of the National Academy of Science of the Republic of Kazakhstan under the President of the Republic of Kazakhstan





SCIENTIFIC DIRECTIONS OF ACADEMICIANS

17 academicians, including:

Engineering sciences – 2 academicians;

Agricultural and veterinary sciences – 2 academicians;

Medical sciences and healthcare – 4 academicians;

Natural sciences:

- Mathematics – 2 academicians;
- Physical sciences – 3 academicians;
- Chemical sciences – 1 academician;
- Biological sciences – 1 academician.

Humanities and arts – 1 academician;

Sociological sciences – 1 academician.



ACADEMICIANS OF THE NATIONAL ACADEMY OF SCIENCE OF THE REPUBLIC OF KAZAKHSTAN UNDER THE PRESIDENT OF THE REPUBLIC OF KAZAKHSTAN

IN THE DEPARTMENT OF SCIENCE «ON AGROBIORESOURCES AND ECOLOGY»
(IN THE AREA OF «AGRICULTURAL AND VETERINARY SCIENCES»)

1. Akhylbek Kurishbaev
2. Mukhit Orynbayev

IN THE DEPARTMENT OF SCIENCE «ON LIFE AND HEALTH»
(IN THE AREA OF «MEDICAL SCIENCES AND HEALTHCARE»)

3. Serik Akshulakov
4. Dilyara Kaidarova
5. Vyacheslav Lokshin
6. Yuri Pya

IN THE DEPARTMENT OF SCIENCE «ON EDUCATION AND SOCIAL DEVELOPMENT»
(IN THE AREAS OF «HUMANITIES AND ARTS», «SOCIAL SCIENCES»)

7. Darkhan Bilyalov
8. Zhaken Taimagambetov

IN THE DEPARTMENT OF SCIENCE «ON EARTH, SPACE AND COMMUNICATIONS»
(IN THE AREAS OF «NATURAL SCIENCES» «TECHNICAL SCIENCES» (ENGINEERING AND TECHNOLOGY))

9. Zhumabai Bakenov
10. Erlan Batyrbekov
11. Askar Dzhumadildayev
12. Maxim Zdorovets
13. Aidarkhan Kaltayev
14. Tlekkabul Ramazanov
15. Durvudkhan Suragan
16. Bagdat Teltayev
17. Yerlan Turuspekov



**КУРИШБАЕВ
АХЫЛБЕК
КАЖИГУЛОВИЧ**

Президент Правления
НАО «Национальная академия
наук РК при Президенте
Республики Казахстан»



AKHYLBЕК KURISHBAHYEV,
(work experience over 40 years)

Doctor of Agricultural Sciences, Professor

Member of the National Kurultai under the President of the Republic of Kazakhstan

Member of the National Council for Science and Technology under the President of the Republic of Kazakhstan

Member of the Russian Academy of Science

email: info.qazscience@gmail.com, info@qazscience.gov.kz

Research area: Key scientist in the field of soil science

Position: President of the Board of the National Academy of Sciences of the Republic of Kazakhstan under the President of the Republic of Kazakhstan

Scientific achievements: Published over 200 research papers (including over 20 articles in highly rated foreign journals), 4 monographs, author of 10 patents, copyright certificates and breeding achievements (spring soft wheat, barley).

Under his scientific supervision, 3 candidates of science and 5 PhD doctors were trained and major programs of the Ministry of Agriculture of the Republic of Kazakhstan were implemented:

(1) "Construction of a decision-making system for the production of the main types of agricultural crops based on the adaptation of the DSSAT model of growth and development of agricultural crops, an integrated management system for livestock production based on Smart technologies with the formation of an information base of scientific and technical documentation on agro-technologies for entities of the agro-industrial complex in order to create Smart systems in agriculture"; (2) "Transfer and adaptation of precision farming technologies in the production of crop products based on the principle of "demonstration farms (test sites)" in the North Kazakhstan region."

Publications for the last 5 years:

Articles: «Sunflower (*Heliánthus ánnuus*) Yield and Yield Components for Various Agricultural Practices (Sowing Date, Seeding Rate, Fertilization) for Steppe and Dry Steppe Growing Conditions» (2024 r.), «TaDrAp1 and TaDrAp2, Partner Genes of a Transcription Repressor, Coordinate Plant Development and Drought Tolerance in Spelt and Bread Wheat» (2020r.), «Salt-induced expression of intracellular vesicle trafficking genes, CaRab-GTP, and their association with Na⁺ accumulation in leaves of chickpea (*Cicer arietinum* L.)» (2020 r.), «Meaningful management of soil fertility and flax productivity» (2020 r.), «The General Transcription Repressor TaDr1 Is Co-expressed With TaVrn1 and TaFT1 in Bread Wheat Under Drought» (2019 r.).

Awards and prizes:

- Order «Kurmet» (2012);
- Order «Parasat» (2018);
- Honorary title of the Republic of Kazakhstan "Kazakhstannyn enbek sinirgen kairatkeri" (2006);
- Laureate of the A.I. Baraev Prize (2001).



**ДЖУМАДИЛЬДАЕВ
АСКАР
СЕРКУЛОВИЧ**

Вице-Президент
НАО «Национальная академия
наук» РК при Президенте
Республики Казахстан



ASKAR DZHUMADILDAYEV,
(work experience over 40 years)

Doctor of Physical and Mathematical Sciences, Professor

**Member of the National Council for Science and Technology under the
President of the Republic of Kazakhstan**

**Member of the National Kurultai under the President of the Republic of
Kazakhstan**

email: info.qazscience@gmail.com, info@qazscience.gov.kz

Research area: Key scientist in the field of mathematics

Position: Vice-President of the National Academy of Science of the Republic of Kazakhstan under the President of the Republic of Kazakhstan.

Scientific achievements: 200 publications have been published, including more than 20 scientific articles in highly rated peer-reviewed scientific journals. Under his supervision, the following were submitted: 1 doctoral dissertation; 8 candidate dissertations and 4 PhD. He is the author of a textbook on discrete mathematics for students, editor of the scientific and educational journal «Al-Zhabrdin atasy».

Awards and prizes:

- The title of «Labor Hero of Kazakhstan» with the award of the special distinction «Golden Star» and the Order of «Otan» (2024);
- Laureate of the Prize of the Republican Council for Science and Technology (1983);
- Winner of the Alexander von Humboldt Scholarship (1995-1996);
- State Scholarship for Outstanding Scientists (2000-2004);
- State Prize of the Republic of Kazakhstan in Science and Technology (2011);
- Leader of the National Project «Name of the Motherland» in the nomination «Science» (2015);
- Winner of the State Grant «Best University Teacher» (2007) and (2015);
- Awarded the lapel badge «For Merits in the Science Development of the Republic of Kazakhstan» of the IPA CIS (2016);
- Awarded the lapel badge «Y. Altynsarin» for significant achievements in training and education (2017);
- Honorary title «Honoree of the Republic of Kazakhstan» (2019);
- Diploma in the nomination «Best Mentor in the Development of Academic Potential» (2023);
- International Khorezmi Prize (Islamic Republic of Iran).



**БИЛЯЛОВ
ДАРХАН
НУРЛАНОВИЧ**

Вице-Президент
АОО «Назарбаев Университет»



DARKHAN BILYALOV

(work experience over 15 years)

Doctor of Philosophy in Education (PhD), Professor

email: dbilyalov@nu.edu.kz

Research area: Key scientist in the field of education

Position: Vice-President of JSC Nazarbayev University.

Scientific achievements: Over 40 publications have been published in highly rated journals: Studies in Higher Education, Higher Education Policy, European Education and Teachers College Record. He has 7 author's certificates. He acted as an instructor for country groups from Uzbekistan and Kyrgyzstan within the framework of the NORRAG Knowledge Innovation Exchange training course. Under his scientific supervision, 1 PhD and more than 8 master's students have successfully submitted their theses. He is the actual editor of two monographs in the field of special pedagogy, the author of chapters in two books published by Cambridge University Press and the co-author of two methodological manuals.

Research projects:

- Inclusively oriented training of special educators;
- Training of qualified personnel for the field of education through the model of academic excellence like Honors College;
- Scientific base for modernizing the education and science system;
- Model of per capita financing in public and private schools of Kazakhstan and issues of sufficiency, equality and accountability;
- Partnership between universities and industry for the innovation development and improvement of the higher education quality in Kazakhstan;
- Serving the university and society: a comparative study of teaching staff in six Asian universities.

Membership in professional associations (organizations):

Vice President of the Eurasian Association of Pedagogical Universities (2022-2023);

National Higher Education Reform Experts (HERE). Erasmus+ program;

Chairman of the Trustees Board of the NAC Analytica Foundation (present);

Member of the Trustees Board of the Republican Secondary Boarding School for Gifted Children named after Abay;

President of the Kazakhstan Association for Educational Research.



**АКШУЛАКОВ
СЕРИК
КУАНДЫКОВИЧ**

Председатель Правления
АО «Национальный центр
нейрохирургии», Президент
Казахской ассоциации
нейрохирургов



SERIK AKSHULAKOV

(work experience over 40 years)

Doctor of Medical Sciences, Professor

**Member of the National Council for Science and Technology under the
President of the Republic of Kazakhstan**

email: neuroclinic@med.mail.kz, s.akshulakov@gmail.com

Research area: Key scientist in the field of neurosurgery

Position: Chairman of the Board of «National Center of Neurosurgery» JSC.

Scientific achievements: Published over 250 research papers (including 80 in foreign journals), including 13 monographs (4 published in the Russian Federation). Author of 13 patents and 70 innovative technologies.

Under his leadership, the following clinical areas were actively developed: (1) microneurosurgery; (2) functional neurosurgery; (3) treatment of vascular diseases of the brain; (4) reconstructive surgeries of the spine; (5) use of neuromodulation and neuronavigation; (6) radiosurgery - Gamma Knife.

He transferred 65 technologies to the regions. Under his scientific supervision, 29 specialists were trained (1 Doctor of Science; 25 Candidates of Science and 3 PhDs).

Publications:

Monographs: «Chronic subdural hematoma» (2008), «Human echinococcosis (epidemiology, clinical picture, diagnostics, treatment and prevention)» (2009), «Endovascular treatment of cerebral arterial aneurysms» (2012), «Vertebroplasty in the treatment of spinal pathology» (2012), «On the history of the neurosurgery service of the Republic of Kazakhstan» (2012).

Awards and prizes:

- The title of «Labor Hero of Kazakhstan» with the award of the special distinction «Golden Star» and the Order of «Otan» (2016);
- Laureate of the State Prize of the Republic of Kazakhstan in the field of science and technology named after al-Farabi (2013);
- Laureate of the Kh. Ledentsov Prize «For the introduction of new directions in neurosurgery and methods of surgical treatment» (Russia) (2021);
- Laureate of the N.I. Pirogov Prize (Russia) (2008);
- Honorary title of the Republic of Kazakhstan «Honoree of Kazakhstan» (2015).

IN THE AREA OF «MEDICAL SCIENCES AND HEALTHCARE»



VYACHESLAV LOKSHIN

(work experience over 40 years)

Doctor of Medical Sciences, Professor

Member of the National Council for Science and Technology under the President of the Republic of Kazakhstan

email: info@persona-ivf.kz, Vyacheslav.lokshin@yandex.kz

Rresearch area: Key scientist in the field of assisted reproductive technology

Position: Head of the International Center for Clinical Reproductology «PERSONA».

Scientific achievements: Published over 215 works, including 5 methodological recommendations, 3 monographs, 5 rationalization proposals. He has 7 patents for invention. Is one of the developers of regulatory documents in the field of reproductive medicine. Prepared 4 candidates and 1 doctor of medical sciences, created a school of practicing doctors working in the field of reproductive medicine in Kazakhstan.

Under his leadership, new directions in science «Reproductive Medicine» and «Assisted Reproductive Technologie» (ART) were created. He created a new field of medicine aimed at preserving the reproductive potential of cancer patients - oncofertility, for which he was awarded the «Best Doctor of Russia» award. Under his leadership, over 130 practicing doctors and 100 clinical embryologists were trained. The need to finance IVF cycles using the SMIF funds has been substantiated, supported by the presidential program «Ansagan Sabi» (the number of quotas for IVF has been increased by 7 times).

Awards and prizes:

- «Barys» 1st degree Order (2024);
- Laureate of the "Best Doctor of Russia" award (for the creation of a new direction in medicine), (2021);
- «People's gratitude» Medal (2021.);
- Awarded the lapel badge «For contributions to healthcare» (2020);
- Awarded the badge «Excellence in healthcare» (2012).



DURVUDKHAN SURAGAN

(work experience over 10 years)

Doctor of Philosophy in Mathematics (PhD), Professor

Research area: Key scientist in the field of mathematics

email: suragan@math.kz

Position: Professor of the Nazarbayev University.

Scientific achievements: Published more than 90 research papers, 2 monographs. Author of research on topics such as:

Improved Hardy-type inequalities;

Subelliptic functional inequalities;

Analysis of remainder terms for Hardy-type inequalities;

Potential theory on graded Lie groups.

Currently, the following projects are being implemented under his scientific supervision: (1) «Qualitative analysis of non-local and fractional models», a joint research program of NU and KazNU, (2023-2025), (2) «Direct and inverse problems for pseudo-parabolic equations on Lie groups», a grant for competitive research on the development of NU teaching staff, (2023-2025), (3) «Improving the Hardy inequality», a grant from the Ministry of Science and Higher Education of the Republic of Kazakhstan, (2023-2025).

Awards and prizes:

- Laureate of the State Prize of the Republic of Kazakhstan in Science and Technology named after Al-Farabi (2020);
- Laureate of the State Prize of the Republic of Kazakhstan named after Kunayev (2013);
- Laureate of the Ferran Sunyer - y - Balaguer Prize in Mathematics (2018);
- Laureate of the State Prize of the Republic of Kazakhstan "Best Scientist" (2022);
- Asian Universities Allians Scholarship (Beijing University) (2019);
- Simon Foundation Scholarship (UK) at the I. Newton Institute of Mathematical Sciences (2022)



MAXIM ZDOROVETS

(work experience over 15 years)

Candidate of Physical and Mathematical Sciences, Professor
Member of the National Council for Science and Technology under
the President of the Republic of Kazakhstan

Research area: Key scientist in the field of radiation materials
science, membrane technologies and nanotechnology

email: info@inp.kz, mzdorovets@inp.kz

Position: Director of the Astana branch of the Institute of Nuclear Physics of the Ministry of Energy of the Republic of Kazakhstan.

Scientific achievements: Over 300 works have been published, author of 6 monographs, scientific supervisor of 4 PhDs, under his leadership the scientific direction of track membranes and radiation materials science has been actively developed. Since 2010, about 50 PhD dissertations have been completed and submitted on the basis of the center, including 20 PhD dissertations by full-time employees of the Astana branch of the Institute of Nuclear Physics.

Project Manager: «Creation of filtration materials and metal nanostructures based on track membranes» under the program of the Ministry of Education and Science of the Republic of Kazakhstan and the World Bank; International Scientific and Technical Center (2012-2015); International Atomic Energy Agency (2019-2024).

Awards and prizes:

- State Youth Prize Daryn (2010);
- State scholarship for talented young scientists of the Republic of Kazakhstan (2012);
- Laureate of the D.A. Kunayev Prize for young scientists for the best work in the field of natural sciences (2016);
- Independent award in the field of science and technology Top Springer Author-2017, as the most published scientist of the Republic of Kazakhstan;
- Awarded with the lapel badge «For merits to the development of science in the Republic of Kazakhstan» (2017);
- Laureate of the Researcher of the Year award for special contribution to science, Elsevier (2018);
- K. Satpayev Science Prize (2020);
- Laureate of the first JINR prize for scientific and technical applied work (2021)
- Laureate of the «Best Scientist» award (2022).



**РАМАЗАНОВ
ТЛЕККАБУЛ
САБИТОВИЧ**

Профессор Казахского
Национального университета
имени Аль-Фараби



TLEKKABUL RAMAZANOV

(work experience over 37 years)

Doctor of Physical and Mathematical Sciences, Professor

Research area: Key scientist in the field of plasma physics and plasma nanotechnology

email: ramazan@physics.kz

Position: Professor of the Al-Farabi Kazakh National University.

Scientific achievements: Published more than 500 research papers, 2 monographs, 15 teaching aids. Under his supervision the following were submitted: 1 doctoral dissertation, 20 candidate and 12 PhD dissertations. Author of a number of studies of great importance for the physics development. Results of the conducted studies: (1) dense classical plasma under certain parameters of the system behaves like a liquid; (2) new models of interaction of particles of dense semiclassical plasma, taking into account collective and quantum effects, were proposed; (3) an anomalous effect of electron runaway in dense non-ideal plasma was discovered; (4) a generalized Coulomb logarithm for non-ideal plasma was obtained; (5) a wide-range equation of state of partially ionized non-ideal plasma was obtained taking into account the effects of polarization, diffraction, symmetry and exchange; (6) an energy-efficient method for synthesizing carbon nanowalls (CNS) based on CCP-PECVD without using additional plasma sources was developed; (7) gas and electrochemical sensors based on CNS were developed and created, and gas-sensing properties for various concentrations of CO₂ gas and device temperatures were studied; (8) stable, transparent superhydrophobic coatings, silicon nanoclusters (quantum dots) on the surface of a silicon substrate were obtained.

Awards and prizes:

- Laureate of the State Prize of the Republic of Kazakhstan in Science and Technology named after Al-Farabi (2015);
- Lapel badge «For merits to the development of science in the Republic of Kazakhstan» (2009);
- Laureate of the «Leader of Science» award «Web of Science Core Collection/Clarivate Analytics» (2017)
- State Scientific Scholarship winner for scientists and specialists who have made an outstanding contribution to the development of science and technology (2002-2006, 2016-2018);
- Laureate of the «Scientist of the Year» award «Scopus Award Ceremony in Kazakhstan» (2018).



YERLAN TURUSPEKOV

(work experience over 37 years)

Candidate of Biological Sciences, Professor

Research area: Key scientist in the field of plant genetics

email: yerlant@yahoo.com

Position: Head of the Laboratory of Molecular Genetics, SE on REM «Institute of Plant Biology and Biotechnology».

Scientific achievements: Published over 180 research papers, including in international top-rated scientific journals, 4 monographs, 4 recommendations, author of four (zoned) varieties of agricultural crops.

Conducted: full-genome analysis of associations in collections of soft wheat, durum wheat, barley and soybeans. Identified new DNA markers of economically valuable traits of wheat, barley and soybeans; genetic and physical mapping of genes responsible for the closed type of flowering in barley. He established a molecular genetic mechanism for controlling the type of flowering in barley. Created sets of informative SNP markers to improve the efficiency of breeding wheat, barley and soybeans in Kazakhstan. Conducted a molecular taxonomy of rare and economically valuable species of wild flora of Kazakhstan of the following genera - tulip, onion, wormwood, buttercup, oxytrope, juniper, etc. Practical results: co-author of varieties of wheat ("Zarina" and "Tatiana"), barley ("Shakhristan") and soybeans ("Zara", "Daneliya"), approved for use in the territory of the Republic of Kazakhstan.

Awards and prizes:

- American Fulbright Scholarship (for conducting scientific research in the USA), (1996);
- Scholarship of the Japan International Science and Technology Exchange Center (STA), (1998);
- State Scholarship «For Contribution to the Development of Science and Technology» of the Ministry of Education and Science of the Republic of Kazakhstan (2018);
- State Prize «Best Scientist» of the Republic of Kazakhstan (2022);
- Lapel badge «For Merits in the Development of Science of the Republic of Kazakhstan» (2014);
- Diploma «Science Leader» of Thomson Reuters (2015).



ПЯ
ЮРИЙ
ВЛАДИМИРОВИЧ

Председатель правления КФ
«University Medical Center»



YURI PYA

(work experience over 40 years)

Doctor of Medical Sciences, Associate Professor

Research area: Key scientist in the field of cardiology and cardiac surgery

email: umc@umc.org.kz

Position: Chairman of the Board of the KF University Medical Center

Scientific achievements: One of the authors of the Program for the Development of Cardiology and Cardiac Surgery Services in Kazakhstan. Introduced a number of innovative technologies in Kazakhstan: heart and lung transplants, cardiac surgeries for newborns with severe heart defects; a conditioning method for preserving a donor heart; mitral valve clipping; implantation of a fenestrated graft in the aortic arch, and others.

Under his leadership, a new ALEM device (which has no analogues in the world) was developed and put into operation (use), providing long-term transportation of donor organs and their treatment outside the body, developed on the basis of the Eurasian Patent for Invention No. 04135 B1 (2022).

For the first time in the world, he performed unique operations to implant a completely artificial heart at the international level and a completely implantable device for the left ventricle of the heart.

For the first time in Kazakhstan and the CIS, he used a leadless pacemaker (AVIER); electroporation for atrial fibrillation (Farapulse); "shock wave" lithotripsy of coronary artery calcifications.

With his participation, more than 60 heart transplants and 7 lung transplants were performed at the Heart Center; Under his leadership, the Heart Center was among the 22 best cardiac surgery clinics in the world. University Medical Center is accredited by Joint Commission International as an Academic Medical Center (the 63rd AMC in the world). He has 1 Eurasian patent, 2 US patents for invention and 3 copyright certificates. He has trained more than 8 candidates of science and PhD doctors.

Awards and prizes:

- The title of «Labor Hero of Kazakhstan» with the award of the special distinction «Golden Star» and the «Homeland» Order (2013);
- International scholarship «Good Clinical Practice» (USA) (2024);
- «People's gratitude» Medal (2020);
- «Improving outcomes.Mate III» International scholarship (Austria) (2019);
- Scopus Award (2018);
- Researcher of the Year Award (2018);
- «Gold Scalpel» International Award (2017);
- Winner of the title «Patriot of the Year» at the V National Forum of Patriots of the Republic (2012);
- National award «Altyn Adam - Man of the Year» in the category «Doctor of the Year 2012» (2012);
- Awarded the lapel badge «For contributions to healthcare» (2011);
- Awarded the badge «Excellence in healthcare» (2006).



КАЙДАРОВА
ДИЛЯРА
РАДИКОВНА

Председатель правления АО
«Казахский научно-исследовательский
институт онкологии и радиологии»



DILYARA KAIDAROVA

(work experience over 30 years)

Doctor of Medical Sciences, Professor

Member of the National Kurultai under the President of the Republic of Kazakhstan

Research area: Key scientist in the field of oncology and oncogynecology. Chief oncologist of the Republic of Kazakhstan

email: dilyara.kaidarova@gmail.com

Position: Chairman of the Board of «Kazakh Research Institute of Oncology and Radiology» JSC.

Scientific achievements: Published more than 250 works. Author of 2 patents for utility model of the Republic of Kazakhstan, 4 patents for invention of the Republic of Kazakhstan, 2 Eurasian patents, 7 monographs/chapters from monographs, 3 textbooks, 6 author's certificates, 7 methodological recommendations. Under her leadership, new technologies in the field of radiation therapy of tumors of various localizations were introduced, which significantly improved the quality of radiological treatment of oncological diseases; an innovative method for treating primary and metastatic skin tumors based on a combination of physical impact (electrical impulses) and chemical intervention (chemotherapy), which has proven its effectiveness in the resorption of neoplastic foci. Head and executor of 8 scientific and technical programs, more than 10 projects on clinical and scientific research. Under her supervision, 5 PhD students have submitted their PhDs and 17 doctoral students are conducting research in the field of oncology.

Author of a public initiative to integrate scientific, medical and public potential for the development and implementation of effective strategies to combat cancer.

Awards and prizes:

- Kurmet Order (2020);
- «Best Scientist» Award (2021);
- Awarded the lapel badge of the Ministry of Health of the Republic of Kazakhstan «Excellent Healthcare Worker»;
- «Vocation» Award in the nomination «For the creation of a new direction in medicine» for the oncofertility program (Russia) (2021);
- «Science leader independent award winner» NCSTI Award (2015);
- International scholarship IAEA, Austria (2024).

Membership in professional associations (organizations):

Foreign member of ESGO (2009), ASCO (2010), ESMO (2017), RAS (2022);

Director of CentEast (Central Asia and East Europe regional clinical trials group -2019);

Member of the IGCS Directors Board, Consul of Asia and Oceania (IGCS Directors Board: Council of Asia and Oceania (2022-2024);

Member of the commission of the international publication «Lancet» (2022-2025).



**ТЕЛТАЕВ
БАГДАТ
БУРХАНБАЙУЛЫ**

Директор ТОО
«Дорожный научно-
производственный центр»



BAGDAT TELTAYEV

(work experience over 35 years)

Doctor of Technical Sciences, Professor

Research area: Key scientist in the field of mechanics of road structures and materials

email: bagdatbt@yahoo.com

Position: Chief Researcher of the RSE on the Right of Economic Management "Institute of Mechanics and Mechanical Engineering named after Academician U.A. Dzholdasbekov".

Scientific achievements: 870 works have been published, including more than 160 in highly rated publications. Author of 3 scientific discoveries, 8 monographs, 70 regulatory documents and 40 inventions, Specialist in the field of road structures and materials. Developed the Bitumen Map of Kazakhstan, Road and Climate Zoning of Kazakhstan, Standard Designs of Road Coatings for Local Highways, Album of Rational Designs of Road Coatings for Highways, Installations for Grinding Materials to Nanoscale Sizes, Screw Classifier of Grinded Materials, Sensors and Methods for Measuring Temperature and Humidity in Road Structures, etc.

Author and developer of regulatory documents (SNiP RK, SN RK, SP RK, GOSTs) for the road industry in Kazakhstan and the Customs Union countries. Under his scientific supervision, about 60 new materials and technologies were introduced into production and about 200 road sections in different cities and regions of Kazakhstan were built using them.

Trained 5 doctors, 28 candidates and 5 doctors of philosophy (2 of them at universities in Italy). He is the editor of the journal Applied Rheology (Germany, WoS, Scopus Q1), and a member of the Editorial Board of the journal Geomechanics and Engineering (South Korea, WoS, Scopus Q1).

Awards and prizes:

- «Kurmet» Order (2023);
- «Best Scientist» award (2022);
- State scientific scholarships (2006, 2023);
- A.A. Nikolaev Award «For outstanding contribution to the development of the road industry» (Moscow, 2016);
- Honorary Road Builder of Kazakhstan (2007);
- Honorary Road Builder of the CIS (Moscow, 2014).



**КАЛТАЕВ
АЙДАРХАН**

Руководитель НИЛ «Инженерная
механика и моделирование»
КазННТУ им. К.Сатпаева



AIDARKHAN KALTAYEV(work experience over 40 years)
Doctor of Physical and Mathematical Sciences, Professor
Member of the National Council for Science and Technology under the President of the Republic of Kazakhstan
Field of research: Key scientist in the field of fluid and gas mechanics
email: aidarkhan.kaltayev@gmail.com

Position: Head of the Research Laboratory «Engineering Mechanics and Modeling» of KazNRTU named after K. Satpayev.

Scientific achievements: Published more than 120 works. Leading Kazakhstani scientist in the field of fluid and gas mechanics. Scholarship holder of the Ministry of Education and Scientific Research of Germany (MOISR, 1995-2000) and DAAD (German Academic Exchange Service, 2004, 2008), the Japanese Association for Cultural Relations with Foreign Countries (1997).

In 1980-2005, he developed: a mathematical model of an annular vortex and studied its dynamics; mathematical and computational models of combustion of a carbon-air mixture in combustion chambers at low Mach numbers and studied their properties; physical, mathematical and computational models of the transition of conventional combustion to detonation in a pipe and studied the mechanisms leading to the transition (Japan, 1997); kinetics of hydrogen combustion in a supersonic air flow (ISTC grants, 1998-2005).

Over the past 20 years, together with his students and employees: developed and created a 3D simulation model of the uranium extraction process by the underground borehole leaching method and a digital control system that allows forecasting, planning, monitoring and effectively managing the mining process, 2) Developed and created a 3D simulation model of the uranium oxide sorption process from a solution and conducted studies on the efficiency of the sorber; 3) Studied methods of using and storing solar thermal energy for heating and hot water supply of premises and created prototypes of the corresponding products.

He implemented and commercialized a full-cycle scientific project «Software package for studying uranium mining by the ISL method with the production of Simulator version 3.0», which is used at enterprises in Kazakhstan. Currently conducting research on bacterial leaching of metals using the PSV method, design of centrifugal pumps and application of AI to engineering problems.

Supervised one PhD and 15 PhD students in mechanics. Including one PhD and two PhD students from the Arab Republic of Egypt. Two of his students submitted their doctorates at universities in Poland and France.

Visiting professor from 2009 to 2017 to lecture to doctoral students at AGH-Krakow University of Science and Technology in Poland, in 2011 and 2012 – to lecture to master's students at the National Polytechnic Institute of Lorraine (France).

Awards and prizes:

- State award «Best scientific worker» of the Ministry of Education and Science of the Republic of Kazakhstan (2021);
- State Prize «Best University Teacher» of the Ministry of Education and Science of the Republic of Kazakhstan (2010);
- Lapel badge «For Merit in the Development of Science of the Republic of Kazakhstan» of the Ministry of Education and Science of the Republic of Kazakhstan (2009);
- State prize/grant «Best University Teacher» of the Ministry of Education and Science of the Republic of Kazakhstan (2005)



**БАКЕНОВ
ЖУМАБАЙ
БЕКБОЛАТОВИЧ**

Кандидат химических наук, PhD
(TokyoTech), профессор,
руководитель Центра энергетики и
науки о новых материалах
«National Laboratory Astana»



ZHUMABAI BAKENOV (57 years)

Candidate of Chemical Sciences (Physical Chemistry),

Doctor of Engineering in Chemical Engineering (D.Eng), Professor

Field of research: Key scientist in the field of energy storage and transformation systems

email: zbakenov@nu.edu.kz

Position: Vice-provost for interaction with industry at «Nazarbayev University» JSC, Director of the Center for Energy and Science of New Materials at the National Laboratory Astana.

Scientific achievements: More than 250 works have been published, including articles in journals with a high impact factor, 5 chapters in books of international publishing houses, 14 articles in collections of rating international conferences. The author of a unique fast-charging battery that has a high charge capacity, reliability, long service life, environmental protection and low cost. The technical result of the invention is an increase in operational characteristics of the battery, in particular, a reduction in the aggressive properties of the electrolyte, which ensures reliability, increases its service life and environmental safety. He developed a method for obtaining a multilayer thin-film anode based on a lithium-tin alloy for lithium-ion microaccumulators. In 2013, he founded the first start-up company at Nazarbayev University - «Institute of Accumulator» LLP within the framework of the Commercialization Program of the World Bank - Government of the Republic of Kazakhstan.

Head of more than 10 doctoral students at Nazarbayev University.

Founder and head of the largest research group at Nazarbayev University - Battery Group. Commercialization programs developed by him: 1) Development of an innovative lithium-ion sulfur battery without metallic lithium for renewable energy, electric cars and electronics (2013). At the end of the project, button batteries for small electronics were produced and sold; 2) Justification of the concept of a non-current accumulator battery Zn/NiOOH (2014); 3) Water lithium-ion batteries (2017). At the moment, the enlarged prototypes of this battery have been manufactured and tested, and work is being carried out with a company from Germany on the joint development of technology. For this work, there are patents from the Republic of Kazakhstan, the United States and the European Union.

Awards and prizes:

- Award for developed technology, Tokyo, Japan (2010);
- NU Award for Outstanding Career Achievement in Research (2024);
- Scopus «Researcher of the Year» Award (2022);
- «Best Scientific Worker» Award of the Government of the Republic of Kazakhstan (2021);
- Web of Science «Leader science» Award (in the field of nanotechnology) (2020);
- Scopus «Researcher of the Year» Award (2019);
- «Best author Springer Nature» Springer Nature Award (2017);
- National award for the best patent of the year «Shapagat» (2016);
- Laureate of Marie Sklodovskoy-Curie scholarship, Marie Curie Fellow (2016);
- «Leader Science» award Thomson Reuters (2015);
- Medal «For contribution to the development of science of the Republic of Kazakhstan» (2014) MES RK.

IN THE AREA OF «NATURAL SCIENCES»



ERLAN BATYRBEKOV (work experience over 37 years)

Doctor of physical and mathematical sciences, professor

Member of the group of government experts - advisers to the UN Secretary General on nuclear disarmament

Field of research: Key scientist in the field of nuclear energy safety, controlled thermonuclear fusion, radioecology and radiation technologies

email: batyrbekov@nnc.kz

Position: General Director of the RSE on REM «National Nuclear Center of the Republic of Kazakhstan».

Scientific achievements: The author has more than 200 scientific publications, including 16 monographs and 12 patents. A scientist recognized by the international scientific community in the field of converting nuclear energy into optical radiation, increasing the safety of nuclear energy, developing technologies of controlled thermonuclear fusion, radioecology, development and application of radiation technologies.

The author of the scientific concept «Powerful intrareactor nuclear-excitable sources of coherent and incoherent optical radiation with direct and combined nuclear pumping». For the first time in the world, the conversion of nuclear energy into laser radiation at the 5d-6p transitions of the He atom was obtained both directly (by the products of nuclear reactions $B_{10}(n,\alpha)Li_7$) and by combined nuclear pumping. Under his leadership and direct participation, unique methods of conducting experiments inside and outside the reactor were developed to simulate severe accidents with melting of the active zone of water-hydrogen thermal neutron reactors and fast neutron reactors of the IV generation. In particular, for the first time, a cycle of studies was conducted to study the behavior of the fuel assembly in the conditions of severe accidents with loss of coolant in the fast neutron reactor (EAGLE, Japan) and tests in conditions close to the emergency of the innovative mixed nitride uranium-plutonium fuel (SNUP) of the unique Russian reactor with fast neutrons and lead coolant BREST-OD-300. He is the immediate supervisor of unique scientific and technical projects for the conversion of research nuclear reactors IGR and IVG.1M. The development and successful application of the technology of liquidation of the identified particularly dangerous areas of radioactive pollution, which allowed to carry out their complete remediation. Under his leadership, the site «Experimental field» became the first non-proliferation safe site in the world, where nuclear tests were conducted. Scientific consultant of the 6th dissertation students for the PhD degree.

Awards and prizes:

- Laureate of the state prize of the Republic of Kazakhstan in the field of science and technology named al-Farabi (2023);
- «Kurmets» Order (2021);
- «For meritorious work" Medal (2015);
- 1st degree honorary badge «Honored worker of the atomic branch of the Republic of Kazakhstan» (golden badge) (2017).



**ОРЫНБАЕВ
МУХИТ
БАРМАКУЛЫ**

Главный научный сотрудник
лаборатории «Мониторинг
инфекционных болезней» ТОО
«Научно-исследовательский институт
проблем биологической
безопасности» МЗ РК



MUKHIT ORYNBAYEV (work experience over 30 years)

Candidate of veterinary sciences, professor

Field of research: Key scientist in the field of biological (veterinary) safety

email: omb65@mail.ru

Position: Head of the Laboratory "Monitoring Infectious Diseases" LLP "Research Institute for Biological Safety Problems" RK.

Scientific achievements: over 300 scientific works have been published, including 50 inventions, 4 monographs and 1 textbook, 17 regulatory and technical documents on the production and control of diagnostic and prophylactic drugs. Scientific research is related to the study of particularly dangerous pathogens, development of means of specific prevention and diagnosis of infectious diseases. For more than 35 years, he has been engaged in research aimed at improving the response system to outbreaks of particularly dangerous diseases and surveillance of particularly dangerous diseases. Head of 18 projects implemented within the framework of republican programs. Head of 4th and assistant head of 4th international projects. Currently, he is the head of the 1st international project and 1st grant project commercialization of RNNTD DP21681664. .

Actively implements development in production. The author has introduced more than 10 vaccine and diagnostic drugs. In 2018, under the guidance of Orynbaeva M.B. A vaccine against nodular dermatitis from the strain "Neetling-RIBSP" was developed. Since 2019, more than 37 million doses of this vaccine have been produced and sold in the amount of more than 7.8 billion tenge. From 2023, as part of the commercialization project, RNNTD will implement 3 diagnostic ELISA test systems.

2018-2020 - Member of the National Scientific Council in the direction "Sustainable development of the agro-industrial complex and safety of agricultural production".

2020-2023 - Member of the National Scientific Council in the direction "Science of Life and Health".

Under his supervision, one PhD thesis was submitted. Supervises 3 doctoral students.

Awards and prizes:

- State prize of the Republic of Kazakhstan in the field of science and technology named after al-Farabi (2021);
- Annual award «Best Scientific Worker» (2022);
- State scientific scholarship (2018).



ZHAKEN TAIMIGAMBETOV (work experience over 40 years)

doctor of historical sciences, professor

Member of the National Council for Science and Technology under the President of the Republic of Kazakhstan.

Position: Chief Research Officer of the National Museum of the Republic of Kazakhstan, Professor of the Department of "Archaeology and Ethnology" of the Eurasian National University named after L.N. Gumilev.

Scientific achievements: over 550 scientific works published in 12 languages of the world, including 53 monographs. Under his leadership, 5 Ph.D.'s, 9 Candidates of Sciences, dozens of Master's degrees in history, archeology were defended. **The author has scientific publications**, including the discoverer of more than 300 Paleolithic monuments in different regions of Kazakhstan, including Koshkurgan, Shoktas, Kyzyltau, Mughalzary, Aral, Uzen, Maibulak, Ushbalak, etc., which have received world fame. The absolute dates obtained by him for the stratified monuments of the Paleolithic - Koshkurgan-Shoktas complex, st. named after Ch. Valikhanov, Shulbinka, Maibulak, Ushbulak, Karaungur, thanks to which it was proved that the territory of Kazakhstan was inhabited by 1 million people. years ago

Head of international archaeological expeditions: 1) Kazakh-German with the participation of specialists from the USA, Germany, Italy, Romania, Belgium, Australia, Japan, India, Brazil, Greece, England, Spain (since 2015); 2) Kazakh-Russian expedition (since 1992); 3) Kazakh-Japanese expedition (since 2017).

He has 2 copyright certificates. Member of the Board of Trustees of the Corporate Foundation «Franco-Kazakhstan University Center Lumiere».

Awards and prizes:

- Prize laureate named after Ch. Ch.Valikhanov (2001);
- Order RK "Parasat" (2022);
- Laureate of the silver medal named after A. Baitursynov «The best author» (2008);
- State scholarship for leading scientists of the Republic of Kazakhstan (1997-1999, 2006-2008);
- Holder of the title «Best teacher of the university of Respublika Kazakhstan» (2010);
- Honored Member of the Republic of Kazakhstan (2013);
- Order «Rising Sun Golden Rays» named after the Emperor of Japan (2019);
- Medal «Abay-175 years» (2020)
- Silver medal «Al-Farabi» (2023).