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**Қазақстан Республикасы Ғылым және жоғары білім министрлігі
Әл-Фараби атындағы Қазақ ұлттық университеті**

**«МАТЕМАТИКА, МЕХАНИКА ЖӘНЕ АҚПАРАТТЫҚ ТЕХНОЛОГИЯЛАР»
X халықаралық ғылыми конференциясының**

БАҒДАРЛАМАСЫ

Қазақстан Республикасы, Алматы, 24-26 қыркүйек, 2025

**Министерство науки и высшего образования Республики Казахстан
Казахский национальный университет имени Аль-Фараби**

ПРОГРАММА

**X международной научной конференции по
«МАТЕМАТИКЕ, МЕХАНИКЕ И ИНФОРМАЦИОННЫМ ТЕХНОЛОГИЯМ»
Республика Казахстан, Алматы, 24-26 сентября, 2025**

**Ministry of Science and Higher Education of the Republic of Kazakhstan
Al-Farabi Kazakh National University**

PROGRAM

**of the X International Scientific Conference on
“MATHEMATICS, MECHANICS AND INFORMATION TECHNOLOGIES”
Republic of Kazakhstan, Almaty, September 24–26, 2025**



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CONFERENCE SCHEDULE

Dates: September 24–26, 2025

Time: 09:00 – 18:00

Venue: Al-Farabi Kazakh National University
Al-Farabi Library
71/27 Al-Farabi Avenue, Almaty

Wednesday, September 24	
08.00 – 09.00	Meeting and registration of guests and participants 4th floor, Lobby
09:00 – 09:10	The grand opening of the international scientific conference 4th floor, № 416
09:10 – 13:30	Plenary Session, 4th floor, № 416
13:30 – 15:00	Lunch
15:00 – 18:00	Sectional Sessions, 4th floor, № 308, № 408, № 409
15:00 – 18:00	Poster Presentations, 4th floor, Lobby
19:00 – 22:00	Gala dinner for conference participants
Thursday, September 25	
09:00 – 12:50	Plenary Session, 4th floor, № 416
12:50 – 13:30	Session dedicated to the memory of Academician K.A. Kasymov (90th Anniversary), 4th floor, № 416
13:30 – 15:00	Lunch
15:00 – 16:00	Round Table - Artificial Intelligence in Science and Engineering: Challenges and Opportunities, 4th floor, № 409
16:00 – 17:15	Sectional Sessions, 4th floor, № 308, № 408, № 409
15:00 – 18:00	Poster Presentations, 4th floor, Lobby
17:15 – 18:15	A ceremonial meeting dedicated to the 90th anniversary of Academician N.K. Bliev
Friday, September 26	
09:00 – 13:20	Plenary Session, 4th floor, № 416
13:30 – 15:00	Lunch
15:00 – 18:00	Sectional Sessions, 4th floor, № 308, № 408, № 409
15:00 – 18:00	Poster Presentations, 4th floor, Lobby
18:30 – 19:30	Conference Closing and Awarding of Best Presentations. Buffet Reception 4th floor, Lobby

PROGRAM

OF THE X INTERNATIONAL SCIENTIFIC CONFERENCE ON
«MATHEMATICS, MECHANICS AND INFORMATION TECHNOLOGIES»

WEDNESDAY, SEPTEMBER 24	
08.00 – 09.00	Registration 4th floor, Lobby
THE GRAND OPENING 4th floor, № 416 Moderator: Professor D. Akhmed-Zaki Join the Zoom Conference: https://us06web.zoom.us/j/88685852992?pwd=3vqXhHWepzYeDp9aXDfyzMPdbTzYbk.1 Conference ID: 886 8585 2992, Access code: 782102	
09:00-09:05	OPENING REMARKS Chairman of the Board – Rector of Al-Farabi Kazakh National University Zhanseit TUIMEBAYEV
09:05-09:10	OPENING REMARKS President of the National Engineering Academy of the Republic of Kazakhstan Bakytzhan ZHUMAGULOV
09:10-09:15	OPENING REMARKS Academician of the National Academy of Sciences of the Republic of Kazakhstan, Professor, Satpayev University Aidarkhan KALTAYEV
PLENARY SESSION Moderators: Academician B. Zhumagulov, Academician T. Kalmenov	
09:15-09:55	Sergey Kabanikhin – Corresponding Member of the Russian Academy of Sciences, Sobolev Institute of Mathematics SB RAS Inverse Problems and Machine Learning
09:55-10:35	Tarek Sobh – President at Lawrence Technological University Empowering Global Collaboration: AI-Driven Innovation and Interdisciplinary Education Transforming the Future Workforce and Society (online)
10:35-11:15	Peyman Givi – Professor, University of Pittsburgh Quantum-Ready and Quantum-Inspired CFD

11:15-11:30	COFFEE-BREAK
PLENARY SESSION Moderators: Professor D. Akhmed-Zaki, O. Turar	
11:30-12:10	Iskander Taimanov – Academician of the Russian Academy of Sciences, Sobolev Institute of Mathematics SB RAS Schrödinger Operators with PT-Potentials (online)
12:10 – 12:40	Pier Domenico Lamberti – Professor, University of Padova Spectral stability and instability of Steklov problems on varying domains
12:40 – 13:10	Huasheng Wang – Professor, Queen Mary University of London AI-assisted modelling and optimization of condensers with vapor-liquid separation (online)
13:10 – 13:40	Azamat Eshmukhametov – PhD, Nazarbayev University AI in robotics
13:40 – 15:00	LUNCH

SECTION OF FUNDAMENTAL AND APPLIED MATHEMATICS
Room 409

Moderators: Professor M. Bektemessov, Professor B. Urmashev

Join the **Zoom** Conference:

<https://us06web.zoom.us/j/85300214175?pwd=wFmwaRn5agTeWftM9lGdjPV6m35gGK.1>

Conference ID: 853 0021 4175, Access code: 415480

15.00-15.15	T. Kalmenov, A. Kadirbek Integral representation of solutions of coercive self-adjoint problems for the Laplace equation
15.15-15.30	M. Jenaliyev On fundamental solenoidal systems in rectangular parallelepiped. Periodic boundary conditions
15.30-15.45	Anar Assanova, Askarbek Imanchiyev, Altynai Molybaikyzy Problem for impulsive system of hyperbolic equations second order with deviating argument
15.45-16.00	Amiran Gogatishvili, Gulden Karshygina, T. Unver Characterization of weighted Copson inequalities for non-increasing
16.00-16.15	Vijay Kumar Vyas, Arti Sharma Generalized Saigo Fractional Operators involving Product of Hypergeometric Functions of Two Variables and Polynomials
16.15-16.30	Janikul Abdullaev, Abdikhurayra Toshturdiev Eigenvalues of the Schrodinger operator corresponding to the three-particle system in the gap
16.30-16.45	Zhanybai Zhusubaliyev, Ulanbek Sopuev, Zhanadyr Zhumasheva Degenerate bifurcations in a piecewise linear map
16.45-17.00	Bakanov Galitdin, Saule Meldebekova Stability estimates for discrete analogues of integral geometry problems
17.00-17.15	Ospanov Kordan On the second order elliptic equation with intermediate terms
17.15-17.30	Nurmukhamed Abdyrakhimov, Umbetkul Koilyshov On the Solution of Certain Initial–Boundary Value Problems for the Heat
17.30-17.45	Komil Kuliev, Gulchehra Kulieva, Rustam Tilavov Nonoscillation Criteria for Fourth Order Half-Linear Equations
17.45-18.00	Omarov Madi, Arsen Pskhu, Murat Ramazanov Fractional Diffusion with Right-Sided Liouville Derivative: A Boundary Value Problem in Triangular Domain

SECTION OF MECHANICS AND ROBOTICS Room 408 Moderators: Professor A. Iskakbayev, Assoc. Professor Y. Belayev Join the Zoom Conference: https://us06web.zoom.us/j/8896500498?pwd=dGZjczh1bDJKTkRYMEFIWGx2eXp1QT09 Conference ID: 889 650 0498, Access code: Qwerty1234	
15.00-15.15	G. Sheryazdanov, D. Turalina, B. Bekbau Scientist, Educator, Organizer! (Dedicated to the 115th Anniversary of Professor I.D. Molyukov)
15.15-15.30	M. Mohanraj Photovoltaic thermal collector as part of a heat pump for water heating using zeotropic mixtures
15.30-15.45	Alexander Kuzmin Features of Transonic Flow Around NASA Wing Profiles with a Spoiler
15.45-16.00	A. Zhumanbayeva, N. Jaichibekov, D. Kurmanova, K. Volkov Effect of Finned Tubes in Heat Exchangers on Thermal and Hydrodynamic Flow Parameters
16.00-16.15	D. Kurmanova, N. Jaichibekov, A. Zhumanbayeva, K. Volkov Analysis of the Influence of Different Turbulence Models on Heat Exchanger Simulation Results
16.15-16.30	A. Iskakbayev, B. Teltayev, Y. Aitbayev, A. Zhaisanbayev Models for Predicting the Long-Term Strength of Rheonomic Materials
16.30-16.45	M. Moldabekov, N. Zhumabekova, A. Batenov, N. Tilektes Simulation Model of a Launch Vehicle Flight at the Vertical Launch Stage
16.45-17.00	M. Moldabekov, A. Aden, Y. Orazaly, N. Zhumabekova Study of the influence of engine thrust on dynamics of the rocket angular stabilization system
17.00-17.15	A. Kudaikulov, T. Amanzholov, A. Seitov, A. Kaltayev GPU-Based Parallel Computation of Wind- and Wave-Induced Sea Currents
17.15-17.30	A. Aliuly, A. Seitov, A. Kaltayev Application of Hydraulic Calculation Methods, Similarity Theory, and CFD in the Design of Centrifugal Pumps
17.30-17.45	Zh. Aitkhozha, D. Turalina, B. Bekbau, S. Omirbekov Influence of Oil-in-Water Emulsion Properties and Pore Geometry on the Displacement of Organic Pollutants: An Experimental Study
17.45-18.00	M. Minglibayev, M. Saparova Study of the Four-Body Problem with Three Variable-Mass Planets

SECTION OF INFORMATION TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE
Room 308

Moderators: Professor U. Tukeyev, V. Karyukin

Join the Zoom Conference

<https://us02web.zoom.us/j/6760985614?pwd=Z05sZG5IVkZicUZ6RW81R2Y0aU54QT09>

Conference ID: 676 098 5614, Access code:499653

15.00-15.15	Shangpeng Lei, Balakayeva Gulnar Application of transfer learning based on hierarchical Gaussian-Dirichlet in steady-state temperature field modeling and prediction
15.15-15.30	S.D. Bekele, Y. Kenzhebek, T. Imankulov Symbolic Kolmogorov–Arnold Networks for Enhanced Oil Recovery
15.30-15.45	B.Matkerim, N. Kassymbek, M. Nakibayeva, N. Kabdygaliyev Code generation and optimization for numerical simulation via multi-dimensional homomorphisms and model driven architecture
15.45-16.00	Yerzhan Kenzhebek, Samson Bekele, Timur Imankulov, Darkhan Akhmed-Zaki, Irina Panfilova Physics-Informed PINNs and KAN Networks for Two-Phase Flow Modeling
16.00-16.15	Chingiz Alimbayev, Zhansila Orynbay Investigation of the possibility of using electrocardiography in the early detection of diabetes mellitus
16.15-16.30	Atanu Dutta Khan, Pinki Biswas, Amitabha Chanda, Kaushik Roy Real-Time Gesture Recognition System Using Deep Learning for Enhanced Communication
16.30-16.45	Akshay Bhanushali Strategic Information Systems for Data-Driven Business Intelligence
16.45-17.00	Zhanat Shamykhanova Development of an Intelligent Feedback System for Teaching Mathematics Based on Artificial Intelligence
17.00-17.15	Lyailya Cherikbayeva, Zarina Melis, Vladimir Berikov Deep Ensemble Strategies for Brain Lesion Segmentation on Non-Contrast CT Scans
17.15-17.30	Rahim Ahmed Druba, Nafis Ibn Mahabub, Turken Gulzat Automated 3D-Based Dataset Generation for Object Detection and Segmentation Tasks
17.30-17.45	Miras Mussabek, Dinmukhamed Kussaiyn, Ainur Zhumadillayeva Using Federated Learning and Vision Transformers for Privacy-Preserving Face Recognition in Public Transport
17.45-18.00	Nurbolat Amilbek, Beibut Amirgaliyev Towards Effective Face Identification in Surveillance

POSTER PRESENTATIONS 4th floor, Lobby	
15.00-16.00	A. Tuleshov, M. Kuatova, A. Khabiyev, B. Merkibayeva, A. Amandyk. Analytical Method for Determining the Flywheel Inertia of a Crank Press Based on the Stephenson Mechanism
	A. Tuleshov, M. Kuatova, D. Kerimkulov, Y. Tuleshov Development of Control Functions for a Heavy Mobile Robotic Vehicle
	Ch. Alimbayev, D. Uypalakova Development of an Intelligent Greenhouse Microclimate Control System Based on Plant Morphological Analysis Using Machine Learning and Internet of Things Technologies
	B. Talpakova, Ch. Alimbayev Design of a Semi-Automated System for Welding Large-Capacity Bags
	M. Minglibayev, T. Zhumabaeva, A. Ibraimova Integrable Cases of the Two-Body Problem with Anisotropic Mass Variation in the Presence of Reactive Forces
16.00-17.00	Zhamila Aituganova Design of Automated Vehicle Motion Using the Double Ackermann Inversion Method
	Mukhtar Minglibayev, Balnur Assan Evolutionary Equations for the Translational–Rotational Motion of a Nonstationary Small Axisymmetric Body in the Gravitational Field of Two Variable-Mass Spherical Bodies with Isotropic Mass Variation
	Kulyash Kaliyeva, Yue Congcong On the Three-Layer Transmission Problem for the Heat Equation in a Rectangular Domain
	Kulyash Kaliyeva, Jiayue Wang On the Two-Layer Transmission Problem for the Heat Equation in a Cylindrical Domain
	Kulyash Kaliyeva, Ajiaheer Gemingnuer On the Two-Layer Transmission Problem in a Rectangular Domain
17.00-18.00	Kulyash Kaliyeva, E. Medeltai Solution of the Heat Conduction Problem in a Hollow Cylinder
	Parwiz Rahman Advancing Credit Risk Prediction and Management: A Comparative Analysis of Machine Learning Models and Emerging Innovations
	Alma Maulenova Data Analysis from TPOT Systems Using ML for Early Detection of Network Attacks
	Shaimov Beknur, Akhmetova Ardak Hybrid Machine Learning and Deep Learning Methods for KPI Prediction in Retail

THURSDAY, SEPTEMBER 25	
PLENARY SESSION Moderators: Academician R. Oynarov, Professor A. Asanova 4 floor, № 416 Join the Zoom Conference: https://us06web.zoom.us/j/88685852992?pwd=3vqXhHWepzYeDp9aXDfyzMPdbTzYbk.1 Conference ID: 886 8585 2992, Access code: 782102	
09:00-09:40	Paulo Trigo – Professor of Engineering Informatics, Lisbon Institute of Higher Engineering (ISEL) From Deduction to Induction - an AI Journey Through Two Eras
09:40-10:20	Aidyn Aitzhan – PhD, Senior Software Engineer NVIDIA Time-Dependent Reduced-Order Models for Turbulent Combustion: Advancements in Low-Rank Approximation
10:20-11:00	Viktor Malyshkin – Doctor of Technical Sciences, Professor, Novosibirsk State Technical University Active Knowledge Based Method for Efficient Problem Solving in Particular Subject Domains (online)
11:00-11:20	COFFEE-BREAK
PLENARY SESSION Moderators: Professor N. Temirbekov, Professor A. Khikmetov	
11:20-11:50	Minsu Han – Professor, Astana IT University Speech synthesis and AI: An Example
11:50-12:20	Roland Duduchava – Professor, Director of the Institute of Mathematics of Georgia Convolution equations on the submonoid $M=[0,1)$
12:20-12:50	Maksim Yavich – Professor, Director of the Cyber Security Association of Georgia Optimization of Post-Quantum Digital Signature
12:50-13:30	Session Dedicated to the Memory of Academician K.A. Kasymov (on his 90th Anniversary) Moderator: Acad. B. Zhumagulov
13:30-15:00	LUNCH
15:00-16:00	Round Table, 4th Floor, № 409 Artificial Intelligence in Science and Engineering: Challenges and Opportunities Moderators: Professor A. Kaltayev, D. Aizhulov

SECTION OF FUNDAMENTAL AND APPLIED MATHEMATICS
Room 409

Moderators: Professor M. Sadybekov, B. Sabitbek

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Conference ID: 853 0021 4175, Access code: 415480

16.00-16.15	R. Oinarov, A. Kalybay Functional Space and Variational Problem for a Differential Equation
16.15-16.30	Zh. Zhusubaliyev, K. Kozhobekov, U. Sopuev, A. Kuzko, Zh. Zhumasheva Entrainment of self-oscillations in a pulse frequency system by the external force
16.30-16.45	Ahmad Khalkhuzhaev, Khabibullo Makhmudov On the discrete spectrum of the Schrodinger operator of a system of two fermions on a lattice
16.45-17.00	Zhailan Tutkusheva, Khassen Otarov Necessary and Sufficient Conditions for the Global Extremum of Functions
17.00-17.15	B. Koshanov, A. Kuntuarova On the Solvability of the Generalized Neumann Problem for an Elliptic Equation
17.15-18.15	A ceremonial meeting dedicated to the 90th anniversary of Academician N.K. Bliev Moderator: Academician T. Kalmenov

SECTION OF MECHANICS AND ROBOTICS Room 408 Moderators: Professor U. Zhapbasbayev, Professor Zh. Zhumasheva Join the Zoom Conference: https://us06web.zoom.us/j/8896500498?pwd=dGZjczh1bDJKTkRYMEFIWGx2eXp1QT09 Conference ID: 889 650 0498, Access code: Qwerty1234	
16.00-16.15	Bidyut Baran Saha Multifunctional Adsorbent Materials for CO₂ Capture and Energy Conversion Applications
16.15-16.30	Mukhtar Minglibayev, Aiken Kosherbayeva Study of the Dynamic Evolution of the Solar System at the Red Giant Stage of the Sun
16.30-16.45	Alybai Iskakbayev, Bagdat Teltayev, Gulzat Yensebayeva, Kiyas Kutimov, Saulesh Menlikhozhaeva Study of Asphalt Concrete Deformation under Direct and Reverse Creep Loading
16.45-17.00	Diana Kerimbekova, Almatbek Kydyrbekuly, Antonio Pereira, Irina Panfilova Dynamics of Two-Phase Flow in a Partially Saturated Hydrophobic Porous Medium
17.00-17.15	Kairzhan Karzhauabyev, Dauren Zhakebayev Numerical Simulation of Turbulence Decay in Flows with Finite-Size Solid Particles Possessing Buoyancy
17.15-17.30	Abzal Seitov, Amankeldy Toleukhanov, Yerzhan Belyayev, Olivier Botella Optimization of Phase Change Material (PCM)–Based Thermal Energy Storage with Finned Containers under Continental Climate Conditions
17.30-17.45	Nazerke Momysh, Olivier Botella, Yerzhan Belyayev Numerical Simulation of LEMTA’s Fluidized Bed
17.45-18.00	Yelnar Yerdesh, Yerzhan Belyayev, Amankeldy Toleukhanov, Dinmukhambet Baimbetov, Murugesan Mohanraj Assessment of the Efficiency of a Solar Distiller with a Compression Heat Pump for Freshwater Production in Caspian Kazakhstan

SECTION OF INFORMATION TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE
Room 308

Moderators: Professor G. Balakayeva, M. Mustafin

Join the **Zoom** Conference:

<https://us02web.zoom.us/j/6760985614?pwd=Z05sZG5lVkJicUZ6RW81R2Y0aU54QT09>

Conference ID: 676 098 5614, Access code:499653

16.00-16.15	Umid Usmonov Simulation training program for the military medical service for non-gunshot wounds
16.15-16.30	Lawrencia Oppong The Transformative Role of Artificial Intelligence in Shaping the Future of Information Technology
16.30-16.45	Anastassiya Tyunina, Sabina Rakhmetulayeva, Eduard Schiller, Victoriya Khazova Multimodal artificial intelligence approaches for the diagnosis of polycystic ovary syndrome
16.45-17.00	Dias Amitullayev An Empirical Analysis of GraphQL Security: Patterns and Trends from 161 Real-World Vulnerabilities
17.00-17.15	Zamira Abdikalikova Adaptive Control of Liquid Transport on a Rover Using AI to Prevent Spills
17.15-17.30	Gulbanu Rysmendeyeva Machine Learning Methods for Analyzing Socio-Economic Statistics
17.30-17.45	Binara Imankulova Design and Implementation Challenges of IoT Data Provenance
17.45-18.00	Banu Abdullayeva Neural Network-Based Acceleration and Prediction Techniques for In Situ Leaching of Uranium

POSTER PRESENTATIONS 4th floor, Lobby	
15.00-16.00	A. Mukhanbet, N. Azatbekuly Comparative study of the HHL algorithm on a simulator and a quantum processor
	Zh. Zhetpisbay Multi-Stage Epigenetic Clock Algorithm Based on CpG Feature Selection and Regularization
	Zh. Baigarayeva, A. Boltaboyeva, B. Imanbek, Z. Ibrasheva, D. Turmakhanbet HRV as a Marker of Air Pollution's Cardiovascular Risk
	Maksat Mustafin, Olzhas Turar, Darkhan Akhmed-Zaki Modified PINN Architecture for Adaptive Computational Grid Generation
	Nurislam Kassymbek, Danil Lebedev, Darkhan Akhmed-Zaki Optimization of a Fragmented Algorithm for Solving the Nonequilibrium Filtration Problem in the LUNA System
16.00-17.00	A. Akhmetova, A. Abdildayeva, A. Shayakhmetova Enhancing decision accuracy in intelligent control systems using naive bayes and ensemble models
	N. Azatbekuly, B. Amangeldy, N. Tasmurzayev, T. Imankulov Prediction of Thermal Comfort Based on Environmental Parameters and Physiological Data
	N. Tasmurzayev, B. Amangeldy, Sh. Shinasylov, E. Nurakhov, B.D. Samson HVAC System Control Based on Digital Twin for Smart Management and Sustainable Building Development
	Aman Mussa Building Practical Agents with Kazakh LLM
	Madina Soltangeldinova, Meruert Sakypbekova A Review of Plant Disease Recognition Methods Using Deep Learning
17.00-18.00	T. Sarsembayeva, M. Mansurova, Ganibet Ablay, Ablaihan Sagyn Integrated Biometric Authentication: An Intelligent System Combining AI and IoT for Face and Palm Vein Recognition
	A.T. Iskakova, G.E. Kurmankulova IoT, Deep Learning and VR for Production Optimization
	Talshyn Sarsembayeva, Madina Mansurova, Shakir Aidos Enhancing the Effectiveness of Kinect-Based Exergame Technology in Optimizing Post-Stroke Shoulder-Arm Function and Its Potential in Clinical Assessment
	A. Aitkazina, O. Mamyrbayev, S. Pavlov AI-Based Laser-Photon Seed Treatment
	N. Abdurakhmanov, A. Akhmetova Enhancing decision accuracy in intelligent control systems using Naïve Bayes and ensemble models

FRIDAY, SEPTEMBER 26	
Plenary Session Moderators: Professor B. Kanguzhin, PhD A. Aitzhan 4 floor, № 416 Join the Zoom Conference: https://us06web.zoom.us/j/88685852992?pwd=3vqXhHWepzYeDp9aXDfyzMPdbTzYbk.1 Conference ID: 886 8585 2992, Access code: 782102	
09:00-09:40	Durvudkhan Suragan – Academician of the National Academy of Sciences of the Republic of Kazakhstan, Professor, Nazarbayev University Hardy–Leray Inequalities in Variable Lebesgue and Morrey Spaces
09:40-10:20	Octavian Adrian Postolache – Professor, Instituto Superior Tecnico/Universidade de Lisboa Precision Agriculture: From Smart Sensing to Digital Twin (online)
10:20-11:00	Haider Abbas – Director General of the National CERT- Pakistan Resilient Nations in a Connected World: Protecting Critical Infrastructure in the Age of AI and IoT (онлайн)
11:00-11:20	COFFEE-BREAK
Plenary Session Moderators: Academician D. Suragan, Professor A. Isakhov	
11:20-11:50	Ualbai Umirbaev – Professor, Wayne State University Tame and wild automorphisms of free algebras (Online)
11:50-12:20	Konul Habibova– Azerbaijan National Academy of Science Weak supervisor in the database: Snorkel - similar rules for manipulation markers
12:20-12:50	Madina Tungatarova – PhD, Satpayev University Software Package for Predicting and Controlling the Process of Uranium In-Situ Leaching
12:50-13:20	Leonidas Sakalauskas – Professor, Vytautas Magnus University, Lithuania, Doctor of Technical Sciences Digital Foundations of Communication
13:20-15:00	LUNCH

SECTION OF FUNDAMENTAL AND APPLIED MATHEMATICS**Room 409****Moderators: Professor S.E. Aitzhanov, Professor Kh. Khompysh**Join the **Zoom** Conference:<https://us06web.zoom.us/j/85300214175?pwd=wFmwaRn5agTeWftM9lGdjPV6m35gGK.1>

Conference ID: 853 0021 4175, Access code: 415480

15.00-15.15	Azamat Barakayev On the boundedness of maximal operators
15.15-15.30	Yerkebulan Moldagali, Kordan Ospanov On the correctness of one fourth-order differential equation
15.30-15.45	Nauryzbay Aviltay Asymptotic solutions of differential equations with singular impulses
15.45-16.00	Minzilya Kosmakova, Danna Akhmanova, Kamila Izhanova Solving a BVP for an equation with a fractional derivative
16.00-16.15	Aliya Borsikbayeva, Baydaulet Urmashiev Mathematical modeling of the coal combustion process in long-burning boilers
16.15-16.30	Kuanysh Saule, Kadirbayeva Zhazira Analysis of a Periodic Problem for Integro-Differential Equations of Parabolic Type
16.30-16.45	Ardak Mustafayeva, Baydaulet Urmashiev Parameter Recovery in a Two-Compartment Pharmacokinetic Model with Absorption: Classical and Neural Network Methods
16.45-17.00	Ermek Khairullin, Aliya Azhibekova A boundary value problem for the heat equation with a discontinuous coefficient in a multidimensional space within a strip
17.00-17.15	Dauren Matin, Talgat Akhazhanov Bilinear Riesz Potential in Generalized Morrey Spaces
17.15-17.30	Ainur Kerimakyn, Nurlan Temirbekov Mathematical and Computational Modeling of Catalytic Converter Using Navier–Stokes Equations in Curvilinear Coordinates
17.30-17.45	Aigerim Kalybay, Ainur Temirkhanova Weighted Hardy-type Inequalities for Iterated Volterra-type Operators with General Kernels
17.45-18.00	Nikita Tsoy, Dauren Zhakebayev Generative Modeling of 2D Flow Cross-Sections in Turbulence

SECTION OF MECHANICS AND ROBOTICS Room 408 Moderators: Professor D. Zhakebaev, Professor N. Zhaichibekov Join the Zoom Conference: https://us06web.zoom.us/j/8896500498?pwd=dGZjczh1bDJKTkRYMEFIWGx2eXp1QT09 Conference ID: 889 650 0498, Access code: Qwerty1234	
15.00-15.15	Dmitry Bushuev, Sergey Ogurtsov, Zhadyra Zhumasheva Stabilization of Slider Velocity in a Crank-Slider Mechanism
15.15-15.30	Bagdat Teltayev, Dinmukhambet Alizhanov Experimental Assessment of Fatigue Strength of Road Polymer Asphalt Concrete
15.30-15.45	Daniyar Bossinov Optimization of Pipe Dimensions in the Design of a Thermal Distribution Network
15.45-16.00	Zhalyn Yesbol Calculation of the Impact of Heat Transfer in Thermoplastic Forming of Beryllium Oxide-Based Ceramics
16.00-16.15	Nurlan Shayakhmetov, Maksat Kurmanseiit Integrated Modeling Approach for Efficient Well Placement and Flow Balance in Underground Uranium Leaching
16.15-16.30	Renat Yerlanov, Perizat Khozhakhmat, Tannur Amanzholov Numerical Simulation of Oil Spill Processes in the Northern Caspian Sea
16.30-16.45	Abdurashid Aliuly, Nurlan Shayakhmetov Application of CFD Modeling for Analyzing Internal Flow in Centrifugal Pump Design
16.45-17.00	Auzhan Sakabekov, Saltanat Madaliyeva, Ryskul Yergazina Application of Second-Order Moment Equations to Estimate Aircraft Speed and Surface Temperature
17.00-17.15	Ruslan Orynov, Aleksandr Kim Development and Implementation of a Hardware–Software Control System for a UR-10 Collaborative Robot Using Voice Commands
17.15-17.30	Damir Zhangabergen, Zhadyra Zhumasheva Development of a Spherical 3-RRR Parallel Manipulator
17.30-17.45	Saltanat Bizhanova, Muhtar Minglibayev Calculation of Perturbations in a Four-Body System with Three Planets under Isotropic Mass Variation
17.45-18.00	Kamila Mutalipova Modeling and Visualization of Viscoelastic Flow in a Planar Channel Using OpenFOAM

SECTION OF INFORMATION TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE Room 308 Moderators: Assoc. Professor B. Matkerim, E. Kenzhebek Join the Zoom Conference: https://us02web.zoom.us/j/6760985614?pwd=Z05sZG5IVkJicUZ6RW81R2Y0aU54QT09 Conference ID: 676 098 5614, Access code:499653	
15.00-15.15	Auzhan Sakabekov, Saltanat Madaliyeva, Ryskul Yergazina, Yerkanat Auzhani Using Second-Order Moment Equations to Estimate Aircraft Speed and Surface Temperature
15.15-15.30	Timur Imankulov, Yerlan Makhmut Using CUDA shared memory to solve oil displacement problem
15.30-15.45	Daniar Aizhulov, Madina Tungatarova Development of a software complex for modeling uranium extraction process by In-Situ Leaching method
15.45-16.00	Chingiz Alimbayev, Aidana Yerkebay Machine Learning Application for the Detection of Cardiac Fibrillation
16.00-16.15	Zhanelya Assan, Symbat Kabdrakhova Methods for aggregating and searching objects in radar data for the purpose of optimizing neural networks based on federated learning
16.15-16.30	Arman Yeleussinov, Zholdas Buribayev, Lyailya Cherikbayeva The impact of segmentation on the accuracy of handwritten text recognition in archival documents for the Kazakh language
16.30-16.45	Alen Tassymov, Bolatzhan Kumalakov LLM-Based Ontology Extraction from Kazakhstan Legal Acts
16.45-17.00	Bektaiyr Tuleshov, Bekbau Bakbergen Physics-Integrated Neural Network for Reactive Transport Simulation
17.00-17.15	A. Kaldarova, M.A. Vasquez, A. Utemuratova, N. Baisbay, M. Rakhimzhanova Enhancing English Language Skills with AI
17.15-17.30	Sholpan Zhumagulova, Dina Oralbekova ECG Classification Enhancement Through Data Preprocessing and Adaptive Learning Methods
17.30-17.45	A. Kudaikulov, T. Amanzholov, A. Seitov, A. Kaltayev GPU-Based Parallel Computation of Wind- and Wave-Induced Sea Currents
17.45-18.00	M. Mansurova, S. Elubayev, T. Bopeeov, T. Sarsembayeva, Z. Erkin AI in Medicine: Development of an Orthosis with Electrical Stimulation Using Artificial Intelligence Technology

POSTER PRESENTATIONS	
4th floor, Lobby	
15.00-17.00	D.M. Mukhammejanova, M.U. Suleimenova AI-driven methods for forecasting and organizing the security of medical data in information systems
	M.U. Suleimenova, D.M. Mukhammejanova, R.T. Amanova Visualizing Biomarker Networks for Premature Cardiovascular Aging: A Multi-Modal Analysis across Clinical, Biochemical, and Immunological Data
	Hadi Mukhtar Data-Driven Project Management Information System for Enhanced Planning and Analysis
	Zh. Yerkin, M. Mansurova Enhancing Cardiac Diagnostics: Comparative Analysis of CNN and ResNet50 for ECG Image Classification
	A. Ospan, M. Mansurova Building Reliable Kazakh-Language AI with RAG: Methods, Corpora, and Evaluation

CLOSING SESSION 4th Floor, Lobby Moderators: T. Imankulov, D. Turalina, A. Temirbekov, M. Tungatarova	
18.30-19.30	Conference Closing and Awarding of Best Presentations. Buffet Reception

LOCATION
Al-Farabi Kazakh National University Library

2GIS: <https://go.2gis.com/gzuwi>

Google Maps: https://maps.app.goo.gl/i28uVYTU6NdY1LzF6?g_st=aw



ADDITIONAL INFORMATION

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UNIVERSITY WI-FI

Name	Password
Guest	AccessKazNu12

WEATHER FORECAST (Almaty)

SEPTEMBER 24	SEPTEMBER 25	SEPTEMBER 26
 MORNING: +13°C	 MORNING: +13°C	 MORNING: +16°C
 AFTERNOON: +18°C	 AFTERNOON: +22°C	 AFTERNOON: +26°C
 EVENING: +13°C	 EVENING: +14°C	 EVENING: +20°C

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This image shows a full page of blank, lined paper. It features approximately 28 horizontal blue or grey lines spaced evenly apart, typical of notebook paper. The lines extend across the entire width of the page, leaving small margins at the top and bottom. There are no vertical lines, text, or other markings on the page.

This image shows a full page of blank, lined paper. It features approximately 20 evenly spaced horizontal grey lines across the entire width of the page, providing a guide for writing. The background is a solid off-white color. There are no margins, text, or other markings present.