

1ST INTERNATIONAL CONFERENCE AND WORKSHOP ON MATHEMATICS AND ARTIFICIAL INTELLIGENCE

Nazarbayev University, Astana

September 9–11, 2026

Fostering interdisciplinary collaboration and innovation

ABOUT ICMAI–2026

The **International Conference and Workshop on Mathematics and Artificial Intelligence 2026 (ICMAI 2026)** is the 1st international conference that inspires interdisciplinary cooperation among young academics, scientists and practitioners.

The main fields and topic of the conference involves modern mathematics and artificial intelligence. ICMAI 2026 also gives opportunity for growth in term of academic knowledge and practical skills through lectures, sessions and interactive workshops. Additionally, it serves as a platform for exchanging ideas, presenting recent research advances, establishing new collaborations, and discussing future directions in mathematics and artificial intelligence.

The conference is organized by **School of Computing and Artificial Intelligence (SCAI)** and **Institute of Smart Systems and Artificial Intelligence(ISSAI)**.

Hosted at **Nazarbayev University** in **Astana, Kazakhstan**, the conference brings together an international academic community in an environment designed to encourage scientific discussion, knowledge exchange, and interdisciplinary research.

Dates: September 9–11, 2026

Venue: Main Building of Nazarbayev University, Astana, Kazakhstan

Theme: Mathematics & Artificial Intelligence

Format: Plenary Talks · Scientific Sessions · Workshops

Motto: Fostering interdisciplinary collaboration and innovation



ORGANIZING COMMITTEE

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Co-Chair

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Nazarbayev University

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Yerbol Absalyamov

Nazarbayev University, Astana, Kazakhstan

Muhammad Asad Zaighum

Heriot-Watt International Faculty, K. Zhubanov Aktobe Regional University, Aktobe, Kazakhstan



PLENARY SPEAKERS

Distinguished researchers joining ICMAI 2026 as plenary speakers.



Prof. Enrique Zuazua

Friedrich-Alexander-Universität
Erlangen-Nürnberg
Germany



Prof. Jong Chul Ye

KAIST
South Korea



Prof. Peter Richtárik

King Abdullah University of Science and
Technology (KAUST)
Saudi Arabia



Prof. Bohyung Han

Seoul National University (SNU)
South Korea



PLENARY SPEAKERS



Prof. Zhenisbek Assylbekov

Purdue University Fort Wayne
USA



Prof. Amir Mosavi

Óbuda University
Hungary



Prof. Rustem Takhanov

Nazarbayev University
Kazakhstan



PRACTICAL INFORMATION

WiFi

WI-FI ACCESS

Network: **NU_Guest** (no password).

ID

REGISTRATION

Registration and check-in will take place in **Block 1, 3rd floor**, next to **Senate Hall**. Open: September 9, 08:30–09:20.

Food

MEALS & COFFEE

The conference covers coffee breaks only; lunches are not provided and each participant arranges their own.

On campus, participants can eat at the **Tamyr** canteen, a **Chinese cuisine** restaurant, or one of the many coffee shops in the university atrium.

Just across Kabanbay Batyr Avenue, **MEGA Silk Way** shopping centre also offers a wide choice of cafés and restaurants for lunch.

Access

CAMPUS ACCESS

Nazarbayev University is located between **Kabanbay Batyr Avenue** and **Turan Avenue**, and the campus can be entered from either side.

For conference participants, the **Kabanbay Batyr Avenue entrance** is generally more convenient due to better transport connections and its proximity to MEGA Silk Way.

VENUE GUIDE

The conference moves between several rooms over the three days — please check the table below so you always know where to go.

Day & Date	Time	Location
DAY 1 — Wednesday, September 9		
Full day	8:30–18:30	Senate Hall, Block 1, 3rd Floor
DAY 2 — Thursday, September 10		
Morning	9:00–13:00	Block 3, Room E220
Afternoon	14:30–19:00	Block C3, Room 2001
DAY 3 — Friday, September 11		
Full day	9:00–16:45	Block C3, Room 2001

Note: On **September 10**, the venue changes after lunch — morning sessions are held in **Block 3, Room E220**, while afternoon sessions move to **Block C3, Room 2001**. Please allow a few extra minutes to walk between buildings.



ACCESSING THE NAZARBAYEV UNIVERSITY CAMPUS

Nazarbayev University campus will be open to conference participants from 08:00 each day. The university can be accessed through two main entrances: **Turan Avenue** and **Kabanbay Batyr Avenue**. Please refer to the campus map for directions.

Upon arrival, participants should proceed to **Block 1, 3rd floor**, where the registration and check-in desks will be located. Block 1 is more conveniently accessible from the **Kabanbay Batyr Avenue** entrance.

During registration, each participant will receive a personalized identification badge. Please wear your badge at all times while on campus, as it serves as proof of conference registration and allows repeated access through the university security gates.



CAMPUS MAP

Conference registration will take place on the **3rd floor of Block 1**. For convenient access, participants are advised to use the **Kabanbay Batyr Avenue entrance**.

Campus map



English

- Main building
- Academic Buildings
- Recreational buildings and places
- Sport buildings and fields
- Checkpoint
- Student dormitories (with pharmacy, mini market, canteen, laundry, shoe repair)
- Faculty and Staff housing (with mini market, child care center, gym, beauty salon)

Key

- Main Reception
- Medical Centre
- Café or canteen
- Parking
- Library
- Coffee Shop
- Cash Machines
- Accommodation Centre
- Shop
- Air ticket office
- Stationary shop
- NU shop (books, and souvenirs)
- Bank
- Cinema
- Pharmacy
- Shoe repair and key-cutting
- Phone and laptop repair
- Children's centre
- Children's playground.

Blocks

- B1- Main building
- B12A- New Atrium
- BC2- Main building
- B2-Center for Preparatory Studies
- B3- School of Engineering and Digital Sciences
- B4-Canteen
- B5-Library and IT services
- B6- School of Mining and Geosciences
- B7- School of Engineering and Digital Sciences, School of Sciences and Humanities
- B8- School of Sciences and Humanities

- B9- NU Research and Innovation Sytem, Astana Business Campus, students' labs
- BC3-Graduate School of Business, Graduate School of Public Policy, Graduate School of Education
- B C4-Multidisciplinary Research Center
- B51-Laboratories
- B54-Laboratories
- B35- Athletic Center
- B34-Sports Center
- B13-Technopark
- B72-Administrative household
- B73-Boiler room

TRAVEL GUIDE: FROM ASTANA INTERNATIONAL AIRPORT TO NAZARBAYEV UNIVERSITY

Nazarbayev University is approximately 20–25 minutes from Astana International Airport by car. Participants may travel by taxi, LRT, or city bus.

TAXI

Official taxis are available outside the airport terminal. Alternatively, participants may use **Yandex Go**. The journey to **Nazarbayev University** usually takes approximately **20–25 minutes**, depending on traffic.

TARLAN ASTANA LRT

The **Tarlan Astana Light Rail Transit (LRT)** provides a convenient connection from the airport toward Nazarbayev University. The line has a station located next to the university campus.

The fare is **200 KZT per trip**. Payment is available by bank card, transport card, QR code, Apple Pay, Samsung Pay, and other supported contactless methods.

CITY BUS

Bus 10 connects Astana International Airport with the area near Nazarbayev University. The journey takes approximately **45 minutes**, depending on traffic and waiting time.

NAVIGATION

For routes, public transport information, and walking directions, participants may use **2GIS**, **Yandex Maps**, or **Google Maps**.



DETAILED PROGRAM

DAY-BY-DAY SCHEDULE

WEDNESDAY, SEPTEMBER 9

Senate Hall, Block 1, 3rd Floor | Nazarbayev University

Time	Session
8:30–9:00	Registration <i>Block 1, 3rd Floor</i>
9:00–9:20	Opening. Moderator of Opening: Durvudkhan Suragan, Professor, Vice Dean of the School of Computing and AI Professor Waqar Ahmad <i>President, Nazarbayev University</i> Huseyin Atakan Varol <i>Dean of the School of Computing and AI & Director of ISSAI</i>
9:20–10:10	PLENARY TALKS Moderator: Durvudkhan Suragan Secretary: Aizhan Tulendinova Prof. Peter Richtárik KAUST, Saudi Arabia <i>The Proximal Point Method and Its Impact on Optimization Theory and Machine Learning</i>
10:10–11:00	Prof. Jong Chul Ye KAIST, Korea <i>Guiding Diffusion and Flow Models for Constrained Sampling (Online)</i>
11:00–11:20	Coffee Break
11:20–12:10	Moderator: Atakan Varol Secretary: Serzhan Bassarov Prof. Enrique Zuazua Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany <i>Machine Learning from an Applied Mathematician's Perspective (Online)</i>
12:10–13:00	Prof. Bohyung Han Seoul National University, South Korea <i>What Long Video Generation Needs: Photorealism, Physical Consistency, and Semantic Fidelity</i>
13:00–13:10	Group Photo Secretary: Saida Dyussebayeva
13:10–14:30	Lunch



DETAILED PROGRAM

DAY-BY-DAY SCHEDULE

WEDNESDAY, SEPTEMBER 9

Afternoon Program | Senate Hall, Block 1

Time	Session
14:30–15:00	SESSION TALKS Moderator: Makhmud Sadybekov Secretary: Olzhas Yesken Phillip Kingston AppliedAI, UAE <i>Proof-Carrying Streamed Workflow Graphs: Decidable Viability, Safe Admission, and Memory Bounds</i>
15:00–15:15	Viktor Verbovskiy Institute of Mathematics and Mathematical Modeling, Kazakhstan <i>Context-Dependent Sign Structures: A Mathematical Model of Meaning</i>
15:15–15:30	Abdurakhmon Sadiev KAUST, Saudi Arabia <i>Ringmaster LMO: Asynchronous Linear Minimization Oracle Momentum Method</i>
15:30–15:45	Madiyar Kairolla Institute of Smart Systems and Artificial Intelligence, Kazakhstan <i>Mamba State-Space Model for Sequential Wi-Fi Indoor Localization</i>
15:45–16:00	Nuraiym Bukanay Farabi University; Institute of Mathematics and Mathematical Modelling, Kazakhstan <i>Asymptotics of a Doubly Singularly Perturbed Third-Order BVP with Piecewise Constant Argument</i>
16:00–16:15	Medet Jumadildayev Nazarbayev University, Kazakhstan <i>Enumeration of perfect matchings in line graphs</i>
16:15–16:30	Ansar Zeinulla Nazarbayev University, Kazakhstan <i>Solving Bestemshe and Mapping Togyzkumalak to Benchmark Neural Decay</i>
16:30–17:00	Coffee Break
17:00–17:45	WORKSHOP Vladimir Albrekht Data Scientist <i>Workshop (Part 1): RYÖTENKAI — One-Shot Domain Expansion for Walkable 3D Worlds</i>
17:45–18:30	Vladimir Albrekht Data Scientist <i>Workshop (Part 2): RYÖTENKAI — One-Shot Domain Expansion for Walkable 3D Worlds. Practical Session</i>



DETAILED PROGRAM

DAY-BY-DAY SCHEDULE

THURSDAY, SEPTEMBER 10

Block 3, Room E220 | Nazarbayev University

Time	Session
9:00–9:50	PLENARY TALKS Moderator: Muhammad Asad Zaighum Secretary: Almat Orazbayev Prof. Rustem Takhanov Nazarbayev University, Kazakhstan <i>Lessons from AI-Empowered Attacks on the Kissing Number Problem</i>
9:50–10:40	Prof. Amir Mosavi Óbuda University; J. Selye University, Hungary / Slovakia <i>Toward Holistic Trustworthy AI: Challenges for a Comprehensive Responsible AI</i>
10:40–11:30	Moderator: Viktor Verbovskiy Secretary: Aizhan Tulendinova Prof. Zhenisbek Assylbekov Purdue University Fort Wayne, USA <i>How Machine Learning Research Evolves: Lessons from a Deep LDA Project (Online)</i>
11:30–12:00	Coffee Break
12:00–13:00	WORKSHOP Dr. Adilet Otemissov <i>Workshop 1 — Optimization for Data Science: From Gradient Descent to Machine Learning Applications</i> How do we train models? Practical Session
13:00–14:30	Lunch



DETAILED PROGRAM

DAY-BY-DAY SCHEDULE

THURSDAY, SEPTEMBER 10

Afternoon Program | Block C3, Room 2001, Nazarbayev University

Time	Session
Block C3, Room 2001	
14:30–15:00	WORKSHOP Dr. Adilet Otemissov <i>Workshop 1 — Optimization for Data Science: From Gradient Descent to Machine Learning Applications</i> How do we train models? Practical Session
15:00–16:00	Dr. Adilet Otemissov <i>Workshop 2 — Mathematics of High-Dimensional Data: From PCA to Modern Embeddings</i> How do we discover and exploit low-dimensional structure?
16:00–16:30	Coffee Break
16:30–16:45	SESSION TALKS Moderator: Muhammad Asad Zaighum Secretary: Sonia Khan Madi Omarov Buketov Karaganda National Research University, Kazakhstan <i>Variable-order fractional diffusion equation in non-canonical domains</i>
16:45–17:00	Nazgul Zakiyeva Institute of Mathematics and Mathematical Modeling, Kazakhstan <i>Balance constrained sparse group lasso for network time series</i>
17:00–17:15	Minzilya Kosmakova Buketov Karaganda National Research University, Kazakhstan <i>Explicit solution and well-posedness for a fractional PDE with a loaded term along a moving curve</i>
17:15–17:30	Nurmukhamed Zibatkaliyev Desargues, Kazakhstan <i>Toward Verified Intelligence: A Survey of AI for Mathematics</i>
17:30–17:45	Yernat Assylbekov Super Dispatch, Kazakhstan <i>The Geodesic Ray Transform with Finite Measurements: Stability, Reconstruction, and DeepONets</i>
17:45–18:00	Nazerke Zhardemova Nazarbayev University, Kazakhstan <i>Local Well-posedness of the Boussinesq Equation with Linear Restoring Force</i>
18:00–18:15	Zhebey FazyI L.N. Gumilyov Eurasian National University, Kazakhstan <i>Stability Properties of Pseudofinite Abelian Groups</i>
18:15–18:30	Egor Shulgin Nazarbayev University, Kazakhstan <i>Fourier-Mode Allocation and Physical Error in a One-Dimensional Heat Problem</i>
18:30–18:45	Atay Kim Nazarbayev University, Kazakhstan <i>Fourier-Mode Allocation and Physical Error in a One-Dimensional Heat Problem</i>
18:45–19:15	Coffee Break, Networking, and Brainstorming at the University Club (Block C2, 3rd Floor)

DETAILED PROGRAM

DAY-BY-DAY SCHEDULE

FRIDAY, SEPTEMBER 11

Block C3, Room 2001 | Nazarbayev University

Time	Session
9:00–9:50	WORKSHOP Auyeskhan Alibekov Data Scientist <i>Workshop: Beyond Requests — Scalable Data Scraping</i>
9:50–10:40	Auyeskhan Alibekov Data Scientist <i>Workshop: Beyond Requests — Scalable Data Scraping</i> Practical Session
10:40–11:30	Akylbek Maxutov Senior Data Scientist <i>Workshop: How Do We Actually Know an AI Agent Is Good at Math?</i>
11:30–12:00	Coffee Break
12:00–12:45	Akylbek Maxutov Senior Data Scientist <i>Workshop: How Do We Actually Know an AI Agent Is Good at Math?</i> Practical Session
12:45–14:00	Lunch
14:00–14:15	SESSION TALKS Moderator: Aibat Yeshkeyev Secretary: Serzhan Bassarov Kazybek Baktybergen Nazarbayev University School of Medicine, Kazakhstan <i>Categorizing Factors Influencing Hip-Fracture Care Standards for Causal Diagrams</i>
14:15–14:30	Daliya Kaskirbayeva MNU, Kazakhstan <i>Comparative Evaluation and External Validation of Machine Learning Models for Length-of-Stay Prediction: A Kazakhstan Case Study</i>
14:30–14:45	Yeginbay Islam SDU, Kazakhstan <i>Computational Methods for the Simplicial Geometric Category</i>
14:45–15:00	Zhuldyz Yeskabylova L.N. Gumilyov Eurasian National University, Kazakhstan <i>Coercive solvability conditions for a nonlinear third-order singular differential equation in Lebesgue space</i>
15:00–15:15	Aibat Yeshkeyev, Aigul Issayeva Buketov Karaganda National Research University, Kazakhstan <i>The fractal of Jonsson theory and online learning</i>
15:15–15:30	Asset Botaibekov, Anuar Askarov Satbayev University; Astana IT University, Kazakhstan <i>Uncertainty-Aware Evaluation of Local OCR-VLMs for Russian and Kazakh Financial Document Recognition</i>
15:30–15:45	Gulden Murzabekova QAIRU, Kazakhstan <i>Exhauster-Based Nonsmooth Analysis for Optimization Problems in Machine Learning</i>
15:45–16:00	Aigul Satybaldina L.N. Gumilyov Eurasian National University; Kazakh-British Technical University, Kazakhstan <i>Direct and Inverse Problems for One-Dimensional Transient Heat Conduction in Multilayered Media</i>
16:00–16:15	Closing Ceremony
16:15–16:45	Coffee Break, Networking, and Brainstorming

EXPLORE ASTANA

If you have some free time during your stay, here are a few recommended places to visit in Astana.

Baiterek Tower

One of Astana's most recognizable landmarks and a symbol of the city. The observation deck offers panoramic views of the capital and its modern skyline.

Hours: 09:00–21:00 daily (slight seasonal variations may apply).

Admission: approximately 2,000 KZT for adults.

Tip: Tickets can be purchased online through local platforms such as Ticketon to avoid queues at the entrance.

National Museum of the Republic of Kazakhstan

The country's largest national museum, presenting Kazakhstan's history, archaeology, culture and traditions from ancient times to the modern era.

Hours: Tuesday–Sunday, 10:00–18:00;

ticket office open until 17:00. Closed on Monday.

General admission: approximately 1,000–1,700 KZT.

Foreign visitors (full access): approximately 5,000 KZT per person, including audio guide.

Guided tour: approximately 10,000 KZT per person for full access with a live guide in English, Russian or Kazakh.

Some special exhibitions, including the Golden Collection, may require a separate ticket.



EXPLORE ASTANA

Architecture, culture, and a modern way to see the city.

Astana Grand Mosque

One of Astana's most impressive architectural landmarks and among the largest mosques in Central Asia. The mosque is known for its monumental scale, blue dome and richly decorated interior.

Entry: Free for visitors to the main hall and cultural areas.

Hours: Generally open daily from 05:00–19:00.

Certain special activities, such as minaret access or externally arranged guided tours, may require an additional fee.

Free clothing loans, including robes and headscarves, are available if needed. Non-Muslim visitors are advised to avoid prayer times.

Tarlan Astana LRT

Astana's light rail system offers a convenient way to move around the city while also seeing some of its modern architecture and urban development.

Fare: 200 KZT per trip.

Contactless bank-card payment is available. For conference participants, the LRT is especially convenient because a station is located directly next to Nazarbayev University.

A short LRT journey can also be an enjoyable sightseeing experience for visitors interested in Astana's contemporary infrastructure.

Opening hours, fares and admission prices may change. Please check current information before your visit.



Thank You for Joining ICMAI 2026!

If you have any questions or need assistance during the event, please contact the organizing team.

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