

# LINDI 2024 Preliminary Program

## October 23, Wednesday

9:00 – 9:30      **Opening Ceremony**

**Room Theatre, Main Building**

9:30 – 10:10      **Plenary Talk I**

Session chair: András Molnár

45	György Györök	Hybrid cells with microcontroller and Field Programmable Analog Arrays (FPAAs) and their pragmatic electrical engineering applications
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10:10 – 10:50      **Plenary Talk II**

Session chair: Aliya Shakhatova

65	Shahnaz Shahbazova	Continuous Growth of Information and the “Forgetting” Function in the Recognition of Sound Information
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11:00 – 12:30      Lunch

12:30 – 13:50      **[W1] Session on Intelligent Information Systems in GeoScience**

**Room 1, Building Zhastar alemi**

Session chair: Aliya Shakhatova

22	Aidyn Kabyken, Aiman Kopobayeva, <b>Altynay Amangeldikzy</b> , Gulim Blyalova, Nazym Askarova and Begim Ulgibayeva	A tool for analyzing geological data using the Grade Copilot neural network within the Micromine software
26	Vladislav Medvedev, Vassilyi Portnov, Sveta Imanbayeva, Lyussiya Togaibayeva, Zhanar Koshmaganbetova and Zhibek Tokusheva	Identification of fracture systems based on drilling data and existing underground mining work during engineering-geological surveys
23	Nazym Askarova, Vassilyi Portnov, Vladislav Medvedev, Karlygash Khamzina, Assel Nurgaliyeva and Lidiya Balabas	Patterns of changes in the strength characteristics of rocks of the Shuak massif
64	Gulnara Zhetessova, Aliya Shakhatova, Anar Makasheva, Ayazhan Temirgali and Aigerim Zhalel	Review: Using AI for structural and morphological analysis of the features of deposits *

**13:50 – 14:50 [W2] Session on Enterprise Management Systems and Network Management and Diagnostics**

Session chair: Monika Pogátsnik

15	<b>Monika Pogatsnik</b> and Éva Takács	Generation Z Engineering Students' Preferences of Dual and Future Workplace
62	<b>László Horváth</b>	Integration of Scientific Research and Industrial Engineering Modeling
37	<b>Almagul Sarmanova, Bagdad Mukhamadiev, Anara Umurzakova, Perizat Madi, Iskander Kurabaev and Aliya Alkina</b>	Review of modern methods of fault diagnosis in agricultural induction motor

**13:50 – 14:50 E-poster session**

Session chair: Csaba Iván

43	<b>Nikoletta Tolner and Monika Pogatsnik</b>	Cheating Strategies and Motivations in the Academic Environment: A Focus Group Study
46	<b>Mohammad Amin Rezaei, Amir Mosavi, Alexey Kalinin and Imre Felde</b>	Deep Learning for Reliability Prediction of Fault Tolerant Multilevel Inverter
39	<b>Perizat Madi, Aliya Alkina, Ali Mekhtiyev, Yermek Sarsikeev, Arystanbek Angsapov and Denis Dolin</b>	Research on Enhancing Engine Efficiency through the Use of the Thermoacoustic Effect
42	<b>Maksat Bolsynov, Ali Mekhtiyev, Perizat Madi, Yelena Neshina, Aiym Abdyhamidova and Yekaterina Bilichenko</b>	Rock formations condition analysis in opencast coal mines
48	<b>Mohammed Mudabbiruddin, Amir Mosavi, Judit Módné Takács and Imre Felde</b>	Deep Learning and Machine Learning for Materials Design
61	<b>István Lovas and András Molnár</b>	Aerodynamic analysis of the low Reynolds number Eppler E63 airfoil with normal and reverse flow
11	<b>Ahmad Ahmad, Aleksandr Kovalenko and Ilya Makarov</b>	Anomaly Detection using Graph-based Autoencoder with Graph Structure Learning Layer

56	<b>Anatoliy Kulkiov, Vladimir Kaverin, Sina Ardabili, Amir Mosavi, Alexey Kalinin</b>	Machine Learning Modeling and Simulation of Asynchronous Electric Drive
59	<b>Jean Rosemond Dora, Ladislav Hluchy and Jean Rosemond Dora</b>	Attacks on Active Directory - Kerberos Delegation
7	<b>Viktória Varsányiné Szeredi, Zoltán János Trenka and Monika Pogatsnik</b>	Smart logistics and sustainability in Logistics 5.0
60	<b>Maira Omarova Ozturk, Gulzhazira Khamitova, Galymzhan Samenov, Baurzhan Togizbayev, Baurzhan Zhamanbayev and Gulsezim Baiguzhina</b>	The effect of the track plan on the damage to rails by contact fatigue crambling
8	<b>Márta Péntek, Botond Fehér and László Gulácsi</b>	Social Aspects of ESG in Higher Education: University Students' Attitudes Towards Robots
12	<b>Szilárd Berke</b>	The potential contribution of leadership to organisational excellence
18	<b>Daniyar Kaliyev, Olga Shvets, Svetlana Grigoryeva and Aslima Alimkhanova</b>	Intelligent Forest Fire Detection Using CNN and UAVs
21	<b>Adil Mindubayev, Vasiliy Portnov, Vladislav Kim, Farida Issatayeva, Aliya Mausymbayeva and Rima Madisheva</b>	Creation of a 3D model of the coal seam to make a mining and geological forecast of the excavated area
27	<b>Yelena Tsheshkovskaya, Natalya Tsoy, Aigul Oralova, Gulmira Sattarova, Natalya Serykh and Alma Akhmetova</b>	Assessment of the impact of a lead-zinc ore mining enterprise on atmospheric air
36	<b>Vera Yartseva, Dmitriy Ozhigin, Svetlana Ozhigina, Sergey Ozhigin, Victoria Kazantseva and Victor Dolgonosov</b>	Monitoring of Open Pit Conditions with Unmanned Aircraft System
57	<b>Mohammad Jalali, Hiram Abghari, Bahram Choubin and Amir Mosavi</b>	Analytic Network Process and Fuzzy Value Functions for Modeling Vulnerability of River Plain Aquifer

14:50 – 15:10 Coffee break

**15:10 – 16:10 [W3] Session on Transport and Logistics Systems**

Session chair: András Molnár

30	<b>Anar Bakirbayeva</b> , Murat Rakhimov and Aliya Aldungarova	Impact of pavement quality on improving logistics schemes in the transportation industry
31	<b>Pyotr Kropachev, Yedil Imanov, Murat Karacasu, Zhansulu Saduakasova and Amirzhan Gabdrash</b>	Study of modified bitumen for asphalt concrete road pavement using recycled materials
34	<b>Galiya Rakhimova, Madina Aisanova, Murat Rakhimov, Alina Abisheva, Maxim Khan and Kamilya Maikotova</b>	The influence of a complex additive on the hydrophysical properties of concrete for road construction

**16:10 – 16:50 [W4] Session on Intelligent Information Systems in Material Sciences and CAD/CAM/CAE Systems**

Session chair: Saniya Arinova

24	<b>Violetta Andreyachshenko</b>	Application of ThermoCalc for the design of an alloy based on the Al-Fe-Si system
33	<b>Aristotel Issagulov, Dastan Aubakirov, Svetlana Kvon, Vitaliy Kulikov, Saniya Arinova and Asem Altynova</b>	Plant process control of mold manufacturing through the use of computer technologies and modeling

17:00 Welcome Reception

# October 24, Thursday

**10:00 – 10:20 [T1] Session on Intelligent Information Systems in Mechanical Engineering**

**Room 1, Building Zhastar alemi**

Session chair: Amir Mosavi

4	<b>Gulim Tattimbetova</b> , Gulnara Zhetessova, Jelena Škamat and Arman Mateshov	Empirical Analysis of Layer Height Effects on the Precision of 3D Printed Parts with FDM Technology
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10:20 – 10:40 Coffee break

**10:40 – 11:40 [T2] Session on Industrial Control and Management Systems**

Session chair: Kuralay Tokhmetova

14	<b>Levente Bakos</b> , Zoltán Forgó and Erzsébet Egyed-Faluvégi	Optical quality controll system improvement for an SME. A case study for test-before-invest partnerhip
25	<b>Vyacheslav Yugay, Felix Bulatbayev, Karshiga Smagulova, Sofiya Voytkevich, Leonid Daich and Evgeniy Kotov</b>	Automated System for Diagnosing Structural Elements of Overhead Power Lines
32	<b>Yuliya Bulatbayeva, Kuralay Tokhmetova, Vitaliy Balandin, Fariza Abiljanova, Olzhas Makhambetov and Makhabbat Tleugabylova</b>	Introduction of Frequency Control of Electric Drives of the Dust Supply System of the Boiler Unit

11:40 – 11:50 Group photo

11:50 – 13:00 Lunch

**13:00 – 14:15 [T3] Special Session on PhD Student Research in Industrial Informatics and Communication**

Session organizer and chair: László Horváth

9	<b>Miklós Vincze</b> , Sándor Burian and Miklos Kozlovsky	Monitoring the examination of digitised pathology samples in a 3D VR environment
44	<b>Balint Karoly Farkas, Péter Galambos and Károly Széll</b>	Advances in Autonomous Robotic Grasping An Overview of Reinforcement Learning Approaches
47	<b>Zoltán Szilágyi, Károly Széll and Péter Galambos</b>	Middleware for Mixed Reality Integration of Industrial Robot Cells
50	<b>László Szilágyi, György Eigner, Levente Kovács and Lehel Dénes-Fazakas</b>	Elevating Security: Mouse Dynamics in Behavior Biometrics for User Identity Authentication
51	<b>Zhyar Kwekha Rostam and Gábor Kertész</b>	Fine-Tuning Large Language Models for Scientific Text Classification: A Comparative Study

**14:20 – 15:00 [T4] Special Session on Digitalisation, Generation Research, Consumer Trends**

Session organizers and chairs: Mónika Garai-Fodor, Ágnes Csiszárík-Kocsir and János Varga

17	Saltanat Akhmadi and <b>Mariza Tsakalerou</b>	From Singapore to Kazakhstan: Regionalization Strategies and Metrics for Navigating Digital Transformation
19	Rufina Sharipova and Dinara Shormanbayeva	ETHNIC IDENTIFICATION OF THE YOUNGER GENERATION OF STUDENTS AND INTERETHNIC RELATIONS AMONG STUDENTS

15:00 – 15:20 Coffee break

**15:20 – 16:20 [T5] Session on Distributed and Network-based Control and Intelligent Manufacturing Systems**

Session chair: György Györök

28	<b>Nurbol Kaliaskarov</b> , Marianella Gavrilova, Samal Sakenova, Galina Belik, Oxana Aldoshina and Meruyert Zhumanbetova	Development of a structural and functional scheme of a distributed Wi-Fi monitoring system for bridge structures and construction buildings
29	<b>Nurbol Kaliaskarov, Marianella Gavrilova, Samal Sakenova, Galina Belik, Oxana Aldoshina and Meruyert Zhumanbetova</b>	Temperature and humidity measurement based on a dual-processor Wi-Fi system
63	<b>Olga Shvets, András Györök and György Györök</b>	Root Mean Square and Peak Sine generator with FPAA

17:15 Transfer from the university to the banquet venue

**17:30 Banquet** at Cosmonaut Hotel  
address: Krivoguz str, 162a, Karaganda 100422 Kazakhstan

20:00 Transfer from the banquet to Hotel Senator

## October 25, Friday

**One-day tour**