

Welcome to



EUSPN 2026

The 17th International Conference on
Emerging Ubiquitous Systems and
Pervasive Networks



ICTH 2026

The 16th International Conference on
Current and Future Trends of
Information and Communication
Technologies in Healthcare

October 28 – 30, 2026
Almaty, Kazakhstan

Satbayev University
Acadia University, Canada & Hasselt University, Belgium



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EUSPN / ICTH

SYMPOSIA AND WORKSHOPS

EUSPN	The 17th International Conference on Emerging Ubiquitous Systems and Pervasive Networks
ICTH	The 16th International Conference on Current and Future Trends of Information and Communication Technologies in Healthcare
ACPN	International Workshop on Automation and Control in Cyber-Physical Networks: From Industrial IoT to Space Communications
AIMESaR	International Workshop on AI Applications for Modeling Engineering Systems and Robotics
AMDE	The 3rd International Workshop on the Advancements in Model Driven Engineering & Software Engineering
CyDPIDS	International Workshop on Cybersecurity and Data Protection in Intelligent Digital Systems
DFIE	The 2nd International Symposium on Digitalization, Finance, Innovation and Entrepreneurship
DS	The 4th International Workshop on Digital society: In The Eve of The 6th Information Revolution
EATH	The 5th International Workshop on Emerging Advancements and Technologies in Healthcare
EICN	The 13th International Symposium on Emerging Information, Communication and Networks
IHCUS-AI	International Workshop on Intelligent Human-Centric Ubiquitous Systems for Agriculture and Industry
IMS-IoT	The 3rd International Workshop on Intelligent Systems based on Internet of Things
WMHealth	The International Workshop on Soft Computing and Intelligent Systems: Theory and Applications

PROGRAM AT A GLANCE

EUSPN 2026, ICTH 2026 and Workshops

Program Time Slots

Timing	Wednesday 28 October 2026						
16:00 - 18:00	Registration	Registration Desk					
		ROOM 1		ROOM 2		ROOM 3	ROOM 4

Timing	Thursday 29 October 2026						
08:00 - 17:00	Registration	Registration Desk					
09:00 - 10:00	Welcoming Ceremony	Big Hall Guest Speakers from Government/University					
10:00 - 11:00	Opening Ceremony & Keynote Speaker I	Dr. Weifa Liang					
11:00 - 11:30	Coffee Break	Meeting Foyer					
11:30 - 12:30	Keynote Speaker II	Dr. Esteve Hassan					
12:30 - 13:30	LUNCH	Lunch Room (Restaurant)					
13:30 - 15:00	Technical Sessions (1)	EUSPN_S1		EUSPN_S2		IMS_IoT_1	DS_1
15:00 - 15:30	Coffee Break	Meeting Foyer					
15:30 - 17:00	Technical Sessions (2)	EUSPN_S3		EUSPN_S4		IMS_IoT_2	DS_2
17:00 - 18:30	Technical Sessions (3)	EUSPN_S5		ICTH		IMS_IoT_3	DS_3
19:30 - 21:30	Banquet and Award Ceremony	Banquet Room					

Timing	Friday 30 October 2026						
Starts 08:30	Registration	Registration Desk					
		ROOM 1		ROOM 2		ROOM 3	ROOM 4
09:00 - 10:00	Keynote Speaker III	Dr. Li Xinyue					
10:00 - 10:30	Coffee Break	Meeting Foyer					
10:30 - 12:00	Technical Sessions (4)	EUSPN_S6		EUSPN_S7		ACPN_S1	AIMESaR_1
12:00 - 13:00	LUNCH	Lunch Room (Restaurant)					
13:00 - 14:30	Technical Sessions (5)	EUSPN_S8		EICN		ACPN_S2	AIMESaR_2
14:30 - 15:00	Coffee Break	Meeting Foyer					
15:00 - 16:30	Technical Sessions (6)	WMHealth		CyDPIDS		ACPN_S3	AIMESaR_3
16:30 - 18:00	Technical Sessions (7)			DFIE			AMADE

	End of Event						
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KEYNOTE I

AoI-Aware, Digital Twin Empowered Intelligent Services in Edge Computing

Dr. Weifa Liang

University of Hong Kong, Hong Kong

Abstract

Digital Twin (DT) technique is propelling the intelligent evolution within the ecosystem of Internet of Things (IoT). The Mobile Edge Computing (MEC) paradigm gives impetus to the vigorous advancement of the IoT through low-latency intelligent service provisioning at the network edge, while DT technology enables edge servers to perform real-time data analysis, emulate system dynamics, and predict behaviours of physical objects.

In this talk, we consider Age of Information (AoI)-aware, delay-sensitive intelligent services in an MEC network empowered by DT technology, by jointly optimizing the freshness of services and the service delay. We focus on (1) AoI-aware, differential intelligent services in an MEC network through DT Network (DTN) slicing, where a DTN is a virtual network consisting of a set of inference models with source data from a group of DTs by providing differential quality of services. (2) The minimum cost problem of AoI-aware DT migration problem, for which a DRL algorithm is developed and evaluated using real-world datasets. (3) The AoI-aware query optimization problem with the aim to minimize the weighted sum of the freshness of query results and the total delay of intelligent services, for which an approximation algorithm with a provable approximation ratio is devised, through exploring nontrivial trade-offs between the model freshness and service delay. (4) The delay-aware user satisfaction problem that is to maximize user satisfaction on services by DT replicas and strategic placements, and efficient algorithms are developed and evaluated analytically and empirically.

About the Speaker

Prof. Dr. Weifa Liang received the PhD degree from the Australian National University (ANU) in 1998, the ME degree from University of Science and Technology of China (USTC) in 1989, and the BSc degree from Wuhan University, China in 1984, all in Computer Science. He is a Fellow of IEEE and Full Professor in the Department of Computer Science at City University of Hong Kong (CityUHK). Prior to joining CityUHK in 2021, he was a Full Professor in the Australian National University (ANU) and worked there over 23 years. His research interests include design and analysis of energy efficient routing protocols for wireless ad hoc and sensor networks, Internet of Things and Digital Twins, machine learning and LLM, cloud and edge computing, Network Function Virtualization (NFV), design and analysis of parallel and distributed algorithms, approximation and online algorithms, combinatorial optimization and graph theory. He has been actively publishing high quality papers in the prestigious venues including top journals (e.g., TON, TMC, TPDS, TC, TKDE, JVLDB, JSAC, TCOM, TWC, JPDC, Theoretical Computer Science) and conferences (e.g., INFOCOM, ICDCS, ICDE, ICPP, IPDPS, WWW, PerCom). He has co-authored over 300 papers so far, and his work has been cited over 13,000 by Google Scholar with Google Index 62. His research is funded by the Research Grants Council of the Hong Kong Special Administrative Region, China, and Australian Research Council (ARC) in the past. He currently serves as an Associate Editor for Pervasive and Mobile Computing Journal, Elsevier. He is a member in the Steering Committee of IEEE Transactions on Big Data, and a member in the Executive Committee of IEEE Technical Committee of Distributed Processing (TCDP). He is a Distinguished Contributor to the IEEE Computer Society, and one of the pioneers in the development of Parallel Graph Theory Algorithms in China in the early of 1990s.

KEYNOTE II

From Sensing to Insight: Applied AIoT Projects and Demonstrations at the
Acadia AIoT Research Hub (AARH)

Dr. Esteve Hassan
Acadia University, Canada

Abstract

The Acadia AIoT Research Hub (AARH) brings together sensing, embedded systems, connectivity, and artificial intelligence to address practical challenges in health, the environment, and smart systems.

This talk will introduce a selection of the hub's current projects, including gastrointestinal motility monitoring using capsule-based sensors and physical simulation, real-time freshwater contamination monitoring, and other sensor-driven applications. Through demonstrations of prototypes, data-collection workflows, and analytics, the talk will illustrate how research teams move from physical measurements to meaningful, actionable interpretations.

The talk will also explore the engineering decisions, system integration, and interdisciplinary collaboration required to develop AIoT technologies that are reliable, practical, and useful beyond the laboratory.

About the Speaker

Prof. Dr. Esteve Hassan is an Associate Professor in the Jodrey School of Computer Science at Acadia University, where he leads innovative research and instruction in the fields of the Internet of Things (IoT), cyber-physical systems, and machine learning. He earned his Ph.D. in Electronic and Computer Engineering from University College Cork (UCC)-Ireland, following an M.Eng. and B.Sc./M.Sc. in the same discipline. He completed two years of postdoctoral studies at the Tyndall National Institute at University College Cork, followed by another two years at Toronto Metropolitan University (TMU). He also worked as an Assistant Professor at both Brandon and McMaster Universities in Canada.

Dr. Hassan is the founder and head of the Acadia AIoT Research Hub (AARH). His research spans the Internet of Things, embedded and cyber-physical systems, sensing, and artificial intelligence, with applications in healthcare, environmental monitoring, and smart systems. He leads interdisciplinary teams of students and collaborators developing sensor platforms, prototypes, and data-driven methods, including work on gastrointestinal motility monitoring and freshwater quality. His research connects practical system design with real-world deployment and student training.

Dr. Hassan teaches courses in embedded systems, data analytics, and machine learning, and supervises undergraduate and graduate students on applied research projects leveraging wireless sensor networks and smart automation. His collaborative efforts span academia and industry, enhancing real-world impact through technology-driven solutions.

KEYNOTE III

Wearables, Multimodal Data and AI Agents: The New Foundation for Health Management and Disease Prevention

Dr. Li Xinyueli

City University of Hong Kong, Hong Kong

Abstract

Healthcare has traditionally been built on episodic snapshots such as a clinic visit, a lab panel, a questionnaire. Yet the conditions that dominate today's disease burden, such as chronic diseases and neurodegenerative disorders, develop continuously over years and are shaped largely by behavior and environment outside the clinic. Recent advances in wearable devices now enable continuous health monitoring in natural living settings. However, how to effectively interpret wearable data in combination with other health data remains challenging. In this talk, I will introduce how multimodal data, integrating wearable, clinical, genetic, and imaging data, can be effectively leveraged, and how AI agents can be developed to integrate heterogeneous data, reason over longitudinal context, and personalized recommendations for action on modifiable risk factors, translating continuous monitoring into meaningful health management and prevention. Together, wearables, multimodal data, and AI agents form the emerging foundation for a shift from reactive treatment to proactive, personalized, and preventive care.

About the Speaker

Prof. Dr. Li Xinyueli is currently an Associate Professor in the Department of Data Science, College of Computing, City University of Hong Kong. She received her Ph.D. in Biostatistics from Yale University. Prior to her studies at Yale, she spent one year at Peking University and three years at the University of Chicago, where she earned her B.A. and M.S. degrees in Statistics. Dr. Xinyueli's research focuses on developing novel statistical and computational methods for the analysis of wearable, medical imaging, and multimodal health data. Dr. Xinyueli is a leading researcher in the health data science field, with her work published in high-impact journals, including *The Lancet*, *npj Digital Medicine*, *Information Fusion*, *npj Aging*, *BMC Medicine*, *Sleep*, *Diabetes*, *Statistica Sinica*, *Statistics in Medicine*, etc. She actively collaborates with interdisciplinary research teams across Asia, Europe, and North America, contributing to global efforts in advancing AI for health and AI agents for digital health management, and the broader field of data science in healthcare.

DETAILED PROGRAM

Wednesday 28 October 2026

Registration 16:00-18:00

Room: Registration Desk

Thursday 29 October 2026

Registration Starts 08:00

Room: Reception Room

Welcoming Ceremony 09:00 - 10:00

Room: Main Meeting Room

Opening Ceremony 10:00 - 11:00

Room: Main Meeting Room

Keynote Speaker I 10:00 - 11:00

Aol-Aware, Digital Twin Empowered Intelligent Services in Edge Computing

Weifa Liang, University of Hong Kong (CityUHK), Hong Kong

Session Chair:

Room: Main Meeting Room

Coffee Break 11:00 - 11:30

Room: Meeting Foyer

Keynote Speaker II 11:30 - 12:30

From Sensing to Insight: Applied AIoT Projects and Demonstrations at the Acadia AIoT Research Hub

Esteve Hassan, Acadia University, Canada

Session Chair:

Room: Main Meeting Room

Lunch Break 12:30 - 13:30

Room: Lunch Room

EUSPN Session S-1
Session Chair:
Room: Room 1

A Verifiable Framework for Reproducible Data Preparation in 3D+t Cardiac MRI

Maxat Kabdullin, Sy Abd Rahman Al-Haddad, Lyazat Naizabayeva, Abylay Kairbekov, Azat Kabdullin and Anar Mukhit

From Alternative Data to Alternative Targets: A GenAI-Assisted Weak-Labeling Framework for Redefining Aiman Creditworthiness in Thin-File and Underbanked Populations

Moldagulova, Zhanna Ordabayeva and Ibrahim Rıza Hallaç

Physics-Informed Neural Networks as Inference Engines for Battery Digital Twins in Electromobility

Salma Messaoudi, Oüçal Sirgiane, El Hassan Abdelwahed, Abdellah Nabou, Sara Qassimi, Ahmed Bendaouia, Khamis Jakob and Jianzhi Li

Comparative Analysis of Machine Learning and Deep Learning Models for Stock Price Forecasting

Aizhan Moldagulova-Kapanova, Raissa Uskenbayeva, Young Im Cho and Aiman Moldagulova

EUSPN Session S-2
Session Chair:
Room: Room 2

Deformation-Aware Fiber-Optic Gyroscope Compensation Using Fiber Bragg Grating Feedback for Smart Navigation Nodes

Nurzhigit Smailov, Yerlan Tashtay, Maral Abulkhanova, Aziskhan Amir, Beibarys Sekenov and Akezhan Sabibolda

Explainable Anomaly Detection in IT Infrastructure Logs via Attention-Based BiLSTM

Alua Nurgazina, Suleimen Kaimov, Akkyz Mustafina, Talgat Kaiym, Aidarkhan Kaimov and Tolganay Chinibayeva

Reconstructing Operational Decision Context for Human Oversight of Agentic AI in Electric Utility Operations

Suhail Ahmad Rana and Dinara Kozhamzharova

A Cross-Jurisdiction Agentic RAG Assistant for Low-Resource Legislation: Mapping Situations to Statutes in Kazakh and Uzbek Law

Bobur Mukhsimbayev, Alexandr Pak and Aibek Kuralbayev

IMS-IoT Session S-1
Session Chair: Didar Yedilkhan, Astana IT University, Kazakhstan

Room: Room 3

An Intelligent Mobile System for Smishing-Aware, Adaptive Cyber-Literacy

Raikhan Muratkhan, Yedige Radolda, Dina Satybaldina, Aigul Shaikhanova

Learning When to Monitor: A Reinforcement Learning Framework for Resource-Aware Anomaly Detection Control in Urban Data Streams

Beibut Amirgaliyev, Amina Adilkhan

A Vulnerability Database for Wireless IoT Networks in Smart City Infrastructure Aimed at Threat Modeling

Tamara Zhukabayeva, Nurdaulet Karabayev, Yerik Mardenov, Dina Satybaldina

Air-Gapped Radio Intelligence: A Fully Local SDR-to-LLM Pipeline for Passive Monitoring of the 433 MHz ISM Band

Zhandos Boranbay, Aliya Issainova, Gulsipat Abisheva, Tolegen Aidynov, Saken Tleuberdin, Dina Satybaldina

DS Session S-1**Session Chair:****Room:** Room 4

Digital engagement in practice: Enhancing students writing skills through Nearpod integration

Aissulu Kaldarova, Marco Vasquez, Gulkhadisha Zaurbekova, Karlygash Ayazbekova, Galiya Tungushbayeva and Anunciacion Tala

ChatGPT-based AI-assisted learning for developing spoken English skills of IT students: Implications for sustainable learning

Aissulu Kaldarova, Marco Vasquez, Gulkhadisha Zaurbekova, Karlygash Idirissova and Alima Utemuratova

A transformer-based evidence sufficiency reranking framework for legal semantic retrieval

Aigerim Aitim and Anel Auyezova

Teaching literary texts in Digital Society: A review of intelligent mobile systems and AI-enhanced learning technologies

Madina Rakhimzhanova, Gulbanu Tleubay, Nurzhigan Utelbayeva and Aliya Zhuginissova

Coffee Break**15:00 - 15:30****Room:** Meeting Foyer**Technical Sessions (2)****15:30 - 17:00****EUSPN Session S-3****Session Chair:****Room:** Room 1

Semantic-Aware Trajectory Evaluation for Autonomous Driving via Vision-Language Models

Abdellah Nabou, El Hassan Abdelwahed, Khamis Jakob and Ouïçal Sirgiane

Dynamic traffic-light preemption transfer for concurrent emergency vehicles

Hajar Al-Hujailan, Sarah Aljuhani, Athoog Alsuhaibany, Hajar Almeleehan, Manar Baamer and Heba Kurdi

A smart-parking service for vehicular named data networking

Hajar Alhijailan, Reema Alsamrani, Leena Alonayq, Rama Alfawzan and Heba Kurdi

A Web-Based Digital Twin for Air Quality Monitoring in Almaty

Saya Sapakova, Askar Sapakov, Daniyar Kyzyrov, Sakhybay Tynymbayev and Nurgali Yesmukhamedov

EUSPN Session S-4**Session Chair:****Room:** Room 2

Dataset for software security monitoring

Kevalkumar Patel, Zeel Patel, Sergey Butakov and Hanieh Shabanian

Continuous Behavioral Authentication for Mobile Devices Using an Adaptive LSTM-Based Intelligent Agent

Vassiliy Serbin, Madi Gali and Maksim Iavich

Application of an Adaptive Approach with Prediction Error Expansion in a Steganographic Scheme Based on a Linear Hash Function

Elmira Daiyrbayeva, Aigerim Yerimbetova, Ekaterina Merzlyakova, Lyailya Cherikbayeva and Ulmeken Berzhanova

telemetry-aware detection reliability model for distributed open-source security operations centers

Ernest Aibatov

IMS-IoT Session S-2

Session Chair: Didar Yedilkhan, Astana IT University, Kazakhstan

Room: Room 3

Security Assessment and Vulnerability Detection in a BLE-Controlled Open-Source Drone

Gulzhamal Tursunbayeva, Saken Tleuberdin, Konstantin Malakhov, Eldor Egamberdiyev, Nurlan Tashatov, Dina Satybaldina

Security assessment of IoT based Air Pollution Monitoring System for Smart Cities

Aliya Issainova, Saken Tleuberdin, Tolegen Aidynov, Gulsipat Abisheva, Dina Satybaldina

Cross-model detection agreement analysis for reliable explanation generation in LLM-augmented computer vision systems

Temirlan Andasov, Beibut Amirgaliyev, Yerzhan Koshkarov

A Self-Organizing Mesh Network for Underground Miner Safety: A Low-Cost Alternative to Private LTE Solutions

Aliya Abdiraman, Laura Aldasheva, Akzhibek Amirova, Moldir Azim, Medina Sapabekova, Alina Kovalenko, Aisulu Kenzhina

DS Session S-2

Session Chair:

Room: Room 4

Sentiment-aware AI for teaching business Chinese: an AI-mediated communication framework

Aigerim Kereibayeva, Nazym Baisbay, Aizhan Sholakhova, Assel Tokeyeva and Aigul Kazezova

Subset Sum-based modeling for efficient retrieval in unstructured legal text corpora

Aigerim Aitim, Anel Auyezova and Askar Sinchev

Edge-AI acoustic monitoring system for illegal logging detection using STM32F746 and LoRa communication

Suleimen Kaimov, Talgat Kaiym, Amandyk Tuleshov, Moldir Kumatova, Aidarkhan Kaimov, Askar Seidakhmet, Abylay Kaimov, Daulet Abdrakhmanov, Kairat Nurymbetov and Azil Zamanbek

Generative AI use among lower-proficiency EFL learners during project-based learning: evidence from student surveys and interviews

Altynay Kenzhebekova, Nurganyan Amanbekova, Assel Yerzhanova, Alima Utemuratova, Ainur Kaliaskarova and Dariga Kurmangaliyeva

Technical Sessions (3)

17:00 - 18:30

EUSPN Session S-5

Session Chair:

Room: Room 1

A Framework for Developing Differentiated Research Assignments in Computing Education

Vassiliy Serbin, Gulnur Ibragim, Birzhan Zhumagaliyev, Aray Kassenkhan, Mateus Mendes and Akbayan Bekarystankyzy

A Context-Aware Pervasive AI System for Intelligent Group Purchasing and Collaborative Consumption

Venera Elle, Raissa Uskenbaeva, Aizhan Kassymova, Abdul Razaque, Young Im Cho, Dongwon Lee and Aizhan Anartayeva

Anomaly Filtering and Random Forest Regression based on Clustering techniques for Lora Positioning

German Granados, Rodne Quijije, Sara Blanc and Rebeca Estrada

Intelligent classification and routing of citizen requests in a Smart City: a chatbot service architecture and its evaluation

Aizhan Kassymova, Raissa Uskenbaeva, Abdul Razaque, Zhanibek Sydykov, Sanzhar Kalibekov, Dinmukhamed Omirzak, Venera Elle, Zhuldyz Kalpeyeva, Aizhan Anartayeva and Young Im Cho

ICTH

Session Chair: Sabina Rakhmetulayeva, International Information Technology University, Kazakhstan
Room: Room 2

Explainable Three-Class Diabetes Classification Using Demographic-Stratified TreeSHAP Analysis

Nazish Riaz, M A Hannan Bin Azhar and Merlin Kasirajan

Review Before Trust: Source-Grounded Integrity Gates for AI-Assisted Personal Health Records

Nora Girda and Adrian Groza

A standardised eye-tracking metric framework for evaluating Virtual Reality healthcare applications

Aiganym Soltiyeve, Yevgeniya Daineko and Wilk Oliveira

Beyond Motor Signals: EEG Spectral Features for Cognitive Load Classification in BMI

Fatima Bazargaliyeva

Cross-Attention Multimodal Learning for Lymphoma Treatment Survival Prediction

Saliha Artabaz, Sara Filali, Layth Sliman, Hachemi Nabil Dellys and Halima Mokeddem

IMS-IoT Session S-3

Session Chair: Didar Yedilkhan, Astana IT University, Kazakhstan

Room: Room 3

Preprocessing Bus GPS Data by Detecting Route-Inconsistent Observations

Aigerim Mansurova, Aigul Adamova, Aiganym Mansurova, Daniyar Rakhimzhanov

Intelligent Urban Air Quality Monitoring Using IoT and Meteorology-Aware XGBoost

Sabina Salesnova, Didar Yedilkhan

Activity-Aware Canine Nutrition Decision Support Using Open Wearable Sensor Data

Yan Kudashov, Aruzhan Shoman, Aliya Kalykulova, Kuanysh Bakirov

A Geospatial IoT Middleware Architecture for Secure Integration and Browser-Based Access to Urban Camera Streams

Nurgissa Kabarbek, Nursultan Khaimuldin, Didar Yedilkhan, Tolganay Chinibayeva

Information Security Assessment Methods: Application of Multi-Criteria Decision-Making Techniques

Aliya Abdiraman, Akhmet Tussupov, Dauren Sagidullauly, Aibolat Kurakbayev, Assem Konyrkhanova, Kymbat Seilkhanova

DS Session S-3

Session Chair:

Room: Room 4

Design and preliminary bench assessment of an energy-aware solar-powered LoRa smart collar for cattle monitoring

Aigerim Aitim and Aadm Ziro

The role of MBTI typology in digital professional communication of IT specialists

Tolkyn Toktarova, Shynar Zhetybayeva, Oxana Bublikova, Zhanar Zhardamaliyeva and Dinara Kenzhebulatova

The changing role of digital platform algorithms: From personalization to algorithmic censorship

Aigul Niyazgulova, Saule Ashenova, Shynar Kaliazhdarova, Nietzhan Ibragimov, Akhmetula Shayadilov

Robotic Process Automation of Bank-Statement Processing in a 1C:Enterprise Accounting System: An Industrial Case Study

Miras Zhanserikova, Nurgul Nalgozhinaa, Raimbek Taira, Yevgeniya Dainekoa

End of Thursday Technical Sessions

Banquet and Award Ceremony

19:30 - 21:30

Banquet Room

Friday 30 October 2026

Registration Starts 08:30

Room: Registration Room

Keynote III 9:00 - 10:00

Wearables, Multimodal Data and AI Agents: The New Foundation for Health Management and Disease Prevention

Li Xinyueli, City University of Hong Kong, Hong Kong

Session Chair: Yevgeniya Daineko, International Information Technology University, Kazakhstan

Room:

Coffee Break 10:00 - 10:30

Room: Meeting Foyer

Technical Sessions (4) 10:30 - 12:00

EUSPN Session S-6

Session Chair:

Room: Room 1

Frequent AI Tool Use and Executive Functions in Adolescents: A Secondary Data Analysis

Makpal Mukanova, Saltanat Mukhanova, Yerassyl Yesbergen, Alemger Baipaissov, Daniyal Talgatov and Amir Pashayev

Towards Explainability Evaluation in Multivariate Time Series

Avleen Malhi

An Architectural Pattern for Explainable FIX-Based Order Management Systems

Galym Moldagulov, Yevgeniya Daineko, Young Im Cho and Aiman Moldagulova

Client Participation Thresholds in Federated Object Detection for Task-Specialized UAV Swarms

Saya Sapakova, Daniyar Kyzzyrov, Lyailya Tukenova, Zhadra Kozhamkulova and Sakhybay Tynymbayev

EUSPN Session S-7

Session Chair:

Room: Room 2

AI-Enabled Dropout and Retention Prediction in Digital Higher Education: A Rapid Scopus-Based Evidence Map

Aigerim Balkenova and Yelmar Orazbek

AI-based Analysis of Energy Deficit Periods in Natural Sources for Synthesizing Hybrid Power Generation Systems

Korganbay Sholanov, Yerassyl Burambayev, Gibrat Assainov and Nazhmitden Zakipov

Computational Approach to Operating Mode Selection for Boundary Injection Well Control in Uranium In-Situ Leaching

Bekmurza Aitchanov, Yeraly Oryngozha, Gulmira Iskakova, Zhanna Tleubayeva and Shynar Adilova

Computational Approaches, Evidence Maturity, and Research Gaps in Bell-Pepper Disease and Pest Monitoring: A Systematic Literature Review

Tristan Listanco, Phoebien Cañete, Shanice Reih Tanque, Apple Rose Alce and Paul Rodolfo Castor

ACPN Session S-1**Session Chair:****Room:** Room 3

Analytical Description Using Logical Functions and Matlab Simulation of A 4r Manipulator Robot Workspace

Akambay Beisembayev, Fazila Tairova, Anargul Yerbossynova, Kuanysh Abzhaparov, Nargiza Tulegenova, Bakzan Taubayev

Development of an experimental prototype and digital model of Rankine vortex flow for power plants

Dmitriy Panchenko, Zhanar Omirbekova

Development of a methodology for VR visualization of the deorbiting process of Kazakhstani spacecraft

Aigul Kulakayeva, Dana Tsoy, Bagdat Kozhakhmetova, Yevgeniya Daineko, Miras Uali"

Digital Twin for Soft Sensing and Abnormal Operating Mode Detection in Rotary Drilling

Nurseit Begaly, Bakyt Mukhanov, Yerbol Orakbayev, Laulasyn Abzhanova

AIMESaR Session S-1**Session Chair:****Room:** Room 4

From Injection Schedule to Recovery Curve: a Neural Surrogate for Uranium In-Situ Leaching"

Mukhtar Bimurat, Maksat Kurmanseit, Daniar Aizhulov, Madina Tungatarova, Nurlan Shayakhmetov and Bimurat Sagindykov

Performance Evaluation of a ROS 2-Based Vision-Guided Robotic System for Data Matrix-Based Box Identification and Automated Sorting

Perizat Rakhmetova, Yeldos Altay, Teodor Iliev, Gulmira Berdibayeva, Elias Ansariy and Lazzat Kurmangalieva

Artificial Intelligence Methods for Unsteady Hydrodynamics in Centrifugal Pumps

Nurlan Shayakhmetov, Ainur Suleimenova, Abdurashid Aliuly, Maksat Kurmanseit and Daniar Aizhulov

ELC-MAPF: Escalation with Local Conflict Resolution for Multi-Agent Path Finding

Mohammed Baziyad, Ibrahim Kaisar Abutalipov, Perizat Rakhmetova, Ivan Miguel Pires, Lazzat Kurmangalieva, Azamat Alpeisov and Baglan Bekbossynova

Lunch**12:00 - 13:00****Room:** Lunch Room**Technical Sessions (5)****13:00 - 14:30****EUSPN Session S-8****Session Chair:****Room:** Room 1

Deep Learning-Based Multi-Objective Optimization of Warehouse Robots

Gulnar Imasheva, Ayaulym Rakhmatulina, Raigul Ustemirova, Indira Nurmukhanbetova, Aigerim Nurlanova and Rauan Iztleuov

Robust aggregation for federated learning in IoT: evaluating the impact of error-prone sensor data

Pavan Gupta and Qinghua Wang

AvianTech: An Edge-AI IoT Architecture for Real-Time Multimodal Visual-Acoustic Avian Biodiversity Monitoring

Alyssa Usman, Adrian Galido, Jyresa Mae Amboang and Apple Rose Alce

EICN**Session Chair:****Room:** Room 1

Development of KPI for train operation of diesel locomotives in conditions of non-public railway access roads

Gabit Bakyt, Galymzhan Ashirbayev, Aizhan Makhanova, Malik Zhamankulov, Kuantkhan Sarsenov and Berikkhan Tleuzhanov

Research and design of an IoT and edge-AI-enabled robotic system for automotive plant security monitoring and autonomous yard patrol

Anar Tynybayeva, Suleimen Kaimov, Amandyk Tuleshov, Elmas Çetin, Moldir Kuatova and Talgat Kaiym

Synthetic Thermal Data Generation and Deep Learning for Robust Pipeline Leak Detection Using UAV Imagery

Olzhas Akyzbekov

Preserving the privacy of environmental monitoring datasets by generating synthetic panels

Artem Liubas, Galina Bovykina and Ryskhan Satybaldiyeva

ACPN Session S-2**Session Chair:****Room:** Room 3

AI-assisted MPC for collaborative robot trajectory tracking using a high-fidelity dynamic model

Artem Bakhonko, Abzal Rysbek, Sanzhar Sagynuly, Almat Akbassov, Zhanar Omirbekova

Adaptive ESP Optimization System

Zhandos Barsay, Eugene Pinsky, Zhanar Omirbekova

Digital Twin-Enabled Adaptive Intelligent Control of Industrial MIMO Systems in Cyber-Physical Networks

Olga Shirayeva, Paweł Komada, Dilnaz Ziyavdunova, Inkar Kabdolova, Dmitriy Gorbunov, Adilkhan Zhiyengali

Cybersecurity of Digital Twins in Industrial Gas-Piston Power Plants: Threat Analysis and Protection Framework

Yernar Abdigaliyev, Zhanar Omirbekova, Eric Matson

AIMESaR Session S-2**Session Chair:****Room:** Room 4

Three-Dimensional CFD Modeling and Validation of Internal Flow Characteristics in a Centrifugal Pump

Abdurashid Aliuly, Abzal Seitov, Tangnur Amanzholov, Yerkebulan Ayazbay, Aidarkhan Kaltaye

Mathematical Modeling and Thermal Performance Analysis of a Flat-Plate Solar Collector

Banu Abdullayeva, Ayazhan Yeraliyeva, Tangnur Amanzholov, Madina Tungatarova and Daniar Aizhulov

Design and Deployment of a Mobile Point-of-Care System for Automated Screening of Congenital Heart Defects from Echocardiography

Tomiris Baizhigit

Utilization of Artificial Intelligence and AI Agents in the Online Business of a Company Operating in the Field of Additive Manufacturing

Matúš Kovár, Rastislav Kulháněk

Coffee Break**14:30 - 15:00****Room:** Meeting Foyer

WMHealth
Session Chair:
Room: Room 1

A Patient Digital Twin for Early Deterioration Warning: Vital-Sign Forecasting with a Large-Language-Model Explanation Layer

Zhassulan Zhanghyrbay, Yevgeniya Daineko and Ivan Pires

Fed-BTNet: A Robust Federated Framework for Brain Tumor Diagnosis using CT and MRI Images under Non-IID Data Distributions

Zainab Asim, Muhammad Wasim and Ivan Miguel Pires

Foundation Models and Federated Edge AI for Wearable Digital Biomarkers: A Concise Survey

Saif Al-Jumaili, Ahmed Al-Jumaili, Adil Deniz Duru and Ivan Miguel Pires

Concept Development of a Clinical Decision Support System for Cardiac Tumor Diagnosis in Kazakhstan

Dana Tsoy, Yevgeniya Daineko and Agariadne Dwinggo Samala

Explainable AI and Tabular Foundation Models for Sleep Efficiency Prediction from Wearable Data

Damir Kamalov, Shugyla Kurmanbek, Zhanel Baigarayeva, Baglan Imanbek, Nurdaulet Tasmurzayev and Jamila Kaibullayeva

CyDPIDS
Session Chair:
Room: Room 2

A Secure Data-Driven Framework for Personalization in a Gamified Educational Platform: The Case of Aqyl Battle

Aibolat Kulatay, Bagdat Yagalieva, Dinara Zhaisanova, Nurkamilya Daurenbayeva and Mukhamed Ali Tolegen

A Visual Analytic Approach for Multi-perspective Cyber Threat Events Discovery and Confirmation

Sholpan Baimatayeva, Nicklaus Giacobe, Aidyn Kunikeyev and Sayat Akhmetov

Hybrid Graph Feature Engineering for Illicit Finance Detection In Financial Networks

Aliya Kulbayeva, Sabina Rakhmetulayeva, Aigerim Bolshibayeva and Ansar-Ul-Haque Yasar

Non-IID-Aware Federated Intrusion Detection for IoT Networks: A FedAvg–FedProx Study

Akbota Akhankyzy, Nurtay Albanbay and Ilyas Samat

A Taxonomic Review of LLM-Assisted Vulnerability Detection

Ryskhan Satybaldiyeva, Dias Darkhanuly and Dongwon Lee

Neuro-Sync: A Sophisticated Orchestration Framework For 3d Gaussian Splatting In 6g-Enabled Mobile Immersive Systems

Yersain Chinibayev

ACPN Session S-3
Session Chair:
Room: Room 3

Implementation of a Vector Reactive Asymmetry-based Preselective Ground Fault Detection Algorithm into a Hierarchical SCADA System

Batyrbek Ordabayev, Marat Ordabayev, Zhanat Issabekov, Assemgul Zhantlessova, Alibek Anarbaev, Raisa Mustafina

Process Parameter Optimization and Real-Time Particle Monitoring for Efficient Gas Purification in Industrial Cyclone Separators

Abdurakhmanov Olim, Rakhimjon Muminov, Nurlan Sarsenbayev, Aigul Iskakova, Nazarbek Mussabekov, Damira Smailova

Integration of AI Modules into the Process Control System of an Ore Processing Plant: A Resilience-Oriented Edge Architecture

Nursultan Toktar, Karshyga Akishev, Oksana Andreyeva, Aleksey Shimpf

AIMESaR Session S-3**Session Chair:****Room:** Room 4

Optimization of Additive Manufacturing Processes in Small and Medium Enterprises: A Case Study of a Co-Packing Company

Matúš Kovár, Rastislav Kulháněk

Digital engineering of tacit knowledge traces: from individual insight to organizational knowledge assets

Alexey Tsekhovoy, Natalya Nekrasova, Larisa Stacenko, Konstantin Roganov, Maxat Abdildayev and Sunkar Orazbek

Technical Sessions (7)**16:00 - 18:00****DFIE****Session Chair:****Room:** Room 2

Digital Governance and Cyber Resilience Facing Cyberattacks in Morocco: A Documentary Analysis and Integrated Conceptual Model

Samiha Bakkali, Anouar Ammi

Intention to adopt participatory banks among individual non-users in Morocco

Mourad Baochi, Rahhal Lahrach

Africa's Next Integration Frontier: A Dynamic CGE Assessment of Trade Integration from the AfCFTA to a Continental Customs Union

Yassine El Hajoui, Zakaria Elouaourti, Radouane Raouf

Opportunities Offered by Blockchain for Fintechs: Towards a Transformation of Financial Services

Abdellah El Aider, Sidi Mohamed Rigar

AMDE**Session Chair:****Room:** Room 4

Economic evaluation of precision agriculture technologies and determination of profitability thresholds: A machine learning approach applied to the Gharb region, Morocco

Soufiane Bouyghrissi, Maha Khanniba and Lhoussaine El Mezouary

Adaptive Early-Exit Vision Transformer for Efficient Wildfire Detection on Edge AI Systems

Paul Mahenina Randriamitsiry, Deric Claudio Vitasoa, William Germain Dimbisoa, Hajarisena Razafimahatratra and Thomas Mahatody

From Usable to Democratized Security: The SABA Framework for Allocating Security Decisions

Rabii Elkhadiri, Alaeddine Boukhalfa, Mohammed Nasri

End of Friday Technical Sessions**END of Event**