ICCC 2024 Preliminary Program

Venue: **Hanoi University of Science and Technology (HUST) Gate C1**
Address: No.1 Dai Co Viet, Hai Ba Trung, Hanoi, Viet nam
https://maps.app.goo.gl/91KXnZDr7dfMcMxt9

April 4, Thursday

9:00 – 9:40	**Opening Ceremony**		C2 Hall

9:40 – 10:20	**Plenary Talk I**		C2 Hall
	Session chair: **Levente Kovács**		
109	**József Bokor**	Nonlinear Sytems: Some New Trends in System Identification	

10:20 – 10:40	Coffee break		

10:40 – 11:20	**Plenary Talk II**		C2 Hall
	Session chair: **Chao-Lung Yang**		
110	**Jia-Yush Yen**	A Bipedal Controller Design to Realize Human Gaits	

11:20 – 12:00	**Plenary Talk III**		C2 Hall
	Session chair: **Thanh-Trung Nguyen**		
111	**Yoshihiro Tanaka**	Subjective Haptics: Sharing and Augmentation of Sensorimotor Control	

12:00 – 13:30	Lunch		

13:30 – 15:10   **[T1a] Session on Computational Intelligence-based Results of Information Technology**   C2 Hall
Session chair: **Domagoj Frank**

66	**Chao-Lung Yang**, Si-Hao Wang, Shang-Che Hsu, Po Ting Lin, Ching-Yuan Chang and Yung-Yao Chen	Human Action Transition Prediction by Stacking Spatial Temporal Graph Convolutional Networks and eXtreme Gradient Boosting
85	Saeed Beheshtian, Sara Kishan Roodbari, Hamzeh Ghorbani, Mohammadreza Azodinia, Mohammed Mudabbir and **Annamária R. Várkonyi-Kóczy**	Comparative Evaluation of Machine Learning and Bayesian Deep Learning Methods for Estimating Ultimate Recovery in Shale Well Reservoirs
20	**Domagoj Frank**, Andrija Bernik and Marin Milković	Efficient generative AI assisted academic research and writing – considerations for a model proposal
87	Saeed Beheshtian, Sara Kishan Roodbari, Hamzeh Ghorbani, Mohammadreza Azodinia, Mohammed Mudabbi and **Annamária R. Várkonyi-Kóczy**	Advanced Machine Learning Methods for Accurate Prediction of Loss Circulation in Drilling Well Log Data
17	**Sergio Galdino** and Jornandes Dias	Hybrid Clustering: Combining K-Means and Interval valued data-type Hierarchical Clustering

13:30 – 15:10   [T1b] Session on Computer Science and Computational Intelligence-based Results of Communication Theory   C2 Conference Room
Session chair: **György Molnár**

25	Milan Szilveszter, György Molnár and Enikő Nagy	Comparison of commercial and open source ETL tools
30	**Enikő Nagy**, Tamás Ferenc Gombos and György Molnár	Comparison of data visualisation platforms through European traffic data
62	Zoltán Balogh, Kristián Fodor and **György Molnár**	Automated Biofeedback Processing: A Robust API Development Approach
47	Trung Hung Vo, **Imre Felde** and Phan Hieu Ho	DETECTING TEXT SIMILARITY BASED ON DISCRETE WAVELET TRANSFORMATION
23	Bálint Nagy, György Molnár, Antal Joós and Enikő Nagy	Bifurcations and application of the Vallis – model

15:10 – 15:30   Coffee break

15:30 – 16:50   **[T2a] Session on Cyber-Medical Systems I**   C2 Hall
Session chair: **Dániel András Drexler**

55	Erzsébet Nagy, Levente Kovacs and **Dániel András Drexler**	Examining the effect of initial parameter value choice of a tumor model on gradient-based parameter fitting
52	**Lilla Kisbenedek**, Melánia Puskás, Levente Kovács and Dániel András Drexler	Anomaly detection of time series containing tumor volumes
42	**Alexandru-George Berciu,** Eva Dulf and Levente Kovacs	Semi-automated Solution for Extracting Information from Images using Machine Learning methods

51	**Martin Ferenc Dömény,** Melánia Puskás, Levente Kovács, Mac Thi Thoa and Dániel András Drexler	Detecting critical supervision intervals during in silico chemotherapy treatments

15:30 – 16:50   [T2b] Session on Computer Science   C2 Conference Room
Session chair: **Andrija Bernik**

21	Ivan Lorencin, Andrej Korenić and Domagoj Frank	K-means Clustering of Intracellular Calcium Signal Transients
10	Michal Staňo, Ladislav Hluchý and Jean Rosemond Dora, **Nguyen Ngoc Diep**	Federated Learning for Offensive Security in Cyber-Medical Systems inspired by Petri Nets
95	Mónika Rajcsányi-Molnár, **László Balázs**, Istvan Andras and Sandor Czifra	Competition as an Effective Motivational Tool in Online Education
74	**Bui Huy Kien**, Nguyen Van Thang, Nguyen Duc Hieu and Dang Minh Hieu	Development of deep learning-based laser weeding ro-bot

15:30 – 16:50   Poster Special Session on Digitalisation, Generation Research, Consumer Trends   Foyer
Session chair: **Mónika Garai-Fodor**

3	Dániel Kiss and **Andrea Tick**	Navigating the Digital Frontier: A Comprehensive Exploration of Education Digitalization in Africa
6	Moagi Tladinyane, Mais Zuhair Salim Al-Akhras, Lindokuhle Justice Khanyile, Luna Mohanad Al-Akhras and **Andrea Tick**	Social media's impact: influencing purchases, shaping choices
13	**Lourdes Ruiz**, Beatrix Fregan and Rajnai Zoltan	Information and Communications Technology Supply Chain: Threat Landscape and Countermeasures
19	Katalin Jaeckel and **Monika Garai-Fodor**	Generation Z motivations at work based on primary findings among Chinese youth
33	Balázs Sallay and **Ágnes Csiszárik-Kocsir**	Knowledge of cryptocurrencies and blockchain technology through the eyes of different generations
38	Enikő Nagy, Anna Fruzsina Horváth and György Molnár	CMDB reporting introduction and quality improvement at a given Hungarian company
45	Donát Gerencsér and **Ágnes Csiszárik-Kocsir**	The impact of the inflationary environment on individuals' financial culture and purchasing decisions
53	Yameng Xue and **Linfei Ma**	The determinants that impact customer purchase intention in the context of exercise equipment live streaming
61	**Monika Garai-Fodor** and Katalin Jäckel	Generational and regional differences in job choice preferences and motivations
89	Patrik Viktor and **Albert Molnar**	Are cross-asset spillovers evidence of an anti-equilibrium? An analysis of the S&P500 index and Brent crude oil prices.
90	**Patrik Viktor** and Monika Garai-Fodor	Comprehensive analysis of IOTS tools
91	**Patrik Viktor** and Monika Garai-Fodor	Adapting self-driving technology
97	**Ágnes Csiszárik-Kocsir** and Csaba Berényi	The role of digitalisation in strengthening the competitiveness of education
98	**Oszkár Dobos** and Enikő Varga	Main challenges of a research, development and innovation project in the academic sector

99	Ágnes Csiszárik-Kocsir and **János Varga**	Interpreting the meaning of agility, perceiving its individual importance through the eyes of different generations
100	**János Varga**, Enikő Kahler-Korcsmáros and Ágnes Csiszárik-Kocsir	Perceptions of local macroeconomic challenges faced by Hungarian enterprises and how to meet them along competitiveness dimensions
101	**János Varga**, Enikő Kahler-Korcsmáros and Ágnes Csiszárik-Kocsir	Microeconomic factors affecting competitiveness based on the opinion of Hungarian companies
102	**Csilla Mizser**	Startups and mediation - trust for our future commitments
103	**Ádám Mészáros**	Agile Methodology for Competitiveness
106	Péter Váradi, Judit Lukács and **Richárd Horváth**	Response surface methodology to characterize the indicators for the early detection of fraudulent cases in the motor insurance market

18:00 **Banquet**   Hotel du Parc Hanoi, Jaune A on the second floor

<u>Address</u>: 84 Tran Nhan Tong street, Hai Ba Trung district, Hanoi, Vietnam

April 5, Friday

9:00 – 9:40   **Plenary Talk IV**   C2 Hall

<u>Session chair</u>: **László Gulácsi**

93	**Péter Galambos**	Generative Neural Models in Robotics: Pioneering the Embodied AI Revolution

9:40 – 10:00   Coffee break

10:00 – 12:00   **[F1a] Session on Mechanical Systems and Mechatronics I**   C2 Hall

<u>Session chair</u>: **Thi Thoa Mac**

7	**Chin-Boon Chng**, Konstantin Koenig, Pooi-Mun Wong, Mu Wang, Jie Wu and Chee-Kong Chui	Towards a Pharmaceutical Cyber-Physical Systems Based Automated Drug Discovery Workcell
29	**Reza Hassanian,** Abdollah Shahinfar, Ásdís Helgadóttir and Morris Riedel	Optimizing Wind Energy Production: Leveraging Deep Learning Models Informed with On-Site Data and Assessing Scalability through HPC
39	Quoc-Viet Pham, Trung-Kien Le and **Manh-Tuan Ha**	Development a Cheap Force Sensor Detecting Vibration Mode for UAV
69	**Thi Thoa Mac,** Trinh Nhan Dam, Van Thanh Tri Nguyen, Thanh-Hung Nguyen, Levente Kovacs and Tien-Duc Nguyen	The Development of Robotic Manipulator for Automated Test Tube Arrangement
108	**László Horváth**	Intelligent Computing Integrated Autonomous Model of Research

| 65 | **Anh-Dung Nguyen** and Duy-Thai Le | Combining Genetic Algorithms And Or-Tools To Solve Flexible Job-Shop Scheduling Problems |

10:00 – 12:00 **[F1b] Session on Mechanical Systems and Mechatronics II** C2 Conference Room
Session chair: **Nguyen Thi Kim Cuc**

54	Phuong Thao Thai, **Ngoc Hai Nguyen** and Thai Tat Hoan Nguyen	Design and Simulation of Mecanum-Kresling wheel
57	**Tiendung Vu**, Duy Thai Nguyen, Toan Thang Vu, **Van Thuc Tran** and Dinh Tien Nguyen	Real-time detection to avoid accidents of interaction between humans and collaborative robot using image processing and machine learning
105	Trung Kien Nguyen, **Duc Sy Ho** and Lan Xuan Phung	Development of cutting tool selection module for 2.5D pocket machining
58	Nguyen Duc Duong, Thai Vu Yen Nhi, Tao Dang Khoa, Nguyen Thi Phuong Anh, Cao Xuan Binh and **Nguyen Thi Kim Cuc**	A new method to detection of laser focal position based on microlens array
81	Bao Le Quy, Phuc Duong van, Huan Vuong Van, **Cuc Nguyen**, Dat Tran Quang and Vi Le Dinh	Investigation of the Optical Properties in the Infrared Region of PbS Thin Films
63	**Trung Nguyen**, Quang Ha, Duy Nguyen, Tung Hoang, Duc Luu and Tam Bui	The Development of a Motion-Tracking System to Assess the Recovery Level for Stroke Survivors

12:00 – 13:30   Lunch

13:30 – 14:10 **Plenary Talk V** C2 Hall
Session chair: **Péter Galambos**

| 112 | **Yo-Ping Huang** | AIoT and its Applications: Industry and Healthcare |

14:10 – 14:30   Coffee break

14:30 – 16:10 **[F2a] Session on Computational Intelligence-based Results of Control Theory** C2 Hall
Session chair: **Zoltán Rajnai**

41	Kien Vo and **Manh-Tuan Ha**	Implement ICP Algorithm for SLAM using Relative Motion Threshold and Robust Kernel
2	Haya Altaleb, Beatrix Fregan and Zoltán Rajnai	A Comprehensive Analysis and Solutions for Enhancing SCADA Systems Security in Critical Infrastructures
107	Nhat-Minh Dzoan, Thi-Thoa Mac, Tien-Dung Pham and **Hoang-Hiep Ly**	Development of hybrid controller for an affordable cart-pole system
5	**Marianna Dimitrova Kucarov** and Miklos Kozlovszky	Control of Continuous, High Purity Distillation Column Using Nonlinear Adaptive Control Based on Robust Fixed Point Transformation Phenomena
48	**István Dénes** and Sándor Semperger	Impact Determination Exercise in cyber security assessments of Industrial Automation and Control Systems

14:30 – 16:10   **[F2b] Session on Mechanical Systems and Mechatronics III**   C2 Conference Room changed to Room C1, 222

Session chair: **Huy Vu Le**

60	**Trung Nguyen**, Minh Tran, Tien Nguyen and Duc Luu	PROPOSING TO USE BACKSTEPPING CONTROLLER FOR SITTING/LYING TYPE LOWER LIMB REHABLITATION ROBOT
68	**Huy Vu Le,** Trung Le Manh, Viet Pham Ngoc, Tu Tran Trong, Tuan Le Van and Hung Nguyen Duy	Full-Movement Simulation of Humanoid Robot Hand Controlled by Sensory Glove
70	Thanh-Lam Bui, Duc-Quang Nguyen, **Hoang-Hiep Ly,** Trong-Nam Tran and **Xuan-Thuan Nguyen**	Design a Controller for Parallel Robot Using GA and Fuzzy Type-2 Method
78	Quang-Van Do, Tuan-Anh Bui and **Thanh-Hung Nguyen**	An Efficient Improved A* Algorithm for Mobile Robot Path Planning in Complex Environments
88	**Long Nguyen Huu**, Hai Hoang Hong and Hung Nguyen Thanh	Skull defect reconstruction

14:30 – 16:10   **Poster session**   Foyer

Session chair: **Eva-Henrietta Dulf**

56	**Hai-Le Bui**, Tien-Duc Nguyen and Thi-Thoa Mac	Optimal design of PD controllers for active control of structures
77	**Huy Anh Bui,** Anh Tu Nguyen and Thanh Tung Nguyen	Develop A Navigation Approach for Mobile Robots Based on the Distributional Deep Reinforcement Learning Framework
79	Thi Thuy Mai, Minh-Quan Nguyen and **Thu Nguyen Thi**	Parametric Study on Geometry of T-Coupling in Micro-Extrusion Process
84	Mac Thoa and **Lac Duong**	TacForce: From Images to Tactile Force Distribution
86	**Thu Nguyen Thi**, Hong Quang Nguyen, Hoang Duong Nguyen and Thi Thuy Mai	Research on Thinning Variation of the Copper Upper Sheet in Copper-Steel Double-Sheet Hydroforming
16	Marine Voskanyan, Hamzeh Ghorbani and **Mohammazreza Azodinia**	An Investigation into the Hydrochemical Parameters of Natural Monuments in Vayots Dzor
37	Saqib Jamil, Sina Ardabili, Saima Jamil, Adnan Daud Khan, Waqas Farooq, Usman Khan Khalil and **Amir Mosavi**	Ensemble Learning for Modeling Luminance in Plasmonic Nanoellipse for Tunable Spaser
67	**István Bendiák** and Sándor Semperger	Analysis of Mechanical Faults of Asynchronous Motors Based on the Abrasion Map
26	**Abel Kamagara,** Abbas Kagudde and Francis Komakech	Android-Based Public Transport Infotainment System in Uganda
31	**Amir Mosavi, Imre Felde** and Vo Trung Hung	ChatGPT and Large Language Models in Healthcare; a Bibliometrics Analysis and Review
35	Mohammed Mudabbiruddin, **Amir Mosavi and Felde Imre**	From Deep Learning to ChatGPT for Materials Design
44	Alex Bárdi and **Márta Takács**	Optimizing Algorithmic Trading by Integrating Sentiment Analysis
76	Xuan Thuan Nguyen, Tien Lap Vu, Huu Anh Ta, Ba Dai Nguyen and **Hoang Hiep Ly**	A Study on Tooth Decay Detection using A Simple Convolutional Neural Network Model
46	Dan Andrei Suciu, **Eva-Henrietta Dulf** and Levente Kovacs	Low cost autonomous trains and safety systems implementation using computer vision

April 6, Saturday

9:00 – 10:20 **[S1] Session on Cyber-Medical Systems II** C2 Hall changed to Room C1, 222
Session chair: **László Szilágyi**

43	**Zolzaya Dashdorj**	Reducing features within an extensive network of Medical Subject Headings metadata to enhance deep predictions
12	Barbara Simon, Ádám Hartveg, Máté Siket, **Lehel Dénes-Fazakas**, György Eigner, László Szilágyi and Levente Kovács	Data collection studies for the better understanding of factors in type 1 diabetes management
24	**Silvana Qose**, Anni Dasho and Beatrix Fregan	Blockchain Applications in AI and Security (Case study HealthCare)
82	**Hoang Le Minh,** Tien Nguyen Dinh, Huan Vuong Van and Cuc Nguyen	A Design of Synergic Humanoid Robot Hand Using Finger Lock and Sensors to Achieve Adaptive

10:20 – 10:40 Coffee break

10:40 – 12:00 **[S2] Session on Transportation Systems, Biological (living) Systems and Computational Intelligence-based Results of Signal Processing** C2 Hall changed to Room C1, 222
Session chair: **Nguyen Anh Dung**

71	Thi Thoa Mac, Anh Quan Pham and **Xuan-Thuan Nguyen**	The Development of Fleet Management System for Mobile Robots Delivering Medicine in Healthcare Environments.
72	Huyen Bui Thu and **Hung Nguyen Ba**	Effects of operating conditions on the performance of an electric assisted bicycle
9	Laura D'Orsi, **Gergely Pósfai** and Andrea De Gaetano	A model of the maldistribution of ventilation and perfusion in the lung of heart failure patients
11	Szabolcs Csaholczi, Levente Kovacs and **László Szilágyi**	Brain Tumor Classification Using Convolutional Neural Networks and Deep Learning

12:00 Lunch

Thank you for your contribution!
See you at ICCC 2025!