

IEEE
International Conference on
Automation, Quality and Testing, Robotics
AQTR 2026

May 21–23, 2026 • Băile Felix, Romania

Hotel Lotus Therm Spa & Luxury Resort
20 Victoria Str., 417500 Băile Felix, Bihor County, Romania

Technical Program

Conference Opening and Plenary Session

Thursday, May 21 – Room: Flora

9:15 – 11:00

Chair:

Liviu Miclea (Technical University of Cluj-Napoca, Romania)

Conference opening

IC Sub-Threshold IDDQ Signature and Its Application to Hardware Security

Peilin Song	IBM Thomas J. Watson Research Center, USA
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Cell-Aware Defect Oriented Testing Methodologies for Multi-Level Magnetic Memories

Lorena Anghel	Grenoble Institute of Engineering and Management, France
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Generative Artificial Intelligence in Automation: New Paradigms for Quality, Testing, Reliability, and Safety—and the Future of Engineering Education

Nasser Jazdi	University of Stuttgart, Germany
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Poster Session P1

Thursday, May 21 – Foyer

11:00 – 12:00

Chairs:

Dan Gota (Technical University of Cluj-Napoca, Romania)

Marius Misaros (Technical University of Cluj-Napoca, Romania)

5 Performance evaluation of the 802.11ax standard in the 5 GHz band using MikroTik and Ubiquiti

Adrian-Daniel Dragoescu	Valahia University of Targoviste	Romania
Gabriel Predusca	Valahia University of Targoviste	Romania
Liana Denisa Circumarescu	Valahia University of Targoviste	Romania
Nicoleta Angelescu	Valahia University of Targoviste	Romania
Dan Constantin Puchianu	Valahia University of Targoviste	Romania

6 Breaking communication limitations of Huawei inverters: advanced method for local provisioning

Alex Petrar	Technical University of Cluj-Napoca	Romania
Dan Gota	Technical University of Cluj-Napoca	Romania
Iulia Adina Stefan	Technical University of Cluj-Napoca	Romania
Liviu Miclea	Technical University of Cluj-Napoca	Romania

22 Distributed Air Quality Monitoring Network Using Raspberry Pi and SEN5x Sensors

Teodor Valentin Rosioru	Technical University of Cluj-Napoca	Romania
Ioan Valentin Sita	Technical University of Cluj-Napoca	Romania

24 Development of a simulation testbed for AI Routing Techniques in Wireless Networks

Alexandru Ilovan	Technical University of Cluj-Napoca	Romania
Bogdan Iancu	Technical University of Cluj-Napoca	Romania
Vasile Dadarlat	Technical University of Cluj-Napoca	Romania
Adrian Munteanu	Vrije Universiteit Brussel	Belgium

25	Security and Threat Modelling for OTA updates in Classic AUTOSAR systems		
	Mihai-Robert Radu	<i>Technical University of Cluj-Napoca</i>	Romania
	Dorin Petreus	<i>Technical University of Cluj-Napoca</i>	Romania
40	A Security-Oriented Migration Model from Industry 3.0 to Industry 4.0: Case Studies and Practical		
	Bogdan Valentin Vasiličă	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Florin Daniel Anton	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Beatrice-Nicoleta Chiriac	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
51	A Multi-Orientation Static Calibration Method for MEMS Triaxial Accelerometers		
	Ionut-Dragos Roman	<i>Technical University of Cluj-Napoca</i>	Romania
	Petru Dobra	<i>Technical University of Cluj-Napoca</i>	Romania
62	LLM-Driven Multi-Agent Surrogate Modeling for Integrated Circuit Design		
	Monika Grezer	<i>Technical University of Cluj-Napoca</i>	Romania
	Andrei-Alexandru Bunea	<i>National University of Science and Technology Politehnica Bucharest and Infineon Technologies</i>	Romania
	Cosmin Banica	<i>Infineon Technologies</i>	Romania
	Marina Topa	<i>Technical University of Cluj-Napoca</i>	Romania
	Valentina Davidoiu	<i>Infineon Technologies</i>	Romania
	Andi Buzo	<i>Infineon Technologies</i>	Germany
	Georg Pelz	<i>Infineon Technologies</i>	Germany
91	Automated Intrusion Prevention System Using Smote-Enhanced Transformer Architectures		
	Andrea Gogota	<i>Technical University of Cluj-Napoca</i>	Romania
	Lucian Farmathy Pop	<i>Technical University of Cluj-Napoca</i>	Romania
	Petru Grigore Urs	<i>Technical University of Cluj-Napoca</i>	Romania
	Alexandru Ciobotaru	<i>Technical University of Cluj-Napoca</i>	Romania
	Dan Gota	<i>Technical University of Cluj-Napoca</i>	Romania
	Szilárd Enyedi	<i>Technical University of Cluj-Napoca</i>	Romania
	Liviu Miclea	<i>Technical University of Cluj-Napoca</i>	Romania
112	Improving Fault-Resilience of IoT Monitoring Systems		
	Codruta Maria Serban	<i>Universitatea Tehnica Cluj-Napoca</i>	Romania
	Gheorghe Sebestyen	<i>Technical University of Cluj-Napoca</i>	Romania
	Anca Hangan	<i>Technical University of Cluj-Napoca</i>	Romania
114	Hyper-Local Air Quality Awareness for Distributed Agentic Traffic Signal Control		
	Bernat-Kristof Vescan-Bakcsy	<i>Shobolinsky</i>	Romania
	Atena Stefania Szabo	<i>Shobolinsky</i>	Romania
	Claudiu Domuta	<i>Technical University of Cluj-Napoca</i>	Romania
	Alexandru Ciobotaru	<i>Technical University of Cluj- Napoca</i>	Romania
	Dan Gota	<i>Technical University of Cluj- Napoca</i>	Romania
115	Simplifying the Design of an FPGA-Based CoAP Non-Confirmable Message Transmitter		
	Alin-Tudor Sferle	<i>Technical University of Cluj-Napoca</i>	Romania
	Andrei-Bogdan Rus	<i>Technical University of Cluj-Napoca</i>	Romania
	Daniel Zinca	<i>Technical University of Cluj-Napoca</i>	Romania
	Virgil Dobrota	<i>Technical University of Cluj-Napoca</i>	Romania

116	IoT-Based Dependable Remote Laboratory Trainer for Power Electronics Using LabVIEW		
	Florin Samoila	"1 Decembrie 1918" University of Alba Iulia	Romania
	Mihaela Cretu	Technical University of Cluj-Napoca	Romania
	Mircea Risteiu	"1 Decembrie 1918" University of Alba Iulia	Romania
	Aldea Mihaela	"1 Decembrie 1918" University of Alba Iulia	Romania
	Buica Georgiana	National Research and Development Institute of Occupational Safety	Romania
	Dobra Remus	"1 Decembrie 1918" University of Alba Iulia	Romania
122	Intelligent Autoscaling of Virtual Machines Based on Performance Metrics and Machine Learning		
	Dan Cuciureanu	Technical University of Cluj-Napoca	Romania
	Robert Botez	Technical University of Cluj-Napoca	Romania
	Virgil Dobrota	Technical University of Cluj-Napoca	Romania
157	Analysis of fuel cell integration for BLDC motors control		
	Petru Dobra	Technical University of Cluj-Napoca	Romania
	Ionut Dragos Roman	Technical University of Cluj-Napoca	Romania
	Mirela Dobra	Technical University of Cluj-Napoca	Romania

Session C1

Thursday, May 21 – Flora
12:00 – 13:30

Chairs:

Masaharu Kuroda (University of Hyogo, Japan)
Tiberiu S. Letia (Technical University of Cluj-Napoca, Romania)

16	Quantum Fuzzy Logic Petri Nets		
	Tiberiu S. Letia	<i>Technical University of Cluj-Napoca</i>	Romania
	Dahlia Al-Janabi	<i>Technical University of Cluj-Napoca</i>	Romania
	Octavian P. Cuius	<i>Technical University of Cluj-Napoca</i>	Romania
	Maria M. Santa	<i>Technical University of Cluj-Napoca</i>	Romania
27	Koopman and DMD-Based Model Approximations for Continuous Stirred-Tank Reactor		
	Tudor-Stefan Plugaru	<i>Technical University of Cluj-Napoca and Bitdefender</i>	Romania
	Ioan Nascu	<i>Technical University of Cluj-Napoca</i>	Romania
	Ioana Nascu	<i>Technical University of Cluj-Napoca</i>	Romania
123	Fractional-Order Sliding Mode Control for a Horizontal Two-Link Underactuated Manipulator Using Bayesian Optimization		
	Yoshihiro Maruo	<i>University of Hyogo</i>	Japan
	Masaharu Kuroda	<i>University of Hyogo</i>	Japan
	Natsuki Kawaguchi	<i>University of Hyogo</i>	Japan
165	Control-inspired load resistance observer for boost DC-DC power electronic converter		
	Iulian Munteanu	<i>PRECIS Research Institute, National University of Science and Technology Politehnica Bucharest</i>	Romania
	Nicoleta Arghira	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Ioana Fagarasan	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Sergiu Stelian Iliescu	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Antoneta Iuliana Bratcu	<i>Université Grenoble Alpes</i>	France
183	Comparative Evaluation of FOPID, Adaptive Neural FOPID, and Robust H^∞ Controllers for a Rotary Hearth Furnace Subject to Disturbances		
	Roxana-Maria Motorga	<i>Technical University of Cluj-Napoca</i>	Romania
	Vlad Muresan	<i>Technical University of Cluj-Napoca</i>	Romania
	Mihail Abrudean	<i>Technical University of Cluj-Napoca</i>	Romania
	Iulia Clitan	<i>Technical University of Cluj-Napoca</i>	Romania
	Mihaela-Ligia Ungureșan	<i>Technical University of Cluj-Napoca</i>	Romania
	Ioan Valentin Sita	<i>Technical University of Cluj-Napoca</i>	Romania

Session QT1

Thursday, May 21 – Onix
12:00 – 13:30

Chairs:

Nasser Jazdi (University of Stuttgart , Germany)
Szilárd Enyedi (Technical University of Cluj-Napoca, Romania)

30	Framework for an intelligent Reliability Engineering Assistant : A RAG-based GenAI Approach leveraging Python containers to assist Reliability Engineering in Industrial Automation		
	Nasser Jazdi	<i>University of Stuttgart</i>	Germany
	Regina Maucher	<i>University of Stuttgart</i>	Germany
	Milea Koch	<i>University of Stuttgart</i>	Germany
37	GeoMECH: Geographical Measure of Exposure to Cyberattacks Using Honeypots		
	Andrei Calin Cadar	<i>Technical University of Cluj-Napoca and Bitdefender</i>	Romania
	Adrian Viorel Colesa	<i>Technical University of Cluj-Napoca and Bitdefender</i>	Romania
	Radu Marian Portase	<i>Technical University of Cluj-Napoca and Bitdefender</i>	Romania
41	Detecting and Blocking Vulnerable Driver Attacks on Windows		
	Andrei-Marius Muntea	<i>Technical University of Cluj-Napoca and Bitdefender</i>	Romania
	Radu-Marian Portase	<i>Technical University of Cluj-Napoca and Bitdefender</i>	Romania
	Eduard Mureşan	<i>Technical University of Cluj-Napoca and Bitdefender</i>	Romania
	Diana-Elena Petrean	<i>Technical University of Cluj-Napoca and Bitdefender</i>	Romania
	Gheorghe Sebestyen-Pal	<i>Technical University of Cluj-Napoca</i>	Romania
70	Reconfigurable Hardware Technology: the Ideal Tool to Upgrade Hardware in Automotive Embedded Systems		
	Csaba Szasz	<i>Technical University of Cluj-Napoca</i>	Romania
	Eva-Henrietta Dulf	<i>Technical University of Cluj-Napoca</i>	Romania
92	Deep Learning-Based Fire Hazard Detection Using a Hybrid Autoencoder and ANN Model		
	Alexia Morcan	<i>Technical University of Cluj-Napoca</i>	Romania
	Alexandru Ciobotaru	<i>Technical University of Cluj-Napoca</i>	Romania
	Alexandra Fanca	<i>Technical University of Cluj-Napoca</i>	Romania
	Claudiu Domuta	<i>Technical University of Cluj-Napoca</i>	Romania
	Dan Gota	<i>Technical University of Cluj-Napoca</i>	Romania
	Szilárd Enyedi	<i>Technical University of Cluj-Napoca</i>	Romania

Session SS4 - AI Based Robotics and Control

Thursday, May 21 – Topaz

12:00 – 13:30

Chairs:

Florin Stoican (National University of Science and Technology Politehnica Bucharest, Romania)

András Majdik (HUN-REN SZTAKI Institute for Computer Science and Control, Hungary)

Dan Selișteanu (University of Craiova, Romania)

Doina Pișlă (Technical University of Cluj-Napoca, Romania)

Lucian Bușoniu (Technical University of Cluj-Napoca, Romania)

Levente Tamás (Technical University of Cluj-Napoca, Romania)

47 Leveraging dual return mode of LiDAR sensors for small flying object tracking and classification			
	Krisztián Balla	<i>HUN-REN Institute for Computer Science and Control</i>	Hungary
	Sándor Gazdag	<i>HUN-REN Institute for Computer Science and Control and Budapest Univ. of Technology and Economics</i>	Hungary
	Anita Keszler	<i>HUN-REN Institute for Computer Science and Control</i>	Hungary
	András L. Majdik	<i>HUN-REN Institute for Computer Science and Control</i>	Hungary
97 Intelligent Energy Optimization in RAN Sites Through Integrated Sensing and Edge Automation			
	Daniel Mihai Matei	<i>University of Craiova</i>	Romania
	Dan Selisteanu	<i>University of Craiova</i>	Romania
	Mircea Catalin Constantinescu	<i>University of Craiova</i>	Romania
117 Camera-inertial Sensor Extrinsic Calibration			
	Szilard Molnar	<i>Technical University of Cluj-Napoca</i>	Romania
	Cosmin Marcu	<i>Technical University of Cluj-Napoca</i>	Romania
	Ioan Dragomit	<i>Analog Devices, Inc.</i>	Romania
	Levente Tamas	<i>Technical University Cluj-Napoca</i>	Romania
119 Identification-based prediction for event-triggered control in platooning			
	Etienne Gorski	<i>Université de Lorraine</i>	France
	Lucian Busoniu	<i>Technical University of Cluj-Napoca</i>	Romania
	Constantin Morarescu	<i>Université de Lorraine</i>	France
	Vineeth Satheeskumar Varma	<i>Université de Lorraine</i>	France
181 Connectivity constraints in cluttered environments within a predictive control architecture			
	Rami Abu Sara	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Florin Stoican	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Daniel-Mihail Ioan	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
198 Enhanced PID Control for an Industrial Thermal Process using Reinforcement Learning			
	Gheorghe Bujgoi	<i>University of Craiova</i>	Romania
	Corina-Elena Vlad	<i>University of Craiova</i>	Romania
	Dorin Sendrescu	<i>University of Craiova</i>	Romania

Session C2

Thursday, May 21 – Flora
15:00 – 16:30

Chairs:

Nicolae Patrascoiu, (University of Petrosani, Romania)
Alexandru Ciobotaru (Technical University of Cluj-Napoca, Romania)

18	Web-based system for monitoring and controlling a simulated industrial process		
	Tudor Covrig	<i>Technical University of Cluj-Napoca and Bitdefender</i>	Romania
	Alexandru Ciobotaru	<i>Technical University of Cluj-Napoca</i>	Romania
	Liviu Miclea	<i>Technical University of Cluj-Napoca</i>	Romania
95	Computationally Efficient Hybrid Model of an Integrated Urban Wastewater System		
	Iulian Vasiliev	<i>“Dunărea de Jos” University of Galați</i>	Romania
	Liliana Maria Ghinea	<i>“Dunărea de Jos” University of Galați</i>	Romania
	Sergiu Caraman	<i>“Dunărea de Jos” University of Galați</i>	Romania
105	Virtual Instrumentation Applied in Experimental Remote Control		
	Nicolae Patrascoiu	<i>University of Petrosani</i>	Romania
158	A Physics-Based Digital Twin for a Two-Wheeled Self-Balancing Robot		
	Eduard-Andrei Tanase	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Mircea Stefan Simoiu	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Vasile Calofir	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Sergiu Stelian Iliescu	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
184	Physical Parameter Estimation via Structured State-Space Modeling: Application to the Sallen-Key Filter		
	Ana-Gabriela Tămaș	<i>Technical University of Cluj-Napoca</i>	Romania
	Mircea Șușcă	<i>Technical University of Cluj-Napoca</i>	Romania
	Petru Dobra	<i>Technical University of Cluj-Napoca</i>	Romania

Session A1

Thursday, May 21 – Onix
15:00 – 16:30

Chairs:

Iulia Adina Stefan (Technical University of Cluj-Napoca, Romania)
Radu Miron (Technical University of Cluj-Napoca, Romania)

10	Optimizing Last-Mile Delivery via Public Transportation and Blockchain-Backed Trust		
	Radu Miron	<i>Technical University of Cluj-Napoca</i>	Romania
	Mihai Hulea	<i>Technical University of Cluj-Napoca</i>	Romania
	Vlad Muresan	<i>Technical University of Cluj-Napoca</i>	Romania
48	Hybrid 1D-2D Deep CRNN Ensemble with Feature Selection for Cross-Corpus Robust Speech Emotion Recognition		
	Valentin-Dimitrie Popescu	<i>Technical University of Cluj-Napoca</i>	Romania
	Mircea Giurgiu	<i>Technical University of Cluj-Napoca</i>	Romania
141	Dynamic Route Computation for Emergency Evacuation		
	Dan Radu	<i>Technical University of Cluj-Napoca</i>	Romania
	Camelia Avram	<i>Technical University of Cluj-Napoca</i>	Romania
	Claudiu Domuta	<i>Technical University of Cluj-Napoca</i>	Romania
	Valentin Sita	<i>Technical University of Cluj-Napoca</i>	Romania
	Adina Astilean	<i>Technical University of Cluj-Napoca</i>	Romania
167	Parent-Seeding Pheromone-Guided Subgraph Extraction for Clinical Question Answering over FHIR Knowledge Graphs		
	Cristian Cola	<i>Technical University of Cluj-Napoca</i>	Romania
	Cristinel Costea	<i>Technical University of Cluj-Napoca North University Centre of Baia Mare</i>	Romania
	Honoriu Valean	<i>Technical University of Cluj-Napoca</i>	Romania
170	A Unified Objective Evaluation Framework for Deep Neural Text-to-Speech Synthesis in Romanian		
	Oscar Gal	<i>Technical University of Cluj-Napoca</i>	Romania
	Mircea Giurgiu	<i>Technical University of Cluj-Napoca</i>	Romania
188	Story-Based AR Mini-Game Scalable Experimental Application for Enhancing Both Cognitive and Emotional Development in Children		
	Sergiu-Dimitrie Gruia	<i>Technical University of Cluj-Napoca</i>	Romania
	Iulia Adina Stefan	<i>Technical University of Cluj-Napoca</i>	Romania
	Stefana Andreea Oarga	<i>Individual Psychology Office</i>	Romania
	Henrietta Vitca	<i>Technical University of Cluj-Napoca</i>	Romania

Session R1

Thursday, May 21 – Topaz
15:00 – 16:30

Chairs:

Levente Tamas (Technical University of Cluj-Napoca, Romania)

András László Majdik (HUN-REN Institute for Computer Science and Control, Hungary)

7	A nonlinear optimal control method for the 6-DOF autonomous helicopter		
	Gerasimos Rigatos	<i>Unit of Industrial Automation and Industrial Systems Institute</i>	Greece
	Gennaro Cuccurullo	<i>University of Salerno</i>	Italy
	Krishna Busawon	<i>University of Northumbria</i>	United Kingdom
	Laurent Dala	<i>University of Northumbria</i>	United Kingdom
	Zhiwei Gao	<i>University of Northumbria</i>	United Kingdom
	Pierluigi Siano	<i>University of Salerno</i>	Italy
	Masoud Abbaszadeh	<i>Rensselaer Polytechnic Institute</i>	United States
	Farouk Zouari	<i>Université de Tunis El Manar</i>	Tunisia
96	Control Architecture and experimental validation of a Novel Surgical Robotic Instrument		
	Doina Pisla	<i>Technical University of Cluj-Napoca and Technical Sciences Academy of Romania</i>	Romania
	Ionut Zima	<i>Technical University of Cluj-Napoca</i>	Romania
	Calin Vaida	<i>Technical University of Cluj-Napoca</i>	Romania
	Andrei Cailean	<i>Technical University of Cluj-Napoca</i>	Romania
	Marius Miclaus	<i>Technical University of Cluj-Napoca</i>	Romania
	Adrian Pisla	<i>Technical University of Cluj-Napoca</i>	Romania
	Andrei Caprariu	<i>Technical University of Cluj-Napoca</i>	Romania
	Vasile Bulbucan	<i>Technical University of Cluj-Napoca</i>	Romania
	Bogdan Gherman	<i>Technical University of Cluj-Napoca</i>	Romania
	Pierre Mougnot	<i>Technical University of Cluj-Napoca and Nantes Universite</i>	France
	Damien Chablat	<i>Technical University of Cluj-Napoca and Nantes Universite</i>	Romania
101	A DQN-Based Framework for Leader-Follower Dynamics		
	Bianca-Valeria Rus	<i>Politehnica University of Timisoara</i>	Romania
	Ovidiu Banias	<i>Politehnica University of Timisoara</i>	Romania
120	Improving Line-Follower Robots Performance Through Hybrid Path Optimization		
	Eveline Mihok-Ecsedi	<i>Technical University of Cluj-Napoca</i>	Romania
	Eduard Mihok-Ecsedi	<i>Independent Researcher</i>	Romania
	Mihail-Ioan Abrudean	<i>Technical University of Cluj-Napoca</i>	Romania
	Helga-Maria Silaghi	<i>University of Oradea</i>	Romania
	Laura Coroiu	<i>University of Oradea</i>	Romania
	Eugen Gergely	<i>University of Oradea</i>	Romania
	Vasile Alexandru Dulgheriu	<i>Technical University of Cluj-Napoca</i>	Romania
	Imre Filip	<i>Technical University of Cluj-Napoca</i>	Romania
	Raul-Gavril Şipoş	<i>Technical University of Cluj-Napoca</i>	Romania

155	Exploration Path Optimization for Ground Robots Leveraging Aerial 3D Perspective		
	Ádám Gulyás	<i>HUN-REN Institute for Computer Science and Control, Budapest Univ. of Technology and Economics</i>	Hungary
	Barnabás Bugár-Mészáros	<i>HUN-REN Institute for Computer Science and Control, Budapest Univ. of Technology and Economics</i>	Hungary
	András László Majdik	<i>HUN-REN Institute for Computer Science and Control</i>	Hungary
173	Freespace and Optical Flow Fusion for Generic Contours Accumulation		
	Ovidiu-Marcel Maghear	<i>Technical University of Cluj-Napoca</i>	Romania
	Bianca-Veronica Avram	<i>Technical University of Cluj-Napoca</i>	Romania
	Sergiu Nedevschi	<i>Technical University of Cluj-Napoca</i>	Romania

Poster Session P2

Thursday, May 21 – Foyer
16:30 – 17:30

Chairs:

Camelia Avram (Technical University of Cluj-Napoca, Romania)
Honoriu Valean (Technical University of Cluj-Napoca, Romania)

13	Neural Network Pipeline for Kidney Stone Detection and Segmentation from CT Images		
	Madalina-Sorina Popa	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Dan Popescu	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Loretta Ichim	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
32	Object Counting on Low-Resource Devices: YOLOv8n vs. Classical Vision		
	Krister Matteo Herban	<i>Politehnica University of Timisoara</i>	Romania
	Adrian Korodi	<i>Politehnica University of Timisoara</i>	Romania
	Stelian Nicola	<i>Politehnica University of Timisoara</i>	Romania
33	Adaptive ETL Orchestration for Biomedical Data Streams Using Reinforcement Learning		
	Bogdan Nicușor Bindea	<i>Technical University of Cluj-Napoca</i>	Romania
	Călin Cenan	<i>Technical University of Cluj-Napoca</i>	Romania
	Gratiana Hermann	<i>Iuliu Hațieganu University of Medicine and Pharmacy</i>	Romania
	Zeno Sparchez	<i>Iuliu Hațieganu University of Medicine and Pharmacy</i>	Romania
69	High-Precision UWB Novel Localization Framework for Proximity-Based Interaction in Smart Spaces		
	László Benedek	<i>Technical University of Cluj-Napoca</i>	Romania
	Mircea Giurgiu	<i>Technical University of Cluj-Napoca</i>	Romania
84	AI-driven Gaze Tracking Framework for Text and Speech Generation in Assistive Communication		
	Ioana-Maeva Cărbunescu-Stoenescu	<i>Technical University of Cluj-Napoca</i>	Romania
	Mircea Giurgiu	<i>Technical University of Cluj-Napoca</i>	Romania
90	A Scoping Review of the Deep Learning-Based Neoadjuvant Chemotherapy Response Prediction in Breast Cancer		
	Alexandru Ciobotaru	<i>Technical University of Cluj-Napoca</i>	Romania
	Tudor Covrig	<i>Technical University of Cluj-Napoca</i>	Romania
	Cosmina Corches	<i>Technical University of Cluj-Napoca</i>	Romania
	Dan Gota	<i>Technical University of Cluj-Napoca</i>	Romania
	Liviu Miclea	<i>Technical University of Cluj-Napoca</i>	Romania
93	Human Emotion Classification Using Convolutional Neural Networks and CutMix Data Augmentation Method		
	Adina Maria Vlas	<i>Technical University of Cluj-Napoca</i>	Romania
	Alexandru Ciobotaru	<i>Technical University of Cluj-Napoca</i>	Romania
	Alexandru Stanciu	<i>Technical University of Cluj-Napoca</i>	Romania
	Adela Pop	<i>Technical University of Cluj-Napoca</i>	Romania
	Dan Gota	<i>Technical University of Cluj-Napoca</i>	Romania
	Liviu Miclea	<i>Technical University of Cluj-Napoca</i>	Romania
109	AI-Based Energy Management of Grid-Connected Photovoltaic Systems: A Digital Twin Approach		
	Raul-Gavril Șipoș	<i>Technical University of Cluj-Napoca</i>	Romania
	Mihail Ioan Abrudean	<i>Technical University of Cluj-Napoca</i>	Romania

	Eveline Mihok Ecsedi	<i>Technical University of Cluj-Napoca</i>	Romania
	Vasile Alexandru Dulgheriu	<i>Technical University of Cluj-Napoca</i>	Romania
	Imre Filip	<i>Technical University of Cluj-Napoca</i>	Romania
	Mihaela-Ligia Unguresan	<i>Technical University of Cluj-Napoca</i>	Romania
124	VLM-Assisted Self-Supervised Learning: Addressing the Cold Start Problem in High-Volume Manufacturing		
	Andrei Alexandru Tulbure	<i>Technical University of Cluj-Napoca</i>	Romania
	Adrian Alexandru Tulbure	<i>"1 Decembrie 1918" University of Alba Iulia</i>	Romania
	Eva-Henrietta Dulf	<i>Technical University of Cluj-Napoca</i>	Romania
130	DiabetesHybridEns: A Novel Hybrid Ensemble Learning Approach for Enhanced Diabetes Prediction		
	Marina Adriana Mercioni	<i>Politehnica University of Timisoara</i>	Romania
	Cătălin Daniel Căleanu	<i>Politehnica University of Timisoara</i>	Romania
	Nina Ivanovic	<i>Victor Babes University of Medicine and Pharmacy Timisoara</i>	Romania
	Raluca Dumache	<i>Victor Babes University of Medicine and Pharmacy Timisoara</i>	Romania
156	Finger Movement Estimation from Surface EMG using Mamba Architecture		
	Bogdanel-Cristian Dragan	<i>University of Craiova</i>	Romania
	Ana-Maria Spiridon	<i>University of Craiova</i>	Romania
	Constantin Birtan	<i>University of Craiova</i>	Romania
	Madalin Mamuleanu	<i>University of Craiova</i>	Romania
159	A Hybrid Deep Neural Network for Sleep Postures Recognition		
	Ionut-Robert Badoi	<i>Politehnica University of Timisoara</i>	Romania
	Catalin Daniel Căleanu	<i>Politehnica University of Timisoara</i>	Romania
142	Benchmarking RSA, ECC, FALCON, and SPHINCS+ Cryptographic Algorithms for Distributed Ledger Technology		
	Diana-Elena Niți	<i>Technical University of Cluj-Napoca</i>	Romania
	Liviu Cristian Miclea	<i>Technical University of Cluj-Napoca</i>	Romania
	Szilárd Enyedi	<i>Technical University of Cluj-Napoca</i>	Romania

Round Table

Thursday, May 21 – Room: Flora

17:30 – 18:30

Chairs:

Grigore Stamatescu (National University of Science and Technology Politehnica Bucharest, Romania)

Liviu Miclea (Technical University of Cluj-Napoca, Romania)

Engaging with IEEE: New Perspectives in Education, Science and Technology

IEEE Romania Section Round Table

Session QT2

Friday, May 22 – Flora

8:00 – 9:30

Chairs:

Grigore Stamatescu (National University of Science and Technology Politehnica Bucharest, Romania)

Andras Kapy (West University of Timisoara, Romania)

36	From Edge to Cloud: An Extensible IoT Platform for Secure Data Acquisition and Control of Battery Management Systems		
	Alexandra Baicoianu	Siemens Industry Software	Romania
	Radu Andrei Marin	Siemens Industry Software	Romania
	Mircea Ruba	Technical University of Cluj-Napoca	Romania
	Ioana-Alexandra Rosu	Siemens Industry Software	Romania
103	Smart Multi-Model Fusion Approach for Bridge Displacement Prediction and Damage Assessment		
	Rabie Hayder	University of Luxembourg	Luxembourg
	Vijayakumar Muthusamy	University of Luxembourg	Luxembourg
	Khatereh Dakhili	University of Luxembourg	Luxembourg
	Lilia Sidhom	Tunis El Manar University	Tunisia
	Ines Chihi	University of Luxembourg	Luxembourg
140	Thermal Behavior Analysis and Core Temperature Estimation using Extended Kalman Filter for a Lithium-Ion Battery Cell		
	Paula Serban	Technical University of Cluj-Napoca	Romania
	Claudia V. Pop	Technical University of Cluj-Napoca	Romania
	Sebastian Ursache	Technical University of Cluj-Napoca	Romania
	Mircea Ruba	Technical University of Cluj-Napoca	Romania
	Alexandra Baicoianu	Transilvania University of Brasov	Romania
	Adelina Ilies	Technical University of Cluj-Napoca	Romania
168	Cryptographic Mechanisms for Secure Data Handling in a Stereo Vision Wearable Assistive Device		
	Gabor Kovacs	University of Oradea	Romania
	Andras Kapy	West University of Timisoara	Romania
178	Development of a Decision Support System for Building Energy Management		
	Teodor-Lucian Ene	National University of Science and Technology Politehnica Bucharest	Romania
	Grigore Stamatescu	National University of Science and Technology Politehnica Bucharest	Romania

Session SS1 - Advances in Intelligent and Cyber-Enabled Systems for Industrial and Healthcare Transformation: Trends, Challenges and Opportunities

Friday, May 22 – Onix
8:00 – 9:30

Chairs:

Miruna-Elena Iliuță (National University of Science and Technology Politehnica Bucharest, Romania)
Ioana-Corina Bogdan (Transilvania University of Braşov, Romania)
Roxana Rusu-Both (Technical University of Cluj-Napoca, Romania)

42	Integrity-Tested, Blockchain-Ready Traceability for Key Materials in a Permanent Magnet Synchronous Machine		
	Diana Artudean	<i>Technical University of Cluj-Napoca</i>	Romania
	Florina-Ambrozia Coteș	<i>Technical University of Cluj-Napoca</i>	Romania
	Dan-Cristian Popa	<i>Technical University of Cluj-Napoca</i>	Romania
	Loránd Szabó	<i>Technical University of Cluj-Napoca</i>	Romania
46	Haptic-Audio Guidance System for Visually Impaired Users		
	Mihail-Constantin Saulea	<i>Transilvania University of Brasov</i>	Romania
	Ioana Corina Bogdan	<i>Transilvania University of Brasov</i>	Romania
	Gabriel Mihail Danciu	<i>Transilvania University of Brasov</i>	Romania
	Bogdan-Valentin Floricescu	<i>Transilvania University of Brasov</i>	Romania
65	AI Assisted Diagnosis in Medicine – Clinical, Ethical and Legal Approach		
	Miruna-Elena Iliuță	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Damien Trentesaux	<i>Université Polytechnique Hauts-de-France</i>	France
	Mihnea-Alexandru Moisescu	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Traian-Costin Mitulescu	<i>Carol Davila University of Medicine and Pharmacy</i>	Romania
201	Automated Information Security Policy Analysis: A Conceptual Framework		
	Cătălina-Mihaela Priescu	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Mihnea-Alexandru Moisescu	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Radu Nicolae Pietraru	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
203	A Biomechanical Analysis System for Physical Exercises using Machine Learning and Inertial Sensors		
	Roxana Rusu-Both	<i>Technical University of Cluj-Napoca</i>	Romania
	David Mocan	<i>Technical University of Cluj-Napoca</i>	Romania
	Doina Pisla	<i>Technical University of Cluj-Napoca</i>	Romania

Session SS3 - Intelligent Systems and Advanced Control Strategies in Biomedical Engineering

Friday, May 22 – Topaz
8:00 – 9:30

Chairs:

Eva Dulf (Technical University of Cluj-Napoca, Romania)
Alexandru Berciu (Technical University of Cluj-Napoca, Romania)

8	Dreaming in Data: Using Artificial Intelligence to Decode Sleep and Its Effects on Human Health		
	Alexandru-George Berciu	Technical University of Cluj-Napoca	Romania
	Dan Doru Micu	Technical University of Cluj-Napoca	Romania
	Levente Kovács	Óbuda University	Hungary
	Eva-Henrietta Dulf	Technical University of Cluj-Napoca	Romania
76	A robust [FO-PID] λ controller for computer-controlled chemotherapy		
	Nicoleta Badau	Technical University of Cluj-Napoca	Romania
	Cristina Muresan	Technical University of Cluj-Napoca	Romania
	Erhan Yumuk	Ghent University	Belgium
78	Personalized Decentralized FOPI Control for Hypnosis–Analgesia Regulation in Anesthesia		
	Erhan Yumuk	Ghent University, Istanbul Technical University and Flanders Make@UGent	Belgium
	Bora Ayvaz	Ghent University and Flanders Make@UGent	Belgium
	Isabela R. Birs	Ghent University and Technical University of Cluj-Napoca	Belgium
	Cristina I. Muresan	Technical University of Cluj-Napoca	Romania
	Dana Copot	Ghent University and Flanders Make@UGent	Belgium
87	A modular approach on implementing a Type 1 Diabetes-Mellitus Simulator		
	Nandor Robert Palko	Technical University of Cluj-Napoca	Romania
	Alexandru-George Berciu	Technical University of Cluj-Napoca	Romania
	Levente Kovacs	Óbuda University	Hungary
	Eva-Henrietta Dulf	Technical University of Cluj-Napoca	Romania
160	A PCG Signal Acquisition and Classification System Based on CNN and Spectrogram Analysis		
	Gabriel Oncea	Technical University of Cluj-Napoca	Romania
	Ovidiu Buza	Technical University of Cluj-Napoca	Romania
	Ramona Galatus	Technical University of Cluj-Napoca	Romania

Poster Session P3

Friday, May 22 – Foyer
9:30 – 10:30

Chairs:

Vlad Mihaly (Technical University of Cluj-Napoca, Romania)
Cristina Muresan (Technical University of Cluj-Napoca, Romania)

31	Integrating Edge AI and Distributed IoT Architectures for Privacy-Preserving Smart Home Automation		
	Robert Munteanu	<i>Technical University of Cluj-Napoca</i>	Romania
	Marius Misaros	<i>Technical University of Cluj-Napoca</i>	Romania
	Ovidiu Stan	<i>Technical University of Cluj-Napoca</i>	Romania
	Liviu Miclea	<i>Technical University of Cluj-Napoca</i>	Romania
39	Fisher Information-Based Subspace Projection for Stable Online Pharmacodynamic Parameter Estimation in Dual-Drug Anesthesia		
	Erwin Hegedüs	<i>Technical University of Cluj-Napoca</i>	Romania
	Isabela Birs	<i>Technical University of Cluj-Napoca</i>	Romania
	Bouchra Khoumeri	<i>Ghent University</i>	Belgium
	Dana Copot	<i>Ghent University</i>	Belgium
	Marcian Mihai	<i>Technical University of Cluj-Napoca</i>	Romania
	Cristina Muresan	<i>Technical University of Cluj-Napoca</i>	Romania
43	IoT Enabled System for Real Time Inventory and Logistics Monitoring in Cyber-Physical Industrial Environments		
	Ioana-Cornelia Gros	<i>Technical University of Cluj-Napoca</i>	Romania
	Dan-Cristian Popa	<i>Technical University of Cluj-Napoca</i>	Romania
	Norbert Kertész	<i>Technical University of Cluj-Napoca</i>	Romania
	Loránd Szabó	<i>Technical University of Cluj-Napoca</i>	Romania
45	A Near-Real-Time Satellite Tracking and Imaging Platform Using WARC		
	Tudor-Horatiu Vatca	<i>Technical University of Cluj-Napoca</i>	Romania
	Marius Misaros	<i>Technical University of Cluj-Napoca</i>	Romania
	Ovidiu Stan	<i>Technical University of Cluj-Napoca</i>	Romania
	Liviu Miclea	<i>Technical University of Cluj-Napoca</i>	Romania
104	A Comprehensive Study of EMG-Based Lower Limb Muscle Force Estimation Using Machine Learning Methods		
	Vijayakumar Muthusamy	<i>University of Luxembourg</i>	Luxembourg
	Atal Anil Kumar	<i>Universite de Lorraine</i>	France
	Ines Chihi	<i>University of Luxembourg</i>	Luxembourg
148	Design and Evaluation of an LED Solar Simulator Using Sunlike Spectrum Technology		
	Lucian Fechete Tutunaru	<i>Technical University of Cluj-Napoca</i>	Romania
	Tania Rus	<i>Technical University of Cluj-Napoca</i>	Romania
	Liviu Dodea	<i>Technical University of Cluj-Napoca</i>	Romania
	Octavian G. Pop	<i>Technical University of Cluj-Napoca</i>	Romania
149	Learning from historical behavior: an adaptive recommendation system for energy community management		
	Samuel Irinel Dumitru	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Mircea Stefan Simoiu	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Vasile Calofir	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Ioana Fagarasan	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania

152	From individual to central storage: towards minimizing grid interaction in energy communities		
	Gadiela-Daiana Uta	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Mircea Stefan Simoiu	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Vasile Calofir	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
	Ioana Fagarasan	<i>National University of Science and Technology Politehnica Bucharest</i>	Romania
172	Intelligent System for Emergency Intervention: Critical Alert Transmission via FM/RDS		
	Anamaria-Bianca Simirad	<i>Transilvania University of Brasov</i>	Romania
	Marian-Alexandru Gherghe	<i>Transilvania University of Brasov</i>	Romania
	Ioana Corina Bogdan	<i>Transilvania University of Brasov</i>	Romania
176	Lightweight New Product Introduction Forecasting for University MVPs Using Early Traction Signals and Random Forests		
	Mihai Zgirdea	<i>University of Petrosani</i>	Romania
	Monica Leba	<i>University of Petrosani</i>	Romania
	Andreea Cristina Ionica	<i>University of Petrosani</i>	Romania
182	Energy Management System for Microgrids to Reduce Energy Cost		
	Cosmin Sabadas	<i>Technical University of Cluj-Napoca</i>	Romania
	Vlad Mihaly	<i>Technical University of Cluj-Napoca</i>	Romania
205	Conceptual framework for maintenance planning based on spare parts volatility: Case study of wheel loader maintenance in an open pit mine in Morocco		
	Mouna Berquedich	<i>Mohammed VI Polytechnic University (UM6P)</i>	Morocco
	Lahoussine Bouzzit	<i>Mohammed VI Polytechnic University (UM6P)</i>	Morocco
	Hajar Talebi	<i>Mohammed VI Polytechnic University (UM6P)</i>	Morocco
	Khalid Kouiss	<i>Mohammed VI Polytechnic University (UM6P)</i>	Morocco
	Mustapha Ouhimmou	<i>Mohammed VI Polytechnic University (UM6P)</i>	Morocco
	Ahmed Chebak	<i>Mohammed VI Polytechnic University (UM6P)</i>	Morocco

Industry Perspectives: Invited Talks

Friday, May 22 – Flora

10:30 – 12:00

Chair:

Ovidiu Stan (Technical University of Cluj-Napoca, Romania)

Autonomous Pentesting: Continuous Attacks for Continuous Security

Vasile Bota	Accesa, Romania
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Protecting the Industrial Backbone: Cybersecurity Strategies for Automated Systems

Sergiu Man & Sebastian Ciceu	Emerson, Romania
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TBD

Ovidiu Maghear	Bosch, Romania
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Poster Session P4

Friday, May 22 – Foyer

12:00 – 13:00

Chairs:

Mihail Abrudean (Technical University of Cluj-Napoca, Romania)

Emilian Ceuca ("1 Decembrie 1918" University of Alba Iulia, Romania)

4 Embedded IoT System for Real-Time People Counting and Remote Visualization with ToF Sensors

Bogdan Dragoteanu	Technical University of Cluj-Napoca	Romania
George Dan Mois	Technical University of Cluj-Napoca	Romania
Cristinel Mihai Mocan	Technical University of Cluj-Napoca	Romania

35 Enhanced Control of DC Motors Lathe Machine Using a CNC Mach3 Breakout Board

Tiberiu Barabas	University of Oradea	Romania
Laura Coroiu	University of Oradea	Romania
Liliana Magdoiu	University of Oradea	Romania
Helga Silaghi	University of Oradea	Romania
Eugen Gergely	University of Oradea	Romania
Adrian Codoban	University of Oradea	Romania

83 Robot Control for Rehabilitation: PD vs. LQG

Simona-Daiana Stiole	Technical University of Cluj-Napoca	Romania
Zsofia Lendek	Technical University of Cluj-Napoca	Romania
Mircea Susca	Technical University of Cluj-Napoca	Romania
Vlad-Mihai Mihaly	Technical University of Cluj-Napoca	Romania
Petru Dobra	Technical University of Cluj-Napoca	Romania
Paul Tucan	Technical University of Cluj-Napoca	Romania

85 Modelling, Simulation and Control of the Regenerative Braking in AC Locomotives

Ioan Pop	National Railway Company and Technical University of Cluj-Napoca	Romania
Clement Festila	Technical University of Cluj-Napoca	Romania
Eva-Henrietta Dulf	Technical University of Cluj-Napoca	Romania

100	Adaptive Neuro-Fuzzy Inference System and Fuzzy Logic Control Strategies Versus Traditional Control Strategies – Case Study and Performance Comparison		
	Roxana-Elena Tudoroiu	<i>University of Petrosani</i>	Romania
	Maria Magdalena Santa	<i>Technical University of Cluj-Napoca</i>	Romania
	Sorin Mihai Radu	<i>University of Petrosani</i>	Romania
106	Implementation of a Flexible Control System for Industrial AMRs Based on Node-Red and PLC		
	Vasile Alexandru Dulgheriu	<i>Technical University of Cluj-Napoca</i>	Romania
	Imre Filip	<i>Technical University of Cluj-Napoca</i>	Romania
	Mihail Ioan Abrudean	<i>Technical University of Cluj-Napoca</i>	Romania
	Mihaela-Ligia Unguresan	<i>Technical University of Cluj-Napoca</i>	Romania
	Eveline Mihok Ecsedi	<i>Technical University of Cluj-Napoca</i>	Romania
	Raul-Gavril Sipos	<i>Technical University of Cluj-Napoca</i>	Romania
110	Nuclear reactor simulation using point kinetics with 6 delayed precursor groups		
	Imre Filip	<i>Technical University of Cluj-Napoca</i>	Romania
	Mihail Ioan Abrudean	<i>Technical University of Cluj-Napoca</i>	Romania
	Mihaela Ligia Ungureșan	<i>Technical University of Cluj-Napoca</i>	Romania
	Vasile Alexandru Dulgheriu	<i>Technical University of Cluj-Napoca</i>	Romania
	Eveline Mihok Ecsedi	<i>Technical University of Cluj-Napoca</i>	Romania
	Raul Gavril Șipoș	<i>Technical University of Cluj-Napoca</i>	Romania
113	Coupled Tanks System Control based on Reinforcement Learning Algorithms		
	Corina-Elena Vlad	<i>University of Craiova</i>	Romania
	Gheorghe Bujgoi	<i>University of Craiova</i>	Romania
	Dorin Sendrescu	<i>University of Craiova</i>	Romania
131	Modelling, simulation and control of the nuclear reactor CANDU 600		
	Ruxandra-Andrea Enescu	<i>Technical University of Cluj-Napoca</i>	Romania
	Mihaela-Ligia Unguresan	<i>Technical University of Cluj-Napoca</i>	Romania
	Mihail Abrudean	<i>Technical University of Cluj-Napoca</i>	Romania
	Roxana Carmen Cordos	<i>Technical University of Cluj-Napoca</i>	Romania
199	ReSort: Edge-Optimized Mobile Recycling Classification with Cloud-Assisted Geolocation Guidance		
	Adela Pop	<i>Technical University of Cluj-Napoca</i>	Romania
	Alexandra Fanca	<i>Technical University of Cluj-Napoca</i>	Romania
	Dan-Ioan Gota	<i>Technical University of Cluj-Napoca</i>	Romania
	Alexandru Ciobotaru	<i>Technical University of Cluj-Napoca</i>	Romania
	Christine-Matilda Moldovan	<i>Technical University of Cluj-Napoca</i>	Romania
	Honoriu Valean	<i>Technical University of Cluj-Napoca</i>	Romania
192	Control of DC-DC Converters Network for Power Microgrids		
	Sebastian Babota	<i>Technical University of Cluj-Napoca</i>	Romania
	Vlad Mihaly	<i>Technical University of Cluj-Napoca</i>	Romania
202	Robust Feedback Linearization of a Fixed-Wing UAV		
	Nicolae Racheriu	<i>Technical University of Cluj-Napoca</i>	Romania
	Vlad Mihaly	<i>Technical University of Cluj-Napoca</i>	Romania
190	EEG-Based Assessment of Human Adaptation and Stability in Electromagnetically Disturbed Environments		

	Andreea Gombos	<i>Technical University of Cluj-Napoca and "1 Decembrie 1918" University of Alba Iulia</i>	Romania
	Emilian Ceuca	<i>"1 Decembrie 1918" University of Alba Iulia</i>	Romania
	Lucian Marcu	<i>Technical University of Cluj-Napoca</i>	Romania
189	Embedded Vision-Based Automated Testing for Electronic Control Boards		
	Emilian Ceuca	<i>"1 Decembrie 1918" University of Alba Iulia</i>	Romania
	Lucian Marcu	<i>Technical University of Cluj-Napoca</i>	Romania
	Andreea Gombos	<i>Technical University of Cluj-Napoca and "1 Decembrie 1918" University of Alba Iulia</i>	Romania

Round Table

Friday, May 22 – Room: Flora
13:00 – 14:00

Chairs:

Ovidiu Stan (Technical University of Cluj-Napoca, Romania)
Sergiu Man (Emerson, Romania)
Vasile Bota (Accesa, Romania)

Critical Infrastructure Under Attack: Are Our Systems Truly Secure?

Moderated Panel Session

Poster Session P5

Saturday, May 23 – Foyer
9:30 – 10:30

Chairs:

Razvan Itu (Technical University of Cluj-Napoca, Romania)
Gheorghe - Daniel Voinea (Transilvania University of Brasov)

38	HeliosTools: Signed Remote Operations for Secure Management of Non-Domain Windows Teaching Laboratories		
	Stefan Szalai Dragos	Technical University of Cluj-Napoca	Romania
	Cosmin Strilețchi	Technical University of Cluj-Napoca	Romania
	Paul Tota	Polytechnic University of Timișoara	Romania
52	Securing Edge-Based Cyber Threat Intelligence System Using Defense-in-Depth Approach		
	Bogdan Donat	Technical University of Cluj-Napoca	Romania
	Bogdan Gabriel Draghici	Technical University of Cluj-Napoca	Romania
	Ovidiu Petru Stan	Technical University of Cluj-Napoca	Romania
60	Multi-Asset Portfolio Optimization Conditioned on Oil Market Regimes using Genetic Algorithms and Machine Learning		
	Daria-Georgiana Chiriac	Technical University of Cluj-Napoca	Romania
	Octavian Cuiibus	Technical University of Cluj-Napoca	Romania
75	A Study on Automatic Adaptation of Romanian Language and Literature Textbooks for Dyslexic Readers		
	Anamaria Briciu	Babes-Bolyai University	Romania
	Adela Chindris	West University of Timisoara	Romania
	Grigoreta-Sofia Cojocar	Babes-Bolyai University	Romania
	Adriana-Mihaela Guran	Babes-Bolyai University	Romania
	Vladiela Petrascu	Babes-Bolyai University	Romania
	Roxana Rogobete	West University of Timisoara	Romania
79	Framework for Fully Homomorphic Encryption Libraries Comparative Analysis Case Study for Microsoft SEAL, OpenFHE, and Helib		
	Ioan Andrei Șpac	Technical University of Cluj-Napoca	Romania
	Marcel Antal	Technical University of Cluj-Napoca	Romania
	Bogdan Nicusor Bindea	Technical University of Cluj-Napoca	Romania
80	Indoor Localization Techniques based on Mathematical Models and Machine Learning using Smartphone and WiFi Routers		
	Alexia Iliescu	Technical University of Cluj-Napoca	Romania
	Marcel Antal	Technical University of Cluj-Napoca	Romania

	Bogdan Nicusor Bindea	Technical University of Cluj-Napoca	Romania
102	A Comparative Evaluation of Deep Learning Detectors for Satellite Streak Detection in Astronomical Images		
	Razvan Itu	Technical University of Cluj-Napoca	Romania
	Attila Fűzes	Technical University of Cluj-Napoca	Romania
	Lara Taras-Zinveliu	Technical University of Cluj-Napoca	Romania
	Radu Danescu	Technical University of Cluj-Napoca	Romania
107	From Proxy Metrics to Driving-Level Objectives: A Survey of End-to-End Architectures for Autonomous Driving		
	Flaviu Rares Lemnariu	Technical University of Cluj-Napoca	Romania
	Brendan Tran Morris	University of Nevada	United States
	Ionut Muntean	Technical University of Cluj-Napoca	Romania
133	Using Hyper-V Sockets for Real-time Data Extraction from a Malware Analysis Sandbox		
	Istvan Attila Csaszar	Technical University of Cluj-Napoca	Romania
	Radu-Marian Portase	Technical University of Cluj-Napoca	Romania
	Adrian Coleșa	Technical University of Cluj-Napoca	Romania
	Adrian Groza	Technical University of Cluj-Napoca	Romania
137	Experimental Virtual Reality Teleoperation of the Pepper Robot with Cybersecurity Considerations		
	Bogdan Gabriel Drăghici	Technical University of Cluj-Napoca	Romania
	Alexandra Elena Dobre	Technical University of Cluj-Napoca	Romania
	Ovidiu Petru Stan	Technical University of Cluj-Napoca	Romania
	Liviu Cristian Miclea	Technical University of Cluj-Napoca	Romania
147	Ensuring Data Integrity and Non-Repudiation in Distributed SIEM Architectures via Per-Block Event PKI-Signing		
	Dragoș Ionică	University of Craiova	Romania
	Marius Marian	University of Craiova	Romania
	Adelin Cusman	Centrul de Calcul S.A.	Romania
177	Integrated Design, Modeling, and Control Benchmarking of an 18-DoF 3D-Printed Hexapod Robot		
	Sandor Nagy	Technical University of Cluj-Napoca	Romania
	Roxana Rusu-Both	Technical University of Cluj-Napoca	Romania
179	Edge-AI Vehicle Detection and Tracking for Degraded Urban CCTV with Irregular Sampling		
	Gheorghe-Daniel Voinea	Transilvania University of Brasov	Romania
	Răzvan Gabriel Boboc	Transilvania University of Brasov	Romania
204	AI-Driven Behavioral Intrusion Detection for Cyber-Enabled Electronic Health Record Systems		
	Cristina Maria Stancioi	Technical University of Cluj-Napoca	Romania
	Petru Urs	Technical University of Cluj-Napoca	Romania
	Vlad Muresan	Technical University of Cluj-Napoca	Romania
	Mihail Abrudean	Technical University of Cluj-Napoca	Romania

Session SS5 - Bridging Research and Industry in Hydrogen Technologies

Saturday, May 23 – Flora

10:30 – 12:00

Chairs:

Petru Dobra (Technical University of Cluj-Napoca, Romania)

Dorin Petreuş (Technical University of Cluj-Napoca, Romania)

Mirela Dobra (Technical University of Cluj-Napoca, Romania)

29	Mathematical and simulation model of a grid connected fuel cell system		
	Dorin Petreus	<i>Technical University of Cluj-Napoca</i>	Romania
	Toma Patarau	<i>Technical University of Cluj-Napoca</i>	Romania
	Eniko Szilagy	<i>Technical University of Cluj-Napoca</i>	Romania
64	A local AI assistant developed in Python with OpenAI tools to facilitate PEMFC research		
	Maria Cristea	<i>Technical University of Cluj-Napoca</i>	Romania
	Radu-Adrian Tîrnovan	<i>Technical University of Cluj-Napoca</i>	Romania
	Ciprian Cristea	<i>Technical University of Cluj-Napoca</i>	Romania
	Anamaria-Andreea Şpaimoc	<i>Technical University of Cluj-Napoca</i>	Romania
	Daniel Fodorean	<i>Technical University of Cluj-Napoca</i>	Romania
108	Comparative Analysis of Classic and Bio-inspired Anode/Cathode Supply Geometries in PEMFCs		
	Anamaria-Andreea Şpaimoc	<i>Technical University of Cluj-Napoca</i>	Romania
	Maria Cristea	<i>Technical University of Cluj-Napoca</i>	Romania
	Daniel Fodorean	<i>Technical University of Cluj-Napoca</i>	Romania
	Radu-Adrian Tîrnovan	<i>Technical University of Cluj-Napoca</i>	Romania
134	Powering the Hydrogen Economy: A Review of Current Approaches in Compression Systems		
	Claudia Violeta Pop	<i>Technical University of Cluj-Napoca</i>	Romania
	Dan-Cristian Popa	<i>Technical University of Cluj-Napoca</i>	Romania
	Daniel Fodorean	<i>Technical University of Cluj-Napoca</i>	Romania
138	Analysis of a Bidirectional Power Converter for Fuel Cell–Battery Hybrid Systems		
	Vasile Mihai Suci	<i>Technical University of Cluj-Napoca</i>	Romania
	Alexandru Madalin Pacuraru	<i>Technical University of Cluj-Napoca</i>	Romania
	Lucian Nicolae Pintilie	<i>Technical University of Cluj-Napoca</i>	Romania
	Eric Gabriel Lefter	<i>Technical University of Cluj-Napoca</i>	Romania
	Petre Dorel Teodosescu	<i>Technical University of Cluj-Napoca</i>	Romania
191	Energy Management and Sizing Strategy for a PV–Fuel Cell Hybrid System		
	Mirela Dobra	<i>Technical University of Cluj-Napoca</i>	Romania
	Ionut Dragos Roman	<i>Technical University of Cluj-Napoca</i>	Romania
	Petru Dobra	<i>Technical University of Cluj-Napoca</i>	Romania
	Dora Laura Morar	<i>Technical University of Cluj-Napoca</i>	Romania

Session QT3

Saturday, May 23 – Onix
10:30 – 12:00

Chairs:

Ovidiu Stan (Technical University of Cluj-Napoca, Romania)
Roxana Rusu-Both (Technical University of Cluj-Napoca, Romania)

153	Behavioral Detection Using Apple Endpoint Security Framework		
	Dimitrie-Toma Furdui	<i>Bitdefender and Technical University of Cluj-Napoca</i>	Romania
	Radu-Marian Portase	<i>Bitdefender and Technical University of Cluj-Napoca</i>	Romania
	Andrei-Marius Muntea	<i>Bitdefender and Technical University of Cluj-Napoca</i>	Romania
	Adrian Viorel Coleşa	<i>Technical University of Cluj-Napoca and Bitdefender</i>	Romania
169	Deep Reinforcement Learning for Adaptive Start-Stop Battery Management Using Digital Twin Simulation		
	George Flutur	<i>Technical University of Cluj-Napoca</i>	Romania
	Gabriel Chindris	<i>Technical University of Cluj-Napoca</i>	Romania
	Liviu Miclea	<i>Technical University of Cluj-Napoca</i>	Romania
	Ovidiu Petru Stan	<i>Technical University of Cluj-Napoca</i>	Romania
185	Experimental ICS Security Analysis of Network-Based Malicious Teleoperation		
	Alexandra Elena Dobre	<i>Technical University of Cluj-Napoca</i>	Romania
	Bogdan Gabriel Drăghici	<i>Technical University of Cluj-Napoca</i>	Romania
	Mihai-Alexandru Jibotean	<i>Technical University of Cluj-Napoca</i>	Romania
	Ovidiu Petru Stan	<i>Technical University of Cluj-Napoca</i>	Romania
	Liviu Miclea	<i>Technical University of Cluj-Napoca</i>	Romania
195	Towards Zero-Trust Application Execution: An eBPF-Based Policy Enforcement Engine		
	Andrei-Ioan Ficior	<i>Technical University of Cluj-Napoca</i>	Romania
	Roxana Rusu-Both	<i>Technical University of Cluj-Napoca</i>	Romania
	Ovidiu Stan	<i>Technical University of Cluj-Napoca</i>	Romania
200	Human-Certified Module Repositories for the AI Age		
	Szilárd Enyedi	<i>Technical University of Cluj-Napoca</i>	Romania

Session QT4

Saturday, May 23 – Topaz
10:30 – 12:00

Chairs:

Andrei-Marius Silaghi (Politehnica University of Timisoara)
Grigoreta-Sofia Cojocar (Babes-Bolyai University)

11	Comparative Analysis of Ethernet Media Independent Interfaces through Highspeed Simulations		
	Catalin Pescari	<i>Politehnica University of Timisoara</i>	Romania
	Andrei-Marius Silaghi	<i>Politehnica University of Timisoara</i>	Romania
	Aldo De Sabata	<i>Politehnica University of Timisoara</i>	Romania
73	Spectral Efficiency Evaluation of Resource Allocation Types in 5G NR Downlink Scheduling		
	Cristina-Maria Andras	<i>Politehnica University of Timisoara</i>	Romania
	Teodor-Octavian Pacurar	<i>Politehnica University of Timisoara</i>	Romania
	Andrei-Marius Silaghi	<i>Politehnica University of Timisoara</i>	Romania
74	Specialized Neural Architectures vs LLMs for eBPF-based Software Composition Analysis		
	Lucia Pășcuți	<i>Technical University of Cluj-Napoca</i>	Romania
	Ciprian Oprișa	<i>Technical University of Cluj-Napoca and Bitdefender</i>	Romania
143	Performance Benchmarking of Romanian ASR Models Across Mobile and Desktop Environments in an Educational Context		
	Dan Cojocar	<i>Babes-Bolyai University</i>	Romania
	Grigoreta-Sofia Cojocar	<i>Babes-Bolyai University</i>	Romania
	Adriana-Mihaela Guran	<i>Babes-Bolyai University</i>	Romania
	Adrian-Ioan Sterca	<i>Babes-Bolyai University</i>	Romania
163	Statistical evaluation of the impact of three mixing schemes on raw DNA sequences		
	Remus-Florin Stanca	<i>Technical University of Cluj-Napoca</i>	Romania
194	Active Mapping of Underwater Litter using Camera-Sonar Fusion		
	David Rete	<i>Technical University of Cluj-Napoca</i>	Romania
	Patrick Boros	<i>Technical University of Cluj-Napoca</i>	Romania
	Lucian Busoniu	<i>Technical University of Cluj-Napoca and Corresponding Member of the Romanian Academy</i>	Romania