The 18th International Conference on Engineering of Modern Electric Systems Oradea, Romania,

29 - 30 May 2025

PROGRAM

Thursday, May 29, 2025	**All conference sessions will take place at Bihor Science and Technology Park and online**
11:00 – 12:00	Registration - Lobby of Bihor Science and Technology Park
12:00 – 13:00	Opening session - welcome speech – The main amphitheater
	Tour of Bihor Science and Technology Park
13:00 – 14:00	Lunch – Room 001 - Bihor Science and Technology Park
14:00	Oral Sessions
20:00	Gala Dinner at Astoria Restaurant, King Ferdinand Square (Piaţa Regele Ferdinand)
Friday, May 30, 2025	**online only**
9:00	Oral Sessions

Session Electrical Engineering
Chair: Livia Bandici

Thursday, May 29, 2025 – Room 201 (second floor) and online

ID	Schedule	Authors	Paper title
21	14:00 in person	Loránd Szabó, Diana Artudean and Paula-Alexandra Jula	Unlocking Critical Materials for Sustainable Electric Technologies through Deep-Sea Mining
29	14:20 in person	Norbert Kertész, Dan-Cristian Popa and Loránd Szabó	An FPGA-Driven Compact Battery Management System for Real-Time Monitoring in Logistics Applications
62	14:40 in person	Andreas Michaelides, Martina Hanna and Thanos Nicolaou	Wireless Power Transfer System 1kW via Inductive Link enhanced by Iron Core
85	15:00 in person	Daniel Rotaru, Livia Bandici and Carmen Otilia Molnar	The Use of Electromagnetic Levitation in the Material Melting Process
69	15:20 online	George-Andrei Marin and Marian Gaiceanu	Improving Power Quality Through The Use Of Synchronous Machines: A Case Study
		15:40 – 16:00 Coffe break	
9	16:00 online	Mehmet Kaya, Mustafa Çelik, Korhan Karaarslan and E. Mustafa Yeğin	Investigation of Voltage Stability at Different Grid Short-Circuit Powers in case of Electrical Faults
34	16:20 online	Omar Muhammed Neda	Robust Coordination Design of PSS and UPFC-POD Controller for Damping Oscillations Based on PSO and DEO Techniques
64	16:40 online	Alexandra-Ioana Mosoia and Adrian Focsa	A Novel Approach for Translational Motion Blur Estimation Based on Radon Transform
70	17:00 online	Ahmed Haidar, Andreas Helwig and Liviu Moldovan	An Optimized Load Shedding Approach in Power Grids to Mitigate Cascading Failure
86	17:20 in person	Gyula Fehér and Livia Bandici	Aspects on the Use of Microwaves in the Process of Obtaining Nanopowders
87	17:40 in person	Daiana Ioana Rus, Tudor George Muțiu, Francisc Ioan Hathazi, Carmen Otilia Molnar and Mircea Nicolae Arion	About the Process of High-Frequency Pyrolysis of Printed Stationery Waste Paper at Low Temperature
88	18:00 in person	Daiana Ioana Rus, Adrian Szoke, Francisc Ioan Hathazi, Mircea Nicolae Arion and Vasile Darie Soproni	Microwave-Assisted Pyrolysis of Inked Waste Paper for Bio-Oil Extraction

Session Electronics and Telecommunications
Chair: Ioan Buciu

Thursday, May 29, 2025 – Room 204 (second floor) and online

ID	Schedule	Authors	Paper title
48	14:00 in person	David C. Marcu, Cristian Grava, Corina Cinezan and Camelia Bianca Rus	From Tabular Data to Images for AI Detection of in-Hospital Mortality for Patients with Myocardial Infarction
07	14:20 in person	Lorena Telembici and Corneliu Rusu	Optimizing Audio Recognition for Assistive Robotics with Feature Optimization, Machine Learning and Data Augmentation
17	14:40 in person	Mihai Ivanovici, Ioana Plajer, Ștefan Popa, Corneliu Florea and Andrei Racovițeanu	Path Reconstruction from Video Sequences using Nadiral View and Optical Flow
27	15:00 in person	Ornella Nobili, Radu-Mihai Coliban and Mihai Ivanovici	Hyperspectral Imaging for Degraded Positive Film Digitization and Color Correction
16	15:20 in person	Andrei Bertescu and Ștefan Popa	The Design and Implementation of an FPGA-based Cosmic Radiation Sensor PCB
	15:40 – 16:00 Coffe break		
37	16:00 in person	Ana-Maria-Andreea Căiniceanu and Florin Alexa	Application of Color Theory in Graphic Design
39	16:20 in person	Ioana-Adriana Manea, Mădălina-Iasmina Coșnița, Cristina-Maria Andraș and Florin Alexa	MIMO Systems in 5G: a Review
73	16:40 in person	Radu Mihai Diaconu and Teodor Petrița	Using off-the-Shelf Sound Card for Drone Dettection and Localiztion in Close Range
05	17:00 in person	Theodosios-Konstantinos Fyntanidis and Theodoros Gkanetsos	Design, Programming, and Construction of an Unmanned Surface Vehicle for Underwater Mine Detection
66	17:20 in person	Gábor-Dániel Kovács, András-István Kapy and Bogdan Sebeşan	Innovative Approaches in Exoskeleton Robotics: Design, Control and Performance Evaluation
53	17:40 in person	Daniel Popa and Ioan Buciu	Methods for Monitoring and Controlling IoT Devices with Laravel
43	18:00 online	Alyssa Palmer, Maitha Shams, Chahinez Trichine and Huma Zia	Towards Secure and Scalable Industrial IoT: Implementing a MQTT-Based Monitoring and Alert

44	18:20 online	Alyssa Palmer, Maitha Shams and Huma Zia	Side-Channel Attacks on IoT: Risks and Mitigation in Embedded Systems
76	18:40 online	Bogdan Sebeşan, Gábor-Dániel Kovács and Cristian Grava	Considerations about using Large Language Models to enhance the prediction of pedestrian trajectories
92	19:00 in person	Ovidiu Marius Neamtu	An Approximation of the Time Limit Lead-Acid Battery for an Isolated House
91	19:20 in person	Marin - Titus Tomse, Laviniu Tepelea and Ioan Gavrilut	Using Virtual Instrumentation for the Study of DC-DC Converters
89	19:40 in person	Răzvan-Daniel Albu and Florin Lucian Morgoş	AI-Assisted Low-Code Platforms In Modern Research

Session Computer Science and Control Systems, series 1
Chair: Doina Zmaranda

Thursday, May 29, 2025 – Room 203 (second floor) and online

ID	Schedule	Authors	Paper title
38	14:00 in person	Mihaela Meze, Octavia-Maria Bolojan and Felicia Mirabela Costea	Comparison of Machine Learning Algorithms Used for Detecting XSS Attacks
41	14:20 in person	Szabolcs Szilágyi	Weighted Scheduling in Multipath GRE-in-UDP: Mathematical Modeling and Experimental Analysis
42	14:40 in person	Ana-Maria Peterelcean and Teodor Petrita	An efficient VPN solution for a geographically distributed sensor network
26	15:00 in person	Andrei Borze, Otto Poszet, Adriana-Maria Cuc and Stefan Vari-Kakas	Comparative Study Between React and Svelte: Performance and Usability
51	15:20 in person	Hannelore Sebestyen and Daniela-Elena Popescu	A Smart On-Street Parking Framework
	15:40 – 16:00 Coffe break		
71	16:00 in person	Luciana Majercsik, Alexandra Băicoianu and Ioana Cristina Plajer	Crop-Specific Effects of Data Augmentation on Classification Accuracy in Sentinel-2 Imagery
77	16:20 in person	Artur Kazak, Vladimir Mirovski and Mihai Ivanovici	Random Data Sampling for an Agricultural Crop Classification Task
52	16:40 in person	Diana Laura Silaghi	Blockchain-based Solution for Protecting Teachers' Copyrights on Educational Resources
72	17:00 in person	Laura Juhász	Comparison of Cloud solutions for integrating analytics tools with legacy systems in SMEs

32	17:20 in person	Mircea-Petru Ursu	Digital Decoder from 4-Bit Binary Code to 7-Segment LED Display
19	17:40 in person	Adelin Gruian, Cornelia Aurora Győrödi and Robert Ştefan Győrödi	Empowering Non-Technical Users: A Chatbot-Driven Approach to Database Management
30	18:00 in person	Andrei Ţigan, Elisa Valentina Moisi and Simina Maria Coman	Comparison of Machine Learning Algorithms Used for Phishing Detection
83	18:20 in person	Ovidiu-Constantin Novac, Cornelia-Mihaela Novac, Mihai Costar, Mihai Oproescu, Mircea-Petru Ursu and Gyongyi Bujdoso	Comparison of Frontend Frameworks Angular vs. Blazor

Friday, May 30, 2025 – online only

ID	Schedule	Authors	Paper title
13	09:00 online	Komlosi Bogdan-Flavius, Bonciog Dumitru-Daniel and Maranescu Valentin-Ioan	Improvements in Hi-Fi Class AB Amplifier Design
15	09:20 online	Nesil Bor, Nergis Pervan Akman and Ali Berkol	Enhancing Autonomous Systems with Deep Learning-Based Object and Aerodrome Detection
23	09.40 online	I Dewa Made Bayu Atmaja Darmawan, Linawati, Gede Sukadarmika, Ni Made Ary Esta Dewi Wirastuti, Reza Pulungan and Dewa Putu Yudhi Ardiana	Exploring a Human-in-the-Loop Framework for Adaptive Sign Language Translation in Deaf Education
24	10:00 online	Iulian Vlascu and Alexandra Băicoianu	CNN-Based Violence Detection: Evaluation and Experiments
67	10:20 online	Catalin-Daniel Morar, Daniela Elena Popescu and Ovidiu Constantin Novac	Understanding Blockchain Governance: Key Models and Issues
55	10:40 online	Amna Mahmood, Momina Munir and Sohail Iqbal	Adaptive A* RRT* for Robot Navigation in Maze
58	11:00 online	Khuram Shahzad and Sohail Iqbal	Comparative Analysis of ChatGPT, DeepSeek, and Gemini for Automated Code Generation
10*	11:20 online	Sean Paolo Diocales, Mark Jason Evangelista, Edmar Khaled Maneja, Great Allan Ong and Hazel San Patilano	Copy-Move Forgery Detection on Digital X-Rays Implementing ResNet-50 and LSTM Algorithm

* if the registration will be confirmed

Session Computer Science and Control Systems, series 2
Chair: Helga Silaghi

Thursday, May 29, 2025 – Room 202 (second floor) and online

ID	Schedule	Authors	Paper title
25	14:00 in person	Viorica Spoiala	Data Acquisition from Microcontrollers and Their Publication Through AWS-IoT
4	14:20 in person	Claudiu Raul Costea, Helga Silaghi, Zoltan Kovendi and Marius Romocea	Industrial Processes Modeled with Petri Nets
90	14:40 in person	Mihaela Popa, Daniel Alexuta, Marius Mircea Balas and Valentina Emilia Balas	Current Trends in Research on Temperature Control in Rooftop Greenhouses
60	15:00 in person	Anca-Adriana Petcut-Lasc, Valentina Emilia Balas and Flavius Maxim Petcut	A Survey of MPPT Techniques Under Partial Shading Conditions: Evaluating the Firefly Algorithm's Performance
84	15:20 in person	Flavius Maxim Petcut	Comparative Analysis of Single-Diode and TwoDiode Models of Photovoltaic Panels
15:40 – 16:00 Coffee break			
35	16:00 in person	Eveline Mihok-Ecsedi, Eduard Mihok-Ecsedi, Laura Coroiu, Liliana Măgdoiu, Eugen Gergely and Mihai Abrudean	Design of a High Performance Automatic Test Needle Receptacles Insertion Machine for Printed Circuit Board Assemblies Test Fixtures
28	16:20 online	Irem Karaagac, Nisanur Uc, Fatih Ozdemir, Enise Feyza Kuzoluk, Haluk Gozde and Hidir Duzkaya	Generic Requirements Analysis of RAM-Air Turbine Power Supply for An Aircraft Pod
50	16:40 online	Ciprian Bejenar, Mihai Rață and Vasile-Eusebiu Toader	Conventional Approach on Modeling Symmetric PWM Command for HSFB Topology with MATLAB & Simulink and dSPACE
57	17:00 online	Niki Peponi, Ioannis Antonopoulos and Theodore Ganetsos	Sensor-Based Safety Design and Management of Smart Containers with Flammable Materials on Commercial Ships Using LabVIEW for Emergency Reporting
31	17:20 online	Roxana-Maria Motorga, Mihail Abrudean, Daniel Moga, Vlad Muresan and Mihaela-Ligia Unguresan	A Comparative Study of Controllers for Robust Disturbance Rejection In Hyperbaric Surgical Chambers
47	17:40 in person	Adrian Codoban and Viorica Spoiala	Method and Device for Active Acoustic Noise Cancellation Processes

80	18:00 in person	Diana Monica Mesaros	HACCP in Software Engineering using Task Management
36	18:20 in person	Dragoş Cristian Spoiala, Tiberiu Barabas and Teofil Ovidiu Gal	Techniques for Creating and Querying Relational Databases Using MySQL and AWS Cloud Services