

SIELMEN 2025 TECHNICAL PROGRAM

WEDNESDAY - OCTOBER 15, 2025

IAȘI - ROMÂNIA

ONLINE / HYBRID PRE-OPENING

Hurmuzescu Conference Hall

[SIELMEN 2025: ONLINE / HYBRID PRE-OPENING | Meeting-Join | Microsoft Teams](#)

ONLINE / HYBRID SESSIONS

Hybrid session 1 - Management and entrepreneurship

Hurmuzescu Conference Hall

[SIELMEN 2025: "Dragomir Hurmuzescu" Conference Hall | Meeting-Join | Microsoft Teams](#)

Chairmen:

| | | | |
|-------|--|--|---|
| 14.00 | Nicoleta-Mihaela Casaneanu (TUIASI), Marius Pislaru (TUIASI), Elena-Lidia Alexa (TUIASI), Geanina Giosan (TUIASI) | Digital Twin Integration with Lean Six Sigma Methodologies in Smart Manufacturing Ecosystems: A Conceptual Framework | 66 |
| | Larisa Ivascu (Politehnica University of Timisoara), Nicoleta Mirea (Politehnica University of Timisoara), Codruta Oana Hamat (Babes-Bolyai University), Neta Saptebani (Politehnica University of Timisoara), Daiana Zifceak (Politehnica University of Timisoara) | Managing Failure in Education: Stem Productivity and Vocational Success Pathways for the Romanian Context | 73 |
| | Larisa Ivascu (Politehnica University of Timisoara), Muddassar Sarfraz (Nisantasi University -Istanbul, Turkey), Ahmad Zaem Faraz (Hohai University-Nanjiang, PR China), Ilknur Ozturk (Nisantasi University -Istanbul, Turkey) | How Entrepreneurial Minds and Digital Leadership Drive Sustainable Startup Success in China's Tech Ecosystem | 81 |
| | Jaffar Mahmood Butt (Comsats University Islamabad-Lahore, Pakistan), M. Ibrahim Abdullah (Comsats University Islamabad- Lahore, Pakistan), Junaid Khalil Comsats University Islamabad- Lahore, Pakistan), Larisa Ivascu (Politehnica University of Timisoara), Mihail Gaianu (Aumovio – Timisoara) | Channel Preferences and Impulsive Buying in the Digital Era: Investigating the Roles of Subjective Norms and Compulsive Tendencies | 91 |
| | Petrina-Delia Vagiuc (TUIASI), Ionuț-Viorel Herghiligiu (TUIASI), Marius Pislaru (TUIASI) | Theoretical Insights into Organizational Sustainability Management in the Context of Industry 5.0 | 93 |
| | Laura Crina Miraute (TUIASI), Nicoleta Mihaela Casaneanu (TUIASI), Marius Pislaru (TUIASI) | Sustainable Transformation of the Pharmaceutical Supply Chain: The Role of Strategic Management | 145 |
| | Denisa-Alexandra Nica, Ion Verzea, Marius Pislaru | Artificial Intelligence Supporting in Eco-Maintenance for Sustainable Industry | 154 |
| | Ștefana-Cătălina Pohonțu-Dragomir (TUIASI), Adrian Vițu (TUIASI), Ionuț-Viorel Herghiligiu (TUIASI), Marius Pislaru (TUIASI) | Management Decision-making Process: Research on the Associated Information Systems | 155 |
| | Mihaela Brindusa Tudose (TUIASI), Georgiana Chihai (TUIASI) | Evidence on the dynamics of IT companies' performance in the pre- and post-pandemic period | 184 |
| | Liliana Aioanei (TUIASI), Vasilica Damaschin (TUIASI), Alexandra Cobzeanu (UAIC) | Autonomy and Decision-Making in Romanian Preschools: A Qualitative Approach | 197 |
| | Vasilica Damaschin (TUIASI), Liliana Aioanei (TUIASI), Alexandra Cobzeanu (UAIC) | Empowering Preschool Teachers: The Role of Continuing Professional Development in Boosting Performance, Wellbeing, and Self-Efficacy | 198 |
| | Diana Geantimir (TUIASI), Luminița Mihaela Lupu (TUIASI) | Corporate Social Responsibility as a Strategic Lever for Career Development, Management and Entrepreneurship | 199 |
| | Mămăligă Andrei* (TUIASI), Marius Pislaru (TUIASI), Ionuț-Viorel Herghiligiu (TUIASI), Brezuleanu Mădălina-Maria (TUIASI) | Corporate sustainability assessment models: a theoretical approach | 203 |
| | 16.15 | Elena Avram (TUIASI), Raluca Petronela Lazarescu (TUIASI) | Ambidexterity of Collaborative Structures: Current State of Knowledge |

Coffee break

Hybrid session 2 - Engineering Education and EE Applications

Hurmuzescu Conference Hall

[SIELMEN 2025: "Dragomir Hurmuzescu" Conference Hall | Meeting-Join | Microsoft Teams](#)

Chairmen:

| | | | |
|-------|--|--|--|
| 16.30 | Lorand Szabo, Florin Jurca, Dan-Cristian Popa | Embedding the Sustainable Development Goals in Electromechanical Engineering Curricula: Preparing Engineers for Sustainable Industry | 67 |
| | Lorand Szabo, Florin Jurca, Dan-Cristian Popa | Transforming Electric Machines Curricula Through the Lens of Sustainable Development Goals | 68 |
| | Gabriela Dana Petropol Serb , Ion Petropol Serb | Method to Introduce the Approaching of the DNSH – "Do Not Significant Harm" Principle in Smart Products Development Education | 157 |
| | Carmen Tita, Silviu Mihail Tita | Transferring Entrepreneurial Knowledge to Students From Experiential Learning | 185 |
| | Dimitri Grigoras, Stefan Panaite | High Junction Temperature Influence on Switching Dynamics of SiC mosfets in Comparison with the Threshold model | 95 |
| | Madalina Simion, Tudor Alexandru Filip, Georgiana Prodan, Marius Andrei Olariu | Dielectric Characterization of Yeast Cell Viability Using Electrical Impedance Spectroscopy | 112 |
| | Christoph Holtmann | Lumped Parameter Thermal Model for the Optimization of an Eddy Current Brake | 17 |
| | Alin-Iulian Dolan* | Exhaustive Optimization Method Based on Screening and Zoom Techniques Applied to an Electromagnetic Device | 138 |
| | 18.30 | Dominik Schreiber, Cristian-Ioan Fosallau | LPWAN Protocol Selection for IoT-Based Energy Measurement Systems: A Comparative Analysis of Mioty and NB-IoT Technologies |

Hybrid session 3 - Power Generation, Transport and Distribution

Room EN109

[SIELMEN 2025: Room EN109 | Meeting-Join | Microsoft Teams](#)

Chairmen:

| | | | |
|-------|--|---|-----|
| 14.00 | Sergejs Kovalenko, Inga Zicmane, Tatjana Lomane, Aleksandrs Sahnovskis | Opportunities for the Application of AI in the Configuration of Relay Protection and Automation | 4 |
| | Aleksandrs Sahnovskis, Inga Zicmane, Roman Petrichenko | Optimization of Renewable Energy Resource Utilization and Minimization of Operational Costs | 12 |
| | George-Andrei Marin, Marian Gaiceanu | Analysis of a Hybrid Energy System Connected to the Power Grid | 21 |
| | Ivan Burdukov | Practical Approach for Current Transformer Sizing with Analytical Saturation Compensation | 153 |
| | Elena Madalina Armenia, Mihai Gavrilas | Peer-to-Peer Energy Trading for Local Markets Using Multi-Agent Systems and Blockchain Smart Contracts | 183 |
| | Sandesh Acharya, Shubha Narayan Yadav, Prakash Adhikari | Study of voltage stability using sensitivity analysis by optimum capacitor placement (OCP) for 7 bus system | 186 |
| | Alin-Ionut Pricop, Mihai Gavrilas | Advanced Simulation and Red-Team Scenarios for Improving Cybersecurity in SCADA Systems within Power Systems | 190 |
| | Mihai-Andrei Luca, Bogdan-Constantin Neagu, Mihai Gavrilas | Holistic Optimization Approach for Voltage Control in Active Distribution Networks | 204 |
| 16.15 | Bogdan-Constantin Neagu, Andrei Ceclan, Gheorghe Grigoras, Dan Doru Micu, Radu Porumb, Attila Simo | A Multi-Criteria Approach for Mitigating Energy Poverty in Romania | 208 |
| | Sandesh Acharya | Dominated Sorting Optimization Algorithm (DSOA) Implementing Optimal Capacitor Placement (OCP) for Power System Stability | 120 |

Coffee break

Hybrid session 4 - Energy Efficiency and Renewable Energy

Room EN109

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Chairmen:

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| 16.30 | George-Andrei Marin, Marian Gaiceanu | Autonomous PV System | 22 |
| | Elmer Arellanos-Tafur, Marcelo Damas-Niño | Quantitative Climate Vulnerability Assessment of Solar Energy Infrastructure under Extreme Weather Events | 36 |
| | Elmer Arellanos-Tafur, Marcelo Damas-Niño | Efficiency Assessment of Wind Power Companies Through Multi-Dimensional DEA Performance Comparison | 37 |
| | Ciprian Sorandaru, Sorin Musuroi, Marcus Svoboda, Samuel Ciucurita, Cristina-Lavinia Milos, Valentin Mueller | Energy Loss Analysis in Wind Turbines Operating under Time-Variable Wind Speeds | 45 |
| | Constantin Daniel Oancea | Real-time monitoring of the energy efficiency of a photovoltaic system | 65 |
| | Ajawin Emmanuel Bufwoj, Harvinder Singh, Sunny Vig, Tinotenda Spencer Madosi, Lehlolonolo Mercy Makhetha, Hazel Panashe Manwere | Design and Implementation of Smart Solar Generation and IoT-Enabled Solar Power Monitoring System | 119 |
| | Faig Kalbaliyev, Fuad Mammadov | Socio-economic and Environmental Impacts of Potential Concentrated Solar Power Plant Deployment in Azerbaijan | 148 |
| | Faig Kalbaliyev | Hybrid Supercritical CO2 Brayton Cycle in CSP Plant with Post-Combustion Carbon Capture | 149 |
| | F. Philibert Andrinirinaimalaza, Nour Mohammad Murad, George Balan, Habachi Bilal, Nirilalaina Randriatefison, Abdel Khoodaruth, Charles Bernard Andrianirina, Blaise Ravelo, Dorin Lucache | Hybrid Fuzzy Logic and Shading-Aware Particle Swarm Optimization for Dynamic Photovoltaic Shading Faults Mitigation | 159 |
| | Sorin Robertino Sintea, Cornel Panait, Bogdan Hnatiuc, Mihaela Hnatiuc, Catalin Pomazan, Ana Dumitrascu | Online Sodium Battery Status Monitoring | 201 |
| 19.00 | Sorin Robertino Sintea, Bogdan Hnatiuc, Mihaela Hnatiuc | Detection of noise associated with a series electric arc fault | 200 |

Hybrid session 5 - Automation, Robots and Mechatronics & Industry Applications

Room EN310

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Chairmen:

| | | | |
|-------|---|--|-----|
| 14.00 | Liviu Dinca, Jenica-Ileana Corcau, Marius-Ionut Filipoiu, Dumitru Sirbu | Control System for Servo-Actuator Bay Temperature on Board of an Airliner | 10 |
| | Andrei Popa, Florin Horgot, Marian Poboroniuc | Control of an Arm-Type Robot Based on Electromyographic Signals | 26 |
| | Muhammad Ishaq, Dario Calogero Guastella, Giuseppe Sutura | A Quantitative Review of Smart Walkers: Trends, Gaps, and a Proposed Evaluation Framework | 98 |
| | Francesco Cancelliere, Giovanni Muscato | | |
| | Nimit Bhardwaj, Anvit Bhardwaj | Cross-Domain Adaptation of AI Models for Customer Query Classification | 118 |
| | Lavanya Garg | | |
| | Utkarsh Aiset, Datta Chavan, Ashwini Pawar, Jyoti Pedram, Panchshila Pillewar, Snehal Andhale | Optimizing Electric Vehicle Performance: Simulation-Based Analysis of Pune-Specific Drive Cycles Using Regression Models | 94 |
| 16.00 | George Balan, Elena Serea, Andrei Salceanu | A Cost-Effective Continuous Thermal Monitoring Solution for Electrical Panels Using Thermocouples | 124 |
| | Elena Marcu, Catalin Damian | Smart Laundry Reservation System for University Dormitories | 139 |
| | Mouad Danane, Youssef Rochdi, Abdelmajid El Ouadi | A Proof-of-Concept Framework for Maintenance 4.0: From Data Collection to Augmented Reality-Guided Operations | 180 |
| | | | |

Coffee break

Hybrid session 5 - Power Electronics & Drives, Electrical Circuits, and Electrical Machines

Room EN310

[SIELMEN 2025: Room EN310 | Meeting-Join | Microsoft Teams](#)

Chairmen:

| | | | |
|-------|---|---|-----|
| 16.30 | Claudiu Nicola, Marcel Nicola, Camelia MARINESCU | HIL Simulation for the Control of DC-DC Converter for PEM-FC and Battery Hybrid System Based on FOPI Controller Using RT-OPAL | 59 |
| | Claudiu Nicola | Load Frequency Control for a Two-Area Power System with Time Delay Using RT-OPAL for Hardware-in-the-Loop Simulation | 58 |
| | Silvia Placinta, Yannick Rauch, Patrick Rebling, Iulian Balan, Philipp Nenninger, Marian Poboroniuc | Modern Technologies Used in Powertrain Design of Electric Vehicles | 170 |
| | Eyup Okumus, Fatih Adigüzel | Offset-Free Robust Backstepping Position Control in a Nonlinear Electromagnetic Suspension System | 146 |
| | Adelina-Cristina T Căsuță (Rudnic), Alexandru-Marian Bordaș, Valeriu David | The Influence of Electromagnetic Interference on Magnetic Resonance Imaging | 156 |
| | Mehran Mirzaei | Design of a 25 MW Superconducting Wind Turbine Generator with Axial Flux Structure | 19 |
| | Fernando Neto José, Manuel Jossai Namburete Cumbi | Algebraic Method for Determining the Vector Group Phase Displacement of the Three-Phase Transformer | 20 |
| 18.30 | M. Murat TEZCAN, Cihan YEŞİLDAĞ | Performance Comparison Between Double Fed Induction Generator (DFIG) and Permanent Magnet Synchronous Generator (PMSG) for Wind Energy Conversion Systems | 39 |

THURSDAY - OCTOBER 16, 2025

CHIȘINĂU - R. MOLDOVA

14.00 OFFICIAL OPENING

15.00 Tekwill Center, Imaginarium Hall

Tekwill Center, Imaginarium Hall

PLENARY SESSIONS

| | | |
|-------|---|---|
| 15.00 | Mitrofan CURTI | Advances in soft magnetic materials characterization and electric stress prediction for next-generation electromechanics systems |
| | Petre M. NICOLAE, Iurie NUCĂ | Power Quality and Electromagnetic Compatibility Problems in Railway Traction Systems |
| 17.00 | IORDACHE, Mihai; STANCULESCU, Marilena; BOBARU, Lavinia; Niculae, Dragos*; Deleanu, Sorin; Georgescu, Adrian; Rotaru, Mihai; Moscu, Anton Anastasie | Using the SSEMGP - SEMI - STATE equation matrix generation program for transfer function generation in analog circuits with single input - single output and multiple inputs - multiple outputs |
| | Vasile RACHIER, Octavian MANGOS | Web Platform for Wind Potential Assessment in the Republic of Moldova |

Coffee break

Tekwill Center, Imaginarium Hall

POSTER SESSION - 1

Chairs:

ID

| | | | |
|--|--|--|-----|
| 17.30 | Elisabeta Spunei | Analysis of the Transitory Process of Asynchronous Start-Up of a High-Power Synchronous Motor | 6 |
| | Enache, Sorin*; Vlad, Ion; Popescu, Marian; Enache, Monica-Adela | Light Railway Traction Transformer | 31 |
| | Victor Popescu, Mihail Balan, Vitali Vișanu, Oleg Stiopca, Ion Vișanu, Igor Gidei | Microwave Treatment Application for Sea Buckthorn Dehydration Process Efficiency Increasing | 33 |
| | Victor Popescu, Vitali Vișanu, Mihail Melenciuc, Natalia Tislinscaia, Tatiana Balan, Igor Kurdov | Increasing the Efficiency of the Apple Seed Drying Process by Applying Fluidized Bed Treatment | 34 |
| | Victor Popescu, Mihail Melenciuc, Mihail Balan, Natalia Tislinscaia, Dinu Voinescu, Ion Vișanu | Using the Electrohydraulic Effect for the Treatment of Agricultural Products | 35 |
| | Mihaela Popescu, Alexandru Bitoleanu, Tudor Mătușa, Constantin Vlad Suru | Quasi-Rotor Field-Oriented Control Algorithm for Electric Railway Traction Systems | 42 |
| | Enache, Monica-Adela; Vlad, Ion; Enache, Sorin* | Optimizing Production and Operating Costs for Asynchronous Motors Used in Electric Cars | 43 |
| | Nita Lucian | Multimodal Telemedicine Platform for Remote Consultation, Messaging, and Automated Medical Documentation | 54 |
| | Mihai Rata, Gabriela Rata, Radu Fechet, Adrian Graur | Position Control Application with PLC | 63 |
| | Nițu, Maria-Cristina*; Scornea, Aurelia Iuliana; Aciu, Anca-Mihaela | Revitalization of Used Oil from Electrical Equipment with a Composite Adsorber | 75 |
| | Felicia Elena, Stan Ivan; Mihaela Adelaida, Duinea; Radu Cristian, Dinu; Gabriel Cosmin, Buzatu; Cristian, Bratu; Paul Mihai, Mircea | Analyzing the impact of cooling systems on the performance of photovoltaic panels | 77 |
| | Felicia Elena, Stan Ivan*; Adelaida Mihaela, Duinea; Alina Daniela, Margineanu; Radu Cristian, Dinu; Andreea-Maria, Neacă | Operational Scenarios for Power Plants in the Context of Reducing the Use of Solid Fuel | 80 |
| | Munteanu, Silvia; Sudacevschi, Viorica; Ababii, Victor*; Carbune, Viorel; Boroșan, Oľesea; Alexei, Victoria | Self-Organizing Multi-Agent Collaborative Decision-Making System | 86 |
| | Niste, Daniela*; Pavel, Sorin; Cziker, Andrei; Beleiu, Horia; Miron, Anca; Martineac, Corina | Data-Driven Regression for Load Current Prediction in Industrial Systems | 90 |
| | Nitu, Maria Cristina*; Mircea, Paul-Mihai; Dina, Livia | Lightning impulse test for fault detection in power transformers | 96 |
| | Braga, Dumitru*; Hlusev, Viorica | Feasibility of Using Solid Biomass in District Heating Systems in the Republic of Moldova | 101 |
| | Bitoleanu, Alexandru*; Popa, Ion Cristian; Popescu, Mihaela; Lincă, Mihăiță | Influence of Load on the Output Voltage of a Low-Power Photovoltaic Plant | 103 |
| | Denisa, Burada*; Viorica, Voicu; Ionel, Dumbrava; Constantin, Chelan; Constantinescu, Cristian; Mihaela, Popescu; Alin, Neașoe; Tania, Nicoara | Contributions to the construction of a new reverberation chamber | 107 |
| | Todos, Petru; Terteia, Ghenadie*; Nuca, Ilie | Analysis of Stator Winding Topologies of Six-Phase AC Machines Using the Winding Quality Factor | 109 |
| | Maer, Emil-Daniel*; Fodorean, Daniel; Spaimoc, Anamaria - Andreea | The Evolution of Fuel Cells: State-of-the-Art and Emerging Trends | 113 |
| Spaimoc, Anamaria - Andreea*; Anamaria - Andreea, Spaimoc; Emil - Daniel, Maer; Fodorean, Daniel | Design and Modelling of a 100 kW Fuel Cell for EV Propulsion | 115 | |
| 18.30 | Niste, Daniela*; Beleiu, Horia; Tirnovan, Radu-Adrian; Botezan, Aurel; Stefanescu, Silviu; Misaros, Marius | Predicting Energy Losses in Distributed Networks Using LSTM Models | 116 |

Tekwill Center, Imaginarium Hall

| 17.30 POSTER SESSION - 2 | | ID |
|---|---|-----|
| Chairs: | | ID |
| Salceanu, Andrei* | Experimental Approaches to the Influence of Shunt Resistance on Potential Induced Degradations | 136 |
| Iliescu, Ionut*; Nemes, Ciprian | Dimensioning of Operating Reserves using Maintenance History of Hydroelectric Generating Units | 137 |
| Constantinescu, Mihaita-Daniel*; Popescu, Mihaela; Toma, Ionut-Cosmin; Lincă, Mihăiță; Ravigan, Florin | Real-Time Implementation of Direct Current Control Strategies for Active Power Filtering Using dSPACE | 150 |
| Ruşinaru, Denisa; Toma, Cosmin Ionut*; Lincă, Mihăiță; Buzatu, Cosmin; Mănescu, Leonardo- Geo; Mihăiță, Constantinescu | Hosting Capacity Assessment for PV Units Integration in the Power Distribution Grids | 151 |
| Pop, Claudia*; Spaimoc, Andreea; Fodorean, Daniel | Modal and Vibrational Analysis of PEM Fuel Cells for Mobile Transportation Applications | 158 |
| Braga, Dumitru*; Hlusov, Viorica; Gutu-Chetrusca, Corina | Biomass Potential and Suitable Technologies for Valorifying Biomass in District Heating Systems in the Republic of Moldova | 161 |
| Toma, Ionut; Nitu, Maria Cristina; DINA, Livia*; Mircea, Paul-Mihai | Sustainable Approaches in the Reliability Assessment of Cables for Overhead Power Line Infrastructure | 164 |
| Beniuga, Constantin Razvan*; Bedrule, Elena Bianca; Machidon, Dragos; Beniuga, Oana Cristina; Istrate, Dumitru Marcel | AI-Based Optimization of Turbine Selection for Wind Farms Using Python and Machine Learning | 167 |
| Rosu Petru Valentin | Design and implementation of a KNX energy management system for optimizing self-consumption in off-grid photovoltaic systems | 168 |
| Rosu Petru Valentin | Comparative analysis of energy management strategies in an off-grid photovoltaic system with storage and active load control | 172 |
| Adam, Maricel; Andrusca, Mihai*; Anton, Adrian; Caia, Mihnea; Ciornohac, Claudiu; Covali, Ionuț-Alexandru | Monitoring, Command, and Control System of a Testing Installation for Electrical Equipment | 175 |
| Caia, Mihnea; Andrușcă, Mihai *; Adam, Maricel; Dragomir, Alin; Anton, Adrian; Ghiujan, Beatris Natalia | Monitoring of Medium Voltage Switchgear using Dedicated High Technological Sensors | 176 |
| Plopa, Olga*; Zodi, Wissam; Ursan, Maria | Study of the Influence of Nonlinear Core Parameters on the Precision of Instrument Transformers | 179 |
| Beniuga, Constantin Razvan*; Tirșu, Mihai; Burlica, Radu; Astanej, Dragos George; Pingescu, Bogdan Andrei; Beniuga, Oana Cristina | Pathways to Efficient Agrivoltaics Through Functional Requirements and Light Dispersion Constraints for Photovoltaic Greenhouses | 188 |
| Covali, Ionut *; Burlica, Radu; Astanej, Dragos; Pingescu, Bogdan; Anton, Adrian; Andrusca, Mihai | DC Circuit Breaker with rotary contacts | 189 |
| Ciobanu, Romeo Cristian *; Trandabat, Alexandru Florentin; Aradoaei, Mihaela; Pachiu, Cristina; Sucheana, Mirela; Dumitrache, Monica | Innovative Analysis of Electromagnetic Shielding Effect of Composite Materials using Specific Absorption rate of Electromagnetic Energy | 194 |
| Ciobanu, Romeo Cristian; Aradoaei, Mihaela*; Aradoaei, Sebastian-Teodor; Plopa, Olga; Agop, Adelina | Adapting the Grounding Measurements Technique for Electrical Resistivity Tomography Applications | 195 |
| Zet, Cristian*; Tataru, Gina Ionela; Toma, Andrei | IoT-Based Multi-Sensor Weather Station with MQTT Integration for Real-Time Environmental Monitoring | 196 |
| Toma, Cosmin Ionut*; Ruşinaru, Denisa; Lincă, Robert; Constantinescu, Mihăiță-Daniel | Communication Protocols for Energy Activity Monitoring in Transformer Substations | 202 |
| Scarlatache, Vlad-Andrei*; Olariu, Marius Andrei; Scarlatache, Florina; Aradoaei, Sebastian; Filip, Tudor Alexandru; Simion, Madalina Petronela | Modeling and Simulation of Regenerative Braking Systems Using MATLAB System Composer and Simulink | 207 |
| Sticea, Daniel*; Georgel, Gabor; Chiriac, Gabriel; Albu, Mihai; Brinzei, Anamaria | DC Motor Closed Loop Speed Control Using Rapid Control Prototyping | 208 |

FRIDAY - OCTOBER 17, 2025

CHIȘINĂU - R. MOLDOVA

Room: 1

EERR (Energy Efficiency and Renewable Resources)

| Chairs: | | ID |
|--|--|-----|
| 9.00 Pavel Atanasoae, Radu Dumitru Pentiuc, Constantin Ungureanu, Eugen Hopulele, Lucian Georgel Ungureanu | Biogas as a Circular Energy Vector: Integrating Cogeneration into the Organic Waste Recovery Chain | 27 |
| Mihai Lupu, Nicolae Soloviov, Victor Viziru, Galina Uzun, Mihai Corcimari, Aurel Speian | Biogas use in CHP and Transport Sector: A Comparative Study | 44 |
| Mihai Tirsu, Dmitrii Zaitsev, Irina Golub, Mihail Uzun, Mihail Lupu | Dimensioning of battery storage for household prosumers | 46 |
| Mihai Tirsu, Dmitrii Zaitsev, Irina Golub, Mihai Corcimari, Victor Galbura | Hybrid cogeneration units as important element in energy transition | 47 |
| 10.30 Iulian Rotari | Optimal Wind and PV Capacity for Moldova's 32.8% Electricity Target | 104 |

Coffee break

| | | |
|---|--|-----|
| 11.00 Ionel Alboteanu, Gheorghe Manolea, Gheorghe Eugen Subtirelu, Cristian Bratu | Residential Photovoltaic Systems Energy Production Estimation | 125 |
| Catalin Daniel Galatanu | Energy Efficiency of Road Lighting without Specific Numerical Indicators | 143 |
| Corina Gutu-Chetrusca, Amandine Mathieu-Mann | Comparative Energy Approaches in France and Republic of Moldova | 165 |
| 12.00 Rusu Daniel, Rachier Vasile, Mangos Octavian, Sobor Ion Voinesco Dinu, Burduniuc Marcel | Current Status and Distribution of Installed Capacities from Renewable Energy Sources (e-RES) in the Republic of Moldova | 171 |

Room: 2

PGTD (Power Generation, Transport and Distribution)

| Chairs: | | ID |
|---------|---|--|
| 9.30 | Cheregi Adrian, Dzitac Simona, Simo Attila, Tutu Filip, Serban Bunda | The Role of Fiber Optics in Modern Energy Infrastructure: Enhancing Efficiency and Reliability |
| | Valeriu Bosneaga, Victor Suslov | Possibilities of power injection from a single-phase renewable energy source to a low-voltage 0.4 kV distribution line with various connection schemes of the supply transformer windings. |
| | Simon Mihaela, Spunei Elisabeta, Ana-Maria Dumitrescu, Soanda Naomi-ionela, Stanculescu Marlena | Power quality assessment. Study case: 40 kW hybrid installation |
| 10.30 | Verdes Galina, Lupu Mihail, Tirsu Mihai, Juravliov Anatole, Soloviov Nicolae, Uzun Mihai | Impact of thermal load reduction on fuel consumption and energy production: a case study for the Chisinau district heating system |

Coffee break

| | | | |
|-------|---|--|-----|
| 11.00 | Iulian Rotari, Ala Tverdohle | Impact of 0.8kV Inverters on AC Losses in a 2.2 MW PV Plant | 62 |
| | Elena Vasilos, Ion Stratan, Iulian Rotari | Development of an algorithm for active power flow traceability in power systems | 102 |
| | Ina Dobrea, Viorica Hlusuov, Elena Vasilos, Iulian Rotari | Feasibility Study of Energy Storage System Integration for Power System Balancing | 140 |
| 12.00 | Denisa Ruşinaru, Cosmin Ionut Toma, Mihăiță Lincă, Cosmin Buzatu, Leonardo- Geo Mănescu, Constantinescu Mihăiță | Hosting Capacity Assessment for PV Units Integration in the Power Distribution Grids | 151 |

Room: 3

MMS (Metrology and measurement systems)

| Chairs: | | ID | |
|---------|---|---|-----|
| 9.00 | Mihai Sebastian Carp, Cristian Fosalau | Cattle Behavior Monitoring Using IoT Technologies | 7 |
| | Anatolii Bescupschi, Andrei Chiciuc | Optical Absorbance Lquied Filters as a new path to metrological traceability in medical devices | 87 |
| | Cristian Fosalau, Cristian Zet, Anamaria Hariton | Evaluation of Performances and Capabilities of an Electronic Nose | 97 |
| | Andrei Chiciuc, Constantin BORDIANU, Anatolii BESCUPSCHI | □ The National Temperature Standard ETN 02-12 in the Context of the SI Redefinition | 99 |
| | Camelia-Petronela Oprea*, Andrei Salceanu, Marius-Valerian Paulet | Approach to Floral Digital Models from a SAR Perspective | 127 |
| 10.30 | Camelia-Petronela Oprea*, Marius-Valerian Paulet, Andrei Salceanu | Study On Adult-Child Differences from the Perspective of Radiofrequency Electromagnetic Energy Absorption | 128 |

Coffee break

| | | | |
|-------|--|--|-----|
| 11.00 | Andrei Salceanu, Eduard Lunca, Oana Maria Asimnicesei | Specific Absorption Rate: Comparative Analysis from the Perspective of terms, methodologies, and regulations | 131 |
| | Emanuela Buzenche, Denisa Deaconu, Robert Fuior | Interactive Feedback System for Rehabilitation Support | 141 |
| | Marian-Stefan Nicolae, Petre-Marian Nicolae, Ileana-Diana Nicolae | Improving the Accuracy of Wavelet Algorithms when Evaluating the Fundamental Components of Highly Distorted Electric Waveforms | 142 |
| | Andrei Salceanu, Marinel Temneanu, Bogdan Giurcanu, Catalin Lazarescu, Silviu Vornicu, Silviu Ursache | Considerations on experimental determinations of the Specific Absorption Rate data for a multi-band mobile phone | 162 |
| | Matei-Constantin Moruz, Camelia-Petronela Oprea, Silviu Vornicu, Andrei Salceanu | □ Evaluation of Disturbing Electromagnetic Emissions Produced by an Electrosurgery Unit | 166 |
| 12.30 | Daniela Dolhascu, Codrin Donciu, Ioana Adochiei, Marina Georgiana Roman, Calin Corciova, Danut Constantin Irimia | Preliminary Investigation of Adult EEG Responses to Emotionally Valenced Social Robot Behavior | 182 |

Room: 4

EM (Electrical machines) & ETAE (Electrical Traction and Automotive Equipment)

| Chairs: | | ID | |
|---------|---|---|-----|
| 9.00 | Mihai Chirca, Marius Dranca, Stefan Breban | PMMSG Rotor Structures Evaluation for Multi-Blade Wind Turbine Application | 111 |
| | Burduniuc Marcel, Răileanu Corneliu, Mangos Octavian, Cazac Vadim, Terteza Ghenadie, Nitucă Costică | Automated System for Real-Time Testing of Multiphase Asynchronous Electric Motors | 170 |
| | Dan Gabriel Stănescu, Ioana Gabriela Sîrbu, Alexandru Vanvu, Lucian Mandache, Mircea Emilian Ardeleanu, Mihai Iacob | Aspects Regarding the Design, Realization and Testing of an ONAN Special Transformer Used in the Electrical Distribution Networks | 187 |
| | Alexandru Tarlajanu | Model for Adjusting the Characteristics of Control Systems with Polyphase Asynchronous Motors | 100 |
| | Radu Zlatian, Ovidiu Dreșcă, Ștefan Boștină | Railway Product Certification | 123 |
| 10.30 | Turie Nucă, Marian Cosmin Buse, Petre Marian Nicolae, Marian Stefan Nicolae | Improving Power Quality and Electromagnetic Compatibility in Railway Electric Traction Drives: Hardware and Software Solutions | 144 |

Room: 4

EA (Electrical apparatus)

| Chairs: | | ID | |
|---------|---|---|-----|
| 11.00 | Bosneaga, Valeriu* | Calculation of equivalent impedance of transformer with extended triangle connection based on pair short-circuit impedances of the windings | 3 |
| | Paduraru, Bogdan-Constantin*; Adam, Maricel; Dragomir, Alin; Anton, Adrian; Boca, Mihai; Răchier, Vasile | Infrared Thermal Stresses Monitoring of Medium Voltage Switchgear Cabinet | 78 |
| | Anton, Adrian*; Andrușcă, Mihai; , Adam, Maricel; Bodoliciă, Marius-Constantin; Dragomir, Alin; Andruscă, Liviu | Vibration-based Fault Detection in SF ₆ Medium Voltage Circuit Breaker using Neural Networks | 174 |
| | Andrușcă, Mihai*; Adam, Maricel; Astanei, Dragoș-George; Anton, Adrian; Marius-Constantin; Roman, Costică | Aspects of the Heating Resistors Monitoring from the Power Supply System of Railway Switches | 177 |
| 12.30 | Turcanu, Adrian* | Design and Preparation of 3D and 2D Axisymmetric Multiphysics Models for an Inductive Instant Boiler Simulation | 178 |

Room: 5

EFEC (Electromagnetic field and electrical circuits) & MEE (Materials, Eco-design and Electro-ecology)

Chairs:

ID

| | | | |
|-------|---|---|-----|
| 9.00 | Sirbu, Ioana-Gabriela*; Mandache, Lucian; Stanescu, Dan-Gabriel; Dolan, Alin-Iulian; Brojboiu, Maria; Ardeleanu, Mircea-Emilian | Analysis on Electromagnetic Testing Method for Flat Pieces Using Numerical Modeling | 192 |
| | Mandache, Lucian*; Sirbu, Ioana-Gabriela; Stanescu, Dan-Gabriel; Dolan, Alin-Iulian; Ardeleanu, Mircea-Emilian; Brojboiu, Maria | Fast generation of transfer functions for nonreciprocal circuits | 193 |
| | Stiopca, Oleg*; Popescu, Victor; Melenciuc, Mihail | Electrogeneration of Carbon Dioxide for Photobiotechnological and Vegetable Production Systems | 48 |
| | Ion-Cornel, Mituletu; Elisabeta, Spunei*; Cosmin, Daba | Testing the Electrical Resistance of the Velostat Conductive Rubber Sheet using a WiFi-based System | 70 |
| 10.30 | Nistiriuc, Pavel; SAVA, Lilia*; TIRSU, Valentina; Turcanu, Dinu | Optical devices based on magnetorheological fluids | 85 |

Room: 5

ARM (Automation, Robots and Mechatronics)

Chairs:

ID

| | | | |
|-------|--|--|-----|
| 11.00 | Dorin Popescu, Ioan Ghimciuc, Mihail Ghimciuc | Training for a Mechatronics Systems Student Competition | 49 |
| | Alexandru Buzamat, Marian-Silviu Poboroniuc, Danut Irimia, Mirela Stefănescu, Sandra Mavhima | Audience-Performer Neural Dynamics in Live Dance: A Preliminary EEG Investigation | 51 |
| | Secieriu Adrian, Izvoreanu Bartolomeu, Fiodorov Ion, Moraru Dumitru | Tuning the Controller for Object Models with One Zero and One to Four Poles and Astatism Using the Polynomial Method | 55 |
| | Mihai-Andrei Gheorghe, Marian-Silviu Poboroniuc | A Counter-small Unmanned Aircraft System Proof of Concept | 74 |
| | Irina Cojuhari, Vladimir Melnic, Alexei Martiniuc, Viorel Cărbune | Closed-Loop Model Identification and Control of the DC Engine Coupled with a Reaction Wheel | 114 |
| | Marian-Stefan, Nicolae Petre-Marian, Nicolae Petrisor, Abagiu, Ileana-Diana Nicolae, Raluca-Cristina Nicolae, Iurie Nuca | Smart Home Monitoring Based on the LoRa Protocol as a Solution for Connectivity in Difficult Environments | 160 |
| 12.30 | Adrian Danila | An Implementation of Domain Coloring for Visualizing Transfer Functions of Dynamic Processes | 169 |

Room: 6

EEE (Engineering Education and Evocations) & ME (Management and entrepreneurship) & RE (Reability and diagnosis)

Chairs:

ID

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|-------|--|---|-----|
| 9.00 | Cristian-Gyozo Haba | AI enhanced teaching of Real-Time Programming topics | 57 |
| | Cazac Vadim ,Guțu-Chetrușca Corina, Mangos Octavian, Rachier Vasile , Nuca Ilie, Voinesco Dinu | Stakeholders' Perception of the Quality of Engineering Education in the Field of Electromechanical Systems | 88 |
| | Gabriela Dana Petropol Serb , Ion Petropol Serb | Method to Introduce the Approaching of the DNSH – "Do Not Significant Harm" Principle in Smart Products Development Education | 157 |
| | Bykova Elena Vitali*, Vasilev Irina Victor, Moraru Larisa Petru | Development of Adjusted Net Saving Index as the Special Indicator of Energy Security | 13 |
| | Lilia Sava*, Valentina Tirsu, Dinu Țurcanu, Elena Petreanu | Strategies for Developing the ICT Ecosystem in the Republic of Moldova | 82 |
| 10.30 | NICOLA, Marcel; NICOLA, Claudiu*; PREJBEANU, Răzvan; POPESCU, Marian; PÎRVU, Cristian | Load Frequency Control for a Two-Area Power System with Time Delay Using RT-OPAL for Hardware-in-the-Loop Simulation | 58 |

Room: 6

IA (Industry Applications) & PED (Power Electronics and Drives)

Chairs:

ID

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|-------|---|--|-----|
| 11.00 | Gabriel Muraviev, Radu Olaru | Modeling and vibration analysis of an electromagnetic spring with controllable stiffness | 24 |
| | Eugeniu Munteanu, Viorel Carbone, Sergiu Zaporozjan, Valeriu Dulgheru | Edge-enabled predictive maintenance of wind turbine blades: intelligent embedded approach | 50 |
| | Oana Beniugă, Bogdan Andrei Pingescu, Constantin Razvan Beniugă, Dragos George Astanei, Frédéric Lebeau, Radu Burlică | Enhancing Reactive Species Availability for Plant Growth Through Plasma-Activated Water Integration in Sustainable Farming | 126 |
| | Suru, Constantin*; Matusa, Tudor; Popescu, Mihaela; Bitoleanu, Alexandru | Simplified Rotor flux control algorithm implementation on 1.15 MW traction motor | 41 |
| | Brăescu, Giani*; Poboroniuc, Marian-Silviu | Nonlinear Magnetic Modeling in LTspice with Gyrotor Capacitor Permeance | 60 |
| 12.30 | Gabor, Georgel; Nitucă, Costică; Dragomir, Alin; Chiriac, Gabriel; Cazac,Vadim; Boca, Mihai | Low Voltage Circuit Breaker Controlled by Programmable Logic Controller | 206 |

13.00 -
14.00

CLOSING CONCLUSIONS AND SPEECHES