

# IEEE CANDO–EPE 2026

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IEEE 8<sup>th</sup> International Conference AND Workshop in Obuda on  
Electrical and Power Engineering

**26 – 28 May 2026**

Budapest, Hungary

**Óbuda University**

Kandó Kálmán Faculty of Electrical Engineering  
Tavaszmező u. 17, 1084 Budapest, Hungary

[conf.uni-obuda.hu/Cando2026](https://conf.uni-obuda.hu/Cando2026)

**FINAL CONFERENCE PROGRAM**

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## Conference at a Glance

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| Date                   | Day   | Program   |
|------------------------|-------|---|
| Tuesday, 26 May 2026   | Day 1 | Opening Ceremony · Plenary Sessions · Welcome Reception         |
| Wednesday, 27 May 2026 | Day 2 | Parallel Technical Sessions · E-Poster Exhibition · Gala Dinner |
| Thursday, 28 May 2026  | Day 3 | Boat Trip to Szentendre · Lunch · Free Time                     |

### Venue

#### Óbuda University – Kandó Kálmán Faculty of Electrical Engineering

Tavaszmező u. 17, 1084 Budapest, Hungary


[View on Google Maps](#)

### Online

<https://conf.uni-obuda.hu/Cando2026/>

**DAY 1** TUESDAY, 26 MAY 2026

# Opening Ceremony & Plenary Sessions

|               |   |
|---------------|---|
| 13:30         | <i>Registration opens</i>   |
| 14:00 – 14:30 | <b>Opening Ceremony</b><br>Room TG.F.19   |
| 14:30 – 15:30 | <b>Plenary Session I</b><br>Room TG.F.19<br><i>Session Chair: Róbert Szabolcsi</i>  |
| 14:30 – 15:00 | <b>Plenary Talk 1</b><br><i>At the Heart of Bearingless Drive Technology</i><br><b>Wolfgang Gruber</b><br><i>Johannes Kepler University Linz, Austria</i>   |
| 15:00 – 15:30 | <b>Plenary Talk 2</b><br><i>Monetize University Lab Output</i><br><b>Laslo Olah</b><br><i>Texas Institute of Science, Dallas, TX, USA</i>   |
| 15:30 – 16:00 |  <b>Coffee Break</b>   |
| 16:00 – 17:30 | <b>Plenary Session II</b><br>Room TG.F.19<br><i>Session Chair: István Németh</i>  |
| 16:00 – 16:30 | <b>Plenary Talk 3</b><br><i>Hands-On Learning for Social Good: Adapting Toys for Children with Special Needs</i><br><b>Anikó Costa</b><br><i>Universidade Nova de Lisboa, Portugal</i>  |
| 16:30 – 17:00 | <b>Plenary Talk 4</b><br><i>Cybersecurity in Smart Cities: Integrating Process and Ontological Modeling, Security Baselines, and Experimental Validation</i><br><b>Vladimír Soběslav</b><br><i>University of Hradec Králové, Czech Republic</i> |

|                      |  |
|----------------------|--|
| <b>17:00 – 17:30</b> | <b>Plenary Talk 5</b><br><i>Building-Integrated PV (BIPV) for Budapest's Panelház Blocks</i><br><b>Francesco Paolo Lamacchia</b><br><i>Polytechnic University of Bari, Italy</i> |
| <b>18:00 →</b>       | <b>Welcome Reception</b><br><i>OE Kantin és Pub</i><br><i>1084 Budapest, Tavaszmező u. 7–13</i>  |

**DAY 2** WEDNESDAY, 27 MAY 2026

# Main Conference Day · Parallel Technical Sessions

*Registration desk opens at 08:30.*

## Day Overview

| Time             | ROOM TG.2.204  | ROOM TG.2.205   | ROOM TG.2.203   |
|------------------|--|---|---|
| 08:30            | <i>Registration opens</i>  |   |   |
| 08:45 –<br>10:25 | Session 1A — Power Systems: Renewables, V2G & Distribution Networks  | Session 1B — Power Systems: Modeling, Forecasting & Smart Sensing                       | Session 1C — Special Session on New PhD Student Research Achievements in Systems Related Software Engineering II. (09:05–10:25) |
| 10:25 –<br>10:40 |  <i>Coffee Break</i>  |   |   |
| 10:40 –<br>12:00 | Session 2A — Smart Automation, UAV Systems & Industrial Localization   | Session 2B — IIoT, Distribution Protection & Sustainable Engineering                    | Session 2C — Special Session on New PhD Student Research Achievements in Systems Related Software Engineering I.                |
| 12:00 –<br>13:00 |  <i>Lunch · OE Kantin és Pub, 1084 Budapest, Tavaszmező u. 7–13</i> |   |   |
| 13:00 –<br>15:20 | Session 3A — Engineering Education: AI, Digital Transformation & Curricula   | Session 3B — Energy Systems Resilience: Cybersecurity, Behavior & Operational Stability |  E-Poster Exhibition                       |
| 15:20 –<br>15:35 |  <i>Coffee Break</i>  |   |   |
| 15:35 –<br>16:55 | Session 4A — Power Electronics: Motor Drives & Inverter Control  | Session 4B — Wireless Power Transfer & Industrial Inspection                            | —   |
| 17:10            |  <i>Group transfer to Gala Dinner venue (public transport)</i>      |   |   |
| 18:00            |  <i>Gala Dinner</i>   |   |   |

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**Session 1 · 08:45 – 10:25 (100 min)**


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**Session 1A · Power Systems: Renewables, V2G & Distribution Networks**
*ROOM TG.2.204*
*Session Chair: Peter Kadar*

| Time          | #  | Title & Authors   |
|---------------|----|---|
| 08:45 – 09:05 | 14 | <b>Model-Less Online Feedback Optimization with Disturbance Estimation for AC/DC Microgrids</b><br>Mustafa A. Kamoona, Juan Manuel Mauricio           |
| 09:05 – 09:25 | 39 | <b>Mobile Solar Power Supply</b><br>Péter Ákos Girgász, Peter Kadar, Attila Hlavács   |
| 09:25 – 09:45 | 44 | <b>Power Quality Improvement in a Three-Phase System Using a Shunt Active Power Filter Under Nonlinear Load Conditions</b><br>Lamprey Lamprey Odartei |
| 09:45 – 10:05 | 57 | <b>Semiconductive Layer Over the Cable Sheath – Problems and Possible Solutions</b><br>Peter Kadar, Patricia Alexandra Rebelo, Mikhail Dmitriev       |
| 10:05 – 10:25 | 63 | <b>Grid-Feasible Flexibility Envelopes for Bidirectional EV Charging Using a DSO Digital Twin</b><br>Norbert Bagi, Sandor Nagy                        |

**Session 1B · Power Systems: Modeling, Forecasting & Smart Sensing**
*ROOM TG.2.205*
*Session Chair: Zsolt Conka*

| Time          | #  | Title & Authors   |
|---------------|----|---|
| 08:45 – 09:05 | 6  | <b>Design, Simulation, and Validation of a Synchronous Power Grid Converter for Low-Voltage Distribution Grid</b><br>József Bencsik, Zsolt Conka, Marek Bobček, Virág Becsó     |
| 09:05 – 09:25 | 35 | <b>Scaling Behavior of Energy per Token in LLM Inference on Apple Silicon</b><br>Dávid Csikai, Dóníz Borsos, Zoltán Komáromi, Géza Kulcsár, Ernő Rigó                           |
| 09:25 – 09:45 | 81 | <b>Design and Field Validation of an Energy-Autonomous LoRaWAN Environmental Monitoring Node for Multi-Fraction Particulate Matter Sensing</b><br>Benedek Horváth, Dóníz Borsos |


|                  |    |  |
|------------------|----|--|
| 09:45 –<br>10:05 | 93 | <b>A Deep Learning Framework for Enhancing Hourly Multi-Step Salinity Intrusion Forecasting</b><br>Yali Huang, Hua Chen, Amir Mosavi, Yang Liu, Zhaoyang Hu, Chong-Yu Xu |
| 10:05 –<br>10:25 | 94 | <b>Importance of Blackbody in Everyday Infrared Thermography</b><br>Hrvoje Glavaš, Tomislav Barić, Dina Jukić, Tomislav Keser, Damir Rukavina, Tin Glogoški              |

## Session 1C · Special Session on New PhD Student Research Achievements in Systems Related Software Engineering II.

ROOM TG.2.203

Session Chair: László Horváth

| Time             | #  | Title & Authors  |
|------------------|----|--|
| 09:05 –<br>09:25 | 32 | <b>Stability, Efficiency, and Language Specificity in Transformer-Based Hungarian Banking NLP</b><br>Zsolt Krutilla  |
| 09:25 –<br>09:45 | 73 | <b>Data Validation: SOC and LLM Approaches</b><br>Patrik Dobrovodsky, Eszter Kail, Rita Fleiner, Gergely Nyilas, Anikó Szarvák, Valéria Póser                              |
| 09:45 –<br>10:05 | 58 | <b>Inverse Packing as OCR Segmentation: Geometric Bounds, Practical Heuristics, and Traceable Computer Vision Pipelines</b><br>Mihály Szabó, Attila Kertész, Gábor Kertész |
| 10:05 –<br>10:25 | 72 | <b>Current-Based Roll-Off Detection in RF Liver Ablation Using a Constant Output Voltage RF Generator</b><br>Roland Szand, József Kopják, Gergely Sebestyén                |

|               |   |
|---------------|---|
| 10:25 – 10:40 |  <b>Coffee Break</b> |
|---------------|---|

## Session 2 · 10:40 – 12:00 (80 min)

### Session 2A · Smart Automation, UAV Systems & Industrial Localization

ROOM TG.2.204

Session Chair: Robert Sándor Kovács

| Time             | #  | Title & Authors  |
|------------------|----|--|
| 10:40 –<br>11:00 | 25 | <b>Artificial Intelligence-Powered Digital Twin for Smarter and Greener Greenhouse Systems</b><br>Alex Mark, Sándor Nagy |

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|------------------|----|---|
| 11:00 –<br>11:20 | 38 | <b>Coverage Path Planning for UAV-Based LiDAR Mapping: Simulation and Evaluation</b><br>Ahmed Mohammed <b>Ahmed Alareqi</b> , Amgad Naji Ali Ahmed, <b>Róbert Szabolcsi</b> |
| 11:20 –<br>11:40 | 86 | <b>Satellite Imagery and ML for Infrastructure Risk Forecasting in Honduras</b><br><b>Gefer Hernandez</b> , László Ady, Dóníz Borsos  |
| 11:40 –<br>12:00 | 30 | <b>UWB-Based Real Time Location System Investigation</b><br>Robert Sándor Dr. Kovács  |

## Session 2B · IIoT, Distribution Protection & Sustainable Engineering

ROOM TG.2.205

Session Chair: Tibor Wüthl

| Time             | #  | Title & Authors  |
|------------------|----|--|
| 10:40 –<br>11:00 | 27 | <b>A Model and Measurement Framework for Evaluating Segmentation and Auditability in Event-Driven IIoT Architectures</b><br>Péter Ungvári, Tibor Wüthl   |
| 11:00 –<br>11:20 | 42 | <b>Carbon-Aware Data Centers Orchestration – CDN as Case Study</b><br>Tamás Jursonovics, Jiyan Salim Mahmud  |
| 11:20 –<br>11:40 | 78 | <b>Multi-criteria Optimization Method for Recloser Placement and Distributed Generation Integration in Radial Distribution Networks</b><br>Illia Diahovchenko, Artem Litovchenko, György Morva |
| 11:40 –<br>12:00 | 16 | <b>Study on Ultrasonic Welding of Al and Ni-plated Cu Joints and Evaluating their Corrosion Resistance Performance</b><br>Md Zamiul Alam, Schramko Marton, Kovacs Tunde Anna, Toth Laszlo      |

## Session 2C · Special Session on New PhD Student Research Achievements in Systems Related Software Engineering I.

ROOM TG.2.203

Session Chair: László Horváth

| Time             | #  | Title & Authors   |
|------------------|----|---|
| 10:40 –<br>11:00 | 12 | <b>Comparative Assessment of Simulation Tools and a Proposed Co-Simulation Framework for Vehicle-to-Grid Integration</b><br>Vladimír Szomosi, Róbert Štefko, Zoltan Balogh, Zsolt Čonka |
| 11:00 –<br>11:20 | 46 | <b>Comparative Simulation of Residential Heating and Cooling Technologies Based on Annual Energy Demand and Operating Costs</b><br>Mark Karacsi, Peter Kadar                            |

|               |    |   |
|---------------|----|---|
| 11:20 – 11:40 | 84 | <b>Identifying EV User Charging Patterns Using Clustering Techniques</b><br>István Szűcs, József Kopják   |
| 11:40 – 12:00 | 88 | <b>Sensorless Detection of Unbalanced Loads in Embedded Motor Control via ML-Trained Pattern Matching on Torque-Producing Current Signals</b><br>Márk Wendler, Franziska Kofler, Christoph Baumgartner, József Kopják |

|               |   |
|---------------|---|
| 12:00 – 13:00 |  <b>Lunch · OE Kávéház és Pub, 1084 Budapest, Tavaszmező u. 7–13</b> |
|---------------|---|

## Session 3 · 13:00 – 15:20 (140 min) — E-Poster Exhibition Parallel

### Session 3A · Engineering Education: AI, Digital Transformation & Curricula

*ROOM TG.2.204*

*Engineering Education and Workforce Development*

*Session Chair: György Molnár*

| Time          | #  | Title & Authors  |
|---------------|----|--|
| 13:00 – 13:20 | 89 | <b>Digital Transformation and Methodological Innovation in Education – Perspectives for the Renewal of Higher Education</b><br>György Molnár, Enikő Nagy, László Kadocsa       |
| 13:20 – 13:40 | 5  | <b>Fuzzy Logic-Supported Student Task Generation – The Future of AI-Based Testing in School Practice</b><br>Éva Karl, Enikő Nagy, György Molnár                                |
| 13:40 – 14:00 | 40 | <b>Reasoning Models, Test-Time Compute, Self-Refinement</b><br>Levente Dr. Juhasz  |
| 14:00 – 14:20 | 23 | <b>From Offline Experience to Online Presence: How Life-Course and Demographic Factors Shape Digital Engagement</b><br>Adam Bela Horvath, Fruzsina Hoványi-Nagy, Peter Szikora |
| 14:20 – 14:40 | 18 | <b>Transitioning a College Program from Electrical Engineering Technology (EET) to Electrical Engineering (EE): Case Study</b><br>Abdelsalam Masoud, Fred Barlow, Julio Proano |
| 14:40 – 15:00 | 74 | <b>A Three-Tier Approach to Gamma Spectrometry in Engineering Education</b><br>Levente Sándor Szécsy, Tamás Sándor   |
| 15:00 – 15:20 | 76 | <b>Development of a Microcontroller-Based Luminescence Measurement System</b><br>Cristiano Barata, Anikó Costa   |

### Session 3B · Energy Systems Resilience: Cybersecurity, Behavior & Operational Stability

## ROOM TG.2.205

Session Chair: Tamás Szádeczky

| Time          | #  | Title & Authors   |
|---------------|----|---|
| 13:00 – 13:20 | 67 | <b>Network Science-Based Cybersecurity Vulnerability Analysis in Power Systems</b><br>Ferenc Molnár, Judith Pálfi   |
| 13:20 – 13:40 | 77 | <b>Cybersecurity-by-Design Framework for Smart Grid-Integrated Battery Energy Storage Systems</b><br>Márton Szentpétery, Judith Pálfi, Ferenc Molnár  |
| 13:40 – 14:00 | 64 | <b>AI-Powered Digital Twin Architecture for Dynamic Risk Assessment and Predictive Maintenance in Electrical Power Grids</b><br>Kamal Ahmadov, Aliya Dostalazade  |
| 14:00 – 14:20 | 90 | <b>Trust and Verification: Building Nuclear Chain-of-Custody with Emerging Technologies</b><br>Kristóf Stölczer, Tamás Szádeczky  |
| 14:20 – 14:40 | 65 | <b>Psychological Aspects of Energy Security: Climate Anxiety, Risk Perception, and Institutional Trust in the Stability of the Electric Power System</b><br>Emese Lilla Molnár, Ferenc Molnár, Judith Pálfi |
| 14:40 – 15:00 | 66 | <b>Behavioral Energy Reduction and System Stability: Psychological Drivers of Demand-Side Security</b><br>Emese Lilla Molnár, Ferenc Molnár, Judith Pálfi   |
| 15:00 – 15:20 | 79 | <b>Elimination of Torque Dip at Half Synchronous Speed in Synchronous Motors with Laminated Salient Poles Through Optimal Damper Cage Design</b><br>Sandor Nagy, József Kopják                              |

## E-Poster Exhibition · 13:00 – 15:20 (140 min)

## ROOM TG.2.203

Cross-Disciplinary Advances in Power Electronics, Energy Systems, Control &amp; Healthcare Engineering

Session Chair: Gergely Sebestyén

| Paper # | Title & Authors   |
|---------|---|
| #10     | <b>Experimental Robustness Assessment of LED Lamps Under Extreme Voltage Waveforms</b><br>Hasan Ali Abdulmajeed Salbi, Péter Kiss                                     |
| #75     | <b>Effect of Thermal Aging on the Electrical Strength of Paper Impregnated With Mineral and Inhibited Natural Oil</b><br>Ján Zbojovský, Juraj Kurimský, Michal Rajňák |

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|-----|---|
| #34 | <b>Impact of Heterogeneous Communication Latencies on the Stability of V2B-Integrated 3-Phase Nanogrids in Islanded Operation</b><br>Robert Stefko, Vladimír Szomosi, Julius Simcak, Zoltan Balogh, Zsolt Conka |
| #53 | <b>Device Stresses in Single-Phase Inverters with Output Switching Ripple Elimination</b><br>Ron Harush, Alon Kuperman, Riccardo Mandrioli  |
| #61 | <b>Computationally Efficient dq-Domain Sensorless Control of PMSMs</b><br>Robin Meisinger, Siegfried Silber, Wolfgang Gruber  |
| #62 | <b>Symmetric Injection-Based Initial Position Detection Based on Zero-Sequence Measurement</b><br>Robin Meisinger, Siegfried Silber, Wolfgang Gruber  |
| #43 | <b>Extended CTC as a Differential Flatness-Based Control Technique</b><br>Alexander Krasavin, Adema Dairbekova, Dana Baishuak, Bertalan Beszedes, Darya Alontseva   |
| #19 | <b>A Hierarchical Multi-Domain Fusion Framework for Data-Driven Classification and Motor Function Assessment in Chronic Ankle Instability</b><br>Tianle Jie, Jiachao Cai, Goda Tibor                            |
| #21 | <b>Dose-Response Evaluation of Heel-Lift Intervention for Reducing Trunk Compensation in Limited Ankle Dorsiflexion</b><br>Jiachao Cai, Tianle Jie, Tibor Goda  |
| #50 | <b>Design of PI+Notch DC Link Voltage Controllers for Transient Response Optimization of PFC Rectifiers</b><br>Yoav Aminov, Andrey Vulfovich, Moshe Sitbon, Pavel Strajnikov, Mor M. Peretz, Alon Kuperman      |

15:20 – 15:35

**Coffee Break****Session 4 · 15:35 – 16:55 (80 min)****Session 4A · Power Electronics: Motor Drives & Inverter Control***ROOM TG.2.204**Power Electronics, Motor Drives & Inverter Technology**Session Chair: László Számel*

| Time          | # | Title & Authors   |
|---------------|---|---|
| 15:35 – 15:55 | 7 | <b>Data Driven Multiobjective SRM Design Optimization Based on Neural Network Surrogates and Constrained PSO</b><br>Jackson Oloo, Szamel Laszlo |






|                  |    |  |
|------------------|----|--|
| 15:55 –<br>16:15 | 36 | <b>Investigation of Synchronization Scenarios and Gearbox Transient Phenomena in a Twin Synchronous Motor Drive with a Common Output Shaft</b><br>István Bendiák, Tamás Sándor |
| 16:15 –<br>16:35 | 45 | <b>Identification of Active and Reactive PCB Values in Resonant Inverters Driving Series RLC Loads in High-Current Applications</b><br>Natan Schechter, Alon Kuperman          |

## Session 4B · Wireless Power Transfer & Industrial Inspection

ROOM TG.2.205

Session Chair: Zoltan Balogh

| Time             | #  | Title & Authors  |
|------------------|----|--|
| 15:35 –<br>15:55 | 51 | <b>Battery-Side Control in Dual-Winding Active Magnetic Energy Harvester Supplying a Constant Power DC Load</b><br>Asaf Levhar, Yael Ditzkovich, Riccardo Mandrioli, Georgios I. Orfanoudakis, Mor M. Peretz, Alon Kuperman                          |
| 15:55 –<br>16:15 | 52 | <b>Effect of Current Derating on Coupling Tolerance in Sub-Resonant Frequency Controlled Inductive Wireless Power Transfer Systems</b><br>Andrey Vulfovich, Yegal Darhovskiy, Ananth Bharadwaj, Haile-Selassie Rajamani, Mattia Ricco, Alon Kuperman |
| 16:15 –<br>16:35 | 22 | <b>Pole Integrity Monitoring System (PIMS): An Autonomous Solution for Utility Pole Maintenance</b><br>Abdelsalam Masoud, Julio Proano   |
| 16:35 –<br>16:55 | 85 | <b>Development of a Semi-Autonomous, Edge-AI-Based Y6 Multirotor Drone System for Industrial Fire Alarm Network Inspection</b><br>Gergo Kalocsay, Tamás Sándor   |

|         |  |
|---------|--|
| 17:10 → |  <i>Group transfer to Gala Dinner venue (public transport)</i><br> <i>Tram 4/6: Harminckettesek tere → dir. Széll Kálmán tér M (9 stops)</i><br> <i>Change at Margit híd, budai hídfő H → H5 HÉV, dir. Békásmegyér</i><br> <i>H5 HÉV → Szentlélek tér</i><br> <i>Short walk to Trófea Grill Étterem Óbuda (Laktanya u. 5)</i> |
| 18:00 → |  <b>Gala Dinner</b><br><i>Trófea Grill Étterem Óbuda</i><br><i>1033 Budapest, Laktanya u. 5</i>   |

**DAY 3** THURSDAY, 28 MAY 2026


## Boat Trip to Szentendre · The City of Artists

Szentendre is one of the most charming towns along the Danube Bend, famous for its Mediterranean atmosphere, colorful Baroque streets, riverside promenade, galleries, museums, artisan shops, and excellent ice cream spots. Known as the City of Artists, it is the perfect destination for a relaxed cultural day trip from Budapest.



*Szentendre — the colorful City of Artists on the Danube.*

|                     |   |
|---------------------|---|
| <p><b>10:15</b></p> | <p><b>Meeting at the MAHART PassNave boat pier in Budapest</b><br/> MAHART PassNave — Vigadó tér 5 Pier, Budapest, Hungary<br/> <a href="#">View on Google Maps</a><br/> <i>Boat service: mahartpassnave.hu</i></p> |
| <p><b>12:00</b></p> | <p><b>Arrival in Szentendre</b><br/> <i>Group walk from the pier to the lunch venue</i></p>   |

|       |   |
|-------|---|
| 12:30 |  <b>Lunch at Manna Ételtár</b><br>2000 Szentendre, Pannónia u. 6/b<br><a href="#">View on Google Maps</a>  |
| 14:00 | <b>Free time in Szentendre</b><br><i>Take your time exploring the cobblestone streets and the Danube riverside — drop into the galleries and artisan shops, pause at a café, and treat yourself to one of Szentendre's famous ice cream spots.</i><br><i>A few places worth a visit: Christmas Museum · Japanese Garden · Marzipan Museum and Café · Retro Design Center.</i> |
| 16:45 | <b>Meeting at the MAHART Szentendre Downtown Pier</b><br>MAHART PassNave — Szentendre belváros kikötő / Szentendre Downtown Pier<br><a href="#">View on Google Maps</a>   |
| 18:30 | <b>Arrival back in Budapest</b>   |

*Updated information about the social program will also be published on the conference website prior to the event.*

## Paper Index

Numerical listing of all accepted papers with their scheduled time and room.

| #  | Title  | Authors   | Time             | Room     |
|----|--|---|------------------|----------|
| 5  | Fuzzy Logic-Supported Student Task Generation – The Future of AI-Based Testing in School Practice                                      | Éva Karl, Enikő Nagy, György Molnár                             | 13:20 –<br>13:40 | TG.2.204 |
| 6  | Design, Simulation, and Validation of a Synchronous Power Grid Converter for Low-Voltage Distribution Grid                             | József Bencsik, Zsolt Conka, Marek Bobček, Virág Becsó          | 08:45 –<br>09:05 | TG.2.205 |
| 7  | Data Driven Multiobjective SRM Design Optimization Based on Neural Network Surrogates and Constrained PSO                              | Jackson Oloo, Szamel Laszlo                                     | 15:35 –<br>15:55 | TG.2.204 |
| 10 | Experimental Robustness Assessment of LED Lamps Under Extreme Voltage Waveforms  | Hasan Ali Abdulmajeed Salbi, Péter Kiss                         | 13:00 –<br>15:20 | TG.2.203 |
| 12 | Comparative Assessment of Simulation Tools and a Proposed Co-Simulation Framework for Vehicle-to-Grid Integration                      | Vladimír Szomosi, Róbert Štefko, Zoltan Balogh, Zsolt Čonka     | 10:40 –<br>11:00 | TG.2.203 |
| 14 | Model-Less Online Feedback Optimization with Disturbance Estimation for AC/DC Microgrids   | Mustafa A. Kamoona, Juan Manuel Mauricio                        | 08:45 –<br>09:05 | TG.2.204 |
| 16 | Study on Ultrasonic Welding of Al and Ni-plated Cu Joints and Evaluating their Corrosion Resistance Performance                        | Md Zamiul Alam, Schramko Marton, Kovacs Tunde Anna, Toth Laszlo | 11:40 –<br>12:00 | TG.2.205 |
| 18 | Transitioning a College Program from Electrical Engineering Technology (EET) to Electrical Engineering (EE): Case Study                | Abdelsalam Masoud, Fred Barlow, Julio Proano                    | 14:20 –<br>14:40 | TG.2.204 |
| 19 | A Hierarchical Multi-Domain Fusion Framework for Data-Driven Classification and Motor Function Assessment in Chronic Ankle Instability | Tianle Jie, Jiachao Cai, Goda Tibor                             | 13:00 –<br>15:20 | TG.2.203 |
| 21 | Dose–Response Evaluation of Heel-Lift Intervention for Reducing Trunk Compensation in Limited Ankle Dorsiflexion                       | Jiachao Cai, Tianle Jie, Tibor Goda                             | 13:00 –<br>15:20 | TG.2.203 |
| 22 | Pole Integrity Monitoring System (PIMS): An Autonomous Solution for Utility Pole Maintenance   | Abdelsalam Masoud, Julio Proano                                 | 16:15 –<br>16:35 | TG.2.205 |

|    |  |   |                  |          |
|----|--|---|------------------|----------|
| 23 | <b>From Offline Experience to Online Presence: How Life-Course and Demographic Factors Shape Digital Engagement</b>                            | Adam Bela Horvath, Fruzsina Hoványi-Nagy, Peter Szikora                                 | 14:00 –<br>14:20 | TG.2.204 |
| 25 | <b>Artificial Intelligence-Powered Digital Twin for Smarter and Greener Greenhouse Systems</b>   | Alex Mark, Sándor Nagy  | 10:40 –<br>11:00 | TG.2.204 |
| 27 | <b>A Model and Measurement Framework for Evaluating Segmentation and Auditability in Event-Driven IIoT Architectures</b>                       | Péter Ungvári, Tibor Wühl   | 10:40 –<br>11:00 | TG.2.205 |
| 30 | <b>UWB-Based Real Time Location System Investigation</b>   | Robert Sándor Dr. Kovács  | 11:40 –<br>12:00 | TG.2.204 |
| 32 | <b>Stability, Efficiency, and Language Specificity in Transformer-Based Hungarian Banking NLP</b>  | Zsolt Krutilla  | 09:05 –<br>09:25 | TG.2.203 |
| 34 | <b>Impact of Heterogeneous Communication Latencies on the Stability of V2B-Integrated 3-Phase Nanogrids in Islanded Operation</b>              | Robert Stefko, Vladimír Szomosi, Julius Simcak, Zoltan Balogh, Zsolt Conka              | 13:00 –<br>15:20 | TG.2.203 |
| 35 | <b>Scaling Behavior of Energy per Token in LLM Inference on Apple Silicon</b>  | Dávid Csikai, Dóníz Borsos, Zoltán Komáromi, Géza Kulcsár, Ernő Rigó                    | 09:05 –<br>09:25 | TG.2.205 |
| 36 | <b>Investigation of Synchronization Scenarios and Gearbox Transient Phenomena in a Twin Synchronous Motor Drive with a Common Output Shaft</b> | István Bendiák, Tamás Sándor  | 15:55 –<br>16:15 | TG.2.204 |
| 38 | <b>Coverage Path Planning for UAV-Based LiDAR Mapping: Simulation and Evaluation</b>   | Ahmed Mohammed Ahmed Alareqi, Amgad Naji Ali Ahmed, Róbert Szabolcsi                    | 11:00 –<br>11:20 | TG.2.204 |
| 39 | <b>Mobile Solar Power Supply</b>   | Péter Ákos Girgász, Peter Kadar, Attila Hlavács   | 09:05 –<br>09:25 | TG.2.204 |
| 40 | <b>Reasoning Models, Test-Time Compute, Self-Refinement</b>  | Levente Dr. Juhasz  | 13:40 –<br>14:00 | TG.2.204 |
| 42 | <b>Carbon-Aware Data Centers Orchestration – CDN as Case Study</b>   | Tamás Jursonovics, Jiyan Salim Mahmud   | 11:00 –<br>11:20 | TG.2.205 |
| 43 | <b>Extended CTC as a Differential Flatness-Based Control Technique</b>   | Alexander Krasavin, Adema Dairbekova, Dana Baishuak, Bertalan Beszedes, Darya Alontseva | 13:00 –<br>15:20 | TG.2.203 |
| 44 | <b>Power Quality Improvement in a Three-Phase System Using a Shunt Active Power Filter Under Nonlinear Load Conditions</b>                     | Lamptey Lamptey Odartei   | 09:25 –<br>09:45 | TG.2.204 |

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| 45 | <b>Identification of Active and Reactive PCB Values in Resonant Inverters Driving Series RLC Loads in High-Current Applications</b>                      | Natan Schechter, Alon Kuperman  | 16:15 –<br>16:35 | TG.2.204 |
| 46 | <b>Comparative Simulation of Residential Heating and Cooling Technologies Based on Annual Energy Demand and Operating Costs</b>                          | Mark Karacsi, Peter Kadar   | 11:00 –<br>11:20 | TG.2.203 |
| 50 | <b>Design of PI+Notch DC Link Voltage Controllers for Transient Response Optimization of PFC Rectifiers</b>  | Yoav Aminov, Andrey Vulfovich, Moshe Sitbon, Pavel Strajnikov, Mor M. Peretz, Alon Kuperman               | 13:00 –<br>15:20 | TG.2.203 |
| 51 | <b>Battery-Side Control in Dual-Winding Active Magnetic Energy Harvester Supplying a Constant Power DC Load</b>  | Asaf Levhar, Yael Ditkovich, Riccardo Mandrioli, Georgios I. Orfanoudakis, Mor M. Peretz, Alon Kuperman   | 15:35 –<br>15:55 | TG.2.205 |
| 52 | <b>Effect of Current Derating on Coupling Tolerance in Sub-Resonant Frequency Controlled Inductive Wireless Power Transfer Systems</b>                   | Andrey Vulfovich, Yegal Darhovsky, Ananth Bharadwaj, Haile-Selassie Rajamani, Mattia Ricco, Alon Kuperman | 15:55 –<br>16:15 | TG.2.205 |
| 53 | <b>Device Stresses in Single-Phase Inverters with Output Switching Ripple Elimination</b>  | Ron Harush, Alon Kuperman, Riccardo Mandrioli   | 13:00 –<br>15:20 | TG.2.203 |
| 57 | <b>Semiconductive Layer Over the Cable Sheath – Problems and Possible Solutions</b>  | Peter Kadar, Patricia Alexandra Rebelo, Mikhail Dmitriev  | 09:45 –<br>10:05 | TG.2.204 |
| 58 | <b>Inverse Packing as OCR Segmentation: Geometric Bounds, Practical Heuristics, and Traceable Computer Vision Pipelines</b>                              | Mihály Szabó, Attila Kertész, Gábor Kertész   | 09:45 –<br>10:05 | TG.2.203 |
| 61 | <b>Computationally Efficient dq-Domain Sensorless Control of PMSMs</b>   | Robin Meisinger, Siegfried Silber, Wolfgang Gruber  | 13:00 –<br>15:20 | TG.2.203 |
| 62 | <b>Symmetric Injection-Based Initial Position Detection Based on Zero-Sequence Measurement</b>   | Robin Meisinger, Siegfried Silber, Wolfgang Gruber  | 13:00 –<br>15:20 | TG.2.203 |
| 63 | <b>Grid-Feasible Flexibility Envelopes for Bidirectional EV Charging Using a DSO Digital Twin</b>  | Norbert Bagi, Sandor Nagy   | 10:05 –<br>10:25 | TG.2.204 |
| 64 | <b>AI-Powered Digital Twin Architecture for Dynamic Risk Assessment and Predictive Maintenance in Electrical Power Grids</b>                             | Kamal Ahmadov, Aliya Dostalizade  | 13:40 –<br>14:00 | TG.2.205 |
| 65 | <b>Psychological Aspects of Energy Security: Climate Anxiety, Risk Perception, and Institutional Trust in the Stability of the Electric Power System</b> | Emese Lilla Molnár, Ferenc Molnár, Judith Pálfi   | 14:20 –<br>14:40 | TG.2.205 |
| 66 | <b>Behavioral Energy Reduction and System Stability: Psychological Drivers of Demand-Side Security</b>   | Emese Lilla Molnár, Ferenc Molnár, Judith Pálfi   | 14:40 –<br>15:00 | TG.2.205 |

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| 67 | <b>Network Science-Based Cybersecurity Vulnerability Analysis in Power Systems</b>   | Ferenc Molnár, Judith Pálfi  | 13:00 –<br>13:20 | TG.2.205 |
| 72 | <b>Current-Based Roll-Off Detection in RF Liver Ablation Using a Constant Output Voltage RF Generator</b>  | Roland Szand, József Kopják,<br>Gergely Sebestyén  | 10:05 –<br>10:25 | TG.2.203 |
| 73 | <b>Data Validation: SOC and LLM Approaches</b>   | Patrik Dobrovodsky, Eszter Kail,<br>Rita Fleiner, Gergely Nyilas, Anikó Szarvák, Valéria Póser | 09:25 –<br>09:45 | TG.2.203 |
| 74 | <b>A Three-Tier Approach to Gamma Spectrometry in Engineering Education</b>  | Levente Sándor Szécsy, Tamás Sándor  | 14:40 –<br>15:00 | TG.2.204 |
| 75 | <b>Effect of Thermal Aging on the Electrical Strength of Paper Impregnated With Mineral and Inhibited Natural Oil</b>                            | Ján Zbojovský, Juraj Kurimský,<br>Michal Rajňák  | 13:00 –<br>15:20 | TG.2.203 |
| 76 | <b>Development of a Microcontroller-Based Luminescence Measurement System</b>  | Cristiano Barata, Anikó Costa  | 15:00 –<br>15:20 | TG.2.204 |
| 77 | <b>Cybersecurity-by-Design Framework for Smart Grid-Integrated Battery Energy Storage Systems</b>  | Márton Szentpétery, Judith Pálfi,<br>Ferenc Molnár   | 13:20 –<br>13:40 | TG.2.205 |
| 78 | <b>Multi-criteria Optimization Method for Recloser Placement and Distributed Generation Integration in Radial Distribution Networks</b>          | Illia Diahovchenko, Artem Litovchenko, György Morva  | 11:20 –<br>11:40 | TG.2.205 |
| 79 | <b>Elimination of Torque Dip at Half Synchronous Speed in Synchronous Motors with Laminated Salient Poles Through Optimal Damper Cage Design</b> | Sandor Nagy, József Kopják   | 15:00 –<br>15:20 | TG.2.205 |
| 81 | <b>Design and Field Validation of an Energy-Autonomous LoRaWAN Environmental Monitoring Node for Multi-Fraction Particulate Matter Sensing</b>   | Benedek Horváth, Döníz Borsos  | 09:25 –<br>09:45 | TG.2.205 |
| 84 | <b>Identifying EV User Charging Patterns Using Clustering Techniques</b>   | István Szűcs, József Kopják  | 11:20 –<br>11:40 | TG.2.203 |
| 85 | <b>Development of a Semi-Autonomous, Edge-AI-Based Y6 Multicopter Drone System for Industrial Fire Alarm Network Inspection</b>                  | Gergo Kalocsay, Tamás Sándor   | 16:35 –<br>16:55 | TG.2.205 |
| 86 | <b>Satellite Imagery and ML for Infrastructure Risk Forecasting in Honduras</b>  | Gefer Hernandez, László Ady,<br>Döníz Borsos   | 11:20 –<br>11:40 | TG.2.204 |
| 88 | <b>Sensorless Detection of Unbalanced Loads in Embedded Motor Control via ML-Trained Pattern Matching on Torque-Producing Current Signals</b>    | Márk Wendler, Franziska Kofler,<br>Christoph Baumgartner, József Kopják                        | 11:40 –<br>12:00 | TG.2.203 |

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| <b>89</b> | <b>Digital Transformation and Methodological Innovation in Education – Perspectives for the Renewal of Higher Education</b> | György Molnár, Enikő Nagy, László Kadocsa   | <b>13:00 – 13:20</b> | <b>TG.2.204</b> |
| <b>90</b> | <b>Trust and Verification: Building Nuclear Chain-of-Custody with Emerging Technologies</b>                                 | Kristóf Stölczér, Tamás Szádeczky   | <b>14:00 – 14:20</b> | <b>TG.2.205</b> |
| <b>93</b> | <b>A Deep Learning Framework for Enhancing Hourly Multi-Step Salinity Intrusion Forecasting</b>                             | Yali Huang, Hua Chen, Amir Mosavi, Yang Liu, Zhaoyang Hu, Chong-Yu Xu                   | <b>09:45 – 10:05</b> | <b>TG.2.205</b> |
| <b>94</b> | <b>Importance of Blackbody in Everyday Infrared Thermography</b>  | Hrvoje Glavaš, Tomislav Barić, Dina Jukić, Tomislav Keser, Damir Rukavina, Tin Glogoški | <b>10:05 – 10:25</b> | <b>TG.2.205</b> |