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The 2026 8th International Youth Conference on Radio Electronics, Electrical and Power Engineering (IEEE 8th REEPE 2026) 1-3 April, 2026

Program

09:00 AM	Registration	Reception Hall
10:00 AM	Opening session	Prof. Gamal Mokhtar Auditorium
11:00 AM	Keynote Speeches	Prof. Gamal Mokhtar Auditorium
12:30 PM	Coffee Break	Staff Lounge – 4th Floor
01:00 PM	Technical Sessions	Prof. Gamal Mokhtar Auditorium, 107, 108, 121
02:30 PM	Coffee Break	Staff Lounge – 4th Floor
03:00 PM	Technical Sessions	Prof. Gamal Mokhtar Auditorium, 108, 121
04:30 PM	Closing Session	Prof. Gamal Mokhtar Auditorium



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Opening Session

Moderator:

Prof. Rania Elsharkawy, Dean of Education (Cairo Campuses), AASTMT, Egypt

Opening Speeches:

His Excellency, **Prof. Ismail Abd El-Ghaffar**, AASTMT President, Egypt

His Excellency, **Prof. Alexander Tarasov**, MPI Vice Rector for International Cooperation, NRU, Russia

His Excellency, **Mr. Mikhail Belov**, Science and Technology Counsellor, Embassy of the Russian Federation to Egypt

Prof. Yasser Galal, Dean of College of Engineering & Technology (Heliopolis) AASTMT, Egypt

Prof. Ghaleb Hussein, Associate Vice Chancellor Research, AUS

Prof. Ahmed Madyan, Chairman of the IEEE Egypt Section

Prof. Rinat Nasyrov & Prof. Mohamed Tolba, General Chairs of the IEEE REEPE Conference



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Keynote Speeches

Initiatives towards NET-ZERO

Prof. Ahmed M. Darwish

Former State Minister for Administration Development

Professor of Computer Engineering

Consultant to a number of international organizations (UNDP, UNIDO, WHO, UNICEF, ILO, UNESCO, FAO, ESCWA, European Union and World Bank), government organizations and companies in Egypt, Middle East, Africa, Europe and the United States

Eng. Mohamed Medhat Abdlel-Rahman

Deputy Head of the Energy Committee in the Net-Zero Egypt Chapter

Managing Director of the Sustainable Green Energy and Energy Systems Business Unit in KORRA ENERGI

Certified Energy Manager (CEM)

Building the Resilient Power Grid of the Future with HVDC

Prof. Khaled Ahmed

Professor of Power Electronics

Head of Power Electronics, Drives, and Energy Conversion (PEDEC) Research Group

University of Strathclyde, Glasgow, UK

Start a new era of all-scenario Grid Forming

Dr. Carlos Alvarez

Director of Grid Connection

Huawei Middle East



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Session A: Electric Power & Energy

Venue: Prof. Gamal Mokhtar Auditorium
Time: 1:00 PM
Session Chairs: Prof. Ibrahim Abdullah & Prof. Marwa Ahmed

Optimal demand-side energy management using MLPNN with FLC-PR-controlled EV for V2G/G2V
Rati Wongsathan and Peerapat Thammarong

A centralized monitoring and control system of Electrified fleets in public transportation
Norhan Elgouhary, Ahmed Ali, Mostafa Asfoor

Comparative Analysis and Misalignment Tolerance of Coil Configurations for Wireless Power Transfer in Electric Vehicles
Salah A. Abdelmaksoud, Maha Samir Ali, Ibrahim Abdelsalam, Gamal A. Elnashar, Hany S. E. Mansour

Analysis and Design of Photovoltaic-Powered Dual-Stage Plug-In Electric Vehicles Charging Infrastructure
Dominic Savio A, Balaji C, Ali M. El-Rifaie, M. Saber Eltohamy, Arun Noyal Doss M, Ahmed MMR

Grid Forming Converters in Renewables Rich Grids: Topologies, Control Strategies, Challenges and Emerging Contributions
Yassmin Ibrahim, Nahla Zakzouk, Rana Maher, Ahmed Kadry

Intelligent AI-Based EV Charging Network for Optimizing Demand and Live Slot Availability
M.M.R. Ahmed, P Aekanth, Ali M El-rifaie, M Yasanth Reddy, A Pandian, M. Saber Eltohamy



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Session B: Electronics, Communications and Computer Engineering

Venue: A107

Time: 1:00 PM

Session Chairs: Prof. Mohamed Aboul Dahab & Prof. Sherif Fadel

Bias-Free 18× Photonic mmWave Generator with Z-Score Signal Quality Index for RF/Optical Systems
Mohamed E.M Elhaj-Abdou, Ahmed M´etwalli, Wael Abd Ellatif Ali, Radwa Hamad

A YOLOv8-Based System for Automated Archaeological Artifact Detection and Cataloguing
Yasser A. Ragab, Karim M. Shamel

"Robust Machine Learning Framework for Identifying ppb Level Gases Using Metal Oxide Sensor Arrays"
Mohamed Said, Abd-Elrahman Ashry, Omar Mostafa, Iman Morsi

"A Comparative Study of Machine Learning Algorithms for Effective Water Quality Identification"
Qamar Mohamed, Nada Aly, Salma Eslam, Iman Morsi

Retroreflective Circular Prism Detection based on Machine Learning
Iman Morsi, Ahmed El-Meligy

IoT-Driven Temperature and Humidity Forecasting Using ANN and ANFIS: A Comparative Analysis of Predictive Models for Digital Twin System
Mohamed El-Sayed M. Essa, Ali M El-rifaie , Samar G. A. Nasser, El-Sayed Ahmed Seddik, Mohamed Zakaria Farag, Hazem Karam, M.M.R Ahmed



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Session C: Electric Power & Energy

Venue: A108
Time: 1:00 PM
Session Chairs: Prof. Eman Beshr & Prof. Haitham Khallaf

TTAO-Based Optimization of Hybrid Active Power Filters for Harmonic Mitigation

Maha M. Ayoub, Salah Kamel, Loai Nasrat, José Luis Domínguez-García

DC Signal Variation Coefficient Based on a Hybrid DWT and AI Framework for Fault Analysis in HVDC Transmission Lines

M.M.R. Ahmed, Ali M. El-Rifaie, M.I. Abdel-fattah, Mohsen A. M. El-bendary, A. M. Hamada

Cost-Effective Design and Optimization of Stand-Alone Hybrid PV–WT Microgrid Systems Using the Enzyme Action Optimizer

Atef A. Elfatah, Salah Kamel, Hoda Abd El-Sattar, José Luis Domínguez-García, Loai Nasrat

"Power Quality in AC MicroGrids, case study of North Cairo Electrical Distribution Network"

Reham Adel Abd El – Hameed Saleh, Salwa Mohamed Yousry Matwally Attia, Eman Hassan Beshr

Techno-Economic Evaluation of a Hybrid Mini-Grid with Battery Storage for Off-Grid Applications in Egypt

Ahmed Abosalem, Mona I. Abdelkader, Noha M. Galal



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Session D: Mechanical Power & Energy

Venue: A121
Time: 1:00 PM
Session Chairs: Prof. Sameh Shaaban & Prof. Essam El-Gendy

Effect of Surface Roughness on Nano Micro-sized Thermal Insulating Coatings
Dareen Ayman, Amany Khaled, Mostafa Rostom

Performance of Integrated Concentrated Photovoltaic/Thermal Systems with Phase Change Materials: A Comprehensive Parametric Study
Walied Bahgat Moustafa, Essam ElGendy, Moustafa Abd El-Samie

Thermal Energy Storage Using Phase Change Material For Integrated Solar Combined Cycle Power Plant
Marina Adly, Mohammed Abdel Hamid, Sameh Shabban

Experimental Analysis of Evaporative Cooling System Under Different Environmental Conditions
Anas Alabasiry, Essam Elgendy, Ahmed Elsafty, Micheal A. William

Optimal Design of an Off-Grid Hybrid Renewable Energy System Using Mirage Search Optimization
Zakaria Abd El-Aziem, Salah Kamel, Hoda Abd El-Sattar, José Luis Domínguez-García, Loai Nasrat



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Session E: Electric Power & Energy

Venue: Prof. Gamal Mokhtar Auditorium
Time: 3:00 PM
Session Chairs: Prof. Rania Elsharkawy & Prof. Rati Wongsathan

A Multi-level High-Voltage Bipolar Pulse-Generator Based on Reduced Number of Half-Bridge Legs
Ahmed Elserougi, Ibrahim Abdelsalam

A PyPSA-Based Assessment of Green Hydrogen Storage for Renewable Curtailment Reduction in Egypt
Souzan G. Abdelhamid, Ayatte I. Atteya, Rania A. Ibrahim

A Modular High-Voltage Pulse Generator for IRE and H-FIRE Tumor Ablation
Bader N. Alajmi, Ibrahim Abdelsalam, Mostafa I. Marei

Vienna Rectifier-Based Hybrid Fast Charging Station for Electric Vehicles
Youssef Hossam, Ahmed A. Dahshan, Ibrahim Abdelsalam

Comprehensive Modeling and Optimization of AC Interference Mitigation on Buried Pipelines Under EHV Transmission Lines
Keltoum Hachani, Ali M El- Rifaie, Djekidel Rabah, Bentouati Bachir, M. M. R. Ahmed, A. M. Hamada



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Session F: Electric Power & Energy

Venue: A108
Time: 3:00 PM
Session Chairs: Prof. Essam Eldin Rashad & Prof. Mohamed Taha

Seasonal Investigation of Energy Costs and Carbon Emissions in Hydrogen-based Renewable Energy Microgrids and Electric Vehicles

Um-e-Habiba, Ali M El-Rifaie, A. M. Hamada, M. M. R. Ahmed, Ijaz Ahmed, and Muhammad Khalid

A TD-TI-MRAC Approach for Robust Load Frequency Control Under Renewables and Cyber Attackers

Ahmed H. A. Elkasem, Salah Kamel, Mohamed Khamies, Mustafa M. Ali

Multiphase PFC AC-DC Interleaved Converter

Ahmed Zakaria, Ibrahim Abdelsalam, Mostafa I. Marei

Multilevel UPS Inverter Surge Current Protection Using Model-Predictive Control Scheme

Youssuf Elthokaby, Naser Abdel-Rahim, Ibrahim Abdelsalam

A Novel Framework for Evaluating Functional Equity in Urban EV Charging Infrastructure

M. Saber Eltohamy, Ali.M.El-Rifaie, M.Hassan Tawfiq, Hossam Youssef, Amir Raouf, M.M.R. AHMED



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Session G: Mechatronics

Venue: A121
Time: 3:00 PM
Session Chairs: Prof. Moustafa Rostom & Prof. Ahmed Abd El-Latif

Lightweight AI Vision-Based Solar Tracking Model

Amro Yassein, Moustafa A. Fouz, E. Elgendy

Optimized Cruise Control of Electric Vehicles Using Offline Tuning of MPC Parameters

Mohamed A. Morsy, Ahmed E. Sharkawy, Ahmed M. Ali, M. Sh. Asfoor, Mostafa I. Yacoub

A Multimodal Framework for Human–Robot Collaboration Using Egyptian Arabic Speech and Hand Gestures

Mohamed Nabil Bayoumi, Mina Yousry Halim, Mohammed Ibrahim Awad, Shady A. Maged, Mohamed Elshalakani

Development of a Vision-Based PID-Controller for Automated Guided Vehicle Line-Tracking

Asmaa A. Abdelrehem, Ahmed Hebala, Amr Nasr El-Din, Hamdy A. Ashour

Metaheuristic Optimization of Fractional Order PID Controllers for Quadrotor Trajectory Tracking

Bassam Elbasueny, Mohamed A. Kamel, Ehab Said, Ibrahim A. Elsherif

Design and Development of an Arduino-Based Mobile Manipulator for Remote Exploration in Inaccessible Environments

Yasser A. Ragab, Karim M. Shamel