

Seventh International Conference on Electric Power and Energy Conversion Systems (EPECS 2024) Conference Program

Tuesday, November 12, 2024 Technical Session SgRe: Smart Grid and Renewable Energy 15:00–17:00, Room: Main Building G42 Session Chair: Dr. G. Kumar Venayagamoorthy		
Time	Paper ID	Paper Title and Author(s)
15:00–15:20	11	Seasonal Performance Evaluation of a Hybrid PY-Wind-Battery Power System for a Mars Base <i>Abdollah Masoud (University of Sharjah, UAE); Ramesh C. Bansal (University of Pretoria, South Africa); Omaima Anwar Jarndal (University of Sharjah, UAE)</i>
15:20–15:40	35	Power Dispatch Estimation from Electric Vehicles in a Distribution System <i>Ganesh Kumar Venayagamoorthy (Clemson University, USA & University of Pretoria, South Africa); Imanthi Kalanika Subasinghe (Clemson University, USA); Raj Naidoo (University of Pretoria, South Africa)</i>
15:40–16:00	36	A User- and Utility-Aware Ranking Method for Electric-Vehicle-to-Charging-Station Assignment <i>Fawzi Mohammed (American University of Sharjah, UAE); Eiman ElGhanam (American University of Sharjah, UAE); Mohamed Hassan (American University of Sharjah, UAE); Ahmed Osman (American University of Sharjah, UAE)</i>
16:00–16:20	14	Hydrogen-Battery Hybrid System for a High-Speed Train <i>Mehmet Temiz (Yildiz Technical University & Siemens Germany Istanbul, Turkey); Hayri Yigit (Yildiz Technical University, Turkey); Ali Rifat Boynuegri (Yildiz Technical University, Turkey);</i>
16:20–16:40	15	A New Control Strategy for PV-Fed Battery-Based E-Mobility System Using an Induction Motor <i>Ranen Sen (Thapar University, Patiala, India); Yadvendra Singh (Thapar University, Patiala, India); Saurabh Shukla (Thapar University, Patiala, India); Bhim Singh (IIT Delhi New Delhi, India); Shakti Singh (Thapar University, Patiala, India); Krishna Kumar Gupta (Thapar University, Patiala, India)</i>

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Tuesday, November 12, 2024 Technical Session EMPE: Electric Machines and Power Electronics 15:00–17:00, Room: Main Building G41 Session Chair: Dr. Burak Tekgun		
Time	Paper ID	Paper Title and Author(s)
15:00–15:20	1	A Novel Approach using Feature Engineering for Fault Prediction in Transformers <i>Drake Fulton (University of West Florida, USA); Nagaraju Brahmanapally (University of West Florida, USA); Bhuvaneshwari Ramachandran (University of West Florida, USA)</i>
15:20–15:40	27	A Novel Optimized CNN-SVM Approach for Inter-Turn Stator Fault Detection and Localization in Permanent Magnet Synchronous Motors <i>Amir Hossein Baharvand (Lorestan University, Iran); Sina Hossein Beigi Fard (Lorestan University, Iran); Amir Hossein Poursaeed (Lorestan University, Iran); Meysam Doostizadeh (Lorestan University, Iran)</i>
15:40–16:00	6	Design and Optimization of an Outer Rotor Spoke Type PMSM with Improved Saliency for a Lightweight Racing Vehicle <i>Hasan Can Karatepe (Abdullah Gui University, Turkey); Burak Tekgun (Abdullah Gui University, Turkey); Didem Tekgun (Abdullah Gui University, Turkey)</i>
16:00–16:20	7	Four Switch Buck-Boost Quasi Single-Stage Inverter with Smooth Mode Transition Using Three-Mod Modulation Technique <i>Ebubekir Keskinkiliç (Abdullah Gui University, Turkey); Burak Tekgun (Abdullah Gui University, Turkey)</i>
16:20–16:40	20	Improving LLC Resonant Converter Efficiency through Optimal Capacitor Selection and Configuration <i>Murat Akkuş (Yildiz Technical University, Turkey); Ibrahim Eski (Yildiz Technical University, Turkey); Hayri Yigit (Yildiz Technical University, Turkey); Ali Rifat Boynuegri (Yildiz Technical University, Turkey)</i>

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Wednesday, November 13, 2024 Technical Session RE1: Renewable Energy I 8:30–10:30, Room: LIB-011 Session Chair: Dr. Ali Rifat Boynuegri		
Time	Paper ID	Paper Title and Author(s)
8:30–8:50	18	Integrated Smart Glass and Photovoltaic Module Prototype Application Considering User Comfort Orientation <i>Tahsin Boyekin (Yildiz Technical University & Dal Solar Energy, Turkey);</i> <i>Ali Rifat Boynuegri (Yildiz Technical University, Turkey);</i> <i>Tayfur Gokcek (Yildiz Technical University, Turkey);</i> <i>Ozan Erdinc; (Yildiz Technical University, Turkey);</i> <i>Ismail Kiyak (Marmara University, Turkey, Turkey)</i>
8:50–9:10	21	Design and Application of a Battery Aging Test Bench <i>Fikri Samet (Yildiz Technical University, Istanbul, Turkey);</i> <i>Ali Rifat Boynuegri (Yildiz Technical University, Istanbul, Turkey)</i> <i>Merve Saray (Yildiz Technical University, Istanbul, Turkey);</i>
9:10–9:30	43	Fault Ride-Through Enhancement of Grid-Connected DC Microgrids using SFCL <i>Diaa-Eldin A. Mansour (Egypt-Japan University of Science and Technology, Egypt);</i> <i>Eatmad W. Nahas (Egypt-Japan University of Science and Technology, Egypt);</i> <i>Hossam A. Abd el-Ghany (Egypt-Japan University of Science and Technology, Egypt);</i> <i>Doaa M. Yehia (Egypt-Japan University of Science and Technology, Egypt)</i> <i>Xiangning Lin State (Egypt-Japan University of Science and Technology, Egypt);</i> <i>Samir M. Dawoud (Egypt-Japan University of Science and Technology, Egypt & Onaizah Colleges, Qassim, Saudi Arabia)</i>
9:30–9:50	47	Peer-to-Peer Energy Management Systems Development - An overview <i>Ayman Akila (University of Sharjah, UAE);</i> <i>Ramesh C. Bansal (University of Sharjah, UAE & University of Pretoria, South Africa);</i> <i>Ahmed Abo-Khalil (University of Sharjah, UAE);</i>
9:50–10:10	38	Comparative Analysis, Performance and Recommendations of A Power Generating Renewable Energy Based Systems <i>Kaustubh Joshi (Pandit Deendayal Energy University, Gujarat, India);</i> <i>Siddharth Joshi (Pandit Deendayal Energy University, Gujarat);</i> <i>Banhi Panchal (Pandit Deendayal Energy University, Gujarat);</i> <i>Bhinal Mehta (Pandit Deendayal Energy University, Gujarat)</i>
10:10–10:30	29	Optimal Sizing of Battery Energy Storage Capacity Considering Demand Charge for Industrial Loads <i>Madia Safdar (LUT University, Lappeenranta university, Finland);</i> <i>Behnam Ivatloo (LUT University, Lappeenranta university, Finland);</i> <i>Ghulam Amjad Hussain (University of Dubai, UAE);</i> <i>Arslan Ahmad Bashir (Energy Market Services Volue, Helsinki, Finland)</i>

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Wednesday, November 13, 2024 Technical Session PS1: Power Systems I 10:45–12:45, Room: LIB-011 Session Chair: Dr. Yavuz Ates		
Time	Paper ID	Paper Title and Author(s)
10:45–11:05	12	A Cost Minimization Oriented Decision Making Model for Corporation of Railway Systems and Electric Bus Charging Stations <i>Bensu Prencuva (Yildiz Technical University, Turkey); Alper Çiçek (Trakya University, Edirne, Turkey); Ozan Erdiñç (Yildiz Technical University, Turkey); Fatma Gülşen Erdiñç (Istanbul University-Cerrahpasa, Turkey)</i>
11:05–11:25	16	A Different Approach to Eco Design Perspective for Wind Turbine Transformers <i>Caner Demir (Siemens Gamesa Renewable Energy A.Ş., Turkey) Nevzat Onat (Manisa Celal Bayar University, Turkey); Yavuz Ateş (Yildiz Technical University, Turkey); Buse Yağmur Metiner (Manisa Celal Bayar University, Turkey); Orkun Alemdag (Siemens Gamesa Renewable Energy A.Ş., Turkey)</i>
11:25–11:45	25	Designing Sparse AC False Data Injection Attack <i>Mohammadreza Iranpour (California State University, Northridge, USA); Mohammad Rasoul Narimani (California State University, Northridge, USA);</i>
11:45–12:05	28	Optimal Sizing of Battery Energy Storage and Photovoltaic System for Data Center under Dynamic and Constant Pricing Scenarios <i>Abdullah Mete (Yildiz Technical University, Turkey); Husna (Yildiz Technical University, Turkey); Ali Rifat Boynueğri (Yildiz Technical University, Turkey); Ozan Erdinc (Yildiz Technical University, Turkey)</i>
12:05–12:25	41	A Cascade Deep Neural Network Approach for Oil Spills Classification and Detection <i>Mohammad Rashwan (American University of Sharjah, UAE); Mohammed Alhadi (American University of Sharjah, UAE); Mohammad A. Jaradat (American University of Sharjah, UAE); Mohammad I. Daoud (American University of Sharjah, UAE)</i>
12:25–12:45	45	Intelligent Fault Classification and Localization in Islanded DC Microgrids: A Discrete Wavelet Transform and Neural Network Approach <i>Youssef H. El Gohary (American University of Sharjah, UAE); Ahmed Osman (American University of Sharjah, UAE); Mostafa Shaaban (American University of Sharjah, UAE)</i>

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Wednesday, November 13, 2024 Technical Session PS&EC: Power Systems & Energy Conversion 10:45–12:45, Room: ESB-1049 Session Chair: Dr. Abdelfatah Mohamed		
Time	Paper ID	Paper Title and Author(s)
10:45–11:05	34	Characterization of Thermally Driven V-shaped MEMS Actuator Using an Alternate Nonlinear RC Model <i>Nidal A. Sherif (American University of Sharjah, UAE); Rached Dhaouadi (American University of Sharjah, UAE); Maher Bakri-Kassem (University of Waterloo, CA)</i>
11:05–11:25	4	Optimization for Non-Firm Capacity Contracts for Maximized Grid Utilization <i>Khawaja Khalid Mehmood (Eindhoven University of Technology, Netherlands); Ranier Alexsander Arruda Moura (Eindhoven University of Technology, Netherlands); Anne van der Molen (Eindhoven University of Technology, Netherlands); Reinaldo Tonkoski (Technical University of Munich, Germany) Peter van der Wielen (Eindhoven University of Technology, Netherlands); Phuong Hong Nguyen (Eindhoven University of Technology)</i>
11:25–11:45	39	The Impact of Integrating Renewable Energy Sources on Coherency Patterns in Electrical Power Systems <i>Aliaa A. Okasha (Egypt-Japan university of science and technology, Egypt); Diaa-Eldin A. Mansour (Egypt-Japan university of science and technology, Egypt); Ahmed B. Zaky (Egypt-Japan university of science and technology, Egypt); Junya Suehiro (Kyushu University, Fukuoka, Japan) Tamer Megahed (Egypt-Japan university of science and technology, Egypt)</i>
11:45–12:05	13	An Accurate Single-Ended Fault Location Technique for MVDC Networks via a Voltage Phase Shift Slope in High-Frequency Line Mode <i>Hossam Sabra (South Cairo Electricity Distribution Company, Egypt); Amr Kassem (Helwan University, Egypt); Ahmed Ali (Helwan University, Egypt); K. M. Abdel-Latif (Helwan University, Egypt)</i>

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Wednesday, November 13, 2024 Technical Session RE2: Renewable Energy II 15:15–17:15, Room: Main building G02 Session Chair: Dr. Abdalbaset Mnider		
Time	Paper ID	Paper Title and Author(s)
15:15–15:35	46	SFLA-based Optimization of Economic Dispatch in Power Systems with Integrated Electric Vehicle Charging Stations <i>Fateme Marzbani (American University of Sharjah, UAE); Ahmed Osman (American University of Sharjah, UAE); Mohamed Hassan (American University of Sharjah, UAE)</i>
15:35–15:55	17	Optimal Energy Management of Storage-Assisted Distribution Network for Operating Cost Reduction: Considering Effects of Different Seasons <i>Fatma Avli Firiş (Kahramanmaraş Sütçü Imam University, Turkey); Ali Rifat Boynueğri (Yildiz Technical University, Turkey)</i>
15:55–16:15	37	Advancements in DC Offset Rejection in Single Phase Grid Connected Systems: A Comparative Analysis of SOGI-PLL Schemes <i>Abdalbaset Mnider (New Model Institute for Technology and Engineering, UK); Mohamed Dahidah (Newcastle University, Newcastle upon Tyne, UK)</i>
16:15–16:35	40	Modelling of Encapsulated Phase Change Materials for Improved Thermal Characteristics in Photo-Voltaic/Thermal Solar Collectors <i>Omar Ali Ghannam (American University of Sharjah, UAE); Ahmed S. Eltanany (American University of Sharjah, UAE); Omar Z. Sharaf (Heriot-Watt University, UAE); Mehmet F. Orhan (American University of Sharjah, UAE)</i>

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Wednesday, November 13, 2024 Technical Session PS2: Power Systems II 15:15–17:15, Room: Main building G41 Session Chair: Dr. Siddharth Joshi		
Time	Paper ID	Paper Title and Author(s)
15:15–15:35	5	Computer-Aided Design and Analysis of the Earthing System for a Substation in an Industrial Zone: A Real Case Study <i>Emir Kaan Tutus (Manisa Celal Bayar University, Turkey); Celal Fadil Kumru (Suleyman Demirel University, Turkey); Yavuz Ates (Yildiz Technical University, Turkey); Ertugrul Partal (BND Group Technology Corp., Turkey)</i>
15:35–15:55	24	Damping Enhancement for LFO in Electric Grid Hosting Low Inertia Power Generation <i>Manohar Singh (Punjab Engineering College, Chandigarh, India)</i>
15:55–16:15	31	A Blockchain-Based Solution for Detecting False Data Injection (FDI) Attacks in Overcurrent Protection Relays <i>Yazan Barbar (American University of Sharjah, UAE); Eiman ElGhanam (American University of Sharjah, UAE); Ahmed Osman (American University of Sharjah, UAE); Mohamed Hassan (American University of Sharjah, UAE)</i>
16:15–16:35	8	Energy Generation Forecasting for Solar PV and Hybrid Solar PV & BESS Using System Advisor Model <i>Siddharth Joshi (Pandit Deendayal Energy University, Gujarat, India); Amee Daiya (Saurashtra University, Gujarat, India)</i>
16:35–16:55	33	Optimal Energy Management of a Hydrogen-Based Energy Hub <i>Mohammad Reza Shahbazi (Sharif University of technology, Iran); Moein Moeini-Aghtaie (Sharif University of technology, Iran)</i>