

2023 International Conference on Energy Technologies for Future Grids

Paper Program

Wollongong, Date: 3-6 Dec, 2023

Sunday 3rd December 2023

Paper Session 1

Parallel Session PS-1.1.A - Power Grid Resiliency I

Track: Power Grid Planning and Operation

Time and Date: 8:30 - 10:30 and December 03, 2023

Room: B67-101

Chairs: Dr. Thanikanti Sudhakar Babu (Chaitanya Bharathi Institute of Technology); Dr. Kuldeep Kumar (University of Wollongong)

Time	Paper ID	Paper Title	Authors
8:30 - 8:50	269	Control of Microgrid Cluster Using Raspberry Pi	David Carrasco-González (University of Cadiz); Raúl Sarrías-Mena (University of Cadiz); Pablo Horrillo-Quintero (University of Cadiz); Francisco Llorens-Iborra (University of Cadiz); Luis M. Fernández-Ramírez (University of Cadiz)*
8:50 - 9:10	248	PMU-Based Backup Protection in the Presence of Inverter-Based Resources	Mohammad Rezaei Jegarluei (University of Leeds)*; Ahmad Salehi Dobakhshari (University of Guilan); Marjan Popov (Delft University of Technology); Vladimir Terzija (Shandong University); sadegh azizi (University of Leeds)
9:10 - 9:30	341	Selective Harmonic Elimination of PUC-5 MLI Using Machine Learning	Md Tahmid Hussain (Aligarh Muslim University); Anwer Shees (Aligarh Muslim University); Mohd Tariq (Florida International University); Arif Sarwat (Florida International University)*; Adil Sarwar (Aligarh Muslim University)
9:30 - 9:50	428	Intelligent Damping of Low-Frequency Oscillations in Solar Integrated Power Systems using ANFIS-Based SVC Control	Muhammad Ashar Ayaz (Texas A&M University)*; Irfan Khan (Texas A&M University); Rahman Syed (Texas A&M University)
9:50 - 10:10	397	Reduction of Interconnected Hybrid Power System Using Direct Truncation and Routh Array Method	V. P Sharma (MNIT Jaipur); V. P. Meena (Malaviya National Institute of Technology Jaipur); Vinay Pratap Singh (MNIT Jaipur); Krishna Murari (The University of Toledo, Ohio)*; Akhilesh Mathur (MNIT Jaipur)
10:10 - 10:30	309	Enhancing Security in Islanded AC Microgrid: Detecting and Mitigating FDI Attacks in Secondary Consensus Control through AI-Based Method	MD ABU TAHER (Florida International University); Mohd Tariq (Florida International University); Arif Sarwat (Florida International University)*

Parallel Session PS-1.1.B - Energy Forecasting I

Track: Future Grid Energy Technologies

Time and Date: 8:30 - 10:30 and December 03, 2023

Room: B67-102

Chairs: Dr. Md Alamgir Hossain (Griffith University); Dr. P. RAJA (NIT Trichy)

Time	Paper ID	Paper Title	Authors
8:30 - 8:50	598	A Data-centric Approach for a Day-ahead System Non-Synchronous Penetration Forecast	Javier Cardo-Miota (Tyndall National Institute); rohit.trivedi@ierc.ie Trivedi (Tyndall National Institute); Sandipan Patra (Tyndall National Institute); Shafiuzzaman K Khadem (International Energy Research Centre); Mohamed Bahloul (Tyndall National Institute)*
8:50 - 9:10	245	Very short-term prediction of photovoltaic energy in the winter building for an automatic energy management system	Mame Cheikh SOW (CESI LINEACT)*; youssef JOUANE (CESI LINEACT); Oussama OUSOUS (CESI LINEACT); Nadia VONTOBEL (Nadia Vontobel Architekten GmbH); Mourad ZGHAL (CESI LINEACT)
9:10 - 9:30	421	Dynamic Electricity Price Forecasting via Deep Learning	Pooja Joshi (Inland Norway University of Applied Sciences)*; Stale Stordal (Inland Norway University of Applied Sciences); Gudbrand Lien (Inland Norway University of Applied Science, Lillehammer,); Deepti Mishra (Inland Norway University of Applied Sciences); Erik Haugom (Inland Norway University of Applied Sciences)
9:30 - 9:50	510	Load Demand Forecasting in Smart Microgrid Using NWP via Feature Engineering	Muamar Mohamed (ETS)*; Abdelhamid Hamadi (ETS); Ambrish Chandra (École de Technologie Supérieure); Farhad E. Mahmood (University of Mosul); Mehmood A. Abd (IBM); Miloud Rezkallah (ETS cr2i)
9:50 - 10:10	450	Location Agnostic Source-Free Domain Adaptive Learning to Predict Solar Power Generation	Md Shazid Islam (University of California Riverside)*; A S M Jahid Hasan (North South University); MD SAYDUR RAHMAN (University of California Riverside); Jubair Yusuf (N/A); Md Saiful Islam Sajol (Louisiana State University); Farhana Akter Tumpa (Ahsanullah University of Science and Technology)
10:10 - 10:30	612	A Common-Ground Seven-Level Boosting Inverter (CG7LI) for Solar-PV Application	Mohammad Ali (King Fahd University of Petroleum & Minerals)*; Mohammad Zaid (Aligarh Muslim University); Adil Sarwar (Aligarh Muslim University); Atif Iqbal (Qatar University); Md. Ismail Hossain (King Fahd University of Petroleum & Minerals); Muhammad Khalid (King Fahd University of Petroleum and Minerals (KFUPM))

Parallel Session PS-1.1.C - Active Distribution Network

Track: Power and Energy Transformation and Utilisation

Time and Date: 8:30 - 10:30 and December 03, 2023

Room: B67-303

Chairs: Dr. Sukumar Kamalasan (University of North Carolina at Charlotte); Dr Alexander Klimenko (The University of Queensland)

Time	Paper ID	Paper Title	Authors
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8:30 - 8:50	212	A Flexible Model Based on Correlation of Load Type and Components for Distributed Generation Allocation	Meisam Mahdavi (University of Jaén)*; Augustine Awafo (University of Jaén); Francisco Jurado (University of Jaen)
8:50 - 9:10	320	Stability Analysis of Local Control Interactions in Active Distribution Networks	Diogo Ferreira (IST, University of Lisbon and INESC-ID)*; Pedro Carvalho (IST, University of Lisbon and INESC-ID)
9:10 - 9:30	485	Distribution Network Planning Considering The Value Of Lost Load Using Graph Theory With The Equivalent Uniform Annual Method	Narges S. Ghiasi (Clemson University)*; Seyyed Mohammad Sadegh Ghiasi (Amirkabir University of Technology); Sahand Liasi (Clemson University); Ramtin Hadidi (Clemson University)
9:30 - 9:50	216	Real-time Optimal Power Flow (OPF) Model with Second Order Cone Programming (SOCP) for Radial Power Distribution Networks	Md Mahmud-Ul-Tarik Chowdhury (University of North Carolina at Charlotte); MD SHAMIM HASAN (UNC Charlotte); Sukumar Kamalasan (University of North Carolina at Charlotte)*
9:50 - 10:10	277	A Consensus ADMM Based Fully Distributed Peer-to-Peer Approach for Multi-Objective Residential Community Energy Management	Subho Paul (Washington State University, Pullman); Krishna Murari (The University of Toledo, Ohio)*; Narayana Prasad Padhy (Indian Institute of Technology Roorkee); Sukumar Kamalasan (University of North Carolina at Charlotte)
10:10 - 10:30	340	Integration of Artificial Intelligence in Future Smart Grids: An LSTM-RNN based Approach for Optimizing Energy Efficiency in Smart Grids	Anwer Shees (Department of Electronics Engineering Aligarh Muslim University Aligarh, India); Md Tahmid Hussain (Aligarh Muslim University); Mohd Tariq (Florida International University); Arif Sarwat (Florida International University)*; Adil Sarwar (Aligarh Muslim University)

Parallel Session PS-1.1.D - Electric Vehicle Technologies I

Track: Future Grids with Electric Vehicles

Time and Date: 8:30 - 10:30 and December 03, 2023

Room: B67-203

Chairs: Dr. Venkatakirthiga Murali (National Institute of Technology Tiruchirappalli); Prof. Jamshid Aghaei (Central Queensland University)

Time	Paper ID	Paper Title	Authors
8:30 - 8:50	348	An Adaptive Frequency Regulation Strategy for Electric Vehicle Integrated Community Microgrid	Abdul Latif (National Institute of Technology Silchar); S.M. Suhail Hussain (King Fahd University of Petroleum and Minerals)*; Dr Mohd Asim Aftab (Thapar Institute of Engineering and Technology (Deemed to be University)); Mohamed Abido (King Fahd University of Petroleum & Mine)
8:50 - 9:10	242	Power Quality Problem for Single-Phase Low-Voltage Charging of Electric Vehicles	Cezary Jędrzycka (Poznan University of Technology); Piotr Kuwałek (Poznan University of Technology)*; Grzegorz Wiczyński (Poznan University of Technology)
9:10 - 9:30	580	Electrical vehicle charging strategy for electric road systems considering V2G technology	WEI ZUO (University of Leeds)*; Kang Li (University of Leeds)
9:30 - 9:50	102	Design and Implementation of Cascaded Ant Colony Optimization Coupled with Sliding Mode Controller for Autonomous Cruise Control System	Muhammad Majid Gulzar (King Fahd University of Petroleum and Minerals)*; Muhammad Mughees Ahmed (University of Central Punjab, Lahore); Adnan Shakoor (King Fahd University of Petroleum and Minerals); Muhammad Khalid (King Fahd University of Petroleum and Minerals (KFUPM))

9:50 - 10:10	153	Analysis of Battery-Supercapacitor Hybrid Energy System with MPC-based PMSM Control for Electric Vehicles	Ifte K Amin (SUST)*; Azam Jaman (Shahjalal University of Science and Technology); Mahim Ahmed (Shahjalal University of Science & Technology); Md. Nahid Islam (Shahjalal University of Science & Technology); Mohammad Nasir Uddin (Lakehead University)
10:10 - 10:30	578	Enhancing Power Quality Using 12-Pulse AC-DC Converter with DC Side Current Injection Scheme in More Electric Aircraft Applications	Izhar Ahmad (Jamia Millia Islamia, New Delhi); Mohammad Amir (Department of Electrical Engineering, Indian Institute of Technology (IIT), Delhi); Mohd Tariq (Florida International University)*; Arif Sarwat (Florida International University)

Parallel Session PS-1.1.E - Intelligent Control

Track: Power and Energy Enabling Technologies

Time and Date: 8:30 - 10:30 and December 03, 2023

Room: B67-302

Chairs: Prof. Dr. P. N. Tekwani (NIRMA University); Prof. Danny Sutanto (University of Wollongong)

Time	Paper ID	Paper Title	Authors
8:30 - 8:50	419	Modified Pre-Fluxing Method for Energization of Single-Phase Transformers	Amir Aghazadeh (University of Leeds)*; Kang Li (University of Leeds); Vladimir Terzija (Shandong University); sadegh azizi (University of Leeds)
8:50 - 9:10	202	A Novel Intelligent Power Control Technique for a Type-3 Wind Energy Conversion System with LVRT Capability and Improved Dynamic Performance	Mohammad N Uddin (Lakehead University)*; Md. Shamsul Arifin (Lakehead University)
9:10 - 9:30	375	GA-based Integrated SHM-NLC Control for a Single Sourced Switched Capacitor Multi-Level Inverter with Boosting Capability for Microgrid	Hasan Iqbal (Florida International University); Shahid Tufail (Florida International University); Mohd Tariq (Florida International University); Arif Sarwat (Florida International University)*; Adil Sarwar (Aligarh Muslim University)
9:30 - 9:50	376	A Multi-Boost Converter for DC Capacitor Ripple Voltage Reduction to Enhance Irradiance Dependent PV-to-Grid Power Quality	Sukanta Roy (Florida International University); Milad Behnamfar (Florida International University); Anjan Debnath (Florida International University); Mohd Tariq (Florida International University); Arif Sarwat (Florida International University)*
9:50 - 10:10	547	Long Short Term Memory utilized Photovoltaic Inverter Humidity Controller for Capacitor Reliability Enhancement	Sukanta Roy (Florida International University); Abdul Shakir Khan (Florida International University); Mohd Tariq (Florida International University); Arif Sarwat (Florida International University)*
10:10 - 10:30	258	A Novel Single-Phase Seven-Level Boost Inverter with Simplified Control	VAN DAI VO (Chonnam National University); Minh-Khai Nguyen (Global Electrification and Battery Systems, General Motors Company); Truong-Duy Duong (Department of Electrical and Computer Engineering, Wayne State University); Van-Cuong Bui (Department of Electrical Engineering, Chonnam National University); Gia Minh Thao Nguyen (Department of Mechanical, Electrical and Electronic Engineering, Shimane University)*; Tan-Tai Tran (Industrial University of Ho Chi Minh City); Young-Cheol Lim (Department of Electrical Engineering, Chonnam National University); Joon-Ho Choi (Department of Electrical Engineering, Chonnam National University)

Sunday 3rd December 2023

Paper Session 2

Parallel Session PS-1.2.A - Energy Storage Technologies I

Track: Energy Storage Integration (SS3)

Time and Date: 10:45 - 12:45 and December 03, 2023

Room: B67-101

Chairs: Dr. Hadi Lomei (Essential Energy); Dr. Md Moktadir Rahman (Essential Energy)

Time	Paper ID	Paper Title	Authors
10:45 - 11:05	434	An Options-based Market Model for an Isolated Microgrid with Battery Storage	Chris Johnathon (University of Wollongong)*; Ashish Agalgaonkar (University of Wollongong); Chayne Planiden (University of Wollongong); Joel Kennedy (Energy Queensland)
11:05 - 11:25	130	Efficient Utilization of Regenerative Energy in Urban Rail Transit Based on Hybrid Energy Storage: Modeling, Control and Application	Yajie Zhao (Beijing jiaotong university)*; Fei Lin (Beijing jiaotong university); Zhongping Yang (Beijing jiaotong university); Zhihong Zhong (Beijing jiaotong university)
11:25 - 11:45	159	Cost Effective Analysis of Stationary and Mobile Energy Storage Systems in Prosumer Microgrid Considering System Reliability and Real-Time Pricing Scheme	Moazzam Shehzad (Lincoln University College); Nasir Jamal (Lincoln University College); Hafiz Abd ul Muqteet (Punjab Tianjin University of Technology); Sohrab Mirsaedi (Beijing Jiaotong University)*; Kashem M Muttaqi (University of Wollongong)
11:45 - 12:05	441	Optimized PV-Battery Systems using Backtracking Search Algorithm for Sustainable Energy Solutions	M. G. M. Abdolrasol (Universiti Tenaga Nasional); Pin Jern Ker (Universiti Tenaga Nasional); M A Hannan (Sunway University)*; S. K. Tiong (Universiti Tenaga Nasional); Afida Ayob (Universiti Kebangsaan Malaysia); J. F. S. Almadani (Universiti Putra Malaysia)
12:05 - 12:25	579	A Two-stage Optimal Operation Strategy of Distribution Networks Considering Mobile Energy Storage Flexibility	Chen Li (Department of Electrical and Electronics Engineering, North China Electric Power University; State Grid Corporation of China); Jiangping Jing (State Grid Jiangsu Electric Power Co., LTD.); Lei Tao (North China Electric Power University)*; Rui Wang (Department of Electrical and Electronics Engineering, North China Electric Power University); Shiwei Xia (North China Electric Power University); Peng Wang (Department of Electrical and Electronics Engineering, North China Electric Power University)
12:25 - 12:45	278	Optimized Intelligent Controller for Energy Storage based Microgrid towards Sustainable Energy Future	Sayem Mohammad Abu (UNIVERSITI TENAGA NASIONAL); M A Hannan (Sunway University)*; M Mansor (Universiti Tenaga Nasional); Pin Jern Ker (Universiti Tenaga Nasional); Chua Yaw Long (Universiti Tenaga Nasional)

Parallel Session PS-1.2.B - Communication for Power Grids I

Track: IoT and Communication for Energy Technologies

Time and Date: 10:45 - 12:45 and December 03, 2023

Room: B67-102

Chairs: Dr . S. Moorthi (NIT Trichy); Dr. Sleiman Mhanna (The University of Melbourne)

Time	Paper ID	Paper Title	Authors
10:45 - 11:05	51	An Artificial Neural Network Based Strategy for Commutation Failure Forecasting in LCC-HVDC Transmission Networks	Sohrab Mirsaedi (Beijing Jiaotong University)*; Fuxiang Shang (Beijing Jiaotong University); Kimia Ghaffari (Beijing Jiaotong University); Jinghan He (Beijing Jiaotong University); BINTI MAT SAID DALILA (UNIVERSITI TEKNOLOGI MALAYSIA); Kashem M Muttaqi (University of Wollongong)
11:05 - 11:25	64	Wireless Power Transfer Platform to re-charging UAVs using Sandwich coils with Planar ferrite cores and Renewable Source	Tania Dr Parveen (Griffith University); Haoshuang Ma (Griffith University)*; Simon Yao (Griffith university); Junwei Lu (Griffith University)
11:25 - 11:45	176	Experiment Research of Distributed Optical Fiber Applied to High Temperature Superconducting Cable Demonstration	Guilun Chen (Huazhong university of science and technology)*; Li Ren (Huazhong university of science and technology); Xianhao Li (Huazhong university of science and technology); Kao Zhou (Huazhong university of science and technology); Zhe Wang (Shenzhen Power Supply Co. Ltd.); Anlong Zhang (Shenzhen Power Supply Co. Ltd.)
11:45 - 12:05	193	Estimation on Power Acquirement of Trains Based on Smart Sensing on Current through Parasitic Capacitor	Yufei Du (Huazhong University of Science and Technology)*; Yang Jiao (Sch of Elect & Elect Engn, Huazhong Univ Sci & Technol); Yongzheng Zhu (Sch of Elect & Elect Engn, Huazhong Univ Sci & Technol); Chenyu Liu (); Yifan Gu (Sch of Elect & Elect Engn, Huazhong Univ Sci & Technol)
12:05 - 12:25	65	A Study on the Effects of Single-Phase Rooftop Solar Photovoltaic Systems on Relay Protection of Distribution Networks	you peng Yin (Changsha University Of Science & Technology)*; yuanyuan Wang (Changsha University Of Science & Technology); hongzhen Ji (Changsha University Of Science & Technology); chengjun Cao (Changsha University Of Science & Technology); yuxuan Ye (Changsha University Of Science & Technology); qilin Fang (Changsha University Of Science & Technology)
12:25 - 12:45	56	Numerical Analysis and Simulation Verification of Multi-pattern Switching Angles Distribution for Five-Level Selective Harmonic Elimination PWM	Chuanchuan Luo (Chongqing University); Bo Guan (Chongqing University)*

Parallel Session PS-1.2.C - Grid Stability

Track: Power and Energy Transformation and Utilisation

Time and Date: 10:45 - 12:45 and December 03, 2023

Room: B67-303

Chairs: Dr. Anthony B Morton (Vysus Australia Pty Ltd); Dr. Deepak M (NIT Calicut)

Time	Paper ID	Paper Title	Authors
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10:45 - 11:05	61	Inertia Provision of DFIG-Based Wind Turbines by Improving the Damping Ratio of PLL	Yini Zhou (Huazhong University of Science and Technology)*; Wei He (Huazhong University of Science and Technology); Donghai Zhu (State Key Laboratory of Advanced Electromagnetic Engineering and Technology, School of Electrical and Electronic Engineering Huazhong University of Science and Technology); Xudong Zou (State Key Laboratory of Advanced Electromagnetic Engineering and Technology, School of Electrical and Electronic Engineering Huazhong University of Science and Technology); Zhikun Wang (State Grid Shandong Electric Power Company Dongying Power Supply Company); Weilin Hou (China Electric Power Research Institute)
11:05 - 11:25	152	The Application Research of SFCLs on MVDC SPS	Zheng Li (Huazhong university of science and technology)*; Li Ren (Huazhong university of science and technology); Ying Xu (Huazhong university of science and technology); Jing Shi (Huazhong university of science and technology); Jingdong Li (Huazhong University of Science and Technology); Yuejin Tang (Huazhong University of Science and Technology)
11:25 - 11:45	160	Evaluation of Electrical and Thermal Stresses in Conventional and Solid-State Fault Current Limiter-Based Hybrid HVDC Circuit Breaker	saqib khalid (The University of Lahore); Muhammad Zain Yousaf (hubei university of automative technology); Min Luo (Hubei University of Automotive Technology); Wu Wenhuan (Hubei University of Automotive Technology); Sohrab Mirsaedi (Beijing Jiaotong University)*; Kashem M Muttaqi (University of Wollongong)
11:45 - 12:05	275	A Novel Distributed Secondary Control Method for Microgrids with Forced Deviation Constraint	Congyue Zhang (Southeast University)*; Xiaobo Dou (Southeast University); jianfeng Zhao (please add your institution); Yongqing Lv (Southeast University)
12:05 - 12:25	291	Non-invasive Open-Circuit Fault Diagnosis of Three-Level NPC Inverters Based on Neutral Point Voltage	Wenli Zhang (Chongqing University); Bo Guan (Chongqing University)*
12:25 - 12:45	431	Small-Signal Modelling and Dynamic Performance Analysis of Grid-Connected MVDC-Active Distributed Energy Network interconnect to AC grid	Ashwin Khambadkone (NUS)*

Parallel Session PS-1.2.D - Power Grid Resiliency II

Track: Power Grid Planning and Operation

Time and Date: 10:45 - 12:45 and December 03, 2023

Room: B67-203

Chairs: Dr. Waqas Hassan (University of Tasmania); Dr. Hassan Haes Alhelou (Monash University)

Time	Paper ID	Paper Title	Authors
10:45 - 11:05	321	An Evaluative Framework for Regional Vulnerability and Power System Resilience Against Flooding: A Case Study of Charleston County, South Carolina	Sahand Liasi (Clemson University)*; Narges S. Ghiasi (Clemson University); Ramtin Hadidi (Clemson University)
11:05 - 11:25	423	A Comprehensive Reactive Power Optimization Model for Distribution Grid with Renewables	Sen Yuan (State Grid Shandong Electric Company); Lei Tao (North China Electric Power University)*; Shumin Sun (State Grid Shandong Electric Power Research Institute); Jiawei Xing (State Grid Shandong Electric Power Research Institute); Yan Cheng (State Grid Shandong Electric Power Research Institute); Shiwei Xia (North China Electric Power University)

11:25 - 11:45	477	Robust Online Estimation of Power Flow Sensitivity Factors against Renewable Energy Stochasticity: A Sparse Representation-based Approach	Yingqi Liang (National University of Singapore)*; Junbo Zhao (University of Connecticut); Dipti Srinivasan (National University of Singapore)
11:45 - 12:05	100	Strategic Bidding Behavior Analysis with Truthfully Modeled Generator Output Range	Yi Wang (Chongqing University); Zhifang Yang (Chongqing University)*; Juan Yu (Chongqing University)
12:05 - 12:25	392	Optimal Feeder Reconfiguration of Power Distribution Network using PSO with Population Adaptation	Ameen Al Hosani (DEWA); GAGANDEEP SINGH DUA (DEWA)*; Sajan K Sadanandan (DEWA); Tareg Ghaoud (DEWA)
12:25 - 12:45	581	An Optimal Operation Strategy of Tie line Considering the Coordination of Wind-Photovoltaic-Thermal Power at Sending and Receiving Ends	Yuanyuan WANG (North China Electric Power University)*; Fuqiang Zhang (State Grid Energy Research Institute Co., Ltd.); Yichun Gong (State Grid Energy Research Institute Co., Ltd.); Jun Zhang (State Grid Qinghai Electric Power Company Economic and Technological Research Institute); Hongxia Li (State Grid Qinghai Electric Power Company Economic and Technological Research Institute); Jitai Li (State Grid Qinghai Electric Power Company Economic and Technological Research Institute); Shiwei Xia (North China Electric Power University)

Parallel Session PS-1.2.E - Power Electronics Application I

Track: Power and Energy Enabling Technologies

Time and Date: 10:45 - 12:45 and December 03, 2023

Room: B67-302

Chairs: Dr. Georgios Konstantinou (UNSW Sydney); Dr. Anmol Ratna Saxena (National Institute of Technology Delhi)

Time	Paper ID	Paper Title	Authors
10:45 - 11:05	357	Comparative Study of SynRM and PMSM Efficiency in a Air-to-Water chiller using Variable Speed Drive	Kushaal Kumar (University of South Pacific); Vishal Kumar (The University of South Pacific); Paula Vuruna (University of South Pacific); Rokodugu Naisorotabua (University of South Pacific); Ravneel Prasad (University of South Pacific); Dhirendran M Kumar (University of South Pacific)*; Pietro Catrini (University of Palermo)
11:05 - 11:25	161	AI-Driven Optimization Approach for Enhanced Performance of Power Converters through Efficient Controller Tuning	Muhammad Ahmad Khan (Tianjin University); Muhammad Zain Yousaf (hubei university of automotive technology); Min Luo (Hubei University of Automotive Technology); Wu Wenhuan (Hubei University of Automotive Technology); Sohrab Mirsaedi (Beijing Jiaotong University)*; Kashem M Muttaqi (University of Wollongong)
11:25 - 11:45	307	Analysis and Improvement of DC Winding Current Dynamics in Wound Field Switched Flux Machine	wentao zhang (Southeast university)*; Zhongze Wu (Southeast university); Ying Fan (Southeast University); Wei Hua (Southeast University); Ming Cheng (Southeast University)
11:45 - 12:05	412	Study of Coordination Control Method of Multi-Port Solid-State Transformer Against Power Fluctuations	XF QIAO (Wuhan University); Lei Chen (Wuhan University)*; Jingguang Tang (Wuhan University); Hongkun Chen (Wuhan University)
12:05 - 12:25	430	A Current Vector based Open Circuit Fault Detection Technique for Industrial dc-ac Power Converters	Marif Daula Siddique (National University of Singapore)*; Mrutyunjaya Sahani (National University of Singapore); Prasanth Sundararajan (National University of Singapore); Diptak Pal (National University of Singapore); Sanjib Panda (National University of Singapore)

12:25 - 12:45	469	Bidirectional Flyback Converter for Power Management between Lithium Battery and DC distribution System	Sheng-Yu Tseng (Chang Gung University)*; Chung-Kai Wu (Chang Gung University)
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Sunday 3rd December 2023

Paper Session 3

Parallel Session PS-1.3.A - Low Carbon System Transition I

Track: Grid Decarbonization (SS02)

Time and Date: 13:30 - 15:30 and December 03, 2023

Room: B67-101

Chairs: Dr. Rene Rossi (R Rossi & Associates); Dr. Colin Coates (The University of Newcastle)

Time	Paper ID	Paper Title	Authors
13:30 - 13:50	302	Carbon tax utility analysis based on multi-objective optimization and market equilibrium in power system	Shuxin Luo (Power Grid Planning Research Center of Guangdong Power Grid Co., Ltd.); zhihao long (Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences)*; Zhuoying Liao (Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences)
13:50 - 14:10	588	Distance Estimation for Early Three-core Cable Fault based on Multiple Amplitude Ratios Fusion of Grounding Line Current Selected Frequency Band	Peng Zhang (China University of Mining and Technology)*; Lihua Xu (China University of Mining and Technology); Rui Liang (China University of Mining and Technology); Yihang Pan (China University of Mining and Technology); Mohan Jin (China University of Mining and Technology); Nan Peng (China University of Mining and Technology)
14:10 - 14:30	602	Digital Prototyping of Data Payload Generator for Merging Unit in Substation Automation	Ashish Kumar (Indian Institute of Technology Roorkee)*; Vishal Kumar (Indian Institute of Technology Roorkee)
14:30 - 14:50	608	Cascaded SOGI In-Loop Comb Based Enhanced Phase Estimation Control for a Battery Less Grid-Tied SPVS During Abnormal Grid Conditions	Subhadip Chakraborty (Indian Institute of Technology Delhi)*; GAURAV MODI (Indian Institute of Technology, Delhi); Bhim Singh (Indian Institute of Technology Delhi); Bijaya Ketan Panigrahi (IIT Delhi); CHANDRAKALA DEVI SANJENBAM (Indian Institute of Technology, Delhi)
14:50 - 15:10	607	Optimal Day-Ahead Scheduling of Distributed Energy Resources: A Strategy Based on Information Gap Decision Theory to Address Multiple Uncertainties in the Active Distribution Networks	Kasi Vemalaiah (Indian Institute of Technology Roorkee)*; Dr Dheeraj K Khatod (Dept of Electrical Engineering, IIT Roorkee); Narayana Prasad Padhy (Indian Institute of Technology Roorkee)
15:10 - 15:30	147	A Low-Carbon Planning Strategy for Integrated Energy System and Hydrogen Refueling Stations with the Retirement of Oil Stations	Xian Zhang (Harbin Institute of Technology); Yue Yin (Stated Grid Corporation of China); Hong Wang (China Southern Grid); Ting Wu (Harbin Institute of Technology)*

Parallel Session PS-1.3.B - Energy Forecasting II

Track: Future Grid Energy Technologies

Time and Date: 13:30 - 15:30 and December 03, 2023

Room: B67-102

Chairs: Prof. Ankush Sharma (IIT Kanpur); A/Prof. Lasantha Meegahapola (RMIT University)

Time	Paper ID	Paper Title	Authors
13:30 - 13:50	106	Research on Short-Term Power Load Forecasting Method Based on CEEMDAN-ChOA-GRU	Xiaoyan Yang (Nanning Power Supply Bureau of Guangxi Power Grid Co., Ltd.); Xiaoxuan Guo (Electric Power Research Institute, Guangxi Power Grid Corporation); Chongmin Chen (Nanning Power Supply Bureau of Guangxi Power Grid Co., Ltd.); Mancheng Xie (Nanning Power Supply Bureau of Guangxi Power Grid Co., Ltd.); Jing Zhang (Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences)*; Jie Shu (Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences)
13:50 - 14:10	569	Forecasting of Energy Demand for Electric Vehicles using Machine Learning Techniques	Pranav Kumar Ayeer Goundar Venkatesan (National Institute of Technology Tiruchirappalli, India); Aneesa Farhan (NITT)*; Gokulan Subramanian Subramanian (NIT Tiruchirappalli); Girievasan Manivannan (NIT Tiruchirappalli); Ravula Rohan Pratap Reddy (NIT Tiruchirappalli)
14:10 - 14:30	288	A Gaussian Mixture Model and Conditional Generative Adversarial Network based Hybrid Method for Short-Term Wind Power Forecasting of Offshore Wind Farms	Zhitao Hu (Hohai University); Xiaorong Sun (Hohai University)*; Xueping Pan (Hohai University); Bixing Ren (State Grid Jiangsu Electric Power Co., Ltd. Electric Power Research Institute); Qiang Li (State Grid Jiangsu Electric Power Co., Ltd. Electric Power Research Institute); Qiu Kai (Hohai University)
14:30 - 14:50	599	Multi-Energy Load Forecasting for Integrated Energy Systems based on Causality Analysis and Multi-Task Learning	Qiu Kai (Hohai University); Xiaorong Sun (Hohai University)*; Xueping Pan (Hohai University); Jinpeng Guo (Hohai University); Zhitao Hu (Hohai University); Chengpeng Chen (Hohai University)
14:50 - 15:10	279	Gravitational Search Algorithm based Long Short-term Memory Deep Neural Network for Battery Capacity and Remaining Useful Life Prediction with Uncertainty	Md Subbir Reza (Universiti Tenaga Nasional); M A Hannan (Sunway University)*; M Mansor (Universiti Tenaga Nasional); Pin Jern Ker (Universiti Tenaga Nasional); Sieh Kiong Tiong (Universiti Tenaga Nasional); M J Hossain (University of Technology Sydney)
15:10 - 15:30	399	Intrusion Detection Tool for Residential Consumers Equipped with Smart Meters	Vikash Kumar Saini (MNIT Jaipur)*; Akshat Sharma (MBM Jodhpur); Rajesh Kumar (MNIT, Jaipur); Ameena Saad Al-Sumaiti (Khalifa University Abu Dhabi); Ehsan Heydariyan (Qom University of Technology)

Parallel Session PS-1.3.C - Power Quality I

Track: Power and Energy Transformation and Utilisation

Time and Date: 13:30 - 15:30 and December 03, 2023

Room: B67-303

Chairs: Dr. Sukumar Kamalasan (University of North Carolina at Charlotte); Stuart Addinell (CSIRO)

Time	Paper ID	Paper Title	Authors
13:30 - 13:50	97	Comparative Assessment of Constant V and Q controlled Renewable Rich Grid Connected Electric Vehicle Charging Station	SK. A. Shezan (Murdoch University, Perth, Australia)*; Md. Fatin Ishraque (Pabna University of Science and Technology (PUST)); GM Shafiqullah (Murdoch University); Moktadir Rahman (Essential Energy)

13:50 - 14:10	444	Reactive power compensator placement using flower pollination algorithm	Ardiaty Arief (Hasanuddin University)*; Hasniaty A. (Hasanuddin University); Muhammad Bachtiar Nappu (Hasanuddin University); Tajuddin Waris (Hasanuddin University); Andi Nur Aulia Azhar Mangkona (Hasanuddin University); Arjun Arjun (Hasanuddin University); Ayu Indryani (Hasanuddin University); Erwin Erwin (PT. PLN. (Persero) Education and Training Center)
14:10 - 14:30	472	Incremental based PSO for optimal power flow considering wind power producers	Muhammad Bachtiar Nappu (Hasanuddin University)*; Tajuddin Waris (Hasanuddin University); Hasniaty A. (Hasanuddin University); Ardiaty Arief (Hasanuddin University); Willy Akbar Ajami (Hasanuddin University); Yusril Abdullah (Hasanuddin University); Rahmat Ramadhani Ikkal (Hasanuddin University); Didin Setiawan (Hasanuddin University)
14:30 - 14:50	554	Enhancing Grid Stability through Adaptive Damping and Inertia Control in DFIG-Based Wind Turbines with VSync	Shwetank Agrawal (IIT Roorkee)*; Barjeev Tyagi (IIT Roorkee); Vishal Kumar (IIT Roorkee); Pawan Sharma (UiT)
14:50 - 15:10	516	Frequency Adaptive Enhanced Reduced-Order Generalized Integrator Control for Operation of DVR	Chinmay Vivek Deshpande (SVNIT Surat)*; Rajasekharreddy Chilipi (SVNIT); Sabharaj Arya (NIT Surat)
15:10 - 15:30	537	Current Control Strategy using Sinusoidal Signal Integrators for Harmonic Elimination in a Standalone Microgrid	Astha Bharat Patel (SVNIT, Surat)*; Rajasekharreddy Chilipi (SVNIT)

Parallel Session PS-1.3.D - Customer Energy I

Track: Power and Energy Transformation and Utilization

Time and Date: 13:30 - 15:30 and December 03, 2023

Room: B67-203

Chairs: Prof. Dr. P. N. Tekwani (NIRMA University); Dr. Georgios Konstantinou (UNSW Sydney)

Time	Paper ID	Paper Title	Authors
13:30 - 13:50	468	Development of Model Predictive Control for Three-Stage MMC-based Solid State Transformer to Interconnect High and Low Voltage AC Grids	ANKITA SHARMA (Sardar Vallabhbhai National Institute of Technology Surat (SVNIT))*; Rajasekharreddy Chilipi (SVNIT); V Praveenkumar Kuniseti (Sardar Vallabhbhai National Institute of Technology, Surat)
13:50 - 14:10	511	A Unified mode transition between Grid-tied and Islanded modes in a RBVSG using Uninterrupted Switching Scheme	SAMEER KUMAR BEHERA (Nit Rourkela)*; Anup Kumar Panda (NIT Rourkela); Dr. Venkata Ramana Naik N (NIT Rourkela); Saket RK (IIT BHU)
14:10 - 14:30	564	Modified Carrier Discontinuous PWM Technique for Mitigating THD and Capacitor Voltage Balancing Problem of T-type NPC Inverters	Shahriar Hossain (Rajshahi University of Engineering & Technology); Shuvra Prokash Biswas (Rajshahi University of Engineering & Technology)*; Sudipto Mondal (Rajshahi University of Engineering & Technology); Md. Rabiul Islam (University of Wollongong); Kashem M Muttaqi (University of Wollongong)
14:30 - 14:50	546	Experimental Identification of Mechanical Parameters for Speed Controller Design of Switched Reluctance Machine Drive	Thirumalasetty Mouli (Indian Institute of Science)*; Gopalaratnam Narayanan (Indian Institute of Science)

14:50 - 15:10	438	A Single Phase Multilevel Inverter with Reduced Component Count and Enhancing Performance Parameter	Md. Shihab Uddin (Rajshahi University of Engineering & Technology)*; Md. Shamim Anower (Rajshahi University of Engineering & Technology); Jubayer Ahmed Rony (Rajshahi University of Engineering and Technology); Aman Muang Than Oo (School of Engineering, Macquarie University)
15:10 - 15:30	587	Cascaded Generalized Integrator Based Universal Active Filter for Standalone Hydro System	CHANDRAKALA DEVI SANJENBAM (Indian Institute of Technology, Delhi)*; Bhim Singh (Indian Institute of Technology Delhi)

Parallel Session PS-1.3.E - Power Electronics Application II

Track: Power and Energy Enabling Technologies

Time and Date: 13:30 - 15:30 and December 03, 2023

Room: B67-302

Chairs: Dr. Anmol Ratna Saxena (National Institute of Technology Delhi); Prof. Jamshid Aghaei (Central Queensland University)

Time	Paper ID	Paper Title	Authors
13:30 - 13:50	443	Evaluation of Operating Modes for a Quadratic Boost Derived Reconfigurable Three Port Converter	Ritam Chakraborty (IIT Bhubaneswar)*; Debjit Rana (Indian Institute of Technology Bhubaneswar); Olive Ray (Indian Institute of Technology Bhubaneswar); Santanu Kumar Mishra (IIT Delhi)
13:50 - 14:10	296	Diode-Capacitor Assisted Input Switched AC to DC Boost Converter with Improved Power Quality	Istiaq Ahmed (Independent University,Bangladesh)*; Marjan Al Haque (Independent University Bangladesh); Golam Sarowar (Islamic University of Technology,Bangladesh)
14:10 - 14:30	377	Bipolar Dual-Transformer Hybrid Bridge Interface Converter with Fault Reconfiguration Capability for Bipolar LVDC Systems	Yijia Chen (Shanghai Jiao Tong University); ma jianjun (Shanghai Jiao Tong University)*; Miao Zhu (Shanghai Jiao Tong University)
14:30 - 14:50	257	A Review on the Applications of Reinforcement Learning Control for Power Electronic Converters	Peng Chen (Southeast University)*; jianfeng Zhao (please add your institution); Kangli Liu (Southeast University); Kun Dong (Southeast University)
14:50 - 15:10	524	Empirical Investigation of a Single-Phase New Topology Hybrid AC-DC Boost Converter with Low THD and High-Power Factor	Istiaq Ahmed (Independent University,Bangladesh)*; Marjan Al Haque (Independent University Bangladesh); Mehedi Maruf (Independent University,Bangladesh); Showrov Rahman (University of Rhode Island); Navila Rahman Nadi (Independent University, Bangladesh (IUB)); Md Abdur Razzak (Independent University, Bangladesh)
15:10 - 15:30	464	Inductance Estimation Method for Inductors Used in DC-DC Power Electronic Converters: Theory and Application	Kausik Biswas (Indian Institute of Technology Bhubaneswar)*; Dipal Roy (Indian Institute of Technology Bhubaneswar); Olive Ray (Indian Institute of Technology Bhubaneswar)

Sunday 3rd December 2023

Paper Session 4

Parallel Session PS-1.4.A - Energy Storage System Operation I

Track: Energy Storage Integration (SS3)

Time and Date: 15:45 - 17:30 and December 03, 2023

Room: B67-101

Chairs: Dr. Colin Coates (The University of Newcastle); Prof. Gerard Ledwich (Queensland University of Technology)

Time	Paper ID	Paper Title	Authors
15:45 - 16:05	322	State of Health and Degradation Mode Diagnostics for Lithium Metal Battery using Incremental Capacity Analysis	Nauman Z Butt (Lahore University of Management Science)*; Iqra Kiran (Lahore University of Management Science)
16:05 - 16:25	359	PHIL Experimentation for Evaluating Advanced Volt/VAR Control Performance of BESS in Active Distribution Networks	Souvik Sengupta (Indian Institute of Technology Roorkee)*; Ankit Mishra (Indian Institute of Technology Roorkee); Ganesh Kumbhar (Indian Institute of Technology Roorkee); Narayana Prasad Padhy (Indian Institute of Technology Roorkee)
16:25 - 16:45	577	System Frequency Control in Faster and Cost-Effective Manner along with Energy Storage Charging by Dual-point Adaptive Droop Coefficient	Apurti Jain (IIT Roorkee)*; Narayana Prasad Padhy (IIT Roorkee); Mukesh Kumar Pathak (IIT Roorkee)
16:45 - 17:05	502	Performance Analysis of Passivity-Based Controller in a Standalone PV Connected System with Energy Storage	Santhoshkumar Battula (National institute of technology, Rourkela)*; Anup Kumar Panda (NIT Rourkela); Man Mohan Garg (MNIT Jaipur); Professor Dr. R.K. Saket (Indian Institute of Technology (Banaras Hindu University) Varanasi (UP) INDIA)
17:05 - 17:25	95	Enhancement of Energy Storage System and HVDC Transmission for Optimal Handling of Duck Curve in High Solar PV integrated Networks	Wasseem Khardawi (King Fahd University of Petroleum and Minerals); Khalid Abdullah Khan (King Fahd University of Petroleum and Minerals)*; Muhammad Khalid (King Fahd University of Petroleum and Minerals (KFUPM))

Parallel Session PS-1.4.B - Distributed Energy Resources

Track: Future Grid Energy Technologies

Time and Date: 15:45 - 17:30 and December 03, 2023

Room: B67-102

Chairs: Julie-Anna SMITH (Bureau Veritas Group); Dr. S. Moorthi (NIT Trichy)

Time	Paper ID	Paper Title	Authors
15:45 - 16:05	508	Optimal Hybrid Type-2 Fuzzy-PID Controller For Blade Pitch Angle in Horizontal-axis Wind Turbines	adnan qahtan adnan (Baghdad university)*; Mohammed Hussein (Baghdad university)

16:05 - 16:25	54	Soft Shading Sensor with Real-time Maximum Power Point Tracking Capability for Photovoltaic Strings	Kangshi Wang (XI'an Jiaotong-liverpool University)*; Xiao Lu (XI'an Jiaotong-liverpool University)
16:25 - 16:45	108	Photovoltaics Maximum Power Tracking by the Hybrid Perturb-Observe and Sliding Mode Control Strategies	Nema Mohamed Salem (Effat University)*; Eithar Alammari (Effat University); Joud Alamro (Effat University); Sara Alashwali (Effat University)
16:45 - 17:05	158	Optimal PID and FOPID Based Pitch Angle Control of Wind Generation System	Md Muzakkir Quamar (King Fahd University of Petroleum and Minerals); Khalid Abdullah Khan (King Fahd University of Petroleum and Minerals)*; Muhammad Khalid (King Fahd University of Petroleum and Minerals (KFUPM))
17:05 - 17:25	183	Optimal Power Generation of Variable Wind Turbine System Using Linear Quadratic Regulator	Khalid Abdullah Khan (King Fahd University of Petroleum and Minerals)*; Md Muzakkir Quamar (King Fahd University of Petroleum and Minerals); Muhammad Majid Gulzar (King Fahd University of Petroleum and Minerals); Muhammad Khalid (King Fahd University of Petroleum and Minerals (KFUPM))

Parallel Session PS-1.4.C - Energy Storages and Electric Vehicles

Track: Power and Energy Transformation and Utilisation

Time and Date: 15:45 - 17:30 and December 03, 2023

Room: B67-303

Chairs: Dr. Ashish Agalgaokar (University of Wollongong); Dr. Anthony B Morton (Vysus Australia Pty Ltd)

Time	Paper ID	Paper Title	Authors
15:45 - 16:05	325	A Modified Adaptive Decentralized Control for Managing the Available Capacity of Distributed Community Energy Storage	Ganesh Kumbhar (Indian Institute of Technology Roorkee); Krishna Reddy Gunupati (Indian Institute of Technology, Roorkee)*; Narayana Prasad Padhy (Indian Institute of Technology Roorkee)
16:05 - 16:25	141	Game Theoretic-Based Joint Logistics and Energy Service Utilization Strategy for Electric Ships Considering Ship to Port Behavior	Annie LIN (Shanghai Jiao Tong University)*; Shuli Wen (Shanghai Jiao Tong University); Miao Zhu (Shanghai Jiao Tong University); Zhaohao Ding (North China Electric Power University)
16:25 - 16:45	460	EV Charging Coordination Based Energy Management System for a Grid-tied Charging Station Integrated with PV-ESS	AMIT KUMAR PANDIT (IIT ROORKEE)*; Bhavesh Bhalja (IIT Roorkee); Jeevanand S (IIT Roorkee)
16:45 - 17:05	154	Novel Single Phase Single Stage High Power Factor Integrated Battery Charger for Plug-in Electric Vehicles	Laxman Mutyam (IIT Bombay)*; Vivek Agarwal ("Indian Institute of Technology, Bombay")
17:05 - 17:25	474	Modeling and Control of Dual Active Bridge Converter for EV Charging	Vishwanatha Siddhartha (IIT Kanpur)*; GUDELLI SHIVAKUMAR (IIT KANPUR); Amarendra Edpuganti (IIT Kanpur)

Parallel Session PS-1.4.D - Multi-Energy Systems

Track: Multi-Energy Systems (SS1)

Time and Date: 15:45 - 17:30 and December 03, 2023

Room: B67-203

Chairs: Dr. Yunqi Wang (Monash University); Dr. JiaJia Yang (James Cook University)

Time	Paper ID	Paper Title	Authors
15:45 - 16:05	411	A Novel Consensus-driven Technique for Optimal Power Allocation in Smart Energy Networks Considering Multiple Fueling Feature of Thermal Plants	ijaz ahmed (PIEAS); Wasseem Khardawi (Saudi ARAMCO); Fahad Saleh AL-Ismael (KFUPM); Muhammad Khalid (King Fahd University of Petroleum and Minerals (KFUPM))*
16:05 - 16:25	47	Energy Management of Smart Buildings in Low-Temperature District Heating Systems	Jiawei Wang (Technical University of Denmark)*; Cuo Zhang (The University of Sydney); Hanguang Su (Northeastern University); Yi Zong (Technical University of Denmark); Shi You (Technical University of Denmark); Goran Strbac (Imperial College London, UK)
16:25 - 16:45	295	Low-carbon Optimal Scheduling of Regional Integrated Energy System Considering Multi-energy Flexibility Complementarity	Zhan Xiong (Shanghai Jiao Tong University)*; Yifan Li (State Grid Materails Company); Shichao Zhou (Shanghai Jiao Tong University); Lingling Wang (Shanghai Jiao Tong University); Chuanwen Jiang (Shanghai Jiao Tong University)
16:45 - 17:05	149	Coordinated Operation of Coupled Transportation and Energy System based on Modified User Equilibrium Assignment Model	Guibin Wang (Shenzhen University); Xiaoyan Gao (FAW-Volkswagen Automobile Co., Ltd); Yucheng Jian (Guangzhou Branch of Tianjin Municipal Engineering Design and Research Institute Co., Ltd); Yuxin Sun (Imperial College London)*; Jing Qiu (The University of Sydney)
17:05 - 17:25	57	Design and Implementation of Novel Plant-Based Hybrid Microbial Fuel Cell (MFC) Systems with Dry and Wet Configurations	Matthew Lo (The Haverford School)*

Parallel Session PS-1.4.E - Smart Energy Networks

Track: Power and Energy Enabling Technologies

Time and Date: 15:45 - 17:30 and December 03, 2023

Room: B67-302

Chairs: Prof. Frede Blaabjerg (Aalborg University); Nishad Mendis (Bureau Veritas Group)

Time	Paper ID	Paper Title	Authors
15:45 - 16:05	103	Interval Type-2 Fuzzy logic virtual inertia control	Razzaqul Dr. Ahshan (Sultan Qaboos University College of Engineering)*; Myada Shadoul (sultan qaboos university); Rashid Al Abri (Sultan Qaboos University); Abdullah Al-Badi (SQU); Mohammed Albadi (Arab Open University)
16:05 - 16:25	117	Cooperative Control for Stabilizing Voltage Fluctuation of DC Microgrid with Multiple Electric Springs	(THE NORTH CHINA ELECTRIC POWER UNIVERSITY); Yazhi Tan (North China Electric Power University)*; (THE NORTH CHINA ELECTRIC POWER UNIVERSITY)

16:25 - 16:45	32	Integral Reinforcement Learning Control for a Class of Unknown Nonlinear Systems with an Application to a Microgrid System	Shanyong Xu (Northeastern University); Hanguang Su (Northeastern University)*; Xiaodong Liang (University of Saskatchewan); Jinzhu Yang (Northeastern University); Jiawei Wang (Technical University of Denmark); Xinyang Luan (Northeastern University)
16:45 - 17:05	476	Automatic Generation Control for a Two-Area Multi-Source Power System with Renewable Energy Using the Komodo Mlipir Algorithm	Windiarto Win Windiarto (Hasanuddin University); Muhammad Bachtiar Nappu (Hasanuddin University)*; Hasniaty A. (Hasanuddin University); Ardiaty Arief (Hasanuddin University)
17:05 - 17:25	589	AC/DC Hybrid Microgrid Design with Emphasis on Safety and Stability	Harun Or Rashid Howlader (Hawaii Natural Energy Institute)*; Saeed Sepasi (Hawaii Natural Energy Institute); Brian Griswold (Hawaii Natural Energy Institute); Tung Lam Nguyen (HNEI); Marc M. Matsuura (Hawaii Natural Energy Institute); Leon R. Roose (Hawaii Natural Energy Institute)

Monday 4th December 2023

Paper Session 5

Parallel Session PS-2.1.A - Power Electronics Converter

Track: Power and Energy Enabling Technologies

Time and Date: 7:45 - 9:30 and December 04, 2023

Room: B67-101

Chairs: Dr. Dulsha Kularatna-Abeywardana (The University of Auckland); Prof. Manoj Tripathy (IIT Roorkee)

Time	Paper ID	Paper Title	Authors
7:45 - 8:05	131	A Novel Transformer Less Grid-Tied Multi Level Boost PV Inverter	ANKUR SRIVASTAVA (IIT ROORKEE)*; Jeevanand Seshadrinath (IIT Roorkee)
8:05 - 8:25	28	A Novel Boost Converter for Low Power Photo-Voltaic Harvesters	Maziar Dr. Rastmanesh (Dalhousie University)*; Ezz El-Masry (Dalhousie University); Kamal El-Sankary (Dalhousie University)
8:25 - 8:45	81	A Disturbance Observer-based NFTSMC to Improve the Dynamic Stability of WECS- based Microgrids	Md Nafiz Musarrat (Louisiana USA); Afef Fekih (ACECS-2016 Chair)*; Md. Rabiul Islam (University of Wollongong); Kashem M Muttaqi (University of Wollongong)
8:45 - 9:05	539	Three Phase PFC Rectifier Control Design Using Harmonic Current Injection Approach	ANKUR SRIVASTAVA (SOUTH DENMARK UNIVERSITY)*; Ramkrishan Maheshwari (University of Southern Denmark); THOMAS EBEL (SOUTH DENMARK UNIVERSITY); EGON HANSEN (OJ ELECTRONICS); LASSE LARSEN (OJ ELECTRONICS)
9:05 - 9:25	550	Advanced Topologies of Three-Phase AC-AC Power Converters	Shashotto Sworov Haque (Rajshahi University of Engineering & Technology); Shuvra Prokash Biswas (Rajshahi University of Engineering & Technology)*; Sudipto Mondal (Rajshahi University of Engineering & Technology); Dr. Md. Kamal Hosain (Rajshahi University of Engineering & Technology); Md. Rabiul Islam (University of Wollongong); Kashem M Muttaqi (University of Wollongong)

Parallel Session PS-2.1.B - Clean Energy Technologies I

Track: Future Grid Energy Technologies

Time and Date: 7:45 - 9:30 and December 04, 2023

Room: B67-102

Chairs: Dr. Hassan Haes Alhelou (Monash University); Prof. Hussain Shareef (United Arab Emirates University)

Time	Paper ID	Paper Title	Authors
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7:45 - 8:05	366	Control of Electrical/Thermal Multi-Energy Micro-grid	Pablo Horrilo-Quintero (University of Cadiz); Pablo García-Triviño (University of Cadiz); Ehsan Hosseini (University of Cadiz); Carlos Andrés García-Vázquez (University of Cadiz); Higinio Sánchez-Sainz (University of Cadiz); Carlos Ugalde-Loo (Cardiff University); Vedran Peric (Technical University of Munich); Luis M. Fernández-Ramírez (University of Cadiz)*
8:05 - 8:25	528	Study on the power generation of small-scale wind systems due to PMG temperature rise	Cedric Caruana (University of Malta)*; Claire Grima (University of Malta)
8:25 - 8:45	489	Electric Vehicles Impact on Distribution Network Demand and Power Quality	Dr Inam Nutkani (RMIT)*; Waleed Khan (RMIT)
8:45 - 9:05	201	Optimum Cost and Eco-Friendly Power Management in a Micro-Grid, Based on Multi-Agent Reinforcement Learning	Mohammad N Uddin (Lakehead University)*; Yazdan H. Tabrizi (Lakehead University)
9:05 - 9:25	488	Integrating Solar-Collector and Biomass Heating Systems for Sustainable Greenhouse Agriculture	Mohammad Ghiasi (University of Regina)*; Zhanle Wang (University of Regina); Mehran Mehrandehz (University of Regina); Raman Paranjape (University of Regina)

Parallel Session PS-2.1.C - Grid Stability and Control I

Track: Power and Energy Transformation and Utilisation

Time and Date: 7:45 - 9:30 and December 04, 2023

Room: B67-303

Chairs: A/Prof. Lasantha Meegahapola (RMIT University); Dr. Mohamed A Hassan (King Fahd University of Petroleum & Minerals)

Time	Paper ID	Paper Title	Authors
7:45 - 8:05	229	Three-Phase Grid-Synchronization: A Tracking-Filter In-the-Loop Approach	Gilberto Pin (Electrolux); Pedram Shahriari Nasab (Electrolux)*
8:05 - 8:25	246	Damping of SSR Oscillations of Series Compensated Power System Connected To Two-Stage P-V Controlled PV Power Plant	FAWZI ALJowder (Retired)*
8:25 - 8:45	187	Targeted Fast Frequency Response by Decomposing Frequency into Transient and Steady-State Deviations	Jesus Sanchez Cortes (University of Leeds)*; Mohammad Rezaei Jegarluei (University of Leeds); sadegh azizi (University of Leeds)
8:45 - 9:05	542	Disruptive Effects of Denial-of-Service (DoS) Attacks on Microgrid Distributed Control: Altered Communication Topology, Voltage Stability, and Accurate Power Allocation	MD ABU TAHER (Florida International University); Hasan Iqbal (Florida International University); Mohd Tariq (Florida International University); Arif Sarwat (Florida International University)*
9:05 - 9:25	162	Feasibility Study of Hybrid Microgrids with Green Hydrogen Production Capability for Kiribati	Nantenikoria Katauea (University of South Pacific)*; Shyamal Shivneel Chand (University of South Pacific); Ravneel Prasad (University of South Pacific); Krishnil KR Ram (The University of the South Pacific); Ali MOHAMMADI (USP); Maurizio Cirrincione (USP, UTBM)

Parallel Session PS-2.1.D - Power Grid Distribution

Track: Power Grid Planning and Operation

Time and Date: 7:45 - 9:30 and December 04, 2023

Room: B67-203

Chairs: Dr. Muhammad Khalid (King Fahd University of Petroleum and Minerals); Dr. Sara Deilami (Macquarie University)

Time	Paper ID	Paper Title	Authors
7:45 - 8:05	241	Preliminary Observations of Supraharmonics in Low Voltage Networks	Piotr Kuwałek (Poznan University of Technology)*; Grzegorz Wiczyński (Poznan University of Technology)
8:05 - 8:25	400	Inverter-based Tone Burst Signals for Decentralized Communication-less Blackout Detection	Mina Mirzadeh (Leibniz University Hannover)*; Axel Mertens (Leibniz University Hannover)
8:25 - 8:45	199	A Loss Reduction Formulation for Capacitor Placement in Reconfigurable Distribution Grids with Variable Electricity Consumption	Meisam Mahdavi (University of Jaén)*; Augustine Awafo (University of Jaén); Francisco Jurado (University of Jaen); Pasala Gopi (Annamacharya Institute of Technology and Sciences)
8:45 - 9:05	452	Probabilistic Frequency Stability Assessment as Affected by System Load and Renewable Generation Uncertainties	Ali M. Hakami (RMIT University)*; Mohammed Alzubaidi (RMIT University); Dr. Kazi Hasan (RMIT University); Manoj Datta (RMIT University)
9:05 - 9:25	206	Mathematical Representation of Electrical Load Components in Terms of Industrial, Domestic, and Commercial Consumptions	Meisam Mahdavi (University of Jaén)*; Augustine Awafo (University of Jaén); Francisco Jurado (University of Jaen)

Parallel Session PS-2.1.E - Energy Management Technologies I

Track: Power Grid Planning and Operation

Time and Date: 7:45 - 9:30 and December 04, 2023

Room: B67-302

Chairs: Prof. Danny Sutanto (University of Wollongong); Dr. Amrithesh Kumar (NIT Silchar)

Time	Paper ID	Paper Title	Authors
7:45 - 8:05	151	Effect of AC COP and Energy Tariff on Space Cooling Energy Consumption in Hot Climate Regions	Abdullah Alamri (Islamic University of Madinah)*
8:05 - 8:25	189	Modeling and Experimental Investigation of Energy Management for Hybrid Electric Vehicle based on Variable Structure Control Strategy	Ali Hamza (London South Bank University)*; Muhammad Uneeb (National University of Sciences and Technology (NUST), Islamabad, Pakistan); Komal Saleem (London South Bank University); Zunaib Ali (London South Bank University)
8:25 - 8:45	58	Optimal Day-ahead Management of a Hydrogen-based Energy Hub Considering Different Electrolyzer Technologies	Abubakr Hassan (King Fahad University for Petroleum and Minerals)*; Ali T. Al-Awami (King Fahd University of Petroleum & Minerals); Ammar M. Muqbell (King Fahad University for Petroleum and Minerals); Wael A. Fouad (King Fahd University of Petroleum & Minerals)

8:45 - 9:05	224	Interval Power Flow for Islanded DC Microgrids Considering Load Uncertainties	KANDUKURI SURENDRA (INDIAN INSTITUTE OF TECHNOLOGY ROORKEE)*; BISWARUP DAS (INDIAN INSTITUTE OF TECHNOLOGY ROORKEE); VINAY PANT (INDIAN INSTITUTE OF TECHNOLOGY ROORKEE)
9:05 - 9:25	498	Adaptive Optimization to Enhance Operational benefits of Utility-scale BESS and PV for MV Dubai Distribution Network	Syed Muhammad Rizvi (Habib University); GAGANDEEP SINGH DUA (DEWA)*; Sajjan K Sadanandan (DEWA); Sayed Abdelaziz (DEWA); Shoaib Ijaz (DEWA); Asma Saeed (DEWA); Ameen Al Hosani (DEWA); Tareg Ghaoud (DEWA)

Monday 4th December 2023

Paper Session 6

Parallel Session PS-2.2.A - Energy Storage Technologies II

Track: Energy Storage Integration (SS3)

Time and Date: 13:30 - 15:10 and December 04, 2023

Room: B67-101

Chairs: Prof. Galina Mirzaeva (The University of Newcastle); Dr. Thanikanti Sudhakar Babu (Chaitanya Bharathi Institute of Technology)

Time	Paper ID	Paper Title	Authors
13:30 - 13:50	11	Stability Analysis of a DC Microgrid Integrating Wind, Fuel Cell, and Microturbine Power-Generation Systems Fed to a Multi-machine Power System	Li Wang (National Cheng Kung University)*; Hong-Sheng Huang (National Cheng Kung University); Jia-Ruei Zhang (National Cheng Kung University)
13:50 - 14:10	116	Design and Analysis of Combined Control Strategy for Grid Integrated PV-Hybrid System with Sparrow Search Optimized Seamless Control	Manoja Kumar Behera (National Institute of Technology Silchar, Assam)*; LALIT CHANDRA SAIKIA (NIT SILCHAR); Satish Kumar Ramoji (National Institute of Technology Silchar, Assam); Sanjeev Kumar Bhagat (NIT SILCHAR); Biswanath DekaRaja (NIT SILCHAR)
14:10 - 14:30	20	Optimizing Battery Energy Storage and Solar Photovoltaic Systems for Commercial Buildings in Malaysia: A Case Study	Jahangir Hossain (Universiti Teknikal Malaysia, Melaka)*; HUSSAIN SHAREEF (United Arab Emirates University); Md Alamgir Hossain (Griffith University); Rampelli Manojkumar (BVRIT Hyderabad College of Engineering for Women); QAZWAN ABDULLAH TARBOSH (uthm); Ahmed Al-Masoodi (AUK)
14:30 - 14:50	66	Optimal EV Charge Scheduling Considering FCR Participation and Battery Degradation	Rahmat Khezri (Chalmers University of Technology)*; David Steen (Chalmers University of Technology); Le Anh Tuan (Chalmers University of Technology)
14:50 - 15:10	156	Multi-Objective Energy Management System for Isolated Solar Microgrids using Pareto Q-learning	Ayodele Benjamin Esan (United Arab Emirates University)*; HUSSAIN SHAREEF (United Arab Emirates University); Nasir Saeed (UAE University)

Parallel Session PS-2.2.B - Clean Energy Technologies II

Track: Future Grid Energy Technologies

Time and Date: 13:30 - 15:10 and December 04, 2023

Room: B67-102

Chairs: Dr. Sleiman Mhanna (The University of Melbourne); Dr. Md Moktadir Rahman (Essential Energy)

Time	Paper ID	Paper Title	Authors
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13:30 - 13:50	109	PV Source Integration through Grid -tied Shunt Active Power Filter Operation with Second Order Sequence Filter-Frequency Locked Loop based Synchronization	Alok Kumar Dubey (NIT SILCHAR); Dr. Amrithesh Kumar (NIT Silchar)*; Jyoti Prakash Mishra (NIT Silchar); Chandrashekhar N R (Entuple Technology)
13:50 - 14:10	105	Distribution Feeder Based Virtual Power Plants for Power System Frequency Support Services	Sudeera Kankanamge (RMIT University); Lasantha Meegahapola (RMIT University)*; Mingchen Gu (RMIT University)
14:10 - 14:30	79	Optimal Reconfiguration of Radial Distribution Networks using PSO-CRO Approach for Loss Minimization and Voltage Stability Enhancement under Voltage Dependent Loads	Lokesh Kumar Yadav (Rajkiya Engineering College Ambedkarnagar)*; Akhilesh Kumar Barnwal (Indian Institute of Technology BHU, Varanasi); Mitresh Kumar Verma (IIT (BHU) Varanasi)
14:30 - 14:50	146	Design and Analysis of a Power-to-Hydrogen-to-Power-based Multi-Energy Microgrid	MOHAMED ELKADEEM (King Fahd University of Petroleum and Minerals)*; Mohamed Abido (King Fahd University of Petroleum & Mine); Kotb M. Kotb (Tanta University)
14:50 - 15:10	300	Operating strategies of a multi-stack PEM electrolyser for renewable hydrogen generation	Eduardo López González (INTA)*; Miguel A. Ridao (University of Seville); Julio Jose Caparros Mancera (INTA (National Institute of Aerospace Technology)); Fernando Isorna Llerena (INTA); Carlos Bordons (Universidad de Sevilla); Manuel Mora Nieto (University of Seville); Jordi Renau (Cardenal Herrera University – CEU Universities)

Parallel Session PS-2.2.C - Electric Motor Drives and Converter

Track: Power and Energy Enabling Technology

Time and Date: 13:30 - 15:10 and December 04, 2023

Room: B67-303

Chairs: A/Prof. Rukmi Dutta (University of New South Wales); Prof. Jahangir Hossain (University of Technology Sydney)

Time	Paper ID	Paper Title	Authors
13:30 - 13:50	448	Bi-Level Mechanism for Decentralized Coordination of Internet Data Centers and Energy Communities in Local Congestion Management Markets	Seyed Amir Mansouri (Comillas Pontifical University)*; Emad Nematbakhsh (University of Isfahan); Andrés Ramos (Comillas Pontifical University); José Pablo Chaves Ávila (Comillas Pontifical University); Javier García-González (Comillas Pontifical University); Ahmad Rezaee Jordehi (Islamic Azad University, Iran)
13:50 - 14:10	166	Effect of Several Mayfly Optimized Tilt Controllers in AGC of RES Integrated System	Sanjeev Kumar Bhagat (NIT SILCHAR)*; LALIT CHANDRA SAIKIA (NIT SILCHAR); Manoja Kumar Behera (National Institute of Technology Silchar, Assam); Satish Kumar Ramoji (National Institute of Technology Silchar, Assam); Biswanath DekaRaja (NIT SILCHAR); Getaneh Mesfin Meseret (NIT Silchar)
14:10 - 14:30	557	A Three-Port DC-DC Converter for Solar PV Integration in DC Off-Grid Systems: Design and Control	Anmol Ratna Saxena (National Institute of Technology Delhi)*; ASHIMA KULSHRESHTHA (NATIONAL INSTITUTE OF TECHNOLOGY, DELHI)
14:30 - 14:50	107	Localized Measurement-Based Non-Unit Protection Scheme for Flexible DC Microgrid	Chetan Srivastava (IIT-Roorkee)*; Manoj Tripathy (IIT Roorkee); Li Wang (National Cheng Kung University)

14:50 - 15:10	381	Traveling wave-based setting free fault location for transmission lines using unsynchronized data	Vedanta Pradhan (Hitachi Energy)*; OD Naidu (Hitachi Energy)
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Parallel Session PS-2.2.D - Power Quality II

Track: Power and Energy Transformation and Utilization

Time and Date: 13:30 - 15:10 and December 04, 2023

Room: B67-203

Chairs: Dr. Ashish Agalgaokar (University of Wollongong); Dr. Noman Shabbir (Tallinn University of Technology)

Time	Paper ID	Paper Title	Authors
13:30 - 13:50	23	Impact of MMC-HVDC Control on Power System Dynamics: Various Concepts and Parameterization	Mehedi Hasan (Jashore University of Science and Technology); Rakibuzzaman Shah (School of Science Engineering and Information Technology, Federation University Australia)*; Nima Amjady (Federation University Australia); Dr. Jahangir Hossain (University of Technology Sydney); Syed Islam (Federation University Australia)
13:50 - 14:10	408	A probabilistic machine learning approach to detect severe sub synchronous oscillations in DFIG based wind farms	Uvini Perera (Auckland University of Technology)*; Ramon Zamora (Academic Researcher); Amanullah Maung Than Oo (Macquarie University)
14:10 - 14:30	261	Optimised online adaptive frequency control of power system with renewable energy penetration	Md Alamgir Hossain (Griffith University)*; Evan Gray (Griffith University); Junwei Lu (Griffith University); M. Shafiul Alam (King Fahd University of Petroleum and Minerals); Waqas Hassan (University of Tasmania); Michael Negnevitsky (University of Tasmania)
14:30 - 14:50	329	Least-squares estimation of power law for aggregation of harmonic currents	Anthony B Morton (Vysus Australia Pty Ltd)*
14:50 - 15:10	391	Expanding Power System Benchmark Models to Support Real-time Simulations	Felipe Arrano-Vargas (UNSW Sydney)*; Georgios Konstantinou (UNSW Australia)

Monday 4th December 2023

Paper Session 7

Poster Session A

Track: Grid Decarbonization (SS02)

Time and Date: 15:20 - 19:00 and December 04, 2023

Room: B67-foyer

Chairs: Dr. Dulsha Kularatna-Abeywardana (The University of Auckland); Dr. Muhammad Khalid (King Fahd University of Petroleum and Minerals)

Paper ID	Paper Title	Authors
225	Switched-Midpoint Boost Inverter (SMBI)	Sze Sing Lee (Newcastle University)*
350	High-Frequency Magnetic Link with Interleaved Secondary and Multiple Primary for Grid Integrated Renewable Energy Systems	Mahbubur Rahman Mr Kiran (University of Wollongong)*; Md. Rabiul Islam (University of Wollongong); Kashem M Muttaqi (University of Wollongong); Danny Sutanto (University of Wollongong)
501	FPPT and Fixed-time Sliding Mode Approaches for a Single-stage Grid-integrated PV System	Pooyan Alinaghi Hosseinabadi (The University of New South Wales Canberra)*; Sajib Ahmed (Universiti Malaya); Hemanshu R. Pota (The University of New South Wales); Saad Mekhilef (Swinburne University of Technology); Georgios Konstantinou (UNSW Australia)
594	Reactive Power Compensation from Single-Phase Low Voltage Inverter Based Resources to Improve Voltage Stability in the Australian Power System	Richard Pozza (University of Wollongong)*; Ashish Agalgaonkar (University of Wollongong)
601	Single Switch Dual Output Modified Zeta Converter fed SRM for Domestic Appliances	vipin kumar singh (IIT DELHI)*; Bhim Singh (Indian Institute of Technology Delhi); Saran Chaurasiya (IIT Delhi)
571	Distributed Energy Resources Hosting Capacity Assessment - An Industry Perspective	Asaad Makhalfih (School of Electrical and Data Eng.)*; Dr. Jahangir Hossain (University of Technology Sydney); Carlos Macana (Essential Energy); Hemanshu R. Pota (The University of New South Wales)
203	Decentralized Optimal Dispatch For Islanded DC Microgrids	Mohamed Zaery (KFUPM)*; Mohamed Abido (King Fahd University of Petroleum & Mine)

Poster Session B

Track: Energy Storage Integration (SS3)

Time and Date: 15:20 - 19:00 and December 04, 2023

Room: B67-foyer

Chairs: Dr. Muhammad Khalid (King Fahd University of Petroleum and Minerals); Dr. Dulsha Kularatna-Abeywardana (The University of Auckland)

Paper ID	Paper Title	Authors
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301	Energy Management of AC Residential Microgrids Using Advanced Fuzzy Inference Method	Nafis A Chowdhury (Griffith University)*; Fuwen Yang (Griffith University); Feifei Bai (Griffith University)
263	Textile-Type Supercapacitor Electrodes Enabling High Energy Storage Performance through Nonnoble Metal Nanoparticle Assembly-Driven Electrodeposition	Woojae Chang (Korea university)*
266	Nanostructured Metallic Fabric through Interfacial Assembly for Lithium ion Battery Cathode	Chanseok Lee (Korea University)*
497	A Hierarchical Data-Driven Optimization Scheme Compatible with the Conception of Solid-State Power Substation for Real-time VPP Management	Chixin Xiao (University of Wollongong)*; Dechen Jiang (Xiangtan University); Bin Shu (State Grid Economic and Technological Research Institute, Co. LTD.); Maoxin He (Computer Science Department Xiangtan University)
540	PV–Battery Integrated Multiport Solid State Transformer in Distribution Systems for Curtailing the Grid Power and Improving Carbon Neutrality	Amal C Sunny (University of Wollongong)*; Kashem M Muttaqi (University of Wollongong); Danny Sutanto (University of Wollongong)
447	Resilience-Driven Distribution Network Optimization with BESS and EV Integration	Diksha Singh (Indian Institute of Technology, Kanpur)*; Gururaj M Vishwanath (Indian Institute of Technology Kanpur); Prof Laxmidhar Behera (IIT Kanpur)
181	A Planning Model for Optimal Capacity and Location of Energy Storage for Grid Inertial Support in Presence of Renewable Energy	Adnan S Al-Bukhaytan (King Fahd University of Petroleum and Minerals (KFUPM))*; Mohamed Abido (King Fahd University of Petroleum & Mine)

Poster Session C

Track: Hydrogen Energy Production and Storage (SS4)

Time and Date: 15:20 - 19:00 and December 04, 2023

Room: B67-foyer

Chairs: Dr Sara Deilami (Macquarie University); A/Prof. Kosala Gunawardane (University of Technology Sydney)

Paper ID	Paper Title	Authors
609	Adequacy Assessment of a Distribution Network Embedded with Combined Solar PV and Hydrogen Storage Based PEM Fuel Cell System	Lei Xiao (University of Wollongong)*; Kashem M Muttaqi (University of Wollongong); Ashish Agalgaonkar (University of Wollongong)
553	Fuel Cell System Operation as a Static Synchronous Series Compensator for Implementing Power Flow Control	Rammohan Rao Makineni (University of Wollongong)*; Ashish Agalgaonkar (University of Wollongong); Danny Sutanto (University of Wollongong); Kashem M Muttaqi (University of Wollongong); Md. Rabiul Islam (University of Wollongong)

Poster Session D

Track: IoT and Communication for Energy Technologies

Time and Date: 15:20 - 19:00 and December 04, 2023

Room: B67-foyer

Chairs: A/Prof. Kosala Gunawardane (University of Technology Sydney); Dr Sara Deilami (Macquarie University)

Paper ID	Paper Title	Authors
145	Cybersecurity Defence of Synchrophasors in Distribution Systems: A Deep Learning Approach	Ge Zhang (The University of Queensland); Yi Cui (University of Southern Queensland); Ruiyuan Zhang (The Hong Kong university of Science and Technology); Feifei Bai (The University of Queensland)*

Poster Session E

Track: Future Grid Energy Technologies

Time and Date: 15:20 - 19:00 and December 04, 2023

Room: B67-foyer

Chairs: Dr. Rahul R Kumar (University of the South Pacific); Dr. Md Alamgir Hossain (Griffith University)

Paper ID	Paper Title	Authors
60	Dynamic XGBoost-based Quantile Predictor for Real-time Electricity Price Forecasting	Tianshu Bao (Swinburne University of Technology, CSIRO)*; Nariman Mahdavi (CSIRO); Chris McCarthy (Swinburne University of Technology); Dana Rezazadegan (Swinburne University of Technology); XINLIN WANG (UCI)
76	Locating Faults with Ease: A Fault Current Matching Method for Distribution Feeders	Md Nazrul Islam Siddique (UNSW)*; Carlos Macana (Essential Energy); Krishneel Prakash (UNSW); Ashish Kumar Karmaker (University of New South Wales); Saad Mekhilef (Swinburne University of Technology); Hemanshu R. Pota (The University of New South Wales)
80	An Advanced Frequency Adaptive PLL for Grid Connected Inverters Under Abnormal Grid Conditions	Sheikh T Meraj (Deakin University); Samson Yu (Deakin University)*; Kamrul Hasan (Universiti Teknologi MARA, Malaysia); Hieu Trinh (Deakin University); Peng Shi (the University of Adelaide)
124	Enhanced Short-term Reactive Energy Demand Forecasting by Employing Seasonal Decomposition and Multi-Model Approach	Hamza Mubarak (Griffith University)*; Mohammad Sanjari (); Feifei Bai (Griffith University); Sascha Stegen (Griffith University); Abdallah Abdellatif (Universiti Malaya)
139	Multi-Turbine Wind Power Forecasting with Simplified Firework Algorithm Optimized GCN-LSTM	Boxuan Liu (University of New South Wales); Boyang Hu (University of New South Wales); Zheng Wang (University of New South Wales)*; Guo Chen (University of New South Wales)
143	Stability Improvement of Renewable Energy Resource Based Microgrid via Virtual Inertia Control	Md Asaduzzaman Shobug (Griffith University)*; Fuwen Yang (Griffith University); Junwei Lu (Griffith University)
230	Smart Meter Data-Driven Characterization of LV Electricity Distribution Networks	Tharushi Kalinga (University of Wollongong)*; Brendan Banfield (Gridsight); Jonathon Knott (University of Wollongong); Duane Robinson (University of Wollongong)
335	Partial discharge from high voltage conductor defects detection and classification	Jiali Zhang (RMIT University)*; K. L. Wong (RMIT University); Michael G Danikas (Democritus University of Thrace)
378	Solid State Power Substations for Future Power Grids	Anand Mr. Mandal (University of Wollongong)*; Md. Rabiul Islam (University of Wollongong); Kashem M Muttaqi (University of Wollongong); Danny Sutanto (University of Wollongong)

113	System Strength Enhancement of Emerging Distribution Networks Using Robust WAMPAC Schemes	Nimisha Upadhayay (The University of Queensland)*; Mithulananthan Nadarajah (The University of Queensland); Arindam Ghosh (Curtin University)
551	Unveiling the Dynamic Influence Zones of Distributed Generation Units Using a Visualisation Approach	Yasmin Nigar Abdul Rasheed (University of Wollongong)*; Ashish Agalgaonkar (University of Wollongong); Kashem M Muttaqi (University of Wollongong)
487	A Probabilistic Approach for Sizing the Components of Hybrid Energy Storage Used in Wind Energy Conversion System	MD BIPOB HOSSAIN (Jashore University of Science and Technology)*; Md. Rabiul Islam (University of Wollongong); Kashem M Muttaqi (University of Wollongong); Danny Sutanto (University of Wollongong); Ashish Agalgaonkar (University of Wollongong)
456	Development of High Renewable Penetration Test Cases for Dynamic Network Simulations using a Synthetic Model of South-East Australia	Thomas Philpott (University of Wollongong)*; Ashish Agalgaonkar (University of Wollongong); Kashem M Muttaqi (University of Wollongong); Thomas Brinsmead (Commonwealth Scientific and Industrial Research Organisation); Hakan Ergun (KU Leuven - EnergyVille)

Poster Session F

Track: Future Grids with Electric Vehicles

Time and Date: 15:20 - 19:00 and December 04, 2023

Room: B67-foyer

Chairs: A/Prof. Prof Evan Franklin (University of Tasmania); Dr. Hadi Lomei (Essential Energy)

Paper ID	Paper Title	Authors
71	Characterizing Electric Vehicle Plug-In Behaviors using Customer Classification Approach	Ashish Kumar Karmaker (University of New South Wales)*; Bjorn Sturmberg (Australian National University); Sam Behrens (Newcastle Energy Centre, CSIRO); Dr. Jahangir Hossain (University of Technology Sydney); Hemanshu R. Pota (The University of New South Wales)
454	Impact of Large-scale EVs Integration on Small Signal Stability of Renewable-Rich Power Systems	Jiajie Feng (The University of Queensland)*; Saifullah Shafiq (The University of Queensland); Mithulananthan Nadarajah (University of Queensland)
180	Probabilistic EV Hosting Capacity of an Australian Distribution Network in the Presence of Uncertainties	Chathuranga D.W. Wanninayaka Mudiyansele (RMIT University)*; Dr. Kazi Hasan (RMIT University); Arash Vahidnia (RMIT University); Mir Toufikur Rahaman (RMIT University)
208	A Multiobjective Optimization Schedule for the charging behavior of the EV user in a Smart Campus	Mohamed A Hassan (King Fahd University of Petroleum & Minerals)*; Ahmed Oransa (Damietta University); Ahmed Elsallanty (Damietta University); Deema Fekry (Damietta University); Hatem Ibrahim (Damietta University); Bishoy E. Sedhom (Faculty of Engineering Mansoura University)
220	A Reward Based Charging and Discharging of EVs Using Stackelberg Game Model	Muhammad Adil (Deakin University)*; M A Parvez Mahmud (UTS); Abbas Z Kouzani (Deakin University); Sui Yang Khoo (Deakin University)
59	Joint-Optimization Planning of Electrified Logistic System considering Charging Facility Locations and Electric Logistic Vehicle Routing	Jun Li (The University of New South Wales)*; Yuchen Zhang (University of New South Wales); Ke Meng (The University of New South Wales)
304	Reducing Energy Costs in Residential Systems with Solar Photovoltaic and Electric Vehicles using Heuristic Dispatch Based on Price Signals	Muhammad Irfan (Macquarie University)*; Sara Deilami (); Shujuan Huang (Macquarie University); Binesh P Veetil (Macquarie University)

331	A Communication-free EV Charge Controller for Residential Households	Saifullah Shafiq (The University of Queensland)*; Mithulananthan Nadarajah (The University of Queensland); Ali T. Al-Awami (King Fahd University of Petroleum & Minerals)
262	Impact of Electric Vehicles on Power Grids During Network Faults	Nathan S McKillop (TasNetworks)*; Chris Wembridge (TasNetworks); Evan Franklin (University of Tasmania)

Poster Session G

Track: Power and Energy Enabling Technologies

Time and Date: 15:20 - 19:00 and December 04, 2023

Room: B67-foyer

Chairs: Prof. Hussain Shareef (United Arab Emirates University); A/Prof. Rukmi Dutta (University of New South Wales)

Paper ID	Paper Title	Authors
174	DC Microgrids in Electric Transport-Power Converters, Control and Application Example	Yunxun Mo (The University of Newcastle)*; Galina Mirzaeva (The University of Newcastle); Colin Coates (the University of Newcastle)
352	Design Optimization of Multi-Winding High-Frequency Magnetic Links for Multi-Port Power Converters Used in Grid Integration Systems	Mahbubur Rahman Mr Kiran (University of Wollongong)*; Md. Rabiul Islam (University of Wollongong); Kashem M Muttaqi (University of Wollongong); Danny Sutanto (University of Wollongong)
384	Suppression Analysis of Zero-sequence Current Under Magnet Fault in an Open-winding Permanent Magnet Synchronous Machine	Abdur Rahman (University of New South Wales, Sydney, NSW)*; Rukmi Dutta (University of New South Wales); Clay Chu (UNSW Sydney); Dan Xiao (University of New South Wales, Sydney, NSW); Minghao Gao (University of New South Wales, Sydney, NSW); Muhammed Fazlur Rahman (University of New South Wales, Sydney, NSW)
177	Dynamic Voltage Support of Six-pulse Bridge Inverters: Equitable Performance Specifications for Future Grids	Chris Wembridge (TasNetworks)*; Mark Davies (TasNetworks); Evan Franklin (University of Tasmania); Sarah Lyden (UTAS); Michael Negnevitsky (University of Tasmania)
425	Finite-Time Robust Controller Using Sliding Mode Approach for Grid-Connected Inverters	Pooyan Alinaghi Hosseinabadi (The University of New South Wales Canberra)*; Saad Mekhilef (Swinburne University of Technology); Hemanshu R. Pota (The University of New South Wales); MOSTEFA KERMADI (University of Malaya)
429	A High-Frequency Magnetic Link-Based Converter Station for AC and DC Distribution Grid	Md Sanwar Hossain (University of Wollongong)*; Md. Rabiul Islam (University of Wollongong); Danny Sutanto (University of Wollongong); Kashem M Muttaqi (University of Wollongong)
439	Dynamic Response of Grid-following and Grid-forming Inverters when encountering disturbances	Minyang Wang (UNSW)*; Yuchen Zhang (University of New South Wales); Ahmad Al Durra (Khalifa University); Ke Meng (The University of New South Wales)
471	Voltage Support Capability of Grid-forming Inverters under Significant Load Disturbances	Md Haidar Islam (RMIT University)*; Dr. Kazi Hasan (RMIT University); Dr. Manoj Datta (RMIT University); Md Aktarujjaman (Entura); Enamul Haque (Deakin University)
513	Improved deadtime compensation method considering current ripple	Minghao Gao (UNSW)*; Clay Chu (UNSW Sydney); Rukmi Dutta (University of New South Wales); Abdur Rahman (University of New South Wales, Sydney, NSW)
483	Design Considerations for an IGBT Based Point on Wave Fault Creator	Rajesh KB (IISc)*; Dr. Gurunath Gurralla (IISc); Vinod John (Indian Institute of Science, Bangalore)

613	Global anti-islanding protection using an active power modulator in the transmission network	Evan Franklin (University of Tasmania)*; Morgan Wye (University of Tasmania); Mark Davies (TasNetworks); Chris Wembridge (University of Tasmania); Joshua Paoli (TasNetworks)
543	A Coordinated Control for SST Converters to Provide Grid Voltage Support during Normal Operation and Stabilize Islanding Operation during Grid Emergency	Anand Mr. Mandal (University of Wollongong)*; Kashem M Muttaqi (University of Wollongong); Md. Rabiul Islam (University of Wollongong); Danny Sutanto (University of Wollongong)
207	A Metaheuristic Approach for Eleven-Level Switched-Capacitor Multilevel Inverter Modulation	Mohammad Ali (King Fahd University of Petroleum & Minerals)*; Muhammad Khalid (King Fahd University of Petroleum and Minerals (KFUPM))
455	Modelling and Control of SST Based E-STATCOM with Supercapacitor to Enhance Voltage Stability of Distribution Network	Cam R Smith (Deakin University)*; Ameen Gargoom (Deakin University); Mohammad Taufiqul Arif (Deakin University); Enamul Haque (Deakin University)

Poster Session H

Track: Power and Energy Transformation and Utilisation

Time and Date: 15:20 - 19:00 and December 04, 2023

Room: B67-foyer

Chairs: Dr. Ghulam Mohy ud din (CSIRO); Dr. Yunqi Wang (Monash University)

Paper ID	Paper Title	Authors
128	Transition Towards Inverter-based Generation with VSG Control: Low Frequency Instability Prospective	Jiajie Feng (The University of Queensland)*; Feifei Bai (University of Queensland / Griffith University); Mithulananthan Nadarajah (The University of Queensland); Ma Hui (The University of Queensland)
53	Load Frequency Control Based on Sliding Mode Control and Disturbance Rejection Method	Boming Zhang (The university of western Australia)*; Xinan Zhang (The university of western Australia); Tat Ket Chau (The university of western Australia); Herbert Lu (The university of western Australia)
164	Small-signal Stability Analysis of Offshore DC Microgrids	Alamgir Hossain (University of Tasmania)*; Michael Negnevitsky (University of Tasmania); Xiaolin Wang (University of Tasmania); Evan Franklin (University of Tasmania); Waqas Hassan (University of Tasmania); Md Alamgir Hossain (Griffith University); Evan Gray (Griffith University); Evgenii Semshikov (University of Tasmania)
280	Effect of Home Energy Management System Penetration Levels on Bi-Level Optimal Energy Management in Distribution Networks	Kuthsav Thattai (UNSW)*; Anam Malik (UNSW); Jayashri Ravishankar (UNSW); Chaojie Li (The University of New South Wales)
394	Improving Frequency Regulation in Power Systems via NoisyNet Deep Reinforcement Learning Approach	Boming Zhang (The university of western Australia)*; Xinan Zhang (The university of western Australia); Tat Ket Chau (The university of western Australia); Herbert Lu (The university of western Australia)
393	Enhanced Supply Reliability with Community Microgrids in Australia – Economic Perspective	Dr Inam Nutkani (RMIT)*; M Aizaz Farid (RMIT University); Lasantha Meegahapola (RMIT University)

44	Closed-Form Solution of Three-Generator System Frequency Response Model Considering Wind Power	Xiangxu Wang (Dalian University of Technology); Mingze Zhang (Dalian University of Technology); Qili Ding (Dalian University of Technology); WeiDong Li (Dalian University of Technology)*
525	Fixed Frequency Sliding Mode Control of Distributed Generation in Microgrids for the Balanced and Nonlinear Loads	Kafeel Ahmed (Swinburne University of Technology)*; Irfan Hussain (Swinburne University of Technology); Mehdi Seyedmahmousian (School of Software and Electrical Engineering, Swinburne, Victoria); Alex Stojcevski (School of Software and Electrical Engineering, Swinburne, Victoria); Saad Mekhilef (Swinburne University of Technology)
195	Frequency stability enhancement using Synchronous condenser and Synthetic Inertia in wind-dominated power grids: A case study	Awda Youssef (KFUPM); Waleed M. Hamanah (KFUPM)*; Mohamed Abido (King Fahd University of Petroleum & Mine)
249	Feed Forward Cascaded Neural Network Enhanced Stochastic Predictive Model Control for Microgrid Energy Management	Adedayo Ajayi (Cranfield University); Patrick CK Luk (Cranfield University)*; Mohammad Farhan Khan (University of Roehampton); Jerry Luo (Cranfield University)
614	A Python Tool for Visualizing and Sharing NEM Frequency Data	Zhuoran Wu (UNSW)*; Georgios Konstantinou (UNSW Australia)

Poster Session I

Track: Power Grid Planning and Operation

Time and Date: 15:20 - 19:00 and December 04, 2023

Room: B67-foyer

Chairs: Dr. Deepak M (NIT Calicut); Vedanta Pradhan (Hitachi Energy)

Paper ID	Paper Title	Authors
121	Transnational Federated Testbed: Analyzing Impact of Network Parameters on T&D Co-Simulation	Viresh S Patel (IIT Kanpur)*; Benjamin Mccornack (Washington State University); Sanjeev Pannala (Washington State University); Anupam Soni (IIT Kanpur); Prof. Ankush Sharma (IIT Kanpur); Noel Schulz (Washington State University); Anurag K Srivastava (West Virginia University)
168	Calculation of DC Fault Current and Analysis of Influencing Factors in MMC-based Medium Voltage DC Systems	Qi Liu (UNSW Sydney)*; Pingyang Sun (UNSW Sydney); Shan Jiang (UNSW Sydney); Felipe Arrano-Vargas (UNSW Sydney); Georgios Konstantinou (UNSW Australia)
234	An Adaptive Dynamic Model for Reducing the Size of A Power System for Large Variations in the Operating Point using LSTM RNNs	Lahiru Aththanayake (Deakin University)*; Nasser Hosseinzadeh (Centre for Smart Power and Energy Research, Deakin University); Ameen Gargoom (Deakin University); Kanishka Ranaweera (Deakin University); Pubudu N. Pathirana (Deakin University)
339	Fault Detection, Classification, and Localization in ADNs with Optimally Placed Micro-PMUs	Manoj Prabhakar Anguswamy (RMIT University)*; Manoj Datta (RMIT University); Lasantha Meegahapola (RMIT University); Arash Vahidnia (RMIT University)
260	Fault Ride-Through Control of Open-Winding PMSG based High-Power Wind Turbines under Abnormal Grid Conditions	Sayani Chatterjee (IIT Kharagpur)*; Debaprasad Kastha (IIT Kharagpur)
385	An Island Threshold Setting Technique using Branch Current from PMU of a Hybrid Distribution System	Ahmed Amirul Arefin (Griffith University)*; Feifei Bai (Griffith University); Junwei Lu (Griffith University); Yi Cui (University of Southern Queensland)

414	Power System Preventive Transient Stability Control: A Comprehensive Review	Shaokang Guan (the University of New South Wales)*; Rui Zhang (the University of New South Wales); Ruipeng Xu (University of New South Wales)
194	PV Inverter Control Design for Mitigating Fault-Induced Delayed Voltage Recovery (FIDVR)	Mamoun L. Hennache (KFUPM); Waleed M. Hamanah (KFUPM)*; Mohamed Abido (King Fahd University of Petroleum & Mine)
610	Comparison of Grid-Forming Control Methods under Voltage and Frequency Disturbances	Tianyi Xu (UNSW Sydney)*; Shan Jiang (UNSW Sydney); Georgios Konstantinou (UNSW Australia)
45	Day-ahead Low-carbon Dispatch Strategy for Power Systems Considering Pumped-storage Hydroelectric Participation in Active Power Regulations	Mingze Zhang (Dalian University of Technology); Samson Yu (Deakin University); Lichun Wang (North-east Branch of State Grid Corporation of China); Xiangxu Wang (Dalian University of Technology); Qili Ding (Dalian University of Technology); WeiDong Li (Dalian University of Technology)*; Hieu Trinh (Deakin University); Peng Shi (the University of Adelaide)
46	Preliminary Research on the Representation Form of Spatial-temporal Distribution Characteristics of Power System Inertia Under a Major Disturbance	Qili Ding (Dalian University of Technology); WeiDong Li (Dalian University of Technology)*; Xiangxu Wang (Dalian University of Technology); Mingze Zhang (Dalian University of Technology); Liyan Tang (Dalian University of Technology)

Tuesday 5th December 2023

Paper Session 8

Parallel Session PS-3.1.A - Hydrogen Energy I

Track: Hydrogen Energy Production and Storage (SS4)

Time and Date: 7:45 - 9:30 and December 05, 2023

Room: B67-101

Chairs: Dr. Alexander Klimenko (The University of Queensland); Prof. Kazuhiro Nogita (The University of Queensland)

Time	Paper ID	Paper Title	Authors
7:45 - 8:05	205	Optimal Parameters Identification of PEMFC Using Flying Foxes Optimization Algorithm	Dr. Ahmed S. Menesy (KFUPM)*; Husam A. Ramadan (Electrical Engineering Department, Faculty of Engineering, Minia University); Salah Kamal (Aswan University, Egypt); Ibrahim Habiballah (King Fahd University of Petroleum and Minerals); Hamdy Sultan (Minia University)
8:05 - 8:25	178	PEM Fuel Cell Equivalent Circuit Estimation Using Current Switching Techniques	Nisitha Padmawansa (Auckland University of Technology)*; Kosala Gunawardane (University of Technology Sydney); Nihal Kularatna (University of Waikato)
8:25 - 8:45	254	Design of a gas permeation apparatus for advanced hydrogen embrittlement studies	Joshua Hoschke (The University of Queensland)*; Maximilian Roethig (The University of Queensland); Evan Gray (Griffith University); Clotario Tapia-Bastidas (The University of Queensland); Jeffrey Venezuela (The University of Queensland); Andrej Atrns (The University of Queensland)
8:45 - 9:05	276	Biosynthetic organic solar cell biorefinery to fulfil Australian baseload power demands	Adeel Ghayur (CO2CRC)*
9:05 - 9:25	162	Feasibility Study of Hybrid Microgrids with Green Hydrogen Production Capability for Kiribati	Nantenikoria Katauea (University of South Pacific)*; Shyamal Shivneel Chand (University of South Pacific); Ravneel Prasad (University of South Pacific); Krishnil KR Ram (The University of the South Pacific); Ali MOHAMMADI (USP); Maurizio Cirrincione (USP, UTBM)

Parallel Session PS-3.1.B - Power System Efficiency I

Track: Power and Energy Transformation and Utilization

Time and Date: 7:45 - 9:30 and December 05, 2023

Room: B67-102

Chairs: Dr. Ajay Kumar (Punjab Engineering College (Deemed to be University)); A/Prof. Evan Franklin (University of Tasmania)

Time	Paper ID	Paper Title	Authors
7:45 - 8:05	382	Multi-objective Optimal Charging Strategy for Lithium-ion Battery based on Model Predictive Control and Li plating Detection	YUFANG LU (Tsinghua University)*; Xuebing Han (Tsinghua University); XiangJie Li (Beijing LynkVertex Technology Co., Ltd.); Minggao Ouyang (Tsinghua University)

8:05 - 8:25	453	A Novel Multigain Resonant Switched Capacitor DC-DC Converter with Reduced Ratings for High Power Applications	Ashwin K. (Indian Institute of Science, Bangalore)*; L. Umanand (Indian Institute of Science Bangalore); B. Subba Reddy (Indian Institute of Science Bangalore)
8:25 - 8:45	140	Evaluation of the Impact of Overvoltage on Appliance Performance	Sean Elphick (Australian Power Quality & Reliability Centre, University of Wollongong)*; Duane Robinson (University of Wollongong); Jonathan Knott (University of Wollongong); Sarath Perera (University of Wollongong); Dinidu Jeewandara (University of Wollongong)
8:45 - 9:05	312	Improved Interpolation Algorithm Accounting for Multiple Switching Actions and Reinitialization	Yang Cao (Southeast University); Wei Gu (Southeast University)*; Mingwang Xu (Southeast University); Wei Liu (Nanjing University of Science and Technology); Fei Zhang (Southeast University)
9:05 - 9:25	583	A Lifetime Prediction Approach Based on Adversarial Variational Auto-Encoder Networks for Dry-Type Power Transformers	Ying Li (Xi'an Jiaotong University)*; Aimin Zhang (Xi'an Jiaotong University); Yudong Du (Xi'an Jiaotong University); Shan Wang (Xi'an Jiaotong University); Xuming Gao (Xi'an Jiaotong University); Jingjing Huang (Xi'an Jiaotong University)

Parallel Session PS-3.1.C - Communication for Power Grids II

Track: IoT and Communication for Energy technology

Time and Date: 7:45 - 9:30 and December 05, 2023

Room: B67-303

Chairs: Prof. Anurag K Srivastava (West Virginia University); A/Prof. Afida Ayob (The National University of Malaysia)

Time	Paper ID	Paper Title	Authors
7:45 - 8:05	155	Hand Action Recognition from RGB-D Egocentric Videos in Substations Operations and Maintenance	Yiyang Yao (Northwestern Polytechnical University); Xue Wang (Northwestern Polytechnical University)*; Guoqing Zhou (Northwestern Polytechnical University); Qing Wang (Northwestern Polytechnical University)
8:05 - 8:25	271	A Data-Driven Edge Computing Solution for Real-Time Monitoring of Industrial Load Conditions	Chang Li (Hunan University); Yong Li (Hunan University)*; Zhenyu Zhang (Hunan University); Jianghu Wan (Central South University); Yijia Cao (Hunan University); Mohammad Shahidehpour (Illinois Institute of Technology)
8:25 - 8:45	560	Preliminary investigations of supercapacitor-driven solar energy for IoT and portable devices	Dulsha Kularatna-Abeywardana (The University of Auckland)*; Kavishka Dissanayake (The University of Auckland)
8:45 - 9:05	519	A comparative analysis of flux cancellation zone in inductive power transfer for electric vehicles	Saeid Ghazizadeh (Swinburne University of Technology)*; Alex Stojcevski (School of Software and Electrical Engineering, Swinburne, Victoria); Mehdi Seyedmahmousian (School of Software and Electrical Engineering, Swinburne, Victoria); Jaideep Chandran (Swinburne University of Technology); Saad Mekhilef (Swinburne University of Technology)
9:05 - 9:25	353	Energy measurement in buildings with local generation of energy	Sonia Leva (Politecnico di Milano); Emanuele Giovanni Ogliari (Politecnico di Milano)*; Gennaro Rucco (Politecnico di Milano); Fabio Bandiera (BTicino)

Parallel Session PS-3.1.D - Clean Energy Technologies III

Track: Future Grid Energy Technologies

Time and Date: 7:45 - 9:30 and December 05, 2023

Room: B67-203

Chairs: A/Prof. Emanuele Giovanni Ogliari (Politecnico di Milano); Dr. Ghulam Mohy ud din (CSIRO)

Time	Paper ID	Paper Title	Authors
7:45 - 8:05	420	Calculation of Marginal Loss Factors using Power System Analysis Tools	Michael G Mackenzie (AEMO)*; Shantha Ranatunga (AEMO); Ghavameddin Nourbakhsh (Queensland University of Technology)
8:05 - 8:25	406	Enhancing Resilience in Islanded Microgrids with PV-Battery using Bi-level MILP Optimization	Linli Jia (Washington State University); Sanjeev Pannala (NREL); Anurag K Srivastava (West Virginia University)*
8:25 - 8:45	506	Feasibility of Using Phase Change Material Calcium Chloride Hexahydrate to Improve the Efficiency of Bifacial Photovoltaic Modules via Passive Cooling	Sam L T Honey (University of Bristol)*; Hind Saidani-Scott (University of Bristol); Harry Coopey (University of Bristol); Thomas Arkel (University of Bristol); Alejandro Cooke-Flores (University of Bristol); Ahmed Abdelhamid (University of Bristol)
8:45 - 9:05	523	A Ladder Architecture for Power Improvement and Multi-Peaks Elimination in PV Arrays during Non-Uniform Irradiance Scenarios	Priya Ranjan Satpathy (Chaitanya Bharati Institute of Technology (CBIT), Hyderabad); Sudhakar Babu (Chaitanya Bharati Institute of Technology)*; Siva Rama Krishna Dr Madeti (SRKR Engineering College); RENU SHARMA (ITER,SOA Deemed to be University); Vigna Kumaran Ramachandaramurthy (Universiti Tenaga Nasional Malaysia)
9:05 - 9:25	395	A Comprehensive Review in DC microgrids: Topologies, Controls and Future Trends	Xin Lin (Auckland University of Technology)*; Ramon Zamora (Academic Researcher); Avy Sheina (Auckland University of Technology)

Parallel Session PS-3.1.E - Power System Data Analysis

Track: Power Grid Planning and Operation

Time and Date: 7:45 - 9:30 and December 05, 2023

Room: B67-302

Chairs: A/Prof. Sohrab Mirsaeidi (Beijing Jiaotong University); Dr. Mohamed A Hassan (King Fahd University of Petroleum & Minerals)

Time	Paper ID	Paper Title	Authors
7:45 - 8:05	326	A Classification and Recognition Model of Distributed Resources Based on Feature Extraction	Yu Zhu (State Grid Shaanxi Electric Power Co., Ltd. Information and Communication Company); Le yang (State Grid Shaanxi Electric Power Co., Ltd. Information and Communication Company); Xizai Yang (State Grid Shaanxi Electric Power Co., Ltd. Information and Communication Company); Jiaxin Lu (State Key Laboratory of Power System and Power Generation Equipment Control and Simulation Tsinghua University); Yuqing Wang (Tsinghua University)*; Fei Wang (North China Electric Power University)

8:05 - 8:25	367	A Data Augmentation-Based Household Profile Identification Approach Under Semi-supervised and Federated Learning Framework	Yingcai Shi (Department of Electrical Engineering North China Electric Power University); Xinxin Ge (North China Electric Power University)*; Fei Wang (North China Electric Power University); Haonan Dai (North China Electric Power University); Yuntong Lv (Marketing Service Center State Grid Hebei Electric Power Co., Ltd); Di Yang (Marketing Service Center State Grid Hebei Electric Power Co., Ltd)
8:25 - 8:45	372	Characterization of Qualified Grid Nodes for the Identification of Power Network Oscillations	Akash K Mandal (Indian Institute of Technology Delhi)*; Swades De ("Assoc. Prof, EE, IIT Delhi")
8:45 - 9:05	132	Modeling and Probabilistic Security Assessment of a Synthetic Urban Grid with PV and EV Integration	bingqian luo (nanyang technological university); Xu Yan (Nanyang Technological University)*
9:05 - 9:25	99	Design of A Hybrid Compression Algorithm for High-fidelity Synchro-waveform Measurements	Wei Qiu (Hunan University)*; He Yin (University of Tennessee); Yuru Wu (University of Tennessee); Yuqing Dong (University of Tennessee); Yao Zheng (Hunan University); Wenxuan Yao (Hunan University); Yilu Liu (University of Tennessee)

Tuesday 5th December 2023

Paper Session 9

Parallel Session PS-3.2.A - Hydrogen Energy II

Track: Hydrogen Energy Production and Storage (SS4)

Time and Date: 11:05 - 12:45 and December 05, 2023

Room: B67-101

Chairs: A/Prof. Aleksandar Staykov (Kyushu University); Prof. Kazuhiro Nogita (The University of Queensland)

Time	Paper ID	Paper Title	Authors
11:05 - 11:25	274	Power module for integration of renewable hydrogen storage with bioethanol production from non-food biowastes	Adeel Ghayur (CO2CRC)*
11:25 - 11:45	407	Applicability of SMES to Electric and Hydrogen Hybrid Energy Storage System for Large-Capacity Renewable Energy Generation	Yoh Nagasaki (Tohoku University)*; Syotaro Fukuame (Tohoku University); Tomoya Owada (Tohoku University); Makoto Tsuda (Tohoku University)
11:45 - 12:05	72	Investigating A Clean Natural gas-based Hydrogen Production Process for Electricity Generation in Power Plants	Shervan Babamohammadi (Brunel University London)*; William George Davies (Brunel University London); Salman Masoudi Soltani (Brunel University London)
12:05 - 12:25	303	Control and Power Management of Battery-PEM Fuel Cell Hybrid Power System for Marine Propulsion Systems	Mustapha Jamma (Institute for Energy Technology)*; Piotr Bujlo (Institute for Energy Technology); Øystein Ulleberg (Institute for Energy Technology)
12:25 - 12:45	73	Development and experimental validation of the dynamic model of an electrolyser for its integration with renewable generation	Manuel Mora Nieto (University of Seville); Carlos Bordons (Universidad de Sevilla)*; Eduardo López González (INTA); Miguel A. Ridao (University of Seville); Fernando Isorna Llerena (INTA); Julio Jose Caparros Mancera (INTA (National Institute of Aerospace Technology))

Parallel Session PS-3.2.B - Battery Energy Storage Systems and Applications

Track: Energy Storage Integration (SS3)

Time and Date: 11:05 - 12:45 and December 05, 2023

Room: B67-102

Chairs: Prof. Li Wang (National Cheng Kung University); A/Prof. Kosala Gunawardane (University of Technology Sydney)

Time	Paper ID	Paper Title	Authors
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11:05 - 11:25	247	A Distributionally Robust Optimal Allocation Method of Energy Storage for Resilience Enhancement of Distribution Network	Kuan Cao (Shandong University)*; Yutian Liu (Shandong University); Chunyi Wang (State Grid Shandong Electric Power Company)
11:25 - 11:45	184	Fast Battery SOH Estimation Based on Response Characteristics of Load Surges and GA-ELM	Yuhang Fan (Fuzhou University); Qiongbai LIN (Fuzhou University); Ruochen Huang (Fuzhou University)*; Yufeng Lin (Central Queensland University); Jia Wang (Central Queensland University); Qingrong Huang (3. China Mobile Communications Fujian Co.,Ltd.)
11:45 - 12:05	68	Effects of Calendar and Cycle Ageing on Battery Scheduling for Optimal Energy Management: A Case Study of HSB Living Lab	Mohammadreza Mazidi (Chalmers university of technology)*; Rahmat Khezri (Chalmers University of Technology); Maryam Mohiti (Chalmers university of Technology); Le Anh Tuan (Chalmers University of Technology); David Steen (Chalmers university of technology)
12:05 - 12:25	123	Performance Assessment of Peak Shaving Techniques with Battery Energy Storage System in Small-scale Electrical Networks	Md Masud Rana (The University of New South Wales)*; Huadong Mo (University of New South Wales)
12:25 - 12:45	43	Energy Storage System and Renewable Energy Planning for Green Internet Data Center Considering Temporal and Spatial Load Regulation	Wan Tong (The University of Sydney); Jing Qiu (The University of Sydney); Yuechuan Tao (The University of Sydney)*; Shuying Lai (The University of Sydney); Renjie Mao (The University of Sydney)

Parallel Session PS-3.2.C - Power System Security Technologies I

Track: IoT and Communication for Energy technology

Time and Date: 11:05 - 12:45 and December 05, 2023

Room: B67-303

Chairs: Dr. Shahidul Islam (Macquarie University); A/Prof. Emanuele Giovanni Ogliari (Politecnico di Milano)

Time	Paper ID	Paper Title	Authors
11:05 - 11:25	67	Power System Transient Security Assessment using Unsupervised Probabilistic Deep Bayesian Neural Network	Shahabodin Afrasiabi (Shiraz University); Sarah Allahmoradi (University of Saskatchewan); Xiaodong Liang (University of Saskatchewan); Mousa Afrasiabi (LUT University); Jamshid Aghaei (Central Queensland University)*; Chi Yung Chung (The Hong Kong Polytechnic University)
11:25 - 11:45	198	Using SDN to Enhance Cyber Resiliency in IEC 61850-based Substation OT Networks	Mohammed Mustafa Hussain (West Virginia University)*; sagnik basumallik (West Virginia University); Richard Fetsick (Schweitzer Engineering Laboratories); Anurag K Srivastava (West Virginia University)
11:45 - 12:05	101	Model-free based Real-time Authentication Framework for Distributed Synchrophasors	Yao Zheng (Hunan University); Wei Qiu (Hunan University)*; Wenxuan Yao (Hunan University); Bing Li (Hunan University); Junfeng Duan (Hunan University); He Yin (University of Tennessee)
12:05 - 12:25	559	Auxiliary Based Circular Coil for Wireless power Transfer System	Bilal Alam (Power Electronics and Renewable Energy Research Laboratory, Department of Electrical Engineering, University of Malaya, Kuala Lumpur)*; Saad Mekhilef (University of Malaya); Marizan Mubin (University of Malaya); KOK SOON TEY (UNIVERSITI MALAYA)
12:25 - 12:45	458	Securing the Smart Grid: A Review on Digital Twins for Cyber Resilience	Kelvin Anto (The University of Auckland)*; Felix Marattukalam (The University of Auckland); Partha S Roop (The University of Auckland); Akshya Swain (University of Auckland)

Parallel Session PS-3.2.D - Power Inverter and System Stability

Track: Power and Energy Enabling Technologies

Time and Date: 11:05 - 12:45 and December 05, 2023

Room: B67-203

Chairs: Dr. Kumaravel S. (NIT Calicut); Dr Waqas Hassan (University of Tasmania)

Time	Paper ID	Paper Title	Authors
11:05 - 11:25	332	An Optimisation-based Study of Volt-VAr Control from PV Inverters and STATCOMs in LV Unbalanced Networks	Lucas Quiertant (The University of Melbourne)*; James Naughton (The University of Melbourne); Sleiman Mhanna (The University of Melbourne); Pierluigi Mancarella (The University of Melbourne)
11:25 - 11:45	236	A Novel Multilevel Inverter Topology Producing 9-Level to 17-Level Voltage with Reduced Switch Count	Udaykumar Dineshbhai Patel (Nirma University); Dr. Siddharthsingh Kamaljitsingh Chauhan (NIRMA University); Prof. Dr. P. N. Tekwani (NIRMA University)*
11:45 - 12:05	240	A Novel Rigid Consensus Method for Multi-Inverter Coordination in Distribution Networks	Jinting Li (Hunan University); Yong Li (Hunan University)*; Chang Li (Hunan University); Huidi Wu (Hunan University); Yijia Cao (Hunan University); Mohammad Shahidehpour (Illinois Institute of Technology)
12:05 - 12:25	133	Enhancing Stability and Grid Operation through Probabilistic Clustering and VSC-Based Asynchronous Power System	Juhwan Kim (korea institute of nuclear safety)*; Minhan Yoon (Kwangwoon University); Gilsoo Jang (Korea University)
12:25 - 12:45	306	Enhancing Open Circuit Switch Fault Localization in Two-Level Voltage Source Inverters through Machine Learning with 3D Current Trajectory Analysis	Naithan Peter (University of the South Pacific); Rahul R Kumar (University of the South Pacific)*; Shyamal Chand (University of the South Pacific); Maurizio Cirrincione (USP, UTBM)

Tuesday 5th December 2023

Paper Session 10

Parallel Session PS-3.3.A - Customer Energy II

Track: Power and Energy Transformation and Utilization

Time and Date: 13:45 - 15:45 and December 05, 2023

Room: B67-101

Chairs: Prof. Michael Negnevitsky (University of Tasmania); Prof. Hong-Tzer Yang (National Cheng-Kung University)

Time	Paper ID	Paper Title	Authors
13:45 - 14:05	343	Residential Energy Use Optimisation: An Australian Case Study	Shama Naz Islam (Deakin University)*; Devin Weerakoon (Deakin University); Pushpika A Het-tiarachchi (Deakin University); Nicholas Phillips (Itron); Enamul Haque (Deakin University)
14:05 - 14:25	39	Stochastic Physics-Informed Deep Generative Network Scenario Generation: Application on Responsive Residential Load Management	Mousa Afrasiabi (LUT University); Shahabodin Afrasiabi (Shiraz University); Jamshid Aghaei (Central Queensland University)*; Chu Yun Chung (University of Saskatchewan)
14:25 - 14:45	338	Normalized Subband Based Control Framework for Renewable DER Integrated at Common AC Bus Microgrid with Multi-Mode Functionality	Kripa Tiwari (IIT Delhi)*; Bhim Singh (Indian Institute of Technology Delhi)
14:45 - 15:05	555	Electrical and Thermal Power Sharing in Modified District Cooling System for Local Energy Community	manish Kumar Yadav (Indian Institute of Technology Delhi)*; Ashu Verma (IIT Delhi); Bijaya Ketan Panigrahi (IIT DELHI)
15:05 - 15:25	200	Assessment of Backup Generator Connection Barriers to Australian Medium Voltage Networks	Mingchen Gu (RMIT University, Melbourne); Chathuranga D.W. Wanninayaka Mudiyansele (RMIT University); Moudud Ahmed (RMIT University)*; Dr. Kazi Hasan (RMIT University); Lasantha Meegahapola (RMIT University); Mahdi Jalili (RMIT University); Richardt Wilkinson (RMIT University, Melbourne); Brendan McGrath (RMIT University); Xinghuo Yu (RMIT University); Reza Razzaghi ()
15:25 - 15:45	171	An Online Convex Optimization Method for Optimal Dispatch of Microgrid	Huang Kaidi (Tsinghua University)*; Cheng Lin (Tsinghua University); Qi Ning (Tsinghua University); Xu Helin (Tsinghua University); Zhao Ergang (Tsinghua University)

Parallel Session PS-3.3.B - Power Electronics and Energy Technologies

Track: Power and Energy Enabling Technologies

Time and Date: 13:45 - 15:45 and December 05, 2023

Room: B67-102

Chairs: A/Prof. Sohrab Mirsaeidi (Beijing Jiaotong University); Dr. Mohammed H. Haque (University of South Australia)

Time	Paper ID	Paper Title	Authors
13:45 - 14:05	204	Mitigating Control Loop Interactions in Grid Forming Inverters using Fullstate Feedback Control with Reduced Sensor Requirements	Sheikh I Azid (Charles Darwin University)*; Utkal Mehta (University of South Pacific, Fiji); Maurizio Cirrincione (USP, UTBM)
14:05 - 14:25	34	Diagnosis of Faults in Proton Exchange Membrane Fuel Cells using Shallow Neural based Approaches	Ali MOHAMMADI (USP)*; Terence Cheon (USP); Michael Malai (USP); Giansalvo Cirrincione (University of Picardie Jules Verne); Maurizio Cirrincione (USP, UTBM); Rahul R Kumar (University of the South Pacific)
14:25 - 14:45	299	Analysis and Experimental Verification of High-Efficiency DC-DC Converter for DC Microgrids	Ruping Wang (University of Tasmania)*; Waqas Hassan (University of Tasmania); Michael Negnevitsky (University of Tasmania); John Long Soon (University of Sydney)
14:45 - 15:05	492	A Novel Hybrid MPPT Algorithm Based on Conventional and Artificial Intelligence Methods	Gourav Sharma (IIT BHU); JYOTI MAURYA (Indian Institute of Technology (BHU), Varanasi (UP) India); Rakesh Srivastava (IIT BHU, Varanasi); Saket RK (IIT BHU)*
15:05 - 15:25	209	Dual-area power system fractional tri-parametric controller	Vadan Padiachy (Fiji National University); Utkal Mehta (University of South Pacific, Fiji)*; Sheikh I Azid (Charles Darwin University)
15:25 - 15:45	334	Low Voltage Ride-Through and Arctangent Based VSC Control with High Gain PV System for Power Quality Platform	Pavan Prakash Gupta (Motilal Nehru National Institute of Technology Allahabad, Prayagraj, U.P. 211004 India)*; Shailendra Kumar (Electrical Engineering Department, Indian Institute of Technology Bhubaneswar); Ramesh Kumar Tripathi (MNNIT Allahabad)

Parallel Session PS-3.3.C - Power System Efficiency II

Track: Power Grid Planning and Operation

Time and Date: 13:45 - 15:45 and December 05, 2023

Room: B67-303

Chairs: Prof. Mitresh Kumar Verma (IIT (BHU) Varanasi); Prof. Youguang Guo (University of Technology Sydney)

Time	Paper ID	Paper Title	Authors
13:45 - 14:05	270	A Novel Approach for Mitigating Mechanical DCCB Switching Effects using Supercapacitor Bypass Technique	Mehdi Moradian (Auckland University of Technology)*; Tek-Tjing Lie (Auckland University of Technology); Kosala Gunawardane (University of Technology Sydney)
14:05 - 14:25	311	Provincial multistage power expansion planning toward coal and renewables positioning	Zhongfan Gu (Southeast University); Guangsheng Pan (Southeast University)*; Haifeng Li (State Grid Corporation of China); Gang Feng (State Grid Corporation of China); Haitao Chen (State Grid Energy Research Institute Co., Ltd)
14:25 - 14:45	327	Multi-objective Optimization Based Bidding Strategy for DER Aggregators in Ancillary Services Market Considering Environmental Benefits	Qinfei Sun (State Grid Beijing Electric Power Research Institute); Liyong Wang (State Grid Beijing Electric Power Research Institute); Xinyu Zhu (North China Electric Power University); Xin Cao (State Grid Beijing Electric Power Research Institute); Xinxin Ge (North China Electric Power University)*; Haonan Dai (North China Electric Power University); Ge Wang (North China Electric Power University); Fei Wang (North China Electric Power University)

14:45 - 15:05	371	Grid Controllability Aware Optimal Placement of PMUs with Limited Input Current Channels	Akash K Mandal (Indian Institute of Technology Delhi)*; Swades De ("Assoc. Prof, EE, IIT Delhi"); Bijaya Ketan Panigrahi (IIT DELHI)
15:05 - 15:25	600	Design and Experimental Verification of an Intelligent Power Quality Control System	Yudong Du (Xian Jiaotong University)*; Aimin Zhang (Xian Jiaotong University); Ying Li (Xi'an Jiaotong University); Xuming Gao (Xi'an Jiaotong University); Shan Wang (Xi'an Jiaotong University); Jingjing Huang (Xian Jiaotong University)
15:25 - 15:45	217	Current Injection Based Quasi-Static Time Series Load Flow Algorithm for Distribution System with Multiple Distributed Energy Resources	Arun Suresh (); Krishna Murari (The University of Toledo, Ohio); Sukumar Kamalasan (University of North Carolina at Charlotte)*

Parallel Session PS-3.3.D - Clean Energy Technologies IV

Track: Future Grid Energy Technologies

Time and Date: 13:45 - 15:45 and December 05, 2023

Room: B67-203

Chairs: Dr. Mustapha Jamma (Institute for Energy Technology); Dr. Ajay Kumar (Punjab Engineering College (Deemed to be University))

Time	Paper ID	Paper Title	Authors
13:45 - 14:05	310	Boosting Low-Carbon Sustainable Energy Through Advanced Coal-Biomass Blends and Fuel Stock Management Digitalization	Heru Hermawan (PT. PLN Indonesia Power)*; Herowiko Thama Nurahman (PT. PLN Indonesia Power)
14:05 - 14:25	370	Maximizing Steam Turbine Efficiency in Coal Fired Power Plant Through Artificial Intelligence-Based Digital Turbine Optimization (D-TOP)	Hendra Yudisaputro (PT. PLN Indonesia Power)*; Halim Halim (PT. PLN Indonesia Power); Agus Kurniawan (PT. PLN Indonesia Power)
14:25 - 14:45	231	New Generation Recyclable MV Cables for Future Grids—A Case Study	Jaspreet Singh Chahal (RMIT Melbourne)*; K L Wong (RMIT); Navjot Gill (DigSilent)
14:45 - 15:05	330	Enhancing Renewable Energy Integration: A Hybrid AHP-TOPSIS Approach for Optimal Inverter Selection in Solar PV and Wind Turbine Systems	bobby prayogo (PT PLN Indonesia Power)*; Hendra Yudisaputro (PT. PLN Indonesia Power); Agus Kurniawan (PT PLN Indonesia Power)
15:05 - 15:25	222	Machine Learning-Based Restoration Forecast with Predictive Power Outage for Diverse Power Outage Scenarios	Susan Adedokun (Cranfield University); Patrick CK Luk (Cranfield University)*; Jerry Luo (Cranfield University); Mohammad Farhan Khan (University of Roehampton)
15:25 - 15:45	465	Optimized Data-Driven Network for Prediction of Useful Life in Lithium-ion Batteries	Afida Ayob (Universiti Kebangsaan Malaysia)*; Shaheer Ansari (University kebangsaan Malaysia); Aini Hussain (UKM); Molla Shahadat Hossain Lipu (Green University of Bangladesh); mohamad hanif md saad (universiti kebangsaan malaysia); M A Hannan (Sunway University)

Parallel Session PS-3.3.E - Energy Management Technologies II

Track: Power Grid Planning and Operation

Time and Date: 13:45 - 15:45 and December 05, 2023

Room: B67-302

Chairs: Dr. Felipe Arraño-Vargas (UNSW Sydney); A/Prof. Li Li (University of Technology Sydney)

Time	Paper ID	Paper Title	Authors
13:45 - 14:05	449	Optimal Load Shedding for Public Safety Power Shutoffs	Aniruddha Rajendra Rao (Hitachi America Limited)*; Chandrasekar Venkatraman (Hitachi America Limited); Robert Ellis (Hitachi Limited); Chetan Gupta (Industrial AI Lab, Hitachi America R&D, Hitachi Americas Ltd.)
14:05 - 14:25	281	Energy Management in Integrated Microgrids: An Optimal Schedule Controller Utilizing Gradient Descent Algorithm	M. G. M. Abdolrasol (Universiti Tenaga Nasional); Pin Jern Ker (Universiti Tenaga Nasional); M A Hannan (Sunway University)*; Afida Ayob (Universiti Kebangsaan Malaysia); S. K. Tiong (Universiti Tenaga Nasional)
14:25 - 14:45	144	Flexible Interconnection of Non-electrified Blocks based on Modularized Energy Router Technology to Enhance Power Supply Capacity for Service Restoration under Natural Disasters	Qi Wu (The Institute of Electrical Engineering, Chinese Academy of Sciences); Ying Zhuang (Institute of Electrical Engineering, Chinese Academy of Sciences); Wei Pei (Institute of Electrical Engineering, Chinese Academy of Sciences); Quanzhong Yue (State Grid Changzhou Power Supply Company); Wei Deng (Institute of Electrical Engineering, Chinese Academy of Sciences)*
14:45 - 15:05	435	An Optimized Binary Scheduling Controller for Microgrid Energy Management Considering Real Load Conditions	Musfika Mannan (University Tenaga Nasional); M. F. Roslan (Universiti Tenaga Nasional); Md Subbir Reza (Universiti Tenaga Nasional); M Mansor (Universiti Tenaga Nasional); Pin Jern Ker (Universiti Tenaga Nasional); M J. Hossain (Universiti Tenaga Nasional); M A Hannan (Sunway University)*
15:05 - 15:25	169	Using P2P Transactive Energy Mechanism to Maximize Feeder Hosting Capability for Renewable Integrations	Qin-Yi Zheng (National Sun Yat-Sen University); Samantha L. Catun Guevara (National Sun Yat-Sen University)*; Chan-Nan Lu (National Sun Yat-Sen University)
15:25 - 15:45	486	Optimal Sizing of PV-Battery based Hybrid Renewable System using Particle Swarm Optimization for Economic Sustainability	Safat Bin Wali (Universiti Tenaga Nasional); M A Hannan (Sunway University)*; Pin Jern Ker (Universiti Tenaga Nasional); Tiong Siah Kiong (Universiti Tenaga Nasional)

Tuesday 5th December 2023

Paper Session 11

Parallel Session PS-3.4.A - Low Carbon System Transition II

Track: Grid Decarbonization (SS2)

Time and Date: 16:00 - 17:40 and December 05, 2023

Room: B67-101

Chairs: Dr Shervan Babamohammadi (Brunel University London); Vedanta Pradhan (Hitachi Energy)

Time	Paper ID	Paper Title	Authors
16:00 - 16:20	52	Low-Carbon System Transition Considering Collaborative Emission Reduction on Supply-Demand Side	Yi Yang (The University of Sydney); Chenxi Zhang (The University of Sydney)*; Jing Qiu (The University of Sydney)
16:20 - 16:40	324	A Multi-dimensional and Multi-level Quantification Index System for the Regulation Potential of VPPs Considering Carbon Reduction	Xianglong Li (State Grid Beijing Electric Power Research Institute); He Zhao (State Grid Beijing Electric Power Research Institute); Ziyu Qu (North China Electric Power University); Zhichao Chai (State Grid Beijing Electric Power Research Institute); Xinxin Ge (North China Electric Power University)*; Yuqing Wang (North China Electric Power University); Fei Wang (North China Electric Power University)
16:40 - 17:00	50	Stochastic Search and Rescue Method for Day Ahead Economic Emission Load Dispatch with Wind Uncertainty	Shilpa Mishra (Indian Institute of Technology, Jodhpur)*; Prof. Abdul Gafoor (IIT Jodhpur)
17:00 - 17:20	574	Thermal Design via Improved Force-Directed Algorithm for IGCT Driver Board	Xuming Gao (Xi'an Jiaotong University)*; Aimin Zhang (Xi'an Jiaotong University); Shan Wang (Xi'an Jiaotong University); Yudong Du (Xian Jiaotong University); Ying Li (Xi'an Jiaotong University); Jingjing Huang (Xi'an Jiaotong University)
17:20 - 17:40	549	Multi-Input Renewable Energy Management System for Portable Off-Grid Use	Dulsha Kularatna-Abeywardana (The University of Auckland)*; Brian Smith (The University of Auckland); Ankush Patel (The University of Auckland)

Parallel Session PS-3.4.B - Energy Storage Applications

Track: Future Grid Energy Technologies

Time and Date: 16:00 - 17:40 and December 05, 2023

Room: B67-102

Chairs: Dr. Nanduni Nimalsiri (The Australian National University); Dr. Noman Shabbir (Tallinn University of Technology)

Time	Paper ID	Paper Title	Authors
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16:00 - 16:20	362	Community Battery Energy Storage Systems for Enhancing Distribution System Operation: A Multi-objective Optimization Approach	Yunqi Wang (Monas University); Hao Wang (Monash University)*; Markus Wagner (Monash University); Ariel Liebman (Monash University)
16:20 - 16:40	504	Impact of Electric Vehicle Charging Demand on a Distribution Network in South Australia	Yan Wu (University of South Australia)*; Syed M Aziz (University of South Australia); Mohammed H Haque (University of South Australia); Travis Kauschke (Strategy & Transformation, SA Power Networks (SAPN))
16:40 - 17:00	575	Orderly Charging Strategy for Electric Vehicles Based on the Edge Controller and Its Application	Shan Wang (Xi'an Jiaotong University)*; Aimin Zhang (Xi'an Jiaotong University); Xuming Gao (Xi'an Jiaotong University); Ying Li (Xi'an Jiaotong University); Yudong Du (Xian Jiaotong University); Jingjing Huang (Xi'an Jiaotong University)
17:00 - 17:20	530	Multiport Converters Based EV Charging: Architectures, Challenges, Performance Analysis and Emerging Trends	Zarren Firdous (Aligarh Muslim University); Saad Mekhilef (University of Malaya); Marizan Binti Mubin (University of Malaya); Marif Daula Siddique (National University of Singapore)*; Ahmed Elsanabary (Universiti Tenaga Nasional); Nur Fadilah Ab Aziz (Universiti Tenaga Nasional); Mehdi Seyedmahmousian (School of Software and Electrical Engineering, Swinburne, Victoria); Alex Stojcevski (School of Software and Electrical Engineering, Swinburne, Victoria)
17:20 - 17:40	500	Aggregator-Driven Novel Battery Scheduling: Orchestrating Demand in a Grid Dominated by Distributed Photovoltaics and Electric Vehicles	Gihan Denagama Vitharanage (Queensland University of Technology)*; Mahinda Vilathgamuwa (Queensland University of Technology); Yateendra Mishra (Queensland University of Technology); Paul Cory (Queensland University of Technology)

Parallel Session PS-3.4.C - Power Electronics and Fault Detection Technologies

Track: Power and Energy Enabling Technologies

Time and Date: 16:00 - 17:40 and December 05, 2023

Room: B67-303

Chairs: Prof. Galina Mirzaeva (The University of Newcastle); Dr. Mohammed H. Haque (University of South Australia)

Time	Paper ID	Paper Title	Authors
16:00 - 16:20	165	A Comparative Classification Study for Broken Rotor Bar Fault and its Severity Analysis using Machine Learning Approaches in Rotating Machines	Shahil Kumar (The University of The South Pacific); Nafiz Buksh (The University of The South Pacific); Krish K Raj (USP); Rahul R Kumar (University of the South Pacific)*
16:20 - 16:40	437	A New Four-Port Dual-Input Dual-Output Quadratic DC-DC Boost Converter (FPQBC) with High Gain	Muhammad M Alam (University of Technology, Sydney)*; Priyabrata Shaw (Eaton Corporation); Dylan Lu (Nil); Yam Siwakoti (University of Technology Sydney)
16:40 - 17:00	49	Deep learning based Incipient Stator Inter-turn Fault Diagnosis for Synchronous Reluctance Motor Drives	Akash Babu (IIT Roorkee)*; Jeevanand Seshadrinath (IIT Roorkee); SIVA RAMA KRISHNA MERUGU (INDIAN INSTITUTE OF TECHNOLOGY , ROORKEE)
17:00 - 17:20	243	Bearing Fault Classification using Temporal Features for Wind Turbine Application: Harnessing Neural and Non-Neural Techniques	Krish K Raj (USP); Shahil Kumar (The University of The South Pacific); Maurizio Cirrincione (USP, UTBM); Giansalvo Cirrincione (University of Picardie Jules Verne); Rahul R Kumar (University of the South Pacific)*

17:20 - 17:40	273	Machine Learning-Based Classification of Stator Inter-Turn Fault Severities Using Time Domain Features and Principal Component Analysis	Prasheel Chand (The University of the South Pacific); Ishant Mani (University of the South Pacific); Rahul R Kumar (University of the South Pacific)*; Maurizio Cirrincione (USP, UTBM)
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Parallel Session PS-3.4.D - Energy Trading Market

Track: Power Grid Planning and Operation

Time and Date: 16:00 - 17:40 and December 05, 2023

Room: B67-203

Chairs: Dr. Mustapha Jamma (Institute for Energy Technology); Dr. Felipe Arraño-Vargas (UNSW Sydney)

Time	Paper ID	Paper Title	Authors
16:00 - 16:20	517	Advancing Transactive Energy Market Management using Community Microgrid Emulator that Supports OpenADR and Q-learning Based Auction Model	Gokul Sidarth ST(BOM Thirunavukkarasu (Swinburne University)*; Mehdi Seyedmahmousian (School of Software and Electrical Engineering, Swinburne, Victoria); Saad Mekhilef (Swinburne university of technology); Alex Stojcevski (School of Software and Electrical Engineering, Swinburne, Victoria)
16:20 - 16:40	170	Smart contract-based peer-to-peer energy token trading between active retailers and prosumers	Mohammad Seyfi (LUT University); Mehdi Mehdinejad (IUST); Behnam Mohammadi Ivatloo (LUT University)*; Jamshid Aghaei (Central Queensland University)
16:40 - 17:00	459	An AC-DC Power Flow Algorithm for Australian National Electricity Market	Ghulam Mohy-ud-din (CSIRO)*; Rahmat Heidari (CSIRO); Hakan Ergun (KU Leuven); Frederik Geth (GridQube)
17:00 - 17:20	426	A Dynamic Collusion Analysis of Virtual Power Plants Framework in Day-Ahead Local Energy Market	Moammad Reza Sheykhha (Shahid Beheshti University); Mehrdad Setayesh Nazar (Shahid Beheshti University); Miadreza Shafie-khah (University of Vaasa)*
17:20 - 17:40	479	Enhancing Electricity Trading Volume in a Decentralized Three-Phase Local Electricity Market using Flexible Step Voltage Regulator	K C Bevin (IIT Delhi)*; Ashu Verma (IIT Delhi)

Parallel Session PS-3.4.E - Power Electronics and Communication Technologies

Track: Future Grid Energy Technologies

Time and Date: 16:00 - 17:40 and December 05, 2023

Room: B67-302

Chairs: Dr. Shahidul Islam (Macquarie University); Prof. Farzad Safaei (University of Wollongong)

Time	Paper ID	Paper Title	Authors
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16:00 - 16:20	157	Detecting Non-Technical Losses in the Energy Sector using MLPGRU: An Anomaly Detection Approach	Nitasha khan (Universiti of kuala lumpur)*; zeeshan shahid (Universiti of kuala lumpur); Aznida Abu B Sajak (Universiti Kuala Lumpur); mansoor alam (riphah university)
16:20 - 16:40	570	Detection of False Data Injection in Cyber Physical Power Systems using Extended Kalman Filter	Sathish S (National Institute of Technology Trichy); Aneesa Farhan (NITT)*
16:40 - 17:00	355	Performance Analysis of Different Communication Mechanisms for IEC 61850 Type 1 and Type 4 Messaging Over Wide Area Networks	S.M. Suhail Hussain (King Fahd University of Petroleum and Minerals)*; Dr Mohd Asim Aftab (Thapar Institute of Engineering and Technology (Deemed to be University)); Abdul Latif (National Institute of Technology Silchar); Mohamed Abido (King Fahd University of Petroleum & Mine)
17:00 - 17:20	457	Comparative Insights into Spectral Characteristics of Grid-forming and Grid-following Converters	Akshita Sharma (Indian Institute of Technology, Delhi)*; Pankaj Achlerkar (IIT Delhi); Bijaya Ketan Panigrahi (IIT DELHI)
17:20 - 17:40	114	Performance Evaluation of PV Inverter under Grid Contingencies	Qiushi Liu (University of Tasmania)*; Waqas Hassan (University of Tasmania); Michael Negnevitsky (University of Tasmania); John Long Soon (University of Sydney, Australia)

Wednesday 6th December 2023

Paper Session 12

Parallel Session PS-4.1.A - Grid Stability and Control II

Track: Power and Energy Transformation and Utilization

Time and Date: 7:45 - 9:30 and December 06, 2023

Room: B67-101

Chairs: Dr. Mohamad Nassereddine (University of Wollongong in Dubai); Dr. Jeff Moscrop (University of Wollongong)

Time	Paper ID	Paper Title	Authors
7:45 - 8:05	462	Reliable Fault Isolation Algorithm for DC Micro-Grids Using Local Measurements	Raja P (NIT Trichy)*; Nageswara Reddy (national institute of technology tiruchirappalli); Rajesh Velpula (National Institute of Technology Tiruchirappalli); Moorthi Sridharan (NIT Trichy)
8:05 - 8:25	520	Adaptive Over Current Protection of SPV Integrated Distribution Systems	Owais M Malla (Electrical engineering); Vimal A V (NIT Calicut); Dr. Deepak M (NIT Calicut)*
8:25 - 8:45	389	A Novel Architecture and Algorithm for Adaptive Synchrophasor Estimation in Renewable-Rich Electrical Distribution System	Shikhar Pandey (ComEd); Anurag K Srivastava (West Virginia University)*; Anamika Dubey (Washington State University); F. Rahmatian (NuGrid)
8:45 - 9:05	373	Echo State Network Control Based Power Quality Enhancement in Grid-Interactive Solar Photovoltaic System	Meghraj Morey (Malaviya National Institute Technology Jaipur)*; Nitin Gupta (Malaviya National Institute of Technology Jaipur); Man Mohan Garg (MNIT Jaipur); Ajay Kumar (Punjab Engineering College (Deemed to be University)); Vijay Kumar Gali (Dept. of Electrical & Computer Engineering Nazarbayev University, Nur-Sultan)
9:05 - 9:25	289	Deep Reinforcement Control Scheme for Transient and Steady-State Stability in Power Systems	Gunawan Dewantoro (The University of Auckland)*; Akshya Swain (University of Auckland); Faizal Hafiz (Université Côte d'Azur); Nitish Patel (University of Auckland)

Parallel Session PS-4.1.B - Energy Storage System Operation II

Track: Energy Storage Integration (SS3)

Time and Date: 7:45 - 9:30 and December 06, 2023

Room: B67-102

Chairs: Prof. Saly George (NIT Calicut); Prof. Li Wang (National Cheng Kung University)

Time	Paper ID	Paper Title	Authors
7:45 - 8:05	315	State of Health Estimation of Lithium-Ion Battery via Bidirectional Long Short-Term Memory Neural Network with Bayesian Hyperparameter Tuning	Panagiotis Eleftheriadis (Politecnico di Milano)*; Spyridon Giazitzis (Politecnico di Milano); Sonia Leva (Politecnico di Milano); Emanuele Giovanni Ogliaari (Politecnico di Milano)

8:05 - 8:25	345	An Innovative Control Strategy for Fast Frequency Response in Battery Energy Storage Systems	Meng-Yun Lee (National Taiwan University)*; Chih-Wen Liu (National Taiwan University)
8:25 - 8:45	379	Bi-level Optimal Configuration Method of Energy Storage in Oilfield Microgrid	Xinyu Zhang (PetroChina Dagang Oilfield Power Company); Yanduo Xia (PetroChina Dagang Oilfield Power Company); Guozhi Zhang (PetroChina Dagang Oilfield Power Company); Fei Wang (North China Electric Power University)*; Wenzhe Lai (North China Electric Power University); Dingyue Huang (North China Electric Power University); Yuqing Wang (North China Electric Power University)
8:45 - 9:05	70	Cooperation of Distributed Renewable Generation and Battery Energy Storage in Virtual Power Plants for Frequency Regulation Service	MUXIN XU (UNSW)*; Wang Zhang (UNSW); Qige Yang (Huaqiao University); Ruipeng Xu (University of New South Wales)
9:05 - 9:25	175	Resiliency Improvement of Cyber-Dependent Distribution Network Using Mobile Energy Storage Systems	Guna Naga Venkata Mohan (IIT bhubaneswar)*; Chandrashekar N Bhende (IIT Bhubaneswar)

Parallel Session PS-4.1.C - Electric Vehicle Integration and Optimization

Track: Future Grids with Electric Vehicle

Time and Date: 7:45 - 9:30 and December 06, 2023

Room: B67-303

Chairs: Dr Robert Barr AM (Electric Power Consulting Pty Ltd); Dr. Jiatong Wang (University of Wollongong)

Time	Paper ID	Paper Title	Authors
7:45 - 8:05	78	Estimating Electric Vehicle Hosting Capacity in Distribution Networks: A Scalable Approach	Ashish Kumar Karmaker (University of New South Wales)*; Krishneel Prakash (UNSW); Bjorn Sturmberg (Australian National University); Sam Behrens (Newcastle Energy Centre, CSIRO); Hemanshu R. Pota (The University of New South Wales)
8:05 - 8:25	182	An optimal charging and Vehicle-to-Grid management system for the integration of EVs into low voltage distribution networks	Vasileios Boglou (Democritus University of Thrace)*; Athanasios Karlis (Democritus University of Thrace)
8:25 - 8:45	461	Allocation of EV Charging Stations in a Micro-grid	Venkatakirthiga Murali (National Institute of Technology Tiruchirappalli)*; Divya Bharathi Raj (National Institute of Technology Tiruchirappalli)
8:45 - 9:05	126	Stationary BES Coupled with Solar PV for an Energy Shared Home with an EV	Siraj Khanal (Flinders University); Rahmat Khezri (Chalmers University of Technology)*; Amin Mahmoudi (Flinders university); Solmaz Kahourzade (University of south Australia); Hirohisa Aki (University of Tsukuba)
9:05 - 9:25	595	Network-aware EV charging and discharging in unbalanced distribution grids: A distributed, robust approach against communication failures	Nanduni Indeewaree Nimalsiri (The Australian National University)*; Elizabeth Ratnam (Australian National University)

Parallel Session PS-4.1.D - Energy Forecasting III

Track: Future Grid Energy Technologies

Time and Date: 7:45 - 9:30 and December 06, 2023

Room: B67-203

Chairs: Dr. Mark Davies (TasNetworks); Prof. Mitresh Kumar Verma (IIT (BHU) Varanasi)

Time	Paper ID	Paper Title	Authors
7:45 - 8:05	42	An Electrical Load Forecasting Method Using An Improved Online Training Strategy	XINLIN WANG (UCI)*; Haizhen Jin (Korea Advanced Institute of Science and Technology); Marios Papaefthymiou (The University of California Irvine)
8:05 - 8:25	150	XgBoost based Short-term Electrical Load Forecasting Considering Trends & Periodicity in Historical Data	Noman Shabbir (Tallinn University of Technology)*; Roya Ahmadiyahangar (Tallinn University of Technology, Estonia); Argo Rosin (Tallinn University of Technology); Muhammad Jawad (COM-SATS University Islamabad, Lahore Campus); Jako Kilter (TalTech); Joao Martins (Nova School of Science and Technology)
8:25 - 8:45	548	A Gated Recurrent Unit for Very Short-Term Photovoltaic Generation Forecasting	Brendan McGrath (RMIT University)*; Lakshmi Palaparambil Dinesh (RMIT); Nameer Khafaf (RMIT University)
8:45 - 9:05	228	Short-term Industrial Demand Response Capability Forecasting using Hybrid EMD-AGTO-LSTM Model	Usman Bashir Tayab (RMIT University)*; Dr. Kazi Hasan (RMIT University); Muhammad Faisal Hayat (Air University)
9:05 - 9:25	532	Practical Application of Deep Modified Autoencoder Technique to Electricity Price Forecasting	Hiroyuki Mori (Meiji University)*; Kodai Yamada (Meiji University)

Parallel Session PS-4.1.E - Power System Stability I

Track: Power Grid Planning and Operation

Time and Date: 7:45 - 9:30 and December 06, 2023

Room: B67-302

Chairs: Dr. Kuldeep Kumar (University of Wollongong); Prof. Michael Negnevitsky (University of Tasmania)

Time	Paper ID	Paper Title	Authors
7:45 - 8:05	218	A Sequence Component Based Continuation Power Flow Model for Electric Power Grid Considering Transmission and Distribution System	Arun Suresh (); Sukumar Kamalasan (University of North Carolina at Charlotte)*; Sumit Paudyal (Florida International University)
8:05 - 8:25	244	Centrality-based Solar PV Placement Considering SAIDI under Incomplete Network Information	Rachel Lim (Nanyang Technological University)*; Xu Yan (Nanyang Technological University); Hung D Nguyen (Nanyang Technological University, Singapore); Ziming Yan (Nanyang Technological University)
8:25 - 8:45	415	Improved Facebook Prophet Model Using Singular Spectrum Analysis for Short-Term Load Forecasting	Priyesh Saini (Indian Institute of Technology, Patna)*; kumar abhinav (Indian Institute of Technology patna); SANJOY KUMAR PARIDA (IIT PATNA)

8:45 - 9:05	416	A Data-Driven Forced Oscillation Detection Using Random Forest	kumar abhinav (Indian Institute of Technology patna)*; Priyesh Saini (Indian Institute of Technology, Patna); Piyush Rai (Indian Institute of Technology, Patna); ABHINEET PRAKASH (IIT Patna); SANJOY KUMAR PARIDA (IIT PATNA)
9:05 - 9:25	215	Multi-Period Integrated Transmission and Distribution Optimal Power Flow Simulation Using Linear Decision Approach	Olalekan Ogundairo (University of North Carolina at Charlotte); Sukumar Kamalasan (University of North Carolina at Charlotte)*

Wednesday 6th December 2023

Paper Session 13

Parallel Session PS-4.2.A - Grid Stability and Control III

Track: Power and Energy Transformation and Utilization

Time and Date: 11:00 - 12:40 and December 06, 2023

Room: B67-101

Chairs: Dr. Mohamad Nassereddine (University of Wollongong in Dubai); Prof. Dylan Lu (University of Technology Sydney)

Time	Paper ID	Paper Title	Authors
11:00 - 11:20	556	Smart Substation Control and Protection Facilitating the Virtualization of Multiple Protection and Control	Anisur Rahman (ABB Australia Pty Ltd.); Orhan Yilmaz (ABB Australia Pty Ltd.); Omkar Vaze (ABB Australia Pty Ltd.); Anand Mr. Mandal (University of Wollongong)*
11:20 - 11:40	440	Voltage Stability Analysis of Multi-microgrid Clusters	Li Wang (National Cheng Kung University)*; Li-Wei Chen (National Cheng Kung University); LIU YU WEI (national cheng kung university)
11:40 - 12:00	272	Voltage Profile Improvement and Power Quality Management using advanced distribution level STATCOMs	Umme Mumtahina (Central Queensland University)*; Peter Wolfs (elexsys ptd ltd); Sanath Alahakoon (Central Queensland University Australia)
12:00 - 12:20	424	Simulation Study on Discharge Characteristics of Metal-Enclosed Liquid Nitrogen Switch	Muhammad Junaid (China University of Mining and Technology)*
12:20 - 12:40	265	PSO based Optimum Design of Passive Interfacing Elements of UPQC	Sisir Yadav (BITS Pilani)*; Ashish Patel (BITS Pilani); Hitesh Datt Mathur (BITS Pilani)

Parallel Session PS-4.2.B - Power Electronics Application III

Track: Power and Energy Enabling Technology

Time and Date: 11:00 - 12:40 and December 06, 2023

Room: B67-102

Chairs: Dr. Sze Sing Lee (Newcastle University); Dr. Kumaravel S. (NIT Calicut)

Time	Paper ID	Paper Title	Authors
11:00 - 11:20	482	Digital Twin of a Single-Phase Home Converter System Integrating Distributed Energy Resources	Ashish Patel (BITS Pilani)*; Sisir Yadav (BITS Pilani); Shubham Tiwary (BITS Pilani); Hitesh Datt Mathur (BITS Pilani)
11:20 - 11:40	386	Quadratic Gain-Based Boost Converter: Reduced Switch Current and Component Voltage Stress	Vysagh T (NITC); Kumaravel S (NIT Calicut)*

11:40 - 12:00	163	Advanced Nonlinear Backstepping Controller for Magnetic Linked DC-DC Converter	Md Alamgir Hossain (Griffith University)*; Md.Rezaur Rahman Shipon (Varendra University); Md Shazarul Islam (RUET); Md. Rashidul Islam (Rajshahi University of Engineering & Technology); Md. Ashib Rahman (University of Wollongong, Australia)
12:00 - 12:20	252	A Model Predictive Control-based Flexible Power Point Tracker for Grid-tied Photovoltaic Inverters	Mostefa Kermadi (University of Malaya)*; Sajib Ahmed (University of Malaya); Saad Mekhilef (University of Malaya); Marizan Mubin (University of Malaya); Hazli Mokhlis (University of Malaya, Malaysia)
12:20 - 12:40	463	State feedback with observers for DC-DC converters	Yunxun Mo (The Universty of Newcastle)*; Galina Mirzaeva (The University of Newcastle); Colin Coates (the University of Newcastle)

Parallel Session PS-4.2.C - Electric Vehicle Technologies II

Track: Future Grids with Electric Vehicle

Time and Date: 11:00 - 12:40 and December 06, 2023

Room: B67-303

Chairs: Dr. Sanjoy Kumar Parida (IIT PATNA); Dr. Nanduni Nimalsiri (The Australian National University)

Time	Paper ID	Paper Title	Authors
11:00 - 11:20	292	Security-Economic Driven Coordinated Operation of the Mobile Charging Robots Cluster and Active Distribution Networks	ZY Dong (NTU); Zhijun Zhang (Nanyang Technological University)*; Christine Yip (CAFEA Smart City Limited, Hong Kong and School of Civil Engineering, The University of Sydney, NSW 2006 Australia)
11:20 - 11:40	86	High Torque Capability Segmented Hybrid Excited Switched Reluctance Motor for Electric Vehicle Applications	VIJINA ABHIJITH (UNIVERSITY OF TECHNOLOGY, SYDNEY); Dr. Jahangir Hossain (University of Technology Sydney); Gang Lei (UNIVERSITY OF TECHNOLOGY, SYDNEY); Premalal Ajikumar Sreelekha (Entuple Technologies); Sandeep Kadam (DSCI); VIJINA ABHIJITH (UNIVERSITY OF TECHNOLOGY, SYDNEY)*
11:40 - 12:00	544	A Hybrid Synergetic Control for 3- VSC & 3L-ANPC DC-DC Stage for Off-board/Portable EV Charger	Saran Chaurasiya (IIT Delhi)*; Bhim Singh (Indian Institute of Technology Delhi)
12:00 - 12:20	98	Smart Electric Vehicle Charging System with Flexible Charging and Voltage Stabilisation Service for Australian Household Network	Abdullah Abualsaud (Macquarie University); Foad Taghizadeh (Macquarie University)*; Sara Deilami (); Dr. Jahangir Hossain (University of Technology Sydney); Junwei Lu (Griffith University)
12:20 - 12:40	473	Stability Analysis of a Multi-machine Power System Connected with a DC Microgrid Consisting of Renewable Energy Systems, Energy Storage Systems, and Electric Vehicle Loads	Li Wang (National Cheng Kung University)*; Shih-Chia Lin (National Cheng Kung University); Yu-Cheng Hsu (National Cheng Kung University)

Parallel Session PS-4.2.D - Power Grid Resiliency III

Track: Future Grid Energy Technologies

Time and Date: 11:00 - 12:40 and December 06, 2023

Room: B67-203

Chairs: Prof. Carlos Bordons (Universidad de Sevilla); Dr. Rene Rossi (R Rossi & Associates)

Time	Paper ID	Paper Title	Authors
11:00 - 11:20	323	A multi-dimensional quantitative evaluation framework for resources complexity of new energy stations based on grey correlation analysis	Dong Lv (Renewables(Group) Co.,Ltd China Three Gorges); Yun Wang (Renewables(Group) Co.,Ltd China Three Gorges); Fei Xu (Tsinghua University); Li He (Renewables(Group) Co.,Ltd China Three Gorges); Yuzhi Liu (Renewables(Group) Co.,Ltd China Three Gorges); Wenjing Yang (Renewables(Group) Co.,Ltd China Three Gorges); Mengjiao Chen (Renewables(Group) Co.,Ltd China Three Gorges); Nan Li (Tsinghua University); Haonan Dai (Tsinghua University)*; Fei Wang (Tsinghua University)
11:20 - 11:40	396	Electro-thermal Resource Interaction to Accommodate Inevitable Uncertain Events of Distribution Network	MEENAKSHI KHANDELWAL (Indian Institute of Technology Delhi)*; Prof. Abhijit Abhyankar (IIT Delhi)
11:40 - 12:00	77	Zero-Power Transmission Control for DFIG-Based WT to Enhance Synchronization Stability During Severe Grid Faults	Yihang Yang (Huazhong University of Science and Technology)*; Shiyong Zhou (Wuhan Second Ship Design and Research Institute); Chao Sun (Huazhong University of Science and Technology); Donghai Zhu (Huazhong University of Science and Technology); Xudong Zou (Huazhong University of Science and Technology); Yong Kang (Huazhong University of Science and Technology); Jiabing Hu (Huazhong University of Science and Technology)
12:00 - 12:20	226	Intelligent Fault Diagnosis for Low-Voltage Power Network	Md Shafiqullah (King Fahd University of Petroleum and Minerals)*; Mohamed Abido (King Fahd University of Petroleum & Mine); Hamza Anwar (KFUPM)
12:20 - 12:40	268	A Data-Driven Global Sensitivity Analysis of Output Power to Electrical Faults in Different SPV Array Topologies	Utkarsh Kumar (Indian Institute of Technology Delhi)*; Sukumar Mishra (IIT Delhi)

Parallel Session PS-4.2.E - Power Electronics Devices

Track: Power and Energy Enabling Technologies

Time and Date: 11:00 - 12:40 and December 06, 2023

Room: B67-302

Chairs: Prof. Danny Sutanto (University of Wollongong); Dr. Jeff Moscrop (University of Wollongong)

Time	Paper ID	Paper Title	Authors
11:00 - 11:20	354	Transport Delay Compensation in Variable-Speed Electric Drive	Yuan Liu (University of Newcastle)*; Galina Mirzaeva (The University of Newcastle); Colin Coates (the University of Newcastle)
11:20 - 11:40	235	A combination of PI and fuzzy logic controllers for seamless transition in dual-mode microgrids	Radhu Nair (Deakin University); Nasser Hosseinzadeh (Centre for Smart Power and Energy Research, Deakin University)*; Lahiru Aththanayake (Deakin University); Hieu Trinh (Deakin University)
11:40 - 12:00	568	Review of Control Strategies for Matrix Converters	Yuan Liu (University of Newcastle)*; Galina Mirzaeva (The University of Newcastle); Colin Coates (the University of Newcastle)

12:00 - 12:20	142	A Family of Transformerless Step-Up DC-DC Converters: Analysis, Comparison and Experiment	Hossein Gholizadeh (Shahid Beheshti University); Saman Asghari Gorji (Deakin University)*; Dezso Sera (Queensland University of Technology)
12:20 - 12:40	15	Continuous and synchronous overvoltage performance of three-phase grid-connected inverter	Jeykishan Kumar K (Central Power Research Institute)*; Sudhir Kumar (Central Power Research Institute); Vinod Kumar J (Central Power Research Institute)

Wednesday 6th December 2023

Paper Session 14

Parallel Session PS-4.3.A - Customer Energy III

Track: Power and Energy Transformation and Utilization

Time and Date: 14:40 - 16:20 and December 06, 2023

Room: B67-101

Chairs: Prof. Hong-Tzer Yang (National Cheng-Kung University); Prof. Gerard Ledwich (Queensland University of Technology)

Time	Paper ID	Paper Title	Authors
14:40 - 15:00	75	Fault tolerant approach applied on peer-to-peer energy trading based on blockchain and distributed model predictive control	Manuel Sivianes (University of Seville)*; Ascensión Zafra Cabeza (Universidad de Sevilla); Pablo Velarde Rueda (Universidad Loyola Andalucia); Carlos Bordons (Universidad de Sevilla)
15:00 - 15:20	134	Distributed Average Integral Control Based Energy Management Model	Neelofar Shaukat (COMSATS); B. Khan (CUI Abbottabad); Muhammad B Qureshi (COMSATS University Islamabad); Muhammad Jawad (COMSATS University Islamabad, Lahore Campus); Norman Shabbir (Tallinn University of Technology)*; Kamran Daniel (Tallinn University of Technology)
15:20 - 15:40	422	Energy Management Strategy and Pricing Mechanism of Renewable Resources Coupling with Traditional Generations in Electricity Markets	Jiajia Huan (Power System Planning Research Center of Guangdong Power Grid); Lingling Sun (Chinese Academy of Science)*; Zhuoying Liao (Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences); Jing Zhang (Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences); Jie Shu (Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences)
15:40 - 16:00	445	Development of A Demand Control Algorithm for HVAC Systems to Conserve Energy in Office Buildings	Nuwan Bandara Herath (Skills College of Technology)*; Pushpi Paranamana (Saint Mary's College); Nadeesha Chandrasena (SmartAIConnect)
16:00 - 16:20	518	Reinforcement Learning-based Energy Management System for Microgrids with High Renewable Energy Penetration	Yu-Jin Lin (Department of Electrical Engineering, National Cheng Kung University); Yu-Cheng Chen (Department of Electrical Engineering National Cheng Kung University); Sz-Fu Hsieh (Department of Electrical Engineering National Cheng Kung University); He-Yi Liu (Department of Electrical Engineering National Cheng Kung University); Chia-Hsin Chiang (Department of Industrial and Information Management National Cheng Kung University); Hong-Tzer Yang (Research Center for Energy Technology and Strategy, Department of Electrical En)*

Parallel Session PS-4.3.B - Transmission and Distribution System Technologies

Track: Power and Energy Enabling Technology

Time and Date: 14:40 - 16:20 and December 06, 2023

Room: B67-102

Chairs: Prof. Dylan Lu (University of Technology Sydney); Prof. Saly George (NIT Calicut)

Time	Paper ID	Paper Title	Authors
14:40 - 15:00	572	Exploration of Medium Voltage Power Converters Design and Implementation for Motor Drive	Rohit Kumar (IIT Delhi)*; Bhim Singh (Indian Institute of Technology Delhi); Kripa Tiwari (IIT Delhi)
15:00 - 15:20	84	Line-Start Permanent-Magnet Synchronous Motor: Axial-Flux vs Radial-Flux Configuration	Amin Mahmoudi (Flinders university)*; Emad Roshandel (Flinders University); Solmaz Kahrzade (University of south Australia); Wen Soong (The University of Adelaide)
15:20 - 15:40	380	Improving Conventional Cascaded DC-DC Boost Converters with Reduced Voltage Stress on Switches	Hossein Gholizadeh (Shahid Beheshti University); Arezoo Ektesabi (ASA Industry - Melbourne Pty Ltd); Saman Asghari Gorji (Deakin University)*
15:40 - 16:00	531	A New Configurable SC-based Dual Source Inverter Topology with Improved Reliability	Mohammad Anas Anees (University of Malaya); Marif Daula Siddique (National University of Singapore)*; Saad Mekhilef (University of Malaya); Marizan Mubin (University of Malaya); Mehdi Seyedmahmousian (School of Software and Electrical Engineering, Swinburne, Victoria); Alex Stojcevski (School of Software and Electrical Engineering, Swinburne, Victoria)
16:00 - 16:20	346	Fault Tolerant Technique for 3n-Phase Induction Motor Drives under Open-Winding Fault Condition	Saly George (NIT Calicut)*; Rajeshwari Rajeshwari (National Institute of Technology - Calicut.)

Parallel Session PS-4.3.C - Energy Forecasting IV

Track: Future Grid Energy Technologies

Time and Date: 14:40 - 16:20 and December 06, 2023

Room: B67-303

Chairs: Dr. Venkatakirthiga Murali (National Institute of Technology Tiruchirappalli); Dr. Sze Sing Lee (Newcastle University)

Time	Paper ID	Paper Title	Authors
14:40 - 15:00	85	A Distributed Photovoltaic Ultra-short-term Power Forecasting Method Based on Dynamic Graph Network with Shape-amplitude Loss Function	Ji Yu (Yangtze Clean Energy& Environment Co., Ltd.); Yuqing Wang (North China Electric Power University); Zhao Zhen (North China Electric Power University); Fei Wang (North China Electric Power University)*
15:00 - 15:20	349	Spatial-Temporal Attention Mechanism and Graph Convolutional Networks Based Distributed PV Ultra-short-term Power Forecasting	Xinyu Liu (State Grid Chongqing Electric Power Company); Xu Xie (State Grid Chongqing Electric Power Company Shinan Power Supply Branch); Qin Fang (State Grid Chongqing Electric Power Company Shinan Power Supply Branch); Fei Xu (Tsinghua University); Chen Huang (North China Electric Power University); Zhao Zhen (North China Electric Power University); Fei Wang (North China Electric Power University)*
15:20 - 15:40	351	The Regional Distributed PV Ultra-short-term Power Forecasting Based on Static-dynamic Spatiotemporal Correlation Modeling	Yu Zhu (State Grid Shaanxi Electric Power Co., Ltd. Information and Communication Company); Le yang (State Grid Shaanxi Electric Power Co., Ltd. Information and Communication Company); Xizai Yang (State Grid Shaanxi Electric Power Co., Ltd. Information and Communication Company); Fei Xu (Tsinghua University); Zinuo Su (Tsinghua University); Zhao Zhen (Tsinghua University)*
15:40 - 16:00	48	Solar PV Power Prediction System Based on Machine Learning Approach	Mohamad Nasserredine (University of Wollongong in Dubai)*; Ghalia Nasserredine (Jinan University); Amal Aridaa (Rafik Hariri University)

16:00 - 16:20	185	Prediction of Transmission Line Icing Thickness based on Long Short-Term Memory Network	Yi Wan (Wuhan University of Technology)*; Hui Hou (School of Automation, Wuhan University of Technology); Xiaolu Bai (Central Southern China Electric Power Design Institute CO.,LTD. of China Power Engineering Consulting Group CO.,LTD.); Jianshuang Lv (Central Southern China Electric Power Design Institute CO.,LTD. of China Power Engineering Consulting Group CO.,LTD.); Decheng Cai (Central Southern China Electric Power Design Institute CO.,LTD. of China Power Engineering Consulting Group CO.,LTD.); Yiyang Shen (Central Southern China Electric Power Design Institute CO.,LTD. of China Power Engineering Consulting Group CO.,LTD.)
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Parallel Session PS-4.3.D - Clean Energy Technologies V

Track: Future Grid Energy Technologies

Time and Date: 14:40 - 16:20 and December 06, 2023

Room: B67-203

Chairs: Dr. P. RAJA (NIT Trichy); Dr Robert Barr AM (Electric Power Consulting Pty Ltd)

Time	Paper ID	Paper Title	Authors
14:40 - 15:00	360	Frequency Control in Hydro Power Systems with High Penetration of Inverter-Based Resources	Kien Nguyen (University of Tasmania)*; Evan Franklin (University of Tasmania); Michael Negnevitsky (University of Tasmania); Alan Henderson (University of Tasmania)
15:00 - 15:20	484	Variable Speed Pumped Storage Hydropower Plant for Black Start	Himanshu Jain (IIT Roorkee); SRUTHI MAVILA PATHAYAPURAYIL (IIT ROORKEE)*
15:20 - 15:40	148	Hydro-solar seasonal complementarity for optimal hydropower plant expansion in the transitioning Nordic power system	Alexandra J Sheppard (NTNU)*; Gro Kleboe (NTNU); Magnus Nygård (IFE)
15:40 - 16:00	135	DRL-Based Adaptive Energy Management for Hybrid Electric Storage Systems Under Dynamic Spatial-Temporal Traffic in Urban Rail Transits	Guannan Li (The Hong Kong Polytechnic University); Siu Wing Or (The Hong Kong Polytechnic University)*
16:00 - 16:20	122	Non-linear Hydromechanical And Electrical Coupled Model of 1400MW Hydropower Plant For Governor Tuning Application	Ritu Tiwari (Indian Institute of Technology Roorkee)*; Thanga Raj Chelliah (Indian Institute of Technology Roorkee); Venkata Dinavahi (University of Alberta)

Parallel Session PS-4.3.E - Power System Stability II

Track: Power Grid Planning and Operation

Time and Date: 14:40 - 16:20 and December 06, 2023

Room: B67-302

Chairs: Prof. Anurag K Srivastava (West Virginia University); Prof. Carlos Bordons (Universidad de Sevilla)

Time	Paper ID	Paper Title	Authors
14:40 - 15:00	478	Self-Synchronizing Robust Control Scheme for Harmonic Current Suppression of Grid-Interfaced PV System Under Distorted Grid Voltages	MANASH KUMAR MISHRA (NIT Manipur)*; Dr. V. N Lal (Dept of Electrical Engineering, IIT (BHU) Varanasi); Sanjoy Kumar Parida (IIT Patna), and Vinod Kumar Bussa (IIT Patna)
15:00 - 15:20	188	A novel approach to measurement-based system inertia estimation	Meng-Yun Lee (National Taiwan University)*; Chao-Yuan Lai (National Taiwan University); Chih-Wen Liu (National Taiwan University)
15:20 - 15:40	337	Investigation of Small Signal Stability in a Multi-VSCs System	Pillsu Choi (Korea university)*; Yoongun Jung (Korea university); Chiwon Seo (Korea university); Gilsoo Jang (Korea university)
15:40 - 16:00	451	Optimal Design of a PV-RHFC Hybrid Micro-grid for Rural Electrification in Soa Village, Fiji	Abdul S Khan (The University of the South Pacific)*; Ali MOHAMMADI (USP); Rahul R Kumar (University of the South Pacific); Maurizio Cirrincione (USP, UTBM)
16:00 - 16:20	365	Investigations on Inertial Strategies of DFIG for Fast Frequency Response	PRAVEEN SARMA S (NATIONAL INSTITUTE OF TECHNOLOGY CALICUT)*; sunil V chandran (national institute of technology calicut); Dr. Deepak M (NIT Calicut)