2012 IEEE International Conference on Power and Energy

(PECon 2012)

Kota Kinabalu, Malaysia
2 – 5 December 2012
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Room</th>
<th>Chairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:40</td>
<td>Two-switch ZCS Totem-pole Bridgeless PFC Boost Rectifier</td>
<td></td>
<td>Khairul Safuan Muhammad (The University of Sydney, Australia); Dylan Dah-Chuan Lu Dah-Chuan Lu (The University of Sydney, Australia)</td>
</tr>
<tr>
<td>09:00</td>
<td>Analyses and Simulation of Three-phase MLI with High Value of Resolution per Switch employing SVM control scheme</td>
<td></td>
<td>Md. Mubashwar Hasan (University Of Malaya, Malaysia); Mahrous Ahmed (South Valley University, Egypt); Saad Mekhilef (University of Malaya, Malaysia)</td>
</tr>
<tr>
<td>09:20</td>
<td>Harmonics Reduction of Three Phase Five-Level Neutral-Point-Clamped Multilevel Inverter</td>
<td></td>
<td>Nashiren Farzilah Mailah (Universiti Putra Malaysia, Malaysia); Sharifah Sakinah Tuan Othman (Universiti Putra Malaysia, Malaysia); Ishak Aris (Universiti Putra Malaysia, Malaysia); Misron Norhisam (Universiti Putra Malaysia, Malaysia); Mohd Zainal Abidin Ab Kadir (Universiti Putra Malaysia, Malaysia); Tsuyoshi Hanamoto (Kyushu Institute of Technology, Japan); Hiroaki Yamada (Kyutech Institute of Technology, Japan)</td>
</tr>
<tr>
<td>09:40</td>
<td>A Novel ZVS ZCS Boost Converter with an h-Bridge Auxiliary LCC Resonant Circuit</td>
<td></td>
<td>Vahid Najmi (Sharif University of Technology, Iran); Seyyedmilad Ebrahimi (Sharif University of Technology, Iran); Shahriar Sharifan (Sharif University of Technology, Iran); Hashem Oraee (Sharif University of Technology, Iran)</td>
</tr>
<tr>
<td>10:00</td>
<td>Optimal Design of a High-Efficiency Bidirectional Isolated DC-DC Converter Across a Wide Range of Power Transfer</td>
<td></td>
<td>Nadia Tan (Universiti Tenaga Nasional, Malaysia); Takahiro Abe (JFE Steel Corporation, Japan); Hirofumi Akagi (Tokyo Institute of Technology, Japan)</td>
</tr>
<tr>
<td>10:20</td>
<td>Modeling and analysis of CCM non-isolated high step-up interleaved buck-boost dc/dc converter</td>
<td></td>
<td>Juan Ostos (University of Sydney, Australia)</td>
</tr>
<tr>
<td>10:40</td>
<td>Morning Break (Foyer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td>Optimal HE-PWM Inverter Switching Patterns Using Differential Evolution Algorithm</td>
<td></td>
<td>Muhammad Ikram Mohd Rashid (Universiti Malaysia Pahang, Malaysia)</td>
</tr>
<tr>
<td>11:20</td>
<td>Design of Interleaved Interdigitated Electrode Multilayer Piezoelectric Transformer Utilizing Longitudinal and Thickness Mode Vibrations</td>
<td></td>
<td>Martin Rødgaard (Technical University of Denmark, Denmark); Thomas Andersen (Technical University of Denmark, Denmark); Michael Andersen (Technical University of Denmark, Denmark); Kaspar Meyer (Noliac A/S, Denmark)</td>
</tr>
<tr>
<td>11:40</td>
<td>A New ZCS Series Resonant High-Voltage DC Power Supply</td>
<td></td>
<td>Sze Sing Lee (University Sains Malaysia, Malaysia); Shahid Iqbal (University Sains Malaysia, Malaysia); Mohamad Kamarol Mohd Jamil (Universiti Sains Malaysia, Malaysia)</td>
</tr>
<tr>
<td>12:00</td>
<td>DC-DC Type Bidirectional High-Frequency Link DC for Improved Power Quality of Cascaded Multilevel Inverter</td>
<td></td>
<td>Muhammad Sadikin (University of the Ryukyus, Japan); Tomonobu Senjyu (Faculty of Engineering, University of the Ryukyus, Japan); Atsushi Yona (Faculty of Engineering, University of the Ryukyus, Japan)</td>
</tr>
</tbody>
</table>
12:20 A New Multilevel Inverter Topology with Reduced Number of Power Switches
Lili Mabeigy (UTM, Malaysia); NazihA Ahmad Azl (Universiti Teknologi Malaysia, Malaysia); Farshad Khosravi (UTM & Kermanshah Azad University, Malaysia); Ehsan Najafi (Universiti Teknologi Malaysia, Malaysia); Avin Kaykhosravi (Universiti Teknologi Malaysia, Malaysia)

12:40 Influence of the Internal Control Approach on Capacitor's Voltage Ripple in Modular Multilevel Converters
Amel Lachichi (ABB Corporate Research Centre, Sweden)

Time: 08:40 - 13:00
Session: B21 (Renewable & Sustainable Energy I)
Room: Room 2
Chairs: Ehab El-Saadany (Waterloo University, Canada), Abu H. Rahim (King Fahd University of Petroleum & Minerals, Saudi Arabia)

08:40 Particle Swarm Optimization-Based Maximum Power Point Tracking Algorithm for Wind Energy Conversion System
Majid Abdullateef Abdullah (Universiti Teknologi Malaysia, Malaysia); Abdul Halim Yatim (Universiti Teknologi Malaysia, Malaysia); Chee Wei Tan (Universiti Teknologi Malaysia, Malaysia); Ahmad Saudi Samosir (Universiti Teknologi Malaysia & Lampung University, Malaysia)

09:00 Control of a Variable Speed Stand Alone Wind Energy Supply System
Mahmoud Mohamed Hussein (Faculty of Energy Engineering, Aswan, South Valley University, Egypt); Tomonobu Senjyu (Faculty of Engineering, University of the Ryukus, Japan); Mohamed Orabi (APEARC, Aswan South Valley University, Egypt); Mohamed Wahab (Minia University, Egypt); Mohamed Hamada (Faculty of Engineering, Minia University, Egypt)

09:20 An Adaptive Intelligent Control of Doubly Fed Wind Generator for Fast Transient Recovery
Abu H. Rahim (King Fahd University of Petroleum & Minerals, Saudi Arabia)

09:40 Analyzing the Economic Potential for DG CHP Systems at the University of Guelph
Andrew Northmore (University of Waterloo, Canada); Ehab El-Saadany (Waterloo University, Canada)

10:00 Power Generation from Salinity Gradient Solar Pond Using Thermoelectric Generators For Renewable Energy Application
Baljit Singh (Universiti teknologi MARA, Malaysia)

10:20 Load Power Management Control for a Stand Alone Wind Energy System Based on The State of Charge of The Battery
Mahmoud Mohamed Hussein (Faculty of Energy Engineering, Aswan, South Valley University, Egypt); Tomonobu Senjyu (Faculty of Engineering, University of the Ryukus, Japan); Mohamed Orabi (APEARC, Aswan South Valley University, Egypt); Mohamed Wahab (Minia University, Egypt); Mohamed Hamada (Faculty of Engineering, Minia University, Egypt)

10:40 Morning Break (Foyer)

11:00 An Optimization Toolbox for the Design of Laboratory Scale Vertical Axis Wind Turbine
Chockalingam Aravind Vaithilingam (Taylors University, Malaysia); Rajprasad Kumar Rajkumar (University of Nottingham Malaysia Campus, Malaysia); Grace Ikujuni (UCSI University, Nigeria); C. Eng. Rozita Teymourzadeh (UKM, Malaysia); Misron Norhisam (Universiti Putra Malaysia, Malaysia); Rajparthiban Kumar Rajkumar (Manipal International University, Malaysia)

Baljit Singh (Universiti teknologi MARA, Malaysia)
11:40 Determination of Optimal Operation Plans of Fuel Cell System in Residential House with PV System
Yuki Taniguchi (Waseda University, Japan); Yu Fujimoto (Waseda University, Japan); Yasuhiro Hayashi
(Waseda University, Japan)

12:00 Small Parabolic Solar Cooker for Rural Communities in Malaysia
Baljit Singh (Universiti teknologi MARA, Malaysia)

12:20 Optimum Sizing of Hybrid PV/Wind/Battery/Diesel System Considering Wind Turbine Parameters Using Genetic Algorithm
Abdullrahman Al-Shamma’a (King Saud University, Saudi Arabia); Khaled Addoweesh (King Saud University, Saudi Arabia)

12:40 Probabilistic wind speed forecast for wind power prediction using pseudo ensemble approach
Sultan AL-Yahyai (Sultan Qaboos University, Oman); Yassine Charabi (Sultan Qaboos University, Oman); Adel Gastli (Sultan Qaboos University, Oman)

Time : 08:40 - 13:00
Session : C21 (Computer and AI Applications in Power Engineering)
Room : Room 3
Chairs : Mohd Herwan Sulaiman (Universiti Malaysia Pahang, Malaysia), Thanathip Sum-Im (Srinakharinwirot University, Thailand)

08:40 Allocation and Sizing of DG Using Cuckoo Search Algorithm
Wen Shan Tan (Universiti Teknologi Malaysia, Malaysia); Mohammad Yusri Hassan (University of Technology Malaysia(UTM), Malaysia); Md Shah Majid (University of Technology Malaysia(UTM), Malaysia); Hasimah Rahman (Universiti Teknologi Malaysia, Malaysia)

09:00 Application of Hybrid GMDH and Least Square Support Vector Machine in Energy Consumption Forecasting
Ahmad Sukri Ahmad (Universiti Teknologi Malaysia, Malaysia); Mohammad Yusri Hassan (University of Technology Malaysia(UTM), Malaysia); Md Shah Majid (University of Technology Malaysia(UTM), Malaysia)

09:20 Optimal Placement and Sizing of Multiple FACTS Devices Installation
Siti Amely Jumaat (Universiti Tun Hussein Onn Malaysia & University Teknologi MARA, Malaysia); Ismail Musirin (Universiti Teknologi Mara, Shah Alam, Malaysia); Muhammad Othman (Universiti Teknologi MARA, Malaysia); Hazlie Mokhlis (Electrical Engineering Department, Malaysia)

09:40 A Self-Adaptive Differential Evolution Algorithm for Transmission Network Expansion Planning with System Losses Consideration
Thanathip Sum-Im (Srinakharinwirot University, Thailand); Weerakorn Ongsakul (Asian Institute of Technology, Thailand)

10:00 Modified Firefly Algorithm in Solving Economic Dispatch Problems with Practical Constraints
Mohd Herwan Sulaiman (Universiti Malaysia Pahang, Malaysia); Mohd Wazir Mustafa (University of Technology Malaysia, Malaysia); Hamdan Daniyal (Universiti Malaysia Pahang, Malaysia)

10:20 Application of Particle Swarm Optimisation in the Design of Large Permanent Magnet Synchronous Generators for Wind Turbines
Salem Alshibani (University of New South Wales, Australia); Vassilios Agelidis (The University of New South Wales, Australia); Rukmi Dutta (University of New South Wales, Australia)

10:40 Morning Break (Foyer)
11:00 Effect of Ant Parameters on DEACO in Economic Load Dispatch Problem
Nur Azzamudin Rahmat (Universiti Teknologi MARA, Malaysia); Ismail Musirin (Universiti Teknologi Mara, Shah Alam, Malaysia); Zulkifli Othman (Faculty of Electrical Engineering, Universiti Teknologi Mara, Malaysia)

11:20 Developed Software Tool for Distribution Energy Systems Simulation and Analysis
Basma Othman (South Valley University, Egypt); Mamdouh Abdel-Akher (South Valley University & Aswan Faculty of Engineering, Egypt); Ahmad Eid (South Valley University & Aswan Faculty of Engineering, Egypt); Mohamed Aly (South Valley University, Egypt); Hassan El-Kishky (The University of Texas at Tyler, USA)

11:40 A Comparative Study of Power Consumption for Electric Power Steering System
Mohd Khair Hassan (Universiti Putra Malaysia, Malaysia)

12:00 Evolutionary Particle Swarm Optimization (EPSO) Based Technique for Multiple SVCs Optimization
Siti Amely Jumaat (Universiti Tun Hussein Onn Malaysia & University Teknologi MARA, Malaysia); Ismail Musirin (Universiti Teknologi Mara, Shah Alam, Malaysia); Muhammad Othman (Universiti Teknologi MARA, Malaysia); Hazlie Mokhlis (Electrical Engineering Department, Malaysia)

12:20 Effect of Load Models on Battery-Switching Station Allocation in Distribution Network
Jasrul Jamani Jamian (Universiti Teknologi Malaysia, Malaysia); Mohd Wazir Mustafa (University of Technology Malaysia, Malaysia); Zaniah bt Muda (University Technologi Malaysia (UTM), Malaysia); Hazlie Mokhlis (Electrical Engineering Department, Malaysia); Muhammad Mohsin Aman (University of Malaya, Kuala Lumpur Malaysia, Malaysia)

12:40 Performance Evaluation of Evolutionary Programming and Hybrid Evolutionary Programming for LMP & Determination At Spot Electricity Market
Varada Tambe (Sardar Vallabhbhai National Institute of Technology, India); Ranjit Roy (S V National Institute of Technology, Surat, India)

---

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Room</th>
<th>Chairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:40</td>
<td>D21 (Power System Planning and Operation 1)</td>
<td>Room 4</td>
<td>Nofri Yenita Dahlan (Universiti Teknologi Mara Malaysia, Malaysia), Matam Sailaja Kumari (National Institute of Technology, Warangal, India)</td>
</tr>
</tbody>
</table>

08:40 An Analysis on Efficiency of a Water Injection Gas Turbine with Rotor Air Cooling
Yan Su (University of Macau, Macao)

09:00 Generation Revenue Assessment in Pool-Based Electricity Markets
Nurehan Othman (Universiti Teknologi Malaysia, Malaysia); Mohammad Yusri Hassan (University of Technology Malaysia(UTM), Malaysia); Faridah Hussin (University Technology of Malaysia, Malaysia)

09:20 Asset Management Through Effective Transformer Diagnostics & Condition Monitoring
Abubakar Suleiman (Universiti Teknologi Malaysia & National Agency for Science and Engineering Infrastructure (NASENI), Abuja, Malaysia)

09:40 Demand Response Application for Virtual Peak Plant
Hyung-Geun Kwag (Hanyang University, Korea); Na-Eun Lee (Hanyang University, Korea); Jun-Hyun Shin (Hanyang University, Korea); Jin-O Kim (Hanyang University, Korea)

10:00 Network Expansion Planning Using Linkage Identification Genetic Algorithm
Masanori Okabe (Tokai University, Japan)

xxii
10:20 Optimal Power Demand Curve: A case study in University Putra Malaysia

Sani M. Lawal (Universiti Putra Malaysia & Kaduna Polytechnic, Malaysia); Hashim Hizam (UPM university, Malaysia); Arash Toudeshki (Universiti Putra Malaysia, Malaysia); Chandima Gomes (Universiti Putra Malaysia, Malaysia); Jasrotna Jasni (Universiti Putra Malaysia, Malaysia)

10:40 Morning Break (Foyer)

11:00 Optimal Scheduling of Voltage Control Resources in Unbalanced Three-Phase Distribution Systems

Zakaria Ziadi (University of the Ryukyus, Japan); Mamdouh Abdel-Akher (South Valley University & Aswan Faculty of Engineering, Egypt); Atsushi Yona (Faculty of Engineering, University of the Ryukyus, Japan); Tomonobu Senju (Faculty of Engineering, University of the Ryukyus, Japan); Toshihisa Funabashi (Meidensha Corporation, Japan)

11:20 Transmission Line Loss and Load Allocation via Artificial Bee Colony Algorithm

Abdul Rahman Minhat (Universiti Tun Hussein Onn Malaysia, Malaysia); Mohd Wazir Mustafa (University of Technology Malaysia, Malaysia); Ismail Musirin (Universiti Teknologi Mara, Shah Alam, Malaysia)

11:40 Reactive Power Dispatch Using Big Bang-Big Crunch Optimization Algorithm for Voltage Stability Enhancement

Zeynab Zandi (Shahid Beheshti University, Iran); Ebrahim Afjei (Shahid Beheshti University, Iran); Mostafa Sedighizadeh (Imam Khomeini International university, Iran)

12:00 Evolutionary Computation based Unit Commitment Using Hybrid Priority List Approach

Manisha Govardhan (SVNIT, Surat, India); Ranjit Roy (S V National Institute of Technology, Surat, India)

12:20 Congestion Cost Allocation Using Game Theory in Multilateral Framework

Sridivya Potabattula (National Institute Of Technology, Warangal, India); Murali Matcha (National Institute Of Technology, Warangal, India); Matam Sailaja Kumari (National Institute of Technology, Warangal, India); Maheswarapu Sydulu (National Institute of Technology, India)

12:40 An Empirical Approach of Modelling Electricity Prices in an Oligopoly Market

Nofri Yenita Dahlan (Universiti Teknologi Mara Malaysia, Malaysia)

13:00 - 14:00 : Lunch Break (Ballroom)
15:00 Design, Simulation and Implementation of an Intelligent MPPT Using a ZVCS Resonant DC-DC Converter
Mohammad Jafari (University of Technology, Sydney & IAU University, Australia); Zahra Malekjamshidi (IAU University, Singapore); Jian Guo Zhu (UTS, Australia)

15:20 A New Topology of Multi-Input Multi-Output Buck-Boost DC-DC Converter for Microgrid Applications
Mohammad Jafari (University of Technology, Sydney & IAU University, Australia); Gregory Hunter (University of Technology Sydney, Australia); Jian Guo Zhu (UTS, Australia)

15:40 Afternoon Break (Foyer)

16:00 A Novel quasi-Resonant Soft-Switching Z-Source Inverter
Yuan Zhu (Waseda University, Japan); Minjie Chen (Waseda University, Japan); Xutao Lee (Waseda University, Japan); Tsutomu Yoshihara (Waseda University, Japan)

16:20 A New Safe-Commutation Technique for AC-DC Converter Operation Using Single-Phase Matrix Converter
Rahimi Baharom (Universiti Teknologi MARA, Malaysia); Mustafar Kamal Hamzah (Universiti Teknologi MARA, Malaysia); Ngah Ramzi Hamzah (Universiti Teknologi Mara, Malaysia)

16:40 Design and Simulation of Quasi-Z Source Grid-connected PV Inverter with Battery Storage
Zulhani Rasin (University of New South Wales & University Teknikal Malaysia Melaka, Australia); M. Fazlur Rahman (University of New South Wales, Australia)

17:00 Improved Performance of a Single-Phase to Three-Phase Converter Using a 4-Switch Quasi Z-Source Inverter
Farshad Khosravi (UTM & Kermanshah Azad University, Malaysia); Naziha Ahmad Azli (Universiti Teknologi Malaysia, Malaysia); Avin Kaykhosravi (Universiti Teknologi Malaysia, Malaysia)

---

Time : 14:00 - 18:00
Session : B22 (Photovoltaic System & Applications)
Room : Room 2
Chairs : Shahrin Md. Ayob (Universiti Teknologi Malaysia, Malaysia), Ahmad Salsabila (Universiti Malaysia Perlis, Malaysia)

14:00 Modelling and Simulation of Maximum Power Point Tracking of Photovoltaic System in Simulink model
Musa Abdulkadir (Universiti Teknologi Malaysia (UTM) & Joberh, Malaysia); Ahmad Saud Samosir (Universiti Teknologi Malaysia & Lampung University, Malaysia); Abdul Halim Yatim (Universiti Teknologi Malaysia, Malaysia)

14:20 Maximum Power Point Tracking Algorithm Based on I-V Characteristic of PV Array under Uniform and Non-Uniform Conditions
Ali Reza Kouchaki (University of Tehran, Iran); Hossein Iman-Eini (University of Tehran, Iran); Behzad Aseaei (University of Tehran, Iran)

14:40 Performance Evaluation of Grid-Connected Photovoltaic System with Battery Energy Storage
Muhammad Zalani Daud (Universiti Kebangsaan Malaysia & Universiti Malaysia Terengganu, Malaysia); Azah Mohamed (Universiti Kebangsaan Malaysia, Malaysia); Mohd Zamri Che Wanik (TNB Research Sdn Bhd & Universiti Kebangsaan Malaysia, Malaysia); M. A. Hannan Hannan (Universiti Kebangsaan Malaysia, Malaysia)
15:00 Determination Method of Optimal Planning and Operation for Residential PV System and Storage Battery Based on Weather Forecast
Ryota Suzuki (Waseda University, Japan); Yu Fujimoto (Waseda University, Japan); Yasuhiro Hayashi (Waseda University, Japan)

15:20 An Evaluation of stand-alone photovoltaic electrical power system in Kg. Orang Asli Cameron Highland, Malaysia
Abdul Rahim Abdul Razak (UniMAP, Malaysia); Ahmad Shukri Fazil Rahman (UniMAP, Malaysia); Norliza Mohamad Ibrahim (Universiti Malaysia Perlis, Malaysia); Yazhar Yatim (Universiti Malaysia Perlis, Malaysia); Mohd Zamri Hasan (University Malaysia Perlis, Malaysia); Uda Hashim (Universiti Malaysia Perlis, Malaysia)

16:00 Effects of Partial Shading on Photovoltaic with Advanced MPPT Scheme
Mohammad Shahariar Kabir (University of Queensland, Australia)

16:20 Effect of Losses Resistances, Module Temperature Variation, and Partial Shading on PV Output Power
Mohamed Almaktar (Universiti Teknologi Malaysia UTM, Johor, Malaysia); Hasimah Rahman (Universiti Teknologi Malaysia, Malaysia); Mohammad Yusri Hassan (University of Technology Malaysia(UTM), Malaysia)

16:40 A High Power Generation, Low Power Consumption Solar Tracker
Ahmad Salsabila (Universiti Malaysia Perlis, Malaysia); Suhaidi Shafie (UPM, Malaysia); Mohd Zainal Abidin Ab Kadir (Universiti Putra Malaysia, Malaysia)

17:00 Input Filtering of MPPT Control by Exponential Moving Average in Photovoltaic System
Hiroki Tajiri (Meiji University & Graduate School of Science and Technology, Japan); Teruhisa Kumano (Meiji University, Japan)

17:20 An Efficient MPPT controller Using Differential Evolution and Neural Network
Muhammad Sheraz (King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia); Mohammad A. Abido (KFUPM, Saudi Arabia)

17:40 Maximum Power Point Tracking of Partial Shading Condition using Differential Evolution (DE)
Mohammad Faridun Naim Tajuddin (Universiti Malaysia Perlis, Malaysia); Shahrin Md. Ayob (Universiti Teknologi Malaysia, Malaysia); Zainal Salam (Universiti Teknologi Malaysia, Malaysia)

Time : 14:00 - 18:00
Session : C22 (Electrical Machines & Drives 1)
Room : Room 3
Chairs : Zaid Al Otaibi (King Abdulaziz City for Science and Technology (KACST), Saudi Arabia), Misron Norhisam (Universiti Putra Malaysia, Malaysia)

14:00 Position Estimation and Control of BLDC Motor for VVA Module with Unbalanced Hall Sensors
Jun-Hyuk Choi (KETI, Korea); In Sung Park (KETI & Korea Electronics Technology Institute, Korea); Bon-Gwan Gu (KETI, Korea); Jin-Hong Kim (KETI, Korea); Chung-Yuen Won (Sungkyunkwan University, Korea)

14:20 Field Oriented Controlled Five-Phase Induction Motor Drive with Active Front End Converter
Atif Iqbal (Qatar University, Qatar); Saifullah Payami (IIT, Patna, India); Ranjan Behera (IIT, Patna, India); Haitham Abu-Rub (Texas A&M University at Qatar, Qatar); Ahmad Abdalla (Qatar University, Qatar)

14:40 Static Characteristics of the Double Rotor Switched Reluctance Motor
Chockalingam Aravind Vaithilingam (Taylors University, Malaysia); Misron Norhisam (Universiti Putra Malaysia, Malaysia); Ishak Aris (Universiti Putra Malaysia, Malaysia); Mohammad Hamiruce Marhaban
xxvi

15:00 Comparison of the Torque Characteristics of Ferromagnetic Rotor Double Stator Brushless DC Permanent Magnet Motor
Raja Nor Firdaus Raja Othman (Universiti of Putra Malaysia & University Teknikal Melaka Malaysia, Malaysia); Misron Norhisam (Universiti Putra Malaysia, Malaysia); Chockalingam Aravind Vaithilingam (Taylors University, Malaysia); Norman Mariun (Universiti Putra Malaysia, Malaysia); Ishak Aris (Universiti Putra Malaysia, Malaysia); Hiroyuki Wakiwaka (Shinshu University, Japan); M. NIrei (Nagano National College of Technology, Japan)

15:20 Improved Ferrite Magnet Vernier Machine for an In-wheel Machine
Kazuhiro Sato (Shibaura Institute of Technology, Japan)

15:40 Afternoon Break (Foyer)

16:00 Spring-less Permanent Magnet Linear-Resonant Motor for compressor applications
Zaid Al Otaibi (King Abdulaziz City for Science and Technology (KACST), Saudi Arabia)

16:20 Design Studies and Performance of HEFSM with Various Slot-Pole Combinations for HEV Applications
Erwan Sulaiman (University of Tun Hussein Onn Malaysia, Malaysia)

16:40 Modeling and Simulation for Application of Electromagnetic Linear Actuator Direct Drive Electro-hydraulic Servo System
Jianhui Zhu (Nanjing University of Science and Technology, P.R. China); Siqin Chang (Nanjing University of Science and Technology, P.R. China)

17:00 Modeling and Simulation of a Novel Internal Combustion-linear Generator Integrated Power System Using Matlab/Simulink
Jiming Lin (Nanjing University of Science and Technology, P.R. China); Siqin Chang (Nanjing University of Science and Technology, P.R. China)

17:20 An Approach to Generate High Reluctance Torque in an Inset-type PMSM by Square Current Excitation
Masataka Miyamasu (Shibaura Institute of Technology, Japan); Kan Akatsu (Shibaura Institute of Technology, Japan)

17:40 Reduced Rule Base Fuzzy Controller for Performance Enhancement of Inline PI Controller
Vishal Verma (Delhi Technological University, Delhi & Formerly Delhi College of Engineering, India); Renu Bhardwaj (Delhi Technological University, India)

Time : 14:00 - 18:00
Session : D22 (Power System Dynamic, Stability and Control)
Room : Room 4
Chairs : Teruhisa Kumano (Meiji University, Japan), Mohamed Aly (South Valley University, Egypt)

14:00 Improve Transient Frequency Response by Adjusting Generators' over Frequency Relay
Abdussalam S Elansari (REAOL Renewable Energy Authority of Libya & GECOL General Electric Company of Libya, Libya); Mohamed Edrah (General Electric Company of Libya, Libya); Sami Khaled (General Electric Company of Libya, Libya)

14:20 Determination of Control Structure of PMSG Wind Turbine Generator by Calculus of Variations
Teruhisa Kumano (Meiji University, Japan)

14:40 A Continuation Power-Flow for Distribution Systems Voltage Stability Analysis
Mohamed Aly (South Valley University, Egypt); Mamdouh Abdel-Akher (South Valley University & Aswan Faculty of Engineering, Egypt)
15:00 Bifurcation Analysis of Static Unbalanced Power Networks with Distributed Generation
Ahmed Bedawy (South Valley University, Egypt); Mohamed Aly (South Valley University, Egypt); Mamduh Abdel-Akher (South Valley University & Aswan Faculty of Engineering, Egypt); Hassan El-Kishky (The University of Texas at Tyler, USA)

15:20 Generator Saturation Modelling using Three Saturation Models
Komla Folly (University of Cape Town, South Africa); Keren Kaberere (Jomo Kenyatta University of Agriculture & Technology, Kenya)

15:40 Afternoon Break (Foyer)

16:00 Transient Stability Enhancement of Egyptian National Grid Including Nuclear Power Plant in Dabaa Area
Mohamed Shafei, M. Shafei (DAR Engineering - Saudi Arabia, Egypt)

16:20 Application of Neural Network Observer for On-line Estimation of Solid-Rotor Synchronous Generators’ Dynamic Parameters using the Operating Data
Omid Shariati (Faculty of Electrical Engineering/ Universiti Teknologi Malaysia (UTM), Malaysia); Abdullah Asuhaimi Mohd Zin (Universiti Teknologi Malaysia, Malaysia); Azhar Khairuddin (Universiti Teknologi Malaysia, Malaysia); Mohammad Reza Aghamohammadi (Power and Water University of Technology, Iran); Mahmoud Pesaran Haji Abbas (Universiti Teknologi Malaysia, Malaysia)

16:40 Online Coherency Identification Based on Correlation Characteristics of Generator Rotor Angles
Maryam Tabandeh (Science and Research Branch of Islamic Azad University, Iran); Mohammad Reza Aghamohammadi (Power and Water University of Technology, Iran)

17:00 A Novel Approach for Optimal Placement of PMUs with Minimum Measurement Channels
Nikhil Gupta (Indian Institute Of Technology - Guwahati, India); Mayank Goyal (Indian Institute Of Technology - Guwahati, India); Praveen Tripathy (Indian Institute Of Technology - Guwahati, India)

Wednesday, December 5

<table>
<thead>
<tr>
<th>Time</th>
<th>08:40 - 13:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session</td>
<td>A31: Power Electronic Applications</td>
</tr>
<tr>
<td>Room</td>
<td>Room 1</td>
</tr>
<tr>
<td>Chairs</td>
<td>Mohd Amran Mohd Radzi (Universiti Putra Malaysia, Malaysia), Mohammad Nawawi Seroji (Universiti Teknologi MARA, Malaysia)</td>
</tr>
</tbody>
</table>

08:40 Adaptive P&O-Fuzzy Control MPPT for PV Boost Dc-Dc Converter
Muhammad Ammirrul Atiqi Mohd Zainuri (Universiti Putra Malaysia & Faculty of Engineering UPM, Malaysia); Mohd Amran Mohd Radzi (Universiti Putra Malaysia, Malaysia); Azura Binti Che Soh (Universiti Putra Malaysia, Malaysia); Nasrudin Abdul Rahim (University Malaya, Malaysia)

09:00 H-infinity with pole placement constraint in LMI region for a buck-converter driven DC motor
Mohd Zaidi Mohd Tumari (Universiti Malaysia Pahang, Malaysia); Muhammad Salihin Saenal (Universiti Malaysia Pahang, Malaysia); Mohd Riduan Ghazali (Universiti Malaysia Pahang, Malaysia); Yasmin Abdul Wahab (Universiti Malaysia Pahang, Malaysia)

09:20 FPGA Based Five-Phase Sinusoidal PWM Generator
Tole Sutikno (Universiti Teknologi Malaysia & Universitas Ahmad Dahlan, Malaysia); Nik Rumzi Nik Idris (Universiti Teknologi Malaysia, Malaysia); I M Alsofyani (University Technology Malaysia, Malaysia); Auzani Jidin (Universiti Teknikal Malaysia Melaka, Malaysia); L. Logan Raj (Universiti Teknikal Malaysia Melaka, Malaysia)

09:40 Design of Closed-loop Current Control for High Power Factor AC-AC SPMC
Mazratul Firdaus Mohd Zin (Faculty of Electrical Engineering, Universiti Teknologi MARA, Malaysia)
A Comparative Study of 5-level and 7-level Multilevel Inverter Connected to the Grid

The Application of a Quasi Z-Source AC-AC Converter in Voltage Sag Mitigation

Hydrogen Rate Manipulation of Proton Exchange Membrane Fuel Cell (PEMFC) Stack Using Feedback Control System

A Novel Algorithm for Global Peak Power Point Tracking in Partially Shaded Grid-Connected PV System

Analysis Characteristics and Optimal Design Procedure of Half-Bridge LLC Loaded Resonant Converter

Safe Commutation for an AC-DC Single Phase Matrix Converter (SPMC) with Combination of LC Filter and Damping Resistor

Energy Efficiency Measurements in a Malaysian Public University

Brain Storm Optimization Algorithm Based Economic Dispatch Considering Wind Power
09:20 A feasibility Study for Electricity Generation Using Wind Power Systems in the Malaysian Borneo
Tamer Khatib (National University of Malaysia, Malaysia); Azah Mohamed (Universiti Kebangsaan Malaysia, Malaysia)

09:40 Robust Control of Hybrid Wind / Energy Storage Power Generation System Considering Statistical Wind Characteristics
Amir Hossein Shahirinia (University of Wisconsin-Milwaukee, USA); Amin Hajizadeh (Shahrood University of Technology, Iran); Dc Yu (University of Wisconsin-Milwaukee, USA)

10:00 A Transformer-Less Compact and Light Wind Turbine Generating System for Offshore Wind Farms
Md Rabiul Islam (University of Technology Sydney, Australia)

10:20 Segregation of Energy Efficiency Control Strategies for Non Propulsion Electrical Hotel Load on HVAC in EV
Siti F. Toha (International Islamic University Malaysia, Malaysia); Babul Salam Kader Ibrahim (University Tun Hussein Onn Malaysia, Malaysia); Nor Aziah Mohd Azubir (Perusahaan Otomobil Nasional Sdn. Bhd., Malaysia); Mohd Khair Hassan (Universiti Putra Malaysia, Malaysia)

10:40 Morning Break (Foyer)

11:00 Electrical Energy Audit in a Malaysian University - A Case Study
Harapajan Singh (Universiti Teknologi MARA, Malaysia); Manjeevan Seera (Universiti Sains Malaysia, Malaysia); Mohamad Adha Mohamad Idin (Universiti Teknologi MARA (UiTM), Malaysia)

Amin Hajizadeh (Shahrood University of Technology, Iran); Amir Hossein Shahirinia (University of Wisconsin-Milwaukee, USA); Dc Yu (University of Wisconsin-Milwaukee, USA)

11:40 Renewable Heat Incentive for Solar Thermal Systems in the United Kingdom: The Next Big Thing?
Siti Hawa Abu-Bakar (Glasgow Caledonian University, United Kingdom); Firdaus Muhammad-Sukki (Glasgow Caledonian University & Multimedia University, Malaysia); Roberto Ramirez-Iniguez (Glasgow Caledonian University, United Kingdom); Stas Burek (Glasgow Caledonian University, United Kingdom); Tapas Mallick (Heriot-Watt University, United Kingdom); Campbell MacLennan (AES Ltd, United Kingdom); Abu Bakar Munir (University of Malaya, Malaysia); Siti Hajar Mohd Yasin (Universiti Teknologi MARA, Malaysia)

12:00 Temperature Dependent Analysis of Thermoelectric Module Using Matlab/SIMULINK
Vishal Verma (Delhi Technological University, Delhi & Formerly Delhi College of Engineering, India); Arti Kane (Delhi University, India)

12:20 An Innovative Multi-S Rotor for Harvesting Wind Energy
ElSayed M. ElBeheiry (Menoufiya University, Egypt); Wageeh El-Askary (Menoufiya University & Faculty of Engineering, Egypt)

Time : 08:40 - 13:00
Session : C31 (Power Quality, Protection and Electromagnetic Compatibility)
Room : Room 3
Chairs : Mahmadasraf Mulla (Electrical Department, SVNIT, Surat, India), Aziz Rahman (IEMD - Chair, Canada)

08:40 Analysis and Solutions of Overcurrent Protection Issues in a Microgrid
Ahmad Razani Haron (Universiti Kebangsaan Malaysia, Malaysia); Azah Mohamed (Universiti Kebangsaan Malaysia, Malaysia); Hussain Shareef (University Kebangsaan Malaysia, Maldives); Hadi Zayandehroodi (University Kebangsaan Malaysia (UKM), Malaysia)
09:00 Characterization of Short-duration Voltage Events
Fouad Zaro (KFUPM, Saudi Arabia)

09:20 Teleprotection Simulation Lab: Understanding the Performance of Telecommunication Aided Protection Systems under Impaired Telecommunication Network Conditions
Husni Yusof (TENAGA NASIONAL BERHAD, Malaysia); Mohd Izbal Ridwan (TNB Research Sdn Bhd, Malaysia); Ahmad Ramli (Universiti Tenga Nasional, Malaysia); Aminuddin Musa (TNB, Malaysia)

09:40 Time Series Simulation of the Impact of Harmonics Using Measured Harmonic Data
Che Ku Farhana Che Ku Amran (Universiti Teknologi Malaysia (UTM), Malaysia); Khalid Mohamed Nor (Universiti Teknologi Malaysia, Malaysia); Dalila Mat Said (Universiti Teknologi Malaysia, Malaysia)

10:00 Analysis of Voltage Sag Sensitivity of LED Lamps
Sohel Uddin (Universiti Kebangsaan Malaysia (UKM), Malaysia); Hussain Shareef (University Kebangsaan Malaysia, Maldives); Azah Mohamed (Universiti Kebangsaan Malaysia, Malaysia); M. A. Hannan Hannan (Universiti Kebangsaan Malaysia, Malaysia)

10:20 Series Hybrid Active Power Filter for Mitigating Voltage Unbalance and Harmonics under Non-Sinusoidal Unbalanced Supply Conditions
Mahmadasraf Mulla (Electrical Department, SVNIT, Surat, India); Chudamani R (S. V. National Institute of Technology, Surat, India); Anandida Chowdhury (S V National Institute of Technology, India)

10:40 Morning Break (Foyer)

11:00 New Power Quality Indices Based on S-transform for Non-stationary Signals
Chirag Naik (S V National Institute of Technology Surat India, India); Prasanta Kundu (S V National Institute of Technology Surat India, India)

11:20 Analysis of Arrester Energy for 132kV Overhead Transmission Line due to Back Flashover and Shielding Failure
Nor Hidayah Nor Hassan (University of Malaya & Faculty of Engineering, Malaysia); A. B. Halim Abu Bakar (University of Malaya, Malaysia); Hazlie Mokhlis (Electrical Engineering Department, Malaysia); Hazlee Azil Illias (University of Malaya, Malaysia)

11:40 Characteristic of Third Harmonic From Synchronous Generator Passing Through Transformer and Rectifier
Mohd Faris Abdullah (Universiti Teknologi PETRONAS, Malaysia); Nor Hisham Hamid (Universiti Teknologi Petronas, Malaysia); Zuhairi Baharudin (Universiti Teknologi PETRONAS, Malaysia); Muhammad Mohd Ayob (Universiti Teknologi PETRONAS, Malaysia); Mohd Aizuddin Mohamad Hamim (Universiti Teknologi PETRONAS, Malaysia)

12:00 Study on the Effect of Distributed Generation towards Unified Power Quality Conditioner Performance in Mitigating Voltage Sags
Norshafinash Saudin (Universiti Malaysia Perlis, Malaysia); Junaidah Ali Mohd Jobran (Universiti Malaysia Perlis, Malaysia); Muhammad Firdaus Mohd Isa (Universiti Malaysia Perlis, Malaysia); Mohd Azizi Mohamed (Universiti Malaysia Perlis, Malaysia); Latifah Mohamed (Universiti Malaysia Perlis, Malaysia); Surina Mat Suboh (Universiti Malaysia Perlis, Malaysia)

12:20 Modeling and Simulation of Digital Frequency Relay for Generator Protection
Muhammad Mohsin Aman (University of Malaya, Kuala Lumpur Malaysia, Malaysia); Gauth Jasmon (University of Malaya, Malaysia); Hazlie Mokhlis (Electrical Engineering Department, Malaysia); Muhammad Qadeer Ahmed Khan (ENI Corporate University, Italy); A. B. Halim Abu Bakar (University of Malaya, Malaysia); Mazaher Karimi (University of Malaya, Malaysia)

12:40 A New Hybrid Digital Technique for Differential Protection of Salient Pole Synchronous Generator
Adel Aktaibi (Memorial University of Newfoundland, Canada); Aziz Rahman (IEMD - Chair, Canada)
08:40 Effects of SiO2 Nanofillers on Polarization and Depolarization Current (PDC) of LLDPE-NR Nanocomposite Insulating Materials
N. Akmal M. Jamail (Universiti Teknologi Malaysia, Skudai, Johor, Malaysia); M. Afendi M. Piah (Universiti Teknologi Malaysia & Institute of High Voltage and High Current, Malaysia); Nor Asiah Muhamad (Universiti Teknologi Malaysia, Malaysia)

09:00 Dean-Stark vs FDS and KFT Methods in Moisture Content Recognition of Transformers
Mehdi Bagheri (University of New South Wales, Australia); Mohammad Salay Naderi (University of New South Wales, Australia); Trevor Blackburn (University of New South Wales, Australia); Toan Phung (University of New South Wales, Australia)

09:20 An Overview Of Pekan Lightning Detection System (PLDS)
Wan Ismail Ibrahim (Universiti Malaysia Pahang, Malaysia)

09:40 Electrical Performance of Silicone Rubber / Organo-Montmorillonite Nanocomposites Under High Voltage Application
Abdul Azim Abd Jamil (Universiti Sains Malaysia, Malaysia); Nouruddien Bashir (Universiti Teknologi Malaysia, Malaysia); Mohamad Kamarol Mohd Jamil (Universiti Sains Malaysia, Malaysia); Mariatti Jaafar (Universiti Sains Malaysia, Malaysia); Yanuar Arief (Universiti Teknologi Malaysia (UTM), Malaysia); Mohd Hafizi Ahmad (Universiti Teknologi Malaysia, Malaysia); M. Afendi M. Piah (Universiti Teknologi Malaysia & Institute of High Voltage and High Current, Malaysia); Mat Uzir Wahit (Universiti Teknologi Malaysia, Malaysia)

10:00 Kraft Paper Insulation's Life Assessment and Effects of Oxygen and Moisture to Paper Insulation's Deterioration Rate
Imran Sutan Chairul (Universiti Teknikal Malaysia Melaka, Malaysia); Sharin Ab Ghani (Universiti Teknikal Malaysia Melaka, Malaysia); Mohd Shahril Ahmad Khiar (Universiti Teknikal Malaysia Melaka, Malaysia); Yasmin Hanum Md Thayob (Universiti Tenaga Nasional, Malaysia); Young Zaidey Yang Ghazali (Tenaga Nasional Berhad, Malaysia)

10:20 Breakdown Voltage Characteristic of Biodegradable Oil Under Various Gap of Quasi-Uniform Electrode Configuration
Noor Syazwani Mansor (Universiti Sains Malaysia, Malaysia); Mohamad Kamarol Mohd Jamil (Universiti Sains Malaysia, Malaysia); Yusnida Mohd Yusof (Universiti Sains Malaysia, Malaysia); Kiasatina Azmi (Universiti Sains Malaysia, Malaysia)

10:40 Morning Break (Foyer)

11:00 Temperature Rise Prediction in 3-Phase Busbar System At 20˚C Ambient Temperature
Masri Muhammood (Universiti Sains Malaysia, Malaysia); Mohamad Kamarol Mohd Jamil (Universiti Sains Malaysia, Malaysia); Syafrudin Masri (Universiti Sains Malaysia, Malaysia); Dahaman Ishak (Universiti Sains Malaysia, Malaysia)

11:20 Statistical Evaluation of a New Technique for Sweep Frequency Response Analysis
Esam Al Murawwi (The Petroleum Institute, Abu Dhabi, UAE); Braham Barkat (The Petroleum Institute, UAE); Redy Mardiana (The Petroleum Institute, UAE)

11:40 The Energy and Cost Calculation for a Marx Pulse Generator Based on Input DC Voltage, Capacitor Values and Number of Stages
Arash Toudeshki (Universiti Putra Malaysia, Malaysia); Norman Mariun (Universiti Putra Malaysia, Malaysia); Hashim Hizam (UPM university, Malaysia); Noor Izzri Abdul Wahab (Universiti Putra Malaysia)
Malaysia, Malaysia)

12:00 Partial Discharge Patterns in High Voltage Insulation
Hazlee Azil Illias (University of Malaya, Malaysia); Soon Yuan Teo (University of Malaya, Malaysia); A. B. Halim Abu Bakar (University of Malaya, Malaysia); Hazlie Mokhlis (Electrical Engineering Department, Malaysia); George Chen (University of Southampton, United Kingdom); Paul Lewin (University of Southampton, United Kingdom)

12:20 Effect of Relative Humidity on Surface Discharge Characteristics of Polymeric Material under AC Stress
Yanuar Arief (Universiti Teknologi Malaysia (UTM), Malaysia); Zuraimy Adzis (Universiti Teknologi Malaysia, Malaysia); Mohamad Zul Hilmey Makmud (Universiti Malaysia Sabah, Malaysia)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Room</th>
<th>Chairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:40</td>
<td>Transmission Lines Induced Currents in Human Bodies using Charge Simulation Method</td>
<td></td>
<td>Muahmmad Waqas Khalid (King Fahd University of Petroleum and Minerals, Saudi Arabia); Zakariya Al-Hamouz (King Fahd University of Petroleum &amp; Minerals, Saudi Arabia)</td>
</tr>
<tr>
<td>09:00</td>
<td>Network Reconfiguration for Loss Reduction with Distributed Generations Using PSO</td>
<td></td>
<td>Wardiah Mohd Dahalan Wardiah (University of Malaya &amp; University Kuala Lumpur, Malaysia); Hazlie Mokhlis (Electrical Engineering Department, Malaysia)</td>
</tr>
<tr>
<td>09:20</td>
<td>Improved Fault Location on Distribution Network Based on Multiple Measurements of Voltage Sags Pattern</td>
<td></td>
<td>Lilik Awalin (University of Malaya &amp; University of Malaya, Malaysia); Hazlie Mokhlis (Electrical Engineering Department, Malaysia); A. B. Halim Abu Bakar (University of Malaya, Malaysia)</td>
</tr>
<tr>
<td>09:40</td>
<td>Integrating Distributed Generator for Restoration Optimization</td>
<td></td>
<td>Mohd Shahrin Abu Hanifah (Tokai University, Japan)</td>
</tr>
<tr>
<td>10:00</td>
<td>Risk Assessment of Cascading Collapse Considering the Effect of Hidden Failure</td>
<td></td>
<td>Nur Ashida Salim (University Teknologi Mara, Malaysia); Muhammad Othman (Universiti Teknologi MARA, Malaysia); Ismail Musirin (Universiti Teknologi Mara, Shah Alam, Malaysia); Md Salleh Serwan (APS, Malaysia)</td>
</tr>
<tr>
<td>10:20</td>
<td>Voltage Stability Analysis of Unbalanced Distribution Systems with Wind Power Penetration</td>
<td></td>
<td>Mamdouh Abdel-Akher (South Valley University &amp; Aswan Faculty of Engineering, Egypt)</td>
</tr>
<tr>
<td>10:40</td>
<td>Morning Break (Foyer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td>Back Propagation Neural Network Aided Wavelet Transform for High Impedance Fault Detection and Faulty Phase Selection</td>
<td></td>
<td>Abdulhamid Abohagar (UTM, Malaysia); Mohd Wazir Mustafa (University of Technology Malaysia, Malaysia)</td>
</tr>
<tr>
<td>11:20</td>
<td>Simulation of TDR Circuit for the Analysis of Wave Propagation In XLPE Cable Model</td>
<td></td>
<td>Nor Hidayah Rahim (Universiti Teknikal Malaysia Melaka, Malaysia); Yasmin Hanum Md Thayoob (Universiti Tenaga Nasional, Malaysia); Sharin Ab Ghani (Universiti Teknikal Malaysia Melaka, Malaysia); Imran Sutan Chairul (Universiti Teknikal Malaysia Melaka, Malaysia); Mohd Shahril Ahmad Khiar (Universiti Teknikal Malaysia Melaka, Malaysia); Norafizah Abas (Universiti Teknikal Malaysia Melaka, Malaysia)</td>
</tr>
</tbody>
</table>

xxxii
11:40 Three Phase Fault Algorithm in Distribution System by Using Database Approach and Impedance Based Method
Nur Hazahsha Shamsudin (Universiti Teknikal Malaysia Melaka, Malaysia); Anas Abdul Latiff (Universiti Teknikal Malaysia Melaka, Malaysia); Norafizah Abas (Universiti Teknikal Malaysia Melaka, Malaysia); Hazlie Mokhlis (Electrical Engineering Department, Malaysia); Lilik Awalin (University of Malaya & University of Malaya, Malaysia)

12:00 Parameters Affecting Lightning Backflash Over Pattern At 132kV Double Circuit Transmission Lines
Dian Najihah Abu Talib (University of Malaya, Malaysia); A. B. Halim Abu Bakar (University of Malaya, Malaysia); Hazlie Mokhlis (Electrical Engineering Department, Malaysia)

12:20 Impact of Nonlinear Controllers on DG’s Islanding Phenomenon
Mahdiveh Khodaparastan (Amirkabir University of Technology, Iran); Hesan Vahedi (Amirkabir University of Technology, Iran)

13:00 - 14:00 : Lunch Break (Ballroom)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Room</th>
<th>Chairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:00</td>
<td>Techno-economic appraisal of alternative distribution network design options</td>
<td>Room 1</td>
<td>Chin Kim Gan (Universiti Teknikal Malaysia Melaka, Malaysia), Ranjit Roy (S V National Institute of Technology, Surat, India)</td>
</tr>
<tr>
<td>14:20</td>
<td>Optimal Measurement Placement Using PSO for State Estimation</td>
<td></td>
<td>Hazwan Mohd Rosli (University of Malaya, Malaysia); Hazlie Mokhlis (Electrical Engineering Department, Malaysia); A. B. Halim Abu Bakar (University of Malaya, Malaysia)</td>
</tr>
<tr>
<td>14:40</td>
<td>Effect of Renewable Penetration on Economic Power Dispatch in Presence of Energy Storage</td>
<td></td>
<td>Faisal Rahiman Pazheri (King Saud University &amp; Saudi Aramco Chair in Electrical Power, Saudi Arabia); Mohd Fauzi Othman (University of Technology Malaysia, Malaysia); Nazar Malik (? , Saudi Arabia); Imthias Ahamed, Parambath (King Saud University, Riyadh, Saudi Arabia)</td>
</tr>
<tr>
<td>15:00</td>
<td>Energy Conservation Through Lighting Audit (A Case Study)</td>
<td></td>
<td>Muhammad Usman Khalid (National Refinery Limited, Pakistan); Mariam Gul (University of Malaya, Malaysia); Muhammad Mohsin Aman (University of Malaya, Kuala Lumpur Malaysia, Malaysia); Ahsan Hashmi (Electrical Designer GENIVAR Inc., Canada)</td>
</tr>
<tr>
<td>15:20</td>
<td>A Review on Short Term Load Forecasting Using Hybrid Neural Network Techniques</td>
<td></td>
<td>Muhammad Qamar Raza (Universiti Teknologi PETRONAS &amp; The University of Faisalabad, Malaysia); Zuhairi Baharudin (Universiti Teknologi PETRONAS, Malaysia)</td>
</tr>
<tr>
<td>15:40</td>
<td>Afternoon Break (Foyer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00</td>
<td>CRPSO based Optimal Placement of Multi-Distributed Generation in Radial Distribution System</td>
<td></td>
<td>Khyati Mistry (Sardar Vallabhbhai National Institute of Technology, India); Ranjit Roy (S V National Institute of Technology, Surat, India)</td>
</tr>
<tr>
<td>16:20</td>
<td>Comparison of Pursuit and ε-Greedy Algorithm for Load Scheduling under Real Time Pricing</td>
<td></td>
<td>Syed Maqbool (Saudi Aramco Chair in Electrical Power, King Saud University, Saudi Arabia); Imthias Ahamed, Parambath (King Saud University, Riyadh, Saudi Arabia); Syed Qaseem Ali (Saudi Aramco Chair in Electrical Power, Saudi Arabia); Faisal Rahiman Pazheri (King Saud University &amp; Saudi Aramco Chair in Electrical Power, Saudi Arabia); Nazar Malik (? , Saudi Arabia)</td>
</tr>
</tbody>
</table>
16:40 An application of Differential Evolution technique on Unit Commitment Problem using Priority List Approach
Manisha Govardhan (SVNIT, Surat, India); Ranjit Roy (S V National Institute of Technology, Surat, India)

Time : 14:00 - 18:00
Session : B32 (Smart Grid & Utility Applications)
Room : Room 2
Chairs : Azuwa Ali (Universiti Malaysia Perlis, Malaysia), Vishal Verma (Delhi Technological University, Delhi & Formerly Delhi College of Engineering, India)

14:00 Centralized BESS Control to Minimize Demand of PV-Supplied Micro-grid under Voltage Constraints
Khoa Dinh Le (Waseda University, Japan); Yasuhiro Hayashi (Waseda University, Japan)

14:20 Communication for Distributed Renewable Generations (DRGs): A Review on the Penetration to Smart Grids (SGs)
Syed Z Islam (Universiti Putra Malaysia, Malaysia); Norman Mariun (Universiti Putra Malaysia, Malaysia); Hashim Hizam (UPM university, Malaysia); Mohammad Lutfi Othman (Universiti Putra Malaysia, Malaysia); Mohd Amran Mohd Radzi (Universiti Putra Malaysia, Malaysia); Izham Z. Abidin (Universiti Tenaga Nasional, Malaysia)

14:40 Implementation of Automatic Meter Reading (AMR) Using Radio Frequency (RF) Module
Azuwa Ali (Universiti Malaysia Perlis, Malaysia); Noor Ashikin Mohd Razali (University of Malaysia Perlis, Malaysia); Nor Hidayah Saad (Universiti Malaysia Perlis, Malaysia); Nandini Vitee (Universiti Malaysia Perlis, Malaysia)

15:00 Comprehensive Analysis of DC Smart Grid Operation
Thabit S. Nassor (The University of the Ryukyus, Japan); Zakaria Ziadi (University of the Ryukyus, Japan); Mamdouh Abdel-Akher (South Valley University & Aswan Faculty of Engineering, Egypt); Atsushi Yona (Faculty of Engineering, University of the Ryukyus, Japan); Tomonobu Senjyu (Faculty of Engineering, University of the Ryukyus, Japan)

15:20 Grid Coupled Maximum Power Point Tracked Photovoltaic System with Selective Power Conditioning Capability
Vishal Verma (Delhi Technological University, Delhi & Formerly Delhi College of Engineering, India); Amritesh Kumar (Delhi Technological University, India)

15:40 Afternoon Break (Foyer)

16:00 Smart Power Grid: Technologies and Applications
Joseph Petinrin (Universiti Teknologi Malaysia, Malaysia); Mohamed Shaaban (Universiti Teknologi Malaysia, Malaysia)

Time : 14:00 - 18:00
Session : C32: Electrical Machines & Drives 2
Room : Room 3
Chairs : Atif Iqbal (Qatar University, Qatar), Jurifa Mat Lazi (Universiti Teknikal Malaysia Melaka, Malaysia)

14:00 dSPACE DSP Based Implementation of Simplified Fuzzy Logic Speed Controller for Vector Controlled PMSM Drives
Siti Noormiza Binti Mat Isa (Universiti Teknikal Malaysia Melaka, Malaysia); Zulkifilie Bin Ibrahim (Universiti Teknikal Malaysia Melaka, Malaysia); Md Hairul Nizam Talib (UTeM, Malaysia); Jurifa Mat Lazi (Universiti Teknikal Malaysia Melaka, Malaysia); Nurazlin Mohd Yaakop (University Kuala Lumpur Malaysian Spanish Institute, Malaysia); Ahmad Shukri Abu Hasim (Universiti Pertahanan Nasional...
14:20 Experimental Verification on Dual Winding Method for Compound Magnet Motive Forces Motor
Hiroki Hijikata (Shibaura Institute of Technology, Japan); Tomoaki Shigeta (Shibaura Institute of Technology, Japan); Kan Akatsu (Shibaura Institute of Technology, Japan); Takashi Kato (Nissan Motor Co., Ltd, Japan)

14:40 An Optimized Extended Kalman Filter for Sensorless Direct Torque Control of an Induction Motor
I M Alsofyani (University Technology Malaysia, Malaysia); Nik Rumzi Nik Idris (Universiti Teknologi Malaysia, Malaysia); Tole Sutikno (Universiti Teknologi Malaysia & Universitas Ahmad Dahlan, Malaysia)

15:00 Detection, Diagnoses and Discrimination of Stator Turn to Turn Fault and Unbalanced Supply Voltage Fault for Three Phase Induction Motors
Shady Khalil (Research Associate at Texas A&M University, Qatar); Haitham Abu-Rub (Texas A&M University at Qatar, Qatar); Atif Iqbal (Qatar University, Qatar)

15:20 Performance Analysis of a 12/8 and 12/16 Switched Reluctance Machine in Low and Medium Speed Operations for Wind Energy Applications
Amissa Ariffin (Massey University, New Zealand); Ibrahim Al-Bahadly (Massey University, New Zealand); Subhas Mukhopadhyay (Massey University, New Zealand)

15:40 Afternoon Break (Foyer)

16:00 Sensorless Speed Control of PMSM Drives Using dSPACE DS1103 Board
Jurifa Mat Lazi (Universiti Teknikal Malaysia Melaka, Malaysia); Zulkifile Bin Ibrahim (Universiti Teknikal Malaysia Melaka, Malaysia); Siti Noormiza Binti Mat Isa (Universiti Teknikal Malaysia Melaka, Malaysia); Anggun Anugrah (Universiti Teknikal Malaysia Melaka, Malaysia); Fizatul Aini Patakor (Universiti Teknikal Malaysia Melaka, Malaysia); Raihana Mustafa (Universiti Teknikal Malaysia Melaka, Malaysia)

16:20 Preliminary Studies on a New Outer-Rotor Permanent Magnet Flux Switching Machine with Hybrid Excitation Flux for Direct Drive EV Applications
Md Zarafi Ahmad (Universiti Tun Hussein Onn Malaysia & UTHM, Malaysia); Erwan Sulaiman (University of Tun Hussein Onn Malaysia, Malaysia)

16:40 Coordinated Control Methodology for Fault-Ride-Through Capability of Doubly-Fed Induction Generators
Maher Azzouz (University of Waterloo, Canada); Ehab El-Saady (Waterloo University, Canada)

17:00 Initial Progress and Possible Improvement of E-Cutter Linear Actuator Development
F Azhar (Shinshu University, Japan); Misron Norhisam (Universiti Putra Malaysia, Malaysia); Hiroyuki Wakiwaka (Shinshu University, Japan); K. Tashiro (Shinshu University, Japan); M. Nrei (Nagano National College of Technology, Japan)

Time : 14:00 - 18:00
Session : D32 (High Voltage & Power Modulators 2)
Room : Room 4
Chairs : Hazlee Azil Illias (University of Malaya, Malaysia), Mohd Hatta Jopri (Universiti Teknikal Malaysia Melaka, Malaysia)

14:00 Degradation of Polymeric Power Cable due to Water Treeing under AC and DC Stress
Yanuar Arief (Universiti Teknologi Malaysia (UTM), Malaysia); Zuraimy Adzis (Universiti Teknologi Malaysia, Malaysia); Mohamad Zul Hilmye Makmud (Universiti Malaysia Sabah, Malaysia)

14:20 Bushing Characteristic Impacts on On-line Frequency Response Analysis of Transformer Winding
Mehdi Bagheri (University of New South Wales, Australia); Mohammad Salay Naderi (University of New South Wales, Australia); Trevor Blackburn (University of New South Wales, Australia); Toan Phung
14:40 Transformer Frequency Response Analysis: A Mathematical Approach to Interpret Mid-frequency Oscillations
Mehdi Bagheri (University of New South Wales, Australia); Mohammad Salay Naderi (University of New South Wales, Australia); Trevor Blackburn (University of New South Wales, Australia); Daming Zhang (University of New South Wales, Australia)

15:00 Partial Discharge Simulation under Various Applied Voltage Waveforms
Hazlee Azil Ilias (University of Malaya, Malaysia); Tau Jian Low (University of Malaya, Malaysia); A. B. Halim Abu Bakar (University of Malaya, Malaysia); Hazlie Mokhlis (Electrical Engineering Department, Malaysia)

15:20 Distribution of Electric Field in Capacitor and Surge Arrester Bushings
Hazlee Azil Ilias (University of Malaya, Malaysia); Mohsin Tunio (University of Malaya, Malaysia); A. B. Halim Abu Bakar (University of Malaya, Malaysia); Hazlie Mokhlis (Electrical Engineering Department, Malaysia); Alyaa Zainal Abidin (University of Malaya, Malaysia)

15:40 Afternoon Break (Foyer)

16:00 Leakage Current Analysis on Polymeric and Non-Polymeric Insulating Materials Using Time-Frequency Distribution
Abdul Rahim Abdullah (Universiti Teknikal Malaysia Melaka, Malaysia); Nurbahirah Norddin (Universiti Teknikal Malaysia Melaka, Malaysia); Nur Qamarina Zainal Abidin (Universiti Teknikal Malaysia Melaka, Malaysia); Aminudin Aman (Universiti Teknikal Malaysia Melaka & UTeM, Malaysia); Mohd Hatta Jopri (Universiti Teknikal Malaysia Melaka, Malaysia)