MESSAGE FROM THE CHAIRS

On behalf of the Organizing Committee for the 2016 IEEE 6th International Conference on Power and Energy (PECON 2016), we wish to welcome you to Melaka, the historical city in Malaysia! This time around, the conference is held at Hatten Hotel, Melaka from 28-29 November 2016. The main objective is to share the latest research in the areas of electrical power, power electronics, electrical drives, renewable energy and control systems. At the same time it allows the international delegates to discover the “Beautiful and Peaceful Malaysia”.

PECON 2016 is organized by IEEE Power Electronics Society Malaysia Chapter (PELS) and co-organized by the Universiti Teknikal Malaysia Melaka (UTeM). We are also pleased to announce that the conference is technically co-sponsored by the Korean Institute of Power Electronics (KIPE) and Taiwan Power Electronics Association (TaiPEA). In order to ensure its quality, a team of renowned International Advisory Committee comprises of experts in various areas of power electronics and drive systems are selected to oversee the program. We are very fortunate this year to have two distinguished keynote speakers to be with us: Prof. Dr.-Ing. Ralp Kennel, from Technical University of Munich, who experts in the area of predictive control and Emeritus Professor Hugh Rudnick, from Pontifical Catholic University of Chile, who has expertise in the area or incentive regulation in the distribution industry.

The Conference features technical paper presentation as well as product exhibitions. We received a total of 226 submissions from over 25 countries and peer reviewed by over 600 experts in their respected fields. Out of this, 76.5% of papers have been accepted for oral presentation and up to date a total of 154 papers will be presented during the conference.

Once again, we welcome all the delegates and their companies to Melaka. We are looking forward for a fruitful technical discussion and exchange of ideas. We also hope that you will prolong your stay after the conference to enjoy the many interesting sites in the city as well as throughout Malaysia.

Selamat Datang!

Mohd Ruddin Ab. Ghani
Nik Rumzi Nik Idris
Zuhaina Zakaria
Md Nazri Othman
PECON 2016 General Chairs
<http://sites.ieee.org/pecon2016/>
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Universiti Ahmad Dahlan, Indonesia

Tsorng-Juu Liang  
National Cheng Kung University, Taiwan
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OVERVIEW OF TECHNICAL PROGRAM

Monday, 28 November 2016

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Tuesday, 29 November 2016

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FLOOR PLAN 1
KEYNOTE SPEAKERS

Keynote Speaker 1
Predictive Control – the Powerful Method to Control Power Converters and Drives in the Future
Prof. Dr.-Ing. Ralph Kennel, Technische Universität München

Up to the present the control of electrical power using power converters has been based on the principle of mean value, using pulse width modulation with linear controllers in a cascaded structure.

Recent research works have demonstrated that it is possible to use Predictive Control to control electrical energy with the use of power converters, without using modulators and linear controllers. This is a new approach that will have a strong impact on control in power electronics in coming decades.

The main advantages of predictive control are:
• Concepts are very intuitive and easy to understand.
• It can be applied to a great variety of systems.
• The multivariable case can be easily considered.
• Dead times can be compensated.
• Easy inclusion of non-linearities in the model.
• Simple treatment of constraints.
• The resulting controller is easy to implement.
• This methodology is open to include modifications and extensions depending on specific applications.

The participants of this session will learn:
• The basic concepts and ideas.
• Different types of predictive controllers.
• Detailed examples of predictive controllers.
Keynote Speaker 2

Incentive Regulation in the Distribution Industry
Hugh Rudnick, Emeritus Professor, Faculty of Engineering, Pontificia Universidad Católica de Chile

Electrical distribution companies, being network industries, transport and distribute electric power from connection points of the transmission system to end consumers for industrial and residential usage at appropriate voltage levels. This activity is organized in public service utilities that buy power supply from generators.

A growing challenge in the restructuring of the electrical sector, where competition is introduced in the generation area, is to achieve equivalent efficiencies in the electrical distribution service, an activity that develops in a monopolistic environment.

To regulate electrical distribution, most Latin-American countries that have implemented this transformation have adopted a “benchmark” scheme, using the concept of an efficient company which is a company that is adapted to demand and that operates under an optimal investment and operations plan. Under this scheme, to force companies to be efficient, the regulator fixes prices according to the costs of an efficient company (Capex, Opex, losses and non-supplied energy), designed from square one and without considering actual companies. The real company will get a normal profitability only if it is capable of emulating the efficient company, reducing its operating and investment expenditure, thus minimizing the present value of its costs. In general, this regulation, which introduces a virtual competition, has implied a reduction trend in distribution tariffs, obtained through a regulated periodic process.

The keynote will describe the benchmark regulation in Latin America power distribution, evaluate the results, and assess what can be learned from that experience, and the challenges that may arise in the future, particularly with the arrival of distributed generation.
TECHNICAL PROGRAM
PECON 2016

REGISTRATION
Date: 28 Nov 2016, Monday
Time: 0800-0930

KEYNOTE SESSION
Date: 28 Nov 2016, Monday
Time: 0930-1150
Venue: Ballroom 1

0930-1030 Keynote Speaker I
*Predictive Control – The Powerful Method to Control Power Converters and Drives in the Future*
Prof. Dr.-Ing. Ralph Kennel, Technische Universität München

1030-1050 Morning Break

1050-1150 Keynote Speaker II
*Incentive Regulation in the Distribution Industry*
Hugh Rudnick, Emeritus Professor, Faculty of Engineering, Pontificia Universidad Católica de Chile

1150-1300 Opening Ceremony
- Welcoming Speech
- Launching & montage video

1300-1420 Lunch/Break

SESSION 1A POWER SYSTEM PLANNING AND OPERATION
Date: 28 November 2016, Monday
Seminar Room: Ballroom 1

Time: Author/s and Paper title

14.20 The Importance of Micro grids & Renewable Energy in Meeting Energy Needs of the Brazilian
1A.1 Taha Selim Ustun (Carnegie-Mellon University, USA)
14.40 Interoperability and Interchangeability for Micro grid Protection Systems Using IEC 61850 Standard
IA.2
Taha Selim Ustun (Carnegie-Mellon University, USA)

15.00 Investigation of Harmonic Components on Voltage Flicker Measurement
IA.3
Zai Peng Goh (UPM, Malaysia); Mohd Amran Mohd Radzi (Universiti Putra Malaysia, Malaysia); Hashim b. Hizam (UPM, Malaysia); Noor Izzri Abd. Wahab (Universiti Putra Malaysia, Malaysia)

15.20 Optimal Shunt Capacitor Placement in Radial Distribution System
IA.4
Rasyidah Mohamad Idris and Nor Fatihah Mohd Zaid (Universiti Teknologi Malaysia, Malaysia)

15.40 Increasing Energy Harvest of Photovoltaic Arrays Under Uniform Illumination A Case Study on Photovoltaic Arrays in Boulder CO and Tucson AZ
IA.5
Samad Shirzadi (Universiti Putra Malaysia, Malaysia); Hashim b. Hizam (UPM, Malaysia); Noor Izzri Abd. Wahab (Universiti Putra Malaysia, Malaysia); Mohammad Reza Maghami (University Putra Malaysia, Malaysia); Sara MacAlpine (University of Colorado, USA)

16.00 Hybrid Metaheuristic of Artificial Neural Network - BAT Algorithm in Forecasting Electricity Production and Water Consumption At Sultan Azlan Shah Hydropower Plant
IA.6
Sharifah Nur Hidayah and Marlinda Abdul Malek (Universiti Tenaga Nasional, Malaysia); Najmeh Sadat Jaddi (National University of Malaysia, Malaysia); Zolkifle Abdul Hamid (Tenaga Nasional Berhad, Malaysia)

16.20 Placement of Distribution STATic COMpensator (DSTATCOM) as Voltage Support Equipment in Single Wire Earth Return (SWER) System
IA.7
Seyed Javad Mirazimi (University of Southern Queensland, Australia); Tony Ahfock and Andreas Helwig (University of Southern Queensland (USQ), Australia)

16.40 Break

17.30 Dinner will start at 8.00pm at Medan Ikan Bakar Parameswara. Those who will use the bus please be waiting at the hotel lobby at
SESSION 1B - HIGH VOLTAGE ENGINEERING & TECHNOLOGY

Date: 28 November 2016, Monday
Seminar Room: Zeng He

Time: Author/s and Paper title

14.20 Short-term Dynamic Transmission Expansion Planning Considering Wind Farms' Uncertainty
   1B.1 Maziar Mirhosseini Moghaddam (Lahijan Branch, Islamic Azad University, Iran); Sanaz Mahmoudi and Behnam Alizadeh (Lahijan branch, Islamic Azad University)

14.40 Optimal Energy Scheduling for a Grid Connected Microgrid Based on Multi-Period Imperialist
   1B.2 Maziar Mirhosseini Moghaddam, Mousa Marzband and Narges Parhizi (Lahijan Branch, Islamic Azad University, Iran)

15.00 Evaluation of Transmission Line Insulator for I-Type String Insulator Design
   1B.3 Hussein Ahmad (Universiti Tun Hussein Onn Malaysia, Malaysia); Rahisham Abd. Rahman (Universiti Tun Hussein Onn, Malaysia); Mohd Hafizi Ahmad (Universiti Teknologi Malaysia, Malaysia); Nur Alyaa Mohd Hasni, Muhammad Zakwan Masri, Azmi Sidek, Flora Crocker, Khairunnisa Iskandar and Lim Hui Teng (Universiti Tun Hussein Onn Malaysia, Malaysia)

15.20 Dielectric Properties of Natural Ester Oils Used for Transformer Application Under Temperature Variation
   1B.4 Mardhiah Abd. Hamid, Nur Suhaimi, Nurul Izzatul Akma, Mohd Ishak and Muhammad Md. Din (Universiti Pertahanan Nasional Malaysia, Malaysia)

15.40 Investigation on Breakdown Strength of Mineral Oil Based Carbon Nanotube
   1B.5 Nur Suhaimi, Mohd Ishak, Mardhiah Abd. Hamid and Nurul Izzatul Akma (Universiti Pertahanan Nasional Malaysia, Malaysia)
16.00  A Review on Basic Principle of Lightning Location in Multi-Station System and the Ability of Single-Station Measurement
   1B.6
   Rahim Ismail and Zikri Abadi Baharudin (Universiti Teknikal Malaysia Melaka, Malaysia)

16.20  ESD Reliability Improvement by the Source-Discrete Placement in a 45-V pLDMOS-SCR (npn-Type)
   1B.7
   Shen-Li Chen, Yu-Ting Huang, Chih-Hung Yang, Kuei-Jyun Chen and Yi-Cih Wu (National United University, Taiwan); Jia-Ming Lin (Peking University, P.R. China); Chih-Ying Yen (National United University, Taiwan)

16.40  Break

17.30  Dinner will start at 8.00pm at Medan Ikan Bakar Parameswara. Those who will use the bus please be waiting at the hotel lobby at 5.30pm.

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**SESSION 1C  INTEGRATION OF DISTRIBUTED ENERGY RESOURCES**

**Date:** 28 November 2016, Monday

**Seminar Room:** Hatten 1

**Time:** Author/s and Paper title

14.20  Optimisation of Solar PV Plant Locations for Grid Support Using Genetic Algorithm and Pattern Search
   1C.1
   Vicki-Mari Vermeulen, Johann Strauss and Hendrik Vermeulen (Stellenbosch University, South Africa)

14.40  Performance of Grid-Integrated Wind/ Microturbine/Battery Hybrid Renewable Power System
   1C.2
   Syed Zulqadar Hassan and Hui Li (Chongqing University, P.R. China); Tariq Kamal (Sakarya University Turkey, Turkey); Ali Arsalan and Abdurrahman Umar Lawan (University of Nottingham Malaysia Campus, Malaysia)

15.00  Investigation of PLL Performance for Utility Connected Systems Under Abnormal Grid Conditions
   1C.3
15.20  Optimal Allocation and Sizing of Photovoltaic-based Distributed Generation for Voltage Dip Improvement
Sa’adah Daud, Aida Fazliana Abdul Kadir, Chin Kim Gan and Abdul Rahim Abdullah (Universiti Teknikal Malaysia Melaka, Malaysia)

15.40  A Day-Ahead Generation Scheduling with Energy Storage Considering Cycling Ramp Costs
Wen Shan Tan, Md Pauzi Abdullah and Mohamed Shaaban (Universiti Teknologi Malaysia, Malaysia)

16.00  Optimal Bidding Strategy for GENCOs Using Reinforcement Learning Process Based on the PAB Model
Maziar Mirhosseini Moghaddam and Maryam Ramazanian (Lahijan Branch, Islamic Azad University, Iran); Behnam Alizadeh (Islamic Azad University of Lahijan, Iran)

16.20  Short-term Distribution Network Expansion Planning Considering Load and Price Uncertainties
Maziar Mirhosseini Moghaddam (Lahijan Branch, Islamic Azad University, Iran); Mahrou Pouladkhay (Yazd Branch, Islamic Azad University, Iran)

16.40  Break

17.30  Dinner will start at 8.00pm at Medan Ikan Bakar Parameswara. Those who will use the bus please be waiting at the hotel lobby at 5.30pm.
SESSION 1D -SPECIAL SESSION : POWER ELECTRONICS TECHNOLOGY FOR BUILDING EFFICIENCY -POWER ELECTRONIC CONVERTERS AND APPLICATIONS

Date: 28 November 2016, Monday
Seminar Room: Hatten 2

Time: Author/s and Paper title

14.20 Study and Implementation of an Interleaved Buck Converter with Asymmetric Phase-shift Control
   1D.1 Sih-Yi Lee and Tse-Wei Chao (National Taiwan University of Science and Technology Taiwan, Taiwan); Jing-Yuan Lin, Yao-Ching Hsieh and Huang-Jen Chiu (National Taiwan University of Science and Technology, Taiwan)

14.40 Output Voltage Regulation of the Switched Inductor DC-DC Choppers Using Sliding Mode Controller
   1D.2 Mahdi Salimi (Islamic Azad University-Ardebil Branch)

15.00 Flexible Three-Phase Active Power Line Conditioner
   1D.3 Yaow-Ming Chen (National Taiwan University, Taiwan); Noor Syafawati (Universiti Malaysia Perlis, Malaysia); Teng-Way Tsai (National Taiwan University, Taiwan); Yih-Der Lee (Institute of Nuclear Energy Research, Taiwan); Yung-Ruei Chang (Institute of Nuclear Energy Research, Atomic Energy Council, Taiwan)

15.20 Design and Implementation of Dimmable LED Control Circuit with DALI Protocol
   1D.4 Tsorng Juu Liang, Jhen Fong Huang and Pawan Kumar Yadav (National Cheng Kung University, Taiwan)

15.40 Comparative of Fuzzy Logic Control and PI Control for a Three-Level PWM Rectifier Based on Voltage Oriented Control
   1D.5 Khalid Yahia Ahmed (Universiti Teknologi PETRONAS, Malaysia & University of Blue Nile, Sudan); Nor Zaihar Yahaya (Universiti Teknologi PETRONAS, Malaysia); Ramani Kannan (Universiti Tecknologi PETRONAS Malaysia, Malaysia)
16.00 Application of DC-DC Converter for E.V Battery Charger Using PWM Technique and Hybrid Resonant

Ibrahim Alhamrouni (Universiti Kuala Lumpur, Malaysia)

16.20 Non-PLL for Fast Grid-Inverter Synchronization in Microgrids Applications

Md Ruhul Amin (Universiti Tun Hussein Onn Malaysia); Shamsul Zulkifli (Universiti Tun Hussein Onn Malaysia, Malaysia)

16.40 Break

17.30 Dinner will start at 8.00pm at Medan Ikan Bakar Parameswara. Those who will use the bus please be waiting at the hotel lobby at 5.30pm.

SESSION 1E - POWER ELECTRONICS CONVERTERS AND APPLICATIONS - INVERTERS

Date: 28 November 2016, Monday
Seminar Room: Hatten 3

Time: Author/s and Paper title

14.20 Analysis of Relationship Between Acceleration and Battery State-of-Charging in Electric Vehicle

Nor Amalina Noor Azahan and Jasrul Jamani Jamian (Universiti Teknologi Malaysia, Malaysia); Zulkarnain Ahmad Noorden (Institute of High Voltage and High Current (IVAT); Universiti Teknologi Malaysia, Malaysia)

14.40 Hardware in the Loop (HIL) Simulation of Multi Device Interleaved Boost Converter (MDIBC)

Maaspaliza Azri, Nur Hidayah Abu Khanipah, Zulkifilie Bin Ibrahim and Azrita Alias (Universiti Teknikal Malaysia Melaka); Nasrudin Abd. Rahim (University of Malaya, Malaysia)
15.00  An Advanced Current Control Compensation Scheme to Improve the Microgrid Power Quality Without Using Dedicated Compensation Devices
E.3
Amirreza Naderipour, Abdullah Asuaimi Mohd Zin and Habibuddin Hafiz (Universiti Teknologi Malaysia, Malaysia); Josep M. Guerrero (Aalborg University, Denmark)

15.20  Power Electronics Building Block (PEBB) Hardware Design and Reliability Prediction
E.4
Chuen Ling Toh (Universiti Tenaga Nasional, Malaysia); Lars Norum (Norwegian University of Science and Technology (NTNU), Norway); Yee Mei Wong (Universiti Tenaga Nasional, Malaysia)

15.40  Circulating Current in Parallel Connected Inverter System
E.5
Mohd Azrik Roslan, Mohd Saufi Ahmad, Mohd Annuar Bin Mohd Isa and Noor Haqkimi Bin Abd Rahman (Universiti Malaysia Perlis, Malaysia)

16.00  Simulation Analysis of an Improved Cascaded Multilevel Inverter Topology
E.6
Ahmad Syukri Mohamad (Universiti Kuala Lumpur, Malaysia); Norman Mariun (Universiti Putra Malaysia, Malaysia)

16.20  Identification of Harmonics of Three-Phase Six-Pulse Rectifier with Different Kind of Loads in MATLAB and Fabrication Model
E.7
Dur Soomro (Universiti Tun Hussein Onn Malaysia, Malaysia); Chin Chong (University Tun Hussein Onn Malaysia, Malaysia); Zubair Memon (Mehran University of Engineering & Technology, Pakistan); Amir Mahmood Soomro (School of Automation, Beijing Institute of Technology; Department of Electrical Engineering, Mehran University of Engineering and Technology, Jamshoro, Sindh, P.R. China)

16.40  Break

17.30  Dinner will start at 8.00pm at Medan Ikan Bakar Parameswara. Those who will use the bus please be waiting at the hotel lobby at 5.30pm.
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<td>14.20</td>
<td>Simplified Self-Tuning Fuzzy Logic Speed Controller for Induction Motor Drive</td>
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<tr>
<td></td>
<td>Md Hairul Nizam Talib, Zulkifilie Bin Ibrahim, Zulhani Rasin, Jurifa Mat Lazi and Siti Noormiza Binti Mat Isa (Universiti Teknikal Malaysia Melaka, Malaysia)</td>
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<td>14.40</td>
<td>Torque Ripple Reduction and Fast Torque Control in DTC of Induction Machine Using Overlapping Triangular-based Constant Frequency Torque Controller</td>
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<td>Ibrahim M Alsofyani (University Technology Malaysia; UTM, Malaysia); Nik Rumzi Nik Idris (Universiti Teknologi Malaysia, Malaysia)</td>
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<tr>
<td>15.00</td>
<td>Constant Switching Frequency Using Proposed Controller with Optimal DTC Switching Strategy for Dual-Inverter Supplied Drive</td>
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<td>Huzainirah Ismail, Auzani Jidin, Sundram Ramahlingam, Siti Azura Ahmad Tarusan, Atikah Razi and Khairi Rahim (Universiti Teknikal Malaysia Melaka, Malaysia)</td>
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<td>15.20</td>
<td>DTC Brushless DC Motor by Using Constant Switching Frequency</td>
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<tr>
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<td>Siti Azura Ahmad Tarusan, Auzani Jidin, Huzainirah Ismail, Khairi Rahim and Kasrul Abdul Karim (Universiti Teknikal Malaysia Melaka, Malaysia)</td>
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<tr>
<td>15.40</td>
<td>Constant Switching Frequency Torque Controller for DTC of Induction Motor Drives with Three-Level NPC Inverter</td>
</tr>
<tr>
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<td>Huzainirah Ismail, Auzani Jidin, Fazlli Patkar, Siti Azura Ahmad Tarusan, Atikah Razi and Khairi Rahim (Universiti Teknikal Malaysia Melaka, Malaysia)</td>
</tr>
</tbody>
</table>
16.00 A Novel Hexagonal Flux Control Method to Improve Constant Switching Performance of Multilevel 3-Phase DTC
Sundram Ramahlingam (University Teknikal Malaysia Melaka, Malaysia); Auzani Jidin, Atikah Razi, Siti Azura Ahmad Tarusan and Khairi Rahim (Universiti Teknikal Malaysia Melaka, Malaysia)

16.20 Minimization of Torque Ripple in Direct Torque Control of Induction Motor At Low Speed
Abdullah Ajlan and Nik Rumzi Nik Idris (Universiti Teknologi Malaysia, Malaysia); Sze Sing Lee (University of Southampton Malaysia Campus, Malaysia)

16.40 Break

17.30 Dinner will start at 8.00pm at Medan Ikan Bakar Parameswara. Those who will use the bus please be waiting at the hotel lobby at 5.30pm.

SESSION 2A POWER SYSTEM PLANNING AND OPERATIONS
Date: 29 November 2016, Tuesday
Seminar Room: Ballroom 1

Time: Author/s and Paper title

08.40 Single Wire Earth Return (SWER) System Voltage Support Using Four Quadrant DSTATCOM
Seyed Javad Mirazimi (University of Southern Queensland, Australia); Tony Ahfock and Andreas Helwig (University of Southern Queensland (USQ), Australia)

09.00 Determining the Color Index of Transformer Insulating Oil Using UV-Vis Spectroscopy
Leong Yang Sing (Universiti Tenaga Nasional, Malaysia); Pin Jern Ker (University Tenaga Nasional, Malaysia); Fairuz Abdullah (Universiti Tenaga Nasional; Center for Photonic Technologies, Malaysia); Aiman Ismail and Md Zaini Jamaludin (Universiti Tenaga Nasional, Malaysia); Hui Mun Looe (TNB Research, Malaysia)
09.20 Reduction in Harmonic Voltages on Distribution System Using Wavelet Transform
2A.3
Jangkung Raharjo and Ontoseno Panangsang (Institute Technology Sepuluh Nopember, Indonesia); Adi Soeprijanto (Institut Teknologi Sepuluh Nopember, Indonesia); Hermagasantos Zein (Politeknik Negeri Bandung, Indonesia)

09.40 Transient Short Circuit Current Calculation Using Reduced and Decoupled DQ0 Networks
2A.4
Gibson Sianipar (Bandung Institute of Technology, Indonesia)

10.00 Comparative Analysis of Load Flow Calculation Methods with Considering the Voltage Stability Constraints
2A.5
Mir Sayed Shah Danish (University of the Ryukyus, Japan); Najib Rahman Sabory (Kabul University, Afghanistan); Sayed Mir Shah Danish (Technical Teachers Training Academy (TTTA), Afghanistan); Toshihisa Funabashi (Nagoya University, Japan); Ahmad Samim Noorzad (University of the Ryukyus, Japan); Atsushi Yona and Tomonobu Senjyu (Faculty of Engineering, University of the Ryukyus, Japan)

10.20 Break

10.40 Optimal Design of a Stand-Alone Hybrid Wind-PV-Storage System Power Generation System Using Imperialistic Competitive Algorithm
2A.6
Davar Mirabbasi (Ardabil Branch, Islamic Azad University, Ardabil)

11.00 Modified Multi-Objective Optimization Method for Optimal Placement and Operation in Distribution Systems
2A.7
Ryuto Shigenobu (University of the Ryukyus, Japan); Atsushi Yona and Tomonobu Senjyu (Faculty of Engineering, University of the Ryukyus, Japan); Toshihisa Funabashi (Nagoya University, Japan)

11.20 Optimization of the Direct Buried Characteristics for 11kV Underground Cable Installation
2A.8
Shangari K. Raveendran (Universiti Tenaga Nasional, Malaysia); Daniel Arokiam Michael Thevdass (Universiti Tenaga Nasional)
11.40 Charging of Electric Vehicle with Constant Price Using Photovoltaic Based Grid-connected System
2A.9
Abdul Rauf Bhatti and Zainal Salam (Universiti Teknologi Malaysia, Malaysia)

12.00 Method of Estimating the Maximum Penetration Level of Wind Power Using Transient Frequency Deviation Index Based on COI Frequency
2A.10
Athora Iessa (University Putra Malaysia; Center for Advanced Power and Energy Research (CAPER), Malaysia); Noor Izzri Abdul Wahab (Universiti Putra Malaysia, Malaysia); Norman Mariun (Universiti Putra Malaysia; Faculty of Engineering, Malaysia); Hashim Hizam (UPM university, Malaysia)

12.20 Technical Losses Assessment of Reference Networks in Malaysia
2A.11
Vinodh Annathurai, Chin Kim Gan and Khairul Anwar Ibrahim (Universiti Teknikal Malaysia Melaka, Malaysia); Datuk Prof. Dr. Mohd Ruddin Ab Ghani (UTeM, Malaysia)

SESSON 2B  HIGH VOLTAGE ENGINEERING & TECHNOLOGY

Date: 29 November 2016, Tuesday
Seminar Room: Zeng He

Time: Author/s and Paper title

08.40 Effects of Viscosity of Ester Oils and Different Sizes of Suspended Cellulose Particles on Bridging Phenomenon Under Non-Uniform DC Electric Field
2B.1
Muhamad Hafiy Syazwan Zainoddin (Universiti Teknikal Malaysia Melaka (UTeM), Malaysia); Hidayat Zainuddin and Aminudin Aman (Universiti Teknikal Malaysia Melaka, Malaysia)

09.00 The Lightning Strike Probability on Re-Scaled Geometrical Structures
2B.2
Irshad Ullah and Md Ramdon Baharom (UTHM, Malaysia); Hussein Ahmad (Universiti Tun Hussein Onn Malaysia, Malaysia); Luqman Hakim and Zainab Zainal (UTHM, Malaysia)
Two Level Factorial and Optimization Studies of Silicon Rubber Surface Resistivity for High Voltage Insulation - Effects of Raw Materials and Internal Mixer Processing Parameters

Nornazurah Nazir Ali and Aminudin Aman (Universiti Teknikal Malaysia Melaka, Malaysia); Jeefferie Abd Razak (Universiti Teknologi PETRONAS; Universiti Teknikal Malaysia Melaka, Malaysia); Hidayat Zainuddin and Sharin Ab Ghani (Universiti Teknikal Malaysia Melaka, Malaysia)

The Effect on Ampacity for Multiple Cable Crossing and Mitigation to Improve Its Ampacity

Tashia Anthony, Ainin Sofiya Radzi and Nur Amira Nor Ariffin (TNB Research Sdn. Bhd., Malaysia); Zairul Aida Abu Zarim (TNB Research, Malaysia); Nurul Azlina Abd Rahman (TNB Research Sdn Bhd, Malaysia); Chandan Chakrabarty (Universiti Tenaga Nasional, Malaysia); Avinash Raj (TNB Research Sdn. Bhd.); Nurul Syaza Omar (Universiti Tenaga Nasional, Malaysia)

Extraction of Cable Joints Tangent Delta From Bulk Tangent Delta Measurement Using HFAC Method

Tashia Anthony (TNB Research Sdn. Bhd., Malaysia); Huzainie Shafi Abd Halim (TNB Research, Malaysia); Ahmad Basri Ghani (Technical Manager for High Voltage Testing Laboratory, Malaysia); Avinash Raj (TNB Research Sdn. Bhd.); Chandan Chakrabarty (Universiti Tenaga Nasional, Malaysia)

Denoising Technique for Partial Discharge Signal: A Comparison Performance Between Artificial Neural Network, Fast Fourier Transform and Discrete Wavelet Transform

N A Yusoff (Universiti Malaysia Perlis, Malaysia); Muzamir Isa (Universiti Malaysia Perlis & UniMAP, Malaysia); Haziah Hamid (Lecturer, Malaysia); Mohd Rafi Adzman (Universiti Malaysia Perlis, Malaysia); M. N. K. H. Rohani (University Malaysia Perlis & UniMAP, Malaysia); Chai Chang Yii and N. Nadiah Ayop (Universiti Malaysia Perlis, Malaysia)

Breakdown and Partial Discharge Performance of Palm Fatty Acid Ester (PFAE) Oil-based Fe3O4 Nanofluids

Mohd Safwan Mohamad, Hidayat Zainuddin, Sharin Ab Ghani and Imran Sutan Chairul (Universiti Teknikal Malaysia Melaka, Malaysia)
11.40 Dielectric Breakdown Performance of Mineral Oil and Palm Fatty Acid Ester Oil Mixture Blended Using Ultrasonic Homogenizer
2B.8
Siti Nadzirah Norhan, Hidayat Zainuddin, Sharin Ab Ghani and Imran Sutan Chairul (Universiti Teknikal Malaysia Melaka, Malaysia)

12.00 Investigation of Water Treeing Development in Silicone Rubber Under Sharp and Blunt Needles
2B.9
Mohamad Ikhmal Fitri Noorizan, Mohamad Kamarol Mohd Jamil and Mariatti Jaafar Mustapha (Universiti Sains Malaysia, Malaysia)

12.20 Purpose-Built Test Rig for Gas Insulation Breakdown Tests Under Lightning Impulse
2B.10
Muhammad Saufi Kamarudin (Universiti Tun Hussein Onn Malaysia, Malaysia); Hidayat Zainuddin (Universiti Teknikal Malaysia Melaka, Malaysia); A. Manu Haddad (Cardiff University, United Kingdom); Rahisham Abd. Rahman (Universiti Tun Hussein Onn, Malaysia); Nur Hanis Mohammad Radzi and Asmarashid Ponniran (Universiti Tun Hussein Onn Malaysia, Malaysia); Ayuamira Zahari (Universiti Teknikal Malaysia Melaka, Malaysia)

SESSION 2C -HIGH VOLTAGE ENGINEERING AND TECHNOLOGY
-POWER SYSTEM ECONOMICS AND ENERGY MARKETS
Date: 29 November 2016, Tuesday
Seminar Room: Hatten 1

Time: Author/s and Paper title
08.40 PV Generation and Its Impact on Low Voltage Network
2C.1
Mohd Hendra Hairi, Muhammad Nizam Kamarudin and Nurul Syuhada (Universiti Teknikal Malaysia Melaka, Malaysia)

09.00 An Analysis on Energy Consumption of Two Different Commercial Buildings in Malaysia
2C.2
Mohd Fairuz Abdul Hamid (Universiti Kuala Lumpur; International College, Malaysia); Harrison Gimang Anak Richard (University of Kuala Lumpur, Malaysia); Nor Azuana Ramli (Universiti Kuala Lumpur; International College, Malaysia)
09.20 Performance Verification of Real-Time Harmonic Sources Identification System
2C.3
Nabilah Mat Kassim, Abdul Rahim Abdullah and Aida Fazliana Abdul Kadir (Universiti Teknikal Malaysia Melaka, Malaysia)

09.40 Microgrid Generation Planning Considering Renewable Energy Target
2C.4
Hao Wang (University of Washington, USA)

10.00 Assessment on the Impact of Distributed Generation to the Distribution Network Overcurrent Protection in Malaysia
2C.5
Adlan Ali, Fazliana Ahmad Buder, Mohd. Ariff Mat Hanafiah and Zikri Abadi Baharudin (Universiti Teknikal Malaysia Melaka, Malaysia)

10.20 Break

10.40 Congestion Management Using Uncertain Enrolled Customers in Emergency Demand Response Programs
2C.6
Abbas Tabandeh and Amir Abdollahi (Shahid Bahonar University of Kerman, Iran); Rasoul Abdollahi (North of Kerman Electricity Distribution Company, Iran)

11.00 The Generation Revenue and Demand Side Assessment in Pool-Based Market Model for Competitive Electricity Markets
2C.7
Zuraidah Ngadiron and Nur Hanis Mohammad Radzi (Universiti Tun Hussein Onn Malaysia, Malaysia); Mohammad Yusri Hassan (University of Technology Malaysia(UTM), Malaysia)

11.20 Energy Cost Reduction and Potential Analysis of Diesel Engine for Electricity Generation Biodiesel for Oil Palm-Rice Husk and Pig Manure with Biogas Renewable Energy
2C.8
Chamni Jaipradidtham, Jr. (Kasem Bundit University; Temsak co., th, Thailand); Chamni Jaipradidtham (Kasem Bundit University, Thailand)

11.40 Energy and Spinning Reserve Markets Scheduling Considering Interruptible Load and Demand-Side Reserve
2C.9
Meysam Amirahmadi and Navid Boroomand (Engineering Faculty-Semnan branch-Islamic Azad University-Semnan-Iran)
12.00  A Novel Hybrid Method of LSSVM-GA with Multiple Stage Optimization for Electricity Price Forecasting

*2C.10*
Intan Azmira (Universiti Teknikal Malaysia Melaka; Universiti Tenaga Nasional, Malaysia); Izham Z. Abidin (Universiti Tenaga Nasional; UNITEN, Malaysia); Yap Keem Siah and Aidil Azwin Zainul Abidin (Universiti Tenaga Nasional, Malaysia); Titik Khawa Abdul Rahman (King Abdulaziz University, Saudi Arabia); Mohamad Na'im Mohd Nasir (Universiti Teknikal Malaysia, Melaka, Malaysia)

12.20  The Island Smart Energy System and Market

*2C.11*
Zheng Ma (Center for Energy Informatics; University of Southern Denmark, Denmark); Joy Billanes (Center for Energy Informatics, Denmark); Bo N. Jorgensen (University of Southern Denmark, Denmark)

### SESSION 2D  POWER ELECTRONIC CONVERTERS AND APPLICATIONS

**Session Chair:**

**Date:** 29 November 2016, Tuesday

**Seminar Room:** Hatten 2

**Time:**  
**Author/s and Paper title**

**08.40** A Novel Topology for Integration of Solar PV and Energy Storage System

*2D.1*
Neng Zhang, Danny Sutanto and Kashem Muttaqi (University of Wollongong, Australia)

**09.00** Piezoelectric Impact-Driven Energy Harvester

*2D.2*
Ali Mohammed (UTeM; UTeM, Malaysia); Swee Leong Kok (Universiti Teknikal Malaysia Melaka, Malaysia)

**09.20** Active Power Filter with Direct Output Voltage Control of Single-Phase AC to DC Converter

*2D.3*
Rahimi Baharom (Universiti Teknologi MARA, Malaysia); Mohd Khairul Mohd Salleh (Universiti Teknologi MARA; Applied Electromagnetic Research Group, Malaysia); Nor Farahaida Abdul Rahman (Universiti Teknologi MARA, Malaysia)
09.40  A High Gain Soft Switching Non-isolated Bidirectional DC-DC Converter
2D.4  Ratil Hasnat Ashique (University Technology Malaysia, Malaysia); Zainal Salam (Universiti Teknologi Malaysia, Malaysia); Mohd Junaidi Abdul Aziz (UTM, Malaysia)

10.00  A Modified PID Controller of SEPIC Converter for Excellent Dynamic Performance
2D.5  Azrita Alias, Maaspaliza Azri, Wahidah Abdul Halim and Auzani Jidin (Universiti Teknikal Malaysia Melaka, Malaysia)

10.20  Break

11.00  Class-E LCCL for Capacitive Power Transfer System
2D.6  Yusmarnita Yusop, Shakir Saat and Siti Huzaimah Husin (Universiti Teknikal Malaysia Melaka, Malaysia); Sing Kiong Nguang (University of Auckland, New Zealand); Zamre Abd Ghani (Universiti Teknikal Malaysia Melaka, Malaysia)

11.20  Development of Charge Pump Circuit Using Multivibrator for Thermoelectric Generator
2D.7  Goh Siew Yun; Swee Leong Kok; Mohd Fauzi Bin Abdul Rahman

11.40  Development of Self-powered Thermoelectric Based RF Transmitter Circuit
2D.8  Goh Siew Yun, Swee Leong Kok and Mohd Fauzi Bin Abdul Rahman (Universiti Teknikal Malaysia Melaka, Malaysia)

12.00  A ZVS DC-DC Converter with Resonant Inductor and Back-to-Back Switch
2D.9  Min Ho Ahn, Jin-Hyuk Park and Kyo-Beum Lee (Ajou University, Korea)

12.20  Circulating Current Control and Energy Balancing of Modular Multi-Level Converters
2D.10 Mahmoud Fawzi Mahmoud (Port Said University; Faculty of Engineering, Egypt); Ahmed Kalas and Medhat Elfar (Port Said University, Egypt); Osama El-baksawi (University of Port-Said, Egypt)
## SESSION 2E - INVERTERS - ROBOTICS

**Date:** 29 November 2016, Tuesday  
**Seminar Room:** Hatten 3

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| 08.40 | Analysis and Control of Boost Inverter for Fuel Cell Applications  
2E.1 Himadry Shekhar Das, Chee Wei Tan, Abdul Halim Mohd Yatim and Nik Din Muhammad (Universiti Teknologi Malaysia, Malaysia) |
| 09.00 | Control Strategy of the Mono Converter Dual Parallel Surface-Mounted Permanent Magnet Synchronous Generator in Wind Power Generation System  
2E.2 Jong Ha Kim, Yeongsu Bak and Kyo-Beum Lee (Ajou University, Korea) |
| 09.20 | Pulsed Electric Field by Cascaded H-bridge Multilevel Inverter for Liquid Food Sterilization  
2E.3 M. Afendi M. Piah (Universiti Teknologi Malaysia; Institute of High Voltage and High Current, Malaysia); Hanifah Jambari, Naziha Ahmad Azli, Norulhuda Ismail and Jamilah Ahmad (Universiti Teknologi Malaysia, Malaysia) |
| 09.40 | A Fault Detection Method in Cascaded H-bridge Multilevel Inverter  
2E.4 June-Hee Lee, June-Seok Lee and Kyo-Beum Lee (Ajou University, Korea) |
| 10.00 | Predictive Control Algorithm for Capacitor-less Inverters with Fast Dynamic Response  
2E.5 Injung Won, Yongsoo Cho and Kyo-Beum Lee (Ajou University, Korea) |
| 10.20 | Break |
11.00 Simulation of Three-Phase Cascaded H-Bridge Multilevel Inverter with THIPWM

Muhamad Faizal Yaakub (Universiti Teknikal Malaysia Melaka, Malaysia); Faridah Hanim Mohd Noh (Universiti Tun Hussien Onn Malaysia, Malaysia); Syahrul Hisham Mohamad, Suziana Ahmad, Aiman Zakwan Jidin and Noor Azida Azlan (Universiti Teknikal Malaysia Melaka, Malaysia)

11.20 Differential Evolution Technique in Solving HEPWM Switching Angles of Three Phase Voltage Source Inverter

Norazelina Kamisman, Azziddin Mohamad Razali, Jurifa Mat Lazi, Norhazilina Bahari and Wahidah Abd. Halim (Universiti Teknikal Malaysia Melaka, Malaysia)

11.40 Design and Development of a Five-Fingered Master-Slave Robotic Hand by Using Solenoid and Pressure Sensors Comparator Technology: Solenoid Actuation System

Syed Zainal Abidin Syed Kamarul Bahrin and Khairul Salleh Mohamed Sahari (Universiti Tenaga Nasional, Malaysia)

12.00 Modeling Baseline Electrical Energy Use of Chiller System by Artificial Neural Network

Wan Nazirah Wan Md Adnan (Universiti Teknologi MARA, Malaysia); Nofri Yenita Dahlan (Universiti Teknologi Mara Malaysia, Malaysia); Ismail Musirin (Universiti Teknologi Mara, Shah Alam, Malaysia)

12.20 A Review of Haptic Communication Technology Based on Bilateral Teleoperation System

Zubair Abdul Malik, Muhammad Herman and Ahmad Zaki Shukor (Universiti Teknikal Malaysia Melaka, Malaysia)
SESSION 2F

-MOTOR DRIVES
-ELECTRICAL MACHINE

Date: 29 November 2016, Tuesday
Seminar Room: Marco Polo 2

Time: Author/s and Paper title

08.40 Optimized Speed Controller for Induction Motor Drive Using Quantum Lightning Search Algorithm
2F.1 Jamal Abd Ali and M Hannan (Universiti Kebangsaan Malaysia, Malaysia); Azah Mohamed (National University of Malaysia (UKM), Malaysia)

09.00 Optimizing the Flux and Torque Estimator of DTC in FPGA by Using Low-Area Square Root Calculator
2F.2 Aiman Zakwan Jidin, Muhamad Faizal Yaakub, Syahrul Hisham Mohamad, Suziana Ahmad, Auzani Jidin and Noor Azida Noor Azlan (Universiti Teknikal Malaysia Melaka, Malaysia)

09.20 Hysteresis Current Control of Induction Motor Drives Using dSPACE DSP Controller
2F.3 Md Hairul Nizam Talib (UTeM, Malaysia); Siti Noormiza Binti Mat Isa and Zulkifilie Bin Ibrahim (Universiti Teknikal Malaysia Melaka, Malaysia); Habib Emmier Hamidon (UTeM, Malaysia); Zulhani Rasin (Universiti Teknikal Malaysia Melaka, Malaysia)

09.40 Theory and Steady-State Analysis of Series-Connected Wound-Rotor Induction Motor in Sub-Synchronous Mode
2F.4 Essam Eddin Rashad (Tanta University, Egypt)

10.00 Effect of Parameters on Sub-Synchronous Operation of Series-Connected Wound-Rotor Induction Motor
2F.5 Essam Eddin Rashad (Tanta University, Egypt)

10.20 Break

11.00 Fuzzy Logic Controller of PMSM Drives for Sensorless Drives
2F.6 Jurifa Mat Lazi, Zulkifilie Bin Ibrahim, Siti Noormiza Binti Mat Isa, Azziddin Mohamad Razali, Zulhani Rasin and Norazelina Kamisman (Universiti Teknikal Malaysia Melaka, Malaysia)
11.20 Effect of Unbalanced Voltage Supply Diagnosis Through Rotor Harmonics Signature and State Transitions

Aman Sheikh and Nursyarizal Mohd Nor (UTP, Malaysia); Taib Ibrahim (UTP)

11.40 Influence of Magnet Pole Arc Variation on the Performance of External Rotor Permanent Magnet Synchronous Machine Based on Finite Element Analysis

Poh Ping Ling, Dahaman Ishak and Tow Leong Tiang (Universiti Sains Malaysia, Malaysia)

12.00 Comparison and Prediction of Performance Index of Permanent Magnet Linear Motor

Fairul Azhar Abdul Shukor and NA Mohd Nasir (Universiti Teknikal Malaysia Melaka, Malaysia); Raja Nor Firdaus Kashfi Raja Othman (Universiti Teknikal Malaysia Melaka; Universiti of Putra Malaysia, Malaysia); Hiroyuki Wakiwaka and K. Tashiro (Shinshu University, Japan); M. Nirei (National Institute of Technology, Nagano College, Japan)

12.20 Power Speed Characteristics of a Novel Double-Stator Permanent Magnet Generator Integrated with a Magnetic Gear

Shehu Salihu Mustafa and Norhisam Misron (Universiti Putra Malaysia, Malaysia); Norman Mariun (Universiti Putra Malaysia; Faculty of Engineering, Malaysia); Tsuyoshi Hanamoto (Kyushu Institute of Technology, Japan); Mohammad Lutfi Othman (Universiti Putra Malaysia; Center for Advanced Power and Energy Research, Malaysia)
SESSION 3A - POWER SYSTEM PLANNING AND OPERATION
-HIGH VOLTAGE ENGINEERING & TECHNOLOGY

Date: 29 November 2016, Tuesday
Seminar Room: Ballroom 1

Time: Author/s and Paper title

14.20 Transient Stability Analysis of Power System Based on Complex Network Theory
3A.1 Liang Wu (UNSW@ADFA, Australia); Hemanshu Pota (UNSW@adfa, Australia); Zihao Chen (UNSW@ADFA, Australia)

3A.2 MingFoong Lee (Universiti Tun Hussein Onn Malaysia, Malaysia); Nurul Qurraisyia Zulkafli (UTHM, Malaysia)

15.00 Flexibility Quantification for Thermal Power Generators Using Deterministic Metric for High Renewable Energy Penetration
3A.3 Saleh AbuJarad (Universiti Technologi Malaysia, Malaysia); Mohd Wazir Mustafa (University of Technology Malaysia, Malaysia); Jasrul Jamani Jamian (Universiti Teknologi Malaysia, Malaysia); Abdirahman M. Abdilahi (Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Malaysia)

15.20 Development of Multi-Objective Load Shedding Optimization Via Back Tracking Search Algorithm with Novel Reactive Power Tracing Index
3A.4 Renuga Verayiah (Universiti Tenaga Nasional, Malaysia); Azah Mohamed (National University of Malaysia (UKM), Malaysia); Hussain Shareef (United Arab Emirates University, United Arab Emirates (UAE)); Izham Z. Abidin (Universiti Tenaga Nasional & UNITEN, Malaysia)
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<td>15.40</td>
<td>DC and AC Breakdown Behaviors of Polyethylene/Silica Nanocomposites</td>
<td>Kwan Yiew Lau, M. Afendi M. Piah, Kuan Yong Ching, Ku Fazilah Tuan Abu Bakar, and Nurfarhana Eusoff</td>
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<td>16.00</td>
<td>The Influence of Data Size in Statistical Analysis of Power Transformer Frequency Response</td>
<td>Mohd Fairouz Mohd Yousof, Mohd Khairul Azree Uyup, and Shirllyana Riang</td>
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<td>16.20</td>
<td>Generation of Impulse Current Using Microcircuit: Based on IEC Standard</td>
<td>Mohd Fairouz Mohd Yousof, Musaed Al-subari, and Hussein Ahmad</td>
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<td>16.40</td>
<td>The Effect of Water Tree and Partial Discharge Defects in XLPE Cables to the Dielectric Absorption Ratio</td>
<td>Zairul Aida Abu Zarim, Ahmad Basri Ghani</td>
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<td>17.00</td>
<td>Break</td>
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SESSION 3B  INTEGRATION OF DISTRIBUTED ENERGY RESOURCES

Date: 29 November 2016, Tuesday
Seminar Room: Zeng He

Time: Author/s and Paper title

14.20 Dynamic Modelling of Polluted Outdoor Insulator Under Wet Weather Conditions  
3B.1 Rahisham Abd. Rahman (Universiti Tun Hussein Onn, Malaysia); A. Manu Haddad (Cardiff University, United Kingdom); Muhammad Saufi Kamarudin and Mohd Fairouz Mohd Yousof (Universiti Tun Hussein Onn Malaysia, Malaysia); Nor Akmal Mohd Jamail (Faculty of Electrical and Electronic Engineering, Universiti Tun Hussein Onn Malaysia, Malaysia)

14.40 Prioritization of Different Passive Parameters for Islanding Detection on the Basis of Response Analysis  
3B.2 Safdar Raza (University of Malaya, Malaysia); Hazlie Mokhlis (Electrical Engineering Department, Malaysia); Hamzah Aroff (Universiti Malaya, Malaysia); Hasmaini Mohamad (University of Technology MARA, Malaysia); Javed Ahmed Laghari (Quaid-e-Awam University of Engineering Science & Technology Nawabshah Pakistan, Pakistan)

15.00 Physical Photovoltaic Power Model to Correct Peak Load Values of MV Feeders with Photovoltaic Connections  
3B.3 Abdulla Al-Aghbari (Dubai Electricity and Water Authority); Ammar Al-Sabounchi, Mahmoud Jaber and Majdi Al-Qdaimat (Dubai Electricity and Water Authority, United Arab Emirates (UAE))

15.20 A Comparison Study of Interpolation and Circuit Based Photovoltaic Mathematical Models  
3B.4 Razman Ayop and Chee Wei Tan (Universiti Teknologi Malaysia, Malaysia)
15.40 A Review on Optimal Location of Distributed Generation Technique in Electrical Network

3B.5
Zahraa Abdul Kareem (Faculty of Engineering, Universiti Putra Malaysia, Malaysia); Wan Fatinhamah Wan Ahmad (Centre for Electromagnetic and Lightning Protection Research (CELP), Universiti Putra Malaysia, Malaysia); Jasronita Jasni and Noor Izzri Abd. Wahab (Universiti Putra Malaysia, Malaysia)

16.00 Optimisation of Wind Farm Location Using Mean-Variance Portfolio Theory and Time Series Clustering

3B.6
Christiaan Joubert and Hendrik Vermeulen (Stellenbosch University, South Africa)

16.20 Optical Comparison of Dye-sensitized Solar Cell Using Nature Based Dye Extract From Hibiscus and Bougainvillea

3B.7
Gomesh Nair Shasidharan (KDU Penang University College, Malaysia)

16.40 FT-IR and Electrical Characteristic of Dye-sensitized Solar Cell Using Dyes From Hibiscus and Bougainvillea

3B.8
Gomesh Nair Shasidharan (KDU Penang University College, Malaysia)

17.00 Break

SESSION 3C -POWER SYSTEM ECONOMICS & ENERGY MARKETS
-POWER ELECTRONICS CONVERTERS APPLICATIONS

Date: 29 November 2016
Seminar Room: Hatten 1

Time: Author/s and Paper title

14.20 Optimal Energy and Reserve Scheduling of Wind Power Producers in Electricity Market Considering Demand Response

3C.1
Mansour Hosseini Firouz (Ardabil Branch Islamic Azad University, Iran); Asef Alemi (Iran Grid Management Co, Iran)
14.40 Dynamic Economic Emission Dispatch with Consideration of Time of Use
3C.2
Gholamreza Aghajani (Azad University, Iran); Naser Yousefi (Islamic Azad University, Iran)

15.00 Convolution Integral Based Multivariable Grey Prediction Model for Solar Energy Generation
3C.3
Rajendra Senapati and Nirod Chandra Sahoo (IIT Bhubaneswar, India); Sukumar Mishra (IIT Delhi, India)

15.20 Loss and Cost Evaluation of Typical DC Distribution for Residential House
3C.4
Nirod Chandra Sahoo (IIT Bhubaneswar, India); Sankarsan Mohapatro (Indian Institute of Technology Bhubaneswar, India); Ajit Sahu and Bindusagar Mohapatro (IIT Bhubaneswar, India)

15.40 Modelling of Sanitary Hot Water Energy Consumption Using Adaptive Neuro-Fuzzy Inference Systems
3C.5
George Blignault and Hendrik Vermeulen (Stellenbosch University, South Africa)

16.00 Dynamic Pricing for Demand-Side Management Within Smart Grid Environment
3C.6
Ahmed Azmy (Tanta University, Egypt); Amlak Abaza (Kaferel Shiekh University, Egypt)

16.20 Anticipatory Response Model for Multi-Agent Based Energy Management System in a Standalone Microgrid
3C.7
Mohammed Reyasudin Basir Khan (Universiti Kuala Lumpur, Malaysia); Jagadeesh Pasupuleti and Razali Jidin (Universiti Tenaga Nasional, Malaysia)

16.40 Centralize Control Power Sharing Scheme of Parallel Connected Inverters for Microgrids
3C.8
Mohd Azrik Roslan, Syahrul Ashikin Azmi, Baharuddin Ismail and Muhammad Mokhzaini Azizan (Universiti Malaysia Perlis, Malaysia); Sze Sing Lee (University of Southampton Malaysia Campus, Malaysia)

17.00 Break
### SESSION 3D  
**POWER ELECTRONIC CONVERTERS AND APPLICATIONS**

**Session Chair:**

**Date:** 29 November 2016, Tuesday

**Seminar Room:** Hatten 2

**Time:  Author/s and Paper title**

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<td>N. Nadiah Ayop, Mohd Azrik Roslan, Yahaya Nor Zaiaziain and Zainuddin Mat Isa (Universiti Malaysia Perlis, Malaysia); Hamzah Ahmad (University Malaysia Pahang, Malaysia)</td>
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<td>14.40</td>
<td>Reduction of Harmonic Using Single Phase Shunt Active Filter Based on Instantaneous Power Theory for Cascaded Multilevel Inverter</td>
<td>Musa Yusup Lada, Johar Akbar Mohamat Gani, Mohamad Riduwan Md Nawawi and Chin Kim Gan (Universiti Teknikal Malaysia Melaka, Malaysia)</td>
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<td>15.00</td>
<td>Data Acquisition System for Piezoelectric Cymbal Transducer Energy Harvesting</td>
<td>Kok Tung Thong (University Tun Hussein Onn Malaysia, Malaysia); Kok Boon Ching, Chessda Uttraphan and Saleh Gareh (Universiti Tun Hussein Onn Malaysia, Malaysia); Zi Jen Sam (Embedded Computing System (EmbCoS) Research group, Malaysia)</td>
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<td>15.20</td>
<td>Modified Thyristor Controlled Reactor for Static VAR Compensators</td>
<td>Dmitry Panfilov (Moscow Power Engineering Institute, Russia); Ahmed ElGebaly (Tanta University, Egypt)</td>
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<td>15.40</td>
<td>Charge-Discharge Cyclability of Ultracapacitor with Glass Wool Separator Under High Concentrated Sulfuric Acid</td>
<td>Zulkarnain Ahmad Noorden (Institute of High Voltage and High Current (IVAT); Universiti Teknologi Malaysia, Malaysia); Mohd Ferdaus Mohammad Yaacob and Jasrul Jamani Jamian (Universiti Teknologi Malaysia, Malaysia)</td>
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16.00 Electrochemical Impedance Behavior of Glass Wool-based Supercapacitors with Different Concentration of Sulfuric Acid

Zulkarnain Ahmad Noorden (Institute of High Voltage and High Current (IVAT); Universiti Teknologi Malaysia, Malaysia); Mohd Ferdaus Mohammad Yaacob and Jasrul Jamani Jamian (Universiti Teknologi Malaysia, Malaysia)

16.20 A Carrier-Based PWM with Synchronous Switching Technique for a Vienna Rectifier

Songhee Yang, Jin-Hyuk Park and Kyo-Beum Lee (Ajou University, Korea)

16.40 Control Design and Frequency Analysis of an Output Filter in Parallel Interleaved Converters

João Lucas da Silva (Institut National Polytechnique de Toulouse, France); Geovani Reis and Seleme Seleme, Jr. (Federal University of Minas Gerais, Brazil); Thierry Meynard (Institut National Polytechnique de Toulouse, Brazil)

17.00 Break

SESSION 3E -CONTROL SYSTEMS -MOTOR DRIVES

Date: 29 November 2016, Tuesday
Seminar Room: Hatten 3

14.00 Optimized-GA Fuzzy Logic-based Self-tuning PID Controller in Multi-Source Multi-AreaPower Systems for Load Frequency Control

Davar Mirabbasi (Ardabil Branch, Islamic Azad University, Ardabil)

14.20 PI Controller Parameters Design of Doubly Fed Induction Generator Based on Mine Blast Algorithm

Ahmed Fathy (University of Zagazig, Egypt); Osama El-baksawi (University of Port-Said, Egypt)
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<td>15.00</td>
<td>Enhanced Chaotic Spiral Dynamic Algorithm with Application to Controller Design&lt;br&gt;<strong>3E.4</strong>&lt;br&gt;Mohd Ruzaini Hashim (Universiti Teknikal Malaysia Melaka, Malaysia); M. Osman Tokhi (University of Sheffield, United Kingdom)</td>
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<tr>
<td>15.20</td>
<td>Achieving Optimum Tip-speed-ratio of a Two-mass Wind Turbine System&lt;br&gt;<strong>3E.5</strong>&lt;br&gt;Nor Syaza Farhana Mohamad Murad (Universiti Teknikal Malaysia Melaka (UTeM), Malaysia); Muhammad Nizam Kamarudin, Sahazati Md Rozali and Mohd Hendra Hairi (Universiti Teknikal Malaysia Melaka, Malaysia)</td>
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<td>15.40</td>
<td>Predictive Torque Control of DFIG with Torque Ripple Reduction&lt;br&gt;<strong>3E.6</strong>&lt;br&gt;Mohsen Mokhtari Vayeghan and Alireza Davari (Shahid Rajaee Teacher Training University, Iran)</td>
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<td>16.00</td>
<td>Control Surface Design of Single-Input Fuzzy PI Controller for Brushless DC Motor Drive&lt;br&gt;<strong>3E.7</strong>&lt;br&gt;Nur Naqibah Baharudin and Shahrin Md. Ayob (Universiti Teknologi Malaysia, Malaysia)</td>
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<td>16.20</td>
<td>Series Motor Four Quadrants Drive DC Chopper Part2; Driving and Reverse Mode with Direct Current Control&lt;br&gt;<strong>3E.8</strong>&lt;br&gt;Saharul Arof (Universiti Kuala Lumpur - Malaysian Spain Institute, Malaysia); Hamzah Aroff (Universiti Malaya, Malaysia); Julaidha Jalil (Universiti Kuala Lumpur Malaysian Spanish Institute, Malaysia); Philips Mawby (University of Warwick, United Kingdom); Nurazlin Mohd Yaakop (University Kuala Lumpur Malaysian Spanish Institute, Malaysia); Norhalimatul Kamaruddin (Universiti Kuala Lumpur, Malaysia)</td>
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16.40 Speed Control of Multiple Induction Motors of Electromagnetic Shaft Synchronization System

**3E.9**
Ali Akayleh (Tafila Technical University, Jordan); Emad Addasi (Yanbou Industrial college, Jordan); Saleh Al-Jufout (Tafila Technical University, Jordan)

17.00 Break

**SESSION 3F**

**-ELECTRICAL MACHINE**

**-MOTION CONTROL AND MECHATRONICS**

**Date:** 29 November 2016, Tuesday

**Seminar Room:** Marco Polo 2

**Time:** **Author/s and Paper title**

14.20 Characteristic of Double-Stator PM Machine for Modular Type Power Train in Electric Vehicles

**3F.1**
Siti Nur Umira Zakaria and Norhisam Misron (Universiti Putra Malaysia, Malaysia); Raja Nor Firdaus Kashfi Raja Othman (Universiti Teknikal Malaysia Melaka; Universiti of Putra Malaysia, Malaysia)


**3F.2**
Perumal Nallagownden (Universiti Teknologi Petronas, Malaysia); Ravi Ramanathan and Aamir Hussain Memon (Universiti Teknologi PETRONAS, Malaysia)

15.00 Effect of Slot-Width in Slot-Type Linear Motor

**3F.3**
Raja Nor Firdaus Kashfi Raja Othman (Universiti Teknikal Malaysia Melaka; Universiti of Putra Malaysia, Malaysia); Siti Zulaika Mat Isa (S. Zulaika, Malaysia); Nor Aishah Md Zuki (M. Z. Aishah, Malaysia); Md Nazri Othman (Universiti Teknikal Malaysia Melaka, Malaysia); Aziah Khamis (Universiti Teknikal Malaysia Melaka; The University of Sydney, Malaysia); Fairul Azhar Abdul Shukor (Universiti Teknikal Malaysia Melaka, Malaysia); Suhairi Rizuan Che Ahmad (Universiti Kuala Lumpur-British Malaysia Institute, Malaysia)
15.20 Effect of Saturation on Performance of Synchronous Reluctance Machines

3F.4
Thushanthan Mohanarajah and Mahmood Nagrial (Western Sydney University); Ali Hellany (Western Sydney University, Australia); Jamal Rizk (Western Sydney University)

15.40 An Investigation of Winding Temperature on a Wind Generator by Using Empirical Model

3F.5
Yahaya Nor Zaiazmin (Universiti Malaysia Perlis, Malaysia); Khairul Azwan Ismail and Muhamad Saifuldin Abdul Manan (UniMAP, Malaysia); N. Nadiah Ayop and Atikah Awang (Universiti Malaysia Perlis, Malaysia)

16.00 Demonstration of Piezoelectric Cantilever Arrays for Broadband Vibration Harvesting

3F.6
Yu Jing Bong and Swee Leong Kok (Universiti Teknikal Malaysia Melaka, Malaysia)

16.20 Microgeneration of Electrical Energy Using Piezoelectric From Car Movement

3F.7
Syahrul Hisham Mohamad, Aiman Zakwan Jidin, Muhamad Faizal Yaakub, Suziana Ahmad and Noor Azida Noor Azlan (Universiti Teknikal Malaysia Melaka, Malaysia)

16.40 Python Based 3-Axis CNC Plotter

3F.8
Shivakumar Tekumatla and Sai Sravan Manne (Indian Institute of Information Technology Design and Manufacturing Kancheepuram, India); Selvajyothis K (Indian Institute of Information Technology Design; Manufacturing Kancheepuram, India)

17.00 Break