WELCOME TO AUPEC 2017

Welcome Note:

On behalf of the Organizing Committee, it is my privilege and great pleasure to extend a warm Aussie welcome "G'Day" to all our delegates, sponsors and exhibitors who are here in Melbourne to take part in the 2017 Australasian Universities Power Engineering Conference. Each year, AUPEC provides a forum for top researchers in power engineering to share ideas. For this year, the theme is "Smart Power Grids in the 21st Century", and explores the transformation of the power network into a 'smart' grid capable of meeting 21st century economic, security and environmental challenges. Smart energy technologies are enabling these changes, but the smart grid still faces hurdles. Particularly, extensive field-testing is required to prove new energy systems and regulatory reform and help eliminate financial disincentives for adopting new technologies. A host of new smart energy devices and systems are also emerging that can take pressure off overloaded grid infrastructure and power costs, dramatically improve grid reliability and security, and accelerate the growth of cleaner power generation.

I would like to take this opportunity to express my sincerest gratitude to our co-hosts Deakin University, RMIT and the University of Melbourne who jointly hold this conference with Victoria University. The organising committee has been working tirelessly since last September after the fantastic AUPEC 2016 in Brisbane to prepare for this event, and we are delighted that we have managed to bring you all to the "most liveable city in the world". At the time of printing this handbook, we have about 130+

pre-registered delegates from about 11 countries – Indonesia, China, India, Fiji, South Africa, UAE, Malaysia, Iran, Slovenia, Papua New Guinea and Sweden and we expect more participants to register at the conference.

The conference starts on Sunday with 3 tutorials presented by Professor Faz Rahman and Dr Rukmi Dutta from University of NSW on “Recent advances in Electrical Machines for applications in Automotive and renewable Energy Systems”, Professor Grahame Holmes from RMIT on “Principles and practices of digital current regulation for AC systems” and Professor Tansu Alpcan from the University of Melbourne on “Game theoretic Analysis of Wholesale Electricity Markets and Australian NEM”.

Then we have arranged three first class keynote addresses for the main event. On Monday Professor Saifur Rahman will present the latest buzz on “Internet of Things Sensor Integration from Smart Buildings to the Smart Grid”. For Tuesday, Professor Hirofumi Akagi will present an exciting keynote address on “Trends in Medium-Voltage High-Power Motor Drives”, while on Wednesday, our own Victorian renewable-energy expert Kate Summers will give a challenging keynote address on “The Power System as the Market comes of Age”. AUPEC 2017 is also grateful to Mr Mike Griffin, CEO of Australian Power Institute for kindly organising the API Industry Session on TUESDAY, with a panel session theme on “Journey on the Energy Revolution.

We hope that these 4 days of activity, together with working group meetings and post-conference tours on Thursday, will provide an exciting opportunity to all delegates, and inspire new ideas for collaborative leadership in the area of Smart Grid and sustainable energy.

WELCOME TO AUPEC 2017

I would like to thank in particular Professor Grahame Holmes from RMIT, Professor Amanullah Than Oo from Deakin University and Professor Mohammad Aldeen from the University of Melbourne for their (and their university's) support and advice during the program preparation, and for actively participating in the conference official events. I would also like to say a big 'ta' (thanks) to our ACPE members, power academics and PG students from the major Australasian universities for being part of the AUPEC program that will capture and showcase the electrical power system challenges, opportunities, experiences and engagements from Australia and overseas. I am also very grateful for participation across the various events from industry and IEEE (in particular PES). Finally a special thanks to all the volunteers, sponsors and exhibitors for their preparation and help towards the conduct and operation of this 4-day event.

On behalf of the organizing committee I thank you for your participation and support for AUPEC 2017 and I wish you all a great event full of new ideas, networking opportunities and showcasing the new technologies and strategies that will shape our industry sector in coming decades. For those of you who are here for the very first time, please take time to explore Melbourne and our nearby beautiful landscapes, and experience the friendly Victorian hospitality.

Ta,

Akhtar Kalam
Chair AUPEC 2017 Organizing Committee

COMMITTEE MEMBERS

Role	Name and affiliation
Conference Chair	**Professor Akhtar Kalam** Victoria University
Vice-Chair	**Professor Grahame Holmes** RMIT University
Vice-Chair	**Professor Aman Than Oo** Deakin University
Vice-Chair	**Associate Professor Mohammad Aldeen** The University of Melbourne
Sponsorship and promotions Chair	**Associate Professor Aladin Zayegh**
Publication Chair & Conference Secretary	**Dr. Apel Mahmud** Deakin University
Technical Program Chair	**Dr. Enamul Haque** Deakin University

COMMITTEE MEMBERS

Technical Program Chair	**Associate Professor Brendan McGrath** RMIT University
Technical Program Chair & Workshop and Tutorial Chair	**Dr Sajeeb Saha** Deakin University
Technical Program Chair & Student Activity Coordinator	**Dr Mohammad Arif** Deakin University
Technical Program Chair & Student Activity Coordinator	**Dr Shama Islam** Deakin University
Treasurer	**Sajad Amjadi** Victoria University
Webmaster	**Abdulrahman Hadbah** Victoria University
Conference Secretary	**Pejman Peidaee** Victoria University

GENERAL INFORMATION

Conference Venue Address

Melbourne & Olympic Parks, Batman Ave, Melbourne 3000, Victoria, Australia

Program

Sunday 19 November. *RMIT University & Melbourne Function Centre*: AUPEC 2017 will open on Sunday 19 November, with Tutorials at RMIT University from 1pm to 5pm. Then there will be Registration and a Welcome Reception at the Melbourne Function Centre from 4pm to 8pm.

Monday 20 November, 9am-6pm. *Melbourne Function Centre*: The first full-day program begins with an opening address from the chair, Professor Akhtar Kalam, and a keynote address from Professor Saifur Rahman on 'IoT Sensor Integration from Smart Buildings to the Smart Grid'. Paper presentations will take place during the day, concluding at 4:30pm with a poster session.

Tuesday 21 November, 9am-5.30pm, conference dinner at 7pm. *Melbourne Function Centre*: The day will begin with a keynote address by Professor Hirofumi Akagi: 'Trends in Medium-Voltage High-Power Motor Drives'. This will be followed by paper presentations, an ACPE meeting and the API Industry forum.

Wednesday 22 November, 9am-3.30pm. *Melbourne Function Centre*: The final day of the event begins with a keynote address by renewable-energy expert Kate Summers: ‘The Power System as the Market comes of Age’. Then after the day's paper presentations, a closing ceremony will be held at 3.30pm.

Morning and afternoon tea will be provided for Days 1 and 2. Morning tea only will be provided for Day 3.

GENERAL INFORMATION

Transport

The Melbourne Park Function Centre is an easy walk from the CBD, and there are also trams, trains and buses that can drop you nearby. However, as there is limited parking availability, we do recommend public transport as the preferred alternative.

Getting around Melbourne

Melbourne is well serviced by trains, trams and buses. All use a common card system for ticketing, called 'Myki'. Visit the Public Transport Victoria website (www.ptv.vic.gov.au) for information about getting around Melbourne (and Myki cards).

Airport transport

If you're not hiring a car, there are two options for transport between Melbourne Airport and the CBD:

- taxis (around $50)
- Skybus

HOSTS, PARTNERS & SPONSORS

AUPEC 2017 is organised in collaboration with:

- Australasian Committee for Power Engineering (ACPE)
- The University of Melbourne
- Deakin University
- RMIT University
- EduTechnics
- ASES
- Electronics Components
- IEEE

PROGRAM AT A GLANCE

Sunday, 19th November	
13.00 - 17:00	**Tutorials** *Venue:* RMIT, Building 80, Floor 9 **(Afternoon tea will be served at 15.00)** **Tutorial 1: Sunday, 13.00-15.00** **Venue: 80.09.06 (Building 80, Floor 9, Room 6)** Professor Faz Rahman & Dr Rukmi Dutta **Recent advances in electrical machines for applications in automotive and renewable energy systems.** **Tutorial 2: Sunday, 13.00-15.00** **Venue: 80.09.10. (Building 80, Floor 9, Room 10)** Professor Grahame Holmes **Principles & practices of digital current regulation for AC systems.** **Tutorial 3: Sunday, 15.15-17.00** **Venue: 80.09.6. (Building 80, Floor 9, Room 6)** Professor Tansu Alpcan **Game Theoretic Analysis of Wholesale Electricity Markets and Australian NEM.**
16:00 - 18:00	**Registration** *Venue:* Tennis HQ, Collective Café. (Located on level 2 next to the Function Centre)
18:00 - 20:00	**Welcome Reception and Cocktail** *Venue:* Tennis HQ, Collective Café. (Located on level 2 next to the Function Centre)

PROGRAM AT A GLANCE

Monday, 20th November			
08:00 - 09:00	**Registration** *Venue:* Melbourne Park Function Centre – Park Room		
09:00 - 09:30	**Opening Session** *Venue:* Melbourne Park Function Centre – Park Room **Welcome and housekeeping:** Prof Akhtar Kalam, AUPEC 2017 Chair **Welcome address:** Prof. Warren Payne VU PVC Research		
09:30 - 10:30	**Keynote Address** *Venue:* Melbourne Park Function Centre – Park Room Professor Saifur Rahman, President, IEEE PES, USA *Topic:* IoT Sensor Integration from Smart Buildings to the Smart Grid		
10:30 - 11:00	**Morning Tea** *Venue:* Melbourne Park Function Centre – Park Room		
Technical Sessions			
11:00 - 12:30	**Session 1** (Venue) Presentation Tennis HQ Level 2 Room 1 Transactive Energy and Demand management 10, 33, 52, 82, 103	**Session 2** (Venue) Presentation Tennis HQ Level 2 Room 2 Smart grid, Smart building and Smart city -1 57, 60, 75, 77, 89	**Session 3** (Venue) Presentation Tennis HQ Level 2 Room 3 Microgrid system-1 7, 27, 31, 39,132
12:30 - 13:30	**Lunch** *Venue:* Melbourne Park Function Centre – Park Room		

PROGRAM AT A GLANCE

Technical Sessions			
13:30 - 15:00	**Session 4** (Venue) Presentation Tennis HQ Level 2 Room 1 Electricity market -1 12, 18, 65, 88,121	**Session 5** (Venue) Presentation Tennis HQ Level 2 Room 2 Smart grid, Smart building and Smart city-2 93, 98, 134, 137, 75	**Session 6** (Venue) Presentation Tennis HQ Level 2 Room 3 Energy storage & Electric vehicle-1 106, 118, 127, 131, 144
15:00 - 15:30	**Afternoon Tea** *Venue:* Melbourne Park Function Centre – Park Room		
Technical Sessions			
15:30 - 17:00	**Session 7** (Venue) Presentation Tennis HQ Level 2 Room 1 Electricity market - 2 100, 112, 125, 92 146	**Session 8** (Venue) Presentation Tennis HQ Level 2 Room 2 Energy storage & Electric vehicle-2 5, 19, 29, 40, 41	**Session 9** (Venue) Presentation Tennis HQ Level 2 Room 3 Microgrid system-2 58, 64, 108, 136, 155
16:30 - 18.15	**Poster Session** (Papers together with research and teaching facilities in various Australian Universities) *Venue:* Melbourne Park Function Centre – Park Room 9,14, 26, 86, 55,76,34,35,36,49, 80, 97,135,116, 90, 109, 148, 133,139,143,147		
18:15 – 19:45	API-ACPE meeting (API and ACPE members only *Venue:* Melbourne Park Function Centre – Park Room		

PROGRAM AT A GLANCE

20:00 -onwards	API-ACPE dinner (API and ACPE members only) *Venue:* Gazi

Tuesday, 21st November			
08:00 - 09:00	**Registration** Venue: Melbourne Park Function Centre – Park Room		
09:00 - 10:00	**Keynote Address** Venue: Melbourne Park Function Centre – Park Room Professor Hirofumi Akagi, Tokyo Institute of Technology, Japan Topic: Trends in Medium-Voltage High-Power Motor Drives		
10:00 - 10:30	**Morning Tea** *Venue:* Melbourne Park Function Centre – Park Room		
Technical Sessions			
10:30 - 12:30	**Session 10** (Venue) Presentation Tennis HQ Level 2 Room 1 Wind energy system 11, 16, 17, 24, 43,13	**Session 11** (Venue) Presentation Tennis HQ Level 2 Room 2 Photovoltaic energy system - 1 6, 25, 28, 45, 54, 68, **59**	**Session 12** (Venue) Presentation Tennis HQ Level 2 Room 3 Energy storage & Electric vehicle-3 48, 62, 71, 94, 95, 96, **111**
12:30 - 13:30	**Lunch/ACPE Meeting** *Venue:* Melbourne Park Function Centre – Park Room		

PROGRAM AT A GLANCE

<table>
<tr><td>13:30 - 15:00</td><td colspan="3">API Industry Forum
Venue: Melbourne Park Function Centre – Park Room</td></tr>
<tr><td>15:00 - 15:30</td><td colspan="3"><u>Afternoon Tea</u>
Venue: Melbourne Park Function Centre – Park Room</td></tr>
<tr><td colspan="4">Technical Sessions</td></tr>
<tr><td>15:30 - 18:15</td><td><u>Session 13</u>
(Venue)
Presentation
Tennis HQ Level 2
Room 1

Distributed energy resources

50, 67, 70, 73, 113, 120, 128, 83</td><td><u>Session 14</u>
(Venue)
Presentation
Tennis HQ Level 2
Room 2

Photovoltaic energy system- 2

78, 81, 91, 105, 123, 126, 142, 150</td><td><u>Session 15</u>
(Venue)
Presentation
Tennis HQ Level 2
Room 3

Power Electronics and motor drives

61, 119, 145, 151, 153,158, 159, 99</td></tr>
<tr><td>19:00 - 22:00</td><td colspan="3">Conference Dinner
Melbourne Park Function Centre – Skyline Room
Awards:
Introducing AUPEC 2018</td></tr>
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PROGRAM AT A GLANCE

Wednesday, 22nd November			
09:00 - 10:00	**Keynote Address** Venue: Melbourne Park Function Centre – Park Room Kate Summers, Manager Electrical Engineering, Pacific Hydro Topic: The Power System as the Market comes of Age		
10:00 - 10:30	**Morning Tea** Venue: Melbourne Park Function Centre – Park Room		
Technical Sessions			
10:30 - 12:30	**Session 16** (Venue) Presentation Tennis HQ Level 2 Room 1 Power quality, fault diagnosis and protection-1 87, 63, 122, 138,149,152,154	**Session 17** (Venue) Presentation Tennis HQ Level 2 Room 2 Power system stability and Control -1 69,102, 107, 11, 124, 130	**Session 18** (Venue) Presentation Tennis HQ Level 2 Room 3 Power system operation and planning – 1 4, 5, 18, 30, 37, 85,15
12:30 - 13:30	**Lunch** Venue: Melbourne Park Function Centre – Park Room		

PROGRAM AT A GLANCE

Technical Sessions			
13:30 - 15:30	**Session 19** (Venue) Presentation Tennis HQ Level 2 Room 1 Power quality, fault diagnosis and protection-2 3, 38, 47, 84, 114, 141, 117	**Session 20** (Venue) Presentation Tennis HQ Level 2 Room 2 Power system stability and Control -2 20, 23, 32, 56,104,139	**Session 21** (Venue) Presentation Tennis HQ Level 2 Room 3 Power system operation and planning – 2 42, 44, 51, 72, 101
15:30 - 16:30	**Closing Ceremony**		

KEYNOTE SPEAKERS

Professor Saifur Rahman

Director, Virginia Tech Advanced Research Institute, USA

Professor Saifur Rahman is the founding director of the Advanced Research Institute at Virginia Tech, USA where he is the Joseph R. Loring professor of electrical and computer engineering. He will present on the Internet of Things Sensor Integration from Smart Buildings to the Smart Grid.

Professor Hirofumi Akagi

Tokyo Institute of Technology, Japan

Professor Hirofumi Akagi, professor and vice dean of the school of engineering at the Tokyo Institute of Technology, is a leading researcher in power conversion systems and their application to industry, utility and transportation.

Kate Summers

Manager Electrical Engineering, Pacific Hydro

Kate has contributed significantly to the national debate on the technical standards and integration of renewable energy both into the market and physically into the NEM grid. She took up her position at the renewable energy company Pacific Hydro after ten years working in transmission planning and systems operations in the Victorian and later the National Electricity Market Management Company (NEMCO)

TUTORIALS

Recent advances in electrical machines for applications in automotive and renewable energy systems

Professor Faz Rahman & Dr Rukmi Dutta, School of Electrical Engineering and Telecommunications, University of New south Wales (UNSW)

Sunday, 13.00-15.00

RMIT University Building 80, Floor 9, Room 6

This tutorial starts with a review of requirements of electric machines for two rapidly emerging areas:

- Automotive applications such as in EV traction, wheel motor, power steering, turbocharger
- Renewable energy conversion such as for conversion of wind, wave/tidal, solar thermal energies.

Recent advances in permanent magnet synchronous machine (PMSM) structures, such as SPM, Interior PM machines - radial and axial types, with distributed and fractional-slot concentrated-windings (FSCW) with a view to meeting requirements of these applications are brought out. Advantages and limitations of each type are discussed. Design and performance issues of the FSCW PM machine in gearless direct-drive applications as a motor and as a generator are also brought out. Other novel types – Flux switching, PM-assisted SyncRel, Flux-modulating PM machines are also discussed briefly. Issues relating to design/manufacturing/optimisation of PM machines for the two major types of applications and future research directions are brought out. Finally, advances in control techniques of PMSM/G – FOC, DTC, sensorless, model predictive – that are heavily dependent on the structure of a PMSM will also be covered.

TUTORIALS

Principles & practices of digital current regulation for AC systems

Professor Grahame Holmes, School of Electrical and Computer Engineering, RMIT University

Sunday, 13.00-15.00

RMIT University Building 80, Floor 9, Room 10

Current regulation plays a key role in power electronic conversion systems. The basic concept is to compare a measured current against a defined reference, and to minimise the error between these two quantities by adjusting the switching of the associated power electronic converter. However, while simple in principle, achieving this goal for AC current regulators has proved to be very challenging. This tutorial will present the current state-of-the-art for digital current regulation of AC converter systems. It will begin by showing how PWM transport and sampling delays are the primary constraints for linear regulators. Strategies to overcome these constraints will then be explored, including backEMF compensation, PR resonant control and its equivalent synchronous d-q frame implementation. An analytical approach to calculate the maximum gains for these strategies will be developed, verified by simulation and matching experimental results. The concepts will then be applied to the more challenging problems of current regulation with an LCL filter, and the influence of common mode EMI filtering on the current regulation process. Finally, some advanced strategies will be presented to manage the nonlinearity caused by inverter saturation to avoid regulation instability.

TUTORIALS

Game Theoretic Analysis of Wholesale Electricity Markets and Australian NEM

Professor Tansu Alpcan & Amin Masoumzadeh, School of Electrical and Electronics Engineering, University of Melbourne

Sunday, 15.15-17.00

RMIT University Building 80, Floor 9, Room 6

This tutorial will present a broad overview of classical game-theoretic models for analysing wholesale electricity markets, with a specific focus on recent developments in the Australian power grid and National Electricity Market (NEM). Using the Australian context as a case study, the impact of renewable distributed generation, closure of coal plants, and demand response schemes will be discussed.

The tutorial aims to present fundamental theoretical tools as well as practically-relevant results based on real demand and pricing data, which may be of interest to researchers, practitioners, and policy-maker

Presentation Schedule for Day 1 Monday, November 20, 2017

Session 1: Transactive Energy and Demand management

Time: 11:00 AM - 12:30 PM Room : Tennis HQ Level 2 Room 1

Session Chair: Prof Tapan Saha

Time	Author(s)	Paper Title
11:00-11:18	Baoxiang Du, Gregor Verbic and John Fletcher	Thermal Modelling for Demand Response of Residential Buildings
11:19-11:36	Mandeep Kaur, Yajvender Pal Verma, Manoj Kumar and Amit Kumar Manocha	Self-Scheduling and Bidding Strategy of Microgrid with Demand Side Participation in Power Market
11:37-11:54	Mohsen Khorasany, Yateendra Mishra and Gerarad Ledwich	Auction Based Energy Trading in Transactive Energy Market with Active Participation of Prosumers and Consumers
11:55-12:12	Nur Mohammad and Yateendra Mishra	Transactive Market Clearing Model with Coordinated Integration of Large Scale Solar PV Firm and Demand Response Capable Loads
12:13-12:30	Vasudev Dehalwar, Akhtar Kalam, Mohan Lal Kolhe and Aladin Zayegh	Electricity demand management by optimising the use of HVAC and HWS through AMI

Session 2: Smart grid, Smart building and Smart city -1
Time: 11:00 AM - 12:30 PM Room: Tennis HQ Level 2 Room 2
Session Chair: Prof Syed Islam

Time	Author(s)	Paper Title
11:00-11:18	Dowon Kim, Ahmed Abu-Siada and Adrian Sutinjo	A Novel Application of Frequency Response Analysis for Wireless Power Transfer System
11:19-11:36	Weicong Kong, Zhao Yang Dong, Fengji Luo, Ke Meng, Wang Zhang, Fan Wang and Xiang Zhao	Effect of Automatic Hyperparameter Tuning for Residential Load Forecasting via Deep Learning
11:37-11:54	Berhane Gebreslassie, Akhtar Kalam and Aladin Zayegh	Design, modeling of an Intelligent Green Building using, Actuator Sensor Interface network protocol
11:55-12:12	Fatima Zaidi, Shama Islam, Apel Mahmud and Amanullah Oo	Information Management of a Power Distribution Network in Real Time through GIS Mapping
12:13-12:30	Safy Saeed, Sk. A. Shezan, M.I. Arbab and Sohel Rana	Battery Monitoring System for the smart grid applications

Session 3: Microgrid system-1
Time: 11:00 AM - 12:30 PM Room: Tennis HQ Level 2 Room 3
Session Chair: Prof. Michael Negnevitsky

Time	Author(s)	Paper Title
11:00-11:18	Hua Shao, Chunguang He and Jiakun An	A Two-stage Optimization Method for Economic Operation of Microgrid
11:19-11:36	Jiahui Jiang and Colin Coates	Voltage Collapse Issue in a Photovoltaic Source Operating in an Islanded Microgrid
11:37-11:54	Amit Jyoti Datta, Arindam Ghosh and Sumedha Rajakaruna	Power Sharing and Management in a Utility Connected DC Microgrid
11:55-12:12	Dmitry Semënov, Galina Mirzaeva, Christopher Townsend and Graham Goodwin	Recent Development in AC Microgrid Control - a Survey
12:13-12:30	Rahul Sharma and Firuz Zare	On the Significance of Analysing Duty Cycle Saturation Nonlinearity in LCL Filter Control Systems

Session 4: Electricity Market -1
Time: 13:30 - 15:00 Room: Tennis HQ Level 2 Room 1
Session Chair: Prof Chandan Kumar Chanda

Time	Author(s)	Paper Title
13:30-13:48	Sahand Ghavidel, Mojtaba Jabbari Ghadi, Ali Azizivahed, Mostafa Barani, Jamshid Aghaei, Li Li and Jiangfeng Zhang	Hybrid Power Plant Bidding Strategy Including a Commercial Compressed Air Energy Storage Aggregator and a Wind Power Producer
13:49-14:06	Chandan Kumar Chanda, Deblina Maity and Sumit Banerjee	Economic Dispatch Solution for Cogeneration Unit Assisted By Biogeography Based Optimization Algorithm in Competitive Environment

14:07-14:24	Afsaneh Narimani, Anula Abeygunawardana, Ghavameddin Nourbakhsh, Gerard Ledwich and Geoffrey Walker	Comparing Operational value of CSP with TES to PV with battery storage in Australian National Electricity Market
14:25-14:42	Jaysson Guerrero, Archie Chapman and Gregor Verbic	A Study of Energy Trading in a Low-Voltage Network: Centralised and Distributed Approaches
14:43-15:00	Most Nahida Akter, Md Apel Mahmud, Md Enamul Haque and Amanullah Maung Than Oo	Comparative Analysis of Energy Trading Priorities Based on Open Transactive Energy Markets in Residential Microgrids

Session 5: Smart grid, Smart building and Smart city-2

Time: 13:30- 15:00 Room: Tennis HQ Level 2 Room 2

Session Chair: Dr Gregor Verbic

Time	Author(s)	Paper Title
13:30-13:48	Thomas Power and Gregor Verbic	A Nonparametric Bayesian Model for Forecasting Residential Solar Generation
13:49-14:06	Muhammad Usman, Farhad Shahnia, Gm Shafiullah, Ali Arefi and Daming Zhang	Technical and Non-Technical Juxtaposition of Domestic Lighting Bulbs of the Australian Market
14:07-14:24	Jaroslaw Krata	A Real-Time Co-simulation Platform for Distribution Grid Voltage Control
14:25-14:42	Abdulrahman Hadbah and Akhtar Kalam	Powerful IEDs, Ethernet Networks and their effects on IEC 61850-based Electric Power Utilities Security
14:43-15:00	Safy Saeed, Sk. A. Shezan, M.I. Arbab and Sohel Rana	Battery Monitoring System for the smart grid applications

Session 6: Energy storage & Electric Vehicle-1
Time: 13:30- 15:00 Room: Tennis HQ Level 2 Room 3
Session Chair: Prof. Graham E. Town

Time	Author(s)	Paper Title
13:30-13:48	Dan Tang and Daniel Eghbal	Cost Optimization of Battery Energy Storage System Size and Cycling With Residential Solar Photovoltaic
13:49-14:06	Bharath Parikipandla, Andreas Helwig, Tony Ahfock, Graham Holmesand Terry Bryne	Daniell Cell Investigation for Energy Storage
14:07-14:24	Yuchuan Zhang, Sarah Lyden, Bernardo A. León de La Barra and Enamul Haque	Optimization of Tremblay's Battery Model Parameters for Plug-in Hybrid Electric Vehicle Applications
14:25-14:42	Arian Zahedmanesh, Danny Sutanto and Kashem Muttaqi	Analyzing the Impacts of Charging Plug-in Electric Vehicles in Low Voltage Distribution Networks: A Case Study of Utilization of Droop Charging Control System Based on the SAE J1772 Standard
14:43-15:00	Ebby Thomas, Rahul Sharma and Yoni Nazarathy	Implementation of Energy Storage Systems for Solar PV Ramp Stabilization

Session 7: Electricity Market - 2
Time: 15:30- 17:00 Room: Tennis HQ Level 2 Room 1
Session Chair: Duane Robinson

Time	Author(s)	Paper Title
15:30-15:48	Donald Azuatalam, Gregor Verbic and Archie Chapman	Impacts of Network Tariffs on Distribution Network Power Flows

15:49-16:06	Bosui Li, Duane Robinson and Ashish Agalgaonkar	Identifying the Wheeling Costs Associated with Solar Sharing in LV Distribution Networks in Australia Using Power Flow Tracing and MW-Mile Methodology
16:07-16:24	Sebastian Puschel-Lovengreen and Pierluigi Mancarella	Mapping the Frequency Response Adequacy of the Australian National Electricity Market
16:25-16:42	Nihan Cicek van der Heijden, Tansu Alpcan, Eduardo Alejandro Martínez Ceseña and Frank Suits	Optimal Power Purchase Agreements in PV-Rich Communities
16:43-17:00	Antonin Demazy, Tansu Alpcan, Iven Mareels and Sajeeb Saha	Assessment of Voltage Stability Risks under Stochastic Net Loads using Scalable SVM Classification

Session 8: Energy storage & Electric Vehicle-2

Time: 15:30- 17:00 Room: Tennis HQ Level 2 Room 2

Session Chair: Prof Sarath Perera

Time	Author(s)	Paper Title
15:30-15:48	Ujjwal Datta, Akhtar Kalam and Juan Shi	An approach in dual-control of battery energy storage systems in windfarm output power smoothing
15:49-16:06	Md Shariful Islam, Junainah Sardi and Mithulan Nadarajah	Distribution Grid Impact of Large number of EV Charging with Improved Characterization
16:07-16:24	Md Mehedi Hasan, S. Ali Pourmousavi, Feifei Bai and Tapan Kumar Saha	The Impact of Temperature On Battery Degradation for Large-Scale BESS in PV Plant
16:25-16:42	Adeel Ghayur and Vincent Verheyen	Renewable Methane Storage in Gippsland for Peak and Backup Power

16:43-17:00	Yiju Ma, Mohammad Seidaliseifabad, Donald Azuatalam, Gregor Verbic and Archie Chapman	Impacts of Community and Distributed Energy Storage Systems on Unbalanced Low Voltage Networks

Session 9: Microgrid System-2

Time: 15:30- 17:00 Room: Tennis HQ Level 2 Room 3

Session Chair: Dr. Farhad Shahnia

Time	Author(s)	Paper Title
15:30-15:48	Munira Batool, Syed Islam and Farhad Shahnia	Master Control Unit based Power Exchange Strategy for Interconnected Microgrids
15:49-16:06	Fan Wang	Micro-grid Economic Operation Optimization Based on Improved Bat Algorithm
16:07-16:24	Edward Smith, Duane Robinson and Philip Ciufo	Secondary Control of Voltage & Current Unbalance in a Multi-bus Microgrid using Cooperative adjustment of Q- Droop gains
16:25-16:42	Moudud Ahmed, Arash Vahidnia, Lasantha Meegahapola and Manoj Datta	Small Signal Stability Analysis of a Hybrid AC/DC Microgrid with Static and Dynamic Loads
16:43-17:00	Anima Ganeshan, D. G Holmes, Lasantha Meegahapola and B.P. McGrath	Enhanced Control of a Hydrogen Energy Storage System in a Microgrid

Poster Session

Time: 16:30- 18:15

Room: Tennis HQ Level 2 Room 3

Author(s)	Paper Title
Pouya Jamborsalamati, Edstan Fernandez, M. J. Hossain and F.H.M. Rafi	Design and Implementation of a Cloud-based IoT Platform for Data Acquisition and Device Supply Management in Smart Buildings
Maryam Moradi Far, Ehsan Pashajavid and Arindam Ghosh	Power Capacity Management of Dynamic Voltage Restorers Used for Voltage Sag and Unbalance Compensation
Mohammad Sohrab Hasan Nizami and Jahangir Hossain	Optimal Scheduling of Electrical Appliances and DER units for Home Energy Management System
Syed Q Ali, Hany M Hasanien and Sm Muyeen	Three-Dimension Core Loss Analysis of Transverse Flux Linear Motor Based on the Improved Steinmetz Equation
Md Mubashwar Hasan, A. Abu Siada, Syed M. Islam and S. M. Muyeen	A three-phase half-bridge cascaded inverter with reduced number of input DC supply
Harry Galligan and Sarah Lyden	Improving the Performance of Time Invariant Maximum Power Point Tracking Methods
Heather Tidey and Sarah Lyden	Coordination of Electric Vehicle Battery Charging with Photovoltaic Generation
Junnan Dong and Sarah Lyden	Implication of MPPT on Converter Reliability for PV Systems
Ahmad Tavakoli, Arsalan Najafi, Md Enamul Haque, Jahangir Hossain and Michael Negnevitsky	Voltage Regulation for Off-peak and Peak Conditions in Distribution Networks with the High Penetration of PV Units
Julius Susanto, Farhad Shahnia and Ali Arefi	Effects of Network Characteristics and Topology on the Stability of Converter-Dominated Microgrids

Farhad Shahnia, Moayed Moghbel, Ali Arefi, Gm Shafiullah, Martin Anda and Arash Vahidnia	Levelized Cost of Energy and Cash Flow for a Hybrid Solar-Wind-Diesel Microgrid on Rottnest Island
Ali Rostami, Amin Jalilian, Seyed Behzad Naderi, Michael Negnevitsky, Pooya Davari and Frede Blaabjerg	A Novel Passive Islanding Detection Scheme for Distributed Generations Based on Rate of Change of Positive Sequence Component of Voltage and Current
Eldho Bejoy, Shama Islam and Amanullah Oo	Optimal Scheduling of Appliances through Residential Energy Management
Most Nahida Akter, Md Apel Mahmud, Md Enamul Haque and Amanullah Maung Than Oo	Comparative Analysis of Energy Trading Priorities Based on Open Transactive Energy Markets in Residential Microgrids
Tahsin Fahima Orchi, Tushar Kanti Roy, Md Apel Mahmud and Amanullah M. T. Oo	Feedback Linearizing Model Predictive Excitation Controller Design for Two-Axis Models of Synchronous Generators in Single Machine Power Systems
Manish Sharma, Narottam Das, Andreas Helwig and Tony Ahfock	Impact of Incident Light Angle on the Conversion Efficiency of Nano-structured GaAs Solar Cells
Viet Thang Tran, Danny Sutanto and Kashem Muttaqi	The State of The Art of Battery Charging Infrastructure for Electrical Vehicles: Topologies, Power Control Strategies, and Future Trends
Nathan Isherwood, Md Shihanur Rahman and Aman Oo	Distribution Feeder Protection and Reconfiguration using Multi-Agent Approach
Eddie Yatiyana, Sumedha Rajakaruna and Arindam Ghosh	Wind Speed and Direction Forecasting for Wind Power Generation Using ARIMA Model
Chandan Kumar Chanda, Bishaljit Paul and Jagadish Pal	On Transmission Congestion Management Strategies and Forecasting Locational Marginal Prices in a Deregulated Competitive Power Market

Tamalika Chowdhury, Chandan Kumar Chanda and Abhijit Chakrabarti	Resiliency Improvement for a Part of South Indian Power Transmission Network
Ali Rostami, Marzieh Bagheri, Seyed Behzad Naderi, Michael Negnevitsky, Amin Jalilian and Frede Blaabjerg	A Novel Islanding Detection Scheme for Synchronous Distributed Generation Using Rate of Change of Exciter Voltage over Reactive Power at DG-Side

Presentation Schedule for Day 2 Tuesday, November 21, 2017

Session 10: Wind Energy System

Time: 10:30- 12:30 Room: Melbourne Function Centre 1

Session Chair: A/Prof S. M. Muyeen

Time	Author(s)	Paper Title
10:30-10:48	Sk. A. Shezan and Chow Yin Lai	Optimisation of Hybrid Wind-Diesel-Battery Energy System for Remote Areas of Malaysia
10:49-11:06	Huajie Gu	Wake Effect in Wind Farm Dynamic Modelling
11:07-11:24	Tapash Das and Jingxin Zhang	Mitigating the Impact of Voltage Sags and Swells on Type IV Wind Generator Systems
11:25-11:42	Adarsh Kumar and Shawkat Ali	Prospects of Wind Energy Production in the Western Fiji- An Empirical Study Using Machine Learning Forecasting Algorithms
11:43-12:00	Seyed Morteza Alizadeh, Cagil Ozansoy and Akhtar Kalam	Investigation into the Impact of PCC Parameters on Voltage Stability in a DFIG Wind Farm
12:01-12:18	Sudarshan Dahal, Ralph Martin and Sumit Paudyal	Impact of Lightning Strikes on Substation Grounding Systems

Session 11: Photovoltaic Energy System - 1
Time: 10:30- 12:30 Room: Tennis HQ Level 2 Room 2
Session Chair: Dr. Sarah Lyden

Time	Author(s)	Paper Title
10:30-10:48	Umme Mumtahina and Peter Wolfs	PV Module Integrated LLC Resonant Converter with an Extended Input Voltage Range
10:49-11:06	Md Mejbaul Haque, Peter Wolfs and Sanath Alahakoon	Dual Active Bridge and Matrix Converter Based Three-Port Converter Topology for Grid Interactive PV-Battery System
11:07-11:24	Ahmad Zahedi	Large scale solar PV generation for Southeast Asian Countries
11:25-11:42	Lei Liu, Mehdi Shafiei, Gerard Ledwich, Wendy Miller and Ghavameddin Nourbakhsh	Correlation Study of Residential Community Demand with High PV Penetration
11:43-12:00	Zhenning Jiang, Georgios Konstantinou, Zhaoyu Zhong and Pablo Acuna	Real-Time Digital Simulation based Laboratory Test-bench Development for Research and Education on Solar PV Systems
12:01-12:18	Joydip Jana, Konika Das Bhattacharya and Hiranmay Saha	Trends and challenges of next generation grid connected photovoltaic inverter – an overview
12:19-12:36	Muslem Uddin, Galina Mirzaeva and Graham Goodwin	Recent Advances in Common Mode Voltage Mitigation Techniques Based on MPC

Session 12: Energy storage & Electric vehicle-3
Time: 10:30- 12:30 Room: Tennis HQ Level 2 Room 3
Session Chair: Dr. GM Shafiullah

Time	Author(s)	Paper Title
10:30-10:48	Ujjwal Datta, Akhtar Kalam and Juan Shi	Battery Energy Storage System for Transient Frequency Stability Enhancement of a Large-Scale Power System
10:49-11:06	Rasoul Garmabdari, Mojtaba Moghimi, Fuwen Yang, Evan Gray and Junwei Lu	Battery Energy Storage Capacity Optimisation for Grid-Connected Microgrids with Distributed Generators
11:07-11:24	Piyali Ganguly, Akhtar Kalam and Aladin Zayegh	Design an Optimum Standalone Hybrid Renewable Energy System for a Small Town at Portland, Victoria using iHOGA
11:25-11:42	Vanika Sharma, Mohammed H. Haque and Syed Mahfuzul Aziz	Optimal Battery Size for Grid Connected Rooftop Solar Photo-voltaic Systems in South Australia
11:43-12:00	Milos Pantos, Shariq Riaz, Archie Chapman and Gregor Verbic	Capacity Firming of Intermittent Generation by Dispersed Energy Storage
12:01-12:18	Ali Kharrazi, Victor Sreeram and Yateendra Msihra	Power Admission Control of Plug-in Electric Vehicles using Supervisory Control of Discrete Event System
12:19:12:36	Nasif Mahmud, Ahmad Zahedi and Md Shamiur Rahman	An event-triggered distributed coordinated voltage control strategy for large grid-tied PV system with battery energy storage

Session 13: Distributed Energy Resources

Time: 15:30- 18:00 Room: Tennis HQ Level 2 Room 1

Session Chair: A/Prof Jahangir Hossain & A/Prof S. M. Muyeen

Time	Author(s)	Paper Title
15:30-15:48	Laith M. Halabi, Saad Mekhilef, Mehdi Seyedmahmoudian and Ben Horan	Energy management for a gird connected hybrid renewable energy system
15:49-16:06	Nithya Saiprasad, Akhtar Kalam and Aladin Zayegh	Optimal Sizing of Renewable Energy System for a University in Australia
16:07-16:24	Piyali Ganguly, Akhtar Kalam and Aladin Zayegh	Optimum standalone hybrid renewable energy system design using homer for a small community of Portland, Victoria
16:25-16:42	Brendan Banfield, Philip Ciufo and Duane Robinson	The Technical and Economic Benefits of Utility Sponsored Renewable Energy Integration
16:43-17:00	Sammy Aiau, Kandasamy Pirapaharan and Paul Hoole	Renewable Energy Resources Mapping in Papua New Guinea: Solar & Wind Power, Case Study in Markham Valley, Morobe Province, Papua New Guinea.
17:01-17:18	Han Wang, Nicholas Good and Pierluigi Mancarella	Modelling and Valuing Multi-Energy Flexibility from Community Energy Systems
17:19-17:36	Farhad Shahnia, Roberta Fornarelli, Martin Anda and Parisa A. Bahri	A Renewable Energy-driven Water Treatment System in Regional Western Australia
17:37-17:54	Effat Jahan, Md. Rifat Hazari, S. M. Muyeen, Atsushi Umemura, Rion Takahashi and Junji Tamura	Coordinated Power System Frequency Regulation by PMSG-based Offshore Wind Farm

Session 14: Photovoltaic Energy System - 2
Time: 15:30 -18:00 Room: Tennis HQ Level 2 Room 2
Session Chair: Prof Konika Das Bhattacharya and Dr Narottam Das

Time	Author(s)	Paper Title
15:30-15:48	Berhane Gebreslassie, Akhtar Kalam and Aladin Zayegh	Energy saving, in Commercial Building by Improving Photovoltaic Cell Efficiency
15:49-16:06	Babak Jeddi, Yateendra Mishra and Gerard Ledwich	Network Impact of Multiple HEMUs with PVs and BESS in a Low Voltage Distribution Feeder
16:07-16:24	Ali Kharrazi, Victor Sreeram and Yateendra Mishra	Assessment of Voltage Unbalance Due to single phase Rooftop Photovoltaic Panels in Residential Low Voltage Distribution Network
16:25-16:42	Sudipta Basu Pal, Rahul Kumar, Konika Das Bhattacharya and Dipankar Mukherjee	A Reliability Estimate for a Roof-Top PV during early monsoon in Eastern India
16:43-17:00	Zhe Wang, Narottam Das, Andreas Helwig and Tony Ahfock	Modeling of Multi-Junction Solar Cells for Maximum Power Point Tracking to Improve the Conversion Efficiency
17:01-17:18	Aamir Amir, Asim Amir, Jeyraj Selvaraj and Nasrudin Abd Rahim	DMPPT by Hybrid Techniques Based on Modified Classical Numerical Methods for Photovoltaic Systems
17:19-17:36	Amit Dhoke and Adrian Mengede	Degradation Analysis of PV Modules Operating in Australian Environment
17:37-17:54	SM Ferdous, GM Shafiullah, Mohammad Oninda, Md Asaduzzaman Shoeb and Taskin Jamal	Close Loop Compensation Technique for High Performance MPPT using Ripple Correlation Control

Session 15: Power Electronics and Motor Drives
Time: 15:30 - 18:00 Room: Tennis HQ Level 2 Room 3
Session Chair: Prof Faz Rahman

Time	Author(s)	Paper Title
15:30-15:48	Saad Ul Hasan, Yuba Raj Kafle and Graham E. Town	Simple Spread-Spectrum Pulse-Modulation Technique for EMI Mitigation in Power Converters
15:49-16:06	Vladislav Kaliyev, Helwig Andreas and Tony Ahfock	Axial Flux PM Coreless Stator Machine Development for Low Speed Wind Generator
16:07-16:24	C. A Teixeira, D. G Holmes, B. P. McGrath and R.H Wilkinson	A Hardware/Software Co-simulation Platform for Power Converter Firmware Design and Debugging
16:25-16:42	A. A Nazib, D. G Holmes and B.P Mcgrath	High Bandwidth Sensorless Synchronisation Strategies for Current Regulated Grid Connected Converters
16:43-17:00	K. S Islam, D Xiao and M. F Rahman	Simplified Model Predictive Control (MPC) with Extended Voltage Vectors for Grid Connected Converters
17:01-17:18	Ilham Osman, D Xiao, M. F Rahman and Md Habibullah	A Two-Stage Optimal Vector Selection Method for Predictive Torque Control of a Three-level VSI driven Induction Motor
17:19-17:36	Jack Connor, Mehdi Seyedmahmoudian and Ben Horan	Using PSO Optimize a PID for Altitude control on a Quadrotor
17:37-17:54	Farhad Shahnia and Hadi Hosseinian Yengejeh	Enhancing the Learning Experience in the Power Electronic Unit by Different Tutorial Activities

Presentation Schedule for Day 3 Wednesday, November 22, 2017

Session 16: Power quality, fault diagnosis and protection- 1
Time: 10:30- 12:30 Room: Tennis HQ Level 2 Room 1
Session Chair: Dr Sajeeb Saha

Time	Author(s)	Paper Title
10:30-10:48	Tuan Vu, Duane Robinson, Vic Gosbell, Sarath Perera and Rizah Memisevic	Proposed Amendment to IEC/TR 61000.3.6:2008 for Harmonic Allocation to Loads in Transmission Systems
10:49-11:06	Jan Harm C Pretorius, Mathys Taljaardt and Nhlanhla Mbuli	The importance of lightning education and a lightning protection risk assessment to reduce fatalities
11:07-11:24	Shantanu Kumar, Narottam Das and Syed Islam	Performance Evaluation of Two Interconnected High Voltage Utility Substations using PRP Topology based on IEC 62439-3
11:25-11:42	Sameera Samarasinghe, Daniel Martin, Hui Ma and Tapan Saha	A Review on Influencing Factors of Sulphur Corrosion and Metal Passivation in Power Transformers
11:42-12:00	Pejman Peidaee, Akhtar Kalam and Mohammad Jaafar Hadidian Moghaddam	Developing a Simulation Framework for Integrating Multi-Agent Protection System into Smart Grids
12:01-12:18	Md Mominul Islam, Gareth Lee and Sujeewa Nilendra Hettiwatte	Missing Measurement Estimation of Power Transformers Using a GRNN
12;19 - 12:37	A.S.M Sayem, M.M.K Khan, M. G Rasul, Peter Wolfs, N.M.S Hassan and Ben Sneath	Experimental study of a High Voltage (HV) electrostatic precipitator to achieve higher collection efficiency

Session 17: Power System Stability & Control -1

Time: 10:30- 12:30 Room: Tennis HQ Level 2 Room 2

Session Chair: Dr Apel Mahmud

Time	Author(s)	Paper Title
10:30-10:48	Md. Rifat Hazari, Mohammad Abdul Mannan, S. M. Muyeen, Atsushi Umemura, Rion Takahashi and Junji Tamura	Transient Stability Augmentation of Hybrid Power System Based on Synthetic Inertia Control of DFIG
10:49-11:06	Fu Zheng and Wang Zhang	Long Term Effect of Power Factor Correction on the Industrial Load: A Case Study
11:07-11:24	Sarat Kumar Sahoo, Balamurugan M and Narendiran S	A Novel Control Strategy of Battery Management for Grid Connected Photovoltaic System
11:25-11:42	Sk. A. Shezan and Chow Yin Lai	Optimisation of Hybrid Wind-Diesel-Battery Energy System for Remote Areas of Malaysia
11:43-12:00	Tushar Kanti Roy, Md Apel Mahmud and Amanullah M. T. Oo	Nonlinear Backstepping Controller Design for V2G Applications with Output LCL Filters
12:01-12:18	Prabha Ariyaratna, Kashem Muttaqi and Danny Sutanto	Novel Methodology to Simultaneouly Mitigate Fast and Slow Voltage Fluctuations of Voltage Profile in Distribution Feeder using Battery Storage

Session 18: Power system operation and planning – 1
Time: 10:30- 12:30 Room: Tennis HQ Level 2 Room 3
Session Chair: Prof Ahmad Zahedi

Time	Author(s)	Paper Title
10:30-10:48	Bernd Brinkmann, Karl Bicevskis, Robert Scott and Michael Negnevitsky	Evaluation of Single- and Three-Phase State Estimation in Distribution Networks
10:49-11:06	Ujjwal Datta, Akhtar Kalam and Juan Shi	An approach in dual-control of battery energy storage systems in windfarm output power smoothing
11:07-11:24	Hongwei Tang, Wei Tang, Xianhu Wang and Jingjing Zheng	Optimal Combining Scheme to Reduce Power Loss in Distribution System by Considering Carbon Emission
11:25-11:42	Jan-Harm Pretorius, Sedge Pillay and Daniel de Canha	The selection of renewable energy technologies and their cost implications for a developing country: the case of South Africa
11:43-12:00	Brent Pawlik, Darren J. Woodhouse and Terrence J. Summers	Power System Earth Return Impedance and the Complex Ground Return Plane Approximation
12:01-12:18	Mohammad Seydali Seyf Abad, Gregor Verbic, Archie Chapman and Jin Ma	A Linear Method for Determining the Hosting Capacity of Radial Distribution Systems

Session 19: Power quality, fault diagnosis and protection- 2
Time: 13:30- 15:30 Room: Tennis HQ Level 2 Room 1
Session Chair: Prof. Lars Abrahamsson

Time	Author(s)	Paper Title
13:30-13:48	Dunwen Song, Shiying Ma, Xue Sun and Dechang Yang	A New Method of Fault Location in the Mine Distribution System Based on the RBF Network
13:49-14:06	Douglas Pinto Sampaio Gomes, Cagil Ozansoy and Anwaar Ulhaq	High-Frequency Spectral Analysis of High Impedance Vegetation Faults on a Three-wire System
14:07-14:24	Shibo Lu, B. T. Phung and Daming Zhang	Study on DC Series Arc Fault in Photovoltaic Systems for Condition Monitoring Purpose
14:25-14:42	Muhammad Ansari and Dan Martin	Preliminary Assessment of Using Optical Fibre Sensors to Measure Moisture in Transformers
14:43-15:00	Lars Abrahamsson	AC cables strengthening railway low frequency AC power supply systems -- a deepened study
15:01-15:18	Lakshitha Naranpanawe and Chandima Ekanayake	Applications of FEM in Condition Monitoring of Transformer Clamping System
15:19–15:36	Seyed Behzad Naderi,, Mehdi Jafari, Amir Zandnia, Amin Jalilian, Pooya Davari, Michael Negnevitsky and Frede Blaabjerg	Investigation on Capacitor Switching Transient Limiter with a Three phase Variable Resistance

Session 20: Power System Stability and Control -2
Time: 13:30 - 15:30 Room: Tennis HQ Level 2 Room 2
Session Chair: A/Prof. Jahangir Hossain

Time	Author(s)	Paper Title
13:30-13:48	Jason David and Sean Elphick	Cause and Effect of Overvoltage on the LV Network
13:49-14:06	Ruidong Liu, Gregor Verbic and Yan Xu	A New Reliability-Driven Intelligent System for Power System Dynamic Security Assessment
14:07-14:24	Alberto Sarnari and Rastko Živanović	Augmenting Load Flow Software for Reliable Steady-State Voltage Stability Studies
14:25-14:42	Ahvand Jalali and Mohammad Aldeen	Dynamic Voltage Stability Procurement of Power Systems Using Energy Storage Devices
14:43-15:00	GM Shafiullah, Bond Watson, Christopher Lund and Md Moktadir Rahman	Voltage optimisation technology for an Australian abattoir to reduce power quality impacts and energy costs

Session 21: Power system operation and planning – 2
Time: 13:30- 15:30 Room: Tennis HQ Level 2 Room 3
Session Chair: Prof Amit Kumar Manocha and Dr Yajvender Pal Verma

Time	Author(s)	Paper Title
13:30-13:48	Ze Yuan, Jianhua Yang, Weizhou Wang, Jing Peng, Jingjing Zheng and Fuchao Liu	Case Library Construction Technology of Energy Loss in Rural Distribution Networks Considering the Regional Differentiation
13:49-14:06	Mohammad. J. Hadidian Moghaddam, Akhtar Kalam, Juan Shi, Mohammadreza Miveh and Pejman Peidaee	Supplying the Load by the Optimization of a Stand-alone Hybrid Power System Using Firefly Algorithm Considering Reliability Indices
14:07-14:24	Ali Azizivahed, Sahand Ghavidel, Mojtaba Jabbari Ghadi, Li Li and Jiangfeng Zhang	A Novel Reliability Oriented Bi-Objective Unit Commitment Problem
14:25-14:42	Jan Harm C Pretorius and Thando Montso	Distribution Network Reliability Enhancement Through Reliability Based Methodology : A Case Study in Soweto Eskom Distribution
14:43-15:00	K. Prakash, F. R. Islam, K. A. Mamun and S. Aliamit	Optimal Generators Placement Techniques in Distribution Networks: A Review