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December 9-11, 2019 Newcastle, Australia

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Media Type	Part Number	ISBN
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USB	CFP19F97-USB	978-1-7281-4857-1

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TOPICS

The coverage of the Conference on Smart Grids includes the following areas, but not limited to:

- Distributed Power Energy Systems and Sources,
- Renewable Energy,
- Conventional Power Sources
- New Trends and Technologies for Smart Grid
- Policies and Strategies for Smart Grid
- Microgrids for transportation electrification
- Energy Transformation from Renewable Energy System to Smart Grid
- Novel Energy Conversion Studies for Smart Grid
- HVDC for Smart Grid
- Power Devices and Driving Circuits for Smart Grid
- Performance Analysis of Smart Grid
- Decision Support Systems for Smart Grid
- Control Techniques for Smart Grid
- ICT, IoT, Real-time monitoring and control
- Applications for Industries
- Smart Grid for Electrical Vehicles and Components
- Energy Management Systems, etc.
- Future Challenges and Directions for Smart Grids

LANGUAGE

The working language of the icSmartGrid conference is English

WELCOME to icSmartGrid 2019

Dear Colleagues,

The purpose of the International Conference on Smart Grid (icSmartGrid) 2019 is to bring together researchers, engineers, manufacturers, practitioners and customers from all over the world to share and discuss advances and developments in Smart Grids research and applications.

After the successes of the previous editions of Smart Grid Workshops on behalf of European Commission Joint Research Centre at Antalya in 2013 and 2014, and in February and April 2015, and with technical co-sponsorship of IEEE IES in March 2016 at Istanbul. Then we organized 6th International Conference on Smart Grid with IEEE IES and IAS technical co-sponsorship at Nagasaki on December 4-6, 2018. We are now organizing icSmartGrid at Newcastle/Australia on December 9-11, 2019 to continue promoting and disseminating the knowledge concerning several topics and technologies related to smart energy systems and sources. It is therefore aimed at assisting researchers, scientists, manufacturers, companies, communities, agencies, associations and societies to keep abreast on new developments in their specialist fields and to unite in finding alternative energy solutions to current issues such as the greenhouse effect, sustainable and clean energy issues.

In addition, Successful applications of smart grid, Smart grid policies, Integration of renewable energy sources to smart grid, Production of energy using smart grid technologies, Hybrid smart grid energy system technologies, Novel energy conversion studies in smart grid systems, Driving circuits for smart grid energy systems, Control techniques for smart grid energy systems, Performance analysis of smart grid energy systems under different loads, Computational methods and artificial intelligence studies in smart grids, Optimized power delivery and generation and Self-healing are included in the topics of Smart Grids Conference.

You will find the detail information about this activity on the conference official website. Please visit http://www.icsmartgrid.org/

We are looking forward to seeing you in the well-known city Newcastle, Australia

Professor Yousef IBRAHIM
General Chair, icSmartGrid 2019

Professor Ilhami COLAK
Co-Chair, icSmartGrid 2019

Professor Fujio KUROKAWA
Co-Chair, icSmartGrid 2019

KEYNOTE SPEAKERS

Keynote 1: Professor Terrence Summers, Newcastle University, Australia

Date   : December 9, 2019 10.00-10.50 AM

Terry Summers is a Senior Lecturer at the University of Newcastle. His research interests include electric machines and drives, grid connected power electronics and their applications, industrial electronics, microgrids and renewable energy systems. More recently he has been looking at how power systems may better cope with high penetrations of distributed and renewable generation sources. Dr. Summers has published over 100 refereed journal and conference papers and is a member of the IEEE and Engineers Australia.

Australia's Dilemma with High Penetrations of Renewable Energy and the Potential Implications for the Distribution Grid

Summary: Traditional power systems have been based on large generation units connected to high voltage transmission systems which are subsequently connected to medium and low voltage distribution systems.

The reasons for this are obvious:

• a low levelised cost of electricity;

• good reliability of supply;

• relatively easy planning , analysis, protection and earthing;

• inherent transient storage; and

• safety is able to be handled in a sensible manner.

The advent of cheap solar panels combined with an explosion in the retail cost of electricity in Australia has meant that electricity consumers are now able to generate their own electricity at prices far below the retail price and even below the wholesale price offered by large generators. The first point in the list above is no longer true in Australia and this may have a profound affect on the viability of its energy systems.

This presentation investigates a scenario whereby the bulk of a system's energy is generated locally by small distributed generators and discusses various scenarios as to how the problem of controlling this multitude of distributed sources may be able to be achieved.

Keynote 2: Dr. Shinzo Tamai, Senior Fellow, Power Electronics Systems Division, TMEIC, Japan

Date : December 9, 2019 11.10-12.00 AM

Shinzo Tamai (M'96-SM'18) is currently the Senior Fellow in the Power Electronics Systems Division at Toshiba MitsubishiElectric Industrial Systems Corporation (TMEIC), where he has held several leadership positions in power electronics projects.

Shinzo received his bachelor's and master's degrees from Tokyo Institute of Technology in 1981 and 1983. He then joined Mitsubishi-Electric Corporation, conducting research and development in vector control and field-oriented control of adjustable-speed AC motor drives, large-capacity three-level converters, and reactive power compensators (STATCOMs), UPSs, HVDCs. In 2003, he joined TMEIC, the joint venture in industrial system of two major Japanese companies (Toshiba and MitsubishiElectric). He received a doctorate from Tokyo Institute of Technology in 2004.

Since 2001, he has been a member of board of the Industry Applications Society (IAS) of the Institute of Electrical Engineers of Japan (IEE-Japan). He served as the president of the IAS of IEEJapan from 2010 to 2012. He is a founding member of the Power Electronics Society (PELS) Asian Power Electronics Coordination Committee (APECC) and the Energy Conversion Congress and Exposition (ECCE) Asia Coordinating Committee. He is currently chair of the ECCE Asia Coordinating Committee. He was the vice chair of the steering committee of IEPC-Niigata 2018 within ECCEAsia. He is an IEEJ fellow.

Statement: I am a leader in the field of large-capacity power electronics at Toshiba Mitsubishi-Electric Industrial Systems Corporation (TMEIC), and I manage the international work of the Industry Applications Society (IAS) of the Institute of Electrical Engineers of Japan (IEE-Japan) as a board member.

I strive to concentrate on strengthening, through the IEEE Power Electronics Society (PELS), technical links within Asia and the Pacific. Power electronics technology has the potential to greatly expand. Moreover, I have been working to increase networking among academics, industrial scientists, and engineers in Asia and the Pacific and to mitigate geographical barriers within this area though the active use of the internet.

I also strive to focus on establishing new worldwide links between industry and academia. The challenge of connecting new academic ideas to industrial products should be met with more border-free activities between young professionals from academia, research engineers, and practical engineers in industry.

These are challenging tasks that require cooperation among volunteers and IEEE staff. My work in industry has given me significant accumulated experience and achievements in research and management of implementing my technical and strategic vision, along with my experience as the president of IAS/IEEJapan, in which role I participated in the foundation of the Asian Power Electronics Coordination Committee (APECC) and the Energy Conversion Congress and Exposition (ECCE) Asia Coordinating Committee.

Large-Capacity Inverter Technologies and Their Applications for Industry And Power Systems

Summary: The power converters have been improved with the development of power semiconductors and control technologies. The development of high-speed switching power semiconductors enhanced the market of voltage source converters in many industrial fields. The control technology development made the complicated circuit topologies practically feasible.

About forty-years ago a three-level inverter was firstly presented by Prof. Nabae, Prof. Takahashi and Prof. Akagi. They presented two types of three-level inverters. One is neutral point clumped (NPC) type, the other is neutral point piloted (NPP) type. First practical application of the three-level inverter is NPC type.

As an application of NPC three-level inverter that the rated capacity is several MW, the 4-MVA motor drive system had been presented and applied to the steel mill drive. According to the improvement of the power semiconductors, the rated power of the inverter has been increased. Several tens of MW, extra-large capacity power inverters for motor drives or for power systems are introduced.

The trend of UPS (Uninterruptible Power Source) circuits are introduced as an application of several hundreds of kVA two-level and three-level converters. The comparison of NPC type and NPP type are discussed. Then, MW-rated PCSs (Power Conditioning Systems) for utility-scale PV power generation plants are introduced as practical examples of NPP type three-level inverter.

Finally, as a future technology trend, the MMC (Modular Multilevel Converter) circuit is introduced.

Keynote 3: Professor Brayima Dakyo, Université du Havre, France

Date   : December 10, 2019 10.00-10.50 AM

Professor Brayima Dakyo received Engineer Dipl. (1984) Doctor in Engineering (1987) degrees from Dakar University (Senegal), Doctoral degree (1988) and Habilitation (1997) from University of Le Havre (France). He has joined the University of Le Havre as Assistant Professor from 1989 to 1999, in the Faculty of Sciences and Technology. He was founder and Director of Electrical and Automatic research Laboratory (GREAH) 1999. From 2000 to now, he is full Professor of Electrical Engineering and Director of Electrical and Automatic Research Team of Le Havre (GREAH). (15 full professors and Assistant professors plus 20 Ph D students among whom six are averagely involved in renewable energies field). Professor Dakyo is general advisor of the electrical engineering department Master degree and bachelor degree.

Professor Dakyo has published and co-authored more than 180 papers in scientific journals and conference proceedings since 1987. He has been the advisor of 20 Ph.D. and numerous M.Sc. students. Professor Dakyo current interests include power electronic, converter fed electrical machines, electrically powered systems, wind, solar, tidal energy and hydrogen systems, Multisource applications, diagnostic. He Co-authored three books (power electronic, marine & wind energy, power management).

He has been, with his team, "Best Paper" Awarded twice from conference EVER Monaco in 2011 and 2012. "Outstanding paper" Awarded from ICRERA conference Nagasaki in 2012.

He performed 5 years R&D collaborative project with Thales Air System on innovative power supply for radar subsystems from 2007 to 2012 He has been Coordinator of the French R&D cluster for offshore win farm application located in Normandy from 2011 to 2015. He is participating to the project consortium "ITEG" -Integrating Tidal energy into the European Grid on the timeline 2017-2020.

The Role of Advanced Power Flux Management Strategies of A Multi-Source in Facilitating Cooperative Energy Sharing

Summary: The development of "dispersed" production has put emphasis on microgrids concept and has induced hybrid systems that simultaneously use several energy sources via electricity vector. DC microgrid is expected to more advantages tied to simpler control system with mitigated issues of mains and harmonics frequencies synchronization and without reactive power flow exchange. DC microgrid provide potentially viable and economic solutions for future energy needs. It is hence becoming an attractive solution for residential or industrial applications, for islanding functionality, for integration of different kind renewable energy source (RES) and energy storage systems, for the Hybrid or electric vehicles. Both Electro mobility and RES growths have scaled up constraints in terms of design and control of energy exchange into so called multisource systems and their related units of Supervisory Control And Data Acquisition (SCADA).

As strong or weak ac grid is commonly use to provide, to share or to compensate energy need over a given wider area, special demand of grid codes must be considered because it is known that Isolated systems are subjected to potentially poorer exchanged power quality.

This keynote speech will focus on some key theoretical and practical developments that concern energy flux better transfer strategies, multi objective power converters design and real time control of storage units. Special interest will be put on their design methodology, control principle and the possible final applications.

Keynote 4: Professor Xinghuo Yu, Royal Melbourne Institute of Technology, Melbourne, Australia

Date : December 9, 2019 11.10-12.00 AM

Professor Xinghuo Yu is an Associate Deputy Vice-Chancellor and Distinguished Professor at RMIT University (Royal Melbourne Institute of Technology), Melbourne, Australia. He chairs RMIT Professorial Academy.

He is the President of IEEE Industrial Electronics Society, and a Non-Executive Director of Oceania Cyber Security Centre Limited. He received BEng and MEng degrees from the University of Science and Technology of China, Hefei, China, in 1982 and 1984, and PhD degree from Southeast University, Nanjing, China in 1988, respectively. He started his professional career in 1989 as a Postdoctoral Fellow with the University of Adelaide, Adelaide, Australia. In 1991, he joined Central Queensland University, Rockhampton, Australia, where, before he left in 2002, he was Chair Professor of Intelligent Systems. Since 2002, he has been with RMIT University, where he held various senior academic and managerial positions.

His main research areas include control systems engineering, intelligent and complex systems, and smart grids and energy systems. He received many awards and honours for his contributions, including the prestigious 2018 MA Sargent Medal from Engineers Australia, the 2018 Australasian AI Distinguished Research Contribution Award from the Australian Computer Society, and the 2013 Dr.-Ing. Eugene Mittelmann Achievement Award from IEEE Industrial Electronics Society. He was named a Highly Cited Researcher by Clarivate Analytics (formerly Thomson Reuters) in 2015-2019. He is a Fellow of the IEEE, Engineers Australia, Australian Computer Society, and Australian Institute of Company Directors.

Smart Grids: An Artificial Intelligence Perspective

Summary: Artificial Intelligence (AI) as an enabling intelligent systems technology is playing a more and more important role in today's industry and society. Smart Grids (SGs) as a typical Cyber-Physical System represent electric networks that can intelligently integrate the actions of all users (e.g. generators and prosumers) in order to efficiently deliver sustainable, economic and secure electricity supplies. The recent fast advances in AI have provided a powerful methodology for SG to deal with demand for deeper control, increased cross connectivity, embedded generation, smart metering and using wires as carriers for information transmission. On the other hand, SGs present technical challenges that AI needs to address.

In this talk, we will first discuss some recent developments in both AI and SG and then examine potential issues associated with interplay and integration between them to bring out the best of both fields. We will also touch on potential new thinking paradigms beyond AI to deal with complexity arising from these systems, speculating potential methodologies inspired by the Nature as future smart technologies. Several real-world cases, including some of our own research projects, will be used as case studies. Finally, we will lay out the potential issues and challenges for future developments.

CONFERENCE PROGRAM SUMMARY

Program Summary of icSmartGrid 2019, December 9-11, 2019, Newcastle, Australia				
	Monday, 9 December 2019		**Tuesday, 10 December 2019**		**Wednesday, 11 December 2019**
08:00-08:30	Arrival Tea and Coffee	08:00-08:30	Arrival Tea and Coffee	08:00-08:30	Arrival Tea and Coffee
08:30-17:00	Registration	08:30-17:00	Registration	08:30-17:00	Registration
09:30-10:00	Opening Ceremony (30 Min)		Keynote Speech-III (50 Min)	09:00-10:40	Session-5 4 PAPERS (4*25=100 Min)
10:00-10:50	Keynote Speech-I (50 Min)	10:00-10:50	Keynote Speech-III (50 Min)		Session-5 4 PAPERS (4*25=100 Min)
10:50-11:10	Coffee Break	10:50-11:10	Coffee Break	10:40-10:55	Coffee Break
11:10-12:00	Keynote Speech-II (50 Min)	11:10-12:00	Keynote Speech-IV (50 Min)	10:55-13:00	Session-6 5 PAPERS (5*25=125 Min)
12:00-13:15	Lunch (1Hr 30 Min)	12:00-13:25	Lunch (1Hr 30 Min)	13:00-14:30	Lunch (1Hr 30 Min)
13:15-14:55	Session-1 4 PAPERS (4*25=100 Min)	13:25-15:05	Session-3 4 PAPERS (4*25=100 Min)	14:30-15:15	Closing Session
14:55-15:10	Coffee Break	15:05-15:20	Coffee Break	15:15-15:45	Coffee Break
15:10-16:50	Session-2 4 PAPERS (4*25=100 Min)	15:20-17:25	Session-4 5 PAPERS (5*25=125 Min)		
17:30-19:30	Welcome Reception	18:30-21:30	Banquet		

CONFERENCE PROGRAM SCHEDULE

Date: 09 December 2019	HALL: Pre Function Foyer
08:00-08:30	**Arrival Tea and Coffee**

Date: 09 December 2019	HALL: Pre Function Foyer
08:30–17:00	**Registration**

Date: 09 December 2019	HALL: Hannell Room
09:20-10:00	Opening Ceremony and Speeches: -Prof. Yousef IBRAHIM, General Chair, icSmartGrid 2019 -Prof. Fujio KUROKAWA, General Co-Chair, icSmartGrid 2019 -Prof. Ilhami COLAK, General Co-Chair, icSmartGrid 2019 **Chairs: Terrence Summers, Nobumasa Matsui**

KEYNOTE	HALL: Hannell Room
10:00-10:50	Professor Terrence Summers, **"Australia's Dilemma with High Penetrations of Renewable Energy and the Potential Implications for the Distribution Grid"** **Chairs: Fujio Kurokawa, Yousef Ibrahim**

10:50-11:10	**COFFEE BREAK**

KEYNOTE	HALL: Hannell Room
11:10-12:00	Dr. Shinzo Tamai, **"Large-Capacity Inverter Technologies and Their Applications for Industry And Power Systems"** **Chairs: Hitoshi Arima, Esrom M Malatji**

12:00-13:15	**LUNCH BREAK (Hannell Room)**

ORAL PRESENTATIONS

Date: 09 December 2019	HALL: Hannell Room
SESSION 1	SESSION CHAIRS: Anusuya Arunan, Tan Duy Le

13:15-13:40	**ID:31 A Comparative study between Robust Control Sliding Mode and Backstepping of a DFIG Integrated to Wind Power System** Lakhdar Saihi*, Youcef Bakou (Unité de Recherche en Energies Renouvelables en Milieu Saharien URERMS, Centre de Développement des Energies Renouvelables CDER, Adrar, Algeria); Abdelkader Harrouz (Department of Hydrocarbon and Renewable Energy, LDDI Laboratory, University Ahmed Draia, Adrar, Algeria); Ilhami Colak, Korhan Kayisli (Department of Electrical and Electronics Eng., Faculty of Engineering Architecture, Nisantasi University, Istanbul, Turkey); Ramazan Bayindir (Gazi University, Department of Electrical and Electronics Eng., Faculty of Technology, Ankara, Turkey)
13:40-14:05	**ID:3 Partial Shading Impact on PV Array System and the Hard-Shading Location with BP Algorithm** Wei Yin (State Grid Suzhou Power Supply Company); Qinyi Tong (State Grid Suzhou Power Supply Company); Yang Xu (State Grid Suzhou Power Supply Company); Yong Zhang (Zhejiang University)*; Yongzhi Zhou (Zhejiang University)
14:05-14:30	**ID:32 A Robust Controller Based on Sliding Mode Technique of DFIG Integrated to Wind Energy System** Youcef Bakou*, Lakhdar Saihi , Youcef Hammaoui (Unité de Recherche en Energies Renouvelables en Milieu Saharien URERMS, Centre de Développement des Energies Renouvelables, Algeria); Abdelkader.Harrouz (Department of Hydrocarbon and Renewable Energy, LDDI Laboratory, University Ahmed Draia, Algeria); Ilhami Colak, Korhan Kayisli (Department of Electrical and Electronics Eng., Faculty of Engineering Architecture, Nisantasi University, Istanbul, Turkey); Mohamed Abid (IRECOM Laboratory, Electrical Department, University of Djillali Liabès, Sidi Bel Abbès, Algeria); Ramazan Bayindir (Gazi University, Department of Electrical and Electronics Eng., Faculty of Technology, Ankara, Turkey)
14:30-14:55	**ID:6 A Novel Torsional Vibration Mitigation Strategy for DFIG Based Wind Turbines** Chanditha karunanayake (UNSW)*, J Ravishankar(UNSW), Z Y Dong (UNSW)

14:55-15:10	**COFFEE BREAK**

SESSION 2	SESSION CHAIRS: Yong Zhang, Esrom M Malatji

15:10-15:35	**ID:34 Technical - Economic Study for the Implementation of Solar Energy in the Presence of Biomass and Micro Hydraulic Generation, for Sectors that do not Have Electricity Supply in the Province of Bolívar- Ecuador** Daniel Icaza (Catholic University of Cuenca, Cuenca, Ecuador)*; Danny F Hurtado Romero (Catholic University of Cuenca, Cuenca, Ecuador)
15:35-16:00	**ID:8 Centralized Voltage Signal-Based Fault Detection and Classification for Islanded AC Microgrid** Anusuya Arunan (University of New South Wales)*; Jayashri Ravishankar (UNSW), Eliathamby Ambikairajah (UNSW)
16:00-16:25	**ID:9 Smart Grid Co-Simulation Tools: Review and Cybersecurity Case Study** Tan Duy Le (Japan Advanced Institute of Science and Technology)*; Adnan Anwar (Deakin Univeristy); Razvan Beuran (Japan Advanced Institute of Science and Technology); Seng Loke (Deakin univeristy)
16:25-16:50	**ID:10 Hot Water Demand Prediction Method for Operational Planning of Residential Fuel Cell System** Yuta Tsuchiya (Waseda University)*; Yu Fujimoto (Waseda University); Akira Yoshida (Waseda University); Yoshiharu Amano (Waseda University); Yasuhiro Hayashi (Waseda University)

Date: 09 December 2019	
17:30-19:30	**Welcome Reception (Hannell Room)**

Date: 10 December 2019	HALL: Pre Function Foyer
08:00-08:30	**Arrival Tea and Coffee**

Date: 10 December 2019	HALL: Pre Function Foyer
08:30–17:00	**Registration**

Date: 10 December 2019	
KEYNOTE	**HALL: Hannell Room**
10:00-10:50	Professor Xinghuo Yu, **"Smart Grids: An Artificial Intelligence Perspective"** **Chairs: Brayima Dakyo, Alo Allik**
10:50-11:10	**COFFEE BREAK**
KEYNOTE	**HALL: Hannell Room**
11:10-12:00	Professor Brayima Dakyo, **"The Role of Advanced Power Flux Management Strategies of A Multi-Source in Facilitating Cooperative Energy Sharing"** **Chairs: Shinzo Tamai, Daniel Icaza**
12:00-13:25	**LUNCH BREAK (Hannell Room)**
	ORAL PRESENTATIONS

Date: 10 December 2019	HALL: Hannell Room
SESSION 3	**SESSION CHAIRS: Yona Andegelile, Tesfaye Amare Zerihun**
13:25-13:50	**ID:35 Modeling and Simulation of Polycrystalline Silicon Photovoltaic Cells** Abdelhakim Belkaid (Bordj Bou Arreridj University)*; Ilhami Colak (Nisantasi University); Korhan KAYISLI (Nisantasi University); Mustapha SARA (University of Bordj Bou Arreridj); Ramazan Bayindir (Gazi University)
13:50-14:15	**ID:12 SDN Based High Availability Communication Network Architecture for Secondary Distribution Electric Power Grid Automation** Yona Andegelile (University of Dar es Salaam)*; Mussa Kissaka (University of Dar es Salaam); Nerey Mvungi (University of Dar Es Salam)
14:15-14:40	**ID:13 Power System Operation During Solar Eclipses: International Lessons Applied in Australia** Aaron Millican (AEMO)*, Darren Spoor (AEMO)
14:40-15:05	**ID:36 Pricing Scheme for EV Charging Load Penetration in Distribution Network: Study Case Jakarta** Ardy Gamawanto (Institut Teknologi Bandung)*; Muhamad Urfan Qinthara (Institut Teknologi Bandung); Fathin Saifur Rahman (Institut Teknologi Bandung); Kevin M. Banjar Nahor (Institut Teknologi Bandung); Nanang Hariyanto (Institut Teknologi Bandung)
15:05-15:20	**COFFEE BREAK**
SESSION 4	**SESSION CHAIRS: Yuta Tsuchiya, Aaron Millican**
15:20-15:45	**ID:37 Interoperability in Smart Grid** Faten Faten Ayadi (ENIS)*; Ilhami Colak (Nisantasi University); Ramazan Bayindir (Gazi University)
15:45-16:10	**ID:16 A Method for Performability Study on Wide Area Communication Architectures for Smart Grid** Tesfaye Amare Zerihun (NTNU - Norwegian University of Science and Technology)*, CHARLES MAWUTOR ADRAH (NTNU), Bjarne Emil Helvik (NTNU - Norwegian University of Science and Technology)
16:10-16:35	**ID:17 A Comparison of Optical Transport Technologies for Wireless Communications Using Optical Ground Wire in Smart Grid** Kensuke Ikeda (Central Research Institute of Electric Power Industry)*; Christina Lim (University of Melbourne); Ampalavanapillai Nirmalathas (University of Melbourne); Chathurika Ranaweera (Deakin University)
16:35-17:00	**ID:18 Evaluation of Wireless Communication for Maintenance of Underground Power Transmission Lines** Michifumi Miyashita (Central Research Institute of Electric Power Industry)*
17:00-17:25	**ID:38 A Consideration of Model Based Design of Smart Grid System** Hitoshi Arima (Arima Management Design, Ltd. Tokyo, Japan); Yuji Mizuno (Department of Biomedical Engineering Osaka Electro-Communication University Osaka, Japan); Nobumasa Matsui (Institute for Innovative Science and Technology Nagasaki Institute of Applied Science, Nagasaki, Japan); Shinichiro Hattori(Isahaya Electronics Corporation, Nagasaki, Japan) ;Fujio Kurokawa (Institute for Innovative Science and Technology Nagasaki Institute of Applied Science Nagasaki, Japan)

Date: 10 December 2019	
18:30-20:30	**BANQUET (Harbour Terrace)**

Date: 11 December 2019	HALL: Pre Function Foyer
08:00-08:30	**Arrival Tea and Coffee**

Date: 11 December 2019	HALL: Pre Function Foyer
08:30–13:00	**Registration**

ORAL PRESENTATIONS

Date: 11 December 2019	HALL: Hannell Room

SESSION 5	SESSION CHAIRS: Michifumi Miyashita, Xiaolu Li
09:00-09:25	**ID:19 Movement Based Energy Management Models for Smart Buildings** Alo Allik (Estonian University of Life Sciences)*
09:25-09:50	**ID:20 Integrated Smart Heating System in Historic Buildings** Heiki Lill (Estonian University of Life Sciences); Janar Kalder (Estonian University of Life Sciences); Kristjan Loite (Estonian University of Life Sciences); Alo Allik (Estonian University of Life Sciences); Andres Annuk (Estonian University of Life Sciences)*
09:50-10:15	**ID:22 Performance Evaluation of Solar Roof-Top PV on Eskom's LV Electric Power Distribution Networks** Innocent E Davidson (Durban University of Technology)*; Rodney Reddy (Durban University of Technology)
10:15-10:40	**ID: 30 On & Off-Grid Hybrid Microgrid Design and Dynamic Analysis** Umit Cetinkaya, Ramazan Bayindir (Department of Electrical and Electronics Engineering Gazi University)
10:40-10:55	**COFFEE BREAK**

SESSION 6	SESSION CHAIRS: Kensuke Ikeda, Innocent E Davidson
10:55-11:20	**ID:24 The use of dynamic tariff by the utilities to counter act the influence of renewable energy sources** Esrom M Malatji (University of Johannesburg)*
11:20-11:45	**ID:25 Comparison of Different Optimal Placement Models of FACTS Devices in Power System Networks on a Limited Budget** Esrom M Malatji (University of Johannesburg)*
11:45-12:10	**ID:26 Boundary Device Management Tool for Distribution Network Model Resource Center in Advanced Distribution Management System** Yi Ding (Electric Power Research Institute of State Grid Tianjin Electric Power Company), Xiaolu Li (Shanghai University of Electric Power) *, Congli Li (State Grid Tianjin Electric Power Company), Fei Teng (State Grid Tianjin Electric Power Company), Yue Zheng (State Grid Tianjin Electric Power Company)
12:10-12:35	**ID:29 Performance Enhancement of Hybrid Solar PV-Wind System Based on Fuzzy Power Management Strategy: A Case Study** Harrouz Abdelkader (Department of Hydrocarbon and Renewable Energy, Laboratory (LDDI), University of Adrar, Algeria)*; Saidi Ahmed (Tahri Mohammed University); Ilhami Colak (Nisantasi University); Korhan KAYISLI (Nisantasi University); Ramazan Bayindir (Gazi University)
12:35-13:00	**ID:28 Forecasting of Electric Energy Consumption for Housing Cooperative with a Grid Connected PV System** Jorge Solis (Karlstad University)*; Tomohiro Oka (Karlstad University); Johan Ericson (Karlstad University); Magnus Nilsson (Glava Energy Center)
13:00-14:30	**LUNCH BREAK (Hannell Room)**

Date: 11 December 2019	HALL: Hannell Room
14:30-15:15	**CLOSING SESSION** **Chairs: Matthew Davison, Jorge Solis**
15:15-15:45	**COFFEE BREAK**

Presentation Instruction for icSmartGrid 2019 Presenters

Oral presentation

Presentation time is 20 min. Question/Discussion is 5 min. Organizer will prepare Windows OS desktop computer with MS Office Standart 2010 in each room. Presenters can also bring their own laptop. PPT files should be uploaded to desktop computer during recess before the session. Presenter should meet session chair(s) during recess before the presentation and pass a brief bio or business card to session chair(s).

Internet:

Wireless Internet access will be available in conference saloons and halls.
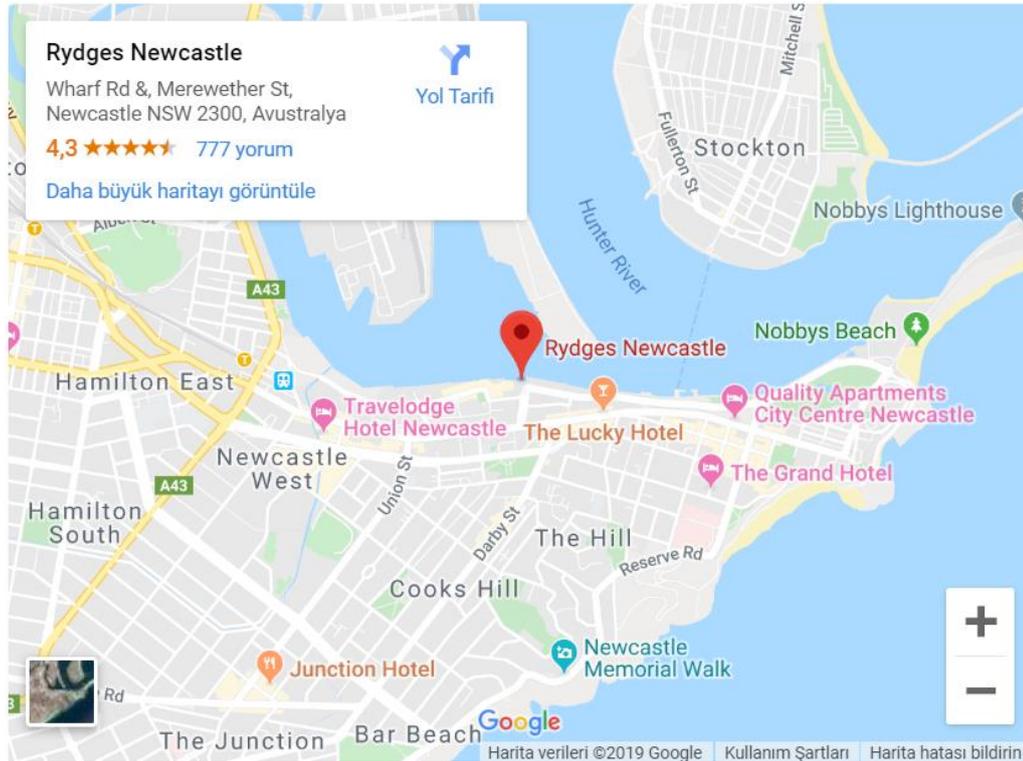
General Information

Venue

Rdyges Newcastle Hotel

Address: Wharf Rd and Merewether St, Newcastle NSW 2300 Australia

Phone:+61 2 4907 5000

E-Mail:reservations_rydgesnewcastle@evt.com

Venue Map

Welcome Reception (December 9, 2019 Hours: 17:30-19:30)

Rdyges Newcastle Hotel

Hannell Room

Banquet (December 10, 2019 Hours: 18:30-21:30)

Rdyges Newcastle Hotel

Harbour Terrace