

10th INTERNATIONAL CONFERENCE on SMART GRID
(icSmartGrid2022)



Istanbul, Turkey 27 June-29 June 2022

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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 [icSmartGrid2022](#) conference is English.

WELCOME to icSmartGrid 2022

Dear Colleague,

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

After the successes of the first and the second editions of Smart Grid Workshops on behalf of European Commission Joint Research Centre at Antalya in September 18-20, 2013 and in September 23-25 April, 2014, the third addition at Istanbul in February 22, 2015, the fourth addition at Istanbul in April 28, 2015, fifth addition at Istanbul in March 21-25, 2016 with the technical co-sponsorship of IEEE IES, the sixth addition at Nagasaki in December 4-6, 2018 with technical co-sponsorship of IEEE IES and IAS, the seventh addition at Newcastle, Australia in December 9-11, 2019, the eighth addition at Paris, France in 2020 with the technical co-sponsorship of IEEE IES and IAS, the ninth addition at Setubal, Portugal in 2021 with the technical co-sponsorship of IEEE IES and IAS, we are now organizing the tenth International Conference on Smart Grid at Istanbul, Turkey, in 2022 with the technical co-sponsorship of IEEE IES and IAS. icSmartGrid will 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.

However, due to spread of COVID-19 all over the World, we received the permission from IEEE to organize icSmartGrid as a Hybrid (on-line and on-side).

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



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Mr. Hidehiko KIKUCHI

Senior Advisor, Toshiba
Mitsubishi-Electric Industrial
Systems Corporation (TMEIC),
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Professor Fujio KUROKAWA

KEYNOTE SPEAKERS

Keynote 1: Mr. Masayuki TOBITA, Vice President of TMEIC, Japan

Date : June 27, 2022 09.40-10.40



Mr. Masayuki Tobita graduated from master course of Electrical and Electronic Engineering, Tokyo Institute of Technology in 1994, where he majored in Power Electronics. He joined Toshiba Corporation in April 1994, developed his carrier as the engineer and made excellent technical achievements in high-capacity power electronics applications. In October 2003, he moved to Toshiba MitsubishiElectric Industrial Systems Corporation (TMEIC), Tokyo, Japan, when the joint venture between Toshiba and Mitsubishi-Electric was established. At that time, he was Specialist of Power Electronics Department. He became Senior Manager of Power Electronics Department in 2013 and Senior Manager of Energy & Environment Power Electronics Systems Department in 2014. He became Senior Manager of Planning & Administration Department in 2017. He was President & CEO of Power Electronics Products Corporation in Houston from 2019. From June 2021 to present, he is Vice President of Power

Electronics System division.

Carbon Neutrality Accelerated by Power Electronics

Summary: In Glasgow last year, in COP26, countries discussed on the global issue, namely, to achieve Carbon Neutrality by 2050. Before COP26, the IPCC 6th report was issued and suggested that the global warming continues with rather high rate. IEA prepared a report to COP26 including the state of CO2 emission and suggested that present policies were insufficient for Carbon Neutrality and that acceleration of renewables would be necessary. IEA especially suggested accelerating energy transition by 2030, middle milestone to 2050. In addition to those suggestions, the recent geopolitical issue forced countries to focus on energy security and to accelerate renewables.

TMEIC continues to develop power electronics technology under the concept of "PEiE", Power Electronics in Everything. This speech introduces that power electronics is a key technology essential for accelerating energy transition and for achieving Carbon Neutrality.

To accelerate achieving Carbon Neutrality, recommendation is made to increase renewables furthermore. For increasing renewables, the digital networks are required to manage the dynamic balance among generation, energy storage, and consumption. In industries, clean manufacturing technologies, including electrification for example, are necessary and now under development. In the fields of transportation, steel, and synthetic chemistry, where electrification is difficult to be applied, developments are proceeded to use Green Hydrogen as fuel or as raw material.

To the global trends, the power electronics technology contributes in various aspects. It works in power conversion of renewables and of energy storages and works in long distance power transmission from remote renewables. For producing Green Hydrogen, the power electronics supplies high DC current to electrolyzers. For digital networks for dynamic energy balancing, the power electronics feeds stable power to the server centers. For industries, the power electronics improves energy efficiency in the motor drive systems. The power electronics supports electrifications by supplying high-frequency power and DC power to induction heating and to arc furnaces, respectively. The power electronics technology also contributes to the other industrial fields as the fundamental technology.

In summary, the power electronics contribute to form the infrastructures of future clean energy networks in every sector. The power electronics is greatly expected as one of key technologies to accelerate energy transition to Carbon Neutrality.

Keynote 2: Professor Frede Blaabjerg, Aalborg University, Denmark

Date : June 27, 2022 11.00-12.00



Frede Blaabjerg (S'86–M'88–SM'97–F'03) was with ABB-Scandia, Randers, Denmark, from 1987 to 1988. From 1988 to 1992, he got the PhD degree in Electrical Engineering at Aalborg University in 1995. He became an Assistant Professor in 1992, an Associate Professor in 1996, and a Full Professor of power electronics and drives in 1998. From 2017 he became a Villum Investigator. He is honoris causa at University Politehnica Timisoara (UPT), Romania and Tallinn Technical University (TTU) in Estonia.

His current research interests include power electronics and its applications such as in wind turbines, PV systems, reliability, harmonics and adjustable speed drives. He has published more than 600 journal papers in the fields of power electronics and its applications. He is the co-author of four monographs and editor of ten books in power electronics and its applications.

He has received 33 IEEE Prize Paper Awards, the IEEE PELS Distinguished Service Award in 2009, the EPE-PEMC Council Award in 2010, the IEEE William E. Newell Power Electronics Award 2014, the Villum Kann Rasmussen Research Award 2014, the Global Energy Prize in 2019 and the 2020 IEEE Edison Medal. He was the Editor-in-Chief of the IEEE TRANSACTIONS ON POWER ELECTRONICS from 2006 to 2012. He has been Distinguished Lecturer for the IEEE Power Electronics Society from 2005 to 2007 and for the IEEE Industry Applications Society from 2010 to 2011 as well as 2017 to 2018. In 2019-2020 he served as a President of IEEE Power Electronics Society. He has been Vice-President of the Danish Academy of Technical Sciences.

He is nominated in 2014-2020 by Thomson Reuters to be between the most 250 cited researchers in Engineering in the world.

Power Electronics — The Key Technology For Grid Integration

Summary: The energy paradigms in many countries (e.g., Germany and Denmark) have experienced a significant change from fossil-based resources to clean renewables (e.g., wind turbines and photovoltaics) in the past few decades. The scenario of highly penetrated renewables is going to be further enhanced – Denmark expects to be 100 percent fossil-free by 2050. Consequently, it is required that the production, distribution and use of the energy should be as technologically efficient as possible and incentives to save energy at the end-user should also be strengthened. In order to realize the transition smoothly and effectively, energy conversion systems, currently based on power electronics technology, will again play an essential role in this energy paradigm shift. Using highly efficient power electronics in power generation, power transmission/distribution and end-user application, together with advanced control solutions, can pave the way for renewable energies.

In light of this, some of the most emerging renewable energies — , e.g., wind energy and photovoltaic, which by means of power electronics are changing character as a major part in the electricity generation — , are discussed. Issues like technology development, implementation, power converter technologies, control of the systems, and synchronization are addressed. Special focuses are paid on the future trends in power electronics for those systems like how to lower the cost of energy and to develop emerging power devices and better reliability tool.

Keynote 3: Professor Chris Mi, San Diego State University, USA

Date : June 27, 2022 12.00-13.00



Dr. Mi is the Professor and Chair of the Department of Electrical and Computer Engineering at San Diego State University. He is a Fellow of IEEE (Institute of Electrical and Electronics Engineers) and SAE (Society of Automotive Engineers). He is also the Director of the US Department of Energy-funded Graduate Automotive Technology Education (GATE) Center for Electric Drive Transportation at SDSU. He was previously a faculty member at the University of Michigan-Dearborn from 2001 to 2015, and an Electrical Engineer with General Electric from 2000 to 2001. He also served as the CTO of 1Power Solutions from 2008 to 2011. Dr. Mi received his Ph. D from the University of Toronto, Canada, in 2001.

Dr. Mi has won numerous awards, including the “Distinguished Teaching Award” and “Distinguished Research Award” from the University of Michigan-Dearborn, IEEE Region 4 “Outstanding Engineer Award,” IEEE Southeastern Michigan Section “Outstanding Professional Award,” and SAE “Environmental Excellence in Transportation (E2T) Award.” He is the recipient of three Best Paper Awards from IEEE Transactions on Power Electronics and the 2017 ECCE Student Demonstration Award. In 2019, he received the Inaugural IEEE Power Electronics Emerging Technology Award. In 2022, he received the Albert W. Johnson Lecture Award and named the Distinguished Professor, the highest honor for any given to a SDSU faculty member and only one award is given each year.

Dr. Mi has received over \$5.8 million in research funding since joining SDSU in 2015. He has published five books, 204 journal papers, 126 conference papers, and 25 issued and pending patents. He served as Editor-in-Chief, Area Editor, Guest Editor, and Associate Editor of multiple IEEE Transactions and international journals, as well as the General Chair of over ten IEEE international conferences.

Wireless Power Transfer – from Science Fiction to Reality

Summary: Over the past 100 years, scientists have been searching for solutions to realize wireless power transfer reliably and efficiently. Their goal? A tether-free world. It is only in the past ten years that this has become reality. With the help of semiconductor devices, electromagnetic materials, and microcomputers, we can now not only charge a cell phone wirelessly, but we can also charge an electric car or a humongous electric ship without plugging it in. In this talk, Professor Chris Mi will look at how his work has made wireless power transfer cheaper, faster, safer and more efficient, enabling cable-free conference rooms, battery-less drones, and factories populated by untethered robots and autonomous vehicles.

TUTORIALS

Speaker 1: Professor Rosario Miceli, Italy

Date : June 28, 2022 11.00-12.00



Rosario Miceli received the MSc and Ph.D. degree in Electrical Engineering from the University of Palermo, respectively in 1982 and 1987. From 1992 he was Assistant Professor and from 2003 Professor of Electrical Machines at University of Palermo, Italy. He is currently Professor of Electrical Machines, Power Electronics and Systems Automation with the Faculty of Engineering, University of Palermo. He is Personnel-in-Charge of the Sustainable Development and Energy Savings Laboratory of the Palermo Athenaeum. His main research interests include mathematical models of electrical machines, drive-system control, diagnostics, renewable energies, and energy management. He has published more than 150 technical papers, 1 chapter of a book and a book

(Energy Management via Connected Household Appliances. vol. 1, p. 1-162, McGraw-Hill, ISBN:978-88-386-6676-6).

Hybrid Energy Storage Systems: perspectives, challenges applications

Summary: Energy Storage Systems (ESSs) are the keystone to improve the Renewable Energy Sources (RESs) penetration and achieve zero-emissions transportation systems. However, no single energy storage solution is suitable for every application. In many cases, the optimal solution is to use a hybrid ESS (HESS), which consists of two or more ESS with complementary characteristics. The attractive features of HESS are the increased flexibility, to possibility to avoid the oversize of the single ESS and the increase of the lifetime of the system. On the other hand, using HESS poses several challenges. Firstly, to take full advantage of the HESS, an appropriate Energy Management System (EMS) must be designed. The EMS main duty is to collect information from individual storage and tries to combine them to provide the best solution in terms of power sharing. Secondly, the optimal sizing of a HESS is a complex task. The HESS sizing must consider several aspects such as achievable performances, installation, operational and maintenance costs, lifetime, weight and volume.

The first part of this keynote will provide a state-of-the-art analysis of the main energy storage technologies and hybrid energy storage system topologies. The second part of the keynote will focus on the different approaches for energy storage management and the optimal sizing algorithm available in literature. In the last part, the main hybrid energy storage system current applications and future trends will be discussed.

Speaker 2: Professor Jian-Xin SHEN, Zhejiang University, China

Date : June 28, 2022 12.00-13.00



Jian-Xin Shen received the B.Eng. and M.Sc. degrees from Xi'an Jiaotong University, China in 1991 and 1994, respectively, and the Ph.D. degree from Zhejiang University, China in 1997, all in electrical engineering. He was with Nanyang Technological University, Singapore (1997-1999), the University of Sheffield, UK (1999-2002), and IMRA Europe SAS, UK Research Centre, UK (2002-2004). Since 2004 he has been a professor of electrical engineering with Zhejiang University, and was a visiting professor at EPFL, Switzerland (2016). He has authored more than 300 technical papers, and is the inventor of more than 40 patents. He won the Nagamori Award in 2019, and received 11 best paper awards from international conferences. He was the General Chair of the

ICEMS2014 and IEEE-VPPC2016 conferences, and the keynote / plenary speaker of 11 international conferences. He is an IET Fellow, an IEEE Senior Member, and, a distinguished lecturer of IEEE VPPC (2018-2022) and IEEE IAS (2022-2023). His main research interests include design, control and applications of electrical machines and drives, and renewable energies.

High Speed PM Machine for Renewable Energy and Smart Grid Applications

Summary: In this lecture, applications of high-speed electrical machines in the area of smart grid will be briefly introduced. Common topologies of such high-speed machines will be reviewed. Design considerations, especially those for permanent magnet (PM) ac machines, will be presented, including the reduction of electromagnetic losses, thermal analysis and design, rotor stress, and rotor dynamics. This tutorial aims to describe the fundamental technical problems in high speed PM ac machines, and help the attendees better understand the analysis and design of the high speed PM machines.

Speaker 3: Professor Erdal Irmak, Türkiye

Date : June 29, 2022 11.00-12.00



Erdal Irmak was born in Ankara, Turkey in 1976. After primary, secondary and high school education, he attended Gazi University, Turkey, where he majored in technical and engineering education. Upon completion of undergraduate education, he received MSc degree in 2001 and PhD degree in 2007 from Graduate School of Natural and Applied Sciences of Gazi University. He has authored or co-authored more than 100 peer-reviewed publications, a great deal of which are focused on electrical energy and power systems, renewable energy technologies and smart grids, interactive applications and up to date training tools for engineering education. Currently, he is full-time Professor in Electrical and Electronics Engineering Department of Gazi University. He is a

member of IEEE.

Stability Issues in Power Systems: Operation and Control of Turkish Transmission Grid

Summary: Recent advances in modern power system such as increase on the electricity consumption, need for low carbon emission targets due to climate changes and the increasingly widespread use of electrical vehicles worldwide lead to considerable changes in transmission networks. In terms of the generation, while traditional power systems are mostly based on thermal, hydro and nuclear plants those consist of high-power synchronous generators, modern power structures include renewable sources that use power electronics interfaces in order to transfer the generated energy to the grid. This situation requires great changes not only infrastructure of power grids but also their operational management. One of the most important reflections of this change is experienced in stability issues.

In similar to other developed and developing countries, the share of renewable sources in installed electricity capacity in Turkey has increased rapidly in the last 15 years. According to March 2022 data, installed power capacity is approximately 100 GW and the share of renewables in this power is about 54%. Utilizing distributed generation by taking the advantage of renewable sources those close to the loads is an advantage for system operators in terms of reducing the infrastructure requirements of transmission networks. However, especially for the systems those have instantly variable power energy sources like renewables, it is very important to be aware of the system dynamics in real time in order to have an idea about the operational stability of the grid and to prevent the system from the failures. Otherwise, protection systems activate automatically and disconnect some plants from the grid, which may lead to either separation of interconnected systems or blackout of whole system as experienced in Turkish power system on March 31, 2015. Therefore, it is of great importance to comprehend the stability issues in a power system such as frequency deviations, supply-demand imbalances, difference between the busbar power angles and so on.

CONFERENCE PROGRAM SUMMARY

Program Summary of icSmartGrid 2022, June 27-June 29, 2022, İstanbul, Turkiye											
Monday, 27 June 2022			Tuesday 28 June 2022				Wednesday 29 June 2022				
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			P13				P28				
			P14				P29				
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10:40-11:00	COFFEE BREAK										
11:00-12:00	Keynote Speech-II (60 Min)		11:00-12:00	Tutorial-I (60 Min)			11:00-12:00	Tutorial-III (60 Min)			
12:00-13:00	Keynote Speech-III (60 Min)		12:00-13:00	Tutorial-II (60 Min)			12:00-13:40	P31	Session-13 5 PAPERS (5*20=100 Min)	Session-14 4 PAPERS (4*20=80 Min)	
			P32								
			P33								
			P34								
13:00-14:00	LUNCH										
14:00-15:40	P1	Session-1 5 PAPERS (5*20=100 Min)	Session-2 5 PAPERS (5*20=100 Min)	14:00-15:40	P16	Session-7 5 PAPERS (5*20=100 Min)	Session-8 5 PAPERS (5*20=100 Min)	14:00-15:40	P36	Session-15 5 PAPERS (5*20=100 Min)	Session-16 5 PAPERS (5*20=100 Min)
	P2				P17				P37		
	P3				P18				P38		
	P4				P19				P39		
	P5		P20		P40						
15:40-16:00	COFFEE BREAK										
16:00-17:40	P6	Session-3 5 PAPERS (5*20=100 Min)	Session-4 5 PAPERS (5*20=100 Min)	16:00-17:40	P21	Session-9 5 PAPERS (5*20=100 Min)	Session-10 5 PAPERS (5*20=100 Min)	16:00-16:30	CLOSING CEREMONY		
	P7				P22						
	P8				P23						
	P9				P24						
	P10		P25								
19:00-20:30	WELCOME PARTY			19:00-20:30	GALA DINNER						

CONFERENCE PROGRAM

Date: 27 JUNE 2022

9:00-9:40	<p style="text-align: center;">OPENING CEREMONY:</p> <p style="text-align: center;">-Mr. Hidehiko Kikuchi, Honorary Chair, icSmartGrid 2022, Japan -Professor İlhami Colak, General Chair, icSmartGrid 2022, Turkey -Professor Fujio Kurokawa, General Co-Chair, icSmartGrid 2022, Japan -Professor Seref Sagiroglu, General Co-Chair, icSmartGrid 2022, Turkey Chairs: Rosario Miceli, Ramazan Bayındır</p>
9:40-10:40	<p style="text-align: center;">Speaker: Mr. Masayuki Tobita, Corporate Senior Executive Vice President, Toshiba Mitsubishi-Electric Industrial Systems Corporation (TMEIC), Japan</p> <p style="text-align: center;">Title: Carbon Neutrality Accelerated by Power Electronics</p> <p style="text-align: center;">Chairs: Fujio Kurokawa, Şeref Sagiroğlu</p>
10:40-11:00	COFFEE BREAK
11:00-12:00	<p style="text-align: center;">Speaker: Professor Frede Blaabjerg, Aalborg University, Denmark</p> <p style="text-align: center;">Title: Power Electronics — The Key Technology For Grid Integration</p> <p style="text-align: center;">Chairs: Haitham Abu-Rub, Massimo Caruso</p>
12:00-13:00	<p style="text-align: center;">Speaker: Professor Chris Mi, San Diego State University, USA</p> <p style="text-align: center;">Title: Wireless Power Transfer – from Science Fiction to Reality</p> <p style="text-align: center;">Chairs: Nobumasa Matsui, Halil İbrahim Bülbül</p>
13:00-14:00	LUNCH

Date: 27 JUNE 2022

PARALLEL SESSION A		PARALLEL SESSION B	
SESSION 1		SESSION 2	
CHAIRS: Abdel Gahni Aissaoui, Erdal Irmak		CHAIRS: Nubumasa Matsui, Erdal Bekiroglu	
14:00-14:20	ID:3 Application of PHEVs Influence on Frequency Regulation of a Two Area Power System Mohammed Ozayr Abdul Kader (Durban University of Technology)*; Kayode Timothy Akindeji (Durban University of Technology); Gulshan Sharma (University of Johannesburg)	ID:14 A Simultaneous Obstacle and Inclination Detection for Macao World Heritage District Photovoltaic Systems Based on GIS and UHF RFID Oi Tai Tai (University of Macau)*; Kam Weng Tam (University of Macau); Iok Fong Lam (University of Macau)	
14:20-14:40	ID:4 Network Slicing On Software Defined Network Using Flowvisor and POX Controller To FlowSpace Isolation Enforcement M.T. Kurniawan (Telkom University)*; Ibram Moszardo (Telkom University); Ahmad Almaarif (Telkom University)	ID:15 Simulation of a Wireless Charging Multiple E-Scooters using PV Array with Class-E Inverter Fed by PI Controlled Boost Converter for Constant Output Voltage Fatih Issi (Cankiri Karatekin University)*; Orhan Kaplan (Gazi University)	
14:40-15:00	ID:6 Hydrogen Energy Storage Based Biogas Power Plant in Bangladesh: Design and Optimal Cost Analysis Amir Hossan (North China Electric Power University, Beijing, China.)*; Suvra Chowdhury (North China Electric Power University, Beijing, China.); Sifat Ahmed Semel (North China Electric Power University, Beijing, China.)	ID:56 An LCC/VSC Hybrid Structure And Its Coordinated Control In Medium-Voltage DC Distribution System Yubin Pang (Southeast University)*; Xiaohui Qu (Southeast University); Wu Chen (Southeast University)	
15:00-15:20	ID:9 Explainable artificial intelligence models using students' academic record data, Tree Family Classifiers, and K-mean Clustering to Predict Students' performance Ammar Almasri (Al-Balqa Applied University)*; Jameel Alsarayah (Al-Balqa Applied University); Daa Salman (Department of Electrical and Electronic Engineering, Cyprus International University, Nicosia, Northern Cyprus, Mersin 10, Turkey.); Ismail Aburagaga (Elmergib University)	ID:17 A Realistic Failure Propagation Model for Smart Grid Networks Aliasghar Salehpour (University of Regina)*; Kin-Choong Yow (University of Regina); Irfan Al-Anbagi (University of Regina); Xiaolin Cheng (Ericsson Inc.)	
15:20-15:40	ID:13 Analysis of Multi-Resonance and Stability Enhancement Method in Multi-Source DC Distribution Power Systems Yaoyao Zhang (Southeast University)*; Xiaohui Qu (Southeast University); Fanlei Kong (Southeast University); Gan Wang (Southeast University)	ID:63 A Survey on the Provision of Smooth Transition Between Operation Modes in PV-BESS Microgrid Burak Onar (Başkent University)*; Sevki Demirbas (Gazi University)	
15:40-16:00	COFFEE BREAK		
SESSION 3		SESSION 4	
CHAIRS: Saad Nohtahhir, Halil Ibrahim Bülbül		CHAIRS: Rosairo Miceli, Hacı Mehmet Şahin	
16:00-16:20	ID:22 Enhancement of Transmission Systems Operational Condition in a Large Scale Wind Integrated Power Systems Against Extreme Weather Events Nilesh R Ahire (Indian Institute of Technology Bombay)*	ID:39 Study and Sliding Mode Control of the Permanent Magnet Synchronous Machine Harrouz Abdelkader (Department of Hydrocarbon and Renewable Energy, Laboratory (LEESI), University of Adrar, Algeria)*; Nouari Ikram (Adrar University); Ilhami Colak (Nisantasi University); Korhan Kayıslı (Gazi University); Virgil DUMBRAVA (University POLITEHNICA Bucharest); Djamel Belatrache (Laboratoire de développement durable et d'informatique, Adrar)	
16:20-16:40	ID:23 A Development of Equivalent Grid Harmonic Model for Integration of Offshore WPPs: A case study for Northwest Turkey Şehri Nur Güler (AYBU / TEİAŞ)*; Kamil Çağatay Bayındır (Yıldırım Beyazıt University); Adnan Tan (Çukurova University); Merden Yeşil (TEİAŞ); Mevlüt Akdeniz (TEİAŞ); Ümit Çetinkaya (TEİAŞ)	ID:40 Design and Implementation of Microcontroller Based Three Phase Induction Motor Experimental Set Abdullah Berkay Bayındır (Texas A&M University)*; Ali Shraida (Texas A&M University); Sertac Bayhan (Hamad Bin Khalifa University); Haitham Abu-Rub (Texas A&M University)	
16:40-17:00	ID:32 A Local Energy Market Platform for Superior-Grid and Energy Users: A Case Study Liaqat Ali (Powerledger)*; M. Imran Azim (Powerledger); Jan Peters (Powerledger); Vivek Bhandari (Powerledger); Anand Menon (Powerledger); Vinod Tiwari (Powerledger); Gemma Green (Powerledger)	ID:42 BESS deployment and Virtual Power Plant: Technical and financial analysis of the Senelec network to assess the relevance Maguette Sarr (Ecole Supérieure Polytechnique de Dakar)*; Mouhamadou Thiam (Ecole Polytechnique de Thiès); Boubacar Niang (Ecole Supérieure Polytechnique de Dakar)	
17:00-17:20	ID:123 Comparison of Outlier Detection Approaches for Wind Turbine Power Curves Abdullah Emin Ofiaz (Nevşehir Hacı Bektaş Veli University); Mehmet Yesilbudak (Nevşehir Hacı Bektaş Veli University)*	ID:43 Comprehensive Design for a Neuro-Fuzzy Controller for a Safe Hydrogen Energy Storage System Faris N Shaker (Middle Technical University, Baghdad, Iraq)*; Adil Obed (Middle Technical University); Dr. Ahmed J. Abid (Middle Technical University)	
17:20-17:40	ID:36 A Small-scale Inductive Wireless Power Transmission Prototype for Charging Electric Vehicles Dr. Ali Jafer Mahdi (University of Kerbala)*; Haider Hussein (University of Kerbala)	ID:44 A novel concept of dynamic line rating systems based on soft computing models Levente Rácz (Budapest University of Technology and Economics)*; Bálint Németh (Budapest University of Technology and Economics)	
19:00-20:30	WELCOME PARTY		

Date: 28 JUNE 2022

PARALLEL SESSION A		PARALLEL SESSION B	
SESSION 5	CHAIRS: Massimo Carso, Nihat Ozturk	SESSION 6	CHAIRS: Fabio Viola, Orhan Kaplan
9:00-9:20	ID:45 A New Quadratic Boost Converter with Continuous Input Current for Photovoltaic Applications Zainab Abdulrahman (Middle Technical University)*; Ahmed Rashid (Middel technical university); Naseer Yaseen (MTU)	ID:54 Dynamic Switching Method with Energy Storage Devices in Wind Power Generation Yuto Iwasaki (Aichi Institute of Technology)*; Tadashi HOSOE (Aichi Institute of Technology); Kazuki Ikeda (Aichi Institute of Technology); Tsuyoshi Nishitani (Aichi Institute of Technology); Aoi Tanaka (Aichi Institute of Technology); Akihiro Tsusaka (Aichi Institute of Technology); Kazuto Yukita (Aichi Institute of Technology); Toshiya Nanahara (Aichi Institute of Technology); Yasuyuki Goto (Aichi Institute of Technology)	
9:20-9:40	ID:47 Study of introduce power storage device in PV system Aoi Tanaka (Aichi Institute of Technology)*; Kazuto Yukita (Aichi Institute of Technology); Kazuki Ikeda (Aichi Institute of Technology); Yuto Iwasaki (Aichi Institute of Technology); Tsuyoshi Nishitani (Aichi Institute of Technology); Toshiya Nanahara (Aichi Institute of Technology); Takuya Goto (Aichi Institute of Technology)	ID:55 Instantaneous Voltage Drop of Converter using a Special Winding Structure Transformer Kazuki Ikeda (Aichi Institute of Technology)*; Yuto Iwasaki (Aichi Institute of Technology); Tsuyoshi Nishitani (Aichi Institute of Technology); Aoi Tanaka (Aichi Institute of Technology); Kazuto Yukita (Aichi Institute of Technology); Toshiya Nanahara (Aichi Institute of Technology); Yasuyuki Goto (Aichi Institute of Technology); Akinori Kato (kawamura Electric Inc.)	
9:40-10:00	ID:49 Use of D-STATCOM for Solid State LED Lamp Harmonic Power Mitigation Robert S Balog (Texas A&M University)*; Wesam Rohouma (University of Doha Science and Technology); Miroslav Begovic (Texas A&M Univeristy); Aaqib Peerzada (Texas A&M Univeristy)	ID:58 Analysis of a Microgrid having Solar System with Maximum Power Point Tracking and Battery Energy System Jewel Dey (Chittagong University of Engineering and Technology)*	
10:00-10:20	ID:50 Capacitor-less D-STATCOM for Voltage Profile Improvement in a SmartGrid Distribution Network with High PV Penetration Robert S Balog (Texas A&M University)*; Wesam Rohouma (University of Doha Science and Technology); Miroslav Begovic (Texas A&M Univeristy); Aaqib Peerzada (Texas A&M University)	ID:59 Photovoltaic-Wind Hybrid System Power Stations To Produce Electricity in Adrar Region Harrouz Abdelkader (Department of Hydrocarbon and Renewable Energy, Laboratory (LEESI), University of Adrar, Algeria)*; Bamdjid Hemza (Ahmed Draïa University, LDDI laboratory Adrar); Ilhami Colak (Nisantasi University); Korhan KAYISLI (Gazi University); Virgil Dumbrava (University POLITEHNICA Bucharest)	
10:20-10:40	ID:52 The influence on the power consumption for air-conditioning equipment by the ventilation Tsuyoshi Nishitani (Aichi Institute of Technology)*; Kazuki Ikeda (Aichi Institute of Technology); Yuto Iwasaki (Aichi Institute of Technology); Aoi Tanaka (Aichi Institute of Technology); Kazuto Yukita (Aichi Institute of Technology); Toshiya Nanahara (Aichi Institute of Technology); Yasuyuki Goto (Aichi Institute of Technology); Tokimasa Goto (Aichi Institute of Technology); Katsunori Mizuno (Aichi Institute of Technology)	ID:60 A Prediction of Power Demand using Weather Forecasting and Machine Larning: A Case of a Clinic in Japan Yuji Mizuno (Osaka Electro-Communication University)*; Yoshito Tanaka (Nagasaki Institute of Applied Science); Fujio Kurokawa (Nagasaki Institute of Applied Science); Nobumasa Matsui (Nagasaki Institute of Applied Science)	
10:40-11:00	COFFEE BREAK		
11:00-12:00	<p>Speaker: Professor Rosario Miceli, Italy</p> <p>Title:Hybrid Energy Storage Systems: perspectives, challenges and applications</p> <p>Chairs: Innocent E Davidson, Erdal Irmak</p>		
12:00-13:00	<p>Speaker: Professor Jian-Xin SHEN, China</p> <p>Title: High Speed PM Machine for Renewable Energy and Smart Grid Applications</p> <p>Chairs: Fabio Viola, Erdal Bekiroğlu</p>		
13:00-14:00	LUNCH		

Date: 28 JUNE 2022

PARALLEL SESSION A		PARALLEL SESSION B	
SESSION 7	CHAIRS: Vitor Pires, Sevki Demirbas	SESSION 8	CHAIRS: Abdelkader Harrouz, Onder Eyecioglu
14:00-14:20	ID:201 Improved Cuckoo Search Algorithm for Wind System Optimization Ilhami Colak (Nisantasi University)*; Mounira Ali (Nisantasi University); Ilhan Garip (Nisantasi Univ)	14:00-14:20	ID:66 Laboratory Procedure for Real-Time Simulation Experiment of Renewable Energy Systems on OPAL-RT Digital Simulato Elutunji Buraimoh (Durban University of Technology)*; Innocent E Davidson (Durban University of Technology)
14:20-14:40	ID:62 Up and Down-Regulation based Residential BESS for Local Flexibility Abdou Tankari Mahamadou (University of Paris Est Creteil, Certes Lab.)*; Arkhangelski Jura (University of Paris Est Creteil, Certes Lab.); Lefebvre Gilles (University of Paris Est Creteil, Certes Lab.)	14:20-14:40	ID:67 Global optimum operating point tracker of PV system, under partial shading, using paralel searching Abdelhakim Belkaid (Bordj Bou Arreridj University)*; Slimane Hadji (Bejaia University); Ilhami Colak (Nisantasi University); lylia larbi (université de bejaia); Ramazan Bayindir (Gazi University)
14:40-15:00	ID:18 A Review of Wind Energy Conversion Systems Oguz Alkul (Gazi University)*; Dabeeruddin Syed (texas a and m university); Sevki Demirbas (Gazi University)	14:40-15:00	ID:68 Comparison Between the MIT Rule and Fuzzy Logic Controller to Adapting the Power Generated by a Doubly Fed Induction Generator Integrated in a Wind System. Mohammed Kendzi (Tahri Mohammed Bechar University, Algeria)*; Abdel Ghani Aissaoui (University of Bechar)
15:00-15:20	ID:64 Model Based Predictive Direct Torque and Flux Control for Grid Synchronization of a PMSG Driven by a Direct Matrix Converter Badreddine Babes (1Research Center in Industrial Technologies CRTI); Oualid Aissa (University of Mohamed El-Bachir El-Ibrahimi, Bordj Bou Arreridj)*; Noureddine Hamouda (Research Center in Industrial Technologies "CRTI" P.O.Box 64, Cheraga 16014 Algiers, Algeria); Ilhami Colak (Nisantasi University)	15:00-15:20	ID:69 Comparison the Performance of Different Optimization Methods in Artificial Intelligence Based Electricity Production Forecasting Kübra Kaysal (Afyon Kocatepe University); Fatih Onur Hocaoglu (Afyon Kocatepe Universtiy); Nihat Ozturk (Gazi University)*
15:20-15:40	ID:65 Design of a buck converter battery charging controller in PV plant Abdelhakim Belkaid (Bordj Bou Arreridj University)*; lylia larbi (université de bejaia); Slimane Hadji (Bejaia University); Ilhami Colak (Nisantasi University); Ramazan Bayindir (Gazi University)	15:20-15:40	ID:70 Optimization of Advanced Metering Infrastructure (AMI) Customer Ecosystem by Using Analytic Hierarchy Process Method Soleh Ashari (University of Indonesia)*
15:40-16:00	COFFEE BREAK		
SESSION 9	CHAIRS: Abdelhakim Belkaid, Korhan Kayisli	SESSION 10	CHAIRS: Abdou Tankari Mahamadou, Mehmet Yesilbudak
16:00-16:20	ID:71 Image Processing-based Data Integrity Attack Detection in Dynamic Line Rating Forecasting Applications Arash Moradzadeh (University of Tabriz)*; Hamed Moayyed (Polytechnic of Porto); Behnam Mohammadi-ivatloo (University of Tabriz); Amjad Anvari-Moghaddam (Aalborg University); Zita Vale (GECAD/Polytechnic of Porto); Reza Ghorbani (University of Hawaii at Manoa)	16:00-16:20	ID:83 Integration of Parking Lot Capacity in Retail Energy and Reserve Market Mechanism Hossein Shahinzadeh (Amirkabir University of Technology (Tehran Polytechnic))*; Jalal Moradi (Amirkabir University of Technology (Tehran Polytechnic)); Michela Longo (Politecnico di Milano); Wahiba Yaici (CanmetENERGY Research Centre / Natural Resources Canada); Shohreh Azani (Amirkabir University of Technology (Tehran Polytechnic))
16:20-16:40	ID:77 Optimum Battery State of Charge Control for Frequency Response Service Kübra Nur Akpınar (Ondokuz Mayıs Üniversitesi)*; Burcu Gundogdu (Hakkari University); Okan Ozgonenel (Ondokuz Mayıs University)	16:20-16:40	ID:84 Measurement and Evaluation of Solar Panel Data Via DC Power Line Nihat Daldal (Abant İzzet Baysal Üniversitesi)*; Berat Uzun (Bolu Abant İzzet Baysal Univ.); Erdal Bekiroglu (Bolu Abant İzzet Baysal University)
16:40-17:00	ID:78 Evaluation of the Energy efficiency of new cogeneration systems based on Kalina and ORC cycles Nahla BOUAZIZ (University of Tunis El Manar); Nahla Bouaziz (ENIT-Université de Tunis El Manar)*	16:40-17:00	ID:85 P2P is a Smarter Way of EnergyTrading: A Game Theoretic Case Study for Multi-microgrids Liaqat Ali (Powerledger)*; M. Imran Azim (Powerledger); Vivek Bhandari (Powerledger); Anand Menon (Powerledger); Vinod Tiwari (Powerledger); Hamed Bizhani (Sun-Air Research Institute); SM Muyeen (Qatar University)
17:00-17:20	ID:79 Implementation and Validation Model of Energy Demand of Electric Buses for Local Public Transport Andrea Di Martino (Politecnico di Milano); Federica Fioiadelli (Politecnico di Milano); Michela Longo (Politecnico di Milano)*; Gauri Shankar Prasad (Politecnico di Milano); Wahiba Yaici (CanmetENERGY Research Centre / Natural Resources Canada); Dario Zaninelli (Politecnico di Milano)	17:00-17:20	ID:86 Optimal Power Systems Planning for IEEE-14 Bus Test System Application Diaa Salman (Department of Electrical and Electronic Engineering, Cyprus International University, Nicosia, Northern Cyprus, Mersin 10, Turkey.)*; Mehmet Kusaf (Ulusalrarsi Kibris Universitesi); Yonis Khalif Elmi (Cyprus International University); Ammar Almasri (Al-Balqa Applied University)
17:20-17:40	ID:82 Pulse Density Modulation Controlled WPT Charger for LEVs Gungor Bal (Gazi University); Kenan Unal (Gazi University)*; Selim Oncu (Karabuk University); Nihat Ozturk (Gazi University)	17:20-17:40	ID:93 Fuzzy Sliding Mode Control Second Order of Wind Turbine Based on DFIG Harrouz Abdelkader (Department of Hydrocarbon and Renewable Energy, Laboratory (LEESI), University of Adrar, Algeria)*; Saihi Iakhdar (Renewable Energy Development Center (CDER), 01000, Adrar, Algeria,); Youcef Bakou (URERMS Adrar); Mohammed Boura (Department of Sciences Technology University of Tahri Mohammed Béchar); Ilhami Colak (Nisantasi University); Korhan Kayisli (Gazi University)
19:00-20:30	GALA DINNER		

Date: 29 JUNE 2022

PARALLEL SESSION A		PARALLEL SESSION B	
SESSION 11 CHAIRS: Oualid Aissa, Mehmet Rida Tur		SESSION 12 CHAIRS: Nahla Bouaziz, Orhan Kaplan	
9:00-9:20	ID:95 Robust Sensor-less SMC of DFIG based on FKE in Variable-Speed Wind Turbine Systems Harrouz Abdelkader (Department of Hydrocarbon and Renewable Energy, Laboratory (LEESI), University of Adrar, Algeria)*; Saihi Iakhdar (Renewable Energy Development Center (CDER), 01000, Adrar, Algeria,); Youcef Bakou (URERMS Adrar); Boura Mohammed (Unversité Tahri Mohammed béchar Algeria); Ilhami Colak (Nisantasi University); Korhan Kayıslı (Gazi University)	ID:115 A Global MPPT Based on Bald Eagle Search Technique for PV Arrays Operating under Partial Shading Conditions Waleed Al Abri (Sultan Qaboos University)*; Rashid Al Abri (Sultan Qaboos University)	
9:20-9:40	ID:97 New Dataset for Software Defect Prediction Model Mary Agoyi (cyprus International university); Jameel Mohammad Alsarareh (Cyprus International University)*	ID:116 Full Bridge LLC Resonant Converter Design for Photovoltaic Applications Tufan V Kucuk (Bilecik Seyh Edebali University)*; Selim Oncu (Karabuk University)	
9:40-10:00	ID:112 Servomechanism based Optimal Control System Design for Maximum Power Extraction from WECS with PMSG Bayandy Sarsembayev (Astana IT University); Nurkhat Zhakiyev (Astana IT University)*; Azamat Akhmetbayev (Astana IT University); Korhan KAYISLI (Gazi University)	ID:117 Impacts of Energy Storage Facilities on Resilient Operation of Multi-Carrier Energy Hub Systems Hossein Shahinzadeh (Amirkabir University of Technology (Tehran Polytechnic))*; Jalal Moradi (Amirkabir University of Technology (Tehran Polytechnic)); Wahiba Yaici (CanmetENERGY Research Centre / Natural Resources Canada); Michela Longo (Politecnico di Milano); Zohreh Azani (Amirkabir University of Technology (Tehran Polytechnic))	
10:00-10:20	ID:113 Multi-Domain Simulation of IEEE 13 Bus System with Microgrid Amira Mohamed (Texas A&M University at Qatar)*	ID:118 Performance Assessment of Heat Pump and Solar Thermal Heating with Seasonal Storage Systems for Smart Microgrid Research Center Building at IAUN S.M.Hasan Zanjani (Tabriz Islamic Art University); Hossein Shahinzadeh (Amirkabir University of Technology (Tehran Polytechnic))*; Azita Balali Oskui (Tabriz Islamic Art University); Wahiba Yaici (CanmetENERGY Research Centre / Natural Resources Canada); Michela Longo (Politecnico di Milano); S. Mohammadali Zanjani (Najafabad Branch, Islamic Azad University)	
10:20-10:40	ID:114 A Co-Simulation Platform for Microgrid Integration into Transmission System-Power Quality Study Amira Mohamed (Texas A&M University at Qatar)*	ID:119 Modeling and Simulation of External Rotor 6/8 Switched Reluctance Motor for E-Bike Selim Oncu (Karabuk University); Ugur Tuncer (Hitit University)*; Samet Koyuncu (Pamukkale University)	
COFFEE BREAK			
<p>Speaker: Professor Erdal Irmak, Türkiye</p> <p>Title: Stability Issues in Power Systems: Operation and Control of Turkish Transmission Grid</p> <p>Chairs: Hacı Mehmet Şahin, Samir Moulahoum</p>			
PARALLEL SESSION A		PARALLEL SESSION B	
SESSION 13 CHAIRS: Hossein Shahinzadeh, Selim Oncu		SESSION 14 CHAIRS: Wahiba Yaici, Okan Ozgonenel	
12:00-12:20	ID:121 Analysis of Electric Vehicle Charging Demand Forecasting Model based on Monte Carlo Simulation and EMD-BO-LSTM Murat Akil (Aksaray University)*; Emrah Dokur (Bilecik S.E. University); Ramazan Bayindir (Gazi University)	ID:185 Second-Order Sliding Mode Control Algorithms in DC/DC Power Converters Ferhat Bodur (Gazi University); Orhan Kaplan (Gazi University)*	
12:20-12:40	ID:183 Distributed generation system planning based on renewable energy source Aysenur Oymak (Batman University)*; Mehmet Rida Tur (Batman Üniversitesi TBMYO Department of Electrical and Energy); Ramazan Bayindir (Gazi University); Muslime Altun (Batman University); Fevzi Cakmak (Mardin Artuklu University); Serdal Altun (Batman University)	ID:186 Simulating the Wireless Sensor Networks Coverage area Saad Talib Hasson (University of Babylon)*; Zainab Qassim Mohammed (University of Babylon)	
12:40-13:00	ID:184 Analyzing the Connectivity of the Wireless Sensor Networks Saad Talib Hasson (University of Babylon)*; Maryam Ayad (University of Babylon)	ID:192 2nd Order Linear Prediction Applied to Digital Frequency Estimation for Different Disturbances Fábio K Schons (Federal University of Pampa)*; Eduardo Machado dos Santos (Federal University of Pampa); Chrystian Silva (Federal University of Pampa)	
13:00-13:20	ID:205 Prediction Of Oil Consumption and Oil Access Of Countries in The European Union Region with Machine Learning Murat BEKEN (Bolu Abant İzzet Baysal University)*; Onder Eyecioglu (Bolu İzzet Baysal University); Nursaç Kurt (Research Assistant)	ID:207 Dimensioning, Design and Simulation of a Self-sustaining Photovoltaic Energy System to Power the Water Quality Monitoring Equipment of the Burgay River - Ecuador Paúl Mata (Catholic University of Cuenca, Cuenca, Ecuador); Ricardo Romero (Catholic University of Cuenca, Cuenca, Ecuador); Daniel Icaza (Catholic University of Cuenca, Cuenca, Ecuador)*	
13:20-13:40	ID:206 Feasibility analysis for the implementation of floating solar panels in reservoirs of hydroelectric dams. Case study Mazar in Ecuador Angel Salto (Catholic University of Cuenca, Cuenca, Ecuador); Alberto Ríos (Catholic University of Cuenca, Cuenca, Ecuador); Oscar Siguencia (Catholic University of Cuenca, Cuenca, Ecuador); Daniel Icaza (Catholic University of Cuenca, Cuenca, Ecuador)*	ID:208 Analysis of the stress in the anchors of floating wind turbines in the open sea Joseline Astudillo (Catholic University of Cuenca, Cuenca, Ecuador); Juan Carlos Gárate (Catholic University of Cuenca, Cuenca, Ecuador); Rolando Andrade (Catholic University of Cuenca, Cuenca, Ecuador); Daniel Icaza (Catholic University of Cuenca, Cuenca, Ecuador)*	
LUNCH			

Date: 29 JUNE 2022

PARALLEL SESSION A		PARALLEL SESSION B	
SESSION 15		SESSION 16	
CHAIRS: Daniel Icaza, Gungor Bal		CHAIRS: Robert S Balog, Seref Sagiroglu	
14:00-14:20	ID:193 Impact of Increasing Renewable Energy Sources on Power System Stability and Determine Optimum Demand Response Capacity for Frequency Control Umit Cetinkaya (Gazi University)*; Ramazan Bayindir (Gazi University)	14:00-14:20	ID:202 Advantages of Using Renewable Energy Sources in Smart Grids Ilhami Colak (Nisantasi University)*; Maide Cakir (Nisantasi University); İlyas Cankaya (Yıldırım Beyazıt Üniversitesi); İlhan Garip (Nisantasi Univ)
14:20-14:40	ID:194 Performance Comparison of Various Classical Controllers in LFC of Hydro-Thermal Power System with Time Delays Dr. B Srikanth Goud (Anurag University)*; Shankar Gambhire J (Koneru Lakshmaiah Education Foundation); Kiran Malligunta Kumar (KL DEEMED TO BE UNIVERSITY); Venkateswarlu A.N (Vignan's Lara Institute of Technology and Science); CH Naga Sai Kalyan (Vasireddy Venkatadri Institute of Technology); Mallikarjuna Kurva (Vignana Bharathi Institute of Technology)	14:20-14:40	ID:38 Experimental validation of Neuro-fuzzy energy management for a DC electrical micro-network Alphousseyni Ndiaye (Alioune Diop university of bambey)*
14:40-15:00	ID:195 Geothermal and solar energy applied to air conditioning and electricity generation for homes: Case study Baños in Cuenca-Ecuador Pedro Angumba (Catholic University of Cuenca); Andrés Cárdenas (Catholic University of Cuenca, Cuenca, Ecuador); Daniel Icaza (Catholic University of Cuenca, Cuenca, Ecuador)*	14:40-15:00	ID:7 Design and Implementation of 125 and 243 Level Cascaded H-Bridge Multilevel Inverter using Binary Search Algorithm Uzair Asif (UET Lahore)*; Muhammad Anique Aslam (UET, Lahore); Sajjad Ahmed (UET Lahore); Muhammad Fasih Uddin (UET Lahore)
15:00-15:20	ID:199 Study of a Hybrid Wind-Photovoltaic System for Energy Supply to the Pucará Canton in Ecuador Fredy Fabián Illescas (Catholic University of Cuenca, Cuenca, Ecuador); Pablo Chacho Ochoa (Catholic University of Cuenca, Cuenca, Ecuador); Daniel Icaza (Catholic University of Cuenca, Cuenca, Ecuador)*	15:00-15:20	ID:203 Forecasting the Stability of A 4-node Architecture Smart Grid Using Machine Learning Batuhan Hangun (Independent Researcher)*; Onder Eyecioglu (Bolu İzzet Baysal University); Murat Beken (Bolu Abant İzzet Baysal University)
15:20-15:40	ID:200 Adaptation of sustainable and inclusive strategies for the regeneration of public space. Case Study Herlinda Toral National Technical School Julio César Pintado Farfán (Catholic University of Cuenca, Cuenca, Ecuador); Javier Cabrera Mejía (Catholic University of Cuenca, Cuenca, Ecuador); José Abelardo Paucar Camacho (Universidad Universidad Estatal de Bolívar); Daniel Icaza (Catholic University of Cuenca, Cuenca, Ecuador)*	15:20-15:40	ID:204 Performance Analysis of a Permanent Magnet Synchronous Generator with Parametric Solution Software Selami Balci (Karamanoğlu Mehmetbey University)*; Medine Colak (Gazi University)
15:40-16:00	COFFEE BREAK		
16:00-16:30	CLOSING CEREMONY		

Presentation Instruction for icSmartGrid 2022 Presenters

Virtual & Oral presentation

Presentation time is 15 minutes including 5 minutes Question/Discussion.