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(icSmartGrid2025)

Glasgow/United Kingdom

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Giuseppe Schettino

TOPICS

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

- Successful applications of smart grid
- 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
- 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
- Self-healing
- 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
- HVDC for smart grid
- Power devices and driving circuits for smart grid
- Decision support systems 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 **icSmartGrid2025** conference is English.

WELCOME to icSmartGrid 2025

Dear Colleague,

The purpose of the International Conference on Smart Grid (**icSmartGrid2025**) 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, the tenth addition at Istanbul, Turkiye in 2022 with the technical co-sponsorship of IEEE IES and IAS ,the eleventh addition at Paris, France in 2023 with the technical co-sponsorship of IEEE IES and IAS, the twelfth addition at Setubal, Portugal, in 2024 with the technical co-sponsorship of IEEE IES and IAS, we are now organizing the thirteenth International Conference on Smart Grid at Glasgow, UK, in 2025 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.

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

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KEYNOTE SPEAKERS

Keynote 1: Makoto YOSHIMURA, Executive Officer, Deputy Vice President of Power Electronics Systems Division, TMEIC, Japan

Date : May 27, 2025 09.00-10.00 AM

Makoto Yoshimura serves as the Executive Officer and Deputy Vice President & Technology Executive of Power Electronics System Division, a role he assumed in April 2024. Yoshimura began his career with TMEIC Corporation in October of 2003, during the formation of the joint venture between Toshiba and Mitsubishi Electric. Yoshimura started in the Power Electronics System Division and was responsible for motor drive system design and development from 1989. And in October of 2017, Yoshimura was appointed the President and CEO of TMEIC Power Electronics Products Corporation in U.S.A. And in April of 2019, Yoshimura returned to TMEIC corporation in JAPAN and was appointed the Technology Executive of Industrial system Division and Renewable Energy & New technology Division. Yoshimura was born in Kure, Hiroshima Prefecture and graduated from Kyushu University with a BS in Electrical Engineering and a MS in Electrical Engineering. His current focus is to guide TMEIC Power Electronics business's further development and future growth.

Growth Power Electronics Technology to Realize the Carbon Neutral Society

Summary: The International Energy Agency (IEA) and the UK Government co-hosted the Summit on the Future of Energy Security in London on April 24–25. During the keynote session, the IEA Executive Director remarked, "The world is entering a new age of electricity, driven by clean energy technologies and digital innovation." In its final section, the Chairs' Summary referenced the COP28 targets of tripling renewable energy capacity and doubling improvements in energy efficiency intensity. As with other international conferences, this summit also mentioned that renewables, clean energy technologies, and digitalization are key to achieving carbon neutrality. This presentation focuses on Power Electronics technology, highlighting its essential role in every solution aimed at reaching that goal.

TMEIC continues to develop power electronics technology under the concept of "PEiE: Power Electronics in Everything." This presentation introduces the latest development activities aimed at realizing a carbon-neutral society, showing topics applied in large-scale industries.

The first topic is high-capacity Power Electronics technology for expanding Renewable Energy. Renewable Energy is going to become the main player in electric power generation, replacing fossil-fueled generation. Energy Storage System will also play important roles in the future energy network. Power Electronics technology provides grid-forming functions for renewable energy and energy storage systems. Power Electronics also contributes to power transmission from remote Renewable Energy.

The second topic relates to Green Hydrogen. In fossil fuel driven sectors where electrification is difficult, switching to clean fuels, including Green Hydrogen, is essential. The mass production of Green Hydrogen requires high-capacity Power Electronics technology compatible with future power networks. This presentation introduces recent applications of Power Electronics in development projects in Japan.

The third topic moves to digital networks for information and communication. The digital networks will play a key role in dynamically managing and operating the future energy networks. Today, another major trend is the rise of AI, which requires large data centers. This presentation reminds that these digital networks require large scale secure electric power supply. Power Electronics technology provides the necessary power supply solutions.

The final topic introduces the Power Electronics technologies applied to industrial sectors. For achieving Carbon Neutral Society, conventional electrification solutions are often inadequate for large-scale industries. High-capacity Power Electronics technology enables electrification of facilities rated at tens of MW. The high-capacity Power Electronics also improves energy efficiency by optimally managing MW-rated systems.

Keynote 2: Keiichi Hirose, Nagasaki Institute of Applied Science, Japan

Date : May 27, 2025 10.10-11.10 AM

Keiichi Hirose received the B.Sc. and M.Sc. degrees in electrical engineering from the Yamagata University in 1990, Niigata University in 1992, respectively, and the Ph.D. degree from the Nagoya University, Japan in 2011. Currently, he is a professor, a vice-president of the Nagasaki institute of Applied Science NiAS), Japan. He involves some R&D and demonstration projects and related activities for DC power utilization and applications. Before joining NiAS he was employed in telecom industry for 30 years deploying and contributing to several DC power systems and DC microgrids for telecommunication and data centre businesses. He has served in many IEEE committees including the Chair of the IEEE PELS Japan Joint Chapter (2015- 2016), the President of the IEEE PELS INTELEC (TC7 Chair) (2016-2018) and the General Chair of ICDCM 2019. He is a fellow of IEE- Japan (IEEJ), a member of the Institute of Electrical Installation Engineers of Japan. (IEIEJ), the Institute of Electronics, Information and Communication Engineers of Japan (IEICE) and IEEE. He is currently the chair of the International Electrotechnical Commission（IEC) System Committee（SyC Low Voltage Direct Current and Low Voltage Direct Current for Electricity Access (IEC SyC LVDC) and Sub Committee 22 stabilized power supplies (SC22E) of the Japanese national committee.

History and R&D Trends of DC Power Utilization in Japan

Summary: Energy transition to renewable energy and hydrogen is needed to achieve decarbonization by 2050. The promotion of electrification is the foundation for realizing the energy transition, and one of the keys is the utilization of direct current. Since the use of renewable energy is expanding, storage batteries and electric vehicles are increasing, and LED lighting fixtures, many home appliances, telecommunications facilities, and data centers use direct current, more efficient use of electricity and energy will be possible through integrated control of these devices.

The start of commercial electric utilities in Japan came just five years after Thomas Edison launched his electric utility in New York, USA. Electricity business in Japan also started with direct current system, which was replaced by alternating current system through a process similar to the current wars in the United States. In Japan, a full-scale demonstration of submarine DC power transmission was conducted in Nagasaki in the 1950s, and Japan has a track record of accumulating technologies for the operation of frequency conversion stations and grid interconnection through DC power transmission since then. In order to realize a decarbonized society and promote energy transition, the utilization of direct current is an indispensable technology. To achieve this, development of semiconductor power conversion technology and related technologies, micro-grids, and direct current power supply are being demonstrated.

In this keynote speech, the history of DC utilization in Japan and recent R&D topics related to DC technology will be introduced.

Keynote 3: Benjamin Marshall, HVDC Technology Manager, UK

Date : May 28, 2025 09.00-10.00 AM

As the HVDC Technical Manager, Ben oversees the team of Simulation Engineers undertaking detailed HVDC simulation studies in real-time using vendor-supplied replica hardware, to understand multi-infeed, multi-terminal and multi-vendor HVDC operation and interactions, for real schemes in GB; interpreting the results to gain insights to improve the design and operation of HVDC schemes and their associated protection. Ben previously has had a 23 year long and varied career within National Grid with a broad range of experience, particularly with respect to the analysis of the operation and design of the AC and DC transmission systems. He has experience in both offline and realtime EMT simulation and in modelling of convertors across battery, solar wind and HVDC systems, and as deep understanding of dynamic stability of power systems how that relates to device performance.

National HVDC Centre-Perspectives on DC System De-Risking

Summary: Within GB, the National HVDC Centre has been developed as a key resource to support the Net Zero Transition towards increased low carbon and renewable resource integration. With that comes the prospect of an increase in converter dominated behaviours within the GB system and the Centre includes both cutting-edge simulation capability in both real-time and offline EMT simulation, together with expertise drawn across industry, vendors and academia to navigate the range of potential interactions, services, capabilities and options for delivery of these future systems.

Keynote 4: Mark Goudie, Whole System Manager – SP Energy Networks, UK

Date : May 28, 2025 10.10-11.10 AM

Mark is the Head of Whole System Strategy & Optimisation at SP Energy Networks. He is a Chartered Electrical Engineer and Fellow with broad technical, commercial and management experience across the energy sector. Mark's role includes leading our Strategic Optimisation & Low Carbon Technology (LCT) Optioneering with Local Authorities and Local, Regional and National Government to support the development of their energy plans and embedding Whole System thinking across SP Energy Networks.

The Evolution of the GB Electrical System: Smart Grids, Distribution System Operation, and the Path to Net Zero

Summary: An introduction to the historical development of the GB electrical system. The talk will also contextualise the GB energy system and carbon reduction challenges and targets. It will include a review of the evolution of the Distribution System Operation (DSO) role in GB & Whole System approaches that are applicable. All topics will include references and reflections on smart grids, their evolution and future requirements.

TUTORIALS

Speaker 1: Professor Seref Sagiroglu, Gazi University, Turkiye

Date : May 27, 2025 13.30-14.30

Prof. Dr. Seref Sagiroglu completed his undergraduate education in 1987 at Erciyes University, Department of Electronics Engineering, and his doctoral studies at the University of Wales College of Cardiff (now Cardiff University, UK) in 1994. He continues his academic career as a full professor of software engineering at Gazi University's Computer Engineering Department. Sagiroglu has an outstanding academic with more than 8000 citations; almost 400 articles published in SCI/SSCI indexed journals, national and international conferences, symposium and workshops, editor of more than 20 books, owns 4 patents, and has completed national and international projects on security, big data, intelligent modeling and control, biometric, etc. Sagiroglu organized more than 50 national and international events on artificial intelligence, 5G, Big Data, Machine Learning, Deep Learning, Information and Cyber Security, Privacy, IPv6, etc., as a chairman or co-chairman. Sagiroglu had such duties as President and Executive Committee Members of those NGOs; completed the duties as the Deans of Graduation School of Science and Technology and Engineering Faculty, and Head of Computer Engineering Department at Gazi University; Editors of International Journal of Information Security Science (www.ijiss.org); International Journal of Information Security Engineering (in Turkish) (www.dergipark.gov.tr/ubgmd) and CyberMag (www.cybermag.com); Member of Cyber Security Group of Higher Education Council of Turkey; contributed to consultants to Havelsan; IT Regulatory Body of Turkey and Personal Data Protection Regulatory Body of Turkey; has delivered as invited or keynote speakers more than 500 seminars, talks, conferences at universities, schools, sectors, TV and Radio Programs, institutions and organisations in the topics of Information Security, Big and Open Data, Cyber Security and Defense, Artificial Intelligence, Computer and Software Engineering, Privacy, Biometrics, Innovation Culture Creation, IPv6, 5G, etc. He is now the director of the AI and Big Data Center of Gazi University, Ankara, Turkey, and also is the president of the Chamber of Electrical Engineering Ankara Branch.

Empowering the Smart Grid with Generative AI: Opportunities, Risks, and the Road Ahead

Summary: As the global energy ecosystem rapidly transitions towards smarter, decentralized, and more resilient infrastructures, the integration of Generative Artificial Intelligence (GenAI) into Smart Grid systems marks a significant technological leap. This speech explores the transformative potential of GenAI in redefining how energy is forecasted, distributed, managed, and secured. We delve into cutting-edge use cases, including automated anomaly detection, synthetic data generation for grid simulations, AI-driven demand response modeling, and natural language interfaces for control systems.

The talk also critically addresses the cybersecurity risks, explainability challenges, and regulatory uncertainties introduced by generative models within critical infrastructure. Drawing from real-world pilots, academic research, and industry trends, the presentation proposes a future-ready framework that combines trustworthy GenAI principles with grid reliability and resilience standards. The goal is to inspire participants from engineers and data scientists to policymakers to harness GenAI not just as a tool for automation, but as a catalyst for building sustainable, secure, and intelligent power networks.

Speaker 2: Dr. Elyas Rakhshani, Control Systems and Simulation Manager at HESStec, Valencia, Spain

Date : May 27, 2025 14.40-15.40

Dr. Elyas Rakhshani is a Senior Member of IEEE and serves on the editorial boards of leading Power and Energy Society (PES) journals, including IEEE Transactions on Dr. Elyas Rakhshani is the Control Systems and Simulation Manager at HESStec, based in Valencia, Spain. He leads the Control Systems division within the company's Technology Department, focusing on dynamic low-inertia grids, hybrid energy storage integration, and the development of advanced control algorithms. His work ensures the seamless integration of storage dynamics with system operations, optimizing performance through HESStec's control and power platforms. Before joining HESStec, Dr. Rakhshani worked at ABB Power Grids as a Senior Power System Consultant, specializing in stability analysis of low-inertia systems and the grid integration of renewable energy sources. Prior to that, he was a Postdoctoral Research Engineer at the IEPG Research Center, Delft University of Technology (TU Delft), Netherlands, contributing to European H2020 projects on grid code assessment, control, and dynamic stability analysis of low-inertia power systems. His research in this field explored the integration of wind power and hybrid energy storage systems (ultracapacitors and batteries), considering the future transition scenarios of European grids. From 2013 to 2016, he worked as a Junior Research Engineer in Abengoa's Research Department in Seville, Spain, focusing on power electronics applications in modern flexible energy systems. Dr. Rakhshani earned his Ph.D. in Electrical Engineering (cum laude) from the Universitat Politècnica de Catalunya (UPC) in 2016, receiving the Extraordinary Doctoral Award from the UPC Doctoral School in 2018 in recognition of his scientific contributions. He also holds a Master's degree in Control Systems (2008) and a Bachelor's degree in Power Systems (2004). Dr. Elyas Rakhshani is a Senior Member of IEEE and serves on the editorial boards of leading Power and Energy Society (PES) journals, including IEEE Transactions on Dr. Elyas Rakhshani is the Control Systems and Simulation Manager at HESStec, based in Valencia, Spain. He leads the Control Systems division within the company's Technology Department, focusing on dynamic low-inertia grids, hybrid energy storage integration, and the development of advanced control algorithms. His work ensures the seamless integration of storage dynamics with system operations, optimizing performance through HESStec's control and power platforms. Before joining HESStec, Dr. Rakhshani worked at ABB Power Grids as a Senior Power System Consultant, specializing in stability analysis of low-inertia systems and the grid integration of renewable energy sources. Prior to that, he was a Postdoctoral Research Engineer at the IEPG Research Center, Delft University of Technology (TU Delft), Netherlands, contributing to European H2020 projects on grid code assessment, control, and dynamic stability analysis of low-inertia power systems. His research in this field explored the integration of wind power and hybrid energy storage systems (ultracapacitors and batteries), considering the future transition scenarios of European grids. From 2013 to 2016, he worked as a Junior Research Engineer in Abengoa's Research Department in Seville, Spain, focusing on power electronics applications in modern flexible energy systems. Dr. Rakhshani earned his Ph.D. in Electrical Engineering (cum laude) from the Universitat Politècnica de Catalunya (UPC) in 2016, receiving the Extraordinary Doctoral Award from the UPC Doctoral School in 2018 in recognition of his scientific contributions. He also holds a Master's degree in Control Systems (2008) and a Bachelor's degree in Power Systems (2004). Dr. Elyas Rakhshani is a Senior Member of IEEE and serves on the editorial boards of leading Power and Energy Society (PES) journals, including IEEE Transactions on Power Systems, IEEE Power Engineering Letters, IET Generation Transmission & Distribution, IET Renewable Power Generation, and IEEE Systems Journal. His research interests span modern power system control, dynamic stability, hybrid energy storage integration, converter control applications in power systems, and HVDC control for grid applications. As part of his research and professional activities, Dr. Rakhshani has published over 100 papers and technical reports, contributing significantly to the advancement of power system dynamics and control.

Grid Forming based Hybrid Energy Storage Solution for Modern Electrical Grids

Summary: This presentation focuses on the critical role of grid-forming (GFM) technologies within the context of smart grids incorporating hybrid energy storage systems (HESS). As power systems evolve toward higher penetration of renewable energy sources and reduced system inertia, GFM converters emerge as essential components to maintain stability and reliability. We will begin by highlighting the necessity for GFM systems, exploring evolving grid code requirements, and examining typical GFM topologies, control hierarchies, and model structures. Particular attention

will be paid to how these systems fit into the future regulatory landscape and the technical demands of low-inertia grids. The talk will also delve into the main performance indicators used to assess the effectiveness of GFM systems, especially when combined with hybrid energy storage. We will analyze key components, such as batteries and supercapacitors, and outline energy and power management strategies that enhance system flexibility and resilience. Finally, we will present real-world case studies and project results to illustrate the practical implementation of hybrid GFM systems, offering insights into both their technical potential and deployment challenges.

Speaker 3: Prof. Dr. Youcef Soufi, University Echahid Larbi Tebessi, Tebessa, Algeria

Date : May 28, 2025 13.30-14.30

Youcef SOUFI received a B.Sc. degree and PhD degrees from the University of Annaba, Algeria, in 1991 and 2012 respectively and a Magister degree in 1997 in Electrical Engineering from Tebessa University, Algeria. Currently, he is a Professor in the Department of Electrical Engineering, Faculty of Sciences and Technology, Echahid Larbi Tebessi University, Tebessa, Algeria. He has published and co -authored more than 200 technical papers in scientific journals and conference proceedings since 2000. He is editorial board the member of many journals. He has participated in several research projects and has led several research projects. He is the supervisor of many PhD Students in Algeria. He is a plenary and an invited keynote speaker, steering committee, scientific committee and session chair in several national and international conferences and an expert in several national and international scientific activities and project evaluations. His research interests include: Application of the artificial intelligence in electrical engineering, electrical machines control, diagnostics, wind and solar energy, power electronics and drives applied to renewable and sustainable energy, Renewable Energies devices, Smart Grid, reliability and diagnostics in power electronics converters and electrical machines. His email address is: youcef.soufi@univ-tebessa.dz

Smart Grids for Green Energy Transition

Summary: Smart Grid is now the buzzword in the power industry all over the world. The rise of smart grid is a boon not only to society as a whole but to all who are involved in the electric power industry, its customers, and its many stakeholders. It presents our planet with a revolutionary way of power transmission and distribution. It has even paved the way for many advanced forms of data prediction and handling, where the increased awareness of the environmental impact and the carbon footprint of all energy sources, including electric power production, have given impetus to the growth and adopting of renewable as well as alternative energy. The modernization of electric grids toward a smart grid is being carried out to improve reliability, facilitate integration of renewable energies, and improve power consumption management. Also, the electric power systems throughout the world are facing radical change.

Speaker 4: Dr. Emanuele Fedele, University of Naples Federico II, 80125 Naples, Italy

Date : May 28, 2025 14.40-15.40

Dr. Emanuele Fedele received the Ph.D. degree in Information Technology and Electrical Engineering from the University of Naples Federico II, Italy, under the "National Operational Program (PON) – Research and Innovation 2014-2020" grant, with a thesis on the integration and control of non-conventional multi-port traction converters for rolling stock vehicles with onboard energy storage and fuel cell systems. During his Ph.D, he has collaborated with the Department of Electronic, Electrical and Systems Engineering at the University of Birmingham, UK, and with Hitachi Rail Italy S.p.A. company in Naples, Italy. His research interests encompass modelling, control, and integration of energy storage systems, power electronic converters, and electrical drives with application to rail and air propulsion systems, wind energy conversion systems, and energy storage integration. He currently holds a position as Research Associate at the Department of Electrical Engineering and Information Technology, University of Naples Federico II, Italy, where he is involved in lectures and research activities on power electronics and electrical machines for transportation and renewables.

Small-Signal Modeling And Stability Analysis Of Grid-Connected Converters

Summary: With the ever-increasing penetration of renewable energy sources (RES), modern power systems are gradually shifting towards a power-electronic-intensive configuration. Switching voltage-source converters are the key technology for a large-scale integration of renewables and provide many advantages in terms of rapid and flexible control of generation units. Grid-following (GFL) and gridforming (GFM) converters established as the two main control paradigms, and their combined utilization is essential for developing a robust and flexible grid infrastructure. However, their complex control dynamics originating from multiple nested control loops can result in instability issues when interacting with the grid. For this reason, a deep understanding of robust methods to assess the stability of converter-grid interaction is essential to ensure stable and reliable operation of the modern power system. Oscillations resulting from unstable interactions between the converter and the grid can range from few Hz to several kHz, making the stability assessment a complex task. A typical approach lies in the small-signal modeling and stability analysis of the system. Typically, two main approaches are adopted: state-space modeling with eigenvalue analysis, and transfer-function modeling with frequency-domain analysis, which can be reformulated as impedance-based analysis. The two approaches differ in terms of ease of derivation, insight into oscillations mode and participation factors, scalability, and application to grey and black-box systems. This tutorial will delve into small-signal modeling and stability analysis of grid-interactive converters. The main concepts behind the state-space and transfer-function modeling of the converter-grid interaction will be detailed, with particular focus on the impedancebased approach. Common mistakes and potential solutions encountered during the application of these methods will be discussed. Ultimately, best practices for extending the stability analysis to a larger interconnected system with multiple converter units will be covered.

CONFERENCE PROGRAM SUMMARY

Program Summary of icSmartGrid 2025, Glasgow, United Kingdom May 27-29, 2025															
	MAY 27, 2025 (TUESDAY)					MAY 28, 2025 (WEDNESDAY)					MAY 29, 2025 (THURSDAY)				
08.30-09.00	Opening Ceremony and Speeches														
09.00-10.00	Keynote Speech-I (60 Min)					**09.00-10.00**	Keynote Speech-III (60 Min)					**09.00-10.50**	Parallel Session-1 Face to Face Session-F3 5 PAPERS (5*20=100 Min)	Parallel Session-2 Online Session-O19 6 PAPERS (6*20=120 Min)	Parallel Session-3 Online Session-O20 6 PAPERS (6*20=120 Min)	Parallel Session-4 Online Session-O21 6 PAPERS (6*20=120 Min)	Parallel Session-5 Online Session-O22 5 PAPERS (5*20=100 Min)
10.00-10.10	**MORNING COFFEE BREAK**					**10.00-10.10**	**MORNING COFFEE BREAK**										
10.10-11.10	Keynote Speech-II (60 Min)					**10.10-11.10**	Keynote Speech-IV (60 Min)										
11.10-11.20	**MORNING COFFEE BREAK**					**11.10-11.20**	**MORNING COFFEE BREAK**					**10.50-11.00**	**MORNING COFFEE BREAK**				
	MAY 27, 2025 (TUESDAY)					MAY 28, 2025 (WEDNESDAY)						MAY 29, 2025 (THURSDAY)					
11.20-12.40	Parallel Session-1 Face to Face Session-F1 4 PAPERS (4*20=80 Min)	Parallel Session-2 Online Session-O1 4 PAPERS (4*20=80 Min)	Parallel Session-3 Online Session-02 4 PAPERS (4*20=80 Min)	Parallel Session-4 Online Session-O3 4 PAPERS (4*20=80 Min)	Parallel Session-5 Online Session-O4 4 PAPERS (4*20=80 Min)	**11.20-12.40**	Parallel Session-1 Face to Face Session-F2 4 PAPERS (4*20=80 Min)	Parallel Session-2 Online Session-10 4 PAPERS (4*20=80 Min)	Parallel Session-3 Online Session-11 4 PAPERS (4*20=80 Min)	Parallel Session-4 Online Session-O12 4 PAPERS (4*20=80 Min)	Parallel Session-5 Online Session-O13 4 PAPERS (4*20=80 Min)	**11.00-12.40**	Parallel Session-1 Face to Face Session-F4 5 PAPERS (5*20=100 Min)	Parallel Session-2 Online Session-O23 5 PAPERS (5*20=100 Min)	Parallel Session-3 Online Session-O24 5 PAPERS (5*20=100 Min)	Parallel Session-4 Online Session-O25 5 PAPERS (5*20=100 Min)	Parallel Session-5 Online Session-O26 5 PAPERS (5*20=100 Min)
12.40-13.30	**LUNCH**					**12:40-13:30**	**LUNCH**					**12:40-13:30**	**LUNCH**				

Program Summary of icSmartGrid 2025, Glasgow, United Kingdom May 27-29, 2025																		
	MAY 27, 2025 (TUESDAY)						MAY 28, 2025 (WEDNESDAY)						MAY 29, 2025 (THURSDAY)					
13.30-14.30	TUTORIAL-I						**13.30-14.30**	TUTORIAL-III					**13.30-15.30**	Parallel Session-1 Face to Face Session-F5 5 PAPERS (5*20=100 Min)	Parallel Session-2 Online Session-O27 6 PAPERS (6*20=120 Min)	Parallel Session-3 Online Session-O28 6 PAPERS (6*20=120 Min)	Parallel Session-4 Online Session-O29 6 PAPERS (6*20=120 Min)	Parallel Session-5 Online Session-O30 6 PAPERS (6*20=120 Min)
14.30-14.40	**AFTERNOON COFFEE BREAK**						**14.40-15.40**	**AFTERNOON COFFEE BREAK**										
14.40-15.40	TUTORIAL-II						**14.40-15.40**	TUTORIAL-IV										
15.40-17.20	Parallel Session-1 Online Session-O5 6 PAPERS (6*20=120 Min)	Parallel Session-2 Online Session-O6 6 PAPERS (6*20=120 Min)	Parallel Session-3 Online Session-O7 6 PAPERS (6*20=120 Min)	Parallel Session-4 Online Session-O8 4 PAPERS (6*20=120 Min)	Parallel Session-5 Online Session-O9 6 PAPERS (6*20=120 Min)		**15.40-17.40**	Parallel Session-1 Online Session-O14 6 PAPERS (6*20=120 Min)	Parallel Session-2 Online Session-O15 6 PAPERS (6*20=120 Min)	Parallel Session-3 Online Session-O16 6 PAPERS (6*20=120 Min)	Parallel Session-4 Online Session-O17 6 PAPERS (6*20=120 Min)	Parallel Session-5 Online Session-O18 6 PAPERS (6*20=120 Min)	**15.30-15.40**	**AFTERNOON COFFEE BREAK**				
													15.40	**Closing Ceremony**				
18.00-20.00	**Welcome Party**						**18.00-20.00**	**Gala Dinner**										

CONFERENCE PROGRAM

Date: 27 MAY 2025	
KEYNOTE	
08.30-09.00	Opening Ceremony and Speeches: -Mr. Hidehiko Kikuchi, Chief Executive Officer, Power Systems Corporation, Japan -Prof. Khaled Ahmed, General Chair, icSmartGrid 2025 -Prof. Ilhami Colak, General Co-Chair, icSmartGrid 2025 -Prof. Fujio Kurokawa, General Co-Chair, icSmartGrid 2025
KEYNOTE	
09.00-10.00	Speaker: Mr. Makoto Yoshimura Deputy Vice President & Technology Executive, Power Electronics System Division, TMEIC Corporation Chairs: Fujio Kurokawa, Ramazan Bayindir
10.00-10.10	**COFFEE BREAK**
KEYNOTE	
10.10-11.10	Speaker: Professor Keiichi Hirose Nagasaki Institute of Applied Science, Japan Chairs: Nobumasa Matsui, Khaled Ahmed
11.10-11.20	**COFFEE BREAK**

Date: 27 MAY 2025 +A10:F17					
	PARALLEL SESSION-1	**PARALLEL SESSION-2**	**PARALLEL SESSION-3**	**PARALLEL SESSION-4**	**PARALLEL SESSION-5**
	FACE TO FACE PRESENTATIONS	ONLINE PRESENTATIONS	ONLINE PRESENTATIONS	ONLINE PRESENTATIONS	ONLINE PRESENTATIONS
	SESSION F1 **CHAIR:Mariacristina Roscia,** **Alex Band**	SESSION O1 **CHAIRS: Nihat Ozturk,** **Diwakar Diwakar**	SESSION O2 **CHAIRS: Mehmet Yesilbudak,** **Harrouz Abdelkader**	SESSION O3 **CHAIRS: Orhan Kaplan,** **Maryam Karimi**	SESSION O4 **CHAIRS: Mehmet Demirtas,** **David Walwyn**
11.20-11.40	ID:24 Study of A Hybrid Network: Integration of A DC Infrastructure Into An AC Network for Optimizing Low Voltage Grids with PV Generation Manuel Alves (Estsetubal - ips); Daniel Foito (Estsetubal - ips)*; Vitor Fernão Pires (Estsetubal - ips); Armando Cordeiro (Isel - ipl); João Francisco Martins (Fct - Unl)	ID:1 Determination of Optimal Location of Res Power Plants Depending on The Electric Energy Consumed Emir Efe (Marmara University)*; Onur Akar (Marmara University)	ID:286 Improving Efficiency in Wind Turbine Engine Design Through Investigation of Electromagnetic Wrapping Inconsistencies Vinaykumar Jaiswal (Quantum University)*; Tarang Bhatnagar (Chitkara University); Anisha Chaudhary (Quantum University); Gajendran P. (Karpagam College of Engineering); Paramjit Baxi (Chitkara University); Amudha A (Karpagam Academy of Higher Education); Lakshman K (Management, School of Mangement - Ug, Jain)	ID:30 Low-dimensional Embeddings for Real-time Model-free Identification of Nonlinear Ders Using Diffusion Maps Javad Khazaei (Lehigh University)*	ID: 144 Cybersecurity and Cryptography Protecting Information in the Digital Age Riyaz Ahammed (Nitte University)*
11.40-12.00	ID:34 Three-phase Nine-level Modular Inverter with High-voltage Gain and Reduced Blocking Voltage Daniel Ferreira (Fct - Cts-uninova and Lasi); Armando Cordeiro (Isel - ipl)*; Paulo Gambôa (Isel-ipl); Rui Guerreiro (Isel-ipl); Joaquim Monteiro (Isel-ipl); Daniel Foito (Estsetúbal-ips); João F. Martins (Fct - Cts-uninova and Lasi); José F. Silva (Ist-ul); Vitor F. Pires (Estsetúbal-ips)	ID:3 Matlab-based Solar Irradiance Estimation Using Photovoltaic Modules Electrical Parameters Ali Mohammed Nafa (Middle Technical University (Mtu))*; Adel Obed (Middle Technical University (Mtu)); Ahmed Abid (Middle Technical University (Mtu))	ID:23 Standalone DC Nanogrid Cluster Design in Rural Areas and Optimal Energy Management with Markov Decision Process izviye Fatimanur Tepe (Gazi University); Erdal irmak (Gazi University)*; Seyfettin Vadi (Gazi University)	ID:33 Iot Based Preservative System for Food Grade Item Using PV Technique Hemakesavulu Oruganti (Annamacharya University,rajampet)*	ID: 145 Machine Learning for Predictive Maintenance in Power Generation and Distribution Riyaz Ahammed (Nitte University)*
12.00-12.20	ID:41 A Novel Fractional-order Damping Control Method for Enhancing Synchronization in Grid-forming Converters Mohamed Abouyehia (University of Strathclyde)*; Ayse Colak (University of Strathclyde); Reem Nasser (Alexandria University); Agustí Egea-àlvarez (University of Strathclyde); Khaled H. Ahmed (University of Strathclyde)	ID:15 Solar Integration: Enabling Uae Residential Microgrids for Sustainable Telecommunication Potturi Krushived (Neointelli); Bhaskar Gautam (Neointelli); Muzammil iqbal (Core Group); Ahmed Kiani (Core Group)*	ID:289 A Comprehensive Review of Data Collection Methods and Challenges in Machine Learning Vinaykumar Jaiswal (Quantum University)*; Prakhar Goyal (Quantum University); Varun Ojha (Chitkara University); Karthikeyan C (Karpagam institute of Technology); Preetjot Singh (Chitkara University); Ranjith Singh K. (Karpagam Academy of Higher Education); Shankar Prasad S (Management, School of Mangement - Ug, Jain)	ID:292 Leveraging Ai to Quickly Analyse Large Datasets and Uncover Valuable Insights Vinaykumar Jaiswal (Quantum University)*; Shriya Mahajan (Chitkara University); Senthil Kumar A (Sri Vishnu Engineering College For Women); Gopinath S. (Karpagam institute of Technology); Shivangi Gupta (Quantum University); Anandhasilambarasan D (Karpagam Academy of Higher Education); Thanga Kumar R (School of Mangement - Ug, Jain)	ID: 147 Integrating AI and IoT for Smart Antenna Systems in 5G Networks Riyaz Ahammed (Nitte University)*
12.20-12.40		ID:81 Proposed Hybrid Intelligent Control for Optimized Photovoltaic Systems Saloua Belaid (Université De Bejaia); Djamila Rekioua (University of Bejaia)*; Mahamadou Abdou-tankari (Univ Paris Est Créteil Certes, iut De Sénart Fontainebleau); Pierre-olivier Logerais (Univ Paris Est Créteil Certes, iut De Sénart Fontainebleau); Toufik Rekioua (Université De Bejaia)	ID:106 Enhanced Mppt Performance in Pv-based Water Pumping Systems Using Type-2 Fuzzy Super Twisting Sliding Mode Control Ruhi Zafer Caglayan (Ted University); Korhan Kayisli (Gazi University)*; Firat Hardalac (Gazi University)	ID:37 Community Batteries as Efficient Energy Management Systems: Motivations and Challenges Nikhil Jayaraj (Regen Power Pty Ltd)*	ID: 148 Deep Learning Applications in Embedded Systems and IoT Devices Riyaz Ahammed (Nitte University)*

Date: 27 MAY 2025	
TUTORIAL	
13.30-14.30	Speaker: Professor Seref Sagiroglu Gazi University, Ankara, Türkiye Chairs: Erdal Bekiroglu
14.30-14.40	**COFFEE BREAK**
TUTORIAL	
14.40-15.40	Speaker: Dr. Elyas Rakhshani HESStec, Valencia, Spain Chairs: Erdal Bekiroglu

Date: 27 MAY 2025					
	PARALLEL SESSION-1	**PARALLEL SESSION-2**	**PARALLEL SESSION-3**	**PARALLEL SESSION-4**	**PARALLEL SESSION-5**
	ONLINE PRESENTATIONS	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**
	SESSION O5 **CHAIRS: Mehmet Rida Tur;** **Ali Mohammed Nafa**	**SESSION O6** **CHAIRS: Fabio Viola,** **Vinaykumar Jaiswal**	**SESSION O7** **CHAIRS: Javad Khazae,** **Hemakesavulu Orugant**	**SESSION O8** **CHAIRS: Djamila Rekioua,** **Nikhil Jayaraj**	**SESSION O9** **CHAIRS: Riyaz Ahammed,** **Selva P**
15.40-16.00	ID:296 Exploring The Core of Phone and Wireless Telecommunications Systems Pranjal Pranjal (Cvr College of Engineering)*; Eppili Jaya (Aditya institute of Technology and Management); Prateek Aggarwal (Chitkara University); S. Kannimuthu (Karpagam College of Engineering); Sakshi Sobti (Chitkara University); K. Ranjith Singh (Karpagam Academy of Higher Education, Coimbatore); Baishakhi Debnath (Jain (Deemed To Be University))	ID:38 Comprehensive Assessment of Offshore Wind Turbine Key Selection Factors Through A Two-stage Fuzzy Piprecia Framework Ouiame El Fadli (Moulay ismail University-meknes)*; Hala Hmamed (Moulay ismail University-meknes); Ahmed Lagrioui (Moulay ismail University-meknes)	ID:159 Culturally Driven Renewable Energy Adoption: Cross-Regional Insights and Strategies for Inclusive Energy Transitions Murat Akil (Aksaray University), Hafize Nurgul Durmus Senyapar (Gazi University), Ramazan Bayindir (Gazi University)	ID:82 A Testbed Approach to Assessing and Mitigating Iiot Network Vulnerabilities Maryam Karimi (Fm)*; Scott Bartlett (Fm); Diego Mendez Mena (Fm)	ID: 329 Blockchain-Enabled AI Framework for Secure and Scalable IoT Data Analytics in Smart Grid Systems Selva P (Bharath University)*
16.00-16.20	ID:303 Emerging Trends and Challenges in Optical Wireless Communications Development Manishnandy Manishnandy (Chitkara University)*; Shivangi Gupta (Quantum University); Kanika Seth (Chitkara University); K.s. Bhuvaneshwari (Karpagam College of Engineering); Ansh Kataria (Chitkara University); N. Thangarasu (Karpagam Academy of Higher Education); Priya Makhija (Jain (Deemed To Be University))	ID:276 Revolutionizing Cybersecurity Management with Ai for Greater Security and Resilience Diwakar Diwakar (Yeshwantrao Chavan College of Engineering)*; Amit Sharma (Lovely Professional University); Santanu Kumar Sahoo (Siksha 'o' Anusandhan (Deemed To Be University)); Ramkumar Krishnamoorthy (Jain (Deemed-to-be University)); Joshila Grace (Sathyabama institute of Science and Technology); Syed Abrar Ahmed (Presidency University); Alex Mathew (Bethany College)	ID:279 Exploring The Convergence of Artificial Intelligence, 5g, Iot, Machine Learning, and Network Security for Technological Advancements Diwakar Diwakar (Yeshwantrao Chavan College of Engineering)*; K Raghavendra Prasad (Rao Bahadur Y Mahabaleswarappa Engineering College); Sandhya Dass (Presidency University); Garima Sinha (Jain (Deemed-to-be University)); Shyam R (Presidency College); V.j.k. Kishore Sonti (Sathyabama institute of Science and Technology); Bharat Jyoti Ranjan Sahu (Siksha 'o' Anusandhan (Deemed To Be University))	ID:197 A Challenging Optimal Power Flow with Renewable Energy Sources with The Application Grey Wolf Optimizer Harrouz Abdelkader (Department of Hydrocarbon and Renewable Energy, Laboratory (Lddi), University of Adrar, Algeria)*; Dumbrava Virgil (Department of Electric Power Systems, Polytechnic University of Bucharest)	ID: 330 Edge-Optimized AI Framework for Predictive Maintenance in Smart Industrial IoT Systems Selva P (Bharath University)*; Ravi Kiran Gadiraju (Product management Carrollton, Texas)
16.20-16.40	ID:308 Revolutionizing The Future with 6g Networks Powered by Artificial Intelligence Vinaykumar Jaiswal (Quantum University)*; Amit Kansal (Quantum University); Amit Kumar (Chitkara University); Ram Prasath S. (Karpagam College of Engineering); Pradeep Marwaha (Chitkara University); Vigenesh M. (Karpagam Academy of Higher Education); Saritha Srinivasmurthy Raghotham (School of Mangement - Ug, Jain)	ID:54 Evaluation of Pm2.5 and Pm10 Levels in Urban Streets: Analysis, Impacts, and Mitigation Strategies Fabio Viola (Università Di Palermo)*	ID:76 A Multi Port Power Converter for Electric Vehicle Applications Bayareddy Lomada (Annamacharya institute of Technology and Science)*	ID:85 Prediction of Solar Power Using Machine Learning - Annamacharya University case study Padma Lalitha Mareddy (Annamacharya institute of Technology and Sciences, Rajampet)*; Hemakesavulu Oruganti (Annamacharya institute of Technology and Sciences, Rajampet); Netaji Subhash Poli (Annamacharya institute of Technology and Sciences, Rajampet); Pavan Kumar Katabathina (Annamacharya institute of Technology and Sciences, Rajampet); Naveen Katta (Annamacharya institute of Technology and Sciences, Rajampet); Naveen Koneru (Annamacharya institute of Technology and Sciences, Rajampet)	ID: 333 Multi-Agent Deep Reinforcement Learning for Adaptive Traffic Signal Control in Smart Cities Selva P (Bharath University)*; Vamshi K (Independent Researcher, Data Quality Engineer, Dodge & Cox Ohio Dr apt 2097, Frisco, Texas United States)

Date: 27 MAY 2025					
	PARALLEL SESSION-1	**PARALLEL SESSION-2**	**PARALLEL SESSION-3**	**PARALLEL SESSION-4**	**PARALLEL SESSION-5**
	ONLINE PRESENTATIONS	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**
	SESSION O5 **CHAIRS: Mehmet Rida Tur;** **Ali Mohammed Nafa**	**SESSION O6** **CHAIRS: Fabio Viola,** **Vinaykumar Jaiswal**	**SESSION O7** **CHAIRS: Javad Khazae,** **Hemakesavulu Orugant**	**SESSION O8** **CHAIRS: Djamila Rekioua,** **Nikhil Jayaraj**	**SESSION O9** **CHAIRS: Riyaz Ahammed,** **Selva P**
16.40-17.00	ID:310 Advances in Heat Management Techniques for Electrically Powered Equipment Manishnandy Manishnandy (Chitkara University)*; Mithhil Arora (Chitkara University); Prabhjot Kaur (Chitkara University); C. Mukuntharaj (Karpagam College of Engineering); Shobhit Goyal (Quantum University); V.j. Vijayalakshmi (Karpagam Academy of Higher Education); Umakanth S (Jain (Deemed To Be University))	ID:280 Exploring The Potential of Blockchain Technology for Supply Chain Traceability in The Electronics Sector: A Comprehensive Analysis and Case Studies Diwakar Diwakar (Yeshwantrao Chavan College of Engineering)*; Kalyandurg Rafeeq Ahmed (Presidency University); Beena Snehal Uphale (Presidency College); Kuthalingam Venkadeshwaran (Jain (Deemed-to-be University)); J Jabez (Sathyabama institute of Science and Technology); Pravat Kumar Routray (Siksha 'o' Anusandhan (Deemed To Be University)); intekhab Alam (Maharishi University of information Technology)	ID:79 Evaluation of Hydrogen Fuel Cell as A Backup Power for Telecommunication Base Stations Junliang Xiao (Ntt Docomo, inc.)*; Masaki Nakamura (Ntt Docomo, inc.)	ID:92 An Assessment of The United Kingdom's Clean Energy Strategy for The Year 2030 David Walwyn (University of Pretoria)*; Anthony Stephens (Unaffiliated)	ID: 334 Optimizing Deep Learning Inference for Energy-Constrained IoT Devices in Smart City Environments Selva P (Bharath University)*; Vinod Goje (Osmania University)
17.00-17.20	ID:311 Optimizing Big Data for Data-driven Decision Making with An In-depth Evaluation Vinaykumar Jaiswal (Quantum University)*; Maneesh Kumar (Dev Bhoomi Uttarakhand University); Akash Sanghi (Invertis University); Mukuntharaj C. (Karpagam College of Engineering); Dilrajpreet Kaur (K. R. Mangalam University); Yuvaraj K. (Karpagam Academy of Higher Education); Hannah Jessie Rani R (School of Engineering and Technology, Jain)	ID:282 Technical Analysis and Strategic Insights From The 2025 Spain Blackout Umit Cetinkaya (Teias)*; Merden Yesil (Inavitas Aggregation and Energy Trading); Ramazan Bayindir (Gazi University); Erdal irmak (Gazi University)	ID:80 Hybrid Intelligence for Optimal Power Flow: Artificial Hummingbird Algorithm and Artificial Neural Networks Omar Al-butti (Gazi University)*	ID:284 Improving Iot Security Through Advanced Prestige-based Connection Tracking Vinaykumar Jaiswal (Quantum University)*; Tusha Tusha (Quantum University); Lalit Khanna (Chitkara University); Sriram Kumar K. (Karpagam institute of Technology); Vaibhav Kaushik (Chitkara University); Vigenesh M (Karpagam Academy of Higher Education); Supriya Rai (Department of Management, School of Mangement - Ug, Jain)	ID: 335 Transformer-Based Anomaly Detection in Industrial IoT Sensor Networks Selva P (Bharath University)*; Vinod Goje (Independent Researcher, Osmania University Hyderabad, India)
17.00-17.20	ID:312 Leveraging 5g Wireless Technology for Advancing Strategic Telecommunications Systems Manishnandy Manishnandy (Chitkara University)*; Jaspreet Sidhu (Chitkara University); Shubhi Goyal (Quantum University); C. Karthikeyan (Karpagam institute of Technology); Divya Sharma (Chitkara University); D. Anandhasilambarasan (Karpagam Academy of Higher Education); Yashoda L (Jain (Deemed To Be University))	ID:70 The World's Longest Plow Is on Its Way to A Guinness World Record. Renewable Energy Systems and Community Development Opportunities Daniel icaza (Catholic University of Cuenca, Cuenca, Ecuador)*; John López Castillo (Universidad Católica De Cuenca); Oscar Siguencia (Universidad Católica De Cuenca)	ID:175 Social Impacts of Energy Sources for Decentralized Generation Moses Kabeyi (Durban University of Technology)*; Oludolapo Olanrewaju (Durban	ID:94 Power Management for Hydrokinetic-powered Island: A Hybrid Storage System Mohammed Abdulelah Albasheri (Laboratoire De Recherche En Electrotechnique Et Automatique, University of Dr Yahia Fares, Medea)*; Youcef Soufi (Laboratoire Du Génie Electrique University Echahid Larbi Tebessi); Abderrezzak Cheri? (Iut De Mantes-en-yvelines, Laboratoire End-icap - Umr1179 Université Paris Saclay); Ouahid Bouchhida (Laboratoire De Recherche En Electrotechnique Et Automatique, University of Dr Yahia Fares, Medea); Mujammal Ahmed Hasan (Laboratoire De Recherche En Electrotechnique Et Automatique, University of Dr Yahia Fares, Medea); Muntaser Mohammed Al-sharfi (Laboratoire De Eneries Reneouvlable Et Des Materiaux University of Dr Yahia Fares)	ID:325 Bus-centric Temporal Graph Neural Network Framework for Fault Localization And- Risk Profiling Using Pmu Time Series Data Kunal Samad (Central University of Karnataka)*; Arunkumar Patil (Central University of Karnataka); Amarendra Matsa (Central University of Karnataka)
18.00	**Welcome Party**				

Date: 28 MAY 2025	
KEYNOTE	
09.00-10.00	Speaker: Mr. Benjamin Marshall HVDC Technology Manager Chairs: Abdou Tankari Mahamadou, Andreas Stadler
10.00-10.10	**COFFEE BREAK**
KEYNOTE	
10.10-11.10	Speaker: Mr. Mark Goudie Whole System Manager – SP Energy Networks Chairs: Pierre-Olivier Logerais, Daniel Foito
11.10-11.20	**COFFEE BREAK**

Date: 28 MAY 2025					
	PARALLEL SESSION-1	**PARALLEL SESSION-2**	**PARALLEL SESSION-3**	**PARALLEL SESSION-4**	**PARALLEL SESSION-5**
	FACE TO FACE PRESENTATIONS	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**
	SESSION F2 CHAIR: Jura Arkhangelski, Korhan Kayisli	**SESSION O10 CHAIRS: Alphousseyni Ndiaye, Venuananddas Vaishnav**	**SESSION O11 CHAIRS: Nithin Raj, Ramakrishna Nuvvula S S**	**SESSION O12 CHAIRS: Abdelhakim Belkaid, Polamarasetty Kumar**	**SESSION O13 CHAIRS: Abhijeetmadhukar Haval, Priyanka Saharan**
11.20-11.40	ID:96 Possible Legal Forms for Energy Communities Merilin Metsik (Taltech)*; Narmin Eynizada (Taltech); Tarmo Korõtko (Taltech)	ID:247 Predicting Equipment Failures in Production Using Machine Learning for Improved Reliability and Cost Efficiency Abhijeetmadhukar Haval (Dr.ambedkar institute of Management Studies & Research)*; Mohamed Dawood Shamout (University of Sharjah); Beemkumar Nagappan (Jain (Deemed-to-be University)); S. Ganeshan (Sathyabama institute of Science and Technology); Kowstubha Palle (Chaitanya Bharathi institute of Technology); Balasubbareddy Mallala (Chaitanya Bharathi institute of Technology); Devansh Desai (Silver Oak University)	ID:251 Artificial Intelligence for Efficient Real-time Traffic Management in Smart Cities Prerana Sahu (Chitkara University)*; Kauser ibrahim (Jamia Millia islamia); Solomon Jebaraj (Department of Computer Science and information Technology, Jain); Neeraj Panwar (Graphic Era Hill University); Poornapushpakala S (Sathyabama institute of Science and Technology); Sasanka Choudhury (Siksha 'o' Anusandhan); Gnana Rahul B (K L Deemed To Be University, Vaddeswaram)	ID:258 Automated Road Lane Detection Using Deep Learning Prerana Sahu (Chitkara University)*; Surya Narayan Mishra (Kiit Deemed To Be University); Rekha Kiran Kumar T. (Srm University); Ashish Baldania (Gujarat Technological University); Vani H (Rymec, Ballari); Bhargabjyoti Saikia (Dibrugarh University); Mochammad Fahlevi (Bina Nusantara University)	ID:216 Optimizing Iot Performance Through Edge-to-cloud Computing Poorti Sharma (Presidency College)*; Dheeraj Tandon (Babu Banarsi Das University); Sesadri U (Vardhaman College of Engineeringvardhaman College of Engineering); Anisha Chaudhary (Quantum University); Thangarasu N. (Karpagam Academy of Higher Education); Ramesh P.n. (Karpagam institute of Technology); Varalakshmi S (School of Management - Ug, Jain)
11.40-12.00	ID:97 A Comparative Analysis of Machine Learning Based Power Flow Study with Custom Made Open Source Python Codes Bilal Ahmad (Royal Holloway)*; Onyema Nduka (Royal Holloway)	ID:249 Optimizing Inventory Management with Machine Learning for Accurate Demand Forecasting and Smart Replenishment Vijaya Laxmi (Sathyabama institute of Science and Technology)*; Mohamed Dawood Shamout (University of Sharjah); Murari Devakannan Kamalesh (Sathyabama institute of Science and Technology); Manoranjan Parhi (Siksha 'o' Anusandhan (Deemed To Be University)); Md Akram Ahmad (Presidency University); K. Suneetha (Jain (Deemed To Be University)); Amit Sharma (Lovely Professional University)	ID:257 Enhancing Iot Security and Privacy with Blockchain Integration Prerana Sahu (Chitkara University)*; Sunita Kumar (Manipal University); Paramjit Baxi (Chitkara University); Gaurav Kunwar (Veer Madho Singh Bhandari Uttarakhand Technical University); Kuldeep Sharma (Lovely Professional University); Pooja Sharma (Chitkara University); Prabhdeep Singh (Graphic Era Deemed To Be University)	ID:113 Assessing The Energy Efficiency of Buildings Using Machine Learning Methods ilya Kleshko (M.f. Reshetnev Siberian State University)*	ID:219 Enhancing Systems Engineering Through Ai Techniques and Applications Priyanka Saharan (Quantum University)*; Deepti Deepti (Massachusetts institute of Technology); Madan H T (Reva University); Shitij Goyal (Quantum University); Ranjith Singh K. (Karpagam Academy of Higher Education); D. Bhanu (Karpagam institute of Technology); S Varalakshmi (School of Mangement - Ug, Jain)
12.00-12.20	ID:104 An Adaptive Predictive Controller for Optimising The Benefits of A Ship-shore-factory Combined Bess and Microgrid Alex Band (Warwick University)*; Mehmet Kirca (Warwick University); Andrew Mcgordon (Warwick University)	ID:101 Designing A Scalable Real-time Iot Architecture for Smart Agriculture Monitoring and Control Vasiliy Orlov (Reshetnev Siberian State University of Science and Technology)*	ID:28 Power Factor Correction with Static Var Compensator Hayrettin Ertas (University of Aeronautical Association); Korhan Kayisli (Gazi University)*	ID:295 Securing Wireless Technology by Identifying and Addressing Duplicitous Programming Risks Vinaykumar Jaiswal (Quantum University)*; Mukul Mishra (Chitkara University); Shitij Goyal (Quantum University); Bhanu D. (Karpagam institute of Technology); Sahil Suri (Chitkara University); Balaji N. V. (Karpagam Academy of Higher Education); Asha S (Management, School of Management - Ug, Jain)	ID:223 Optimized Solar Panel Tracking with Raspberry Pi-based Dual-axis System Priyanka Saharan (Quantum University)*; Amit Kansal (Quantum University); Sorabh Sharma (Chitkara University); Jagtej Singh (Chitkara University); Ravivarman G. (Karpagam Academy of Higher Education); Premananthan G. (Karpagam College of Engineering); Shankar Prasad S (School of Management - Ug, Jain)
12.20-12.40	ID:109 Energy Simulation Models of A Photovoltaic-powered Energy Community Mariacristina Roscia ("university of Bergamo, italy")*; Giuliana Daniela Foti (University of Bergamo); Cristian Lazaroiu (Politehnica Bucharest)	ID:102 Design and Optimization of A Hybrid Energy Storage System Using The Dandelion Optimization Algorithm in Islanded Rural DC Microgrids izviye Fatimanur Tepe (Gazi University); Oguz Tasdemir (Kirsehir Ahi Evran University); Erdal irmak (Gazi University)*	ID:107 Simulation of An Energy Community and A Hydrogen-based Generator System Alexandru Nistor (National University of Science and Technology Politehnica)*; George Cristian Lazaroiu (National University of Science and Technology Politehnica); Georgiana Balaban (National University of Science and Technology Politehnica); Mariacristina Roscia (University of Bergamo)	ID:115 Design and Application of A Double-inductor Boost Converter for Powertrain in Fuel Cell Evs GOksen Torbacioglu (Bursa Technical University)*; GOkay Bayrak (Bursa Technical University)	ID:224 A Hybrid Neural Network and Reinforcement Learning Approach for Machine Learning-driven Cloud Computing Resource Optimization Abhijeetmadhukar Haval (Dr.ambedkar institute of Management Studies & Research)*; Harshith Babu (Hindusthan College of Engineering & Tech); T Ravi (Sathyabama institute of Science and Technology); Sarita Mohapatra (Siksha 'o' Anusandhan (Deemed To Be University)); Arunkumar Devalapura Thimmappa (Jain (Deemed-to-be University)); T.r. Vijaya Lakshmi (Mahatma Gandhi institute of Technology)
12.40-13.30	**LUNCH**				

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TUTORIAL	
13.30-14.30	Speaker: Prof. Dr. Youcef SOUFI University Echahid Larbi Tebessi, Tebessa, Algeria Chairs: Erdal Irmak
14.30-14.40	**COFFEE BREAK**
TUTORIAL	
14.40-15.40	Speaker: Dr. Emanuele Fedele University of Naples Federico II, 80125 Naples, Italy Chairs: Korhan Kayisli

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	ONLINE PRESENTATIONS	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**
	SESSION O14 **CHAIRS:Orhan Kaplan,** **Vasiliy Orlov**	**SESSION O15** **CHAIRS: Nihat Ozturk,** **Prerana Sahu**	**SESSION O16** **CHAIRS: Mehmet Yesilbudak,** **Alexandru Nistor**	**SESSION O17** **CHAIRS: Mehmet Demirtas,** **İlya Kleshko**	**SESSION O18** **CHAIRS: Batuhan Hangun,** **Abhijeetmadhukar Haval**
15.40-16.00	ID:166 Solar energy forecasting based on ARIMA model: case study of the Ten Merina power plant, Senegal Alphousseyni Ndiaye (Universite Alioune Diop de Bambey-Senegal)*	ID:117 Convolutional Neural Network-based Diagnostic Technique for Transformer Oil Condition Assessment Sanju M. Sathyan (Rit, Kottayam); Nithin Raj (Rit, Kottayam)*; Aryanandiny B (Rit, Kottayam); Savitha S Pillai (Department of Physics, University of Kerala)	ID:123 Backsteping-based Nolinear Control of Pmsg Wind Energy Conversion System Abdelhakim Belkaid (Bejaia University)*; Samia Bensmail (Bejaia University); Chafiaa Serir (Bejaia University); ilhami Colak (Istinye University); Talit Belhoul (Bejaia University); Zahra Mokrani (Bejaia University); Radia Abdelli (Bejaia University); Djamila Ziani (Bejaia University)	ID:129 A Comparative Study of Computational Intelligence Algorithms for Fault Detection in Smart Grids Ramakrishna Nuvvula S S (Nitte Nmamit)*	ID:227 Enhancing Web-scale Processing with Graph Convolutional Neural Networks Priyanka Saharan (Quantum University)*; Saumya Goyal (Quantum University); Sukhman Ghumman (Chitkara University); Bhavuk Samrat (Chitkara University); Balaji N. V. (Karpagam Academy of Higher Education); S. Arul Antran Vijay (Karpagam College of Engineering)
16.00-16.20	ID:167 Analysis of the stability of the electricity network integrating renewable energy sources: case study of the Senelec network, Senegal Alphousseyni Ndiaye (Universite Alioune Diop de Bambey-Senegal)*	ID 158 Characteristics of Transformer Insulation with Renewable Energy Integration Sanju M. Sathyan (RIT Kottayam); Aryanandiny B (RIT Kottayam); Johnson Mathew (RIT Kottayam) Nithin Raj (RIT, Kottayam)*; Binu Sankar (KSEBL); Savitha Pillai S (RIT Kottayam)	ID:124 Integration of Renewable Energy Sources to Smart Grid Using Machine Learning-based Forecasting Models for Grid Stability Enhancement Ramakrishna Nuvvula S S (Nitte Nmamit)*	ID:130 Optimized Power Delivery and Generation in Smart Grids Using Reinforcement Learning-based Energy Dispatch Strategies Ramakrishna Nuvvula S S (Nitte Nmamit)*	ID:228 Blockchain Solutions for Enhanced Security and Openness in Data Administration Abhijeetmadhukar Haval (Dr.ambedkar institute of Management Studies & Research)*; S. Prince Mary (Sathyabama institute of Science and Technology); Aneesh Wunnava (Siksha 'o' Anusandhan (Deemed To Be University)); Arifa Ahmed (Presidency University); Ranganathaswamy Madihalli Kenchappa (Jain (Deemed-to-be University)); Pachayappan R (Presidency College); Suraj Singh (Maharishi University of information Technology)
16.20-16.40	ID:168 Pedal Assisted Bicycle with BLDC Motor Aswath D (Amrita Vishwa Vidyapeetham, Coimbatore), Paidi Heamani (Amrita Vishwa Vidyapeetham, Coimbatore), Akkiesh D (Amrita Vishwa Vidyapeetham, Coimbatore), Jai Dharsani (Amrita Vishwa Vidyapeetham, Coimbatore), Mohanrajan Rajendran (Amrita School of Engineering Coimbatore, Amrita Vishwa, Visyapeetham)*	ID:119 Simulation Modeling of A Microgrid with Renewable Energy Sources and A Demand Response Anastasia Kozlova (Reshetnev Siberian State University of Science and Technology)*	ID:125 Ai-powered Production Forecasting and Optimization of Energy Generation in Smart Grid Technologies Ramakrishna Nuvvula S S (Nitte Nmamit)*	ID:131 Secure and Scalable Distributed Power Energy Systems: A Blockchain-based Approach for Smart Grid Source Integration Ramakrishna Nuvvula S S (Nitte Nmamit)*	ID:229 Soft Computing Approaches for Big Data Problem-solving Priyanka Saharan (Quantum University)*; Deepti Deepti (Massachusetts institute of Technology); Rinku Sharma Dixit (New Delhi institute of Management); Shailee Lohmor Choudhary (New Delhi institute of Management); Hemelatha S. (Karpagam Academy of Higher Education); Kannimuthu S. (Karpagam College of Engineering); Dr.shruthi K Bekal (School of Management - Ug, Jain)

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	PARALLEL SESSION-1	**PARALLEL SESSION-2**	**PARALLEL SESSION-3**	**PARALLEL SESSION-4**	**PARALLEL SESSION-5**
	ONLINE PRESENTATIONS	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**
	SESSION O14 **CHAIRS:Orhan Kaplan,** **Vasiliy Orlov**	**SESSION O15** **CHAIRS: Nihat Ozturk,** **Prerana Sahu**	**SESSION O16** **CHAIRS: Mehmet Yesilbudak,** **Alexandru Nistor**	**SESSION O17** **CHAIRS: Mehmet Demirtas,** **İlya Kleshko**	**SESSION O18** **CHAIRS: Batuhan Hangun,** **Abhijeetmadhukar Haval**
16.40-17.00	ID 169 LSTM network for forecasting solar energy injected into the LV electricity grid: case study, Bokhol solar power plant, Senegal Alphousseyni Ndiaye (Universite Alioune Diop de Bambey-Senegal)*	ID:120 Fuzzy-based Smart Control for Optimized Pv-wind-battery Energy Systems in Remote Areas Abdelhakim Belkaid (Bejaia University)*; Samia Bensmail (Bejaia University); ilhami Colak (Istinye University); Talit Belhoul (Bejaia University); Zahra Mokrani (Bejaia University); Radia Abdelli (Bejaia University); Chafiaa Serir (Bejaia University); Djamila Ziani (Bejaia University)	ID:126 Design and Simulation of A Hybrid Smart Grid Energy System Using Edge Computing and Iot-based Control Architectures Ramakrishna Nuvvula S S (Nitte Nmamit)*	ID:132 Big Data Analytics in Renewable Energy Management for Intelligent Smart Grid Operation Ramakrishna Nuvvula S S (Nitte Nmamit)*	ID:230 Enhancing Predictive Maintenance in Industrial Iot: Comparative Analysis of Machine Learning Models for Fault Detection and Performance Optimization Abhijeetmadhukar Haval (Dr.ambedkar institute of Management Studies & Research)*; Biswaranjan Swain (Siksha 'o' Anusandhan (Deemed To Be University)); Shabeeh Asghar Abidi (Presidency College); Sekar R (Presidency University); Sunil Mp (Jain (Deemed-to-be University)); Ankita Thakur (Maharishi University of information Technology); T Gomathi (Sathyabama institute of Science and Technology)
17.00-17.20	ID:324 Electromagnetic Modeling Techniques in Battery Chemistry A Comprehensive Comparison Venuananddas Vaishnav (Atlas Skilltech University)*; Prabhat Sharma (Chitkara University); Akshay Kumar V (Department of Computer Science and information Technology, Jain); Gopinath, S. (Karpagam institute of Technolog); Bhavuk Samrat (Chitkara University); Thangamani A. (Karpagam Academy of Higher Education); Anita Walia (Department of Management, School of Mangement - Jain)	ID:121 Fuzzy Logic Optimization for Solar Systems with Integrated Hybrid Energy Storage Abdelhakim Belkaid (Bejaia University)*; Zahra Mokrani (Bejaia University); ilhami Colak (Istinye University); Chafiaa Serir (Bejaia University); Adel Oubelaid (Bejaia University); Khoudir Kakouche (Bejaia University); Toufik Rekioua (Bejaia University); Talit Belhoul (Bejaia University); Radia Abdelli (Bejaia University); Samia Bensmail (Bejaia University); Djamila Ziani (Bejaia University)	ID:127 Deep Learning-driven Novel Energy Conversion Frameworks for Smart Grid Applications Ramakrishna Nuvvula S S (Nitte Nmamit)*	ID:133 Cybersecurity-aware Control of Conventional Power Sources Integrated with Smart Grid Architectures Polamarasetty Kumar (Gmr institute of Technology)*	ID:232 A Single-stage Soft-switching Bidirectional Ac-dc Converter for Electric Vehicle Chargers Topology Analysis and Implementation Prabakaran S (Amrita Vishwa Vidyapeetham)*
17.20-17.40	ID:68 Neural Network Solvers for Energy Management, in The Case of A Multi-period Opf Problem Aurélien Hazan (Lissi)*; Jura Arkhangelski (Certes); Mahamadou Abdou Tankari (Certes)	ID:122 Efficiency Enhancing of Doubly Fed Induction Generators Based Wind Turbines Via Fuzzy Logic Controllers Abdelhakim Belkaid (Bejaia University)*; Radia Abdelli (Bejaia University); Ahcene Bouzida (Bouira University); ilhami Colak (Istinye University); Chafiaa Serir (Bejaia University); Samia Bensmail (Bejaia University); Talit Belhoul (Bejaia University); Zahra Mokrani (Bejaia University)	ID:128 Performance Analysis of Smart Grid Energy Systems Under Varying Loads Using Digital Twin and Real-time Data Analytics Ramakrishna Nuvvula S S (Nitte Nmamit)*	ID:134 Ai-driven Multi-objective Optimization for Energy Transformation From Renewable Sources to Smart Grid Infrastructure Polamarasetty Kumar (Gmr institute of Technology)*	ID:234 Intelligent Cybersecurity for Iot: A Hybrid Qrime-sdpn Approach for Network Attack Detection on Cic-iot-2023 Piyush Pareek (Nitte Meenakshi institute of Technology , Bengaluru)*
18.00	**Gala Dinner**				

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	PARALLEL SESSION-1	**PARALLEL SESSION-2**	**PARALLEL SESSION-3**	**PARALLEL SESSION-4**	**PARALLEL SESSION-5**
	FACE TO FACE PRESENTATIONS	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**
	SESSION F3 **CHAIRS: Erdal Irmak,** **Amirhossein Adib**	**SESSION O19** **CHAIRS: Onder Eyecioglu,** **Halah Al-saadi**	**SESSION O20** **CHAIRS: Batuhan Hangun,** **Joselyn Menye**	**SESSION O21** **CHAIRS: Abdelhakim Belkaid,** **Abhijeetmadhukar Haval**	**SESSION O22** **CHAIRS: Harrouz Abdelkader,** **Venuananddas Vaishnav**
09.00-09.20	ID:185 Designing and Integrating A Battery-electrolyser Energy System for Communities in Sub-saharan Africa Soustain Chigalu (Loughborough University); Devine Matare (Renew'n'able); Elizabeth Ashton (Loughborough University)*; John Barton (Loughborough University); Martin Bliss (Loughborough University); Matthew Brenton (Loughborough University); Radoslav Andreev (Monbat Group); Dani Strickland (Loughborough University); Carl Telford (Consortium For Battery innovation); Jonathan Wilson (Loughborough University); Toby Williams (Loughborough University)	ID:135 Smart Grid Integration with Electric Vehicles: A Predictive Energy Management System Using Federated Learning Polamarasetty Kumar (Gmr institute of Technology)*	ID:141 Dosage: Real-time Detection of Signaling Dos-attacks in Smart Grid Environment Tapadyoti Banerjee (Indian institute of Technology Kharagpur)*; Dipanwita Roy Chowdhury (Indian institute of Technology Kharagpur)	ID:160 Global Energy Consumption Patterns: Economy, Sources and Climate Impacts ilya Kleshko (M.f. Reshetnev Siberian State University)*	ID:235 Cybersecurity Threat Detection Using Opcynet and Dbra: A Deep Learning Approach for Ddos Attack Mitigation on Cicddos2019 Piyush Pareek (Nitte Meenakshi institute of Technology , Bengaluru)*
09.20-09.40	ID:79 Evaluation of Hydrogen Fuel Cell as A Backup Power for Telecommunication Base Stations Junliang Xiao (Ntt Docomo, inc.)*; Masaki Nakamura (Ntt Docomo, inc.)	ID:136 Adaptive Energy Management Systems for Smart Grids: A Hybrid Approach Using Machine Learning and Iot Integration Polamarasetty Kumar (Gmr institute of Technology)*	ID:142 Ai-powered Optimization of Antenna Arrays for Enhanced Communication Performance Riyaz Ahammed (Nitte University)*	ID:161 Fault Location in Three Terminal Transmission Lines Using Artificial Neural Networks Devyani Vaidya (National institute of Technology Warangal)*; M. Nabab Alam (National institute of Technology Warangal)	ID:236 An Intelligent Iot Attack Detection Model Using Weighted Elm and Educational Achievement Guided Optimization Piyush Pareek (Nitte Meenakshi institute of Technology , Bengaluru)*
09.40-10.00	ID:164 Power Hardware in The Loop Test Bed for Ai-based Grid Control Andreas Stadler (Helmut Schmidt University)*; Yuzhuo Fu (Helmut Schmidt University/university of The Federal Armed Forces Hamburg); Nils Pinke (Helmut Schmidt University/university of The Federal Armed Forces Hamburg); Detlef Schulz (Helmut Schmidt University/university of The Federal Armed Forces Hamburg)	ID:137 Decentralized Energy Management Systems for Renewable Microgrids Using Multi-agent Optimization Techniques Polamarasetty Kumar (Gmr institute of Technology)*	ID:143 Neural Network-based Signal Processing in Vlsi Circuits Riyaz Ahammed (Nitte University)*	ID:162 Hydrogen-powered Robotic Mobility and Sociotechnical Imaginaries: Public Sentiment and Emotional Reception of Kawasaki's Corleo Ramazan Bayindir (Gazi University)*; Hafize Nurgul Durmus Senyapar (Gazi University); Mete Kagan isikli (Gazi University)	ID:239 Ai-assisted Analysis of Migration and Energy Policies: A Hybrid Arima-lstm Approach for Turkey and Eu Countries Murat Beken (Bolu Abant izzet Baysal University)*

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	FACE TO FACE PRESENTATIONS	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**
	SESSION F3 **CHAIRS: Erdal Irmak,** **Amirhossein Adib**	**SESSION O19** **CHAIRS: Onder Eyecioglu,** **Halah Al-saadi**	**SESSION O20** **CHAIRS: Batuhan Hangun,** **Joselyn Menye**	**SESSION O21** **CHAIRS: Abdelhakim Belkaid,** **Abhijeetmadhukar Haval**	**SESSION O22** **CHAIRS: Harrouz Abdelkader,** **Venuananddas Vaishnav**
10.00-10.20	ID:71 Ai-driven Dynamic Pricing and Energy Justice: Introducing The Ai-powered Pricing Justice Index (apji) to Address Social Inequality Hafize Nurgul Durmus Senyapar (Gazi University); ilhami Colak (Istinye University); Samet Ayik (Nevsehir Haci Bektas Veli University); Ramazan Bayindir (Gazi University)*	ID:138 Federated Learning-based Energy Management Systems for Privacy-preserving Demand Forecasting in Smart Cities Polamarasetty Kumar (Gmr institute of Technology)*	ID:146 Reinforcement Learning for Autonomous Control in Renewable Microgrids Riyaz Ahammed (Nitte University)*	ID:163 High-efficiency Lead-free Dual-absorber Perovskite Solar Cells Employing V^2o5 and Cds Transport Layers: A Scaps-1d Study Rukon Uddin (Gazi University)*; Hidir Duzkaya (Gazi University)	ID:176 Technical Indicators and Sustainability of Energy Sources for Decentralized Generation Moses Kabeyi (Durban University of Technology)*; Oludolapo Olanrewaju (Durban
10.20-10.40	ID:63 Equivalent Circuit Modeling for Battery Storage System's Optimal Power Flow Calculation for Smart Grid with Pv Luis Ruiz (Certes)*; Jura Arkhangelski (Certes); Mahamadou Abdou Tankari (Certes); Gilles Lefebvre (Certes)	ID:139 Artificial Intelligence in Renewable Energy Systems Optimizing Efficiency and Sustainability Polamarasetty Kumar (Gmr institute of Technology)*	ID:150 Optimal Energy Management and Scheduling of Ev Charging Stations Using Hybrid Integrated Energy System Badr Lami (Taibah University)*	ID:243 Enhancing Aircraft Power Systems Through Increased Voltage Levels Priyanka Saharan (Quantum University)*; Manju Sharma (Lecturer Jazan University); Tannmay Gupta (Chitkara University); Hitesh Kalra (Chitkara University); Amudha A. (Karpagam Academy of Higher Education); Mukuntharaj C (Karpagam College of Engineering); Anila Bajpai (School of Mangement - Ug, Jain)	ID:241 Artificial Intelligence Revolutionizing Supply Chain Operations and Growth Priyanka Saharan (Quantum University)*; Mohamed Dawood Shamout (University of Sharjah); Shweta Saxena (Amity Business School); Chamoli Anjana (Dr. Lankapalli Bullayya College); Nomula Srinivas (Vignan institute of Technology and Sciences); Seema Agarwal (Srm institute of Science and Technology,); Ajay Singh Yadav (Srm institute of Science and Technology)
10.40-10.50		ID:140 Cloud Computing and Serverless Architectures Innovations and Applications Polamarasetty Kumar (Gmr institute of Technology)*	ID:151 Detection and Mitigation of False Data Injection Attacks in DC Microgrids: A Uio, Luenberger Observer, and Cnn-based Approach for 6dgus Jetwadee Phanthanachai (Indian institute of Technology Roorkee)*; Prof. Manoj Tripathy (Indian institute of Technology Roorkee); Dr. Balakrishna Pamulaparthy (Emerging Technologies, Ge Grid Solutions)	ID:118 Secondary Frequency Regulation in Islanded Microgrids Fouad Salha (Al Ayen iraqi University-damascus University)*	
10.50-11.00	**COFFEE BREAK**				

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	PARALLEL SESSION-1	**PARALLEL SESSION-2**	**PARALLEL SESSION-3**	**PARALLEL SESSION-4**	**PARALLEL SESSION-5**
	FACE TO FACE PRESENTATIONS	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**
	SESSION F4 **CHAIRS: Mahamadou Abdou Tankari, Elizabeth Ashton**	**SESSION O23** **CHAIRS:Gopa Kumar S, Venuananddas Vaishnav**	**SESSION O24** **CHAIRS: Joselyn Menye, Jetwadee Phanthanacha**	**SESSION O25** **CHAIRS: Devyani Vaidya, Rukon Uddin**	**SESSION O26** **CHAIRS: Piyush Pareek Moses Kabeyi**
11.00-11.20	ID:93 Hyperparameter Optimization Techniques for Enhanced Machine Learning Energy Forecasting: A Comparative Analysis Amirhossein Adib (Royal Holloway University of London)*; Onyema Nduka (Royal Holloway University of London)	ID:170 Assessing The Contribution of Wind Generation to Grid Balancing Services Abdelhakim Belkaid (Bejaia University)*; Ali Berboucha (Bejaia University); Said Aissou (Bejaia University); ilhami Colak (Istinye University); Kamel Djermouni (Bejaia University); Elyazid Amirouche (Bejaia University); Kaci Ghedamsi (Bejaia University); Houssam Deboucha (Bejaia University)	ID:181 Harmonic Distortion and Power Efficiency Investigation in 7-level Converter: New Scalar Modulation Approach Joselyn Menye (Greah Laboratory, Université Le Havre)*; Mamadou Baïlo-camara (Greah Laboratory, Université Le Havre); Brayima Dakyo (Greah Laboratory, Université Le Havre); ideal Oscar Libouga (University of Douala, Douala); Joseph Song-manguelle (University of Quebec Trois-rivières)	ID:188 Analysis of The Reactive Field and Potential of A Self-cleaning Coated Insulator Abdelhakim Belkaid (Bejaia University)*; Talit Belhoul (Bejaia University); Chafiaa Serir (Bejaia University); ilhami Colak (Istinye University); Zahra Mokrani (Bejaia University); Radia Abdelli (Bejaia University); Samia Bensmail (Bejaia University)	ID:320 Evaluating Wire Insulation Performance in Aeronautical Electrical Equipment At Elevated Temperatures Venuananddas Vaishnav (Atlas Skilltech University)*; Udita Goyal (Quantum University); Sidhant Das (Chitkara University); Jeevananthan P. (Karpagam College of Engineering); Guntaj J (Chitkara University); Ravivarman G. (Karpagam Academy of Higher Education); Varalakshmi S (Department of Management, School of Mangement - Ug, Jain)
11.20-11.40	ID:73 Energy Management Local Eco-designed Small Wind Turbine For isolated site Aboubacar Drame (University of Paris Est Creteil Paris,)*; Mahamadou Abdou Tankari (University of Paris Est Creteil Paris); Mamadou Bailo Camara (Univertsity of Havre Normandie); Gilles Lefebvre (University of Paris Est Creteil Paris); Pierre Olivier Logerais (University of Paris Est Creteil Paris,)	ID:171 On-grid Wind Turbine Controlled Via Type-2 Fuzzy Resul Coteli (Firat University); Korhan Kayisli (Gazi University)*	ID:183 A Classical-quantum Transfer Learning Model for Disturbance Detection in Power Systems Batuhan Hangun (Yildiz Technical University)*; Emine Akpinar (Yildiz Technical University); Oguz Altun (Yildiz Technical University); Onder Eyecioglu (Bolu Abant izzet Baysal University)	ID:190 Predictive Analysis of Smart Grid Reliability Using Enhanced Generator Metrics ilya Kleshko (M.f. Reshetnev Siberian State University)*	ID:323 Exploring The Role of Space-time Ldpc-based Codes in Cellular Communications Venuananddas Vaishnav (Atlas Skilltech University)*; Yuvraj Parmar (Chitkara University); Pancham Cajla (Chitkara University); Bhuvaneshwari K.s. (Karpagam College of Engineering,); Prakhar Goyal (Quantum University); Thangarasu N. (Karpagam Academy of Higher Education); Raghu G Anand (School of Management - Ug, Jain)
11.40-12.00	ID:83 Backstepping Sliding Mode Controller for Mppt in DC Microgrid Connected Quadratic Boost Converters Fed From PV Systems Joaquim Monteiro (Isel-ipl); José Fernando Silva (Ist-ul); Armando Cordeiro (Isel - ipl)*; Sónia Pinto (Ist-ul); Vitor Fernão Pires (Estsetúbal-ips)	ID:172 Comparative Analysis of Single Phase Pfc Methods Korhan Kayisli (Gazi University)*; Baha Toprak Sahin (Gazi University); Onur ibrahim Eroglu (Gazi University); Mustafa Dadah (Gazi University); Ozan Kirdar (Gazi University); Begum Asli Caliskan (Gazi University); Muslun Sinan Kok (Gazi University)	ID:243 Enhancing Aircraft Power Systems Through Increased Voltage Levels Priyanka Saharan (Quantum University)*; Manju Sharma (Lecturer Jazan University); Tannmay Gupta (Chitkara University); Hitesh Kalra (Chitkara University); Amudha A. (Karpagam Academy of Higher Education); Mukuntharaj C (Karpagam College of Engineering); Anila Bajpai (School of Mangement - Ug, Jain)	ID:191 Design and Implementation of A Hybrid Renewable Energy System and Integrating with Grid G Saisuriyaa (Amrita University)*; Cheraraj ik (Amrita University)	ID:226 Advanced Machine Learning Models for Electric Vehicle Battery Management: Optimizing Vehicle Range and Performance Through Neural Networks Abhijeetmadhukar Haval (Dr.ambedkar institute of Management Studies & Research)*; Nisha M.shrirao (Yeshwantrao Chavan College of Engineering); V.v. Sai Santoshi (Vignan's institute of Engineering For Women); Cholleti Harish (Chaitanya Bharathi institute of Technology); Ch. Mohan Sai Kumar (Vel Tech Rangarajan Dr. Sagunthala R&d institute of Science and Technology); Balasubbareddy Mallala (Chaitanya Bharathi institute of Technology); Ch. Venkata Krishna Reddy (Chaitanya Bharathi institute of Technology)
12.00-12.20	ID:114 Comparative Study of Power Degradation in Five Photovoltaic Technologies Under Outdoor Conditions Yamoussa Toure (Upec)*; Pierre-olivier Logerais (Upec); Mahamadou Abdou Tankari (Upec); Mamadou Baïlo Camara (Université Du Havre); Gilles Lefebvre (Upec)	ID:173 Critical Infrastructure Security Through Digital Twin Synergy and Explainable Anomaly Detection seref Sagiroglu (Gazi University); Halil ibrahim Bulbul (Gazi University); Erdal irmak (Gazi University)*; ismail Erkek (Gazi University)	ID:245 Exploring Possibilities and Challenges in Cloud Technology and Big Data for Creativity Prerana Sahu (Chitkara University)*; Sowjanya Krishna Pinisetty (University of Electronic Science and Technology of China); Abhiraj Malhotra (Chitkara University); Gunveen Ahluwalia (Chitkara University); Vigenesh M (Karpagam Academy of Higher Education); Yawanikha T. (Karpagam institute of Technology); Sahana B S (School of Mangement - Ug, Jain)	ID:246 A Hybrid Method for Solar Energy Forecasting Using Weather Data and Machine Learning Abhijeetmadhukar Haval (Dr.ambedkar institute of Management Studies & Research)*; Dhananjay V Khankal (Savitribai Phule Pune University); Anoop Dev (Chitkara University); Anvesha Garg (Quantum University); G. Ravivarman (Karpagam Academy of Higher Education); S. Arul Antran Vijay (Karpagam College of Engineering); Yashoda L (Jain (Deemed To Be University))	ID:177 Environmental Impacts Energy Sources for Decentralized Generation Moses Kabeyi (Durban University of Technology)*
12.20-12.40		ID:174 Consumer Trust and Green Energy Marketing: Cultural Dimensions and Strategic Frameworks Ramazan Bayindir (Gazi University)*; Hafizer Nurgul Durmus Senyapar (Gazi University); Mehmet Rida Tur (Batman University); Merve Celik (Batman University)	ID:187 Development and Field Evaluation of An Autonomous Solar Monitoring System for Enhanced Photovoltaic Performance Halah Al-saadi (Electrical Engineering Technical College, Middle Technical University, Baghdad, iraq.)*; Ahmed Abid (Electrical Engineering Technical College, Middle Technical University, Baghdad, iraq.); Adel Obed (Electrical Engineering Technical College, Middle Technical University, Baghdad, iraq.)	ID:193 Clustering Analysis for Stability Prediction in Smart Grid Systems Umit Senturk (Bolu Abant Izzet Baysal University)* Onder Eyecioglu (Bolu Abant izzet Baysal University)*	ID:178 Current and Future Trends In Energy Harvesting Technology and Applications Moses Kabeyi (Durban University of Technology)*
12.40-13.30	**LUNCH**				

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	PARALLEL SESSION-1	**PARALLEL SESSION-2**	**PARALLEL SESSION-3**	**PARALLEL SESSION-4**	**PARALLEL SESSION-5**
	FACE TO FACE PRESENTATIONS	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**	**ONLINE PRESENTATIONS**
	SESSION F5 **CHAIR:Ramazan Bayindir,** **Aboubacar Drame**	**SESSION O27** **CHAIRS: Mehmet Rida Tur,** **Ismail Erkek**	**SESSION O28** **CHAIRS: Nihat Ozturk, Abdelhakim Belkaid**	**SESSION O29** **CHAIRS: Murat Beken,** **Abhijeetmadhukar Haval**	**SESSION O30** **CHAIRS: Hıdır Duzkaya,** **Piyush Pareek,**
13.30-13.50	ID:105 Comparative Evaluation on Deep Learning Based Ai Models for 24-hour Energy Forecasting in Smart Buildings Using Iot Sensor Data Jura Arkhangelski (University of Paris Est Creteil, Certes Lab.)*; Rakibul Hasan (University of Paris Est Creteil, Certes Lab.); Mahamadou Abdou-tankari (University of Paris Est Creteil, Certes Lab.); Gilles Lefebvre (University of Paris Est Creteil, Certes Lab.)	ID:314 Optimizing Electrical Machines Through Effective Stator Insulation Assessment for Maximum Performance Venuananddas Vaishnav (Atlas Skilltech University)*; Anvesha Garg (Quantum University); Vibhor Mahajan (Chitkara University); Ram Prasath S (Karpagam College of Engineering,); Manish Nagpal (Chitkara University); Ravivarman G. (Karpagam Academy of Higher Education); Priya Makhija (, School of Mangement - Ug, Jain)	ID:194 Fixed-time Sliding Mode Control for Bldc Motor Control in Uav Ferhat Bodur (Gazi University); Orhan Kaplan (Gazi University)*	ID:198 A Smart Wireless Charging Protocol for Uavs Using Lora Communication and Real-time Decision Making Fatima Talib (Mtu)*; Ahmed J. Abid J. Abid (Mtu); Adel A. Obed (Mtu)	ID:202 Exploring The Application of Quantum Computing to Enhance Cryptographic Techniques in Cybersecurity Prachi Gurudiwan (Atlas Skilltech University)*; Deepak Dasaratha Rao (Independent Researcher, R&d, Usa); K Reghunath (Marian Academy of Management Studies); Senduru Srinivasulu (Sathyabama institute of Science and Technology); Monalisa Panda (Siksha 'o' Anusandhan); Ramkumar Krishnamoorthy (Computer Science and information Technology, Jain); Anshul Jain (Jagran Lakecity University)
13.50-14.10	ID:179 Energy Sources Their Availability And Application Moses Kabeyi (Durban University of Technology)*; Oludolapo Olanrewaju (Durban	ID:315 Usrp in Wireless Communication Exploring Real-world Applications and Innovations Venuananddas Vaishnav (Atlas Skilltech University)*; Aakash Sharma (Chitkara University); Madhur Grover (Chitkara University); Gajendran P. (Karpagam College of Engineering); Diksha Aggarwal (Quantum University); Ranjith Singh K. (Karpagam Academy of Higher Education); Megha Prem Kukreja (Department of Management, School of Mangement - Ug, Jain)	ID:195 Bridgeless Landsman Converter for Electric Vehicle Gopa Kumar S (Mount Zion College of Engineering and Technology)*; Muhilan P (Mount Zion College of Engineering and Technology); Sathis Kumar Murugesan (Ck College of Engineering and Technology)	ID:199 Secure Cloud-based Approximate Shortest Path Queries on Encrypted Graphs Prachi Gurudiwan (Atlas Skilltech University)*; Kawalpreet Kawalpreet (Chandigarh Engineering College); N. Muthuvairavan Pillai (R.m.d Engineering College); Shweta Saxena (Amity University); Sura Rahim Alatba (Al-turath University College, Baghdad); Devesh Pratap Singh (Graphic Era Deemed To Be University); V. Maheswari (A.p.c. Mahalaxmi College For Women)	ID:203 Optimizing Iot Performance with Edge Ai for Accuracy and Energy Efficiency Prachi Gurudiwan (Atlas Skilltech University)*; Deepak Dasaratha Rao (Independent Researcher, R&d); V Pushparajesh (Faculty of Engineering and Technology, Jain); Manisha Manisha (Sathyabama institute of Science and Technology); Alakananda Tripathy (Centre For Artificial intelligence and Machine Learning, Siksha 'o' Anusandhan); Sudhir Kumar Chaturvedi (Upes); Kuldeep Sharma (North Bihar Power Distribution Company Limited)
14.10-14.30	ID:192 Extreme Weather Impacts on Microgrid Components: A Critical Review Establishing Data-driven Methods as The Definitive Path Forward Amirhossein Adib (Royal Holloway University of London)*; Onyema Nduka (Royal Holloway University of London)	ID:316 Improving Cellular Communications Through Responsive Blocking Identification with Dsss Venuananddas Vaishnav (Atlas Skilltech University)*; Shubhi Goyal (Quantum University); Ankit Sachdeva (Chitkara University); Mukuntharaj C. (Karpagam College of Engineering); Abhinav Mishra (Chitkara University); Vijayalakshmi V.j. (Karpagam Academy of Higher Education); Sara Elais (School of Mangement - Ug, Jain)	ID:196 Power Cable Laying Route Optimization with A Traveling Salesman Problem Approach Abdurrahman Yakar (Gazi University); Murat Akin (Gazi University); Nihat Ozturk (Gazi University)*	ID:200 A Novel Strategy for Mobile Communications Beyond 5g Using Blockchain Virtualization Prachi Gurudiwan (Atlas Skilltech University)*; Shobhit Goyal (Quantum University); Tarun Kapoor (Chitkara University); Amritpal Sidhu (Chitkara University); M. Vigenesh (Karpagam Academy of Higher Education); G. Premananthan (Karpagam College of Engineering); Baishakhi Debnath (Management, School of Management - Ug, Jain)	ID:204 Leveraging Blockchain for Efficient Moss Spectrum Allocation in 5g Networks Prachi Gurudiwan (Atlas Skilltech University)*; Romil Jain (Chitkara University); Tusha Tusha (Quantum University); Ayush Gandhi (Chitkara University); K. Yuvaraj (Karpagam Academy of Higher Education); V.p. Arul Kumar (Karpagam institute of Technology); Saritha Srinivasmurthy Raghotham (School of Management - Ug, Jain)

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	SESSION F5 **CHAIR:Ramazan Bayindir,** **Aboubacar Drame**	**SESSION O27** **CHAIRS: Mehmet Rida Tur,** **Ismail Erkek**	**SESSION O28** **CHAIRS: Nihat Ozturk, Abdelhakim Belkaid**	**SESSION O29** **CHAIRS: Murat Beken,** **Abhijeetmadhukar Haval**	**SESSION O30** **CHAIRS: Hıdır Duzkaya,** **Piyush Pareek,**
14.30-14.50	ID:238 Use of Convolutional Neural Networks for Short-term Grid Modal Parameters Forecast Carlo Olivieri (University of L'aquila)*; Francesco De Paulis (University of L'aquila); Lino Di Leonardo (University of L'aquila)	ID:319 Exploring The Evolution, Challenges, and Future Trends in Wireless Communication Technologies Venuananddas Vaishnav (Atlas Skilltech University)*; Dukhbhanjan Singh (Chitkara University); Dinesh Goyal (Quantum University); Kannimuthu S. (Karpagam College of Engineering); Abhishek Singla (Chitkara University); Vigenesh M. (Karpagam Academy of Higher Education); Supriya Rai (School of Mangement - Ug, Jain)	ID:266 Novel Approaches to Enhancing Anomaly Detection and Surety in Safeguards Data Prerana Sahu (Chitkara University)*; Prakhar Goyal (Quantum University); Reddy B (Chitkara University); Vivek Saraswat (Chitkara University); Ranjith Singh K. (Karpagam Academy of Higher Education); Sriram Kumar K. (Karpagam institute of Technology); Babitha B.s (School of Management - Ug, Jain)	ID:201 A Systematic Review on The Integration of Blockchain, 5g, and Green Computing Prachi Gurudiwan (Atlas Skilltech University)*; K C Krishnachalitha (Alliance University); Dikshit Sharma (Chitkara University); Samaksh Goyal (Quantum University); K Yuvaraj (Karpagam Academy of Higher Education); V. Dinesh Babu (Karpagam Academy of Higher Education)	ID:208 Examining Blockchain Technology in Supply Chain Finance for Its Benefits, Real-world Applications, and Adoption Challenges Prachi Gurudiwan (Atlas Skilltech University)*; Ravindra Pandey (Hult international Business School); Arunkumar Devalapura Thimmappa (Engineering and Technology, Jain); Byomakesh Dash (Siksha 'o' Anusandhan); Aruna Dore (Presidency University); Saravanan M (Sathyabama institute of Science and Technology); Pushpalatha T (Presidency College)
14.50-15.10	ID:11 Financial Incentives for Renewable Energy: Impact, Effectiveness, and Practices Hafize Nurgul Durmus Senyapar (Gazi University); Samet Ayik (Gazi University); ilhami Colak (Ilhami Colak); Ramazan Bayindir (Gazi University)*	ID:103 Building Energy Consumption Prediction Through Energyplus–matlab Co- Simulation Sarra Bendahou (University of Paris-est Créteil)*; Jura Arkhagelski (University of Paris-est Créteil); Mahamadou Abdou tankari (University of Paris Est-créteil); Gilles Lefebvre (University of Paris-est Créteil); Jimmy Ata (Department of Public Construction and Architecture City of Paris)	ID: 156 Blockchain Enabled IoT Security For Smart Home Network G saisuriyaa (Amrita University)*; G Ramsudhan (Amrita Unviersity)	ID:116 Real-time Energy Management in Microgrids Using Arima Price Forecasting and Slsqp Optimization Md Nafeez Rahman (Ufa University of Science and Technology)*; Md. Siddikur Rahman (Universiti Teknologi Petronas); Roman Rinatovich Akhtyamov (Ufa University of Science and Technology); Md Maidul islam (Asian institute of Technology); Viacheslav Vavilov (Ufa University of Science and Technology); Jai Govind Singh (Asian institute of Technology)	ID:225 Optimized Photovoltaic Energy Generation with Lst-based Sun Tracking Priyanka Saharan (Quantum University)*; Suhas Gupta (Chitkara University); Udita Goyal (Quantum University); Venkata Krishna Reddy Ch. (Chaitanya Bharathi institute of Technology); Vijayalakshmi V.j. (Karpagam Academy of Higher Education); Jeevananthan P. (Karpagam College of Engineering); Thanga Kumar R (School of Management - Ug, Jain)
15.10-15.30		ID: 328 The Impact of Variable Renewable Energy on Spinning Reserve Requirements: A Case Study of the Spanish Power System Ramazan Bayindir (Gazi University)*; Mehmet Rida TUR (Batman University)	ID: 157 Design and Comparative Analysis of CMOS, FS-GDI, and MGDI-Based Ripple Carry Adders for Low Power VLSI Applications G saisuriyaa (Amrita University)*; Prathik Ram V (Amrita university)	ID: 152 Allocation of battery system storage with uncertainty renewable energy inside Modern Grids Basim ALbaaj (Gazi University); Orhan KAPLAN (Gazi University)	ID: 155 Wind Power Prediction Analysis with Three-Layer Long Short-Term Memory Models Based on Different Training Algorithms Mehmet Yesilbudak (Nevsehir Haci Bektas Veli University)*; Mustafa Benli (Nevsehir Haci Bektas Veli University)
15.40-16.00		ID:112 Strengthening The Electrical System Against Natural Disasters Suleyman Emre Eyimaya (Gazi University)*; Necmi Altin (Gazi University)	ID:19 Non-linear Equivalent Circuit Model Parameters Extraction Using Grey Wolf Optimizer for Enhanced Battery Modeling Othman Oubraik (Mohammed Vi Polytechnic University)*; Hicham Oufettoul (Green Energy Park Research Platform); Marouane Aannir (Mohammed Vi Polytechnic University); ismael Saadoune (Mohammed Vi Polytechnic University)	ID:186 A Model-based Study of DC Microgrids for Rural Community's Electrification in Anambra State, Nigeria Mmaduabuchukwu Kanu (Univer. Paris Est Creteil)*; Mahamadou Abdou Tankari (Université Paris Est Créteil); Pierre-olivier Logerais (Université Paris Est Créteil); Gilles Lefebvre (Université Paris Est Créteil); Mustapha Karkri (Université Paris Est Créteil)	
15.30-15.40	**COFFEE BREAK**				
Date: 29 MAY 2025					
Closing Ceremony					

Presentation Instruction for icSmartGrid 2025 Presenters

Presentation time is 20 minutes, including 5 minutes of Question/Discussion.

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