TECHNICAL PROGRAMME

UNIVERSITY OF GUJRAT
A WORLD CLASS UNIVERSITY

GIFT UNIVERSITY

IET The Institution of Engineering and Technology

ICEPEC 25

International Conference on Energy, Power, Environment, Control and Computing

19th - 20th February 2025

Hybrid

Sponsors

Khurshid FANS

CHAMPION Fans why not!
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Tamoor FANS

organized by University of Gujrat in partnership with GIFT University Gujranwala.

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About ICEPECC2025

ICEPECC 2025 is the 3rd International Conference on Energy, Power, Environment, Control and Computing that is being organized by University of Gujrat and GIFT University. The conference is scheduled to be held at the University of Gujrat and GIFT University on 19th and 20th February 2025 respectively. The objectives of the conference are to provide high quality research and professional interactions for the advancement of science and technology. Accordingly, papers with original and novel research ideas and results are encouraged for submission. The conference will feature keynote and invited talks, technical papers, poster presentations, and the first industrial exhibition. The conference will be conducted in hybrid mode, allowing both in-face and virtual presentations. Prospective authors are invited to submit papers on the given template. The accepted and presented papers will be submitted to the Institution of Engineering and Technology (IET) for publication on IET Digital Library, and subsequent indexing in Inspec, IEEE Xplore and EI Compendex. The authors of selected papers will be invited to submit extended versions of their manuscripts for consideration in any of the following Journals:

- IET Power Electronics (as regular articles). Accepted papers will be indexed in the IET Digital Library, Ei Compendex, the Directory of Open Access Journals (DOAJ), IET INSPEC, the Science Citation Index Expanded (ESCI and SCIE, Clarivate Analytics) and Scopus.
- Springer's Cognitive Computation Journal (ISSN:1866-9956)
- International Journal of Innovations in Science and Technology (ISSN: 2618-1630)
- Journal of Applied Sciences and Emerging Technologies

Conference Topics

The conference invites researchers and industry professionals to submit new and original research results on different aspects of Energy, Power, Environment, Control, and Computing which includes but not limited to the following topics:

ENERGY

- Energy efficient devices and systems
- Battery technology and energy storage
- Fuel cells, hydrogen generation, storage, and transportation
- Renewable energy sources and technology
- Solar/Wind energy systems and its integration
- Distributed generation and grid interconnection
- Micro grid/smart grid control
- Integration of energy storage systems
- Biomass, hydrogen based sources
- Energy harvesting, and green energy issues

POWER

- Power system planning, operation, protection, quality, control, and management
- Power system stability, security, monitoring, reliability, and economics
- Power electronics, machines & drives, electrical vehicles, wireless charging, battery management systems
- Facts, HVDC transmission systems, high voltage engineering, and insulation techniques
- Cyber security, smart grids, microgrids, DC distribution grids, medium/low voltage DC systems, and utility applications

Environment

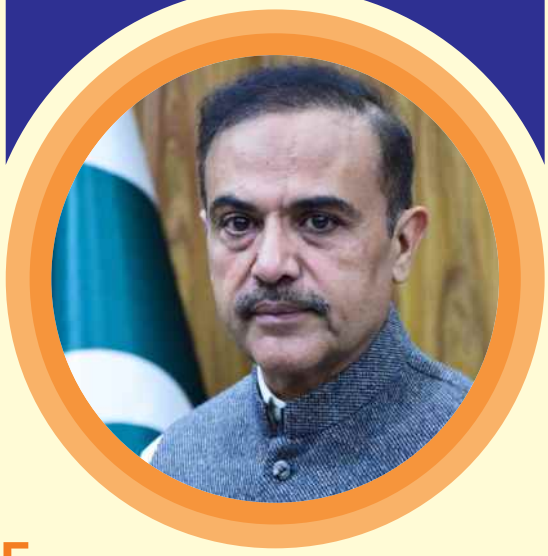
- Sustainable systems for energy and environment
- EM spectrum management,
- Environmental measurements,
- Emission optimization techniques
- EV's environmental impact studies

Control

- Fuzzy and neural systems
- Industrial instrumentation and process control
- Machine learning
- Intelligent and AI based control
- Non-linear control systems and applications
- Robotics and mechatronics
- Machine vision

Computing

- Cloud computing and computer networks
- Web engineering
- Computational intelligence
- Natural language processing
- Software engineering
- Blockchain and transactive energy systems
- Data analytics and cyber security
- IoT and ICT for smart grid
- Nonlinear systems,
- Identification and signatures,
- Electrical quantities,
- Embedded control systems and Sensor networks,
- Cloud computing,
- Big data, and industrial informatics
- Transactive markets,
- Big data analytics



MESSAGE FROM PATRON-IN-CHIEF

It is my great pleasure and honor to welcome all the esteemed delegates and participants to the 3rd International Conference on Energy, Power, Environment, Control, and Computing (ICEPECC 2025). This international conference represents a significant milestone in our journey toward realizing our vision of becoming a world-class academic and research institution that fosters human capital and vibrant communities through innovative research.

I extend my heartfelt appreciation to the dedicated members of the ICEPECC 2025 organizing committee, particularly from the Faculty of Engineering and Technology, University of Gujrat. The tireless efforts and unwavering commitment of organizing committee have been instrumental in bringing this event to fruition.

I would also like to express my sincere gratitude to the distinguished keynote speakers, whose expertise and insights will undoubtedly inspire meaningful discussions and spark innovative ideas. Their presence and keynote talks add immense value to this conference and set the tone for its success.

I am confident that this biennial conference will serve as an exceptional platform for fostering collaboration, knowledge exchange, and networking among national and international institutions of higher learning. It will undoubtedly catalyze joint research initiatives and pave the way for product commercialization, driving innovation and progress.

Moreover, I sincerely believe that the ideas and discussions emerging from this conference will significantly contribute to creating a better and sustainable future.

Finally, I would like to extend my deepest gratitude to our valued sponsors and collaborating institutions. Their steadfast support and involvement are vital to the success of ICEPECC 2025. With your continued partnership, I am confident that ICEPECC will remain a hallmark of research excellence and a key event in the academic and research calendar.

Prof. Dr. Zahoor Ul Haq (T.I)

Patron-in-Chief ICEPECC 2025
Vice Chancellor, University of Gujrat

MESSAGE FROM PATRON

It is with great honor and immense pleasure that I welcome you all on behalf of GIFT University, Gujranwala, to the International Conference on Energy, Power, Environment, Control, and Computing 2025. This esteemed gathering brings together experts, researchers, academics, industry professionals, and policymakers from across the globe to discuss and address some of the most pressing challenges and opportunities in these critical fields.

The theme of this year's conference, which focuses on Energy, Power, Environment, Control, and Computing, is particularly significant in today's rapidly evolving world. These interconnected domains lie at the heart of innovation and progress, shaping how we address global challenges such as energy sustainability, environmental preservation, technological advancement, and smart systems for future growth. By exploring these areas from diverse perspectives and fostering collaboration among participants, we aim to inspire groundbreaking ideas and tangible solutions that can have a transformative impact on our collective future.

The success of this conference is a testament to the unwavering dedication and hard work of the organizing team at GIFT University, in collaboration with the University of Gujrat. Their efforts in bringing together a platform of this magnitude, with an array of distinguished speakers and insightful sessions, deserve our deepest appreciation. This partnership reflects the spirit of cooperation and mutual commitment to academic excellence and research advancement.

At the end, I once again extend a warm welcome to all attendees and express my gratitude for your participation in this significant event. Let us use this opportunity to collaborate, innovate, and pave the way for a brighter future. I wish you all a productive and enriching experience at the ICEPECC.

Prof. Dr. Shahid Qureshi
Patron ICEPECC 2025
Rector, GIFT University

Welcome to ICEPECC 2025

On behalf of the ICEPECC 2025 Organizing Committee, it is our immense pleasure to welcome you to the 3rd International Conference on Energy, Power, Environment, Control, and Computing (ICEPECC 2025). This prestigious conference will be jointly hosted by the University of Gujrat and GIFT University on February 19th and 20th, 2025.

ICEPECC has become a distinguished forum for fostering collaboration and advancing knowledge in the interdisciplinary fields of energy systems, power engineering, environmental sustainability, control systems, and advanced computing technologies. This year's conference promises to build on this legacy, featuring an outstanding lineup of international keynote speakers, technical sessions, and **first industrial exhibition** that will showcase cutting-edge research, emerging trends, and groundbreaking developments in these critical areas.

We are confident that the vibrant discussions and networking opportunities provided during the conference will inspire novel research directions and foster fruitful collaborations among participants.

We extend our deepest gratitude to our sponsors, partners, reviewers, and volunteers for their invaluable contributions and unwavering support. Special thanks go to the University of Gujrat and GIFT University for graciously hosting this year's conference and providing a dynamic platform for knowledge exchange.

To all our esteemed delegates, we hope you find ICEPECC 2025 to be intellectually stimulating, professionally enriching, and personally rewarding. Together, let us shape the future of energy, power, environment, control, and computing, paving the way for a sustainable and innovative tomorrow.

Welcome to ICEPECC 2025
We look forward to your active participation.

Warm regards,

Prof. Dr. Shahid Iqbal, Dean FET, UOG
Dr. Muhammad Ziad Nayyer, Dean SEAS, GIFT University
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Conference Secretariat

Ms. Sidra Afzal, Office of Dean
Faculty of Engineering and Technology, University of Gujrat
Email: icepecc@uog.edu.pk,
Tel. +92 (053) 3643326, Ext. 153

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PROGRAMME

Wednesday, February 19, 2025

Venue: University of Gujrat

ICEPEC 2025
International Conference on Energy, Power, Environment, Control and Computing

Registration Opens

08:00am (Venue: Quaid Azam Library, University of Gujrat)

Conference Inauguration Ceremony (Venue: Quaid Azam Library, University of Gujrat)

Recitation of Quran, Naat and National Anthem
09:00am – 09:15 am

Welcoming Remarks by Conference Chair, Prof. Dr. Shahid Iqbal
09:15 am – 09:25 am

Opening Speech by Vice chancellor University of Gujrat, Prof. Dr. Zahoor ul Haq (TI)
09:25 am – 09:40 am

Chief Guest Speech by Chairman Higher Education Commission, Prof. Dr. Mukhtar Ahmed
09:40 am – 10:10 am

KEYNOTE 1

10:10 am – 10:40 am (Venue: Auditorium Hall, Quaid Azam Library, University of Gujrat)

Plugging into the Future: The Evolution of EV Charging

Volker Pickert
Professor and Director of EPSRC CDT in Sustainable Electric Propulsion
Editor-in-Chief IET Power Electronics
Newcastle University, School of Engineering, Merz Court, Newcastle upon Tyne, NE17RU, UK

Volker Pickert (Member of IEEE & IET) studied at RWTH Aachen University, Germany, and the University of Cambridge, UK. He earned a Dipl.-Ing. degree in Electrical and Electronic Engineering from RWTH Aachen in 1994 and a Ph.D. in power electronics from Newcastle University, UK, in 1997. From 1998 to 2003, he held industry roles at Semikron GmbH and Volkswagen AG, gaining experience in power electronics applications and electric drive development. In 2003, he joined Newcastle University as a Senior Lecturer and was promoted to Full Professor in 2011. He has served as Head of the Electrical Power Group and Director of Electrical and Electronic Engineering, overseeing a large team of academics, postdocs, and PhD students. Professor Pickert's extensive research in power electronics and electric drives is evidenced by over 200 publications and 75+ funded research projects. His research interests include power electronics for transportation, thermal management, health monitoring, and advanced nonlinear control. He has received numerous awards, including the IMarEST Denny Medal for best journal paper in 2011 and the Best Paper Award at the IEEE iCCECE in 2022. He is a frequent keynote speaker and advisor to governments on energy and transportation issues. In 2019, he became the Director of the UK's EPSRC Centre for Doctoral Training in Sustainable Electric Propulsion, managing 50 PhD students. He is currently the Editor-in-Chief of the IET Power Electronics journal and was honoured with the IET Outstanding Editor-in-Chief Award in 2019.MOOC “HVAC” and “Built Environment” both received the title of National Excellent MOOC Course by Chinese Ministry of Education.

TEA BREAK / INAUGURATION OF FIRST INDUSTRIAL EXHIBITION BY CHIEF GUEST

10:40 am – 11:00 am

KEYNOTE 2 REMOTE

11:00 am – 11:30 am (Venue: Auditorium Hall, Quaid Azam Library, University of Gujrat)

Discontinuous Conduction Mode in DC-to-DC converters

Francisco J. Azcondo

Professor, ETS de Ingenieros Industriales y de Telecomunicación Avda. de los Castros, 46. 39005 Santander, SPAIN, UNIVERSITY OF CANTABRIA

Francisco J. Azcondo (S'90-M'92-SM'00) was born in Santander, Spain, in 1965. He received the Electrical Engineering degree from the Universidad Politécnica de Madrid in 1989 and the Ph.D. degree from the Universidad de Cantabria in 1993. From 1990 to 1995 he worked in the design of highly stable quartz crystal oscillators. Since 1995, he is Associate Professor in the Electronics Technology, Systems and Automation Engineering Dept., Universidad de Cantabria. From February to August 2004 and 2010, he has been a Special Member of the ECEE Dept., University of Colorado, Boulder, CO. In the summer of 2006, he was also Visiting Researcher in the ECE Dept., University of Toronto, Toronto, ON, Canada. He is currently an Associate Editor for the IEEE Transactions on Industrial Electronics and President of the IEEE Spanish PELS – IES joint Chapter. His research interest includes switch mode power converters and their control for discharge lamps, electrical discharge machining, arc welding and power factor correction applications.

ORAL SESSION 1A: POWER (P-1)

Date: 19th February 2025 (Wednesday) Time: 11:30 noon – 01:30pm
Venue: Library Auditorium, University of Gujrat
Session Chairs: Dr. Zeeshan Ahmad Arfeen, Dr. Jamshed Ahmed Ansari

Time	Paper ID	Paper Title	Author Name	Presenter
11:30	182	LLC Resonant Partial Power Step-Up DC-DC Converter	Muhammad Sajid, Arfa Tariq, Nazam Saddique and Shahid Iqbal	**Muhammad Sajid**, University of Gujrat
11:45	278	Double H-Bridge Interleaved LLC Converter with Wide Charging Range and Low Output Voltage Ripples	Uzair Imtiaz, Junaid Safdar, Imran Shahzad, Nazam Siddique and Shahid Iqbal	**Imran Shahzad**, Federal Urdu University Science and Technology
12:00	3	Design of a Dual Output Voltage, Constant Current SEPIC-Boost Converter with PID Feedback Control	Mohd Nadzri Mamat, Dahaman Ishak, Noramalina Abdullah, Suardi Kaharuddin and Mohamad Nazir Abdullah	**Mohd Nadzri Mamat**, Universiti Sains Malaysia ONLINE
12:15	173	Development of a Convolutional Neural Network Model for Solar Panel Fault Detection with Preventive Maintenance Reporting Options	Kufre Esenowo Jack and Reuel Zasan Kantiyok	**Kufre Esenowo Jack**, Federal University of Technology Minna, Niger State, Nigeria ONLINE
12:30	174	Comparative Analysis of PSC-SPWM and NLM in Modular Multilevel Converters	Taimoor Ali, Sadaqat Ali, Sheraz Umer, Jamshed Ahmed Ansari and Jahangir Badar Soomro	**Taimoor Ali**, Sukkur IBA University
12:45	195	Resilience Assessment of Mobile Microgrid Scenario for Supporting Critical Infrastructure Post-Disaster	Dr. Majid Ali Electric Power System and Microgrid	**Dr. Majid Ali**, CROM, AAU Energy, Aalborg University, Denmark ONLINE
01:00	217	The Effectiveness of Performance through Dead time Compensation in three-Level Neutral-Point-Clamped Inverter	Nawaz M. Akhtar, Ur Rehman Khalil, Mond M. Asim, Avinas, Rizwan Mian and Ahmad Shafiq	**Nawaz M. Akhtar**, Southeast University, Nanjing, China ONLINE
01:15	230	Performance of Permanent Magnet Synchronous Machines Based on Different Winding Arrangements and Magnetization Patterns	Musa M. Gujja, Dahaman Ishak, Samir El-Nakla, Mohamed Salem, Mohd Nadzri Mamat and Tow Leong Tiang	**Musa Mohammed Gujja**, Universiti Sains Malaysia ONLINE

ORAL SESSION 1B: COMPUTING (COM-1)

Date: 19th February 2025 (Wednesday) Time: 11:30 noon – 01:30pm
Venue: Exhibition Hall-2 (1st Floor), Quaid Azam Library, University of Gujrat
Session Chairs: Dr. Muhammad Usman Sana, Dr. Abdur Rehaman, Dr. Naveed Anwar Butt

Time	Paper ID	Paper Title	Author Name	Presenter
11:30	1	Sustainable Data Paradigm for Smart Society on Ambient Cloud in Pakistan	Sarah Shafqat & M. Naeem Ahmad Khan	**Ms Sarah Shafqat**, Dream SofTech
11:45	6	Performance Evaluation of TCP Congestion Control Mechanisms for Wigig Ad-Hoc Networks	Fatima Sohail	**Fatima Sohail**, SEECS, NUST
12:00	7	Accurate Melanoma Subtype Classification Via Deep Learning and Dermoscopic Images	M. Junaid Iqbal, Furqan Rafique, Usman Nawaz, Irfan Ali, Usman Ahmed Raza, Bilal Sharif and Mariam Munsif	**Furqan Rafique**, University of Agriculture Faisalabad, Pakistan
12:15	119	A Comparative Study of Deep Learning Models for Early Diagnosis of Monkeypox and Chickenpox	Maliha Khalid, M. Azam Zia and Muhammad Asif	**Maliha Khalid**, University of Agriculture Faisalabad, Pakistan
12:30	122	Context Aware Facial Expression Recognition with Deep Learning Architectures	Nudrat Bano, M. Asif, M. Azam Zia and Hafiz Muhmmad Bilal	**Nudrat Bano**, University of Agriculture Faisalabad, Pakistan
12:45	126	Attention-Driven Triple Path Residual 3D CNN For Efficient Brain Tumor Detection	M. Talha, Abdullah Nasim, Usman Ali, Umer Ramzan and M. Faheem	**Muhammad Talha**, GIFT University
01:00	137	Differential Attention-Based Framework for Roman Urdu Toxic Comments Classification	Muhammad Atif, M. Umer Ramzan, Usman Ali, M. Farhan and Noor Ul Ain	**Muhammad Atif**, GIFT University
01:15	140	Sketch To Image Synthese: Harnessing Deep Learning Techniques for Realistic Visual Transformation	Ahmad Liaqat, M. Umair Yousaf, M. Umer Ramzan, Usman Ali, Tayyaba Gohar and Zeeshan Murtaza	**Muhammad Umair Yousaf,** GIFT University

ORAL SESSION 1C: CONTROL (C-1)

Date: 19th February 2025 (Wednesday) Time: 11:30 noon – 01:30pm
Venue: : Hall-1 (1st Floor), Quaid Azam Library, University of Gujrat
Session Chairs: Dr. Qudrat Ullah Khan and Dr. Nazam Siddique

Time	Paper ID	Paper Title	Author Name	Presenter
11:30	8	FPGA-Based Implementation of CNN for Covid-19 Identification	Suardi Kaharuddin, Syed Sahal Alhady Syed Hassan and M. Nadzri Mamat	**Suardi Kaharuddin**, Universiti Sains Malaysia ONLINE
11:45	134	Adaptive Sliding Modes Based Steering Protocol Design for Underwater Vehicles with Partially Functional Actuators	Fazal Ur Rehman and Qudrat Khan	**Qudrat Khan**, COMSATS Islamabad
12:00	138	Robust Sliding Modes Based Distributed Control Protocol for a Class of Underactuated Nonlinear Systems	Armaghan Mohsin and Qudrat Kha	**Armaghan Mohsin**, COMSATS University, Islamabad
12:15	187	Area-Efficient Design and UVM based Functional Verification of APB-UART Peripheral	M. Usama, M. Yasir, Haroon Waris, Kashif Minhas & M. Irfan	**Muhammad Usama**, National University of Computer and Emerging Sciences Islamabad
12:30	192	BioFusion: Advancing Biometric Authentication by Fusion of Physiological Signals	Tuba, Yumna Aziz, M. Faraz, Zubair, Syed Zohaib and Laraib Imtiaz	**Tuba Alvi**, Department of Electronics Engineering, UET Taxila
12:45	234	Development and Implementation of an Autonomous Vehicle Prototype with (ADAS)	Ahmed Mohamed Hassan, Fatima N. Al-Aswadi, Ghassan Saleh, Osama M. I. Hamad and Zahid	**Ahmed Mohamed Hassan Ahmed**, UCSI University ONLINE
01:00	236	Adaptive Exponential Reaching Laws and High-Gain Observers for Enhanced PMSM Sliding Mode Control Systems	M. Zafran, Zenab Javaid, Ameen Ullah, Safeer Ullah, Mian Rizwan, and Shafiq Ahmed	**Ameen Ullah**, Shenzhen University, Shenzhen 518060, China ONLINE
01:15	241	Optimized Fractional-Order PID Controller for Temperature Control of CSTH: A Comparative Study with PID Cascade Controller	Abdulaziz F. Alaswadi, Nezar M. Alyazidi, Fatima N. Al-Aswadi and Amjed Abbas Ahmed	**Abdulaziz F. Alaswadi**, King Fahd University of Petroleum and Minerals ONLINE

ORAL SESSION 1D: ENVIRONMENT (En-1)

Date: 19th February 2025 (Wednesday) Time: 11:30 noon – 01:30pm
Venue: Hall-3 (1st Floor), Quaid Azam Library, University of Gujrat
Session Chairs: Dr. Waheed Miran, Dr. Ghulam Abbas, Dr. Khurram Shahzad

Time	Paper ID	Paper Title	Author Name	Presenter
11:30	Invited Talk	Visible Light Induced Photocatalytic Degradation of Norfloxacin Using Xc-Tio_2	Dr. Adnan	**Dr. Adnan**, University of Sawat
11:45	Invited Talk	Electro microbiology: Powering the Future of Sustainable Electronic nd Green Energy	Dr Waheed Miran	**Dr. Waheed Miran**, NUST
12:00	77	Assessment of Second-Generation Biodiesel Using Computational and Experimental Methods for the Reduction of Emissions and Promoting Environmental Sustainability	Luqman Razzaq, Saad Nawaz, Sajjad, Tahir , Waseem Arif and M. Umar Malkana	**Luqman Razzaq**, Mechanical Engineering, University of Gujrat
12:15	109	Renewable Biodiesel Production from Used Cooking Oil: Pathway Towards Carbon Neutral Fuel in Alignment with Punjab Government Policy 2018	M. Aqil Khan, Nadeem A. Sheikh and Rasikh Tariq	**Muhammad Aqil Khan**, International Islamic University Islamabad
12:30	114	Experimental Evaluation of Drying Kinetics of Biomass Powered Grain Dryer	Al Bara Shalaby, M. Ahmed, Nadeem S Abubakr Ayub & M. Aqil K.	**Al Bara Shalaby**, International Islamic University, Islamabad
12:45	124	Investigate the Effect of Operating Temperature on Products Obtained by Fast Pyrolysis of Food Waste in the Presence of Hydrogen	Saher Asif, Syed Kamal Zafar, M. Tahseen Sadiq, Hassan Qasim & Mahmboob A.	**Saher Asif**, University of Gujrat
01:00	219	Stable 2-Tert-Butyl,1-4 Benzoquinone Based Organic Anode for Lithium-Ion Batteries	Sophia, Gishkori, Ahsan, A Hannan, Saher & M. Tahir.	**Sophia Nawaz Gishkori**, University of Gujrat
01:15	251	Catalytic Performance of Electro-Oxidative Natural Manganese Sand of Ammonium Nitrogen	Asim K., Asad Ali, Khurram Ayub, M. Saleem, Syed Faizan, Yahya, and Abdul Sami	**Khurram Shahzad Ayub**, University of Gujrat, Gujrat, Pakistan

LUNCH BREAK / POSTER SESSION
01:30pm – 02:30 pm, (Venue: Quaid Azam Library, University of Gujrat)

REMOTE KEYNOTE SESSIONS

KEYNOTE 3 02:30 pm – 03:00 pm (Venue: Auditorium Hall, Quaid Azam Library, University of Gujrat)

Boost Inverters for Single-Stage DC–AC Power Conversion

Sze Sing Lee

Assistant Professor and Degree Program Director of Electrical Power Engineering
at Newcastle University in Singapore

Sze Sing Lee received the B.Eng. (Hons.) and Ph.D. degrees in Electrical Engineering from Universiti Sains Malaysia, Malaysia, in 2010 and 2013, respectively. From 2014 to 2019, he was a Lecturer / Assistant Professor at the University of Southampton Malaysia Campus. From 2018 to 2019, he was a Visiting Research Professor at Ajou University, South Korea. He is currently an Assistant Professor and Degree Program Director of Electrical Power Engineering at Newcastle University in Singapore. His research interests include power converter / inverter topologies and their control strategies. Dr. Lee is an Associate Editor of the IEEE Transactions on Industrial Electronics and a Guest Associate Editor of the IEEE Transactions on Power Electronics. He is a Chartered Engineer registered with the Engineering Council, UK, and currently serves as a Professional Review Interviewer and International Professional Registration Advisor. He is also a Chartered Marine Engineer (C.MarEng) with the Institute of Marine Engineering, Science and Technology (IMarEST) and Chartered Engineer (C.Eng) with the Engineering Council (UK). A senior member of the IEEE and Fellow of Academy of Science Malaysia and IMarEST. He is recognized as a pioneer in underwater system technology and robotics research in Malaysia.

KEYNOTE 4 02:30 pm – 03:00 pm (Venue: Exhibition Hall-2 (1st Floor), Quaid Azam Library, UOG

Requirements Engineering in the Era of Large Language Model

Javed Ali Khan

Senior lecturer at the Foundation of Software Engineering (FSE) group,
Department of Computer Science, University of Hertfordshire, UK

Javed Ali Khan is working as a senior lecturer at the Foundation of Software Engineering (FSE) group, Department of Computer Science, University of Hertfordshire, UK. Previously, he worked as an Assistant Professor cum chairperson in the Department of Software Engineering, University of Science and Technology Bannu, Pakistan. He completed his PhD in Software Engineering from Tsinghua University (QS ranked 12th), Beijing, PR. China. He regularly publishes papers in reputable software engineering journals and conferences. His areas of interest are Software Engineering, Requirements Engineering, Large Language Models, CrowdRE, mining software repositories, human values in Software, Quantum Software Engineering, Feedback Analysis, Empirical Software Engineering, NLP, Requirements Prioritization, sarcasm detection, and Health Analytics.

KEYNOTE 5 02:30 pm – 03:00 pm (Venue: Hall-1 (1st Floor), Quaid Azam Library, University of Gujrat)

Intelligent Control and Robotics for a Sustainable Future: Bridging the Gap between Theory and Practice

Mohd Rizal Arshad

Professor at School of Electrical and Electronic, Engineering Campus,
Universiti Sains Malaysia 14300 Nibong Tebal, Pulau Pinang MALAYSIA

Mohd Rizal Arshad is a full professor at the School of Electrical and Electronic Engineering at Universiti Sains Malaysia (USM), where he specializes in control and robotics system especially for marine-related applications. He received his B.Eng. in Medical Electronics and Instrumentation from the University of Liverpool in 1994, and his MSc. in Electronic Control Engineering from the University of Salford, UK in 1995. He earned his PhD in Electronic Engineering in 1999 with a specialization in underwater imaging using diffused laser source. Prof Rizal has supervised many postgraduate students and has published extensively in local and international publications. He is a professional engineer with the Board of Engineer Malaysia and a professional technologist with the Malaysian Board of Technologist. He is also a Chartered Marine Engineer (C.MarEng) with the Institute of Marine Engineering, Science and Technology (IMarEST) and Chartered Engineer (C.Eng) with the Engineering Council (UK). A senior member of the IEEE and Fellow of Academy of Science Malaysia and IMarEST. He is recognized as a pioneer in underwater system technology and robotics research in Malaysia

ORAL SESSION 2A: POWER (P-2)

Date: 19th February 2025 (Wednesday) Time: 03:00pm – 05:15pm
Venue: Library Auditorium, Quaid Azam Library, University of Gujrat
Session Chairs: Prof. Dr. Tahir Mehmood, Dr. Shoaib Rauf

Time	Paper ID	Paper Title	Author Name	Presenter
03:00	Invited Talk	Electric Vehicles in Pakistan: Advocating for a People-Centric Policy Approach		**Commodore Retd Imran Ul Haque**
03:15	14	Optimization and Efficiency Improvement of Hybrid Floating Photovoltaic and Thermoelectric Generation System Including Power Converter and IOT Load Control System	Zohaib, Usama, Abdul Rehman, Mustapha A. Modibbo and Mishail Ijaz	**Usama Afzaal**, Riphah International University ONLINE
03:30	35	A Retrospective on the Progress of Renewable Energy in Pakistan: Trends, Challenges and Sustainable Solutions	Zaryab, Saqlain, Faheem, Zulkarnain, and Wania Saleem	**Zaryab Basharat**, UET Lahore
03:45	61	Strategic Management of Forecast Uncertainties to Mitigate Power Imbalances in Virtual Power Plants	M. Ahsan, Vikram, M. Usman, Qazi Sajid, Mian Rizwan and Shafiq Ahmad	**Muhammad Ahsan Niazi**, Southeast University ONLINE
04:00	73	Power Quality Enhancement in Renewable Energy Grids Through Advanced Harmonic Filtering Technique	Ameer Hamza, Faizan Ahmad, M. Imtiaz Ul Hassan and Misba Batool	**Ameer Hamza**, University of Engineering & Technology, Lahore, Pakistan
04:15	82	Data-Driven Approach for Power Flow Direction Estimation in Presence of Renewable Energy	Shariq Shaikh, Furqan Ali and Maham Shafiq	Shariq Shaikh, NED UET
04:30	84	FEM Simulation and Experimental Validation of a High-Frequency Induction Heating System with COMSOL Multiphysics	Khizer, Mudassar, Abdul Majid, Jawad, Toqeer Haider and Osama Rafi	**Khizer Rafique**, COMSATS University Islamabad Abbottabad Campus
04:45	86	Optimizing Solar Energy Consumption in Grid Connected Residential Photovoltaic (PV) System: A Demand Side Management (DSM) Approach for Peak Production Utilization	Sharjeel Munawar, Qaisar Mehmood, M. Akmal, M. Usama and Haroon Farooq	**Sharjeel Munawar**, UET – Lahore (College: RCET), Gujranwala, Pakistan
05:00	Invited Talk	Accelerating Towards Sustainable Mobility: Key Factors in Electrical Vehicle Adoption		**Dr Muhammad Abrar** School of Engineering Lancaster University

ORAL SESSION 2B: COMPUTING (COM-2)

Date: 19th February 2025 (Wednesday) Time: 03:00pm – 05:15pm
Venue: Exhibition Hall-2 (1st Floor), Quaid Azam Library, University of Gujrat
Session Chairs: Dr. Umar Shoaib, Dr. Usman Ali, Hafsa Dar, Dr. Zahid Iqbal

Time	Paper ID	Paper Title	Author Name	Presenter
03:00	141	Multimodal Graph Transformer with Deep Attention (MGTDA) Framework for Depression Analysis	Farzeen Arshad, M. Umer, Usman Ali and Waqas Ali	**Farzeen Arshad Ghuman**, GIFT University
03:15	146	Stacking-Based Ensemble for Cervical Cancer Detection	Faizan, Usman Ali, Umer, Uzair Jameel, Sheraz and Daniyal	**Faizan Ashraf**, GIFT University
03:30	152	Analysis Of Decision-Making Strategies in Social Networks	M Azam Zia, Remsha Zafar and M. Asif	**Remsha Zafar**, University of Agriculture Faisalabad, Pakistan
03:45	229	Multi Heap-Based Optimizer	Tehmina Naz, Zunaina Islam, M. Faheem and Syed Qamar	**Tehmina Naz**, GIFT University
04:00	253	AWARE-NET: Adaptive Weighted Averaging for Robust Ensemble Network In Deepfake Detection	M. Salman, Iqra Tariq, Sami Fayyaz, Muqadas Jalal, Mishal Zulfiqar and Sumbal Fatima	**Muhammad Salman**, GIFT University
04:15	257	Improved Arithmetic Optimization Algorithm	Komal Arif, M. Faheem, Qamar Askari and Amina Zafar	**Amina Zafar**, GIFT University
04:30	268	Heap-Based Political Optimizer	Zunaina Islam, M. Faheem, Qamar Askari and Faheem Rafique	**Faheem Rafique**, GIFT universty Gujranwala
04:45	274	Advancing Intrusion Detection with ML and Deep Learning: A Comparative Approach	Mashaal Shahid, Syed Yasser Arafat and Fahad Tariq	**Mashaal Shahid**, Mirpur University of Science and Technology
05:00	283	Automated Question Generation from Job Descriptions Using Large Language Models: An Evaluation of Role-Fit and Fairness	Naveed Ahmed, Zahid Iqbal, Fatima N. Al-Aswadi, Rabia Khan & Usman Zia	**Rabia Khan**, University of Gujrat

ORAL SESSION 2C: CONTROL (C-2)

Date: 19th February 2025 (Wednesday) Time: 03:00pm – 05:00pm
Venue: Hall-1 (1st Floor), Quaid Azam Library, University of Gujrat
Session Chairs: Dr. Sajjad Manzor, Dr. Syed Muhammad Wasif

Time	Paper ID	Paper Title	Author Name	Presenter
03:00	208	Audio-Visual Information Integration for Humanoid Robot Gaze Shift	Noman, Wasif M., Zubair, M. Jehanzeb, Irfan, Ali Asghar and M. Waqas Jabbar	**Noman Amjad,** University of Gujrat
03:15	212	Steering Control of Ackermann Architecture Weed Managing Mobile Robot	Faryal, S. Ambreen, Wasif, Mehmood, Zubair, M Jehanzeb and Nazam S.	**Faryal Naeem Mehmood,** University of Gujrat
03:30	213	Stereo Vision Based Navigation for Driverless Cars and Obstacle Avoidance	M Tayyab, Hanzala, Wasif, Zubair, M. Jehanzeb, Irfan, Ali Asghar and M. Waqas Jabbar	**M. Tayyab Amanat,** University of Gujrat
03:45	215	Weed Detection and Removal Using Autonomous Mobile Robot	Faria, Rabia, Wasif, Zubair, M. Jehanzeb & Nazam Siddique	**Rabia Malik,** University of Gujrat
04:00	233	State of The Art in Lifelong Learning of Robots	Ambreen Zahra, Jehanzeb, Wasif, Mian Rizwan, Zubair, Huzaifa, and Yumna Bilal	**Ambreen Zahra,** University of Gujrat
04:15	245	Classification Of 24 Skin Conditions Using Swin Transformer: Leveraging Dermnet & Healthy Skin Dataset	Fouqia Zafeer, Jameel Ahmad, M. Umar Farooq, Nouman Shahid and M. Usama	**Fouqia Zafeer,** GIFT University
04:30	272	Cow Face Detection for Precision Livestock Management Using Yolov8	Umair Ali and Wasif M.	**Umair Ali,** University of Gujrat
04:45	275	Multimodal Gaze Shift Model Using Vision and Auditory Information for Humanoid Robot	Sohail Asif and Wasif Muhammad	**Sohail Asif,** University of Gujrat

PROGRAMME

Thursday February 20, 2025

Venue: GIFT University, Gujranwala

ICEPEC 2025
International Conference on Energy, Power, Environment, Control and Computing

Registration Opens
08:00am

Conference Inauguration Ceremony (Venue: Seminar Hall, GIFT University, Gujranwala)

Recitation of Quran, Naat and National Anthem
09:00am – 09:15 am

Welcoming Remarks by Conference Rector GIFT University
09:15 am – 09:30 am

KEYNOTE 6

09:30 am – 10:00 am (Venue: Seminar Hall, GIFT University)

The Strategy and Progress of China's Building Sector Towards Carbon Neutrality

Yingxin ZHU
Professor at Dept. of Building Science, School of Architecture,
Tsinghua University, Beijing, 100084 China

Yingxin Zhu is a professor at School of Architecture, Tsinghua University, China. She received B.Sc. and Ph.D. degrees from Tsinghua University in 1984 and 1989 respectively. She is presently the Vice Head of Key Lab of Ministry of Education on Eco-Urban Planning and Green Building Research, the Chair of National Steering Committee for Higher Education in HVAC, a fellow of ISIAQ (International Society of Indoor Air Quality and Climate) Academy, and a fellow of IBPSA (International Building Performance Simulation Association). She is presently serving as an associated editor of Indoor Environment (former Indoor Air). She serves/has served on members of editorial boards of several international journals including Building and Environment, Energy and Buildings, Building Simulation, Building Performance Simulation, JAABE, etc. She was a former vice-dean of School of Architecture, Tsinghua University, and the Vice-Chair of National Board of Accreditation for HVAC Education. Her research interests are sustainable buildings and thermal comfort. She is/was the leader of a number of important projects funded by Chinese governments including a key NSFC project "Fundamental research on thermal comfort in dynamic thermal environment" and 11th, 12th and 13th Five-year National Plan Research Projects on sustainable building. She was the leader (Operative Agent) of IEA-EBC Annex 69 "Strategy and Practice of Adaptive Thermal Comfort in Low Energy Buildings". She has published more than 110 research papers in international journals and over 130 research papers in peer reviewed journals in Chinese. Her research achievements have received a number of awards, including the 2nd prize of China National Science and Technology Progress Award for Sustainable building research and application, the Asia-Pacific Heritage Award for Culture Heritage Conservation by UNESCO for Meridian Gate Exhibition Hall of the Palace Museum. Furthermore, she received more than a dozen awards from the Chinese government and academic organizations for her academic and teaching achievements. In 2018, she received "Uichi Inouye Asia International Award" from Japanese SHASE. In 2020, she received "Wu Yuanwei HVAC Award" from Chinese Council of HVAC (CCHVAC). She was honored as 'Distinguished Professor for Teaching' by the Education Commission of Beijing Municipality in 2008. The annual circulation of her textbook for undergraduates, Built Environment, is about 10,000 copies in China, and the total circulation has reached 200,000 copies since its publication in 2001. She has produced by now 3 Massive Open Online Courses (MOOC) include "HVAC", "Built Environment" and "Green Buildings and Sustainability", which have got learners over 20,000/year. And her MOOC "HVAC" and "Built Environment" both received the title of National Excellent MOOC Course by Chinese Ministry of Education.

KEYNOTE 7 10:00 am – 10:30 am (Venue: Seminar Hall, GIFT University)

Towards Trustworthy Artificial Intelligence Technologies for Industrial Applications: Real-world Use Cases, Challenges and Opportunities

Amir Hussain

Professor and Director of Centre of AI & Robotics (CAIR), School of Computing, Edinburgh Napier University, Scotland, UK
Founding Editor-in-Chief: Cognitive Computation (Springer Nature: http://springer.com/12559)
Programme Director: UK EPSRC COG-MHEAR (https://cogmhear.org/team.html)
Executive Committee Member: UKCRC (National Expert Panel for UK Computing Research)

Professor Amir Hussain obtained his B.Eng (highest 1st Class Honours with distinction) and Ph.D. from the University of Strathclyde in Glasgow, UK, in 1992 and 1997, respectively. Following a UK EPSRC-funded Postdoctoral Fellowship (1996–98) and a Research Lectureship at the University of Dundee, UK (2018–20), he joined the University of Stirling, UK, in 2000, where he was appointed to a Personal Chair in Cognitive Computing in 2012. Since 2018, he has been Founding Director of the Centre of AI and Robotics at Edinburgh Napier University, UK. His research and innovation interests are cross-disciplinary and industry-led, aimed at developing cognitive data science and responsible AI technologies to engineer the smart healthcare and industrial systems of tomorrow. He has co-authored around 600 papers (with an h-index >80 and >30,000 citations), including over 300 journal papers and 25 books. He has supervised over 40 PhD. students and led major national and international projects as Principal Investigator, including the current multi-million-pound COG-MHEAR programme (funded under the UK EPSRC Transformative Healthcare Technologies for 2050 Call), which aims to develop future multimodal AI-enabled assistive hearing and communication technologies. He is the founding Chief Editor of (Springer's) Cognitive Computation journal (SCI impact factor: 5.4) and an Editorial Board member for (Elsevier's) Information Fusion and various IEEE Transactions, including on : Artificial Intelligence; Neural Networks and Learning Systems; Systems, Man, and Cybernetics (Systems); and Emerging Topics in Computational Intelligence. Amongst other distinguished roles, he is an invited Chair Panel Member of the UKRI Interdisciplinary Assessment College and an Executive Committee member of the UK Computing Research Committee (UKCRC), the national expert panel of the IET and BCS for UK computing research. He served as General Chair of the prestigious 2020 IEEE WCCI (the world's largest IEEE technical event on computational intelligence, comprising the flagship IJCNN, IEEE CEC, and FUZZ-IEEE) and the 2023 IEEE Smart World Congress (featuring six premier co-located IEEE Conferences).

TEA BREAK
10:30 am – 11:00 am

REMOTE

KEYNOTE 8 11:00 am – 11:30 am (Venue: Seminar Hall, GIFT University)

Application of Nature Inspired Based Optimization in Power System Research

Hazlie Mokhlis

Professor and Chair, Cluster Industry, Innovation & Sustainable Science, Department of Electrical Engineering, Faculty of Engineering, University of Malaya

Hazlie Mokhlis obtained the Bachelor of Engineering degree and Master of Engineering Science in Electrical Engineering from University of Malaya in 1999 and 2003 respectively. In 2009, he received his PhD degree from the University of Manchester. Currently he is Professor in the Department of Electrical Engineering, University of Malaya. He is active researcher that has published more than 300 publications in Power and Energy Systems and supervised to completion 40 PhD, and more than 60 Master students. His outstanding research had been recognized in top 2% scientists by Stanford University in 2020 to 2024. He was awarded Top Research Scientist Malaysia by Academic Science Malaysia in 2021 and appointed as Fellow of Academic Science Malaysia in 2024. Besides research, he is active in the development of few Malaysian Standard related to power systems. His research interests focus on improving distribution system performance and resiliency against extreme weather. Prof Hazlie is a Chartered Engineer United Kingdom, Professional Engineer with the Board of Engineers Malaysia, Fellow IET, and Senior member of IEEE. He was Chapter chair for IEEE PES Malaysia session 2020-2022.

KEYNOTE 9 11:00 am – 11:30 am (Venue: Room G-3, GIFT University, Gujranwala)

Current Status of Local Industry and the Role of Microelectronics in Its Advancement

Tassadaq Hussain

Professor at Department of Electrical Engineering, Namal University, Pakistan

Dr. Tassadaq Hussain is one of the leading Pakistani computer architect providing hardware/software solutions for high performance computing applications. Currently He is serving Namal University as Processor Electrical Engineering Department and Director Centre for AI and BigData. Dr. Tassadaq received MSc (Electronics) degree in 2009 from the Institut Supérieur d'Electronique de Paris France. During his Master's, he worked for Infineon Technology digital design department South France and developed Ultra-low Cost Mobile Base Band Chips. He pursued his Ph.D. degree in computer architectures from the Universitat Politècnica de Catalunya (UPC) in collaboration with Barcelona Supercomputing Center and Microsoft Research Center (BSCMSRC). Dr. Tassadaq's research interests span a wide range of areas, including Supercomputing for Artificial Intelligence and Big-Data Applications, Agri-Engineering, Biomedical Engineering, VLSI Processor System Design, and Industrial IoT. He has successfully completed multiple industrial projects, with a total value exceeding PKR 130 million. Notable projects include the development of an indigenous low-cost heterogeneous supercomputing system, Pakistan's first FPGA-powered supercomputer, a rice color sorting algorithm, Indigenous Development of Ventilator, Smart BLDC motor Controller and a Livestock breed identification system using visual images

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REMOTE

KEYNOTE 10 11:00 am – 11:30 am (Venue: Room G-2, GIFT University, Gujranwala)

The Policy Impact of Large Language Models in Healthcare: An Inclusive Innovation

Joseph Ng

Professor at Institute of Computer Science and Digital Innovation (ICSDI), and Deputy Director, Praxis, Industry and Community Engagement (PICE), UCSI University Kuala Lumpur (South Wing)

Prof. Ts Dr. Joseph Ng Poh Soon graduated with a PhD (IT), master's in information technology (Aus), Master in Business Administration (AUS) Associate Charted Secretary (UK) with various instructor qualifications, professional certification and industry memberships. With his blended technocrat mix of both business senses and technical skills, has held many multinational corporation senior management positions, global posting and leads numerous 24*7 global mission-critical systems. A humble young manager nominee twice, five teaching excellence Awards recipients, numerous research grants, hundreds of citations and mentored various student competition awards recipients. He has appeared in live television prime time cyber security talk shows and overseas teaching exposure. His current researches are on strategic IT infrastructure optimization and digital transformation.

ORAL SESSION 3A: POWER (P-3)

Date: 20th February 2025 (Thursday) Time: 11:30am – 01:30pm
Venue: Room G-2, GIFT University, Gujranwala
Session Chairs: Dr. Haroon Farooq, Dr. Naeem Abas Kalair

Time	Paper ID	Paper Title	Author Name	Presenter
11:30	94	Hierarchical Reinforcement Learning for Enhancing Vehicle-to-Grid Operations in Solar Power Systems	M. Usman Sadiq, M. Ahsan, Vikram Kumar, M. Rizwan, Qazi Sajid and Shafiq Shafiq A.	**M. Usman Sadiq,** Southeast University ONLINE
11:45	106	Design, Optimization and Performance Analysis of 250kW Permanent Magnet Machine for Hybrid Electric Propulsion of Civil Aircrafts	M. Faraz Imam, Geraint Jewell and Faisal Khan	**M. Faraz Imam,** Bahauddin Zakariya University Multan
12:00	235	Autonomous Control Management of Synchronous Generators in Microgrid System	H. Ghulam Murtza, Adil Ashraf, M. Zain, Fareed A., M. Imran and Imran Khan	**H. Ghulam Murtza,** YANSHAN University Qinhuangdao China ONLINE
12:15	116	Performance Comparison of Contra-Rotating Flux Modulated Machine with Consequent Pole Configuration	Wasiullah Khan, Faisal Khan, Syed Toqeer Haider and Saleem Iqbal S.	**Wasiullah Khan,** COMSATS University Islamabad-Abbottabad Campus, Pakistan
12:30	125	Feasibility Of A 10 MW PV System Expansion in Solar Park: Energy Generation, Impact on Grid Network, And Financial Prospective	M. Tamoor, Abdul Rauf Bhatti, M. Farhan and Faisal Zulfiqar	**Muhammad Tamoor,** Government College University Faisalabad, Pakistan
12:45	148	A Real-Time Harmonic Estimation Using a Hybrid Least Square-Virus Colony Search Algorithm	M. Mansoor Ashraf, M. Zaigham, Irtaza, M. Waseem and Fabiano Pallonetto	**M. Zaigham Abbas**, University of Engineering and Technology, Taxila (47050), Pakistan. ONLINE
01:00	199	Optimizing Renewable Energy Integration: A Hybrid Energy System Approach for Residential Applications	Asjad, Asma, Noor Izzri, Abdul Muqeet and Rizwan A. Farade	**Hafiz Abdul Muqeet**, Punjab Tianjin University of Technology, Lahore 54770, Pakistan
01:15	206	Performance Analysis of VLC-based Li-Fi NLOS Underwater Channel Using ASK Modulation Scheme Over WDM under the Influence of Ambient Light	Rao Behram, Farhan, Faisal, M. Nouman, Usman Hassan, Aman Ullah and M. Adnan	**Rao Behram Umer**, University of Engineering & Technology Taxila, Pakistan

ORAL SESSION 3B: COMPUTING (COM-3)

Date: 20th February 2025 (Thursday) Time: 11:30pm – 01:30pm
Venue: Seminar Hall, GIFT University, Gujranwala
Session Chairs: Dr. Syed Qamar Askari, Dr. Muhammad Zahid Iqbal

Time	Paper ID	Paper Title	Author Name	Presenter
11:30	Invited Talk	The Ethics of Artificial Intelligence		**Dr. Haris Masood**, University of Wah
11:45	120	Benchmarking YOLO-Based Models for Palm Oil Tree Detection: An In-Depth Analysis from YOLOv5X to YOLOv11X	Istiyak, M. Nishat, M. Uzair Gill, Gul Munir Ujjan and Tarik Adnan Almohamad	**Istiyak Mudassir Shaikh**, Universiti Sains Malaysia, 14300 Nibong Tebal, Penang, Malaysia ONLINE
12:00	127	Predicting Short-Term Traffic with Random Forest: A Granular Data Approach	Ahmad Mustafa, Khurram, Khattak and Zawar Hussain	**Ahmad Mustafa**, UET, Peshawar
12:15	194	Systematic Review on Perimeter Security in the Detection of Centralization Vulnerabilities in SDN Networks	Juan Diaz, Ronaldo Rodriguez, Jorge Ruiz & Luis Rada	**Juan Diaz**, Technological University of Peru ONLINE
12:30	218	A Study of Different Machine Learning Approaches for Relation Discovery Task	Fatima N. Al-Aswadi, Wafa' Za'Al Alma'Aitah, Huah Yong Chan, Keng Hoon Gan, Zahid Iqbal and Ahlam Al-Dhamari	**Fatima N. Al-Aswadi**, UCSI University ONLINE
12:45	225	Analyzing the impact of prompt engineering on efficiency, code quality, and security in CRUD application development	Ashen Shanuka, Prof. Janaka Wijayanayake and Dr.Kaneeka Vidanage	**Ashen Shanuka**, University of Kelaniya ONLINE
01:00	115	Systematic Review on the Design and Implementation of the Braille System on Packaging	Briseth Alvarez, James Cardozo, Manuel Barriga and Luis Rada	**Briseth Alvarez**, Technological University of Peru ONLINE
01:15	263	Cow Analyzer: Visual Features Based Smart Breed Identification Application	Tassadaq Hussain, Amna Haider and Eduard Ayguade	**Tassadaq Hussain**, Namal University

ORAL SESSION 3C: ENERGY (E-1)

Date: 20th February 2025 (Thursday) Time: 11:30am – 01:30pm
Venue: Room G-3, GIFT University, Gujranwala
Session Chairs: Prof. Dr. Muzaffar Ali

Time	Paper ID	Paper Title	Author Name	Presenter
11:30	16	Experimental Study of the Combustion Process Of Vegetable Waste Oil in a Domestic Kitchen, as Applied to Isolated and Resource-Poor Regions	Juan José Milón Guzmán, Yarisa Luzdely Cisneros Roman, Jordán Elías Quispe Zapata and Carlos Francisco Gordillo Alarcón	**Yarisa Luzdely Cisneros Roman,** Universidad Tecnológica del Perú ONLINE
11:45	66	Enhancing Electric Vehicle Battery Performance through Grey Wolf Optimization and Deep Reinforcement Learning Integration	Vikram, M. Usman, M. Ahsan, Rizwan, Shafiq Ahmad and Qazi Sajid	**Vikram Kumar,** Southeast University ONLINE
12:00	149	Systematic Review of Photovoltaic Energy as an Alternative Energy Source in Business Buildings	Pamela Anaya, Enzo Dentone and Luis Rada	**Pamela Anaya,** Technological University of Peru ONLINE
12:15	211	Development and Performance Assessment of a Solar Dryer in Quetta, Balochistan, Pakistan	Zahid Naeem, Ghani Ur Rehman, M. Aarish, Anmol, Asif and Asadullah	**Asadullah,** Suranaree University of Technology, Nakhon Ratchasima, Thailand ONLINE
12:30	102	Utilizing Biomass for Sustainable Energy: A Focus on Power Plants in Malaysia	Mehran Izadkhah and Abdurrahman Javid Shaikh	**Abdurrahman Javid Shaikh,** NED University of EUT
12:45	56	Performance Analysis of Motorbike Engine Using Bioethanol Gasoline Blends	Yasir, Sajjad Miran, Waseem, Ahmad, and Samr Ul Husnain	**Yasir Hussain,** Mechanical Engineering, University of Gujrat
01:00	76	Design, Fabrication and analysis of cyclone for the reduction of particulate matter from compression ignition engine	Luqman Razzaq, Saad Nawaz, Sajjad Miran, Tahir Abbas, Waseem Arif and M. Umar	**Luqman Razzaq,** Mechanical Engineering, University of Gujrat
01:15	222	Maximizing biodiesel yield using mixture of waste cooking oil and mustard oil via RSM and ANN techniques	M. Asad Ullah, Waseem Arif, Luqman Razzaq and Sajjad Miran	**Muhammad Asad Ullah,** University of Gujrat

LUNCH BREAK / POSTER SESSION
01:30pm – 02:30 pm, (Venue: GIFT University Gujranwala)

ORAL SESSION 4A: POWER (P-4)

Date: 20th February 2025 (Thursday) Time: 02:30pm – 05:00pm
Venue: Room G-2, GIFT University, Gujranwala
Session Chairs: Dr. Muhammad Aqeel Aslam, Dr. Hassan Imran

Time	Paper ID	Paper Title	Author Name	Presenter
02:30	Invited Talk	RENEWABLES GLOBAL STATUS: Market & Industry Trends		**Prof. Dr. Abdul Rauf Bhatti,** GCUF
02:45	Invited Talk	Empowering Entrepreneurship: The Impact Of Innovation On Energy And Power Ventures In Pakistan		**Dr. Zafar Ahmed Siddiqui,** The University of Modern Sciences, Hyderabad
03:00	216	Multivariate Short-Term Load Forecasting Based on Hybrid Deep Learning Approach	Zahid Abbas and Tahir Mahmood	**Zahid Abbas,** UET Taxila ONLINE
03:15	238	Decentralized Hybrid Frequency Control Scheme for Prevention of Blackouts in Power Grids	Zakir Ullah and M. Iftikhar Khan	**Zakir Ullah,** UET Peshawar
03:30	249	A FEM Analysis of BLDC Ceiling Fan with Different Slot-Pole Combinations	Usman Haider and Dr. Nazam Siddique	**Usman Haider**, Champion Fans
03:45	256	Undecimated Discrete Wavelet Transform Based Image Fusion and Denoising In FPGA.	Fahad Ahmad, M. Husnain Ahmed and Yumna Adnan	**Fahad Ahmad**, University of Gujrat
04:00	258	Recycling Of Laptop Spent Li-Ion Batteries and Characterization of Extracted Materials	Zarmeena Akhtar, Muniba Bashir and Rizwan Raza	**Zarmeena Akhtar**, Cosmsats University Islamabad, Lahore Campus,Pakistan
04:15	291	An Iot Based Distributed SM Controller for Mitigation of Circulating Currents Among Sources in A Standalone DC Microgrid	M. Rashad, Sharjeel Sarwar, Nazam Siddique and Bilal Ishfaq Ahmed	**Nazam Siddique**, University of Gujrat
04:30	237	Intelligent Data-Driven Methods for Enhancing Distributed Excitation Control in Electrical Grid	Ghulam Murtza, M. Imran, Fareed Ahmad, Adil Ashraf, M. Zain Yousaf, Ayesha Riaz and Imran	**Hafiz Ghulam Murtza Qamar,** YANSHAN University Qinhuangdao China ONLINE
04:45	133	Sustainable Construction Materials to Improve Environmental Impact: A Systematic Review	Edgar Esteban, Naomy Flores, Manuel Barriga and Luis Rada	**Edgar Esteban**, Technological University of Peru

ORAL SESSION 4B: COMPUTING (COM-4)

Date: 20th February 2025 (Thursday) Time: 02:30pm – 05:00pm
Venue: Seminar Hall, GIFT University, Gujranwala
Session Chairs: Dr. Muhammad Ziad Nayyer, Dr. Muhammad Faheem

Time	Paper ID	Paper Title	Author Name	Presenter
02:30	110	Analyzing the Potential of Physiological Signals for Emotion Detection in Children with Autism	Armeen, M. Fahad, Saba and Fakhra	**Armeen Shahid**, MUST, Mirpur, Pakistan
02:45	139	FPGA-Enabled Hand Gesture Recognition for Smart Home Applications	Misbah, Mohsin, Maryam, Faisal, and Ahmed Salim	**Misbah Batool**, Namal University Mianwali, Pakistan
03:00	145	Machine Learning-Based Improvement of Smart Contract Security in Fog Computing Using Word2Vec And BERT	Tahmina, M. Usman, Tayybah, Alvena, Mustabeen Aziz and Fateha Minahil	**Tahmina Ehsan**, University of Gujrat, Gujrat
03:15	179	Precision Powered: Revolutionize Energy Consumption Forecasting Using Transformers	M. Hamza Farooq, M. Ahmad Hassan and Shiza Maham	**M. Hamza Farooq**, UET, Lahore ONLINE
03:30	193	Towards Enhanced Multicasting in Software-Defined Wi-Fi Networks	Sohaib Manzoor, Syed M. Ali, Robert Wójcik and Jerzy Domżał	**Syed Muhammad Ali,** Mirpur University of Science and Technology
03:45	250	Design And Fnirs Based Control Of 2-DOF Exo-Ankle for Gait Rehabilitation	Naqash Ahmad, Hammad Nazeer, Urooj Abid and Noman Naseer	**Naqash Ahmad**, Air University
04:00	254	Rice analyzer: Morphological and Structural Data Engineering for Deep Learning-Based Rice Classification Application	Tassadaq H., Kamran Younis & Usman Shafique	**Kamran Younis**, Namal University
04:15	259	Cricket Analyzer: A Smart Camera-Based System for Accurate Ball Speed Detection in Cricket	Tassadaq H. and M. Haris	**Muhammad Haris**, Namal University
04:30	261	Pak Supercomputer: An Open-Source, Scalable, And Heterogeneous Supercomputing Platform	Tassadaq H., Amna Haider and Eduard Ayguade	**Tassadaq Hussain**, Namal University
04:45	262	Low-Power and Low-Cost Open Hardware RISC-V-Based High Performance Computing Cluster	Tassadaq H., M. Wasay, Sidra and Eduard Ayguade	**M. Wasay Tahir,** Namal University

ORAL SESSION 4C: ENERGY (E-2)

Date: 20th February 2025 (Thursday) Time: 02:30pm – 05:00pm
Venue: Room G-3, GIFT University, Gujranwala
Session Chairs: Dr. Sajjad Miran, Dr. Waseem Arif

Time	Paper ID	Paper Title	Author Name	Presenter
02:30	Invited Talk	Net-zero Air Conditioning Technologies in Buildings: A Step towards Green Buildings	Muzaffar Ali	**Muzaffar Ali** UET Taxila
03:00	2	Optimized Solar Powered Hydrogen Production, Storage and Utilization for Fuel Cell Electric Vehicle (FCEV) model: A Sustainable Energy Solution	M. Shoaib Saleem, Naeem Abas, Zainab Mubeen Tahir, Malaika Imran and Aun Haider	**M. Shoaib Saleem,** University of Management of Technology Lahore, Sialkot, Pakistan
03:15	18	Synthesis and Characterization of GO-Al0. 5Cr0.5Fe2O4/PANI Ternary Nanocomposites for Dielectric and Conductive properties	Mubbashar Mumtaz, Khalid Talha and Sadia Sagar Iqbal	**Mubbashar Mumtaz,** University of Lahore
03:30	75	Designing Efficient Cooling Systems for Lithium Battery Packs: A Particle Swarm Optimization Approach	M. Arslan, Faizan Arshad, Shouket Ali, Mubashar Hussain, Arsal Abbasi, Abdul Moeez, Daud Khalid and M. Imran	**Muhammad Arslan,** University of Engineering and Technology, Punjab, Pakistan
03:45	104	Numerical Evaluation of Heat Exchanger Using Nano-Fluids	Mariam Hameed and M. Salman Abbasi	**Mariam Hameed,** UET, Lahore, Rachna Campus
04:00	130	Experimental Assessment of an Indirect Evaporative Heat and Mass Exchanger for Improving the Water Footprints	Sabir Rasheed, Muzaffar Ali and Hassan Ali	**Sabir Rasheed,** University of Engineering and Technology Taxila,
04:15	143	Assessment of Crossflow Indirect Evaporative Heat Exchanger Performance Using Numerical Methods	Sabir Rasheed, Muzaffar Ali and Hassan Ali	**Sabir Rasheed,** University of Engineering and Technology Taxila,
04:30	197	Experimental Study of the Impact of Aluminum Foil and Mylar Reflectors on Solar Panel Performance	Shahzaib Hassan, Saqlain, M. Ahmad, M. Mutwassim and Zulkarnain	**Shahzaib Hassan,** UET Lahore
04:45	Invited Talk	Life Cycle Impact of Waste to Energy Using Biofuels		**Prof Dr Nadeem Ahmed Sheikh** IIU, Islamabad

Papers of Poster Session Day-1

Sr. #	ID	Title	Authors
1	5	Modern Practices and Algorithms of Quantum Computing: A Survey Based Assessment	Sumaira Aslam, Wajiha Anjum, Abdur Rehman Riaz, Sadia Zar and Safina Safina
2	78	Computer-Aided System for the Detection of Rheumatoid Arthritis	Aqib Shaheer and Mubbashir Ayub
3	100	A Simulation of Free Space Propagation Model for Humidity Based Mediums	Ahmed Faraz, Dr. Ali Akber and Hosh Muhammad
4	147	HYBRID CNN-LSTM MODEL FOR THE ENHANCEMENT OF SHORT-TERM LOAD FORECASTING	M. Ayub, Mahavia Khan, M. Maaz Shah, Shahid, M. Farhan and Muhammad Rizwan
5	154	EXPLORING cGANS FOR URDU ALPHABETS AND NUMERICAL SYSTEM GENERATION	Suleman Khalil, Syed Yasser Arafat, Fatima Bibi and Faiza Shafique
6	158	Short Term Load Forecasting Using Recurrent And Spatial Deep Learning Model	Zohaib Ahmed, Ibraheem Khan, Shaheer Khan, M. Shafiq, M. Farhan and Irshad Ullah
7	159	SEQUESTRATION OF CARBON DIOXIDE VIA MINERAL CARBONATION TO PRODUCE MAGNESIUM CARBONATE: A DESIGN STUDY	Meerab Yousuf, Abdul Basit and Abdul Basit
8	160	Comparative Study of Machine Learning Algorithms for Sentiment Analysis in Multimodal Medical Data	Hafiz Muhammad Bilal Bilal, Muhammad Asif and Muhammad Azam Zia
9	162	Computational Fluid Dynamics Study Of Photocatalytic Reaction System For Methyl Orange Degaradtion	Fatima Aamir, Abdul Basit, Abdul Hannan Zahid and Muhammad Suleman Tahir
10	188	A Review of Generative Adversarial Networks and its Applications	Ahmed Faraz, Dr. Ali Akber and Hosh Muhammad
11	135	Photocatalytic Degradation of Deltamethrin in Drinking Water under visible light by using ZnO and TiO2	Mahmboob Ahmad, M. Tahseen, Kamal Zafar, Ghulam Abbas, Sahar Asif, Nabila Kousar, Abdul Wahab Mukhtar, Arslan Chaudhary

Papers of Poster Session Day-2

Sr. #	ID	Title	Authors
1	202	AIR QUALITY INDEX PREDICTION IN GUJRAT: A COMPARATIVE STUDY USING MACHINE LEARNING MODELS	Mohsin Saleem, Shehr Bano, Sana Azeem, Rehan Liaqat and Ahmed Salim
2	210	EMG CONTROLLED LOWER LIMB EXOSKELETON FOR REHABILITATION	M. Moeed Zeb, Ali Maesam Kazmi, Wasif Mehmood, Zubair Mehmood, M. Jehanzeb Irshad and Nazam Siddique
3	220	COST OPTIMIZATION MODEL FOR SHORT TERM HYDROPOWER UNIT COMMITMENT PROBLEM	M. Zeeshan Kayani, Ubaid Ahmed, Sohail Razzaq and Anzar Mahmood
4	224	VORTEX POWERPLANT IMPLEMENTATION IN A COASTAL COMMUNITY	Muzammil Anayat, Atta Ul Hassnain, Sajjad Miran and Waseem Arif
5	252	An Energy Efficient and Low-cost RISC-V based BLDC Motor Controller	Dawood Mazhar and Tassadaq Hussain
6	255	SoilAnalyzer: A Smart Visual Features based Soil Classification System	Tassadaq Hussain and Amna Haider
7	265	CVAnalyzer: An Automated System for Automated Resume Analysis and Ranking Using Multi-Model Semantic Processing	Tassadaq Hussain and Kamran Younis
8	271	"From Desert Plants to Designer Goods: The Role of Cactus Leather in Reducing Environmental Impact	Sumaira, Malaika, Asad Ali, M Saleem, M. Faheem Ullah, Yaseen, M. Hasan & Khurram
9	277	"EXTRACTION OF BIO-OIL FROM THE PYROLYSIS OF BANANA TREE WASTE	M. Tahseen, Mahmboob A., Aman, Kamal, M Hassan, Faheem Qaisar and Shahzaib
10	279	Efficient Region-Based Video Text Extraction Using Advanced Detection and Recognition Models	Abdullah, Zahid, Naveed, Fatima N. Al-Aswadi and Ghassan Saleh Aldharhani
11	292	ELECTRIC VEHICLES IN PAKISTAN: ADVOCATING FOR A PEOPLE-CENTRIC POLICY APPROACH	M Irfan Habib, Commodore Retd Imran Ul Haque and Dr S Umaid Ali
12	151	Comparative Analysis of Machine Learning Models for Lung Cancer Detection Using CT Scan Images	Muhammad Osama, Ejaz Ahmed, Mohsin Saleem, Ahmed Salim and Misbah Batool

5:00PM - Closing Remarks by Conference Chair, **Dr Muhammad Zaid Nayyaer**

Close of Conference at 5:10PM

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Faculty of Engineering and Technology, University of Gujrat,
Hafiz Hayat Campus, Gujrat, Pakistan
Tel. +92 (053) 3643326, Ext. 153, Email: icepecc@uog.edu.pk,
Website: www.uog.edu.pk/en/ICEPECC2025/

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