

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**CONFERENCE REPORT**

The 2024 International Conference on E-Mobility, Power Control and Smart Systems (ICEMPS 2024), technically co-sponsored by IEEE Kerala Section and co-sponsored by APJ Abdul Kalam Technological University and MBCET Alumni Association was organised by the Department of Electrical and Electronics Engineering, Mar Baselios College of Engineering and Technology, Thiruvananthapuram, from 18 to 20 April 2024. The conference was conducted in the hybrid mode. Out of the 406 papers received, 112 papers were accepted and 106 papers were registered.

**DAY 1 – 18 APRIL 2024**

The inaugural ceremony of ICEMPS 2024 was held on 18 April 2024. The Chief Guest Shri. K R Jyothish IAS, Additional Chief Secretary, Govt. of Kerala inaugurated the Conference and delivered a very inspiring and motivating inaugural address. His Excellency Most Rev Dr. Mathews Mar Polycarpus Auxiliary Bishop of the Major Archdiocese of Trivandrum and the Member of the College Governing Body delivered the Benedictory Address. Felicitations were offered by Dr. Bijuna Kunju K, Vice Chair, IEEE Kerala Section and Dr. Biju K, Assistant Director (Research), APJ Abdul Kalam Technological University, and Secretary, IEEE Kerala Section. The Conference handbook was released by Dr. Biju K. Dr. Elizabeth Varghese, HoD, EEE and Tutorial Chair, ICEMPS 2024 welcomed the gathering. Dr. Abraham T. Mathew delivered the Presidential address. Dr. Shalu George K., Organising Chair, ICEMPS 2024 proposed the Vote of Thanks.



The Inaugural session was followed by the Key Note address by Mr. Pradeep Kumar Keloth, Principal Advisor, Emerging Technology Topics at L&T EduTech and Former Head of Engineering, Robert Bosch. The Talk was on “System Engineering Approach to Electric Vehicle Design”. The two Tutorial sessions, one on “Computer vision for Intelligent Robotics: Opportunities and Challenges”, by Dr. Deepak Mishra, Professor, IIST and the other on “Electric Vehicle and scope of EV in India” by Ms. Megha Thomas V, Senior Engineer, Tata Elxsi were very informative and experiential.



## DAY 2 – 19 APRIL 2024

Second day of the conference, 19 April 2024, was marked with the keynote by Dr. Kapil Kumar Sharma, Scientist/Engineer at VSSC on the topic "Attitude Control of Launch Vehicle", which gave an insight into Navigation Guidance & Control of Launch Vehicles, touching upon the areas of precise manoeuvring and trajectory management in the Space Missions.



After the keynote session, the technical sessions commenced with seven parallel tracks held at Senatus Hall, Aryabhata Hall, Shannon Hall, Faraday Hall, Visveswaraya Hall, Laurie Baker Hall, and the Simulation Lab. These sessions were conducted in hybrid mode. 70 papers were presented in both online and offline mode on the second day. Distinguished figures from renowned academic institutions chaired the various sessions. Of the 106 presentations, 22 were conducted offline. Participants from various regions across the country attended, along with two international participants who presented their papers online.



The second day concluded with a delightful banquet dinner, which included a vibrant cultural program performed by the talented students of MBCET. The evening was filled with an array of traditional and contemporary performances, showcasing the rich heritage and creativity of

the students. Guests enjoyed a delicious meal while being entertained by music, dance, and theatrical acts, creating a memorable and enjoyable experience for all attendees.



## DAY 3 – 20 APRIL 2024

Third day, 20 April 2024, started with the Key Note by Dr. Kumaravel S, Associate Professor, NIT Calicut on the topic “Advancements and Challenges in DC-DC Converter Technologies: Powering the Future”. Dr. S. Kumaravel discussed about the current state of the art and the future directions of DC-DC converters and strategies for improving efficiency and minimizing losses in the context of sustainable development of the electric grid and the penetration of direct energy conversions.



On the third day, there were 36 papers presented in five parallel sessions. After the technical sessions and lunch, the Valedictory function was held at 02:00 pm in the Senatus Hall. The Valedictory address was delivered by the Chief Guest, Ms. Anu Kumari IAS, Director, Kerala State IT Mission. Dr. Biju K., Secretary IEEE Kerala Section, Assistant Director (Research), APJAKTU and Organizing co-chair, ICEMPS 2024 and Dr. Shyni G., Principal GEC Barton Hill and Member CAB, IEEE Kerala Section were the Guests of Honour. The certificates for the participants were distributed during the Valedictory session.



We are grateful to our Patron His Beatitude Moran Mor Baselios Cardinal Cleemis Catholicos for the permission to host the Conference. We gratefully acknowledge the guidance and support from His Excellency Most Rev. Dr. Mathews Mar Polycarpus, Auxiliary Bishop of the Major Archdiocese of Trivandrum. We acknowledge the guidance and support from our Bursar Fr. John Varghese, Assistant Bursar Fr. Thomas Mukalumpurathu and the Secretary of the Malankara Catholic Educational Society Rev. Fr. George Mathew Karoor. We also appreciate and acknowledge the collaboration and guidance from our sister institutions.

We acknowledge the technical Sponsorship from IEEE through the Kerala Section. We acknowledge the financial support from APJ Abdul Kalam Technological University and the MBCET Alumni Association.

On behalf of the Organizing team, we express our love and gratitude to our Vice Principal, Deans, HoDs, Senior Professors, Senior Officers, Faculty, Staff, Students and all who have extended support and guidance for us in various ways in the conduct of this Conference.

We also place on record our gratitude to the Advisory Committee, and all the Sub Committees of ICEMPS 2024 for all their support and guidance in making the Conference a grand success.

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