

WORKSHOP

On

All Electric Aircrafts for Decarbonized Communities

(26 – 28 May 2025)

Organized under the Scheme for Promotion of Academic and Research Collaboration (SPARC), funded by the Ministry of Education, Government of India.



शिक्षा मंत्रालय
MINISTRY OF
EDUCATION

सत्यमेव जयते

Organized by



भारतीय तंत्रगिन्यान संस्था गोंय
भारतीय प्रौद्योगिकी संस्थान गोवा
Indian Institute of Technology Goa
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Coordinators:

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Dr. Sheron Figarado, IIT Goa



Scheme for Promotion of Academic and Research Collaboration

About the Institution

Indian Institute of Technology Goa (IIT Goa) is a premier educational and research institution established in 2016, under the aegis of the Ministry of Education, Government of India. Situated in the transit campus at Farmagudi, Goa, IIT Goa offers state-of-the-art facilities in science, engineering, and technology and promotes dynamic academic environment through its rigorous curriculum and emphasis on interdisciplinary research to enable the students to contribute effectively to solving real-world challenges. With its collaborations with global institutions, the institute aims to promote global academic exchanges, joint research projects, and cultural immersion, enriching the institute's academic environment.



About the School

The School of Electrical Sciences (SES) is dedicated to delivering high quality education across diverse fields of electrical engineering. The school has a mix of young and experienced faculty members and both the faculty and research scholars at SES actively address open-ended research challenges in cutting-edge areas. The primary research areas include Power Electronics and motor drives, High voltage and plasma Engineering, Communication, Signal Processing, as well as VLSI and Micro-engineering. To support both undergraduate and postgraduate programs, SES has established various state-of-the-art laboratories, SES emphasizes world-class training with hands-on learning experiences tailored to students' interests and aligned with industry needs, fostering their growth and readiness to meet professional demands.



About the Workshop

The 3-day workshop on Aircraft Electrification will cover the advancements in aviation electrification for All Electric Aircrafts (AEA) concepts. The workshop aims at exploring the challenges and opportunities related to power converter design and insulation issues encountered in low-pressure environments. Participants will gain a strong understanding of the technological hurdles and innovative solutions shaping the future of sustainable and energy-efficient aviation.

Led by an esteemed panel of experts, the workshop will feature engaging sessions and discussions facilitated by renowned academicians and industry leaders, sharing their invaluable insights and research perspectives on the state-of-the-art developments in aircraft electrification. Attendees will have the opportunity to interact with these experts, visit high end facilities for the research and gain some hands-on knowledge in the related fields. The workshop is designed for researchers, and students, and is expected to deliver a significant learning experience for the participants.

Resource persons



Prof. Shesha Jayaram

Professor and the Director of the High Voltage Engineering Laboratory in the Department of Electrical and Computer Engineering at the University of Waterloo Canada. Dr. Jayaram's research focuses on high-voltage engineering, insulation diagnostics, solution-based outputs, nanocomposite materials, and pulse power applications in biotechnology and environmental engineering.



Prof. Akshay Rathore

Professor and program leader at the Department of Electrical Engineering , Singapore Institute of Technology (SIT), Singapore. His research is focused on the analysis and design of novel current-fed converters (topologies and modulation), soft-switching design and modulation schemes for the dc/dc converters, pulsating DC link (electrolytic capacitorless) inverters, and control of multilevel inverters.



Prof. Sivaji Chakravorti

Professor at the Electrical Engineering Department of Jadavpur University, West Bengal, India. His research is focused on Electrical Energy Production, Transmission, Distribution, Application, Electrical Semiconductors, Components, Circuits, Systems, Communication and High-Frequency Technology, Theoretical Electrical Engineering.



Dr. Sivakumar Nadarajan

Associate Professor at the Department of Electrical Engineering , Singapore Institute of Technology (SIT), Singapore. Prior to SIT, he worked in Rolls-Royce, Singapore for 15 years. His research is focused on condition monitoring and failure prognosis of safety and mission critical applications, architect safety critical electrical systems, applied AI for prognostic health management, fault tolerant electrical machines, medium fidelity modelling and simulation, and electrical drives.

Topics Covered

- Challenges in aviation electrification (More Electric Aircrafts and All Electric Aircrafts)
- Power electronics for aircraft system
- Insulation considerations for motors and converters in electric aircraft system
- Advanced topics

Who should attend?

Students, Faculty members, Industry persons and Researchers in the areas of Electric propulsion, Power Electronics, Insulation and high voltage engineering.

Registration and General Information

- ✓ No registration fee (Limited seats)
- ✓ Students should submit the registration form duly signed by the head of the institution.
- ✓ Last date of registration: **30th April, 2025**
- ✓ Date of intimation of selection: **2nd May , 2025**
- ✓ If the candidates require accommodation, it will be provided by the host institute on a payment basis in the institute hostel upto 4 days.
- ✓ Breakfast, lunch and tea will be provided on all 3 days of the workshop.

How to Register?

Registration form in the prescribed format duly filled up in all respects and attested by head of the institution should reach the coordinator through google form:

URL: <https://forms.gle/6pdGhw4kELDt5HpL7>

QR CODE



Scan the QR code to access the registration form.

Last date for registration is **30th t April, 2025**.

For any queries, write to:

shakthi@iitgoa.ac.in or Sheron@iitgoa.ac.in