

WORKSHOP ON *CHALLENGES AND ADVANCEMENTS IN AIRCRAFT ELECTRIFICATION* (08-10 DEC. 2025)

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

Organized by



भारतीय तंत्रगिन्यान संस्था गोंय
भारतीय प्रौद्योगिकी संस्थान गोवा
Indian Institute of Technology Goa
Farmagudi, Ponda, Goa - 403401



सत्यमेव जयते

शिक्षा मंत्रालय
MINISTRY OF
EDUCATION



Scheme for Promotion of Academic and Research Collaboration

Coordinators: Dr. Shakthi Prasad D, and Dr. Sheron Figarado, IIT Goa

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 challenges and advancements in aviation electrification. 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 Director of the High Voltage Engineering Laboratory, Department of Electrical and Computer Engineering, University of Waterloo, Canada. Jayaram's research investigates high-frequency transients in renewable energy grids and insulation challenges in MV/HV inverter-fed motors, EVs, and aircraft electrification, considering material behavior at high altitudes.

PROF. AKSHAY RATHORE

Professor and Director (Power and Energy Systems Research) in Electrical and Computer Engineering dept. at the National University of Singapore. His research is focused on the analysis and design of novel current-fed converters, soft-switching design and modulation schemes for the dc/dc converters, pulsating DC link inverters, and control of multilevel inverters.

PROF. B. G. FERNANDES

Professor at the Electrical Engineering Department of Indian Institute of Technology Bombay, India. His research interest includes power electronics interfaces for non-conventional energy sources, electric machines for wind power generation and electric vehicles applications.

PROF. SIVAJI CHAKRAVORTY

Professor at the Electrical Engineering Department of Jadavpur University. 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. MANOJ MANDLIK

Technology center manager, Distribution and solutions division. Electrification, ABB India Ltd., His research areas are high voltage and medium voltage switchgears, condition monitoring and diagnosis of electric power products.

DR. ANAND SATHYAN

is currently with ONSEMI, Phoenix, AZ, USA, and an Adjunct Assistant Professor with McMaster University, Hamilton, ON, Canada. He is the principal author or a coauthor of several journal and conference papers and has coauthored a chapter in Advanced Electric Drive Vehicles (2014). His current research interests include motor design and motor control.

Topics Covered

- Challenges and Advanced Topics in Aviation Electrification
- Power electronics for aircraft systems
- Insulation problems of printed circuit boards for outside the power trains, cables, barriers, etc.
- Motors in Electric aircrafts

Who should attend?

Graduate students, along with engineers, researchers, academia, and industry professionals, are encouraged to participate. Explore cutting-edge technologies that contribute to the future of electric aviation systems.

Registration and General Information

- ✓ No Registration fee.
- ✓ Students should submit the registration form duly signed by the head of the institution.
- ✓ Last date of registration: **10th Nov, 2025**
- ✓ Date of intimation of selection: **13rd Nov, 2025**
- ✓ If the candidates require accommodation, it will be provided by the host institute on a payment basis in the institute hostel upto 4 nights.
- ✓ Breakfast, lunch, tea and dinner 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/hA7h65VSopz47Lcm9>

QR CODE



Scan the QR code to access the registration form.

Last date for registration is 10th November, 2025.

For any queries, write to:
shakthi@iitgoa.ac.in or sheron@iitgoa.ac.in