School of Electrical and Computer Sciences
Indian Institute of Technology
Bhubaneswar

CALL FOR PAPERS

The 1st International Conference on Power Electronics Converters for Transportation and Energy Applications

PECTEA 2025

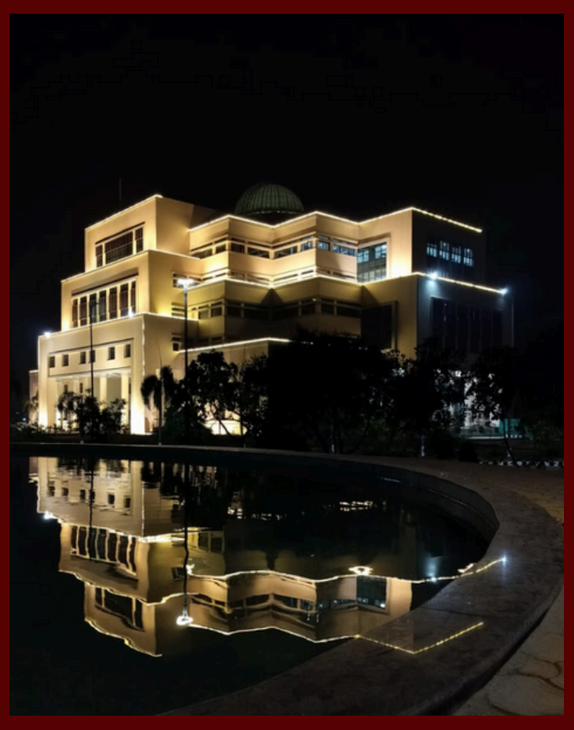
18-21 June 2025

AIM OF THE CONFERENCE

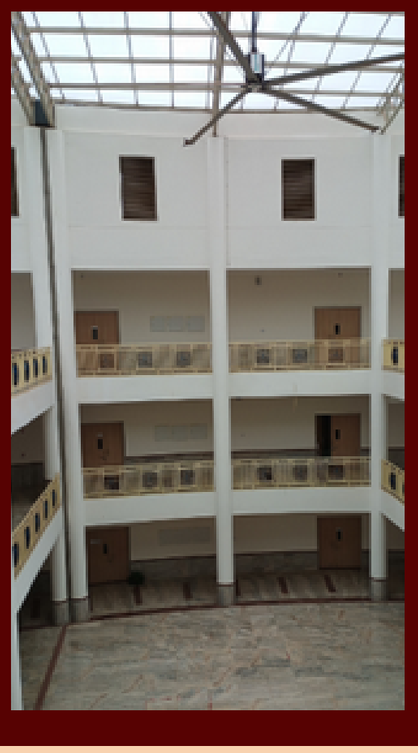
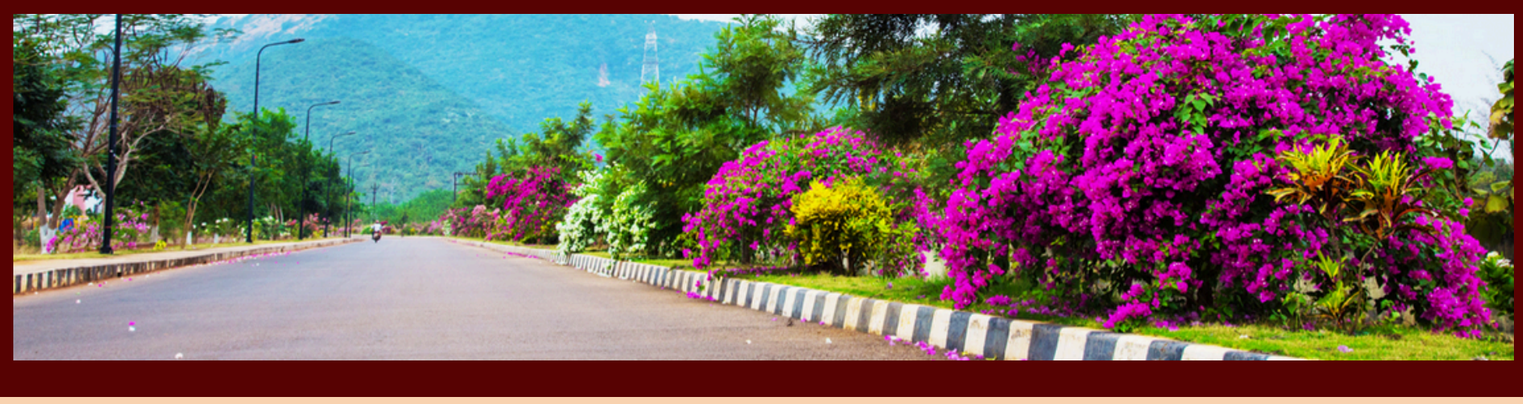
PECTEA-2025: "International Conference on Power Electronic Converters in Transportation and Energy Applications" aims to bring together leading academic scientists, researchers and industries (including start-ups) to exchange and share their experiences. It also provides the premier multidisciplinary forum for researchers, practitioners, and educators to present and discuss the most recent innovations, trends, and concerns, practical challenges encountered and the solutions adopted in the field of Emerging Trends and Technology in Power, Electronics Converters in Transportation and Energy Applications.

CONFERENCE VENUE

The conference will take place at the green Argul campus of IIT Bhubaneswar, Jatni, Odisha, India





IMPORTANT DATE

15TH JANUARY, 2025	1ST MARCH, 2025	1-30 APRIL, 2025	1-30 MAY, 2025	18-21 JUNE, 2025
Initial Paper submission deadline	Acceptance notification	Early bird registration and final paper submission	Regular registration	Conference date

More Information https://conference.iitbbs.ac.in/pectea2025/

SCAN ME

In collaboration with:

IEEE
IEEE Industrial Electronics Society
IES
PELS
IEEE POWER ELECTRONICS SOCIETY
Powering a Sustainable Future
IEEE PES Power & Energy Society®
IAS IEEE INDUSTRY APPLICATIONS SOCIETY
IEEE BHUBANESWAR SUB-SECTION
IEEE KOLKATA SECTION

HONORARY GENERAL CHAIR

Frede Blaabjerg, Aalborg University

GENERAL CHAIR

Dipankar De, IIT Bhubanewar

GENERAL CO-CHAIR

Chandrasekhar Perumalla, IIT Bhubanewar

TECHNICAL PAPERS ARE SOLICITED ON ANY SUBJECT PERTAINING TO THE SCOPE OF THE CONFERENCE INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING MAJOR TOPICS:

Power Converter Topologies, Components and Devices

- Power Devices, Components and Magnetic Materials
- Modelling, Simulation, Control and Stability of Power Converters
- Gate Drivers, EMI, EMC and Protection
- Advanced Topology
- Efficiency and reliability
- Fault tolerant converter
- Soft switching Converters
- Bidirectional Power Converters
- Solid state transformer based Power Converters
- Thermal Management, Packaging, and Optimization

Power Electronics for Renewable Energy and Storage Systems

- Wind and Solar PV systems, Fuel Cells
- Grid Integration and Policy issues
- Microgrids and Hybrid grids
- Converter Topologies for Renewable Energy Integration
- Integration of storage with Solar/Wind Energy Systems
- Battery, Supercapacitors, Fly wheel, Biomass, Hydrogen based Sources
- Smart Grid and its applications
- Control and energy management system in Microgrids
- DC-powered active and passive smart solar houses
- DC and Off-grid Microgrids
- Microgrid energy management
- Protection of conventional and renewable generation and grid interconnection

Electric Mobility and Transportation

- Electric Power-trains for Passenger and Light Duty Vehicles
- Electric Power-trains for Heavy Duty Vehicles and Buses
- Electric Power-trains for Rail Vehicles
- Electric Power-trains for Aerospace Applications (Aircrafts, Drones)
- Electric Power-trains for Marine Applications (Offshore, Subsea and Ships)
- On-Board Chargers (wired)
- Wireless Power Transfer Systems
- On-Board DC-Voltage Networks
- Smart Charging and Vehicle to X (Home, Load) Interaction
- Batteries: Management Systems (BMS), Monitoring and Lifetime Prediction (SOC, SOH)
- Fuel Cells: Converters, Control, Diagnostics and System Integration
- Power Electronics for Vehicle-Integrated PV (VIPV)
- Communication Systems for EV/HEV
- Thermal management in EV/HEV

Electric Drives and Control

- Advanced Control of Drives
- Design, Optimization and Condition Monitoring of Electrical Machine
- AC, DC, BLDC Drives, Reluctance Machine Drives
- Advanced PWM Techniques for Electric Drives Systems
- Design Automation for Power Converters
- Machine Learning Applications in Power Converters and Drives
- Sensor-less operation and Estimation Techniques
- Control High Power Drives

Power Flow Control and Power Quality

- Modeling and Control
- Reactive Power Management
- Distributed Generation and Grid Interconnection
- FACTS devices
- Power Quality conditioners, HVDC Converters & Control
- Control of shunt, series and hybrid active filters
- Power quality event detection, classification and mitigation with signal processing techniques
- IEEE standard compatible passive/active filter and compensation design

Power System Protection

- Protection of Transformer, Transmission line and synchronous generators
- Digital and adaptive relaying
- Protective devices, systems, and technologies
- Disturbance-monitoring
- DC/AC Micro-grids and islanded networks protection
- Grid codes and policy/legislative issues that may impact protection
- Protection of energy storage and novel loads
- Protection against network instability and low inertia
- New protection algorithms and software solutions
- Design and application of substation communications and integrated systems
- Advanced signal processing techniques and Multi-agent-based protection systems
- Wide-area protection systems and Cyber security

High Voltage Applications

- Power Electronics applications in High Voltage Engineering
- High Voltage Design, Devices, Testing, Monitoring and Diagnostics
- Opening, Closing, and Solid-State Switches for high voltage
- Application of compact HV power supplies
- Control of shunt, series and hybrid active filters
- Power quality event detection, classification and mitigation with signal processing techniques

SPECIAL SESSION

- **Please get in touch with the Technical Program Chair Srinivas Bhaskar Karanki and Abhinav Arya (skaranki@iitbbs.ac.in; aarya@iitbbs.ac.in) with cc to pectea2025@iitbbs.ac.in to discuss the inclusion of your 'special session' in the PECTEA-2025 programme.**
- **Last date to submit proposal: 15 November 2024**
- **Last date to submit papers in Special Session: 15 January 2025**

- All accepted and presented papers in the conference will be published in IEEE Xplore.
- The papers can be submitted to any of the relevant Track or accepted Special Sessions.
- Top 20% of the papers (within the scope of IEEE Industry Applications Society) may be recommended by the conference Organizing Committee for further review to be publish in the IEEE IAS Transactions or Magazine after the papers are uploaded to IEEE Xplore.
- Paper Submission link:

https://confcomm.ieee-ies.org/app/general/conferences/PECTEA-2025/initial-submission

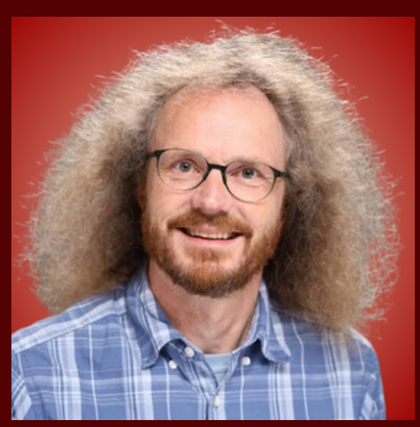
KEY SPEAKERS

Sanjib Kumar Panda
National University of Singapore

Sheldon Williamson
Ontario Tech University

Parthasarathi Sensarma
IIT Kanpur

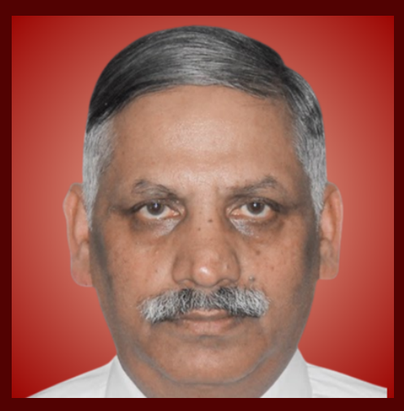
John Hayes
UCC Ireland



Pat Wheeler
University of Nottingham

Shyama Prasad Das
IIT Kanpur (Visiting Professor – IIT Bhubaneswar)

Pravas Ranjan Sahu
IIT Bhubaneswar



Bhim Singh
IIT Delhi

REGISTRATION FEES

INDIAN DELEGATES*

Early Bird (1-30 April, 2025)

IEEE Member #	**INR 12000**
IEEE Non-Member #	**INR 13000**
IEEE Student Member	**INR 6000**
IEEE Student Non-Member	**INR 7500**
Accompanying Person **	**INR 6000**

Regular (1-30 May, 2025)

IEEE Member #	**INR 14000**
IEEE Non-Member #	**INR 15000**
IEEE Student Member	**INR 7000**
IEEE Student Non-Member	**INR 8500**
Accompanying Person **	**INR 6000**

FOREIGN DELEGATES*

Early Bird (1-30 April, 2025)

IEEE Member #	**USD 300**
IEEE Non-Member #	**USD 350**
IEEE Student Member	**USD 150**
IEEE Student Non-Member	**USD 200**
Accompanying Person **	**USD 200**

Regular (1-30 May, 2025)

IEEE Member #	**USD 400**
IEEE Non-Member #	**USD 450**
IEEE Student Member	**USD 200**
IEEE Student Non-Member	**USD 250**
Accompanying Person **	**USD 200**

*18% GST and other Transaction Charges to be paid extra

*5% discount will be provided for IEEE IES Members

Includes one accepted paper for the conference

** No access to Technical Events

For SPONSORSHIP & EXHIBITION OPPORTUNITIES - see conference website

TUTORIALS

- Several tutorials (either half- or full-day) will be held prior to the conference on Wednesday, 18 June 2025. Scholars and experts who are intending to propose a tutorial related to all topics of the conference at PECTEA-2025 are cordially invited to send a proposal directly to the Tutorial Chair Olive Ray (olive@iitbbs.ac.in) with cc to pectea2025@iitbbs.ac.in
- The proposal consists of a three-page summary including tutorial title, name and affiliation of the lecturer(s), tutorial objectives and audience, topical outline and provisional schedule of the tutorial .

Please send your proposal until 15th February 2025