

# 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

**30 MARCH, 2025  
(FINAL DEADLINE)**

Initial Paper  
submission deadline

30 APRIL, 2025

Acceptance  
notification

10 MAY, 2025

Early bird  
registration

30 MAY, 2025

Regular registration  
and and final paper  
submission

18-21 JUNE, 2025

Conference  
date



More Information

<https://conference.iitbbs.ac.in/pectea2025/>

SCAN ME

In collaboration with:



**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

## IEEE PELS WIE EVENT

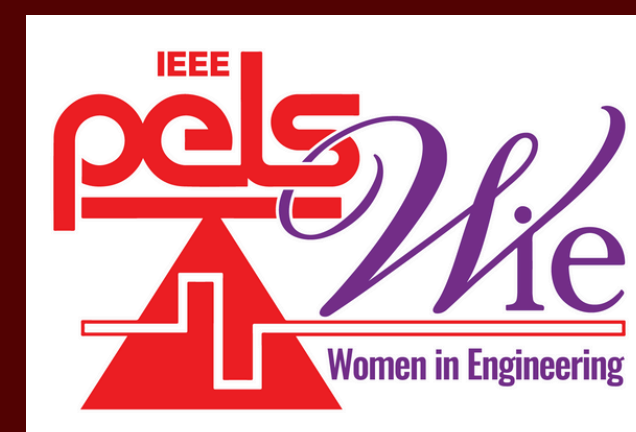
- Panel discussion to highlight IEEE PELS activities/initiatives for support and promote Diversity
- Dr. Monalisa Pattnaik, NIT Rourkela will be coordinating the session.

## 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 January 2025

- Last date to submit papers in Special Session: 30 March 2025 (FINAL DEADLINE)





- All accepted and presented papers in the conference will be published in IEEE Xplore.
- 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.
- IET Renewable Power Generation will consider extended versions of the papers for review and 10% APC discount will be available after the conference. APC discount codes are valid for 12 months .

• Paper Submission link:  
<https://confcomm.ieee-ies.org/app/general/conferences/PECTEA-2025/initial-submission>



KEY SPEAKERS



Sanjib Kumar Panda  
National University of Singapore



John Hayes  
UCC Ireland



Parthasarathi Sensarma  
IIT Kanpur



Sukumar Mishra  
IIT Dhanbad (IIT Delhi)



Rajeev Kumar Singh  
IIT (BHU) Varanasi



Pat Wheeler  
University of Nottingham



Bhim Singh  
IIT Delhi



Shyama Prasad Das  
IIT Kanpur



Pravas Ranjan Sahu  
IIT Bhubaneswar



Debaprasad Kastha  
IIT Kharagpur



M. Sabarimalai Manikandana  
IIT Palakkad



Pankaj Kumar Jha  
Power Grid Corporation

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](mailto:olive@iitbbs.ac.in)) with cc to [pectea2025@iitbbs.ac.in](mailto: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 30th March 2025