IIT PATNA

24th NATIONAL POWER SYSTEMS CONFERENCE (NPSC 2026)

ERLDC

Towards a Resilient and Sustainable Energy and Transportation Ecosystem

December 12-14, 2026

ABOUT NPSC

The National Power Systems Conference (NPSCs) has held its position as India's leading conference in power engineering since 1981. This biennial event brings together professionals from academia, industry, and utilities, fostering the exchange of ideas, knowledge, expertise, and experiences related to the evolving landscape of electric power systems. More details about previous NPSCs can be found at https://ee.iitb.ac.in/~npsc/. The theme of NPSCs 2026 is: Towards a Resilient and Sustainable Energy and Transportation Ecosystem

ABOUT IIT Patna

IIT Patna (Indian Institute of Technology Patna) is one of the premier institutes for technical education in India.

IIT Patna was established in 2008, making it one of the newer IITs. However, it has quickly gained recognition for its academic and research programs.

The Institute is located in Bihta, Kanpa Road, Patna, Dayalpur, Daulatpur, Patna, Bihar 801106

ABOUT ERLDC

Eastern Regional Load Dispatch Centre (ERLDC) is a government organization responsible for managing the power system in India's Eastern Region. Its mission is to ensure the reliable and efficient transfer of electricity within and across regions. ERLDC plays a vital role in maintaining grid operation, smooth functioning and dispatch of energy and ancillary integration of renewable energy, and implementing market mechanisms and reforms initiatives of the electricity regulators policymakers.

IIT Patna offers undergraduate, postgraduate, and doctoral programs in various branches of engineering, technology and sciences. Its most popular programs include B.tech, M.tech, and Ph.D. degrees in fields like Computer Science, Electrical Engineering, Mechanical Engineering, Civil Engineering, and more. The campus of IIT Patna is located in a lush green area, spread over approximately 500 acres. It is equipped with modern facilities like hostels, libraries, sports complexes, and research centers.

IIT Patna is known for its research in areas such as artificial intelligence, data science, robotics, renewable energy, and environmental sustainability. The institute encourages innovation and entrepreneurship among its students and faculty.

ABOUT PATNA

Patna has a deep historical background and was known as Pataliputra in ancient times. It was the capital of major Indian empires such as the Maurya and Gupta empires. The city played an important role in Indian history, particularly during the time of Ashoka, who ruled the Mauryan Empire from here.

It was a center of learning and culture, and even the famous ancient university of Nalanda, which was a hub for scholars from across the world, It is located relatively close to Patna. Patna is situated on the southern bank of the Ganges river, which adds to its scenic beauty. The river plays an important role in the lives of the locals, influencing trade, agriculture, and tourism. The city has a mix of agricultural plains, with an increasing number of commercial, residential, and infrastructure projects coming up.

SPONSORSHIP AND EXHIBITION

Financial sponsorships for NPSCs 2026 are invited under various categories. Prospective sponsors are requested to visit the conference website https://npsc2026.in to get more details about the type of sponsorship and the associated benefit.

Contact

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Organizing Chair

TRACKS

Papers are invited under the following tracks, but not limited to:

T1: Power System Operation, Monitoring and Control

- Optimal operation of power systems
- Power system dynamics and stability
- Load and generation forecasting
- Flexibility and resource adequacy
- Power system security and reliability
- Energy management systems
- Synchrophasor measurements and wide area monitoring systems

T2: Power System Protection

- Network protection with converter-based sources
- Substation automation
- Digital twins
- Wide area protection and control
- Microgrid protection
- Testing and commissioning of protection relays

T3: Power Electronics Applications and Drives

- Converter topologies, modeling, and control
- Power quality aspects
- Electric machines and drives
- Energy storage management systems
- Condition monitoring of power processing equipment
- HVDC and FACTS

T4: Renewable Energy Integration

- Green energy generation technologies
- Power electronics-based interfaces and controls
- Microgrid management
- Operation of distributed energy resources
- Planning towards decarbonized grid
- Renewable energy and grid connectivity requirements and practice in India
- Power systems with low inertia
- Operation planning with distributed generation
- Energy storage systems(batteries, pumped hydro, flywheels,hydrogen)
- Renewable energy to power electrolysers
- Black start capability of renewable power plants
- Electrolysers

T5: Electricity Markets and Regulatory Aspects

- Power system economics
- Transactive energy and peer-to-peer energy trading
- Regulatory policies and grid codes
- Ancillary services
- Risk management
- Electricity tariffs and regulations
- Distribution System Operator(DSO)

T6: Data Analytics and Cyber Security in Smart Grids

- AI and ML applications
- Data driven algorithms
- Cyber security
- Big data and blockchain technologies
- IoT applications and cloud computing
- Smart meter data analytics
- Signal processing analytics for power system
- IT and OT interface with cyber security
- Data Centres - Connectivity, Setting and Grid integration

T7: Demand Side Management and Electric mobility

- Automated demand response
- Demand side flexibility
- Electrification of transportation systems
- EV charging and energy management infrastructure
- Power converters and power trains for EVs
- Design aspects of EVs
- V2X and X2V
- Challenges associated with EV penetration
- Protection and safety issues in EVs

T8: Grid Flexibility and Resiliency

- Operation strategies to enhance resiliency
- Resiliency in decarbonized grid
- Operational flexibility
- Generation fleet optimization
- Long term planning for flexibility

T9: Power System Equipment and High Voltage Engineering

- High voltage insulation systems and diagnostics
- Condition monitoring and asset management of power system equipment
- High voltage testing techniques and standards
- Partial discharge measurement and analysis
- Overvoltage phenomena, insulation coordination, and surge protection
- Lightning performance of power systems
- Aging, reliability, and life assessment of HV equipment
- Advanced materials for high voltage applications

IMPORTANT DATES

- Submission starts from **March 1, 2026**
- Full Paper Submission deadline **May 31, 2026**
- Acceptance Notification **September 15, 2026**
- Camera-ready paper deadline **October 15, 2026**
- Registration Opens **September 15, 2026**
- Registration Close **November 15, 2026**

Information for Authors

Detailed instructions and guidelines regarding paper submission are available on the website.

All the presented papers will be published in IEEE Explore

Additionally, 20% of presented papers will be invited fora separate review process for potential publication in IEEE IAS Transactions or Magazine.

https://www.npsc2026.in

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