

Objectives of the FDP

This Faculty Development Program (FDP) aims to provide educators, researchers, and industry professionals with a comprehensive understanding of the technologies shaping the future of Electric Vehicles (EVs). The program focuses on the role of Power Conversion Systems and Artificial Intelligence (AI) in enhancing EV performance, optimizing power efficiency, improving battery life, and enabling features like fast charging and autonomous driving. Participants will learn about the latest advancements in power electronics and AI, exploring their integration in sustainable mobility. The FDP blends theory with practical applications, fostering a collaborative environment for research and innovation in electric vehicle technologies.

The FDP aims to disseminate knowledge in the following areas and explore potential research opportunities within these fields.

- EV charging infrastructure and standards.
- Power converters and their control methods in EV Systems.
- Advanced power devices for EV converters.
- V2G Technologies and Sustainable EV charging systems.
- Neural Networks: Understanding and Implementation.
- Fundamentals of Deep Learning and Recent Trends.
- AI in SoC Estimation, Autonomous driving systems and Charging Station Scheduling.
- AI driven battery health monitoring systems.
- Applications of AI and ML methods in EV systems.

Resource Persons

Dr. Harish S Krishnamoorthy, University of Houston

Dr. Arun Karuppasamy, IIT Madras

Dr. Saurab, University of Manchester

Dr. Harikrishna Muda, ERAM, Saudi Arabia

Dr. Chandrasekhar Perumalla, IIT Bhubaneswar

Dr. Sishaj P Simon, NIT Trichy

Dr. S. Senthil Kumar, NIT Trichy

Dr. M. Venkata Kirthiga, NIT Trichy

Dr. K. Gnana Sambandam, Caterpillar, Chennai

Dr. B. Venkatesaperumal, NITK Surathkal

Dr. L. Padmavathi, CSIR-CEERI, Chennai

Dr. S. Kumaravel, NIT Calicut

Dr. Sudharsan Karthick, IIST Trivandram

Mr. Balaji, TCS, Chennai.

Mr. GowriSankar, Vitesco Technologies, Bangalore

Dr. Deep Kiran, IIT Roorkee

Dr. K. Vijaya Kumar, IITDM Kancheepuram

Dr. Vimlesh Verma, NIT Patna

Dr. Arunangshu Ghosh, NIT Patna

Dr. M. Anand Kumar, NITK Surathkal

Dr. V. Vignesh Kumar, NIT Trichy

Dr. M Senthil Kumar, NIT Patna

Dr. Amitesh Kumar, NIT Patna

Dr. Ravi Raushan, NITK Surathkal

Dr. M. M. Rajan Singaravel, NIT Puducherry

Dr. P. Padmagirisan, NIT Agartala

Mr. K. Dileep, ZF TCI, Hyderabad



इलेक्ट्रॉनिक्स एवं सूचना प्रौद्योगिकी मंत्रालय
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY



Online Faculty Development Program on Leveraging Advanced Power Conversion Systems and Artificial Intelligence for Electric Vehicles

8th May – 21st May, 2025

Under the aegis of

Electronics and ICT academy, Phase-II
at National Institute of Technology Patna,

Jointly organized by

National Institute of Technology Patna.
and
National Institute of Technology Tiruchirappalli.

Supported by

Ministry of Electronics and Information
Technology (MeitY), Govt. of India

Coordinators

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Assistant Professor

Dept. of Electrical Engineering, NIT Patna
and

Dr. V. VIGNESH KUMAR

Assistant Professor

Dept. of Electrical and Electronics Engineering,
NIT Tiruchirappalli

About Electronics & ICT Academy

The Ministry of Electronics and Information Technology, Government of India has instituted seven Electronics and Information & Communications Technology (ICT) Academies of which, the academy of NIT Patna is one. The Academy at NIT Patna aims to design and organize basic as well as specialized training programs and research promotion workshops in niche areas of electronics and ICT for the development of the required knowledge base, skills, and tools to equip the teaching community with better knowledge and understanding.

About NIT Patna

The National Institute of Technology (NIT) Patna is one of India's most historic technical institutions, tracing its roots back to 1886, when it began as a pleaders' survey training school. Over time, it evolved into the Bihar College of Engineering Patna in 1924, making it the 6th oldest engineering institute in the country. On 28th January 2004, the college was rechristened as NIT Patna, becoming the 18th National Institute of Technology under the Ministry of Education, Government of India. NIT Patna has been a pioneer in technical education for well over a century, offering undergraduate (UG), postgraduate (PG), and PhD programs in engineering, technology, science, and humanities. The institute expanded its graduate-level offerings to include doctoral programs in 1978, further strengthening its academic portfolio. Located on the south bank of the holy river Ganges, near the iconic Gandhi Ghat in Patna, the institute stands as a symbol of both academic excellence and cultural significance. With a mission to set high standards in education and research, NIT Patna is actively involved in research and development (R&D), pushing the boundaries of innovation across various fields. It holds a distinguished reputation for its long record of academic excellence.

About NIT Tiruchirappalli

National Institute of Technology, Tiruchirappalli (NITT), is one among the premier Institutions of India and is well known for its high standards in teaching and research. It offers 10 Undergraduate and 23 Postgraduate programmes in the disciplines of Engineering, Science, Architecture and Management. It has been declared as an Institute of National Importance by the Government of India under NIT Act. NITT retained its 1st position amongst its 31 counterparts in the country in the National Institutional Ranking Framework (NIRF) Ranking (Engineering) released by the Ministry of Education, Govt. of India and also found place in top 10 engineering colleges in the country. National Institute of Technology, Tiruchirappalli (NITT) stands out as a hub of academic excellence and innovation, attracting talented students and faculty from across the nation. With a sprawling campus of over 800 acres, NITT is equipped with state-of-the-art infrastructure, cutting-edge laboratories, modern learning facilities, and industry partnerships to address global challenges.

Details of FDP

- The twelve-day training will be conducted by a team of experts from both India and abroad, possessing extensive experience in the theme of FDP.
- **Mode of Conduction: ONLINE.**
- **Session Timings:**
Monday to Friday: 4.00 p.m. - 7.00 p.m.
Saturday: 10.00 a.m. - 1.00 p.m. & 5.00 p.m. - 7.00 p.m.
Sunday: No session
- The training will include 24 hours of Theory session and 16 hours of Lab session with Expert-led live online Hands-on learning & Interactive Query Sessions.
- **E-certificates will be given to participants who have attended more than 70% of the FDP sessions and complete the given online assessments during FDP.**

Who Can Participate

Faculty members, research scholars of recognized universities from India and abroad, and industry personnel. Selection will be made on the first-come-first-serve basis to a maximum number of 200.

Registration Fee

India and SAARC Countries: Rs. 500 (Inclusive of GST)
Other than SAARC countries: 60 USD (Inclusive of GST)

Registration Process

The registration fee should be paid through bank transfer or UPI. The account detail for this purpose is as follows:

Account Name: E and ICT Academy NIT Patna

Account no: 50380476798

IFSC Code: IDIB000B810

Bank Name: Indian Bank

or

**Scan QR code for payment
using UPI**



- After the successful payment, take snapshot of payment proof with the transaction reference number, which is to be uploaded in online registration form.
- Click the link below to proceed the registration
- <https://forms.gle/Q41kh69LUZfCsZJJ8>
- The online meeting link for FDP will be sent to the selected candidates one day before the FDP.

Registration deadline: 6th May 2025 11:59 PM (IST)

For any queries, please contact:

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