ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP)
ON
Empowering the Future Advancements in Power Electronics for Electric Vehicles and Renewable Energy

(17th – 27th March 2025)

Organized By

E & ICT Academy & Department of Electrical Engineering, NIT Warangal

In Association With

Department of Electrical & Electronics Engineering, NIT Karnataka, Surathkal

(Sponsored by the Ministry of Electronics and Information Technology (MeitY), GOI)

Preamble:

Electronics & ICT Academy was set up at NIT Warangal with financial assistance from MeitY, GoI. The role of academy is to offer faculty development programs in emerging areas of Electronics, Information Communication Technologies; training & consultancy services for Industry; Curriculum development for Industry; CEP for working professionals; Advice and support for technical incubation and entrepreneurial activities.

This FDP is designed to address research advancements in Power conversion topologies and applications in the industry and to encourage various zonal professionals'/students/academicians towards research and for their Academic Quality Improvement too. This course will offer a unique opportunity to all the participants in the relevant topics in Real Time Power Electronic systems and its applications through theoretical sessions and simulation plus laboratory-based experiments and demonstrations. It is due to development of switching devices, magnetic components, control techniques, computational methods, DSP/FPGA controllers, etc. Applications of power electronics can be found in several areas like industry, transportation, medical, telecommunication, residential, energy systems, etc. Certain low and high power switching converters are developed in these areas. Also, this FDP aims at giving scope for future research.

Objectives: This FDP aims at exploring opportunities of conducting research on:

- Charging infrastructure (ON Board/OFF Board) for Electric Vehicles.
- Wireless Charging System (inductive/capacitive) for EV's
- Modern Electric Drives and Control Techniques for EVs
- Bidirectional DC Converters for Storage Interface in EVs
- Resonant converter topologies and their applications in EVs
- LED Lighting Systems in EVs
- Renewable-based off-Grid/Grid-Interactive systems and their control
- Grid Integration of Renewable Energy
- Hybrid energy systems (wind & PV) with BESS and control
- Hands on simulation practice of inverters, high gain converters, inductive wireless charger, PV fed converters, resonant converters and its wide applications.

Registration Fee Particulars:

Faculty and Research Scholars	**Rs. 500 /-**
Industry Participants	**Rs. 1500/-**

Participants are required to pay the Registration Fee Online using the following NEFT transfer details:

Online Transfer Details

Account Name : Electronics & ICT Academy NITW
Account No : 62423775910
IFSC code : SBIN0020149
Bank and Branch: State Bank of India, NIT(REC) Warangal

Resource Persons: Young & Energetic eminent & finest Researchers & Faculty from International Universities, IITs, NITs, IIITs & Industry experts.

Eligibility: Faculty/Ph.D scholars of Electrical Engineering/allied disciplines & Industry personnel.

How to apply: Participants are required to apply through online registration form by clicking on the following link:
https://forms.gle/rtmAVjSLszBwUQ5q7

Selection Criteria:

Selection will be made on the first-come-first-serve basis to a maximum number of 100 (hundred). The list of selected participants will be intimated through e-mail. In case a candidate is not selected, the Online/DD payment will be sent back. Candidates will be issued satisfactory certificates on successful completion of the course. Reservations are followed for selecting candidates as per GOI norms.

Important dates:

Last date for Application with fee: 28Th February 2025

Selection List by Email: 07Th March 2025.

FDP Duration: 17th – 27th March 2025.

About NIT Warangal, EE Department:

NIT Warangal, formerly known as Regional Engineering College was established in 1959. Over the years it has developed into a premier institute of higher learning and is ranked among the top technical education institutions in India. There are 14 Departments offering eight undergraduate and 32 post-graduate programmes besides doctoral programmes. About 8000 students across the country and about 500 international students' study on the campus. Its R & D activities have gained momentum with funding/MoU from governmental agencies/industries.

The Department of Electrical Engineering was established as one of the major departments of NITW, in the **year 1959**. It offers B.Tech in Electrical & Electronics Engineering, M.Tech program in Power Electronics & Drives, Power Systems Engeering, Control & Automation, Smart Electric Grid, and Ph.D wide area of electrical Engineering. Warangal is known for its rich historical and cultural heritage. It is situated at a distance of 140Km. from Hyderabad. Warangal is well connected by rail and road. The department is actively involved in research, development, testing and consultancy activities. Department has been extending need-based services of testing and consultancy to the industrial sector. Its R & D activities have gained momentum with funding/MoU from governmental agencies/industries.

About NITK Surathkal, EEE Department:

NITK Surathkal since its establishment as Karnataka Regional Engineering College (KREC) in the year 1960, has emerged as a premier institution, engaged in imparting quality technical education and providing support to research and development activities. NITK has carved a niche for itself among the best technical institutes in India securing NIRF Rank 17 in the year 2024. NITK offers 9 UG, 27 PG and PhD programs.

The Department of Electrical and Electronics Engineering was established right from the inception of the institute in 1960. The post-graduate programs in Power and Energy Systems was started in the year 1992 and Power Electronics and Control was started in 2024. Formal research activities leading to a doctoral degree (PhD) was introduced in the year 2003. The department is actively involved in research, development, testing and consultancy activities. Department has been extending need-based services of testing and consultancy to the industrial sector. Its R & D activities have gained momentum with funding/MoU from governmental agencies/industries.

Coordinators:

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Prospective Expert Speakers:

Prof. Akshay Rathore, Singapore Institute of Technology Singapore

Dr. Harish Krishna Murthy, University of Houston

Dr. Ilamparthy, University of Victoria, Canada

Dr. G Prem Kumar, Consultant, Canada

Dr. Dinesh, Danfoss, Denmark

Dr. Shreyam Sinha, IIT Delhi

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