



TWO WEEKS ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP)

ON

Power Electronics Applications in Renewable Power Generation Systems

(15– 24, MAY 2021)

Organized by

Department of Electronics & Communication Engineering

Indian Institute of Information Technology Design and Manufacturing Kancheepuram, Chennai – 600127

(An Institute of National Importance under Ministry of Education, Govt. of India)

in association with

E & ICT Academy, National Institute of Technology, Warangal.

Sponsored by 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 jurisdiction of this academy is Telangana, Andhra Pradesh, Karnataka, Goa, Puducherry and Andaman & Nicobar Islands. This academy role is to offer faculty development programmes in standardized courses and 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.

ABOUT FDP

Renewable energy systems are becoming more popular for electricity generation since they are clean and can fulfill the power requirement at the local level. They reduce the congestions in the power grid and also reduce the burden in hydro and thermal based power plants. Globally, about 20% penetration of renewable energy based distributed generation in electricity generation is considered necessary in the coming decade. The intermittent nature of renewable energy sources results in systems of slowing dynamics, nonlinearities, and power quality problems etc. For past couple of decades, power quality issues have become increasingly important in the grid connected renewable energy systems especially due to their intermittent nature in addition to the widespread use of non-linear electronic equipments. With the advent of power electronic converters with robust control techniques, renewable energy systems can get massively interconnected with the grid for power feeding or used as an isolated system in remote locations. The use of more efficient control strategies would not only enhance the performance of these systems, but also improve the power quality in generation, distribution, and utilization at load end of the supply systems.

TOPICS

- Overview of renewable power generation systems and their control.
- Maximum power point tracking of wind & PV system
- Grid integration of renewable energy system including power quality and reactive power control.
- Hybrid energy systems (wind & PV) with BESS and control
- Grid synchronization techniques for grid-connected power converters
- Design, control and application of Custom Power Devices off and on grid system.
- Control and management of energy storage systems (e.g., batteries, super capacitors).
- Renewable-based off-Grid/Grid-Interactive systems and their control.
- Control of Induction generators and PMS generators and design.
- dSPACE Introduction and Hardware-In-Loop (HIL) Simulation.
- PV Simulator demo and MPPT Technique.
- Hardware demonstration on 1 kW grid-tied solar photovoltaic system.

WHO SHOULD ATTEND?

The programme is open to the faculty of Engineering Universities/ Institutes / colleges, researchers, industry personnel and Ph. D. students.

IITD&M KANCEEPURAM, CHENNAI

The course will be organized by Indian Institute of Information Technology Design & Manufacturing (IITD&M Kancheepuram), Chennai. It is a Centre of Excellence for technical education and research established in 2007 by the Ministry of Human Resource Development, Government of India. To pursue design and manufacturing oriented engineering education and research and for promoting the competitive advantage of Indian products in global markets. The institute is located on a 51 acre campus on the outskirts of Chennai, off the Vandalur-Kelambakkam road. The Institute is presently offering UG, PG, and Ph.D programmes in Computer Engineering, Electronics and Communication Engineering and Mechanical Engineering.

REGISTRATION FEE PARTICULARS

Faculty/ Research Scholars	Rs. 750/-
Industry Participants	Rs. 2250/-

Participants need to pay the Registration Fee Online using the following details

ONLINE TRANSFER DETAILS

Account Name: Electronics & ICT Academy NITW

Account No: 62423775910

IFSC: SBIN0020149

Bank and Branch: State Bank of India, NIT(REC) Warangal

FACULTY CONDUCTING FDP

The programme will be conducted online mode by the faculty members from IITDM Kancheepuram, Academicians in the concerned field from IITs/NITs/IITs/CFTIs are invited to deliver lectures in the programme. Speakers from industries are also expected to deliver as part of the course.

HOW TO APPLY?

Participants are required to fill the online registration form by clicking on the following link: <https://forms.gle/nnu3C2GQEZLJeHG66>

SELECTION CRITERIA

Selection will be done based on first-come-first-serve basis to a maximum number of 50 (fifty). Additionally, 10 participants from industry are allowed to participate. The list of selected participants will be intimated through e-mail. In case a candidate is not selected, the DD 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 Registration	10/05/2021
Selection List by E-mail	11/05/2021
Duration	15/05/2021 - 24/05/2021

ORGANIZING COMMITTEE

Chief-Patron

Prof. Banshidhar Majhi
Director

Indian Institute of Information Technology
Design and Manufacturing Kancheepuram, Chennai

Patron

Dr. M.D. Selvaraj
Dean (SRICCE)

Indian Institute of Information Technology
Design and Manufacturing Kancheepuram, Chennai

Coordinator

Dr. B. Chitti Babu
Assistant Professor (Grade-I)

Dept. of Electronics & Communication Engg.,
Indian Institute of Information Technology
Design and Manufacturing Kancheepuram

Chennai – 600127, Tamilnadu

E-mail: bcbabu@iitdm.ac.in

Ph: +91 44-2747-6377