



NATIONAL INSTITUTE OF TECHNOLOGY
WARANGAL

Warangal - 506 004, Telangana

TEACHING LEARNING CENTRE

(A Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching)



*A Six-Day Online Faculty Development
Programme on*

“Effective Teaching and Learning of Power Converters for Electric Vehicles”

1st – 6th March 2021

Call for Registration and Participation

Coordinators

Dr. Srinivasan Pradabane

Dr. S. Porpandiselvi

Prof. N. Vishwanathan

Prof. M. Sailaja Kumari (TLC-CTM)

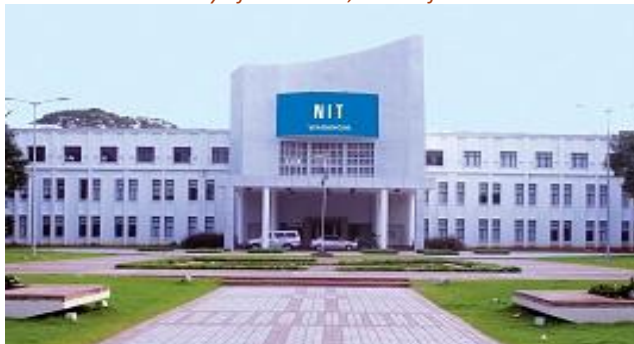
Organized by the

Department of Electrical Engineering

In Association with the

TEACHING LEARNING CENTRE

*Established under the Scheme of PMMMNMTT,
Ministry of Education, Govt. of India*



Overview of the FDP:

Applications of power electronics is dominant in the various fields of aerospace, utility systems, telecommunications, industries, domestic, transportation, etc.,. Latest development in semiconductor devices makes it way in the various applications of electric vehicles. Trends towards renewable energy and electrification of automobiles increase the importance of power electronic technologies. Electric Vehicles (EVs) being the fourth part of industrial revolution, creating more way in the developments in the automobile industry and its applications. EVs completely depend on the power converters for propulsion, charging and other grid interfacing solutions.

Objectives of the FDP:

- To enable the participants to learn and conceptualize Electric Vehicles (EVs)
- To enhance the learning capabilities of the participants in EV drive system
- To empower the participants with the latest knowledge on Power converters for EVs
- To enable the participants to learn new methods in high gain converters.
- To enable the participants to learn new methods in battery chargers for EVs

Learning Outcomes:

- Understand the fundamentals of electric propulsion systems
- Design a suitable DC-DC converter for EVs
- Analyse the different types of bidirectional AC/DC converter circuits
- Interpret the different methods of battery chargers used in electric vehicles
- Select a suitable drive and control method for electric propulsion unit

Topics to be covered:

- Impact of EVs on electric network.
- DC/DC converters for EV drive train.
- Bidirectional AC/DC converters for power transfers in EV.
- Control system for hybrid electric vehicles.
- Distributed storage using G2V, V2G and V2H technologies.
- Drives for hybrid and electric vehicles.
- Electric Vehicles and Charging Stations in Smart Grids.

Resource Persons:

Eminent Faculty from IITs, NITs, Central Universities, Teaching Learning Centres and Senior Faculty from NIT Warangal.

Mode of Delivery:

Resource Persons will deliver the online lectures and hands-on sessions through, Google-Meet platform. The essence of the FDP is to improve the teaching ability of the teachers and enabling the learners to learn. The theme of the FDP is a way in building capacity of making better teachers. Lectures can be presentation mode, Discussions and hands-on sessions. Ultimate goal of the FDP is to develop the faculty members in the new pedagogy and emerging areas of science and technology.

Registration is open to:

The program is open to all NBA and AICTE approved Engineering/Polytechnic college teachers, Degree college lecturers, research scholars and P.G. students. The number of participants is approximately 100 and selection will be based on priority basis. The Brochure and details of the Registration Form can be downloaded from the institute website <http://www.nitw.ac.in>

How to Register:

Eligible candidates may apply by filling the following Google form by uploading payment proof on or before **23-02-2021** via google form:

<https://forms.gle/uxZkhWxNS96Vttff9>

Note: Keep the payment receipt ready as a PDF file (size < 1 MB)

Registration Fee:

Category of Participants	6-Day Reg. Fee
Faculty Members	750/-
Research Scholars	400/-

Note: Registration Fee for Faculty and Students of SC/ST category is half of the amounts mentioned above as applicable.

Bank Details:

Registration Fee may be remitted through NEFT to the Bank account given below. Proof of remittance of the requisite registration fee (with transaction number if online transaction) shall be uploaded in the Google Form.

Account Name	Director, Research Account, NITW
Account Number	62266262236
Bank	State Bank of India (SBI)
Branch	NIT Warangal Campus
IFSC code	SBIN0020149

Confirmation of Participation:

On receipt of the Google Form and Fee Remittance Receipt, participants will be sent confirmation of their participation through email by **24-02-2021**. As the programme is conducted online with the number of participants in the workshop is limited to 100. Candidates are advised to register early to avoid disappointment.

Brief profile of the Department of Electrical Engineering:

The Department of Electrical Engineering was established as one of the major departments of NITW (RECW), in the year 1959. The Department is actively engaged in teaching and research in diverse fields of Electrical Engineering. It offers B.Tech. in Electrical & Electronics Engineering, M.Tech program in Power Electronics & Drives, Power Systems and Smart Electric Grid (From AY 2010-21) and Ph.D program. Broad areas of expertise of the department include Design and development of Smart Grid/ Microgrid systems, Control and integration of Renewable Energy Sources, State Estimation and Real Time Control of Power Systems, AI Applications in Power Systems, Power System Deregulation, Power System Transients, Power Quality, Application of Power Electronics to Power Quality Improvement and Industrial Drives, DSP controlled Drives, Simulation of Power Electronic Converters and Drives Systems and Control of Special Machines. The Department has strong Industry interaction and is involved in various Research & Consultancy projects in coordination with industry, Governments of India, Telangana & Andhra Pradesh. The department has an MOU with Central Power Research Institute (CPRI) and PGCIL to carry out collaborative projects.

Teaching Learning Centre of NIT Warangal:

The Teaching Learning Centre (TLC) has been established at NIT Warangal with grants from the MHRD, through its scheme **"Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT)"**. Under this Scheme, a separate building has been built exclusively for the TLC activities, with the state-of-art training facilities that include a studio for production and uploading of video and e-lectures on various subjects of higher education, training halls to train the faculty in various theme areas of Science and Technology, humanities and social sciences, linguistics and communication skills, pedagogy and cognition evaluation, etc. among others. Many senior and young faculty are associated with this Centre as Core-Team. One of the important objectives of the Centre is to conduct training programmes for the aspiring, newly inducted and in-service faculty in science, engineering, social sciences disciplines in higher education. Other activities of the TLC include preparation of print and e-learning materials, offering on-line courses, curriculum design, carrying out research in educational technology and pedagogy and integrating with ICT into teaching-learning process. The TLC has special programmes of training for the marginalized and women-faculty.

About NIT Warangal:

National Institute of Technology 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 31 post-graduate programs besides doctoral programmes. About 5000 students across the country and about 500 international students study on the campus. It is a fully residential campus sprawling over 250 acres with excellent infrastructure in the form of state of the art library, seminar halls, guest houses and research laboratories.

For any queries regarding the FDP, please contact the Programme Coordinators:

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For further details about Teaching Learning Centre, please contact:

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