Overview of the FDP:
Power Electronics technology has gone through dynamic evolution in the last few decades. Recently, its applications are fast expanding in industrial, commercial, residential, transportation, utility, aerospace, and military environments primarily due to reduction of cost, size, and improvement of performance. Power Electronics and the automatic control are important in decentralized generation of electric power by innovative wind power plants, photovoltaic or in the use of fuel cells. Modern electrical drive and energy techniques are increasingly dominated by the combination of electrical drives, power electronics and control.

Objectives of the FDP:

a) To enable the participants to understand the operation, application and control of power conversion systems employing electric drive to cater to industrial needs.
b) To familiarize the operation principles, and design of starting, braking, and speed control arrangements for electric motors and their applications.
c) To provide strong foundation to assess performance of different industrial drives considering issues such as, energy efficiency, power quality, economic justification, environmental issues, and practical viabilities.

Learning Outcomes:

a) Examine various applications in industrial and domestic areas where use of electric drives are essential.
b) Classify types of electric drives systems based on nature of loads, control objectives, performance and reliability.
c) Combine concepts of previously learnt courses such as, electrical machines, Control and power electronics to cater to the need of automations in industries.
d) Select most suitable type and specification of motor drive combination for efficient conversion and control of electric power.

Topics to be covered:

a) Role of power electronics in modern society.
b) DC-dc converters, inverters, multilevel inverters
c) Vector control of PMSM, SRM and BLDC drives
d) Role of power electronics in renewable energy-based power generation.
e) Applications of Microcontrollers, DSP, FPGA, dSPACE for real time implementation of power electronic systems and drives.
f) Application of power electronics in AC & DC Drives.
g) Electric vehicle, challenges, and future scope.

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

Call for Registration and Participation

15th – 20th March 2021

Dr. Srinivasan Pradabane
Prof. V.T. Somasekhar
Dr. A. Kirubakaran

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
How to Register:
Eligible candidates may apply by filling the following Google form by uploading payment proof on or before 13-03-2021 via google form:
https://forms.gle/kG9ojntzwoxFoq2z6

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

Registration Fee:

<table>
<thead>
<tr>
<th>Category of Participants</th>
<th>6-Day Reg. Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Members</td>
<td>750/-</td>
</tr>
<tr>
<td>Research Scholars</td>
<td>400/-</td>
</tr>
</tbody>
</table>

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 14-03-2021. 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 PGCL 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 online 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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Mobile: +91-863-935-2033

For further details about Teaching Learning Centre, please contact:
Prof. A. Ramachandraiah
Professor-in-Charge and Coordinator,
Teaching Learning Centre (TLC), NIT Warangal
E-mail: archem@nitw.ac.in; mltc.nitw@nitw.ac.in
Office: 0870-2462686.