# ONE WEEK ONLINE FACULTY DEVELOPMENT PROGRAMME

On



Transactive energy control in smart electric grid markets: Recent trends and challenges  $(26^{th} - 30^{th})$  December 2023)

Organized by

# Center for Training and Learning (CTL), NIT Warangal

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



Anil Neerukonda Institute of Technology and sciences (Autonomous), Visakhapatnam



## Preamble:

The Centre for Training and Learning (CTL) has been established at NIT Warangal with grants from the Min. of Education, through its scheme "Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMNNMTT)". Under this Scheme, a separate building has been built exclusively for the CTL 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. One of the important objectives of the Centre is to conduct training programmes for the aspiring, newly inducted and inservice faculty in science, engineering, social sciences disciplines in higher education. Other activities of the CTL include preparation of print and elearning materials, offering on-line courses, curriculum design, carrying out research in educational technology and pedagogy and integrating with ICT into teaching-learning process..

## About the FDP:

The increasing popularity of renewable energy resources presents a significant opportunity for transactive energy. Some renewable energy generation devices are residential generators based on solar and wind. These DERs require a flexible approach to energy transactions, and transactive control represents a potential solution. Multiple distributed energy resources, including solar, wind, fuel cells, micro turbines, energy storage systems, traditional diesel generators, and modern communication systems, can be integrated using SEG technology. Smart grids with expanding power markets are being envisioned as a way to deal with these risks. Multiple sorts of energy markets are formed as a result of the dynamic nature of generation and demand patterns. Different power systems and business models, such as Microgrids, VPPs, and transitive energy markets, are created as a result of the participation of these distributed sources along conventional systems. A transactive energy platform can implement advanced communication and monitoring tools—such as smart devices—to automate the transactions between the individuals who produce energy and those who need it.

## Major Course Contents:

- Restructured power system and its principles
- Smart grids concepts and markets design
- Design of Protection systems in Smart Grids
- Smart Signaling Frameworks for Smart Grids
- Role of energy trading in virtual power plants
- Introduction to Transactive energy markets
- Power markets and its policies
- Korean Electricity markets

# Faculty conducting this programme:

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

#### How to apply:

Participants are required to fill in the online registration form given in the <a href="https://docs.google.com/forms/d/e/1FAIpQLSdKB7qOkOypzx3oXU\_0zDsLG">https://docs.google.com/forms/d/e/1FAIpQLSdKB7qOkOypzx3oXU\_0zDsLG</a> pwczpB5UAprYVRPBS-eua-Ilw/viewform

#### **Selection Criteria:**

Selection will be done based on first-come-first-serve basis to a maximum number of 100. 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.

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Registration Fee Particulars:	
Faculty	Rs.1000/-
Research Scholars	Rs.500/-
Industry Participants	Rs.1500/-

Important Dates:	
Last date of receiving application	20-12-2023
Selection List by E- mail	23-12-2023

Participants need to pay the Registration Fee online using the following details:

Online Transfer Details		
Account Name	Coordinator, TLCNITW	
Account No	40376545007	
IFSC	SBIN0020149	
Bank and Branch	SBI, NIT Warangal	

## About NITW & EED, Warangal:

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 5000 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 Electrical Engineering Department (EED) 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 and Power Systems and Ph.D program. Warangal is known for its rich historical and cultural heritage.

# About ANITS and EEE Dept, Visakhapatnam:

Anil Neerukonda Institute of Technology & Sciences (ANITS) Visakhapatnam is owned by Megha Engineering and Infrastructure Limited (MEIL) which is one of the top infrastructure and manufacturing company in India with headquarters at Hyderabad. The institute was established in the academic year 2001-02 by Anil Neerukonda Educational Society (ANES) which was founded by Dr. N.B.R. Prasad, an NRI Philanthropist from USA, with industrialists and eminent educationalists in memory of Late Anil Neerukonda, S/o. Dr. N.B.R. Prasad. Its humble journey started in 2001 with an intake of 220 students into four undergraduate B.Tech programs. Within 14 years of its establishment, the institute has registered phenomenal growth and has been accredited by NAAC and by NBA. ANITS is recognized as the Host Institute (HI) for implementation of the incubation component under MSME Innovation Scheme (MSME Champion Scheme) and attained NIRF Rank in the band of 251-300 for the year 2022. Today, the institute offers nine B.Tech programme and four M.Tech programme with an annual intake of about 1100 students. The Department of Electrical and Electronics Engineering (EEE) was started in the year 2001-02 with an intake of 40 students and presently with an intake of 150 students. A PG course with CONTROL SYSTEMS specialization is also being offered by the department with an intake of 18. The department was recognized as a Research Centre to provide guidance to full time / part-time Ph.D. scholars

## **Coordinators:**

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