



## Center for Continuing Education

*A FIVE Day Online Faculty Development Program on*

### Smart Grid Markets: Key trends, Challenges and Opportunities

**27<sup>th</sup> - 31<sup>st</sup> July 2021**

**Call for Registration and Participation**

#### **Coordinators**

**Dr. Debasmita Panda**  
**Dr. Altaf Q H Badar**  
**Dr. Y. Chandrasekhar**  
**Prof. M. Sailaja Kumari**

#### **Organized by**

**Department of Electrical Engineering**  
*in association with*  
**Center for Continuing Education**  
**National Institute of Technology**  
Warangal – 506 004  
Telangana state, India



#### **Background:**

Globally, there is a ramping demand for modernization of power system in multiple aspects including Smart Electric Grid (SEG) technology, integration of large Renewable Energy Sources (RES) in effort to reduce carbon emissions and encourage more sustainable life style. In view of this, there is an increasing investment from Indian government and R&D industries towards the development of: smart distribution grids and smart cities. However, this transition from conventional central power grid to distributed renewable energy in electric energy supply has disrupted the top down energy sector across various countries.

SEG technology enables integration of multiple distributed energy resources such as PV, wind, fuel cells, micro-turbines, energy storage system, conventional diesel generators and advanced communication system. Because of distributed renewable integration uncertainties are getting introduced in the power system. Smart grids with power market development are being visualized as a solution to handle such uncertainties.

Dynamic nature of generation and demand patterns themselves propagate towards formation of multiple types of energy markets. The participation of these distributed sources along with conventional system leads to the creation of different power system and business models like, microgrid, VPP and transactive energy market.

#### **Resource Persons:**

Eminent faculty of the Electrical Engineering department and Faculty from IITs, other NITs & Industry who have the expertise in these areas will be delivering lectures as core faculty for the workshop.

#### **Topics of the Programme:**

- ✓ Basic principles of Restructured Power System
- ✓ Smart grid concept, design and characteristics
- ✓ Smart grid market design – Trading, risk management
- ✓ Modernization in Power Distribution Systems
- ✓ Electricity market policies – India and abroad
- ✓ Introduction to Transactive Energy Market
- ✓ New technologies and research – EMS, IoT, EVs, Big Data, Evolutionary Optimization Techniques
- ✓ Use Cases : Across the globe

#### **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.

### Registration is open to:

The programme is open to faculty, industry professionals, research scholars, as well as engineers and scientists working in the Electrical and Electronics Engineering domain.

### Registration fee:

Category	Amount
Faculty, Post doctoral fellows, Research Scholars, PG students, UG students	<b>Rs. 500 /-</b> (Rupees Five Hundred Only)
Industry participants	<b>Rs. 1000/-</b> (Rupees One Thousand only)

### How to Apply:

Interested candidates can apply online by clicking below link (Google form).

<https://forms.gle/FYr5xTtjGy3Dsv1B6>

**Last date:** 26<sup>th</sup> July 2021, 11:59 PM

### Bank Details:

Interested candidate can submit his registration fee through online transaction at following institute account.

Account Name	Center for Continuing Education NITW
Account Number	<b>62403680215</b>
Bank	State Bank of India
Branch	REC WARANGAL
Branch Code	20149
IFSC code	SBIN0020149

The registration fee may be remitted Online through NEFT, Quick transfer, Gpay, PhonePe, Paytm, or any other UPI to the Bank account given below and upload the proof of remittance in the google form.

### Benefits:

- Participants will get an e-certificate upon successful completion of the course.
- Course material, session recordings will be shared with participants with the consent of the speaker.

### Highlights of the Course:

- This short term course will be conducted three hours a day with no overlap to the regular office hours.
- The sessions will begin in the evening time, possibly after 3pm.

### Centre for Continuing Education (CCE):

The CCE of NIT Warangal organizes continuing education programmes and workshops in the frontier areas of science, engineering, technology, management, humanities, social science and socially relevant themes on self-financing basis in different modes (in- campus/out of campus) in collaboration with other organizations.

### Confirmation of Participation:

On receipt of the proof of payment of registration **fee in the form of scanned copy (Proof of remittance)** with online payment transaction number, the applicants will be sent the confirmation of their participation through Email immediately.

***\*All attendees will receive the participation certificate***

### About NIT 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 31 post-graduate programmes 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 Laboratories.

**For any queries regarding this workshop, please contact the Coordinators.**

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