

❖ Selection and Mode of Payment:

Selected candidates will be intimated through E-Mail. They have to remit the necessary course fee to the Bank as per the details given below.

Outstation participants requiring accommodation and boarding facilities have to pay Rs. 4,000/- in addition to the course fee.

Account Name	GIAN NITW
Account No	62447453600
Bank	State Bank of India
Branch	REC Warangal (NIT Campus)
Branch Code	20149
IFSC Code	SBIN0020149
MICR Code	506004011
SWIFT Code	SBININBB018

Candidates registering early will be given preference in short listing process. For any queries regarding registration of the course, please contact the Course Coordinators:

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❖ About GIAN Course:

Ministry of Human Resource Development (MHRD), Government of India (GoI) has launched an innovative program titled “Global Initiative of Academic Networks (GIAN)” in higher Education, in order to garner the best international experience. As part of this, internationally renowned Academicians and Scientists are invited to augment the Country’s academic resources, accelerate the pace of quality reforms and elevate India’s scientific and technological capacity to global excellence.

❖ About the Institute and Warangal:

National Institute of Technology, Warangal (NITW) formerly known as RECW is the first among seventeen RECs set up in 1959. Over the years, the Institute has established itself as a premier Institution in imparting technical education of a very high standard, leading to B.Tech, M.Tech and Ph.D. programmes in various specializations of Science and Engineering streams. Warangal is known for its rich historical and cultural heritage. It is situated at a distance of 140 km from Hyderabad. Warangal is well connected by rail and road. National Institute of Technology, Warangal campus is 3 km away from Kazipet railway station and 12 km away from Warangal railway station.

❖ About the Department:

The Department of Electrical Engineering is one of the oldest departments of the National Institute of Technology, Warangal (NITW). Established as one of the major departments of the Institute, since its inception in 1959, the Department of Electrical Engineering has been actively engaged in teaching and research in diverse fields of Electrical Engineering. With excellent faculty, the Department of Electrical Engineering offers undergraduate (B.Tech) and graduate (M.Tech) in Power Electronics & Drives and Power Systems and research (Ph.D) programmes. All B.Tech and M.Tech programs are accredited for five years in 2014-15 by NBA as per Washington Accord.



Five Days GIAN Course on

**ALTERNATE ENERGY SOURCES FOR
DISTRIBUTED GENERATION**

December 18-22, 2017

Call for Registration and Participation

International Faculty

Dr. Subhashish Bhattacharya

**ABB Term Professor, FREEDM Systems Center,
Department of Electrical and Computer
Engineering,
North Carolina State University, Varsity Drive,
Raleigh, US.**

Course Coordinators

Dr. A. Kirubakaran

Dr. Sachin Jain

**Department of Electrical Engineering
National Institute of Technology
Warangal
506 004, Telangana, India**

❖ Overview of the Course:

Increasing energy demands and global pollution awareness have led to efforts towards exploring new energy sources and also increasing energy output from existing ones. However, power sectors have to focus on larger capacity power generation based on alternate/renewable energy sources like solar energy, wind energy, energy from fuel cells, etc. Considering that reliance on fossil fuels is now difficult because of the rate at which they are getting depleted.

Power conditioners and controllers play an important role in injecting power into the stand-alone/grid-tie system from renewable energy sources. Encouraging such solutions locally to meet the utility demand by using various distributed generations will provide better relief to the grid. Therefore, this course intends to provide a broad view of these technologies, through appropriate selection of sources, design, modeling, use of various power converters and their controller design. This will allow a better understanding of the technologies for the participants who are interested to work in this field and also for graduate students. This course will be taught through lectures, tutorials, simulation and practical demonstration.

❖ Course Objectives:

The primary objective of the course is to provide participants with a wide exposure and enhancing their capability in the field of renewable energy sources, with a special focus on the following aspects:

- i) Criteria for selection of energy sources, and the modelling of various sources and their economic viability.
- ii) Introduction to various power conditioners and the recent development for applications in renewable energy sources.
- iii) Different control techniques for various renewable energy sources, such as MPPT algorithms, real and reactive power control, and the nuances of synchronization methods.

- iv) A broad view of different energy storage technologies in existence as of now.
- v) Simulation of various renewable energy sources, through modeling, power converters and various types of other controllers, achieved through both simulation and practical demonstration.

❖ International Faculty:

Prof. Subhashish Bhattacharya received the B.E. (Hons.) degree from the Indian Institute of Technology Roorkee (formerly University of Roorkee), Roorkee, India, in 1986, the M.E. degree from the Indian Institute of Science, Bangalore, India, in 1988, and the Ph.D. degree from the University of Wisconsin-Madison, Madison, WI, in 2003, all in electrical engineering. He has worked in the flexible ac transmission systems (FACTS) and Power Quality Group at Westing-house R&D Center, Pittsburgh, PA, which was later part of Siemens Power Transmission and Distribution, from 1998 to 2005. He joined the Department of Electrical and Computer Engineering, North Carolina State University (NCSU), Raleigh, NC, as an Assistant Professor in August 2005, where he has also been the ABB Term Associate Professor since August 2011. He is also a Faculty Member of the NSF Engineering Research Center for Future Renewable Electric Energy Delivery and Management Systems Center (www.freedm.ncsu.edu) and Advanced Transportation Energy Center (www.atec.ncsu.edu), and the newly established DOE initiative on WEB based Manufacturing Innovation Institute-Power America-at NCSU. He authored over 400 peer-reviewed publications and made several invited technical presentations. He mentored around 40 MS and Ph.D. students. His research interests include FACTS, utility applications of power electronics and power quality issues, solid-state transformer, high-frequency magnetics, active filters, high-power converters, converter control techniques, integration of energy storage to the grid, and application of new power semiconductor devices such as SiC for converter topologies.

❖ Who can participate?

This program is open to the Faculty, Post graduate students, Engineers and researchers from manufacturing, service and government organizations including R&D laboratories interested in developing power conditioners for alternate energy sources.

❖ How to Register?

Stage-1: Web Portal Registration:

Visit <http://www.gian.iitkgp.ac.in/GREGN/index> and create login User ID and Password. Fill up the blank registration form and do web registration by paying Rs. 500/- online through Net Banking / Debit / Credit card. This provides the user with life time registration to enrol in any number of GIAN courses offered.

Stage-2: Course Registration:

Login to the GIAN portal with the user ID and Password already created in Step 1. Click on Course Registration option at the top of Registration Form. Select the Course titled “**ALTERNATE ENERGY SOURCES FOR DISTRIBUTED GENERATION**” from the list and click on Save option. Confirm your registration by clicking on Confirm Course.

❖ Registration Fee:

Faculty	Rs. 2,000/-
Participants from Industry / Research Organizations	Rs. 4,000/-
Students & Scholars	Rs. 1,000/-
Participants from abroad Students Faculty	US \$ 50 US \$ 100

The Registration fee includes instructional materials, laboratory use and session teas.

The out-station participants will be provided with boarding and lodging on additional payment of Rs. 4,000/- in Visitors block subject to availability.