Overview of the Course

In 21st century, energy conversion and storage technologies are considered as two emerging and important technologies for green, reliable and sustainable power. The design, energy conversion principles, model and control strategies are constantly being improved and reinforced to provide consumers with sufficient energy with increased efficiency and reliability. Future electrical power systems and renewable industries will face challenging problems in designing power networks to deliver an increasing amount of electrical energy in a safe, clean and economical manner. Another important challenge for the power engineer is to integrate the new technologies into the existing grid, maintain power quality and design protection systems. Thus a huge adequately trained workforce shall be required.

This course is designed to equip the attendee with the knowledge and skills necessary for designing, modeling, controlling, analyzing and improving new energy conversion and storage technologies. The attendee will also acquire extensive coherent advanced knowledge of various electric vehicle technologies, their impact on power grids, and providing ancillary service to the grids. The course will focus on challenges and methods of improving energy conversion efficiencies of newer technologies. This is a research level cum higher undergraduate level course and interdisciplinary, in nature.

Objectives

Objectives of the course include, (a) to provide an overview of the importance and challenges of managing and improving efficiency of emerging energy conversion and storage technologies, (b) to develop necessary skill-set to select or design appropriate energy conversion and storage requirements, (c) to train attendees on best methods to model, design and control these new technologies, (d) to develop skills to identify, formulate and provide solutions to complex problems with intellectual independence for finding the performance and economic issues of energy conversion, and (e) to develop fundamental theory of energy storage technologies.

Jahangir Hossain received B.Sc. and M.Sc. degrees from Rajshahi Univ. of Engg and Tech (RUET), Bangladesh, in 2001 and 2005, respectively, and Ph.D. degree from Univ. of New South Wales in 2010, Australia.

He is currently an Associate Prof. with School of Electrical and Data Engg, Univ of Tech, Sydney, Australia. Earlier he has served in RUET, Bangladesh, School of Engg, Macquarie Univ, and Griffith School of Engg, Griffith Univ, Australia for 11 years. He has supervised more than 25 HDR students and several MTech students. He has more than 240 articles including 100 research papers in peer reviewed journals, 01 research contributed book, 3 edited books, 5 book chapters and more than 120 conference papers. His has 3550 citations with H-Index 32. He has total research grant of more than $1.5 M. He is senior member of IEEE and editor of two reputed journals. For further details: https://www.uts.edu.au/staff/jahangir.hossain

Who can participate?

This program is open to the Faculty, PG and Research students of Electrical Engineering from Academic Institutions. Even Practicing Engineers from industries can also participate.

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 enroll 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 Stage 1. Click on Course Registration option at the top of Registration form. Select the Course titled "**Advanced Energy Conversion and Storage Systems**" from the list and click on Save option. Complete your registration by clicking on 'Confirm Course'.

REGISTRATION FEE:

Faculty (Internal & External) and Scientists from R&D Labs	Rs. 3,000/-
Persons working in Industry/ Consultancy firms	Rs. 6,000/-
Students & Research Scholars • Without award of Grade • With award of Grade	 Rs. 1,500/- Rs. 2,000/-
Students from abroad	$ 50
Faculty/Scientists/Industry Persons from abroad	$ 100

The Registration fee includes instructional materials, tutorials, laboratory and computer use with free internet facility. The participants will be provided with boarding and lodging in Visitors Block on twin sharing basis on additional payment of Rs. 4,000/-.

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 Lodging 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	SBIN0020149
MICR Code	506002030
SWIFT Code	SBININBBH14

Candidates registering early will be given preference in short listing process.

For any queries regarding registration of the course and accommodation, please contact the Course Coordinators:

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Tel: +91-9890068893
Email: altafbadar@nitw.ac.in

Prof. Mahesvarapu Sydulu
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About GIAN Course

MHRD, Govt. of India 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 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 2 km away from Kazipet railway station and 12 km away from Warangal railway station.

ABOUT THE DEPARTMENT

The Department of Electrical Engineering was established in 1959. The Department offers one UG program and three PG programs. The Department has experienced faculty and well- established laboratories. The Department has strong Industry interaction and has been involved in various consultancy projects for various Industries and Govt of Telangana and Andhra Pradesh. Department has an MOU with Central Power Research Institute (CPRI), Defence Research and Development Organization (DRDO) to carry out the collaborative projects.

A Ten Day

GIAN Course on

Advanced Energy Conversion and Storage Systems

Nov 30 – Dec 12, 2020

Call for Registration and Participation

International Faculty

Prof. M. J. Hossain

School of Electrical and Data Engineering,
University of Technology Sydney, Australia

Course Coordinators

Dr. Altaf Q. H. Badar

Prof. M. Sydulu

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