

Foreign Faculty:



Jih-Sheng (Jason) Lai received M.S. and Ph.D. degrees in electrical engineering from the University of Tennessee, Knoxville, in 1985 and 1989. In 1989, he joined the Electric Power Research Institute (EPRI) Power Electronics Applications Center (PEAC). From 1993, he worked with the Oak Ridge National Laboratory as the Power Electronics Lead Scientist. He joined Virginia

Tech in 1996. Currently he is James. S. Tucker Professor and Director of Future Energy Electronics Center (FEEC). He also holds International Chair Professorship at National Taipei University of Technology, Taiwan and serves as a Visiting Professor at Nanyang Technological University, Singapore.

He published more than 100 refereed journal and 270 international conference papers and 2 books and received 25 U.S. patents. He received Technical Achievement Award in Lockheed Martin Award Night, 2 Journal Paper Awards, 12 Best Paper Awards from IEEE sponsored conferences, and Virginia Tech Dean's Award on Research Excellence. He led student teams to win the Top Three Finalist in Google Little Box Challenge in 2016, Grand Prize Award from International Future Energy Challenge (IFEC) in 2011, Grand Prize Award in Texas Instruments' Engibous Analog Design Competition in 2009.

Dr. Lai is an **IEEE Fellow** and the recipient of 2016 IEEE IAS Society Gerald Kliman Innovation Award. He is the founding chair of the 2001 IEEE Future Energy Challenge (FEC) and 2016 IEEE Asian Conference on Energy, Power, and Transportation Electrification (ACEPT); the General Chairs of IEEE Workshop on Computers in Power Electronics (COMPEL 2000) and IEEE Applied Power Electronics Conference and Exposition (APEC 2005).

Course Coordinators:

Dr. Pradyumn Chaturvedi, Assistant Professor, EED, VNIT Nagpur. He published more than 80 research papers in refereed international and national journals and conferences. His current research interest areas are fault tolerant multilevel converters, applications of fault tolerant converter in renewable energy generation, unified power quality conditioner, active power filters, power electronic transformer, electric drives etc.

Prof. H. M. Suryawanshi, Professor, EED, VNIT, Nagpur. His research areas including resonant converters, power factor correction, active power filters, FACTS Devices, Multilevel

converters, High Frequency Electronic Ballast and electric drives. He published more than 80 research papers in international refereed journals and more than 150 refereed international conferences. He is the recipient of Biman Behari Sen Award of IETE India, Fellow INAE and Bimal Bose Award of IETE India. He has several patents and R & D projects to his credit.

About VNIT, Nagpur:

Visvesvaraya National Institute of Technology, Nagpur is one of the thirty National Institutes of Technology in the country. It was established as Regional Engineering College in 1960. The Govt. of India conferred on the Institute, the Deemed to be University status with effect from 26th June 2002. Subsequently, the Central Govt. by National Institutes of Technology Act, 2007 (29 of 2007) declared VNIT Nagpur as an Institute of National Importance along with all other NITs. The Act was brought into force from 15th August 2007. It is located in the heart of Nagpur city on sprawling campus of 214 acres. It is recognized as pace setting institute for other educational institutions in the region. The institute offers 9 UG and 21 PG courses apart from Ph D programs in the area of Engineering, Architecture and Science. The distance of the campus from airport, railway station and bus stand is approximately 7/7/8 Km respectively.

For More Information, Contact:

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Patron

Dr. N. S. Chaudhari
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Local GIAN Coordinator

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Prof., ECE, VNIT, Nagpur

Advisor

Prof. M. K. Khedkar
HOD, EED, VNIT, Nagpur



Government of India
Ministry of Human Resource
Development



Course on

Power Electronics Technology for Renewable Energy and Microgrid

(December 03 to 08, 2018)

Foreign Expert (Speaker)

Prof. Jason Lai

Fellow, IEEE

Rensselaer Polytechnic Institute
New York, USA

Course Coordinators

Dr. Pradyumn Chaturvedi
Prof. H. M. Suryawanshi

Organized by

Department of Electrical Engineering
Visvesvaraya National Institute of
Technology, Nagpur, India – 440010

Course Overview:

Extensive research in power electronics technologies in renewable energy area is predictable to grant efficiency improvements in smart grid evolution. The generated power output from renewable energy source, such as photovoltaic panel or wind turbine, is generally difficult to control. Therefore, a power electronics converter capable of implementing high-speed and high-accuracy control is required for the mass adoption of renewable energy in smart grid. A smart grid will allow connectivity of the photovoltaic and wind turbines as intermittent source of energy. Use of photovoltaic and wind turbines with power electronics converters and enhanced control techniques can support a grid with reactive power and protect the equipment during severe grid disturbances. These are important issues to be addressed in smart grid technology. Soft switching converters operated at high frequency results in efficiency improvement and reduction in size and weight of the system which is the prime requirement of power electronic converter for renewable energy applications. It also improves the converter power density. This course tries to explore the relationships between power electronics converter and renewable energy in smart grid. Sufficient laboratory sessions will also be scheduled during the course on power electronic converters for renewable energy integration. Emphasis will be given on design of power electronics converters in the laboratory during the course.

Course Objectives:

The primary objectives of the course are:

- To understand smart grid standards, compliance and control
- To understand the power electronic control concept of smart grid
- To expose the participants with the latest trends in smart grid technology
- To understand the improved converter topology and control strategies for efficient transmission of power.

Who Can Participate?

- Electrical Engineer or research scientist interested in designing power electronics and renewable energy system with current technology.
- Industrial professional working on power electronics and renewable energy system and wish to share and learn in the area.
- Student or faculty from academic institution interested in learning how to do research on power electronics and

renewable energy system, and to know current research trends in the area.

Registration Fee:

The participation fee per person for attending the course is as follows:

Participants from abroad	: US \$ 500
Industry/ Research Organizations	: Rs. 10,000/-
Academic Institutions:	
Students	: Rs. 3,500/-
Non-Students/Faculty/Scientist	: Rs. 6,500/-

The above fee includes all instructional materials, free internet facility, working lunch, tea and snacks. The course fee is inclusive of 18% GST as per institute norms.

Mode of Payment:

On registration in the course, selected candidates will be intimated through e-mail. They have to remit the required course fee to the bank through NEFT (*If fee is to be paid by NEFT, clearly mention "GIAN 2017-2018-<NAME OF THE CANDIDATE> in the mentioned space*) as per the details given below.

Name of the Beneficiary	: Director, VNIT
Name of Bank	: State Bank of India
Branch Name	: VRCE Branch, Nagpur
Branch Code	: 06702
Beneficiary Account No.	: 10259420288
Bank MICR Code	: 440002005
Bank IFSC	: SBIN0006702

If paid by DD, it should be in favour of "Director, VNIT, Nagpur" payable at "Nagpur". In addition to the above fee, one-time online fee of Rs. 500/- is to be paid for registration in the GIAN web portal. (*See registration process Step 1 in next column*)

Accommodation:

The participants may avail single bedded shared accommodation and food (breakfast and dinner) if requested on additional payment and availability basis in institute guest house or hostel.

Note: Maximum number of participants is limited to 40 only. Selection will be made on first-cum-first-serve basis.

Registration Process:

Registration for any GIAN course is a two-step process.

Step 1: Web Portal Registration: One Time Registration with the GIAN web portal of IIT Kharagpur by paying Rs. 500/- (non-refundable) through the online payment gateway.

(Individuals who have already registered to GIAN earlier may skip Step 1).

Step 2: Course Registration: Course registration with the course coordinator.

• Institute registration process is an offline process. The participants are required to fill the Registration Form.

• He/she then may proceed for the course registration by filling out the registration form and paying the registration course fee.

Documents to be sent online:

- Scanned copy of filled in "Registration Form"
- Scanned copy of "Demand Draft/Details of NEFT"

Above documents must be sent to Course Coordinator via email: pc220774@gmail.com

Documents to be sent by post:

- Original registration form
- Demand Draft/receipt of NEFT

The above documents must be sent by post to:

Dr. Pradyumn Chaturvedi

Assistant Professor, Electrical Engineering
Department, Visvesvaraya National Institute of
Technology, Nagpur-440010, M. S., India

Important Dates:

- **Last date for receipt of Registration form and DD/NEFT Receipt by post: Nov 25, 2018**
- **Course Dates: Dec 03 - 08, 2018**



COURSE

On

Power Electronics Technology for Renewable Energy and Microgrid

(December 03 to 08, 2018)

Foreign Faculty:

Prof. Jason Lai, Fellow IEEE

James S. Tucker Professor,
Director, Future Energy Electronics Center
Virginia Polytechnic Institute and State University
Bradley Department of Electrical and Computer
Engineering
Blacksburg, Virginia

Address for Correspondence:

Dr. Pradyumn Chaturvedi

Course Coordinator
Assistant Professor, Electrical Engineering Department
Visvesvaraya National Institute of Technology,
Nagpur-440010

REGISTRATION FORM

Name :

Designation/Category of Registration :

Institute :

Address for Correspondence :

Mob.No :

Email :

Payment Details : DD / NEFT (If NEFT, Clearly mention "GIAN 2017-2018 <Name of Applicant"& Attach the Receipt of NEFT)

Amount: Rs. DD/NEFT Trans. No.....

Bank/Branch:

Date:

Signature of Applicant

Seal & Signature of Sponsoring Authority

