



### Prof. Venkataramana Ajarapu

received his M. Tech from IIT Kanpur India in 1982 and PhD from University of Waterloo, Canada in 1986. Currently he is David C. Nicholas endowed professor in the department of Electrical and Computer Engineering at Iowa State University.

His areas of research include power system voltage stability, measurement based stability monitoring, impact of distributed resources(DERs) on the grid and computational techniques for power system dynamics and control. He is IEEE Voltage Stability Working Group chair. He is Fellow of IEEE. He is Iowa State University Site Director for power system engineering research center (PSERC).

#### Host Faculty/ Course coordinator



**Dr. Soumya Ranjan Mohanty**  
Assistant Professor, Dept. of Electrical Engineering, Motilal Nehru National Institute of Technology (MNNIT), Allahabad, India. He received his Ph.D. degree from Indian Institute of Technology (IIT), Kharagpur, India in 2007.

He was a Post Doctoral Fellow in the Department of Electromechanical Engineering, University of Beira Interior, Under Research Project of FCT (Portuguese Science and Technology Foundation), and Covilha, Portugal during February 2012- July, 2012.

His research area includes Digital Protection of Power Systems, AI applications in power system, Distributed generation with renewable resources, Microgrid Protection with PMUs and WAMS, Smart grid technologies. He is a Senior Member of IEEE.

### MNNIT Allahabad

Motilal Nehru National Institute of Technology Allahabad, Allahabad (MNNIT) is an institute with total commitment to quality and excellence in academic pursuits. It was established as one of the seventeen Regional Engineering Colleges of India in the year 1961 as a joint enterprise of government of India and government of Uttar Pradesh, and was an associated college of university of Allahabad, which is the third oldest university in India.

On June 26, 2002 MNREC was transformed into National Institute of Technology and Deemed University fully funded by government of India. With the enactment of National Institutes of Technology Act-2007, the institute has been granted the status of institution of national importance w.e.f. 15.08.2007.

The institute currently offers nine B.Tech., nineteen M.Tech. degree programmes (including part-time), MCA, MBA, M.Sc. (Mathematics and Scientific Computing) and M.S.W. programmes and also registers candidates for the Ph.D. degree.

#### Department of Electrical Engineering

The Electrical Engineering Department (EED) came into existence in the year 1961, with the objective to produce technical manpower of high quality and promote research and development activity.

Currently, EED offers courses leading to a Bachelor of Technology in Electrical Engineering, and Post Graduate (M. Tech.) in (i) Power Electronics, (ii) Control & Instrumentation and (iii) Power System, and PhD programs. The EED has qualified and experienced faculty in all the related fields of Electrical Engineering.

#### For More Information

##### Contact:

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**Dr. G P Sahu**

GIAN Local Coordinator

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## Call for Registration and Participation



Course on

## POWER SYSTEM VOLT / VAR CONTROL AND VOLTAGE STABILITY

December 26 – 30, 2017

Foreign Expert (Speaker)

**Prof. Venkataramana Ajarapu**

Professor  
Department of Electrical and Computer Engineering  
Iowa State University  
Ames, Iowa, United States

Host Faculty/Course Coordinator

**Dr. Soumya Ranjan Mohanty**

GIAN Local Coordinator

**Dr. G. P. Sahu**

Organized by

Department of Electrical Engineering  
Motilal Nehru National Institute of Technology  
(MNNIT), Allahabad  
India-211004

## Course Overview

Volt/VAR control and voltage stability are key aspects of modern power systems operation. Reactive power and voltage instability have played important roles in many black-out incidents. Post analysis for these events recommended a list of actions and procedures in order to enhance reliability and security of power systems. Evaluation and adoption of better real time tools for operators and reliability coordinators, as well as strengthening reactive power and voltage control practices are usually among the principal recommendations. As a result there has been a continually increasing interest and investigation in on-line voltage stability assessment and control during the past two decades. This course introduces voltage stability fundamentals in both long-term and short-term time scales and concentrates on dynamic simulation including cases of real time voltage instability monitoring and emergency controls. The course will present voltage Instability mechanisms and countermeasures in both long-term and short-term time scales, steady-state voltage stability analysis, dynamic simulation, modelling and impact of different components (such as over-excitation limiters, on-load tap changers, loads and dynamic reactive compensation devices), and real-time detection of voltage instability including system protection measures.

## Course Objectives

The primary objectives of the course are as follows

- To provide learning and understanding in the area of voltage stability of power system
- To make familiar with reactive power control, its management and monitoring in power system.
- To demonstrate how the Volt/VAR control in distribution system with high penetration of PV affects the grid performance
- To demonstrate Cyber Physical Test bed and PMU applications for voltage stability analysis

## Grading and Certification

On completion of course and final assessment, grade certificate will be provided to participants on the basis of performance.

## Who can Participate ?

- Practicing Engineers, Business Executives (Tech), Research Scientists, Power Plant Operators working in Government, Semi-government, Private sector companies, and others
- Teaching Faculty members, Graduate/Post-graduate, PhD students from academic and technical institutions

## Registration/Course Fee (Non- refundable)

*The participation fee for attending the course is as follows:*

- Participants from abroad: US \$200
- Industry/ Research Organizations: Rs. 3000/-
- Academic Institutions: Rs. 2500/-
- Students (UG/PG/PhD from India): Rs.1000/-

## 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 DD as per the details given below before the deadline.

Account Name: GIAN-EE-PSCVS 2017

Account No.: 718400301000283

Bank Name: Vijaya Bank

Branch: MNNIT, Allahabad

IFSC: VIJB0007184

MICR code: 211029004

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

Out station participants can be provided accommodation in the Institute Guest Houses (limited accommodation on first-cum-first serve basis) inside the campus on direct payment as the Registration fee does not include lodging and boarding. The lodging (twin sharing) may be charged at rate of Rs.350/- per day (food extra) in Institute Guest House for the duration of course.

## Note:

Maximum number of students: 50.  
(Participants will be selected 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 using the following steps:

- Create login and password at <http://www.gian.iitkgp.ac.in/GREGN/index>
- Complete the personal details and pay Rs. 500/- (non- refundable) through the online payment gateway.
- Select the Course(s) you are interested to register.

**(Individuals who have already member to GIAN earlier do not need to repeat. )**

### Step 2: Course Registration

Course registration with the course coordinator.

- Institute registration process is an offline process. The participants are required to take print out of Registration Form. The registration form is attached in your email or can be availed over email: from [soumya@mnnit.ac.in](mailto:soumya@mnnit.ac.in)
- 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/receipt of NEFT"

Above documents must be sent to course coordinator via email: [soumya@mnnit.ac.in](mailto:soumya@mnnit.ac.in)

## Documents to be sent by post

- Original registration form.
- Demand Draft/ receipt of NEFT.

The above documents must be sent by post to:

**Dr. Soumya Ranjan Mohanty**

Electrical Engineering Dept.

Motilal Nehru National Institute of Technology (MNNIT)

Teliyarganj, Allahabad, India-211004

## Important Dates

- Last date for receiving applications: Nov24, 2017
- Last date for Intimation to Participants: Dec 1 2017
- Last for course registration: Dec 11, 2017
- Course Dates: December 26-30 2017