

## STEPS FOR REGISTRATION

Please follow the steps below for registering in the GIAN program 'Resilient and Sustainable Infrastructure Systems'

**Step 1:** Register at the GIAN portal on the link <http://www.gian.iitkgp.ac.in/> by clicking on 'Course Registration/ Participant Login'

**Step 2:** It shall state –Registration to the portal is one time affair and will be valid for life time of GIAN. Once registered in the portal, an applicant will be able to apply for any number of GIAN courses as and when necessary. One time Non-refundable fee of 500 /- INR is to be charged for this service.

**Step 3:** Once done with registration, please select the course 'Resilient and Sustainable Infrastructure Systems' from the list of courses.

**Step 4:** Send the copy of registration details from GIAN website to the following

Email: [gian.svnit@gmail.com](mailto:gian.svnit@gmail.com)

**Last Date of Registration: December 11, 2017**

### REGISTRATION FEE

Students	1500 /- INR
Academician	3000 /- INR
Participants from Industry/ Research Organizations	8000 /- INR
Participants from abroad	250 /- USD

Fee Includes lunch, tea and snacks on all workshop days. Accommodation can be arranged by extra payment.

### SELECTION AND MODE OF PAYMENT

Selected candidates will be intimated through e-mail.

For payment please consider any of the options:

1. DD in the favour of "Director, SVNIT-CCE, Surat"  
Payable at Surat
2. Bank Transfer at

Account Name	Director, SVNIT - CCE
Account No	37030749143
Bank	State Bank of India
Branch	SVCET Surat
Branch Code	3320
IFSC Code	SBIN0003320
MICR Code	395002012
SWIFT Code	SBININBB260

In case of any queries, please feel free to contact the Course coordinators.

### COURSE COORDINATOR

**Dr. D. A. Patel**

Assistant Professor

Email: [dapsvnit@gmail.com](mailto:dapsvnit@gmail.com); Ph: +91 261 2201823

### STUDENT COORDINATOR

**Lukman E. Mansuri**

Ph.D. Research Scholar

Email: [erlukman@gmail.com](mailto:erlukman@gmail.com); Cell: 98253 92359

## INTERNATIONAL FACULTY

**Prof. Sunil Sinha**

Director, the Sustainable Water Infrastructure Management (SWIM) Center, Civil and Environmental Engineering, Virginia Tech, USA



Prof. Sunil Sinha is currently a tenured Professor of Civil and Environmental Engineering at Virginia Tech. In addition, he is a Director of the Sustainable Water Infrastructure Management (SWIM) Center. In this capacity, he is responsible for teaching graduate and undergraduate engineering courses, and for leading and managing an active research program in the WATER related topics. His research, teaching, and consulting are in the areas of asset management, sustainability, pattern recognition, sensor informatics, and resiliency, especially urban water systems. He is also hold an Adjunct Professor of Systems Design Engineering at the University of Waterloo, Canada and in the Civil and Environmental Engineering at Penn State. He has a total of seven years of practical experience in the infrastructure industry.

At present, he has several ongoing research projects, funded by the U.S. EPA, U.S. BR, U.S. ACE, NIST, WE&RF, and Water Industry and all related to resilient and sustainable water infrastructure systems. He is working closely with international institutions in the areas of resilient water infrastructure systems such as CSIRO, Australia; NRC, Canada; University of Birmingham, U.K.; SINTEF, Norway; Tampere University, Finland; LNEC, Portugal; and IIT-Kanpur, India.

## VENUE

SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY (SVNIT)

Ichchanath, Surat - 395007, Gujarat, India. [svnit.ac.in](http://svnit.ac.in)



**MHRD**  
Govt. of India

**GIAN**  
GLOBAL INITIATIVE OF ACADEMIC NETWORKS



# RESILIENT AND SUSTAINABLE INFRASTRUCTURE SYSTEMS

One-Week  
GIAN Course

DECEMBER  
18 - 22  
2017

Call for  
Registration and  
Participation

## COURSE COORDINATOR

**Dr. D A Patel**

Civil Engineering Department  
S V National Institute of Technology  
Surat 395007, Gujarat, India

## INTERNATIONAL FACULTY

**Prof. Sunil Sinha**

Director, the Sustainable Water Infrastructure Management (SWIM) Center, Civil and Environmental Engineering, Virginia Tech, USA

## NATIONAL FACULTY

**Prof. Sudhir Misra**

Civil Engineering Department  
Indian Institute of Technology Kanpur, India

## NATIONAL FACULTY

**Prof. K N Jha**

Civil Engineering Department  
Indian Institute of Technology Delhi, India

## NATIONAL COORDINATING INSTITUTE

SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY SURAT-395007, GUJARAT, INDIA

# RESILIENT AND SUSTAINABLE INFRASTRUCTURE SYSTEMS

## OVERVIEW OF THE COURSE

Urbanization is rapidly increasing for few years now. According to United Nations (2014), 66 % of the world's population will be living in urban areas by the end of 2050. Worldwide rapid and unplanned urban growth has threatened sustainable development, as basic infrastructure facilities are unable to cope up with the rising urbanization. Holistic Infrastructure Management consists of planning, design, construction, operation, maintenance, rehabilitation, and disposal of assets in a cost effective manner. It needs to explore the knowledge of all elements such as performance, sustainability, resiliency of infrastructure systems. In India, under 'Smart Cities' programme, to provide water supply for 24X7, it needs to assess performance of existing infrastructures. Renewal engineering and risk management is required for existing infrastructure systems. Therefore, practitioners, researchers and students should be promoted to explore the knowledge and conduct the research, education and outreach for sustainability and resiliency.

Infrastructure asset management programs have been developed following the International Infrastructure Management (IIM) Manual core definition of maintaining a level of service at the lowest life-cycle cost and at an acceptable risk. Most cities, however, only incorporate performance into their asset management plans. A holistic approach to infrastructure management is more beneficial because it takes into account the short- and long-term goals and can provide better service socially, economically, and environmentally. This course is designed to provide holistic approach that supports the three key aspects of infrastructure management: performance (normal operations), sustainability (stressed environments), and resiliency (catastrophic events).

## COURSE OBJECTIVES

- Focus on Infrastructure Management Basics
- Focus on Advanced Infrastructure Engineering and Management Topics
- Discuss Infrastructure Performance Management Strategies
- Discuss Infrastructure Sustainability Management Strategies
- Discuss Infrastructure Resiliency Management Strategies
- Examine the opportunities and challenges in infrastructure engineering and management
- Provide an interactive forum for the diverse participants at SV-NIT

## SUBSTANTIAL BENEFITS FOR PARTICIPANTS

- Learn from and network with government and industry leaders and sustainable and resilient infrastructure practitioners and researchers
- Understanding of "Best Use" of leading infrastructure asset management practices
- Learn about new tools and latest research to address urbanization challenges
- Learning from "Case Studies" related to resilient and sustainable infrastructure practices
- Participating in "Panel Discussion" related to infrastructure resiliency and sustainability
- Share latest advances in sustainable and resilient infrastructure planning, design, operation, maintenance and renewal
- Contribution to the creation of "Best Practices" for infrastructure engineering and management



## ABOUT SVNIT SURAT

The institute was initially established as Sardar Vallabhbhai Regional College of Engineering & Technology in 1961 and was upgraded as a National Institute of Technology with the status of 'Deemed University' on October 4<sup>th</sup>, 2002. Sardar Vallabhbhai National Institute of Technology (SVNIT) is one of the pioneering engineering institutions of the country, which has contributed many outstanding engineers in India and abroad. It is conducting seven UG programs, eighteen PG programs, and a Ph.D. program in all disciplines of engineering and applied sciences. Special attention is also given to interdisciplinary researches.

## ABOUT DEPARTMENT

The Department of Civil Engineering is one of the pioneering departments of the Institute. The department has highly qualified faculty members engaged in teaching, research and development with the aim of achieving excellence in their fields. Department also offers Post Graduate and Doctoral Programs in the following areas:

- Transportation Engineering and Planning
- Environmental Engineering
- Water Resources Engineering
- Urban Planning
- Construction Technology & Management (In the pipeline)

The major strength of the department is due its multidisciplinary activities like R&D, Consultancy, and Testing etc.

## COURSE COORDINATOR

**Dr Dilip Patel** has been serving Sardar Vallabhbhai National Institute of Technology (SV-NIT) Surat as a faculty of civil engineering since 2007. Now he is an Associated Dean (Planning and Development). He has two years experiences of industry and twelve years experiences of teaching. He has published more than thirty papers in a number of international and national journals and a number of international conferences. He has guided nine PG students for their dissertations and now four PhD students are working under his guidance. His area of specialization and current interest areas of research are construction project management, construction technology, safety, demolition, sustainable infrastructure and PPP.

## NATIONAL FACULTY

**Prof. Sudhir Misra** is Professor at the Department of Civil Engineering, Indian Institute of Technology Kanpur and has a keen interest in concrete materials, construction and engineering. He has worked with consulting and construction companies also during his 35 years of professional experience, and also led the effort to initiate a graduate programme in Infrastructure Engineering and Management at IIT Kanpur.

## NATIONAL FACULTY

**Prof. K N Jha** has more than 20 years of experience in project management. He has been involved in a number of construction projects in different capacities. He has taught at IIT Kanpur and presently he is Associate Professor with the Department of Civil Engineering, IIT Delhi. He has published more than 75 papers in a number of international and national journals and a number of international conferences