

Sardar Vallabhbhai

National Institute of Technology, Surat

TEQIP (III) sponsored

ONE WEEK SHORT TERM COURSE (Online)

ON

**Advances in Control Systems
Engineering and Applications**

24th February 2021 to 28th February 2021



Coordinators:

Dr. Rahul Radhakrishnan

Dr. Gangireddy Sushnidha

Dr. Hiren G. Patel and Dr. Shambhu Nath Sharma

Organized by

**Department of Electrical Engineering
S. V. National Institute of Technology
Surat-395007, Gujarat, India**

About the Institute

The institute, one of the pioneering engineering institutions of the country, was established in 1961 as Sardar Vallabhbhai Regional College of Engineering & Technology and was given the status of National Institute of Technology, in 2002. At present, there are six undergraduate courses, nineteen postgraduate courses and Ph.D. programmes in all disciplines of engineering and applied sciences. It has an excellent placement record with a number of top-ranking companies visiting the campus. The institute is located at Surat, about 260 kms North of Mumbai and is very well connected by rail and road links to Mumbai as well as Ahmedabad (250 kms)/Vadodara (150 kms). The institute is approximately 10 kms away from Surat Railway Station and 10 kms from the Surat Airport (STV). Surat is an industrial city with historical importance and is well known for Textile, Jari and Diamond industries. The leading industries like RIL, ONGC, Kribhco, L&T, ESSAR, NTPC, and GAIL are established in Surat Hazira area.

About the Department

The department is one of the pioneering departments of the Institute. Over the years, the department has progressed at a rapid pace with development in both the spheres of infrastructure facilities and academic programmes. The department has highly qualified faculty members engaged in teaching and research with the aim of achieving excellence in the field of Electrical Engineering.

The department offers Under Graduate course in Electrical Engineering and Post Graduate programmes in **Instrumentation and Control, Power Electronics & Electrical Drives, and Power System**. The department offers Ph.D. programme to promote research

activities in the various areas of Electrical Engineering. The department also renders consultancy and testing services.

About the Program

This short-term course on “Advances in Control Systems Engineering and Applications” brings an opportunity for academicians, research scholars and students across various disciplines to explore the field of control systems engineering. Control systems has wide range of applications ranging from electrical, chemical processes, mechanical, space to biomedical. In this era of interdisciplinary research and practice, control engineering concepts play an important role. Therefore, knowing the basics and design tools or techniques enables one to approach an engineering problem more systematically, and make efficient use of them for solving problems in their respective domains. This program will help participants not only to grasp the various control engineering concepts but also their applications. Thus, a clear understanding of basics of control systems and its applications promotes research in various fields. Therefore, this program attempts to get experts related to control engineering from premier institutes and industries in India to give participants a good exposure to the recent advances in the field of control systems engineering.

Objectives of the Program

- To impart knowledge of principles and practices in control engineering for academicians, researchers and students
- To promote the use of control engineering concepts for interdisciplinary research
- To introduce some cutting-edge research trends in the field of control engineering
- To introduce few challenging applications, and their corresponding solutions via simulations

Course Content

- System Identification, parameter estimation, modelling and control of biomedical systems
- Concepts of classical and advanced control theory and their industrial applications
- Guidance and control strategies for missiles and launch vehicles
- Numerical techniques for trajectory optimization
- Concepts of state estimation. Design of estimators and observers, and their applications
- Philosophy of Industrial Automation, PLC, SCADA, control laws (PI, PID control actions) and applications, demo of industrial control system PC-based automation etc.

Short term course includes

Five Days Training will be taken by a group of experts from IITs, NITs and industry for delivering sessions. The training time is approximately 5 hours per day. Mode of training is Instructor-led live online.

- Instructor-led live online learning & Interactive Query Session.
- Soft copy of study material, Training PPTs & Projects code. Participants will get recorded sessions after completion of training
- **eCertificates** will be given to participants who attend more than 70% sessions in the workshop, attendance for each session will be taken.

Registration and General Information

Prospective applicants for the participation in the course should register either through the following link

<https://forms.gle/GmurEBFJsRjndDk7>

or send the duly filled scanned copy of the application form to the following email id

acsea2021@gmail.com

The last date of registration is 20th February, 2021.
The candidates would be informed of their selection through E-mail by **22nd February, 2021.**

Who Can Participate

Faculty members of UGC/AICTE recognized Universities and Engineering colleges all over India, Research scholars (Ph.D, M.Tech), Students and Industry personals.

Program Fee

Students/ Research scholars	Rs. 300/-
Institute/ College Teachers	Rs. 600/-
Delegates from industries	Rs. 5000/-

The **non-refundable** registration fee should be paid **online through net banking to "Director SVNIT TEQIP IRG"** A/C No: **0277101028663**, Canara Bank, Nanpura Branch Surat, IFSC: CNRB0000277. (kindly save the receipt or take screenshot of the payment)

Address for any Communications

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Organizing Committee
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E-mail : radhanrahul@gmail.com and sushnigdha.g@gmail.com
Mob: 8084736155, 9167924418

Application Form

TEQIP (III) SPONSORED

One Week Short Term Course (Online Mode)
ON

Advances in Control Systems Engineering and Applications
24th February 2021 to 28th February 2021

Name and Address of the applicant:

Gender: M/F____ DOB:_____ Age:_____

Qualification:_____

Experience:_____

Designation:_____

Mobile:_____

Email: (1)_____

(2)_____

Address of Sponsoring Authority:

PAYMENT DETAIL:

Transaction details (NEFT/IMPS/RTGS receipt number)_____

Date_____ Rs._____

Bank Name:_____

Signature of the Applicant

The applicant will be permitted to participate in the above program if selected.

Kindly attach institute ID card copy along with

Invited Speakers and Topics

Dr. Mani Bhushan (Professor, IIT Bombay) – State Estimation

Dr. Karthik Soman (Associate Specialist, Neurology) – Biomedical data inference using machine learning algorithms

Dr. Seshagiri Rao Ambati (Associate Professor, NIT Warangal) – Control of Nonlinear Systems

Dr. Rajeeb Dey (Assistant Professor, NIT Silchar) – Observer – Based Control for glucose concentration control for a Type 1 Diabetic patient

6 speakers are from DRDO, VSSC (ISRO), and NAL. Topics covered by them will be Guidance and Control of Missiles, Launch Vehicles, Trajectory optimization, Target Tracking and System Identification of Aerospace Vehicles.