

भारतीय  
प्रौद्योगिकी  
संस्थान

काशी हिन्दू विश्वविद्यालय



INDIAN  
INSTITUTE OF  
TECHNOLOGY  
BANARAS HINDU UNIVERSITY



# Information Brochure (2019-2020)

M.Tech. Programme  
*in*

CONTROL SYSTEMS










## About Us:

A broad activity of Control system group involves analysis of dynamical systems and feedback controller design for improving system performance. The group hosts Control systems and Network Laboratory. The network laboratory facilitates undergraduate experiments involving networks for different courses, whereas the control system laboratory facilities undergraduate as well as postgraduate experiments on control systems. Besides, the control system laboratory has facilities of experimenting with sophisticated control system experiment setups, such as inverted pendulum, ball and plate, magnetic levitation system, PLC.

# Faculty

Profile Picture	Description (Name, Designation)	Area of Interest
	Dr. Devender Singh Professor	Short term Load Forecasting, State Estimation, Distributed Generation, Load Modelling.
	Dr. S. K. Nagar Professor	Control Systems, Large Scale Systems, AI Applications
	Dr. R. K. Saket Professor	Reliability Engineering, Power System Reliability, Electrical Machines & Drives, Reliability Aspects of SEIG/DFIG, Reliability Enhancement of Electrical Machines & Drives, Micro Hydro Power Generation System, Renewable Energy Applications, Control System Design.
	Dr. Shyam Kamal Assistant Professor	Lyapunov based design, Hybrid Dynamical Systems, Nonlinear Control, Fault Tolerant Control, Modeling of Dynamical Systems, Optimal Control Adaptive Control.
	Dr. Sandip Ghosh Assistant Professor	Control System Engineering (Decentralized Control, Time-Delay Systems, Networked Control Systems)

# Courses Offered

1. Nonlinear Control Systems
2. Modern Control Theory
3. Digital control systems
4. Operational Research
5. Electrical machines and Drives
6. Robust Control
7. Artificial Intelligence
8. Solar & Wind Power Technologies
9. Optimal Control
10. Modelling & Simulation
11. Power System Analysis

# Areas of Research

1. Model order reduction and its applications
2. Robust nonlinear and adaptive control theory
3. Event based controller design techniques
4. DFIG Controller design for WECS
5. Decentralized Control
6. Time-delay systems
7. Network control systems
8. Lyapunov based non-smooth controller design and its applications
9. Fractional order systems
10. Sliding mode control (continuous and discrete)
11. Contraction analysis
12. Mathematical Biology



# Infrastructure and Lab Facilities

- Networks Laboratory
- Control System Design Laboratory
- Simulation Laboratory equipped with latest tools & software's
  1. MATLAB
  2. SCADA
  3. PLC
  4. JAQUOUT Systems
  5. System Packages
  6. CTCT
  7. INTLAB
- Advance Control System Laboratory with real time experimental kits:
  1. Inverted Pendulum
  2. Magnetic Levitation
  3. Ball & Plate
  4. PLC
  5. Coupled tank
  6. 2D helicopter

# Ongoing MTech Projects

1. Sliding mode control of coupled tank circuit
2. Consensus Control in Multiagent System
3. Design of Autopilot Control Laws for Micro Aerial Vehicle
4. Face Recognition Using Artificial Neural Network
5. Nonlinear Controller & Observer Design for Time Delay Systems
6. Controller & Observer Design for Ball & Plate system

# Message from Prof. Incharge:

It gives me immense pleasure to extend you a most cordial invitation to participate in the Campus Recruitment Programme of the Indian Institute of Technology (BHU), Varanasi. With an increasing thrust being placed on Institute-Industry Interaction, it is my sincere belief that your esteemed organization and IIT (BHU) Varanasi will stand to gain immensely from this symbiotic relationship.

Our Institute holds the pride of place being pioneer in the field of engineering and technical education in this country and has a glorious heritage. We have been continuously ranked amongst the elite by all peers and stakeholders. Our constant pursuit of excellence has made our institute a focal point in technical education for students and faculty members alike. Admissions to the institute take place through the reputed Joint Entrance Examination (JEE) and Graduate Aptitude Test in Engineering (GATE).

At this institute, we take utmost care to groom our students according to the needs of the industry. We seek to open frontiers of knowledge and reveal new horizons of change to broaden mindset and to create positive attitude in our students. Our students receive industrial exposure by their frequent industrial visits. Besides, our undergraduate students undergo an eight-week training during summer vacation in reputed industries/institutions/organizations (in India as well as abroad) as part of their academic requirements.

We would be most delighted to host you for campus recruitment and beyond.  
I am looking forward to a mutually beneficial relationship,



**Professor Anil Kumar Agrawal**  
Training & Placement Officer, IIT (BHU) Varanasi

## Past Recruiters:





# Placement Team:

**Dr. Anil Kumar Agrawal**

Professor In-charge

Training & Placement cell

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## **Training & Placement Representative:**

**Akash Agarwal**

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