

भारतीय  
प्रौद्योगिकी  
संस्थान  
काशी हिन्दू विश्वविद्यालय



INDIAN  
INSTITUTE OF  
TECHNOLOGY  
BANARAS HINDU UNIVERSITY



## Information Brochure (2019-2020)

M.Tech. Programme  
*in*






# Systems Engineering



# About Us:

The Systems Engineering is a unique interdisciplinary program that offers post graduate education in the broad area of systems design and control engineering. In the systems engineering program, we cultivate the essential skill required to demonstrably explore everything--concrete and abstract in nature and society as a system and to design innovative systems of value based on this knowledge. This program offers courses include topics such as operational research, computer modeling and simulation, control systems design and analysis, system reliability and decision theory. In addition to course work, there are "hands on" laboratory courses as well as computer- based laboratory experience. In these courses, student gain scholastic abilities in optimization, control, and design and system science.

# Faculty

Profile Picture	Description (Name, Designation, etc.)	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)
	Ms. Sobhita Mehar Assistant Professor	Computer Science

# Courses Offered

1. Artificial Intelligence.
2. Systems Reliability.
3. Robust Control.
4. Optimal Control.
5. Nonlinear Control Systems.
6. Digital Control Systems.
7. Analysis and Control of Electric Drives.
8. Operations Research.
9. Modelling and Simulation.
10. Solar and Wind Power Technologies.
11. Power System Analysis.



# Areas of Research

1. System modelling.
2. Analysis and Simulation.
3. Artificial Intelligence.
4. Reliability Engineering.
5. Power system Reliability.
6. Control System Design and Analysis.
7. Large Scale Systems.
8. Energy System management.
9. Lyapunov based design.
10. Hybrid Dynamical Systems.
11. Optimization Techniques.
12. Electric Vehicles.
13. Smart Building.
14. Renewable Energy.



## Infrastructure and Lab Facilities

1. Systems laboratory.
2. Systems Simulation Laboratory equipped with latest tools and software.
3. MATLAB.
4. System Packages.
5. Grid Simulator.
6. LabView by NI instruments.
  - RS Logix.
  - GAMS.
  - Orogin Pro – a smart drawing tool.
  - Latex.

## Ongoing MTech Projects

- Linear Parameter Varying Control of Permanent-Magnet Synchronous Generator-Based Wind Energy Conversion System.
- Adaptive Backstepping control scheme with integral action for Quanser 2 DOF helicopter.
- On-Off Control Based MPPT and Reliability Aspect of Doubly Fed Induction Generator Driven by Wind Turbine.
- Controller Design for Brushless Direct Current Motor.

# 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:

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