INDIAN INSTITUTE OF TECHNOLOGY PATNA

PLACEMENT BROCHURE 2020-21

Communication System Engineering

iitp.ac.in/placement

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Courtesy: IIT Patna Institute Website Gallery

About Us

Indian Institute of Technology Patna is one of the new IITs established by an Act of Parliament in 2008. The city of Patna, the capital of the State of Bihar, has historical significance. It was a knowledge centre in the past which attracted visitors and scholars from many places all around the world. Some of the historical legends from this region include Lord Gautam Buddha, Lord Mahavir, Guru Govind Singh, the famous astronomer Aryabhata and the first President of India, Dr. Rajendra Prasad.

IIT Patna is developing fast and would like to come up as an institute of excellence promoting intelligent, hardworking and technically curious minds. We have already developed state-of-the-art infrastructure including classrooms and laboratories in imparting world class education. We have a wide range of research programmes, and many curricular and extra-curricular events to ignite the minds of students.

In order to raise the quality of our education and research, we have already signed MoUs with leading international universities and some more MoUs are in the process of finalization. We are promoting exchange programmes with the best schools in the world, and also a large number of scientists and technologists have visited IIT Patna campus during the last four years. We envision developing this institute as one of the top institutes of overall education.

Courtesy: IIT Patna Institute Website Gallery

Address from HOD

"It is with great pleasure that I introduce the students of Communication Engineering graduating next year after going through the 2- year MTech course. Communication branch in IIT Patna is one of the most advanced in the country where focus is given to both research and applications.

The students have completed their core courses which has built a solid platform upon which they can proceed with their projects. The projects will mould them further so they can achieve specializations within their chosen sub-field. They will be ready for the industry where they will strive undeterred towards advancement and excellence.

We would cordially welcome the industries in India and abroad to be part of placements this year and hope to create and strengthen the relationships between our institutions and train our students so that they can be the future of India and the world at large and IIT Patna can produce competent engineers and scientists with good human values."

With best wishes!

Dr. Ahmad Ali
Head of the Department
Electrical Engineering

Courtesy: IIT Patna Institute Website Gallery

Academic Courses

- Advanced Digital Communication
- Wireless Communication
- Optical Communication
- Information Theory and Coding
- Communication Network
- Radio Frequency Integrated Circuits
- Random Process and Estimation Theory
- Low Power Circuits and Systems
- VLSI Technology
- Digital Image Processing
- Advanced Bio-Medical Signal Processing
- Foundations of Machine Learning
- Introduction to Deep Learning
- Deep Learning for Video Surveillance System

Core Facilities

Optical Communication Lab

Communication Systems, bringing revolution in the way the world communicates. The technology which uses light to enhance data rate beyond Gbps.

Research Areas

- Optical Fiber Communication Systems
- Free Space Optical Communication
- Under Water Optical Communication
- Digital Signal Processing for Optical Communication
- Active/Passive Silicon Photonic Devices

Software & Facilities

- Complete test bed for 12.5Gbps Optical Fiber Communication
- Characterization setup of Silicon Photonics Devices
- RSoft Photonics CAD Suite
- COMSOL Multiphysics
- Lumerical Device, Mode Solution

Wireless Communication Lab

Wireless Communication is amongst technology's biggest contributions to humankind. It is, by any measure, the fastest growing segment of the communication industry.

Research Areas

- Study of Waveform Contenders for 5G
- MC Modulation Schemes for Satellite COM
- Massive MIMO
- Millimetre Wave Technology
- Designing of Transceiver for Cognitive Radio
- Channel Estimation using Machine Learning Algorithm

Software & Facilities

- Zigbee Training System
- Bluetooth Training System
- GPRS Training System
- Wi-Fi communication ystem
- Software Defined Radio
- Satellite Communication Trainer

RF & Microwave Engineering Lab

This Laboratory is dedicated for experiment and simulation in the field of an integrated electrical circuit operating in a frequency range suitable for wireless transmission.

Research Areas

- Different filters like Planar filter, Tuneable filter
- RF MEMS based filter
- Oscillators, Power Amplifier Design
- Computational Electromagnetics
- Frequency Synthesizers

Software & Facilities

- Keysight Advanced Design System, Coventor Ware, Ansoft Product HFSS 3.0
- Signal Generator, Soldering station, Spectrum Analyzer, DSO, Vector Network Analyzer, Cadence Virtuoso

Sensor Network Research Lab

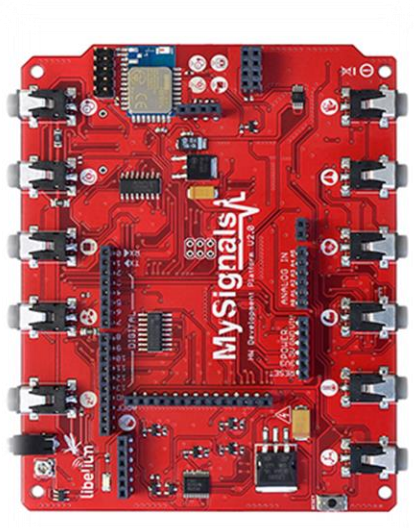
The emphasis is on building the energy efficient systems for location estimation, navigation, clustering, anomaly detection using smart sensors and on automation of healthcare, agriculture, home and city.

Research Areas

- Wireless Sensor Network
- Internet of Things
- Cyber Physical System

Software & Facilities

- Wearable Body Sensing Platform- biosignalplux
- My Signals HW Complete Kit
- Smart City IoT Vertical Kit
- Smart Agriculture IoT Vertical Kit

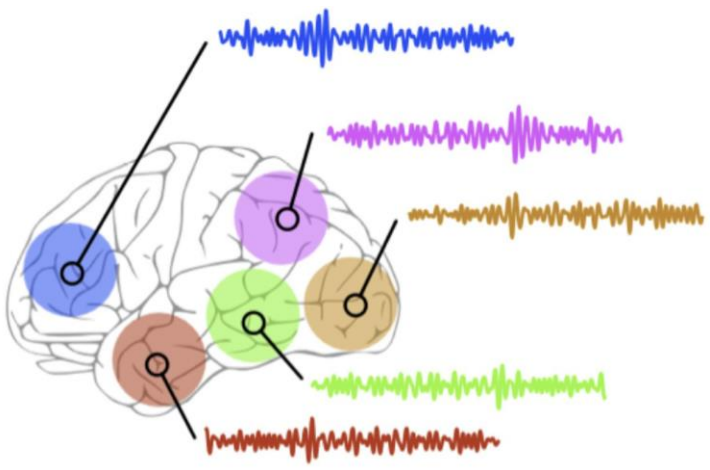


Digital Signal & Image processing Lab

This Research aims to improve the difficult surveillance applications, the detection performance of medical data, surveillance data so that their algorithms will be useful for practical applications.

Research Areas

- EEG & ECG Signal Analysis
- Breast and Blood Cancer Detection
- Medical Image Watermarking
- 3D / 4D Image reconstruction
- Compressive sensing
- Stochastic Resonance for weak signal detection



Optical Networking Lab

It is an enabling technology for today's Internet, and the communication networks that transmit the vast majority of all human and machine-to-machine information and also they are capable of achieving extremely high bandwidth.

Research Areas

- Physical layer impairment-aware WDM backbone networks
- Traffic grooming, energy efficiency in backbone and access networks
- CapEx and OpEx studies
- Elastic Optical Network, Next generation PON
- Hybrid wireless-optical broadband access
- Software Define Networks
- Computer communication and networks

Courtesy: IIT Patna Institute Website Gallery

Achievement's from Our Department

1. *DAAD, a German-Indian Scholarship awarded to students in the past years.*
2. *Students placed at prestigious Institutions such as ISRO, Railways Communication Division.*
3. *Research papers published at prestigious Conferences such as ICC, NCC,GLOBECOM and journals like IEEE and Springer Wireless.*
4. *Students selected for Gandhian Young Technological Innovation (GYTI) Award.*
5. *FIRST INTERNATIONAL SYMPOSIUM ON 5G Jointly Organized By Indian Institute of Technology Patna (IITP) and Centre for TeleInfrastruktur, Aalborg University (CTIF).*
6. *NCV Spring on image processing.*
7. *Senior IEEE member faculties with publications amongst best journals of the World.*

Previous Recruiters

Google

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TEJAS NETWORKS

CEWiT INDIA

SIEMENS

FINISAR

MathWorks

MEDIATEK

intel

Qualcomm

ITC Limited

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