

INDIAN INSTITUTE OF TECHNOLOGY PATNA

DEPARTMENT OF ELECTRICAL ENGINEERING

PLACEMENT BROCHURE

2018-19

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Training & Placement Cell

ABOUT IIT PATNA

विश्व का मुकुटमणि आई आई टी पटना

सदा तत्पर सदा जाग्रत पीछे ना जाने हटना ॥

— पुष्पक भट्टाचार्य

Director, IIT Patna

Completing its ever blossoming 10 year old existence in the country this August, Indian Institute of Technology (IIT) Patna is an institution of national importance nurturing innovation and excellence amongst the student community to develop researchers and leaders and empower the country with their contributions in various disciplines in the future. With the motto of "विद्यार्थी लाभाते विद्याम्", meaning "one who aspires wisdom, attains it", the IITP community strives to explore, investigate, innovate and optimize, so as to fulfil the purpose of betterment of humankind.

Currently, IIT Patna offers academic courses in ten different disciplines of science, technology and humanities, namely Computer Science & Engineering, Electrical Engineering, Mechanical Engineering, Chemical and Biochemical Engineering, Civil & Environmental Engineering, Materials Science & Engineering, Chemistry, Physics, Mathematics and Humanities & Social Science. As of August 2018, a cohort of approximately 2,500 people constitute the IITP fraternity, of which around 1,500 are students. Every year, an average of 300 students pass out of the institute which move to serve and lead in renowned research and corporate organisations.

IIT Patna is strategically placed with a railway station of Bihta which is 2 kms away from the main gates. The JNPI International Airport, Patna from here is about 30 kms by road. In 15th July 2015, IIT Patna has moved to its brand new campus at Bihta, a place about 35 km from Patna. The sprawling 501 acre campus houses four academic complexes for the departments, a classroom complex, tutorial block, students, faculties and staffs residential quarters, hospital and school and an impressive administrative building. The 2015 autumn session in IITP started from the new campus in Bihta.

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MESSAGE FROM THE HEAD OF DEPARTMENT

The Department of Electrical Engineering at IIT Patna offers undergraduate programs that emphasize the fundamentals of electrical engineering and electronics technology to cater the needs of the world. Undergraduate curricula are offered that lead to Bachelor of Technology (B. Tech) degrees in electrical engineering. Department offers many advanced courses and have Master of Technology (MTech) in Communication System Engineering and the Doctor of Philosophy (Ph.D) in Electrical Engineering.

All faculty members are very renowned in their respective field of research and hold doctorates from reputed universities. Department has a Centre of Excellence in Teaching Learning Centre for Internet-of-Things (IoT), Smart Grid, and Smart Building sponsored by Department of Higher Education, Ministry of Human Resource Development (MHRD), Government of India. This centre has brought the department international recognition and provides unique opportunities for electrical engineering graduates and teachers of India to participate in learning the IoT related projects.

“SOLVING CHALLENGES OF RURAL INDIA”



Dr. Ranjan Kumar Behera

HOD, Department of Electrical Engineering

Students of the Department of Electrical Engineering are known throughout India for their enthusiastic participation in professional organisations and events. We regularly revise our curriculum according to the need of today's research and industry applications. The primary focus of our curriculum is to convey technical know-how to students, promote their problem solving skills and innovation of new technologies. We carry out collaborative and interdisciplinary research in various industries and research centres worldwide.

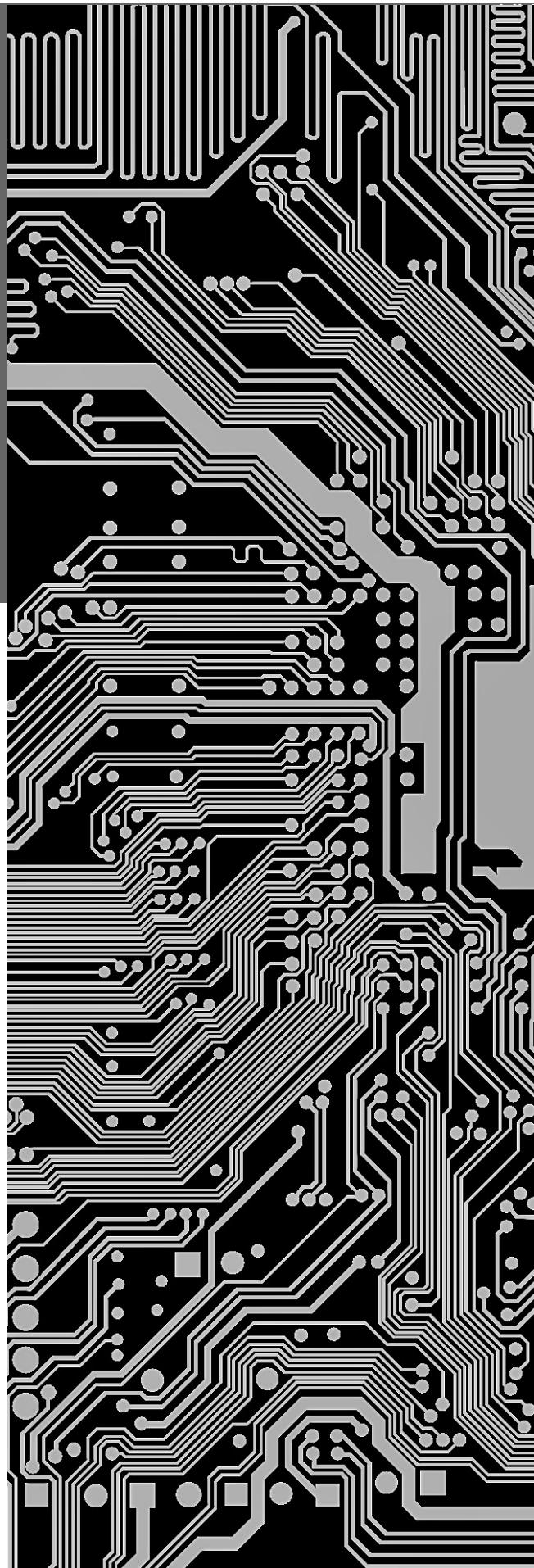
“MODERN RESEARCH AND LAB FACILITY”

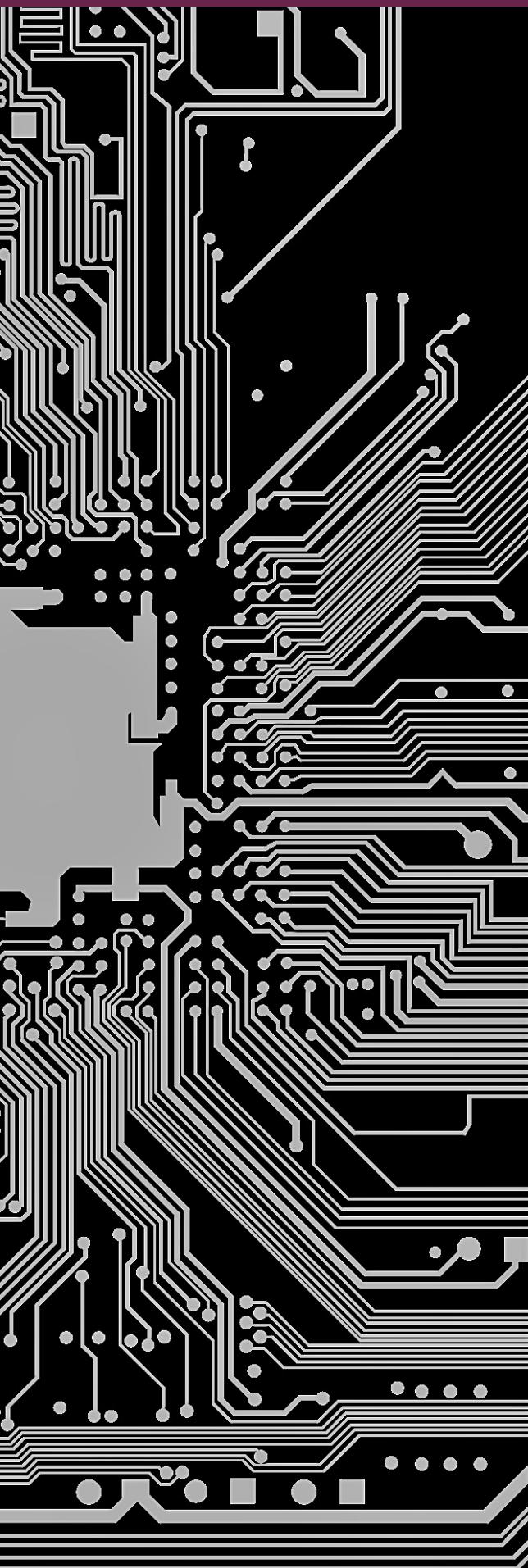
We have modern research and laboratory facility in the department. Our faculties have been conferred with many prestigious awards at national and international levels. We organise international symposia and conferences in the department. Our department looks forward to contribute in solving the technological challenges of the rural India with active participation from all sections of the society. The department takes pride in producing well rounded, professionally competent undergraduates and graduates.

ABOUT THE DEPARTMENT

Since the inception of the institution in 2008, the Department of Electrical engineering has been at the forefront of research and innovation, working on its primary objective of imparting quality education and training whilst leading on the innovation curve. The department offers a comprehensive array of courses that encompass the undergraduate, postgraduate and doctoral levels.

The department's reputed faculty brings their expertise to bear on a wide variety of areas in electronics and communication engineering, with emphasis on Communications, Advanced Digital Signal Processing, Biomedical and Speech Processing, Instrumentation and Control, VLSI, Image Processing and Computer Vision, Power System and Power Electronics.





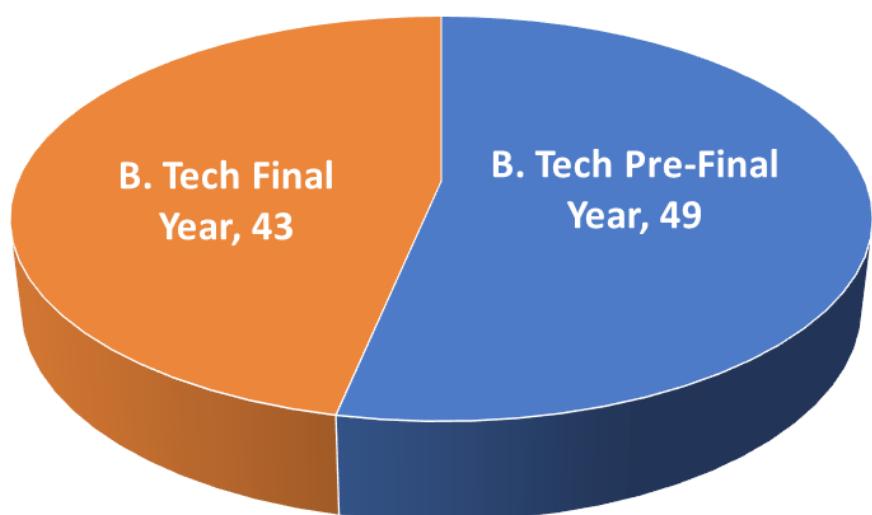
Laboratories for Basic Electronics, Analog Electronics and Digital Electronics, Communications, Digital Signal Processing, Embedded Systems, VLSI, Electrical Machines, Power Electronics and Power Systems are fully operational with advanced technologies, hardware equipments and necessary softwares. The Department has online access to IEEE Explore digital library, IEL, Science Direct, Springer and other online journals. High End Computational Servers and Software's like MATLAB, GAMS, CAD Tools and LabVIEW are available with the Department in order to accelerate the research. Department has a number of ongoing/approved projects worth 55 crore rupees under its umbrella. The Department undertakes a continuous process of setting up experimental and computational facilities for taking up research & development and consultancy activities in various fields as also to produce state-of-the-art research output. In its brief but illustrious history, the EE Department of IIT Patna has already earned global recognition by its cutting edge R&D work. Research is nurtured both through academic programs run by the Department and through sponsored programs funded by national as well as international organizations and the industry.

Academic Programs



BACHELOR OF TECHNOLOGY

Student Strength



Courses Offered

Signal Processing

Signals and systems
Digital signal processing
Advanced digital signal processing
Visual surveillance systems
Adv. Biomedical Signal Processing

Mathematics and Computing

Introduction to computing- C
OOPS and data structures
Probability theory and random process
Number Theory and calculus
Linear algebra and real analysis
Differential equations
Complex analysis and fourier series
Mathematical methods in EE
Optimization techniques
Introduction to numerical methods
Computational topology
Number theory and cryptography

Power and Control

Electrical sciences
Electrical machines
Electrical power systems
Control systems
Advanced control systems
Electrical power system operation and control
Power electronics and drives

Devices

Semiconductor devices and circuits
Analog integrated circuits
Digital circuits and microprocessors
Introduction to VLSI design
Embedded systems
Electronics and instrumentation
Radio frequency integrated circuits
Digital VLSI Design
CMOS Modelling

Communication

Principle of communication
Electromagnetic theory
Communication system
Optical Communication
Wireless Communication

Labs

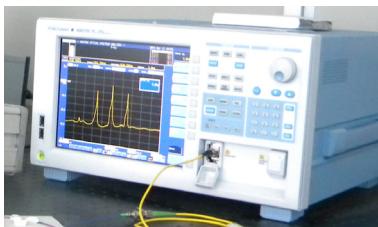
Basic Electronics Laboratory
Digital Circuits Laboratory
Analog Circuits Laboratory
Communication Laboratory
Control and Instrumentation Laboratory

Electrical Machines Laboratory
VLSI Laboratory
Digital Signal Processing Laboratory
Power Electronics Laboratory
Power System Protection Laboratory

STUDENT ACTIVITIES AND PARTICIPATION

DEPARTMENT UNDERTAKES A CONTINUOUS
PROCESS OF SETTING UP EXPERIMENTAL
AND COMPUTATIONAL FACILITIES FOR
TAKING UP RESEARCH & DEVELOPMENT

Projects



Cornering Efficiently

An architecture for low complexity pruning technique that removes the non-corners using simple approximations of the complex Shi-Tomasi and Harris corner units or hardware accelerators measure to create a small corner candidate set.



The Perspective

Estimate the viewing angles of a certain object from an image using deep reinforcement learning.



FFT Processor

Area efficient and low power design and implementation of Pipelined ROM less radix-2 1024-point FFT/IFFT Processor.



RISC-V

Development of a fully synthesizable 32-bit processor based on the opensource PROCESSOR and its FPGA PROTOTYPE RISC-V (RV32I-M) ISA

Why Choose Us

IEEE Student Branch

IEEE Student Branch of IIT Patna was established to develop and promote professional identity in IEEE's designated fields of interests: Sciences, Technology, Engineering and Mathematics (STEM) in IIT Patna. As a part of it, workshops, seminars and other events are conducted regularly to make students aware of technical achievements in the fields of STEM and encourage them to pursue a career in those fields.



Club Activities:

Sparkonics is an association of the students motivated to learn, create and teach the basics of electronics, explore the upcoming technology and implement them through mini projects. The club also conducts events, classes and meetings for the department. With the guidance and help of the professors of the department, the club provides students a platform and resources to gain practical

Technical Fests:

Celesta is the official technical festival of IIT Patna which is organised with the aim of development of practical implementation of technical knowledge through a plethora of competitive events. The students come up with their innovations, ideas and models and then develop them into reality for the competition.

Research and Development

In addition to all the theoretical and practical courses, the undergraduate and graduate students actively contribute to the ongoing research in the department. Every student of B.Tech and M.Tech has to mandatorily complete a research project in their ultimate and penultimate semesters. There is also a compulsory design project(Hardware project) for B.Tech students in their sixth semester. The research activities in the department are broadly carried out under the following six groups: Image Processing and Computer Vision,VLSI,Power Systems and Power Electronics,Communication and Advanced DSP,Biomedical and Speech Processing,Control and Instrumentation.



Internships:

Students pursue a summer internship of 10-12 weeks after their third year in corporate industries and academic institutions all around the globe where they apply the theoretical classroom gained knowledge into the real world. These internships provide the students with an immense amount of exposure making them ready to enter the professional world.

DIRECTING STUDENTS
TOWARD THE PROCESS
OF DESIGNING AND
DEVELOPMENT THROUGH
VISUALISATION, PLANNING
AND MANUFACTURING
A PRODUCT LEADING
TO A INVENTION AND
INNOVATION.

INTERNSHIPS

Industrial



Research



PAST RECRUITERS



Morgan Stanley



Deloitte.



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