IIT PATNA

COMMUNICATION SYSTEM ENGINEERING

Placement Brochure 2016

Professor In-charge

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From DIRECTOR's DESK

Indian Institute of Technology Patna is an Institution of National Importance and a new addition to the hallowed IIT System that has proven its worth in last 50+ years. The alumni of IIT are internationally known for their caliber and contribution. Since its inception in 2008, IIT Patna- like its young as well as established peers- has pursued excellence with steadfast determination. IITP is strategically placed, geographically speaking. At this juncture of history, IIT Patna is poised for great things.

nirf INDIA RANKINGS 2016

Recently, IIT Patna has been ranked as the 10th best engineering college in the recently released ranking by the Human Resource Ministry, Govt. of India.

IIT PATNA:

Indian Institute of Technology Patna is one of the new IITs established by an Act of the Indian Parliament on August 06, 2008. IIT Patna has ten departments: These are Computer Science & Engineering, Electrical Engineering, Mechanical Engineering, Chemical and Biochemical Engineering, Civil & Environmental Engineering, Materials Science & Engineering, Chemistry, Physics, Mathematics and Humanities & Social Science departments.

IIT Patna campus is located at Bihta which is approximately 40 kms from Patna. For driving directions and contact details, please point your browser to the following link: http://www.iitp.ac.in/index.php/contact.html

LABORATORY-

- ❖OPTICAL COMMUNICATION LAB
- ❖WIRELESS COMMUNICATION LAB
- ❖RF AND MICROWAVE LAB
- ❖IMAGE PROCESSING LAB
- ❖DIGITAL IMAGE PROCESSING LAB
- ❖COMPUTER NETWORK LAB

COURSE CURRICULUM-

- ❖ADVANCED DIGITAL COMMUNICATION
- ❖ADVANCED DIGITAL SIGNAL PROCESSING
- ❖WIRELESS COMMUNICATION
- ❖COMMUNICATION NETWORKS
- ❖WIRELESS COMMUNICATION INTEGRATED CIRCUITS
- ❖STATISTICAL SIGNAL PROCESSING FOR COMMUNICATIONS
- ❖OPTICAL COMMUNICATION
- ❖OPTICAL NETWORK
- ❖INFORMATION THEORY AND CODING
- ❖DIGITAL IMAGE AND VEDIO PROCESSING

OPTICAL COMMUNICATION SYSTEM

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

Research Areas

- ❑ Active/Passive Silicon Photonic Devices
- ❑ Optical Fiber Communication Systems
- ❑ Few Mode Optical Fiber Design
- ❑ Space Division Multiplexing
- ❑ Coherent Optical Communication

Software Used

- ❑ Matlab
- ❑ RSoft Photonics CADD Suit
- ❑ TCAD Lumerical, Comsol

We have complete test bed for 12.5 Gbps Optical Fiber Communication

Characterization setup of Silicon Photonics Devices

WIRELESS COMMUNICATION SYSTEM

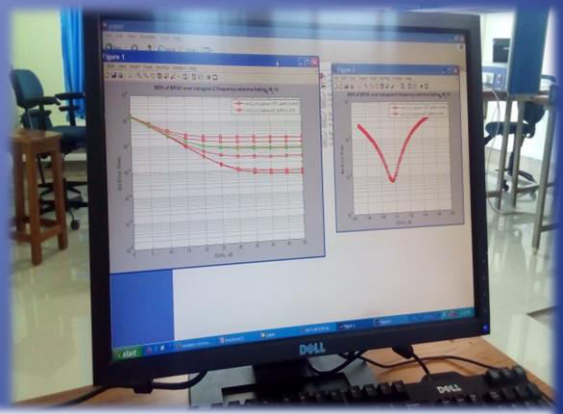
Wireless communication is among technology's biggest contributions to mankind. It is, by any measure, the fastest growing segment of the communications industry.

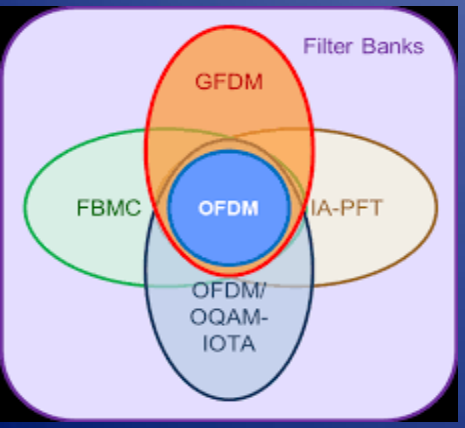
Research Areas

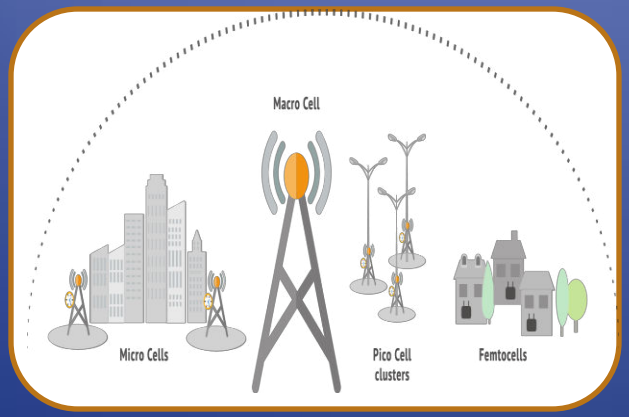
- **Study of waveform contenders for 5G**
- **Interference management in HetNet**
- **Massive MIMO**
- **Millimeter wave technology**

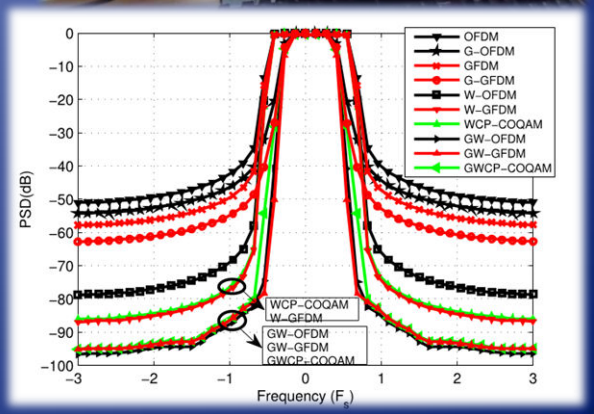
software used for simulation

Matlab



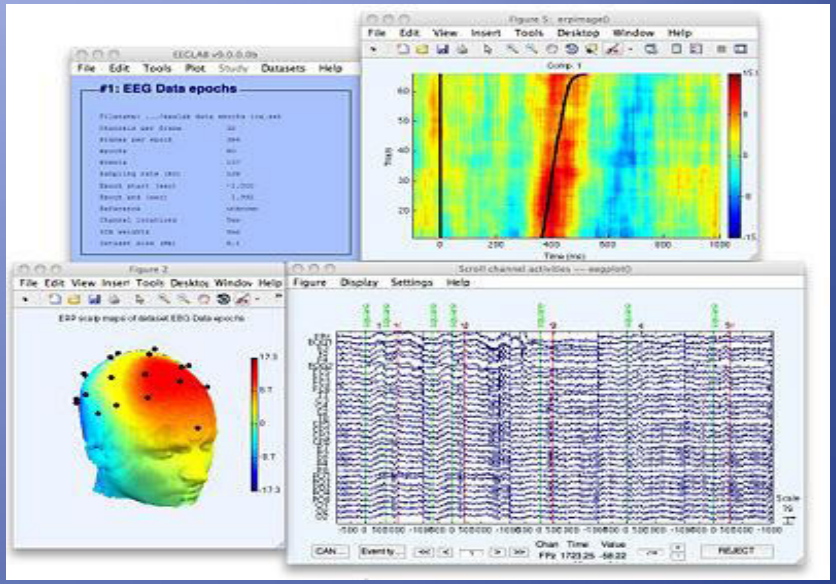






DIGITAL SIGNAL PROCESSING

Digital signal and Image processing is to reduce and analyze the amount of digitised data as much as possible . Reduction of digitised data allows improvement of storage capacity in the memory and reduces the cost of transmission.

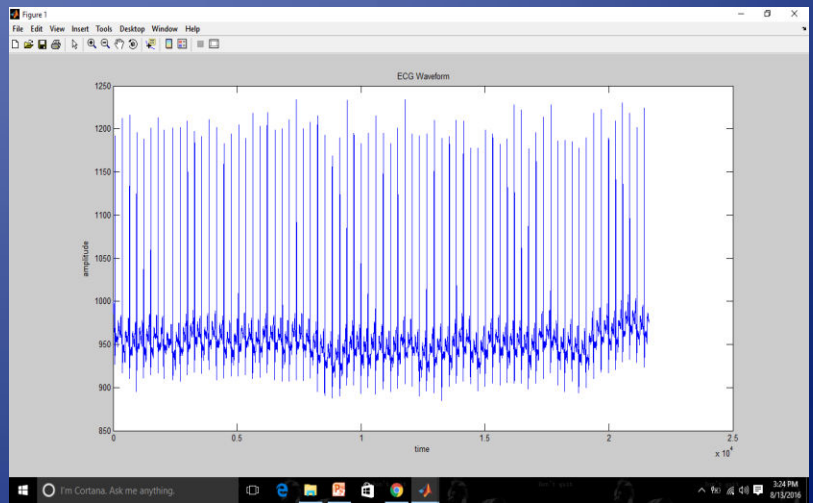


Research Areas

- EEG Signal Analysis
- ECG Signal Analysis

Software used for simulation

- MATLAB
- EEGLAB Toolbox
- EGI Avatar



RF & MICROWAVE LAB

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

Research Areas

- Different filters like Planar filter, Tunable filter
- RF MEMS based filter
- RF integrated circuit for Oscillators, Power Amplifier Design.
- Computational Electromagnetics

M.TECH PROJECTS

Quadrature VCO, VCO with current reuse

SOFTWARE & TOOLKITS used

- Keysight Advanced Design System, CoventorWare, AnsoftProduct HFSS 3.0
- Network Analyzer, Signal Generator, Soldering station, Spectrum Analyzer, DSO, VNA

CONTACT DETAILS

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