

Jaypee Institute of Information Technology, Noida

Empowering Innovation | Nurturing Talent | Building the Future

Brochure-2025

**Department of Electronics & Communication
Engineering**

Vision & Mission of the Department

Vision

To be a centre of excellence in education, training and research in Electronics and Communication Engineering to cultivate technically competent professionals for Industry, Academia and Society.

Contemporary Education

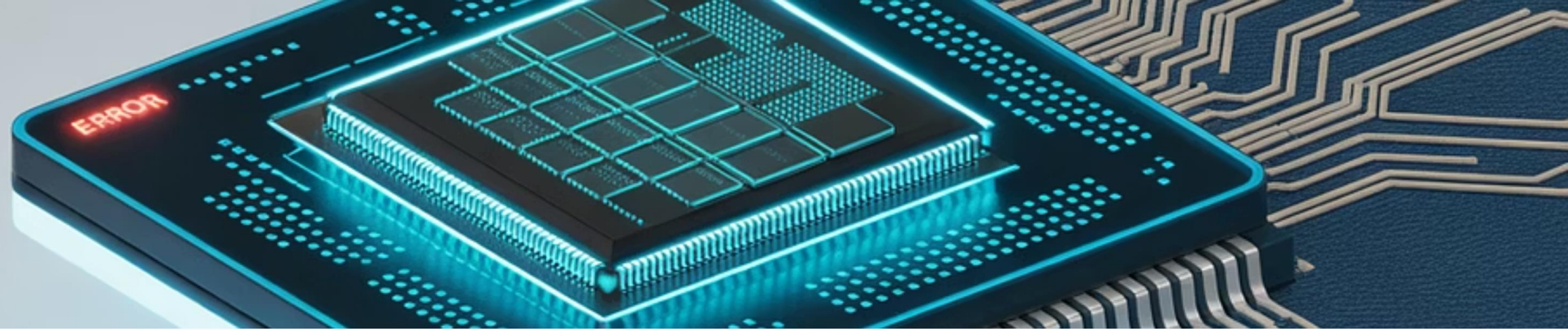
To impart education through contemporary, futuristic and flexible curricula with innovative teaching learning methods and hands on training with well equipped Labs.

Cutting-Edge Research

To carry out cutting edge research in different areas of Electronics and Communication Engineering.

Entrepreneurial Skills

To inculcate technical and entrepreneurial skills in professionals to provide socially relevant and sustainable solutions.



Department Excellence & Infrastructure



Hardware & Software Exposure

Comprehensive exposure in both hardware and software domains to students.



Advanced Laboratories

40 Labs with 15 advanced research laboratories and three research centers with state-of-the-art equipment.



Product Development

Students are trained for complete electronic product development with all inhouse facilities.



Innovation Support

Innovation/startup support to faculty and students.

Courses Offered

1

B.Tech. (4 Years Program)

- Electronics and Communication Engineering (ECE)
- Electronics and Computer Engineering (ECM)
- Electronics Engineering (VLSI Design and Technology)
- Electronics and Communication (Advanced Communication Technology)
- Robotics and AI

2

Integrated M.Tech (5 Years)

Electronics and Communication Engineering

3

M.Tech Programs

- VLSI Design
- Robotics and AI

4

Ph.D. & Diploma

Ph.D. programs and Diploma in Electronics Engineering - Microelectronics

Research Groups



IoT, AI and Embedded Systems

Cutting-edge research in Internet of Things, Artificial Intelligence, and Embedded Systems technologies.



RF and Microwave Engineering

Advanced research in radio frequency and microwave engineering applications.



Semiconductor Devices

Research focused on semiconductor device design and characterization.



VLSI Circuits and Systems

Very Large Scale Integration circuit design and system development.



Signal Processing


Digital signal processing and advanced signal analysis techniques.



Wireless and Optical Communication


Research in wireless communication systems and optical communication technologies.

Research Outcomes



Total Citations

Research impact across all publications



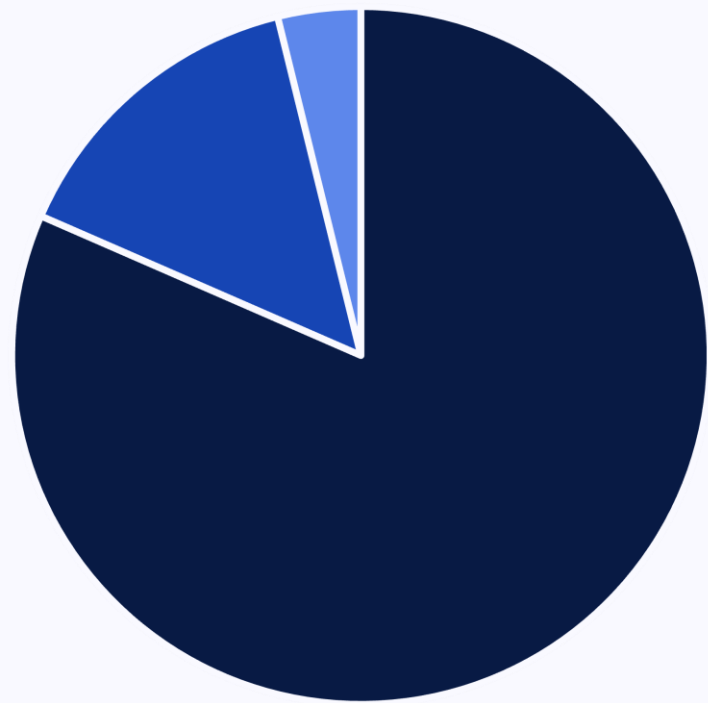
H-Index

Department research quality metric

Publication Details

Publication Type	2022	2023	2024	2025*	Total
International Journals	78	120	83	17	298
International Conferences	24	57	21	11	113
Book Publications	4	0	3	0	7
Chapter Publications	0	16	2	2	20
Total	106	193	109	30	438

Advancing Knowledge: Our Sponsored Research Portfolio



■ Government

■ Institute

■ Consultancy



Government-Funded Initiatives
Our team successfully secured funding for 5 critical projects, totaling an impressive ₹246.41 Lakhs.



Industry Collaboration & Consultancy
We partnered on 3 key consultancy projects, bringing in ₹11.6 Lakhs in funding.



Internal Research & Development
Our commitment to internal innovation is reflected in 9 active Institute Projects, supported by ₹44.17 Lakhs in funding.

Major Sponsored Research Projects

AI ML Cloud System for Coal Mines
₹147 Lakhs - Coal India funded project for real-time monitoring and suppression of dust particles and hazardous gases using UAV technology.

Acoustic UAV Detection and Localization
₹29.79 Lakhs - CRG funded project using vector sensor technology for unmanned aerial vehicle detection.

Glaucoma Diagnosis System
₹10 Lakhs - BIRAC funded fundus image based clinical decision support system.

1

2

3

4

5

Tunable Self-Powered Quantum Dot Photodetectors

₹30.36 Lakhs - Government SRG project for developing low-cost solution processed photodetectors.

UV Activated ZnO Quantum Dots Gas Sensor
₹29.26 Lakhs - EMEQ project for hydrogen gas sensor development.

Granted Patents

1

Cavity Based Multi Resonant Piezoelectric Energy Ha
Patent No: 202111032091
Domain: Semiconductor

2

Rice Planting Robot
Patent No: 202111005099
Domain: Embedded Systems

3

Cavitation Noise Rejection System
Patent No: 202011040618
Domain: Signal Processing

4

Direction of Arrival Estimation
Patent No: 201911048307
Domain: Signal Processing

5

Blockchain Based Secure UAV Communication
Patent No: 202311000574
Domain: Communication Security

6

Fitness Shoe with Step Counting
Patent No: 202111041609
Domain: Wearable Technology

7

Substrate Integrated Waveguide Yagi Array
Patent No: 201911047519
Domain: Antenna Technology

8

Rider Pillion Backrest
Patent No: 413552-001
Domain: Design Patent

Advanced Research Laboratories

R & D Project Lab

Equipped with Keysight SMU for IV analysis, thermal evaporation systems, spin-coater, gas-sensing setup with MFC, and tunable light source (300 nm to 1800 nm).

Embedded System and Robotics Lab

Features Fire Bird V 2560 Robot, Spark V Robot, servo motor based gripper kit sponsored by e-Yantra, IIT Bombay.

Centre for Innovation in VLSI

PCB Prototyping Machine, 3D Printer, Proteus simulation software for comprehensive VLSI design and smart systems development.

VLSI Design and Automation Lab

Mentor Graphics Pyxis IC Design Suite, Synopsys IC Design Suite, Vivado Design Suite, COMSOL Multiphysics Tool, 15 workstations, 05 Zed boards (FPGA), Cadence tools.

5G Use Case Lab

5G Core Infrastructure



5G Core, Radio & Evaluation Board for comprehensive testing and development.

IoT Integration



IoT Gateway, Sensor and Analytic Software for seamless connectivity.

Advanced Applications



5G Mini Drone, 5G AR-VR-MR Devices for cutting-edge applications.

Government Recognition:

- One of 100 labs sponsored by Government of India across the country
- One of 20 labs to be mentored by Qualcomm and Ericsson

VLSI Fabrication and Characterization Lab

01

Cleaning of Substrates

Precision cleaning processes for semiconductor substrate preparation using advanced cleaning techniques.

04

Electrode Deposition

Precise electrode deposition for device contact formation and electrical characterization.



02

Thin Film Deposition

Sputtering and oxidation processes for creating high-quality thin films on semiconductor substrates.



05

I-V Characterization

Comprehensive electrical characterization and testing of fabricated semiconductor devices.



03

Maskless Lithography

Advanced lithography techniques for precise pattern creation without traditional photomasks.



Centers of Excellence & Industry Collaborations



Centre of UAV and Electronic Border Security

- UAV Security issues research
- UAV Detection using audio signals and RADAR
- Internship opportunities for students



Centre for VLSI and Smart Systems

- Complete design simulation testing and fabrication facilities
- PCB prototyping and 3D printer capabilities



Centre for MEMS Design

- Designing on COMSOL software
- Centre established with the help of Government of India

AICTE IDEA LAB

Lab to be setup with the help of AICTE. It will be available for all students for converting their ideas to products.



Student Placements & Achievements



Placement Status: JIIT B.Tech. ECE Branch

Batch	Eligible Students	Total Offers	% Total Offers	Absolute Offers	% Absolute	Highest Package
2025	135	163	121%	132	98%	₹46.38 L (Amazon)
2024	188	184	98%	166	88%	₹60.71 L (LinkedIn)
2023	222	337	152%	220	99%	₹44.14 L (Amazon)



Outstanding Student Achievements

- 3 B.Tech VLSI students won second position in E-Toycathon organized by MeiTy
- Suryansh Saxena worked on Solar Ultraviolet Imaging Telescope (SUIT) payload for ADITYA L1 mission at ISRO
- Shivyansh Garg selected for Google Internship with monthly stipend of ₹1.23 Lakhs
- 21 students of 2025 batch offered 1-year internship by ST Microelectronics



Distinguished Alumni & Future Vision

Civil Services

Veditha Reddy (IAS) - DM North East Delhi, Sushil Kumar (IPS) - SPP Muzaffarpur

Entrepreneurs

40+ successful entrepreneurs across various domains including tech, healthcare, and manufacturing

Industry Leaders

Alumni at Qualcomm, Amazon, Microsoft, LinkedIn, and other top technology companies

Research Excellence

Faculty achievements include world's top 2% scientists recognition and prestigious awards

Innovation Hub

Annual conferences, technical newsletters, and student societies driving technological advancement



THANK YOU