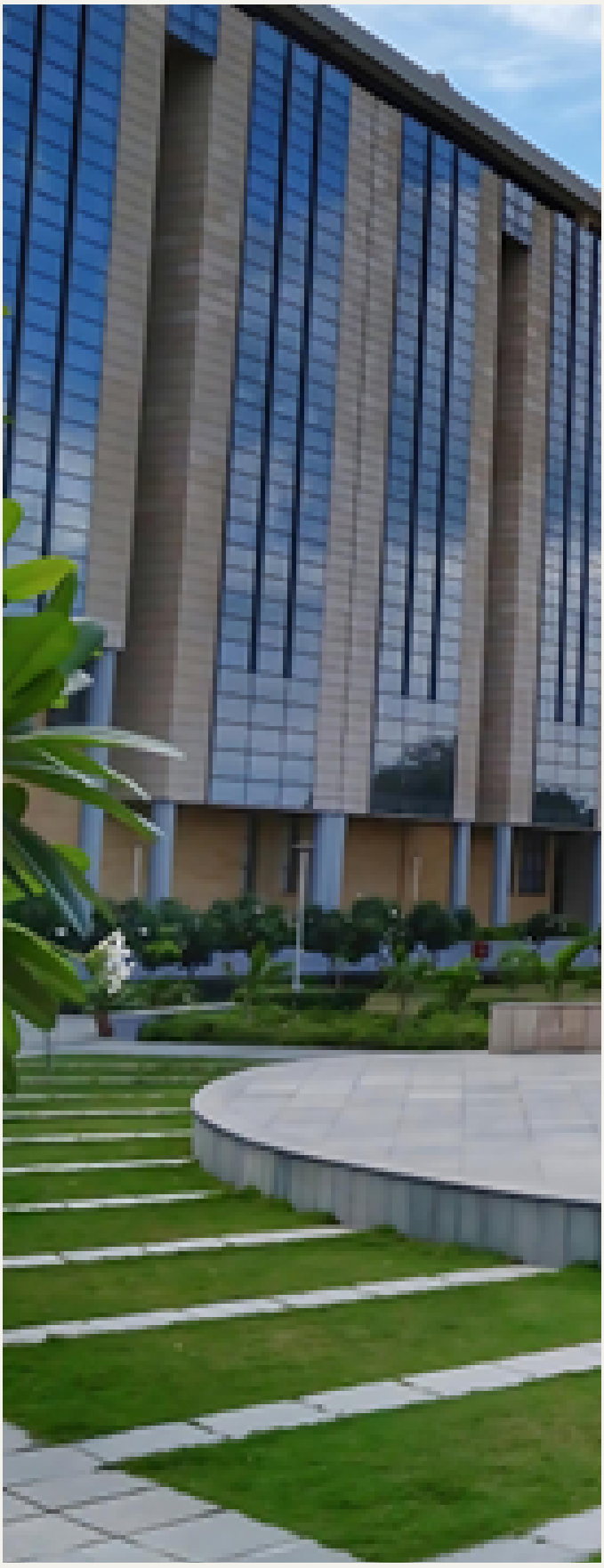
ECE Department Newsletter

ELECTRO BUZZ

EMPOWERING THE WORLD THROUGH ELECTRONICS AND COMMUNICATION

March 2026 Issue #10

THIS ISSUE



AWARDS AND HONORS

The ECE department at IIIT Delhi witnessed exceptional recognition across both faculty and students during 2025–26, reflecting the department's sustained commitment to research excellence and academic leadership. Faculty members earned 40 notable honors spanning competitive awards, editorial appointments, and leadership roles at premier international venues, with highlights including Best Demo and Best Paper recognitions at flagship IEEE conferences, elevation to IEEE Senior Member, and mentorship contributions that enabled students to win the Qualcomm Innovation Fellowship and the Prime Minister's Research Fellowship. On the student front, achievements ranged from a Best Paper Award at IEEE ANTS and the IEEE MTT-S Undergraduate Scholarship to finalist positions at the IEEE Connecting The Unconnected Challenge, seed funding secured through innovation pitching competitions, and top rankings at institute-level research showcases — together painting a compelling picture of a department where research ambition and real-world impact go hand in hand.

AWARDS AND HONORS

FACULTY

Sujay Deb was named a Best Paper Nominee at IEEE VLSID 2025, placing his work among the top submissions at a leading international conference in VLSI and embedded systems.

Shobha Sundar Ram mentored the winner of the TCS Research Scholar Program Fellowship (2024–2028), one of India's most competitive industry-academia programmes, showcasing her exceptional long-term research mentorship.

Vivek Ashok Bohara received the Best Demonstration Award (Runners Up) at IEEE ComsNets 2024, earning high praise from an international panel for an outstanding communications and networking demonstration.

Ranjitha Prasad won the Best Poster Award at ICDCN 2025, a leading international conference on distributed computing and networking, for a poster of exceptional scientific clarity and contribution.

Sneh Saurabh served as Program Track Chair at VDAT, Chandigarh 2025, curating and overseeing a technical track at a prominent national conference on VLSI design and test automation.

Abhijit Mitra received the Best Demo Award (Runners Up) at IEEE COMSNETS, Bangalore 2025, impressing an international jury with innovative real-world applications in communication and networking.

Sumit J Darak won the Best Demo Award at COMSNETs 2025, impressing an international jury with a technically innovative live demonstration showcasing practical advances in communication networks.

Shobha Sundar Ram won the Best Research Demo Award at IEEE COMSNETS 2025, effectively communicating cutting-edge research to an international audience of communication and networking experts.

Vivek Ashok Bohara served as General Chair of IEEE ANTS 2025, leading the full organization of one of the most prominent annual conferences in communication and networking systems.

AWARDS AND HONORS

FACULTY

Sujay Deb received the Best Tutorial Award at IEEE VLSID 2025, celebrating the exceptional depth, clarity, and delivery of his tutorial among all submissions at this premier VLSI conference.

A V Subramanyam was nominated among the top 10 posters at BMVC 2025, an international computer vision conference, recognizing outstanding research quality on a highly competitive global stage.

Debidas Kundu was elevated to IEEE Senior Member in 2025, a prestigious IEEE grade recognizing significant experience, maturity, and sustained professional contributions to engineering and research.

Shobha Sundar Ram mentored the Young Scientist Fellowship winner at URSI AP-RASC, Sydney 2025, an international radio science assembly, reflecting deep commitment to developing globally competitive research talent.

Sujay Deb delivered Tutorials at IEEE VLSID in both 2024 and 2025, a repeated invitation reflecting the international community's high regard for his expertise in VLSI design and embedded systems.

Abhijit Mitra was elevated to IEEE Senior Member in 2025, a globally recognized distinction for sustained and significant contributions to electrical engineering and communications research over many years.

Vivek Ashok Bohara served as Workshop Co-Chair for IEEE Future Networks World Forum 2025, helping curate specialized technical workshop content at this prestigious global communications forum.

Abhijit Mitra served as TPC Chair for IEEE ANTS 2025, overseeing the entire scientific program of one of India's premier IEEE networking conferences, hosted at IIIT Delhi.

AWARDS AND HONORS

STUDENTS

Suhail Khan (PhD23109) received the Best Paper Award at IEEE ANTS 2025, for a deep-learning assisted demonstration of soft-failure localization in C+L Band optical testbed, presented at this premier networking and telecommunications conference.

Ankit Kumar Pal (2021132) was shortlisted for the Prototype Development Phase of the 5G Innovation Hackathon 2025, organized by TCIL and DoT, and awarded a grant of INR 1,00,000 for his innovative 5G prototype.

Talha Bin Aslam (PhD21119) received the IEEE SSCS Student Travel Grant of $2,000 to attend the prestigious ISSCC held in San Francisco, USA, recognizing his outstanding research contributions in solid-state circuits.

Shubham Gupta (2022493) won the 1st Prize at STMicroelectronics' TechWeek Academic Research Papers Track, recognizing his research paper as the best among competitive submissions at this industry-academia forum.

Riya Sachdeva (2022411) became a Qualcomm Innovation Fellowship Finalist in 2025, one of India's most competitive industry-funded PhD fellowships, recognizing her outstanding research potential in the field.

Ankit Kumar Pal (2021132) became a Finalist of the IEEE Connecting The Unconnected Challenge 2025, a prestigious global IEEE competition focused on extending connectivity solutions to underserved communities.

Partha Chowdhury (PhD24103) received the Promising Exhibit recognition at the Tri Services Academia Technology Symposium 2025, an event bridging defence research and academic innovation at a national level.

Shubham Gupta (2022493) was a Top 3 Winner at RIISE '25, recognized for an outstanding research poster among competitive submissions at this prestigious institute-level Research Innovation and Inspiration Showcase.

AWARDS AND HONORS

ALUMNI

International Sports Recognition

Mr. Lakshay Panchal (B.Tech ECE, Class of 2023) was selected to represent India at the Denmark Open 2026, one of the premier international badminton tournaments. His achievement reflects not only exceptional sporting talent but also the spirit of discipline, dedication, and excellence fostered at IIIT-Delhi. It highlights how ECE alumni continue to make their mark beyond academics, bringing pride to the institute on a global stage.

Startup & Industry Impact

Mr. Mukul Chhabra (B.Tech ECE, 2020) is making significant strides in the startup ecosystem as the founder of ScrapUncle, a clean-tech platform focused on transforming waste management in India.

The startup recently raised ₹22 crore in Pre-Series A funding, enabling it to expand operations, strengthen its supply chain, and enhance its technology infrastructure. ScrapUncle aims to formalize the unorganized recycling sector by providing a seamless digital platform for scrap collection, while ensuring environmentally responsible processing. His journey reflects the entrepreneurial mindset nurtured within the ECE community and showcases the impact of alumni in building sustainable, real-world solutions.

PUBLICATIONS

During the academic year 2025-26, IIIT-Delhi faculty demonstrated exceptional research productivity, publishing a total of 175 scholarly works comprising 82 journal articles and 93 conference papers, while also filing 10 patents and receiving 5 patent grants. Journal publications appeared in highly reputed venues, including IEEE Transactions series, Journal of Lightwave Technology, Scientific Reports, Digital Signal Processing, and Computers in Biology and Medicine, among others. Conference contributions were presented at premier international forums such as ICASSP, ICME, ACL, USENIX ATC, MobiHoc, AISTATS, and several IEEE flagship conferences. Research themes spanned visible light and optical communications, integrated sensing and communication, federated learning, radar signal processing, VLSI and chip design, UAV control systems, machine learning for healthcare, and space traffic management. The patent filings and grants further underscore the translational and applied dimension of the faculty's research, covering innovations in reconfigurable intelligent surfaces, Li-Fi networks, memory circuits, silicon validation, and optical communication systems — with several patents receiving international recognition through US and GB filings.

PUBLICATIONS

JOURNALS

Rahul; A. Mitra; A. Srivastava; V. Bohara; D. Solanki published a paper titled "Solar module as a high-speed data receiver with ambient light suppression in an outdoor scenario" in Optics Letters, 2025.

Rahul; A. Srivastava; V. A. Bohara; D. Solanki; A. Mitra* published a paper titled "Demonstration of Broadband Data Link Over Off-the-Shelf Solar Module With White LED" in Journal of Lightwave Technology, 2025.

Saswati Paramita; Arani Bhattacharya; Rizwana Ahmad; Vivek Ashok Bohara; Anand Srivastava published a paper titled "Flow-based Rate Maximization for Link Aggregation Enabled Hybrid LiFi-WiFi Network" in IEEE Transactions on Vehicular Technology, 2025.

J. Du; A. Morales; P. Kosta; G. M. Navarrete; D. J. Warren; E. Fernandez; J. M. C. Bouteiller; D. C. McCreery; G. Lazzi published a paper titled "Toward Safety Protocols for Peripheral Nerve Stimulation (PNS): A Computational and Experimental Approach" in Bioelectromagnetics, 2025.

Shuvodeep Saha; Chelsea Dobbins; Anubha Gupta; Arindam Dey published a paper titled "Differentiating presence in virtual reality using physiological signals" in Pervasive and Mobile Computing, 2025.

Mohit D. Gupta; Dixit Goyal; Anubha Gupta; Jamal Yusuf published a paper titled "Comparative evaluation of machine learning models versus TIMI score in ST-segment-elevation myocardial infarction patients" in Indian Heart Journal, 2025.

Anubha Gupta; Srijan Arora; M.K. Shetty; et al. published a paper titled "Understanding 30-Day Mortality After First STEMI Through DAGs: Unravelling Epidemiological Cause-Effect Links" in Cureus, 2025.

Vivek Ruhela; Ritu Gupta; Rupin Oberoi; Anubha Gupta published a paper titled "A Comprehensive Targeted Panel of 295 Genes: Unveiling Key Disease Initiating and Transformative Biomarkers in Multiple Myeloma" in Computers in Biology and Medicine, 2025.

PUBLICATIONS

JOURNALS

Neha Jain; Nir Shlezinger; Bhawna Tiwari; Harsh Verma; Yonina C. Eldar; Pydi G. Bahubalindruni; Vivek Ashok Bohara; Anubha Gupta published a paper titled "eSampling: Energy Harvesting ADCs" in Franklin Open, 2025.

Ashutosh Vaish; Anubha Gupta; Ajit Rajwade published a paper titled "ARTEC: Accelerated Reconstruction of High Angular Resolution Diffusion Imaging with Trajectory Error Correction" in International Journal of Machine Learning, 2025.

Amisha Patel; Anubha Gupta; Prasan Kumar Sahoo; Sejal Shah published a paper titled "Harnessing machine learning technique to authenticate differentially expressed genes in oral squamous cell carcinoma" in Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology, 2025.

Narendra Kumar Mishra; Pushpendra Singh; Anubha Gupta; Shiv Dutt Joshi published a paper titled "PP-CNN: probabilistic pooling CNN for enhanced image classification" in Neural Computing & Applications, 2025.

Anubha Gupta; Pushpendra Singh; Priya Aggarwal; Shiv Dutt Joshi published a paper titled "Unified framework for linear scale invariant signals, systems, and transforms: A tutorial" in Digital Signal Processing, 2025.

S. S. Ram; G. Ghatak published a paper titled "Emerging Trends in Radar: Automotive Radar Networks" in IEEE Aerospace and Electronics Systems Magazine, 2025.

A. Kumar; Y. Kumar; P. V. Chanekar; S. B. Roy published a paper titled "Static Output Feedback LQR Design: A Constrained State-Feedback Approach" in ASME Letters in Dynamic Systems and Control, 2025.

K. Macdonell; D. Kundu; C. Andersen; L. Rufail; S. Gupta published a paper titled "A mechatronic shape-shifting reflector system with true independent reflection magnitude and phase control for dynamic beamforming" in IEEE Access, 2025.

PUBLICATIONS

JOURNALS

B. Ansari; D. Kundu; S. K. Biswas published a paper titled "A multi-frequency GPS and NavIC reflectometry receiver using commercially off-the-shelf SDR" in GPS Solutions, 2025.

R. R. Sheikh; R. K. Ghosh* published a paper titled "L 10-FeAu Perpendicular Magnetic Tunnel Junction: A DFT + NEGF Study" in IEEE Transactions on Magnetics, 2025 (under production).

E. Kerr; D. Oltrogge; S. K. Biswas; J. M. Lozano; R. Lucken; M. Mulholland; A. Pastor; R. Rovetto; J. Siminski; L. J. Smith; C. Unfried published a paper titled "Space traffic management: A shared space object catalog" in Acta Astronautica, 2025.

A. K. Anilkumar; B. Mukherjee; N. Berend; S. K. Biswas; L. Buinhas; N. Dailey; B. Foing; N. F. Rodriguez; G. Hedrick; F. Kebe; Y. Li; A. Ott; A. Pastor; Z. Rana; J. Rodriguez; M. E. Sorge; C. Unfried; I. Urdampilleta published a paper titled "Moon to Mars: Challenges and strategic frameworks for space traffic management in cislunar and cismartian environments" in Acta Astronautica, 2025.

D. Oltrogge; E. Kerr; S. K. Biswas; J. M. Lozano; R. Lucken; M. Mulholland; A. Pastor; R. Rovetto; J. Siminski; L. J. Smith; C. Unfried published a paper titled "Space traffic management: Data fusion" in Acta Astronautica, 2025.

P. Beniwal; S. Saurabh; N. V. Chowdary; S. Skariah; A. Mandal; R. Venkatraman published a paper titled "LiMo: A Framework Leveraging Machine Learning for Multi-Input Switching Timing Models of Complex Logic Gates" in IEEE Transactions on Circuits and Systems I: Regular Papers, 2025 (Early Access).

A. Haroon; S. Saurabh published a paper titled "Fault-Tolerant Design Framework for Probabilistic-Bit (P-Bit) Systems: Proposal and Analysis" in IEEE Transactions on Circuits and Systems I: Regular Papers, 2025 (Early Access).

PUBLICATIONS

JOURNALS

D. Grover; T. Sharma; S. Agarwal; S. S. Rout; Anushka; M. Kumar published a paper titled "NoCiPUF: NoC-Based Intrinsic PUF for MPSoC Authentication" in IEEE Transactions on Circuits and Systems I: Regular Papers, 2025 (Early Access).

Neelam; S. J. Darak published a paper titled "Enhancing Wireless PHY with Adaptive OFDM and Multi-Armed Bandit Learning on Zynq SoC" in IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2025.

A. Kumar; Y. Kumar; P. V. Chanekar; S. B. Roy published a paper titled "Static Output Feedback LQR Design: A Constrained State-Feedback Approach" in ASME Letters in Dynamic Systems and Control, 2025.

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D. Oltrogge; E. Kerr; S. K. Biswas; J. M. Lozano; R. Lucken; M. Mulholland; A. Pastor; R. Rovetto; J. Siminski; L. J. Smith; C. Unfried published a paper titled "Space traffic management: Data fusion" in Acta Astronautica, 2025.

PUBLICATIONS

CONFERENCES

A. V. Subramanyam published a paper titled "Beckman Adversarial Defense" in IEEE International Conference on Multimedia and Expo (ICME), 2025.

Madhava Krishna, A. V. Subramanyam published a paper titled "Keypoint Aware Masked Image Modelling" in IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2025.

A. V. Subramanyam, Niyati Singal, Vinay K. Verma published a paper titled "Efficient Localized Perception for Resource-Constrained Vision Systems" in IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2025.

V. Divya Sharma, Vijval Ekbote, Anubha Gupta published a paper titled "IndicSynth: A Large-Scale Multilingual Synthetic Speech Dataset for Low-Resource Indian Languages" in Annual Meeting of the Association for Computational Linguistics (ACL), 2025.

Shubham Chaudhary, Navneet Mishra, Keshav Gambhir, Tanmay Rajore, Arani Bhattacharya, Mukulika Maity published a paper titled "Compact: Content-aware Multipath Live Video Streaming for Online Classes using Video Tiles" in ACM Conference on Multimedia Systems (MMSys), 2025.

S. Chatterjee, M. Mukherjee, A. Sethi published a paper titled "Generalization Bounds for Dependent Data using Online-to-Batch Conversion" in International Conference on Artificial Intelligence and Statistics (AISTATS), 2025.

R. R. Sheikh, R. K. Ghosh published a paper titled "Tunnel Magnetoresistance in Strained L10-FeAu Perpendicular Magnetic Tunnel Junction" in International Conference on VLSI Design (VLSID), 2025.

D. D. Vu, S. K. Biswas, A. Kan, E. Cetin published a paper titled "A systematic methodology for time-multiplexing algorithms on a reconfigurable system-on-chip" in IEEE International Symposium on Circuits and Systems (ISCAS), 2025.

PUBLICATIONS

CONFERENCES

P. Chowdhury, S. K. Biswas published a paper titled "Modeling the position and velocity distribution of space objects by maximizing entropy with energy constraint" in European Conference on Space Debris, 2025.

G. Singh, S. K. Biswas published a paper titled "Spacecraft Maneuver Estimation using Determined States" in AAS/AIAA Space Flight Mechanics Meeting, 2025.

P. Chowdhury, H. M., C. P. George, A. Balaji, S. K. Biswas published a paper titled "Time Invariant Sensor Tasking for Catalog Maintainance of LEO Space Objects using Stochastic Geometry" in AAS/AIAA Space Flight Mechanics Meeting, 2025.

D. Shikha, S. Bhattacharya published a paper titled "Numerical simulation of flexible silicon heterojunction solar cell with 27.2% efficiency" in 15th International Conference on Crystalline Silicon Photovoltaics (SiliconPV), 2025.

Akshat Gupta, Anubha Gupta, Manu Shetty, Dixit Goyal, M.P. Girish, Mohit Gupta published a paper titled "CardioRiskNet: Attention-based CVAE-enabled GCN for Risk Prediction in STEMI" in IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2025.

S. Paramita, R. Mondal, A. Bhattacharya, V. A. Bohara, A. Srivastava published a paper titled "MARM-HyLiWi: Mobility-Aware Rate Maximization in Link Aggregation Enabled Hybrid Li-Fi/Wi-Fi Networks" in 2025 17th International Conference on Communication Systems & Networks (COMSNETS), 2025.

Tarun Sharma, Deepank Grover, Sujay Deb published a paper titled "A Secure and Sustainable RISC-V Processor with Intrinsic PUF for Edge AI" in 2025 IEEE Computer Society Annual Symposium on VLSI (ISVLSI), 2025.

PUBLICATIONS

CONFERENCES

M. T. Shah, G. Ghatak, S. S. Ram published a paper titled "Optimization of Beamwidth in Automotive Radars Based on Statistics of Street Geometry" in IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2025.

A. Sneh, S. S. Ram, K. V. Mishra published a paper titled "IEEE 802.11ad-Aided 5-D Sensing With a UAV Swarm in Urban Environment" in IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2025.

J. Tekchandani, J. Mangal, S. J. Darak, S. S. Ram published a paper titled "An RFSoC-Based Testbed for Over-the-Air Wireless Transceiver at Millimeter Wave Frequency" in 17th International Conference on COMmunication Systems and NETworks (COMSNETS), 2025.

Sneha Agarwal, Keshav Goel, Mitali Sinha, Sujay Deb published a paper titled "Towards Improving Memory Access in Large-Scale NoC-Based Systems" in 2025 IEEE International Symposium on Circuits and Systems (ISCAS), 2025.

U. K. Pedada, T. Sharma, D. Grover, S. Deb published a paper titled "An Efficient RISC-V Vector Coprocessor for Heart Rate Variability Detection on Edge" in 38th International Conference on VLSI Design and 23rd International Conference on Embedded Systems (VLSID), 2025.

Sharma, R. Kumar and S. J. Darak published a paper titled "Efficient Hardware Implementation of Multi-Armed Bandit Algorithms for RIS-Aided Wireless Networks" in 2025 IEEE International Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation (IATMSI), 2025.

Rahul, V. A. Bohara, A. Mitra, A. Srivastava, and D. Solanki published a paper titled "Sunlight to Signals: Solar Panel as Active Data Receiver" in 2025 17th International Conference on Communication Systems & Networks (COMSNETS), 2025.

PUBLICATIONS

PATENTS GRANTED

Anuj Grover, Rachit Sharma, and Shouribrata were granted a patent on an *electric circuit for a static random-access memory (SRAM)* (Application No.: 202511011379, filed on 11.02.2025; granted on 29.09.2025).

PATENTS FILED

Debidas Kundu, Khagendra Joshi, Deepak Kumar Sahod, and Vivek Ashok Bohara filed a patent on the *design of a PIN-diode-based reconfigurable intelligent surface and its microcontroller-based control circuit for adaptive beamforming* (Application No.: 202511050948, filed on 27.05.2025).

Najiya Naj and Arani Bhattacharya filed a patent on a *system and method for determining web page load time analysis* (Application No.: 202511052089, filed on 29.05.2025).

EVENTS

An ECE Seminar by Prof. Shui Yu was held on February 10, 2025 on *Mathematical Artificial Intelligence and Applications*.

An ECE Seminar by Prof. Pei Xiao was held on February 10, 2025 on *New Waveform Design for Integrated Sensing and Communications*.

An ECE Seminar by Dr. Naveen Mysore Balasubramanya was held on March 6, 2025 on *Design and Analysis of Uplink Grant-Free Access for 5G and*

A student visit to the Semiconductor Laboratory (SCL) was conducted on March 10, 2025.

A talk by Prof. Eiji Oki from Kyoto University was held on March 12, 2025 on *Machine Learning-Enhanced Optical Data Center Networking and VLC Technologies*.

An ECE Seminar by Prof. Uday Khankhoje from IIT Madras was held on March 12, 2025 on *Learning Enabled Rapid Antenna Design*.

A talk by Dr. Sourabh Upadhyay from Novanta was held on March 28, 2025 on *Enhanced NEDT in Hydrogen Ion-Implanted 320×256 InAs/GaAs Quantum Dot Focal Plane Array*.

A talk by Mr. Anshuman Tripathi from the National Security Advisory Board was held on April 2, 2025 on *Semiconductor Weaponisation and the Geopolitics of Semiconductors*.

A student visit to ST Microelectronics was conducted on May 7, 2025.

A student visit to ST Microelectronics was conducted on June 24, 2025.

EVENTS

A talk by Mr. Dilip Singh, Mr. Venkata Subramaniam, Mr. Atul Gupta, and Mr. Animesh Aryan was held on August 18, 2025 on *Inspiring Quantum Careers: Connecting Students with Industry, Research and Innovation*.

A talk by Prof. Pavan Tallapragada, Associate Professor at the Robert Bosch Centre for Cyber Physical Systems, Indian Institute of Science, was held on September 23, 2025.

A seminar by Mr. Aggraj Gupta (Member, IEEE) was held on November 24, 2025.

A Special Neuroscience Seminar by Mr. Ekansh Sareen, Ph.D. Candidate at EPFL, Switzerland, was held on December 12, 2025 on *Unveiling Corticospinal Synergy: Innovations in Sensation and Neuromodulation*

STUDENT INTERVIEWS

RIZWAN KHAN [PhD of 2025]

What factors inspired you to pursue a PhD ?

“After completing my M.Sc. in Electronics from Jamia Millia Islamia, I developed a strong interest in understanding the fundamental physics behind experimental results rather than just obtaining outcomes. This curiosity motivated me to pursue research. Later, my experience as a Research Engineer at IIT Jodhpur exposed me to a stimulating research environment, where working with experienced researchers and learning advanced techniques further strengthened my inclination toward a PhD. During this time, I also developed key skills such as problem-solving, independent thinking, and perseverance.

My subsequent role as a Junior Research Fellow at IIT Delhi further solidified my decision. I realized that pursuing a PhD would enable me to contribute meaningfully to advanced research problems and develop expertise in the semiconductor field. Overall, my curiosity, research exposure, and hands-on experience motivated me to pursue a PhD.”

What factors influenced your decision to specialize in this particular area of research?

“My interest in this area developed through hands-on experience during my time at IIT Jodhpur, where I worked on VLSI device design and was introduced to TCAD simulations. I found these tools powerful for analyzing and predicting semiconductor device behavior before fabrication, which strongly motivated me. I also became interested in device physics and the role of materials in determining device performance. Currently, my work on SPAD design using TCAD, along with exposure to emerging areas like quantum technologies, has further strengthened my interest. This field aligns well with my goal of contributing to semiconductor and quantum research through simulation, device design, and material innovation.

STUDENT INTERVIEWS

ROUF REHMAN SHEIKH [PhD of 2022]

What factors inspired you to pursue a PhD?
“After completing my B.Tech, I worked as a Lab Engineer/Technical Assistant in an engineering college, where I was actively involved in lab sessions and guided students in their practicals and projects. Being in an academic environment naturally deepened my interest in learning and understanding concepts more thoroughly.
I also had the opportunity to interact closely with faculty members and observe their research work, which greatly inspired me. These experiences made me realize that I wanted to continue my academic journey, explore subjects in greater depth, and contribute to knowledge creation ultimately motivating me to pursue a PhD.”

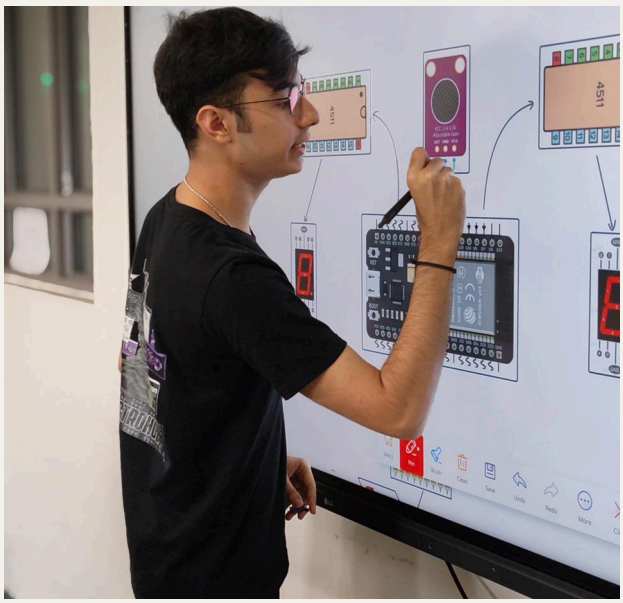
What would be your advice for newly joined researchers?
“Be patient with yourself—research is a gradual process involving learning, failure, and refinement. Focus on building strong fundamentals, ask questions, and seek feedback regularly. Stay curious and treat failures as part of growth. Equally important is maintaining your physical and mental well-being to stay consistent and productive.”

What factors influenced your decision to specialize in this research area?
“My interest in this field began during my B.Tech, where I built a strong foundation in solid-state physics and semiconductor devices. It deepened during my M.Tech as I explored emerging technologies and advanced materials. This led me to spintronics, which leverages electron spin for novel device functionalities. My PhD focuses on spintronic materials and devices for non-volatile memory, motivated by their potential for faster, energy-efficient, and scalable systems at the intersection of physics, materials science, and device engineering.”

ELECTROHOLICS

Electroholics
Electronics Club | IIITD

Featured Workshop: Hardware Meets Creativity



Step into the world of hardware hacking with a workshop that blended music, lights, and security. Participants built an Arduino-based LED VU Meter that transformed sound into dynamic light patterns, along with an RFID Access Control System that enabled secure activation of the setup. This unique hands-on experience introduced students to signal processing fundamentals, microcontroller programming, and real-world access control systems. Organised by ECE Labs, IIITD in collaboration with the Electroholics Club, the workshop highlighted how clubs have become hubs of experimentation, effectively bridging the gap between theory and real-world applications.

IEEE-STUDENT BRANCH

IEEE Day 2025 – Where Innovation Met Competition

The spirit of innovation, competition, and collaboration came alive as the IEEE Student Branch at IIIT-Delhi celebrated IEEE Day 2025 on 7th and 8th October. Designed as a dynamic two-day experience, the event brought together students from across disciplines to build, compete, decode, and innovate in an electrifying environment.

Slash – The 24-Hour Cryptic Hunt

A thrilling challenge where each clue unlocked a new puzzle, pushing participants to think critically and solve complex problems. With a prize pool exceeding ₹10,000, the event truly tested both endurance and intellect.

AutoRush – Autonomous Bot Challenge

A hardware enthusiast's playground, AutoRush challenged participants to design and build autonomous bots using platforms like ESP32 and Arduino. With no manual intervention allowed, innovation and precision took center stage.

Build Your Own Lab (BYOL)

One of the most engaging workshops, BYOL enabled students to build a functional oscilloscope using ESP32, making advanced electronics accessible and hands-on—even for beginners.

Typothon – Speed Meets Precision

A high-energy competition focused on typing speed and accuracy, where participants battled through multiple rounds to claim victory and a prize pool of ₹7,000.

IEEE IIIT DELHI

IEEE ANTS 2025 – Conference Highlights

IEEE ANTS 2025, hosted at IIIT-Delhi, brought together global researchers, industry leaders, and practitioners for an engaging exchange of ideas, innovation, and collaboration in the field of advanced communication systems.

The conference commenced with an Inaugural Ceremony graced by distinguished dignitaries including Dr. Yoshinari Awaji (Director General, NICT Japan), Prof. Ranjan Bose (Director, IIIT-Delhi), Prof. Byrav Ramamurthy (Steering Committee Chair), Prof. Vivek Ashok Bohara (General Chair), along with TPC Chairs Dr. Abhijit Mitra and Dr. Bijoy Chand Chatterjee, setting a strong tone for the event.

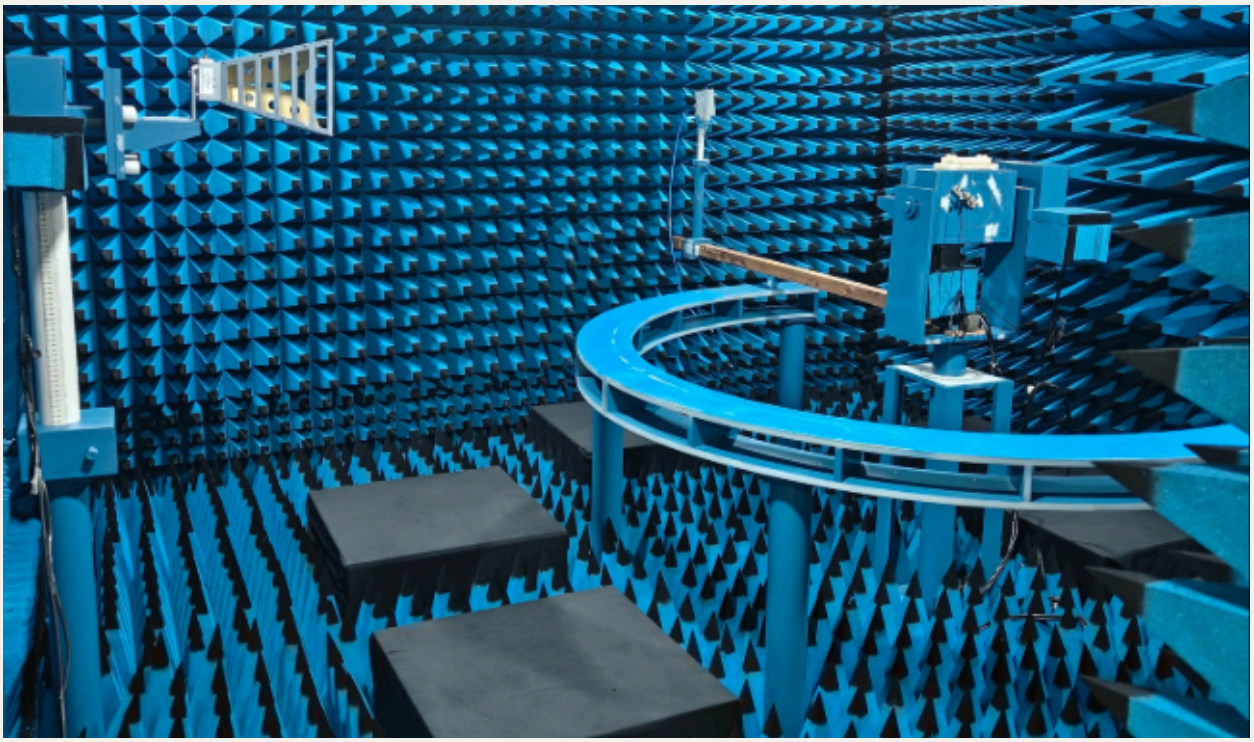
A series of insightful keynote addresses provided forward-looking perspectives on emerging technologies. Talks covered themes such as:
The evolution towards AI-native communication networks and autonomous orchestration

- Advancements in 6G technologies and inclusive digital infrastructure
- Innovations in reconfigurable intelligent surfaces and wireless systems
- The growing importance of secure and resilient communication architectures, including quantum key distribution and post-quantum security.

The conference also featured a high-impact panel discussion on “Status of 5G Deployment in India and the World, and India’s Role in the Road to 6G”, bringing together experts from academia, industry, and policy to discuss global progress, challenges, and India’s strategic positioning in next-generation networks.

NEW FACILITIES

Anechoic Chamber



A state-of-the-art Anechoic Chamber for RF and antenna testing provides a controlled, reflection-free environment for accurate measurement of radiation patterns, gain, directivity, and signal strength. Lined with RF-absorbing materials, it simulates free-space conditions and enables reliable evaluation of electromagnetic performance, including EMI/EMC compliance. The facility is equipped with advanced instruments such as vector network analyzers, spectrum analyzers, and automated positioning systems for comprehensive testing across frequencies.

The laboratory also features advanced research setups for 5G, IoT, and embedded systems, supporting hands-on experimentation and development of next-generation technologies. It includes software-defined radios, FPGA and microcontroller platforms, and integrated sensor networks for real-time communication and data processing. The infrastructure enables rapid prototyping, system integration, and testing of smart devices for applications such as smart cities, industrial IoT, and beyond-5G systems.

EVENTS

Electronics Design Carnival 2025

The ECE Department successfully organized the second edition of Electronics Design Carnival 2025, a flagship hands-on program focused on complete electronic system development.

Key Highlights:

- End-to-end system design from concept to realization
- Advanced circuit design and layout optimization
- Deep dive into IoT & IIoT with real-time device integration
- PCB design, fabrication, and prototyping
- Precision test & measurement using industry-grade tools
- Rapid prototyping with 3D printing for smart packaging
- Exposure to cutting-edge tools and future tech trends

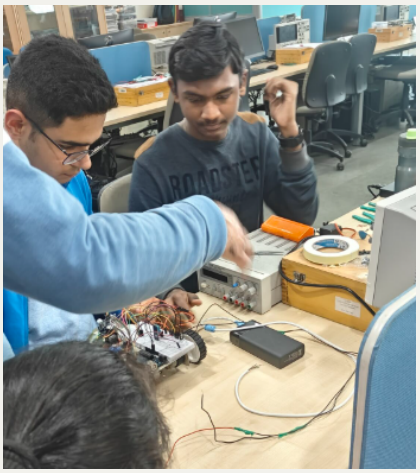
This initiative provided students with an immersive, industry-aligned learning experience, strengthening both their theoretical and practical expertise.

EVENTS

Winter School Program

The ECE Department conducted a Winter School Program from December 31, 2024, to January 3, 2025, with a strong focus on experiential and hands-on learning. The program provided participants with early exposure to core domains such as electronics, embedded systems, and control technologies.

Designed to bridge the gap between theory and practical implementation, the program focused on experiential learning, enabling participants to engage directly with real-world engineering problems. Through a combination of guided sessions, interactive discussions, and project-based learning, students were introduced to key domains such as electronics, embedded systems, and control technologies.



A major highlight of the program was the emphasis on hands-on project development. Participants worked in teams to design and build functional prototypes, including IoT-based home automation systems and autonomous vehicle models. These projects allowed students to apply fundamental concepts to practical scenarios, enhancing their problem-solving skills and technical confidence.

Overall, the Winter School Program served as a strong foundation for budding engineers, fostering technical curiosity, creativity, and a hands-on approach to learning, while preparing students for advanced coursework and research in emerging technological domains.

PLACEMENT STATISTICS

2020 - 2025

Year	Placement Percentage	Year	Placement Percentage
B.TECH 2025	96.43%	M.TECH 2025	81.82%
B.TECH 2024	63.08%	M.TECH 2024	88.89%
B.TECH 2023	94.29%	M.TECH 2023	97.06%
B.TECH 2022	98.41%	M.TECH 2022	90.57%
B.TECH 2021	92.31%	M.TECH 2021	86.36%
B.TECH 2020	92.5%	M.TECH 2020	97.14%

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