

Electronics & Communication Engineering

INSTITUTE VISION

To be a premier institution in engineering education and research, fostering innovation, societal responsibility, and ethical leadership for a sustainable future.

INSTITUTE MISSION

1. Promote innovation and cutting-edge research to develop sustainable engineering solutions for real-world and global challenges.
2. Cultivate ethical leadership and technical excellence among students to become responsible and leading engineering professionals.
3. Encourage active societal engagement and industry collaboration to drive inclusive growth and environmental responsibility.

Inst. Vision & Mission
Dept. Vision & Mission

- PO's
- PEO's
- PSO's

Events Organized By
Department

Students
Achievements and
Workshops

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**VISION :**

To be a center of excellence in Electronics and Communication Engineering, advancing research, innovation, ethical practice, and sustainable solutions for societal transformation

MISSION :

1. Foster innovation and research in Electronics and Communication Engineering, to create sustainable solutions addressing real-world and technological challenges.
2. Inculcate technical excellence and ethical values to develop competent graduates who contribute as professionals and leaders.
3. Promote industry collaboration and community engagement to ensure inclusive development and environmentally conscious engineering practices.

PROGRAM OUTCOMES:

1. Engineering Knowledge

Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2. Problem analysis

Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3. Design/ Development of Solutions

Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. Conduct investigations of complex problems

Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. Modern Tool Usage

Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

6. The Engineer and Society

Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PROGRAM OUTCOMES:

7.Environment and Sustainability

Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8. Ethics

Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. Individual and Team Work

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. Communication

Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. Project Management and Finance

Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. Life-long learning

Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES:

- 1. Apply core domain knowledge in electronics, communication, and systems to analyze, design, and develop innovative, cost-effective solutions for real-world problems using existing and advanced tools.**
- 2. Demonstrate technical competence to pursue higher education, efficiently manage projects in multidisciplinary domains, and grow as successful professionals.**

PROGRAM EDUCATIONAL OBJECTIVES:

- 1. Graduates will apply strong foundations in Electronics, Communication, and computing to design innovative and reliable engineering solutions for real-world challenges.**
- 2. Graduates will demonstrate professional integrity, ethical responsibility, and a commitment to continuous learning to adapt to technological advancements and societal needs.**
- 3. Graduates will contribute effectively as Engineers, Leaders, or Entrepreneurs by collaborating with industry and engaging in projects that promote inclusive growth.**

Message from HOD

Dear Students, Faculty Members, and Readers,
It is a pleasure to present the ECE Department Newsletter 2024–2025 of Bearys Institute of Technology. This newsletter highlights the academic activities, achievements, and initiatives of the department during the year.



The Department of Electronics and Communication Engineering at BIT remains committed to academic excellence, innovation, and skill development. Our focus is on equipping students with strong fundamentals, practical exposure, and industry-relevant competencies to meet evolving technological challenges. I congratulate our students for their achievements and appreciate the dedicated efforts of our faculty members in teaching, mentoring, and research. I also thank the editorial team for their contribution in bringing out this newsletter.

Let us continue to work together with enthusiasm and dedication to make this academic year productive and successful.

With best wishes,

Dr. Abdullah Gubbi
Head of the Department – ECE

Message from Faculty Editor

Dear Readers,

It is my pleasure to present the Department Newsletter 2024–2025 of Bearys Institute of Technology, Mangalore. This publication showcases the achievements, projects, and creative contributions of our students and faculty over the year.

I sincerely thank all contributors and the editorial team for their dedication in bringing this issue to life. I hope it inspires curiosity, innovation, and pride within our academic community.

With best wishes,

Prof.Abdul Jabbar

Faculty – Department of ECE

Message from Student Editor

Dear Readers

It is with great pride and enthusiasm that We present the ECE Department Newsletter 2024–2025 of BIT. This newsletter represents the collective journey of learning, growth, innovation, and achievements experienced by the students and faculty of the Electronics and Communication Engineering department throughout the academic year.

The past year has been truly inspiring, marked by academic excellence, technical activities, workshops, projects, and remarkable student accomplishments. As students, we have been fortunate to receive constant guidance, encouragement, and mentorship from our dedicated faculty members, who have played a vital role in shaping our technical skills, confidence, and professional outlook.

This newsletter stands as a platform to showcase our efforts, creativity, teamwork, and passion for engineering. I sincerely appreciate the enthusiastic participation of my fellow students and express my heartfelt gratitude to the faculty members and the editorial team for their continuous support and valuable contributions in making this publication possible.

With best wishes,

Junaid Raza, Aysha Manooha

BE Students – Department of ECE

FACULTY & STUDENT ACHIEVEMENTS

Student Achievements

- Aadil Nazeera Gundagi got 3rd place at Robo Competition held at IIT Madras
- Mohammed Junaid Raza with Professor Nikhitha.C of ECE Participated and presented a paper in International Conference held on 11th sept-2024 at VCET, Puttur, DK (dist).
- Aman Sharif became the IEEE BIT Student Branch Chairperson and also Ambassador of Internship program.
- Mohammed Fayeem got the First place in the Project Competition at Innoventure Robotics Internship at KomedKares Innovation Hub
- Mohammed Fayeem, Syed Nabeel Hussain and M H Muhammed Rizwan got the 2nd Runnerup in the Caterpillar Autonomy Challenge at 'Shaastra' Competition held at IIT Madras
- Nida Sadaf had got First place at the Project Competition at Tech Grayhogix Internship
- Mohammed Swahaf designed a robotic rehab prototype to aid paralyzed patients' exercises, supporting motor recovery & showcased the prototype at GITEX 2024.

FACULTY & STUDENT ACHIEVEMENTS

Faculty Achievements

- Dr. Mehaboob Mujawar received recognition as a VTU Research Supervisor under the Department of Electronics & Communication Engineering.
- At the National Conference held at HKBK, Bangalore, Dr. Abdullah Gubbi received the Best Paper Award for the paper titled “Leveraging AI for Predictive Analytics in Healthcare: A Systematic Review and Framework for Improved Patient Outcomes.”
- Mehaboob Mujawar published the research paper “Optimizing connectivity: a novel AI approach to assess transmission levels in optical networks” in the Journal of Supercomputing (Springer, Volume 80, Issue 16, Impact Factor: 2.5, Q2 journal) on 28 August 2024, pages 26568-26588.
- Dr. Mehaboob Mujawar, Dr Abdullah Gubbi, Aasheesh Raizada authored Chapter 1 of “AI-Powered Phishing Detection System,” in Safe Data-Driven Control for Cyber-Physical Systems (IGI Global, 2025), pp. 1-23, DOI: 10.4018/979-8-3373-1832-5.ch001, contributing research on AI-based cybersecurity solutions.

FACULTY & STUDENT ACHIEVEMENTS

- Dr. Mehaboob Mujawar presented the paper “Enhanced Network Intrusion Detection Using Machine Learning: A Comparative Analysis of Classification Algorithms and Performance Metrics” at the International Conference on Modern Practices and Trends in Expert Applications and Security (MP-TEAS 2024), organized by IES University, Bhopal, on 22-23 November 2024.
- Dr. Mehaboob Mujawar presented the paper “Host – Based Intrusion Detection System” at the National Symposium on IoT and Cloud Computing, organized by Haldia Institute of Technology, West Bengal, on 9-10 January 2025.
- Dr. Abdullah Gubbi presented the paper “Enhanced EEGNet Optimization Using Light weight Deep Neural Network for Detecting Human Stress Levels from Raw EEG Signals Dataset” at the 3rd International Conference on Integrated Circuits and Communication Systems (ICICACS 2025), IEEE, pages 1-6.
- Dr. Abdullah Gubbi presented the paper “Leveraging EEG and Signal-to-Noise Ratio Augmentation for Advanced Stress Detection” at the 4th International Conference on Distributed Computing and Electrical Circuits and electronics (ICDCECE 2025), held in Ballari, India.
- Prof. Nikhitha C. and Mr. Mohammed Junaid Raza presented the research paper “Nanotechnology: Exploring the Frontiers and its Applications” at the International Conference Drishti 2025.

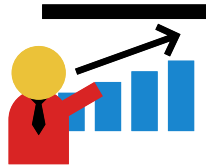


Industrial Visit of 3rd Semester ECE Students to IPCS Global and COMEDKARES

The Department of Electronics and Communication Engineering (ECE) organized an industrial visit for the 3rd-semester students to IPCS Global and COMEDKARES on August 28, 2024.

At IPCS Global, students were introduced to the workings of Programmable Logic Controllers (PLC) and SCADA systems, which are essential components in automation and industrial control. The visit provided them with practical insights into these technologies, which play a crucial role in modern industry.

Recent Trends and Career Opportunities in VLSI Design



The Department of Training and Placement in association with the Department of Electronics and Communication Engineering, conducted a session for ECE students entitled "Recent Trends and Career Opportunities in VLSI Design." on July 13, 2024.

Mr. Mahamad Anif D, Alumna - BIT currently working as a Sr. Design Verification Engineer, Synaptics India Pvt Ltd, Bengaluru was the Resource Person. Mr. Anif explained insightful overview of VLSI Design Cycle.



Unlocking Learning Potential with Salesforce

The Department of Training and Placement in association with Department of Computer Science and Engineering organized a session titled Unlocking Learning Potential with Salesforce for Final Year CSE and ECE students on 12.07.2024. Mr. Mohammed Shahid, Treasurer of BIT - Alumni Association, who is working as a Team Lead in Novigo Solutions Pvt Ltd, Mangalore was the Resource Person. Being an experienced Salesforce Specialist, he gave a thorough explanation on how Salesforce can be one of the career opportunities for freshers.



Teacher's Day Celebration in the Department of Electronics and Communication Engineering



On the 5th of September, the 5th-semester students celebrated Teachers' Day with great enthusiasm under the banner of their student association, Beaspire. The event saw the active participation of both faculty and non-teaching staff, creating an atmosphere of unity and appreciation. The students expressed heartfelt gratitude towards their teachers, praising their unwavering dedication and contributions to their academic and personal growth. The event has fostered a deeper bond between students and staff, honoring the spirit of teaching and mentorship.

Vibrant Engineers' Day Celebrations at BIT



On September 17, 2024, Bearys Institute of Technology (BIT) celebrated Engineers' Day with enthusiasm, honoring the invaluable contributions of engineers to society. The event was coordinated by Dr. Abdullah Gubbi, Prof. Nikhita C, and Prof. Sujay from the Electronics and Communication Engineering (ECE) Department, ensuring a memorable and impactful experience for all participants. The highlight of the day was an insightful talk by Mr. Sarun P from IPCS Global, who discussed the practical applications of PLC and SCADA in modern industries. His talk captivated the audience, shedding light on current trends in engineering and automation technologies.



ECE Students Achieve National Level Rank 1 in AI Healthcare Paper



We are thrilled to announce that our 4th-semester ECE students, Mr. Mohammed Junaid Raza, Mr. Shabaz S M, Ms. Suman G B, and Ms. Shabrin K R, have achieved National Level Rank 1 for their outstanding paper titled "Revolutionizing Healthcare: The Transformative Role of Artificial Intelligence." Competing against over 360 participants from states such as Odisha, Telangana, Kerala, and Tamil Nadu, showcasing their exceptional talent and dedication. Congratulations to our brilliant students for this remarkable achievement!

Advanced Military Tactical Integration System (AMTIS)

M.H. Muhammad Rizwan and Mohammed Thah seen of ECE Department participated in the paper presentation at Knowledge Nexus, KOMEDKares, showcased their innovation project, the Military Spy Robot. The project, titled "Advanced Military Tactical Integration System (AMTIS)," was presented under the topics of mechatronics and visualization. They won 1st place in the presentations. The presentation was guided by Dr. Mehaboob Mujawar.



1st Runner Up In Hackathon



M.H. Muhammad Rizwan and Mohammed Thah seen of ECE Department participated in the Code Crafter (Hackathon) with their project on organ donation. Their project, which was awarded 1st runner-up, introduced an innovative system where donors can register for organ donation and input their medical health details. The system allows people in need of transplants to directly contact donors or suggest medical tests in the presence of both parties. This ensures that the donation process occurs without third-party involvement. Additionally, the system facilitates collaboration with hospitals, streamlining the organ donation process and enhancing its efficiency and transparency.

ECE student presents a paper at International conference

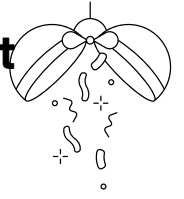
Mohammed Junaid Raza with Professor Nikhitha.C of ECE Participated and presented a paper in International Conference held on 11th sept-2024 at VCET, Puttur, DK (dist).

In which 400 delegates from different Countries such as UK, South Korea, Japan, Spain...., Participated.

The title of paper is "ARTIFICIAL INTELLIGENCE – exploring the frontiers" and Paper got published in International Journal with ISBN . 978-93-340-9369-8



BEASPIRE Electronics and Communication Engineering Student Association Inaugurated at Bearys Institute of Technology

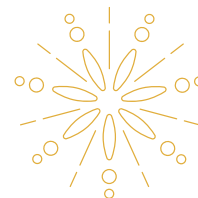


Mangalore, October 3, 2024 – The Department of Electronics and Communication Engineering (ECE) at Bearys Institute of Technology (BIT) inaugurated its student association, BEASPIRE, with great enthusiasm. The event, held at International Seminar Hall with inspiring keynote address by Prof. Suprabha K. R. from NITK, Suratkal, who shared her insights on entrepreneurship and leadership with a packed audience of students and faculty members.

Prof. Suprabha K. R. from NITK Suratkal Inspires Students with Entrepreneurial Stories. In her talk, Prof. Suprabha highlighted the importance of having a clear vision and staying focused on one's goals.



- **“Electronics is the science of controlling electrical energy electrically.”**
- **“Communication works for those who work at it.”**
- **“In engineering, you learn more from your mistakes than your successes.”**
- **The great thing about being an engineer is that you can fix your own mistakes, and no one else....**



Disaster Awareness Event at Bearys Institute of Technology

The Disaster Awareness event, organized by the Department of Electronics and Communication Engineering at Bearys Institute of Technology (BIT) with IEEE Mangalore Subsection, took place on November 7, 2024, at the International Seminar Hall. This impactful event focused on educating students, faculty, and school students on disaster preparedness and response.

The program commenced with a welcome by Dr. Abdullah Gubbi, Branch Counselor and Head of ECE, who highlighted BIT's dedication to developing not only skilled professionals but also socially responsible citizens. Following this, Mr. Aman, an ECE student, introduced the guest speaker, Mr. Swaraj HV, State Coordinator for IEEE India Philanthropy in Karnataka.



Workshop on Mastering Data and Machine Learning with RapidMiner Held at BIT



The session was led by Dr. Raghavendra S, Associate Professor at MIT Manipal, a distinguished expert in data science. Dr. Raghavendra showcased live demonstrations of case studies, including a classification task and a regression task, using RapidMiner. Participants were guided through data preprocessing, model building, and performance evaluation. The session also included hands-on exercises, where attendees practiced building workflows on provided datasets, gaining practical experience.

The event concluded with a Q&A session, followed by the vote of thanks delivered by Prof. Sinan, Head of the Department of Computer Science and Engineering, who expressed gratitude to the speaker, participants, and sponsors, including IEEE Bangalore Section and IEEE Mangalore Subsection.



Google Developer Group Inauguration at Bearys Institute of Technology



The Google Developer Group (GDG) was successfully inaugurated at Bearys Institute of Technology (BIT) in an event that showcased innovation, technology, and opportunities for student growth. The event was coordinated by Dr. Abdullah Gubbi, Head of the Electronics and Communication Engineering (ECE) Department.

The program began with a warm welcome address by Dr. S.I. Manjur Basha, followed by insightful remarks from Dr. Aziz Mustafa, Professor in the CSE Department. In his address, Dr. Abdullah Gubbi emphasized the importance of becoming members of professional societies, stating how active participation could significantly contribute to building successful careers in the technology domain.

Expert Session on VLSI Industry and IC Fabrication Held at BIT



Mangalore, December 26, 2024: The Department of Training & Placement and the Department of Electronics & Communication Engineering at Bearys Institute of Technology (BIT), in collaboration with the IEEE Mangalore Subsection and the IEEE BIT Student Branch, organized an insightful session on VLSI Industry and IC Fabrication at the National Seminar Hall.

Invited Talk on Data Protection and Cyber Security Held at BIT



The departments of Computer Science and Engineering (CSE) and Electronics and Communication Engineering (ECE), in association with the IEEE BIT Student Branch and the Institution's Innovation Council, organized an insightful invited talk on "Global Data Protection Policy & Regulation" and "Cyber Security Architecture." The event began at 11:00 AM in the International Seminar Hall.

The guest speakers for the session were eminent scholars from Cardiff Metropolitan University, UK:

Dr. Vibhishinie Bentotahewa, a distinguished expert in data protection and regulatory frameworks.

Dr. Liqaa Nawaf, a renowned authority on cyber security architecture.

The session commenced with a warm welcome address by Dr. Abdullah Gubbi, Head of the Department of Electronics and Communication Engineering.

In his address, Dr. Manjur Basha, Principal of BIT, emphasized the importance of staying updated with emerging trends in data protection and cyber security, urging students to constantly enhance their skills to meet industry demands.

Dr. A.M. Khan of the Electronics Department, Mangalore University, also addressed the gathering, highlighting the academic and industrial relevance of the topics discussed and encouraging students to actively engage in interdisciplinary learning.



Three-Day Faculty Development Program -2025

Mangalore, January 21, 2025: A three-day Faculty Development Program (FDP) titled "Advancing Pedagogy and Professional Growth" was inaugurated on January 21, 2025, and concluded on 23rd January 2025 at the Bearys Institute of Technology (BIT), Mangalore. The event was jointly organized by the departments of Civil Engineering, Computer Science and Engineering, and Electronics and Communication Engineering, in collaboration with the Internal Quality Assurance Cell (IQAC) and the Institution's Innovation Council (IIC).

Dr. Nalini E. Rebello, Head of IQAC, delivered the welcome address, outlining the program's goals and the need for adopting innovative teaching methodologies to meet the challenges of modern education. The event was graced by the presence of department heads and principals from affiliated institutions. Dr. S.I. Manjur Basha, Principal of BIT, highlighted the importance of professional development programs in shaping faculty members for holistic growth and impactful teaching.



Three-Day Faculty Development Program on Advancing Pedagogy and Professional Growth Begins



Mangalore, January 21, 2025: The Department of Civil Engineering, Computer Science and Engineering, and Electronics and Communication Engineering at Bearys Institute of Technology (BIT), Mangalore, inaugurated a three-day Faculty Development Program (FDP) titled "Advancing Pedagogy and Professional Growth" on January 21, 2025.

The inauguration ceremony witnessed a warm welcome by Dr. Nalini E. Rebello, who introduced the event's objectives and emphasized the importance of evolving teaching methodologies. Dignitaries present included heads of departments from various disciplines and principals of affiliated institutions. Dr. S.I. Manjur Basha, Principal of BIT, provided an insightful overview of the program's significance in fostering holistic development among faculty members. The event concluded with a vote of thanks by Dr. Abdullah Gubbi.



Day 1 Highlights



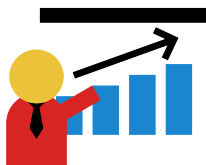
- **Morning Session: Mindfulness for Effective Teaching Proficiency**

Led by Mr. Ankith Kumar, this session focused on stress management strategies, integrating technology breaks, practicing self-care, and fostering empathy towards students. The interactive exercises added an engaging dimension to the session, leaving participants with practical takeaways.

- **Afternoon Session: Teaching Skills for Effective Learning**

Ms. Shwetha Bharath conducted an insightful session on designing engaging lessons, improving communication, utilizing constructive feedback, and implementing activity-based learning methods. The session emphasized the importance of innovative techniques to enhance classroom engagement.

The program is set to continue over the next two days, featuring a diverse lineup of sessions aimed at advancing pedagogical practices and professional excellence.



Conclusion

As we wrap up this edition of our ECE Department Newsletter, we reflect on the achievements, innovations, and collaborative efforts that continue to drive our department forward. From cutting-edge research and successful student ventures to impactful industry partnerships and vibrant campus events, it's clear that our community is thriving.

We extend our sincere gratitude to our faculty, students, alumni, and partners for their unwavering support and contributions. Together, we are shaping the future of electronics and communication technology.

Stay connected, stay inspired—and here's to continued excellence in the semesters ahead!

*Junaid Raza
Aysha Manoocha
Student Editor*

*Prof. Abdul Jabbar
Faculty Editor*