

# A. J. Institute of Engineering & Technology



## PRATHIBIMB

The Reflection of EC @ AJIET

**Volume 3**

**Issue 4**

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
Academic Year (Apr-Jun): 2021-2022



## ABOUT THE DEPARTMENT

The department of Electronics and Communication Engineering was established in the year 2016 and current intake is 60 students. The department offers undergraduate program BE, M.Sc (Engg) and PhD in Electronics and Communication engineering. The department has highly qualified faculty with 1 Professor, 4 Associate Professors and 9 Assistant Professors. The department is geared up with outcome-based education imparted to the students. Students at the department are consistently provided with opportunities to upgrade their technical knowledge and develop skills that make them best employable, qualified for higher education or develop them as a strong entrepreneur. The teaching faculty is actively engaged in research and they published papers in National/International conference proceedings/Journals. As a part of the curriculum, industrial visits, webinars, technical talks and workshops are arranged for students. The Institute has an IEEE, IE (I), ISTE Student's Chapter. The students actively participate in the various activities of IE (I), ISTE and IEEE. All the students of various departments participate actively in embedded & robotics club and Radio club which is run by the department itself. Special Soft skills, aptitude and technical trainings are imparted to the students as a part of regular curriculum to make them excel in their career. The department classrooms are much spacious with LCD projectors fitted for conducting e-lectures to make learning a better experience in the department. The department also has well established and well-equipped laboratories for student's technical pursuit. Faculty members are being constantly encouraged to develop themselves through Various FDPs, conferences, workshops, publications, R & D activities and Massive Open Online Courses (MOOCs) exams. They are exposed to latest technologies like IoT, Robotics, Machine Designing, etc. through R&D labs established by industries in these fields. Students are also made industry ready through various trainings, regular company internships, mini and major projects

## VISION

To be recognized as a centre of excellence in the region by nurturing the young innovative minds into skillful and ethical professionals to cater the global industrial and societal needs.

## MISSION

- To establish state-of-the art laboratories to facilitate research and innovation to upgrade the knowledge and skills.
- To provide industry interaction for training programs on latest technology.
- To provide ethical and value based education by promoting activities addressing the societal needs.

**HOD-DESK**

Welcome to the Department of Electronics and Communication Engineering at A J Institute of Engineering and Technology, Mangalore. We started our journey in the year of 2016. Over the past five years, we have grown our expertise and competence in the core ECE and research. The primary focus of our department is to impart technical knowledge to students, promote their problem solving and innovative skills in the growing technologies. We have a long history in educating young minds, conducting innovative research, and offering professional services to local and overseas communities. Our department has a distinguished record in both teaching and research. Faculty members have excellent academic credentials and are highly regarded. This website provides an overview of the academic programs, research activities of our department, research facilities, profiles of faculty members, and details of student activities. Many of our graduates now occupied good positions in the industry and community. Each year, we also invite various departmental speakers, academicians and practitioners in a variety of forums, in addition to the numerous and unparalleled public events. We also encourage students to organize and participate in various events which sets a challenge to the young minds to provide solutions for the problems of social relevance. With all these inputs one can find our students very hardworking, practical-oriented and highly skilled to work in any environment. We are encouraged to see many industries coming back to our department, which reinforces our belief in the effectiveness of our students and their suitability to the dynamic corporate world.

**Dr. Gnane Swarnadh Satapathi**

Head of the Department

## EVSA

### • Farewell to Outgoing Batch (2017-21)

The Farewell Programme for the 2017-2021 batch was organized by the department of Electronics & Communication Engineering in association with Electrovertz Student Association on 30th April, 2022 from 2:30PM onwards. The event was conducted in presence of Dr. Gnane Swarnadh Satapathi-HOD, Mr. Manjukiran B, Student Co-ordinator, with the faculty advisor of the student Association Prof. Prakash K Shetty & Mrs. Pratheksha Rai N along with teaching and non-teaching Faculty as well as students and graduates.



## Industrial Visit

- The students of 4th year ECE (32) along with Faculties (2), visited Kaiga Nuclear Power Plant on June 07th,2022. The Kaiga Nuclear Power Plant is located at Kaiga and Mallapur-Virje villages in Uttara Kannada district, approximately 3.5km from Karwar-Illikal SH-6. It lies 16km upstream of the Kadra dam on the left bank of the Kali River. The students were received by Mr. Aldrin, Visit Coordinator, NPCIL, Kaiga Site. The students were taken to the auditorium where Mr. Subramanya Bhat, Operation Manager presented about the insights of the nuclear power plant along with their mission and also the benefits of these reactors.



- The students of 2nd year ECE (33) along with Faculties (2), visited Government Tool Room and Training Centre(GTTC) on June 08th,2022. GTTC is located in Baikampady Industrial area, Mangaluru. GTTC is an autonomous society, a recognized Scientific and Research Or-

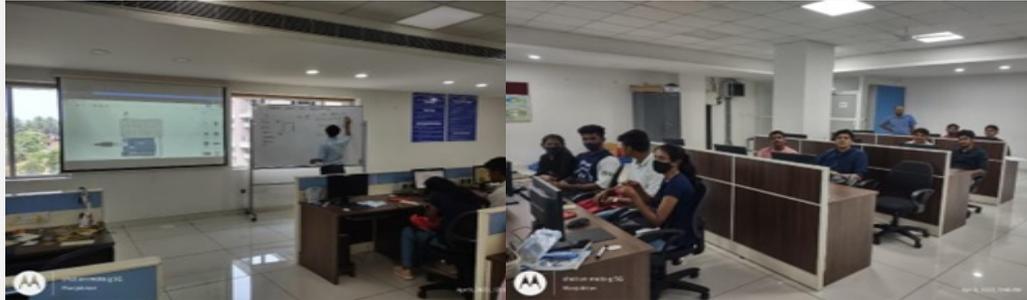
ganization by the Government of India. GTTC is serving the industry by providing well trained skilled manpower in the area of Tool and Die making, Mechatronics and Electronics. GTTC, Mangaluru center is equipped with several labs such as Product Design and Development, Validation lab, Automation and control lab, Internet of Things lab, and Reality Lab. The students were taken to the IoT lab wherein they were introduced to the concept of fundamentals of IOT development and IoT modeling



## Workshops

- **Workshop on “Basics of Arduino”** on 09-04-2022

The aim of the event was to teach the Basics of Arduino for the first year Engineering Students. The Event started with basics of Microcontroller, Different Types of Arduino available and different application of it. Workshop concentrated on usage of both Arduino UNO and NANO.



- **Workshop on ARTIX-7 FPGA Boards** on 09-05-2022

One day hands on Workshop on ARTIX-7 FPGA Boards was conducted for the Students of Department of ECE AJIET, Mangalore. The objective of the workshop was to emphasize on implementing projects using ARTIX-7 FPGA kits. The highlights of the workshop are

1. Introduction to FPGA flow
2. Vivado example blink led
3. VGA basic
4. Vivado VGA interface
5. Small demo on using microblaze
6. Simulation of image deionizing of images



### Talk

- **A Talk on “Job Opportunities for ECE Students” on 09-06-2022**

The Department of Electronics and Communication Engineering in-association with EVSA organized a talk on “Job Opportunities for ECE Students” on 9th June from 2:00PM on Seminar Hall-2. The talk focussed on job opportunities in core domain of ECE like VLSI. He emphasized that an Electronics Engineer is the most sought job profile for an ECE graduate. It primarily involves designing and developing systems, components, and any other electronic source. An electronic engineer can be fitted into any stage of the development process from conceptual design to implementation. The students from 3rd and 4th year ECE, were the target audience.



### Student Achievements

- **AJIET Sports Day on 09-06-2022**

1. ECE department won Overall Championship at AJIET, Mangaluru
2. Bhoomi 2nd place in Shot put at AJIET, Mangaluru
3. Shreya S 1st place in Long Jump at AJIET, Mangaluru
4. Sonal 3rd place in 800 mtr at AJIET, Mangaluru
5. Anusha K 2nd place in 400mtr at AJIET, Mangaluru
6. Anusha K 2nd place in 200mtr at AJIET, Mangaluru
7. Amritha Sinchana 3rd place in Javelin at AJIET, Mangaluru
8. Ramya M R 1st place in Javelin at AJIET, Mangaluru
9. Pooja S P 1st place in Discus Throw at AJIET, Mangaluru
10. Akshay J Rai 2nd place in High Jump at AJIET, Mangaluru
11. Pooja S P 1st place in Shot put at AJIET, Mangaluru
12. Shreya S 2nd place in High Jump at AJIET, Mangaluru
13. M R Ashwin 2nd place in 1500mtr at AJIET, Mangaluru

14. Amal Dominic 1st place in 1500 mtr at AJIET, Mangaluru
15. Prithviraj Shetty 2nd place in 800 mtr at AJIET, Mangaluru
16. Amal Dominic 1st place in 800 mtr at AJIET, Mangaluru
17. M R Ashwin 1st place in 100 mtr at AJIET, Mangaluru

• **Technical & Cultural**

1. On June 18th 2022 The Project “LOW COST SMART SPIROMETER” won 2nd prize in intercollegiate project Exhibition and Competition held at NITK, Surathkal under IEEE Mangalore Subsection, Udupi District.



2. On April 15-16 2022 Adithya S Sharma p has secured Second place in Chakravyuha Circuit Debugging and Analyses event conducted on the occasion of State Level Intercollegiate Cultural, Technical and Management fest SENTIA at MITE,Moodabidri.
3. On April 15-16 2022 Aniruddh has secured Second place in Chakravyuha Circuit Debugging and Analyses event conducted on the occasion of State Level Intercollegiate Cultural, Technical and Management fest SENTIA at MITE,Moodabidri.
4. On April 15-16 2022 M Pooja has participated in Technical paper presentation event conducted on the occasion of State Level Intercollegiate Cultural, Technical and Management fest SENTIA at MITE,Moodabidri.
5. On April 15-16 2022 Shravyashree K A Shetty has participated in Technical paper presentation event conducted on the occasion of State Level Intercollegiate Cultural, Technical and Management fest SENTIA at MITE,Moodabidri.

6. On June 3rd and 4th 2022 Nisha has won 1st prize in paper presentation competition, Organized by AJIET AAKAR 2022, a State level Techno Cultural Fest.
7. On June 3rd and 4th 2022 Vignesh poonja k has participated in paper presentation competition, Organized by AJIET AAKAR 2022, a State level Techno Cultural Fest.
8. On June 3rd and 4th 2022 Nihal C has won 2nd prize in paper presentation competition, Organized by AJIET AAKAR 2022, a State level Techno Cultural Fest.
9. On June 3rd and 4th 2022 Mohith Sanil has participated in paper presentation competition, Organized by AJIET AAKAR 2022, a State level Techno Cultural Fest.
10. On June 3rd and 4th 2022 Hrithik RD has won 2nd prize in paper presentation competition, Organized by AJIET AAKAR 2022, a State level Techno Cultural Fest.
11. On June 3rd and 4th 2022 Deeksha G has participated in paper presentation competition, Organized by AJIET AAKAR 2022, a State level Techno Cultural Fest.
12. On June 3rd and 4th 2022 Akshit Suresh Naik has participated in paper presentation competition, Organized by AJIET AAKAR 2022, a State level Techno Cultural Fest.
13. On June 3rd and 4th 2022 Sayan Dasmahapatra has won 1st prize in paper presentation competition, Organized by AJIET AAKAR 2022, a State level Techno Cultural Fest.
14. On June 3rd and 4th 2022 Manvith has participated in paper presentation competition, Organized by AJIET AAKAR 2022, a State level Techno Cultural Fest.
15. On June 3rd and 4th 2022 Yashashwini H Naik has participated in paper presentation competition, Organized by AJIET AAKAR 2022, a State level Techno Cultural Fest.
16. On June 3rd and 4th 2022 pooja SP has participated in paper presentation competition, Organized by AJIET AAKAR 2022, a State level Techno Cultural Fest.
17. On June 3rd and 4th 2022 Vineeth Krishna K has participated in paper presentation competition, Organized by AJIET AAKAR 2022, a State level Techno Cultural Fest.
18. On 5th and 6th June 2022, Akshay J Rai has secured 2nd place in the Circuitron event of Shree Devi Sambhram'22 Held at Shree Devi Institute of Technology, Kenjar, Mangaluru.
19. On 5th and 6th June 2022, Shashwat has participated in the Circuitron event of Shree Devi Sambhram'22 Held at Shree Devi Institute of Technology, Kenjar, Mangaluru.
20. On 5th and 6th June 2022, Nikitha Rai has secured 2nd place in the Cranium event of Shree Devi Sambhram'22 Held at Shree Devi Institute of Technology, Kenjar, Mangaluru.
21. On 5th and 6th June 2022, prajwal S Devadiga has participated in the Cranium event of Shree Devi Sambhram'22 Held at Shree Devi Institute of Technology, Kenjar, Mangaluru.

22. On 5th and 6th June 2022, Anush S has secured 1st place in the Cranium event of Shree Devi Sambhram'22 Held at Shree Devi Institute of Technology, Kenjar, Mangaluru.
23. On 5th and 6th June 2022, Shealtiel elizer has secured 2nd place in the Cranium event of Shree Devi Sambhram'22 Held at Shree Devi Institute of Technology, Kenjar, Mangaluru.
24. On 5th and 6th June 2022, Shealtial elizer has secured 2nd place in the Circuitron event of Shree Devi Sambhram'22 Held at Shree Devi Institute of Technology, Kenjar, Mangaluru.

### Faculty Achievement

- The project proposal has been approved by KSCST under Student project programme-45th Series on 11th May and sanctioned amount Rs. 6000/- for the project "Object Detection Based Garbage Collection Robot" guided by Mr. Prakash K Shetty and Manjukiran B
- Mr. Ganesh U G and Mr. Shreyas H published paper "NVSSLMS Algorithm Adaptive Method Implementation for Acoustic Eco Cancellation" in 2nd International Conference on Frontiers in Engineering Science & Technology in association with International Journal of Scientific Research in Science, Engineering and Technology, ISSN: 2395-1990, Volume9, Issue 13 on 28 May 2022

### Placement (2018 Batch)



Mr. AMAL KRISHNAN  
Q-Spider



Mr. PRAJWAL  
Q-Spider



Mr. SAYAN  
Q-Spider



Ms. SONA  
Q-Spider



Mr. ANUSH  
Accord



Mr. MANOJ MS  
Accord



Mr. PAVAN KUMAR  
Accord

**Editorial Board**

- **Chief Editor:** *Dr. Gnane Swarnadh Satapathi, HOD, Department of E&C*
- **Editor:** *Mrs. Pratheksha Rai N, Assistant Professor, Department of E&C*
- **Student Editor:** *Ms. Pooja SP & Ms. Thrusha K, 4<sup>th</sup> year, Department of E&C*
- **Student Editor:** *Mr. Yashas Shetty K, 3<sup>rd</sup> year, Department of E&C*
- **Student Editor:** *Ms. Hitaishini C U & Ms. Geetha D P, 2<sup>nd</sup> year, Dept. of E&C*

### Program Educational Objectives(PEOs)

PEO1	Exhibit a desire for lifelong learning through professional and societal activities.
PEO2	Exhibit and apply their technical skills and knowledge in Electronics and Communication Engineering for industry and societal needs
PEO3	Exhibit leadership qualities, professional skills, management skills and ethics needed for successful career.

### Program Specific Outcomes (PSOs)

PSO1	Embedded Systems: Ability to apply the fundamental knowledge of core Electronics and Communication Engineering subjects in the analysis, design, and development of integrated electronic systems.
PSO2	Communication Systems: Ability to apply the fundamental knowledge of signal processing in the analysis, design, and development of communication systems.
PSO3	Simulation: Ability to use modern electronic tools such as MATLAB, Xilinx and Multisim, to design and analyze the complex electronics and communication systems.

### Program Outcomes (POs)

- Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- 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 consid-

erations.

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 modeling 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.
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.