TECH-TIDE

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JULY - DECEMBER 2024

VOL 3 ISSUE 2

DEPARTMENT OF ECE
AHALIA SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

AHALIA SCHOOL OF ENGINEERING & TECHNOLOGY

ISO 9001: 2015 Certified Institution | Approved by AICTE & Affiliated to A. P. J. Abdul Kalam Technological University
Ahalia Campus, Palakkad I Ph: 04923 226666

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Editorial Board Members

Message from Principal

Dear Students, Faculty, and Esteemed Readers,

It is with great pleasure that I extend my warmest greetings through this edition of TECH-TIDE, the official newsletter of the Department of Electronics and Communication Engineering(ECE). This newsletter serves as a vibrant platform to showcase the academic excellence, innovative spirit, and collaborative achievements of one of our most dynamic departments.

In today's rapidly changing technological world, the role of Electronics and Communication Engineering is more critical than ever. From 5G networks to semiconductor innovation, from embedded systems to the Internet of Things, ECE is powering the future. I am proud to see our ECE department rise to these challenges by nurturing inquisitive minds, fostering research, and embracing a culture of continuous learning and advancement.

The faculty members of the ECE department have shown exemplary dedication in shaping young engineers through their expertise, mentorship, and commitment to academic and research excellence. Our ECE department students continue to bring laurels to the institution through their projects, internships, higher education pursuits, and placement achievements. TECH-TIDE captures this journey of growth and success, while also providing insights into the department's activities, milestones, and vision.

I congratulate the editorial team and all contributors for bringing out this enriching issue of TECH-TIDE. May this initiative continue to inspire innovation, celebrate accomplishments, and strengthen the bond among students, alumni, faculty, and industry partners.

Wishing the ECE department continued success and progress in all its future endeavors.

Warm regards,
Dr. P R Suresh
Principal
Ahalia School of Engineering and Technology

Message from Vice Principal

Dear Students, Faculty Members, and Readers,

It gives me immense pleasure to contribute a message to TECH-TIDE, the newsletter of the Department of Electronics and Communication Engineering (ECE). This initiative is a commendable effort to document and celebrate the academic achievements, innovative projects, and vibrant student activities that define the spirit of the department.

The field of Electronics and Communication Engineering continues to be a driving force in shaping the future of technology. It is heartening to see how the department has embraced this evolution through a strong academic framework, active research culture, and industry-oriented learning. The dedication of the faculty and the enthusiasm of the students are clearly reflected in the various accomplishments showcased in this newsletter.

TECH-TIDE stands as a symbol of collaboration, creativity, and progress. It not only highlights milestones but also serves as a source of motivation for everyone associated with the department. The articles, events, and updates featured in this edition offer a glimpse into the vibrant ecosystem of innovation and learning fostered by the ECE department.

I congratulate the editorial team and the department for their efforts in bringing out this newsletter. I am confident that TECH-TIDE will continue to grow as a valuable platform for sharing knowledge, celebrating success, and inspiring excellence.

Wishing the Department of ECE continued achievements and greater heights in the times ahead.

With best wishes,
Dr.Krisha Kumar Kishor
Vice-Principal-ASET.

Message from HoD

Dear Students, Faculty, Alumni, and Well-Wishers,

It gives me immense pleasure to present this edition of the Department of Electronics and Communication Engineering newsletter “TECH-TIDE” . This newsletter is a reflection of the vibrant academic environment, dynamic student activities, and impactful research being carried out in our department.

The field of Electronics and Communication Engineering continues to evolve at an unprecedented pace, with rapid advancements in areas such as semiconductor technology, wireless communication, embedded systems, and AI-driven electronics. Our department remains committed to preparing students to meet these technological challenges with a blend of strong academic fundamentals and industry-relevant skills.

Over the past academic year, our students and faculty have achieved numerous milestones—be it publishing research papers, participating in technical events, securing internships, or collaborating on interdisciplinary projects. I am proud of the enthusiasm and commitment displayed by all members of the ECE family As we move forward, we continue to strengthen our focus on experiential learning, industry collaboration, and research excellence. I encourage our students to actively participate in departmental activities, make the most of the opportunities provided, and contribute meaningfully to the world of technology.

My heartfelt appreciation goes out to the editorial team for compiling this newsletter and to all contributors who have made it a success. I look forward to your continued support and participation in shaping the future of our department.

Warm regards,
Dr.V.Balamurugan
Head of the Department
Electronics and Communication Engineering

Institution Vision & Mission

Vision

Grow as a center of learning and research, transforming students to professionals with knowledge, skill, competence, commitment, confidence through decisive learning and contribute to the sustainable development of the society.

Mission

- **Mission 1**

  To instill technical expertise in order to address current and emerging challenges in the quest for creating sustainable and high-quality livelihoods.

- **Mission 2**

  To foster a culture of research, innovation, and entrepreneurship through determined learning.

- **Mission 3**

  To promote an environment that supports the welfare of society through ethical and professional conduct.

About ECE Department

The Department of Electronics and Communication Engineering (ECE) is a dynamic and innovative hub committed to excellence in teaching, research, and industry collaboration. Established with the vision to produce competent professionals, the department focuses on developing strong foundational knowledge and advanced technical skills in electronics, communication systems, embedded systems, VLSI design, IoT, and signal processing.

Our faculty comprises highly qualified educators and researchers who bring a wealth of academic and industry experience. The department offers undergraduate programs that blend rigorous theoretical instruction with hands-on practical training. State-of-the-art laboratories, modern research facilities, and industry-standard software tools support experiential learning and innovation.

We actively promote research, internships, and student participation in technical events and competitions. With regular guest lectures, industrial visits, and collaboration with leading companies, the department ensures students are industry-ready and equipped to face emerging global challenges in technology.

Graduates from the ECE department are well-placed in top-tier companies, pursue higher studies at renowned institutions, and contribute significantly in areas such as telecommunications, robotics, AI, space technology, and consumer electronics.

Department Vision & Mission

Vision

To provide quality education in Electronics and Communication Engineering through determined learning, promoting innovation and research, upholding professional ethics and contribute to sustainable societal progress.

Mission

- **Mission 1**

  To provide a holistic technical education that empowers students with a robust foundation of theoretical expertise and practical skills in Electronics and Communication Engineering.

- **Mission 2**

  To foster lifelong learning, research and inspire entrepreneurship, empowering students to excel in their field of expertise.

- **Mission 3**

  To nurture professional ethics, team work and leadership skills in students for their overall development and contribution to the society.

Program Educational Objectives (PEOs):

1. Apply the concepts of Electronics and Communication Engineering to provide solutions to the emerging problems in the society.
2. To solve problems of social relevance applying the knowledge of ECE and pursue higher education.
3. Work effectively as individuals and as team members in multidisciplinary projects.
4. Engage in lifelong learning, career enhancement and adapt to changing professional and societal needs.

Program Specific Outcomes (PSOs):

PSO1: Develop electronics-based solutions for real-life challenges integrating entrepreneurship and sustainability.

PSO2: Uphold ethics and values in designing sustainable technologies while embracing lifelong learning for professional growth.

Program Outcomes (POs):

PO 1.Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO 2. 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.

PO 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.

PO 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.

PO 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.

PO 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 (POs):

PO 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.

PO 8.Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9. Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 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.

PO 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.

PO 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.

Department of ECE Faculty Members

The ECE Department is proud of its team of dedicated and experienced faculty members.

Their guidance and expertise continue to shape the future of our students.

Dr. Krishna Kumar Kishor
Vice Principal

Dr. Balamurugan V
HoD

Dr. Leesha Paul
Professor

Dr. Aneesh K
Associate Professor

Divya Mohan
Assistant Professor

Vijitha Khan
Assistant Professor

Dept. of ECE

Swetha C
Assistant Professor

Asha Aravind
Assistant Professor

Gayathri P S
Assistant Professor

Abhijith V
Assistant Professor

Sathyan P

Sindhu V. R

Priyanka K

Sankulesh Narayanan

Department Association Office Bearers

The Department Office Bearers are entrusted with key academic and administrative responsibilities.

Their dedicated service contributes significantly to the efficient functioning of the department.

Chairman
Dr. Balamurugan V
HoD ECE

Faculty in Charge
Mrs. Gayathri P S
Assistant professor ECE

STUDENT OFFICE BEARERS

Aswath P
S7 ECE
President

Sreelakshmy R
S7 ECE
Secretary

Ashrin A
S5 ECE
Treasurer

Abhishek V
S5 ECE
Treasurer

Dept. of ECE

Akahaya A
S3 ECE

Krishnaja M
S3 ECE

Nandana V
S7 ECE

Akhib Ahammed A
S3 ECE

Amith Krishna K K
S3 ECE

Mithun Krishna KP
S3 ECE

INDUSTRIAL VISIT TO ITI Ltd., PALAKKAD

27TH JULY 2024

On 27th July 2024, final year students (2021–2025 batch) of the Electronics and Communication Engineering Department of Ahalia School of Engineering and Technology visited ITI Ltd. (Indian Telephone Industries), Kanjikode, Palakkad, accompanied by Mrs. Asha Arvind, Assistant Professor, and Mrs. Sindhu V.R, Senior Instructor, ECE Department.

ITI Ltd. Palakkad, established in 1976, is one among the five manufacturing units of ITI Ltd. and is primarily engaged in the production of Electronic Switching Products and Services. The unit has played a vital role in executing national-level projects such as the National Population Register (NPR) and the Socio Economic & Caste Census (SECC).

Upon arrival at 1:30 PM, the students were welcomed with an overview of the Surface Mount Technology (SMT) processes and given a live demonstration of the PCB manufacturing units.

A visit to the newly launched 4G laboratories followed, where students were introduced to the production of 4G Radio Access Network (RAN) equipment, with future upgradeability to 5G, aligning with the Government's 'Aatma Nirbhar Bharat' initiative. The collaboration between ITI Ltd. and CDoT under a signed MoU aims to develop a 'Make in India' telecom stack for upcoming 4G and 5G opportunities.

The visit also included insights into the ISRO testing laboratories and ongoing ISRO-related works, including ITI Ltd.'s contribution to the electronic assemblies for ISRO's GSLV MkIII mission launched in June 2017. Students also learned about the Electronic Component Screening Lab and specialized testing facilities for Avionics and RF packages, highlighting the plant's long-standing partnership with ISRO in key space missions.

Additionally, the team explored UIDAI data vaults and units involved in SD card duplication and PC testing. The industrial visit provided a rich learning experience, deepening students' understanding of electronics manufacturing and national-level R&D efforts. The visit was made successful through the support and guidance of our Principal, Dr. P. R. Suresh, Vice Principal, Dr. Krishna Kumar Kishor, and Head of the Department, Dr. V. Balamurugan. The event was coordinated in association with the IEEE Student Branch of Ahalia School of Engineering and Technology.

Empowered Learning: ECE Students Excel in SWAYAM Courses

Students of the Electronics and Communication Engineering Department at Ahalia School of Engineering and Technology have actively participated in and successfully completed various online certification courses offered through SWAYAM – an initiative by the Government of India to promote self-learning and skill enhancement. These courses, conducted by premier institutions such as IITs and NITs, covered a wide range of subjects including Digital Circuits, Signals and Systems, VLSI Design, Embedded Systems, and Control Systems. By engaging with these MOOCs (Massive Open Online Courses), students have demonstrated their commitment to continuous learning beyond the regular curriculum. This initiative has strengthened their academic foundations and enhanced their preparedness for higher studies and industry roles.

The Department congratulates all the students for their efforts and encourages continued participation in such learning platforms.

B.Tech with Minor Degree 2020–2024 KTU Batch

The Electronics and Communication Engineering Department of Ahalia School of Engineering and Technology proudly congratulates the students of the 2020–2024 batch who have successfully completed their B.Tech degree with a Minor specialization under APJ Abdul Kalam Technological University (KTU). The Minor Degree program offers students the opportunity to gain additional expertise in an interdisciplinary domain alongside their core engineering discipline.

From the ECE Department, Amritha M H, Nithyasree S and Sreesha V has completed their B.Tech in Electronics and Communication Engineering with a Minor in Electrical and Electronics Engineering (EEE), This accomplishment reflects the students' dedication and willingness to broaden their academic horizons.

The department commends their efforts and encourages upcoming batches to pursue such value-added programs to enhance their technical proficiency and career opportunities.

Amritha M H
B.Tech in ECE
Minor in EEE

Nithyasree S
B.Tech in ECE
Minor in EEE

Sreesha V
B.Tech in ECE
Minor in EEE

2020-2024 – Batch Topper

The Department of Electronics and Communication Engineering at Ahalia School of Engineering and Technology proudly congratulates Amritha M H, the academic topper of the 2020–2024 batch. Amritha has consistently showcased outstanding academic performance throughout her B.Tech journey in ECE. She has also secured the highest CGPA in Semester 8 (CGPA: 9.03), further solidifying her position as a dedicated and high-achieving student. Her remarkable accomplishment is a reflection of her hard work, discipline, and deep interest in the field of electronics and communication. The department extends its heartfelt congratulations to Amritha and wishes her continued success in all her future academic and professional pursuits. Her success story serves as a motivation for her peers and junior students.

A Session on Project Based Learning Process

6TH AUGUST 2024

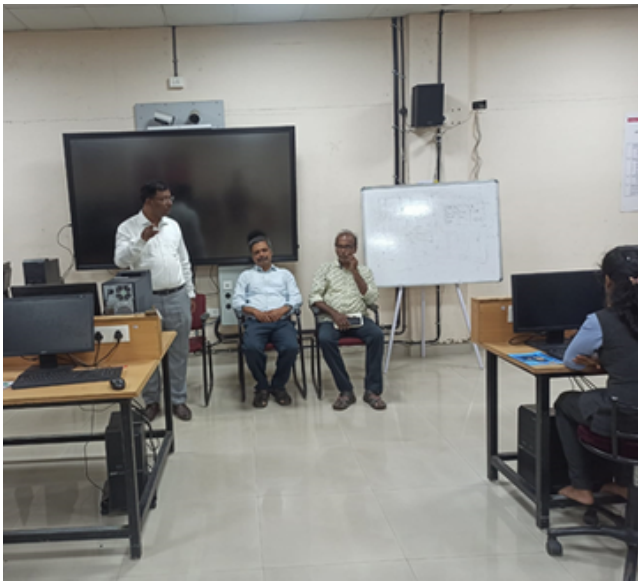
The Department of Electronics and Communication Engineering, in collaboration with the IEEE Student Branch of Ahalia School of Engineering & Technology, organized an engaging session on the topic "Project-Based Learning Process" for seventh-semester students on 6th August 2024. The session was held at the Design and Analysis Lab.

The event began with a welcome address by Dr. V. Balamurugan, Head of the Department of ECE. The session was formally inaugurated by the Principal, Dr. P. R. Suresh, who encouraged the students to take full advantage of such learning opportunities.

The keynote speaker for the session was Prof. Vinod G, Professor and Head of the Department of Electronics and Communication Engineering, NSS Engineering College, Palakkad. He delivered an insightful talk highlighting the various opportunities available for students to carry out their academic projects in reputed external organizations such as C-DAC, ISRO, and ITI Limited. Prof. Vinod elaborated on the process of converting innovative project ideas into real-world products. He also provided valuable guidance on how to draft and publish technical papers based on project work and introduced students to the fundamentals of filing patents.

The session concluded with feedback from students Ms. Arya P. R. and Ms. Anugragha M., who shared that the one-hour session was highly informative and beneficial. The program ended with a vote of thanks delivered by Dr. V. Balamurugan. This session served as a motivation for students to think beyond classroom learning and explore practical avenues for research, innovation, and product development.

Dept. of ECE



Best Outgoing Student : 2020-24 Batch

Congratulations to Ms. Amritha M H

The Department of Electronics and Communication Engineering at Ahalia School of Engineering and Technology proudly announces Ms. Amritha M H as the Best Outgoing Student of the 2020–2024 batch. With a remarkable CGPA of 9.03, Amritha has consistently excelled in academics, demonstrated leadership, and actively contributed to departmental and institutional activities.

Her dedication, discipline, and passion for electronics have made her a role model among peers. The recognition was presented during the farewell ceremony in the presence of Dr. P R Suresh, Principal, and Dr. V Balamurugan, Head of the Department. Both commended her all-round performance and contributions.

Amritha expressed gratitude to her faculty and family, crediting her success to the supportive environment at the department. The ECE department congratulates her on this well-deserved honor and wishes her continued success ahead.

Inauguration of ECE Department Association – "ERFINDERS"

14TH AUGUST 2024

The Department of Electronics and Communication Engineering at Ahalia School of Engineering and Technology inaugurated its association, "ERFINDERS", for the academic year 2024-25 on 14th August 2024. The event, held in Visvesvaraya Hall from 3:00 PM to 4:30 PM, began with a prayer by Megha P and Gana G, followed by a welcoming speech by Pooja P, a fifth-semester student.

The official inauguration was done by Ms. Dhanya M P, Senior Research Engineer at FCRI, Kanjikode, who shared her thoughts on innovation and research in Electronics and Communication. Dr. Krishna Kumar Kishor, Vice Principal of Ahalia School of Engineering and Technology, also delivered a felicitation address.

The office bearers for the academic year were introduced, and prizes were awarded to winners of various departmental competitions. Ms. Dhanya M P also delivered a technical talk on “World of Measurement and Quality Control,” sharing insights into the latest developments in the field. The event concluded with a vote of thanks by Namitha S Kumar, a third-semester student.

The inauguration of "ERFINDERS" marks the beginning of a promising academic year for the ECE students.

Dept. of ECE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Two Day Workshop on Introduction To Arduino and Tinkercad

16TH & 17TH AUGUST 2024

The Department of Electronics and Communication Engineering at Ahalia School of Engineering and Technology, in association with the IEEE Student Branch, organized a two-day workshop on “An Introduction to Arduino and Tinkercad” on 16th and 17th August 2024.

The workshop was inaugurated by Dr. P R Suresh, Principal of Ahalia School of Engineering and Technology. In his address, he highlighted the importance of hands-on learning in embedded systems. Dr. V Balamurugan, Head of the Department of ECE, encouraged students to make the most of the opportunity and enhance their practical skills.

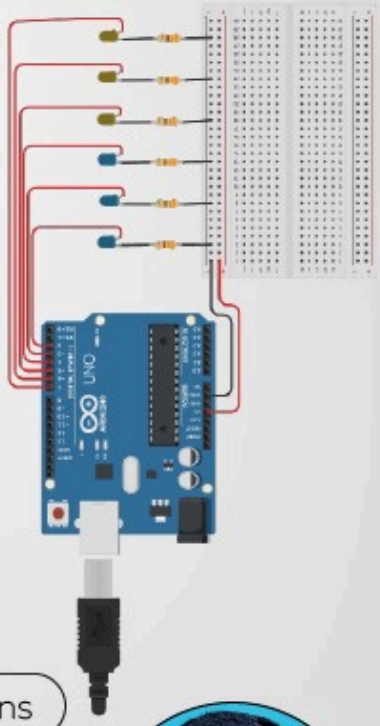
The sessions were handled by Ms. Swetha C, Assistant Professor, and Mr. Sathyan P, Senior Lab Instructor, both from the Department of ECE. The workshop was conducted in the VLSI lab and was attended by fifth-semester ECE students.

Over the two days, students were introduced to the basics of Arduino programming and circuit simulation using Tinkercad. The sessions were interactive and project-oriented, helping students gain valuable insights into microcontroller-based system design.

As a part of the final session, students were asked to design a mini-project based on the concepts learned. One group was recognized with the Best Project Award for their innovative design and practical implementation.
The workshop proved to be a productive learning experience and provided students with a strong foundation in embedded systems and simulation tools, which are essential for future academic and project work.

Department of
ELECTRONICS & COMMUNICATION ENGINEERING

Workshop on An Introduction to Arduino and tinkercad



16 & 17 AUGUST 2024

09:00 a.m. TO 4.30 p.m.

VLSI Lab

Resource Persons

Ms. Swetha C
Assistant professor ECE

Mr. Sathyan P
Senior lab instructor ECE

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Two Day Workshop on Python for beginners

16th and 17th August 2024

The Department of Electronics and Communication Engineering of Ahalia School of Engineering and Technology, in association with the IEEE Student Branch, organized a two-day workshop on Python for Beginners on 16th and 17th August 2024.

The event was formally inaugurated by the Principal, Dr. P. R. Suresh. During the ceremony, Dr. V. Balamurugan, Head of the Department of ECE, encouraged students to make the most of the opportunity to strengthen their programming skills.

The sessions were handled by Mr. Abhijit V., Assistant Professor, Department of ECE. The workshop was conducted as a part of the Design and Analysis Lab and targeted third-semester ECE students.

Participants gained hands-on experience in basic Python programming, which will serve as a strong foundation for their academic and professional pursuits. The workshop was well-received by the students, who appreciated the practical approach and interactive sessions.

Such initiatives reflect the department's continuous efforts to provide industry-relevant training and skill development opportunities to its students.

Dept. of ECE

Industrial Visit to FCRI
A Valuable Learning Experience

24TH AUGUST 2024

The Department of Electronics and Communication Engineering of Ahalia School of Engineering and Technology, in association with the IEEE Student Branch, organized an industrial visit to the Fluid Control Research Institute (FCRI), Kanjikode, on 24th August 2024. Forty-one final-year ECE students (2021–2025 batch) participated, accompanied by faculty members Mrs. Asha Arvind, Mrs. Gayathri P S, and Mr. Sathyan P.

FCRI is a leading institute in Fluids Engineering, specializing in testing and calibration of flow meters, valves, and related instruments. Students explored key facilities such as the Water Flow Lab, Air Flow Lab, and Sound & Vibration Lab, gaining practical insights into real-world testing processes.
The visit offered valuable exposure to industrial practices and was made possible through the support of our Principal Dr. P. R. Suresh, Vice Principal Dr. Krishna Kumar Kishor, and HoD Dr. V. Balamurugan. The IEEE Student Branch played a key role in coordinating the event.

Industrial Visit to FCRI: Third Year ECE Students Gain Practical Exposure

24TH AUGUST 2024

On 24th August 2024, third-year students from the 2022–2026 batch of the Department of Electronics and Communication Engineering, Ahalia School of Engineering and Technology, undertook an educational industrial visit to the Fluid Control Research Institute (FCRI), Kanjikode, Palakkad. The visit was organized in collaboration with the IEEE Student Branch and coordinated by faculty members Mrs. Asha Arvind, Mrs. Gayathri P. S., and Senior Instructor Mr. Sathyan P.

The students were introduced to the institute's scope of operations through a detailed video presentation, followed by a guided tour of key laboratories including the Water Flow Lab, Air Flow Lab, Oil Flow Lab, and the Sound and Vibration Testing Labs. This visit provided the students with invaluable exposure to industry-standard testing and calibration procedures, enhancing their understanding of practical applications in fluid dynamics.

The Department expresses its sincere gratitude to Principal Dr. P. R. Suresh, Vice Principal Dr. Krishna Kumar Kishor, and Head of Department Dr. V. Balamurugan for their continued support in facilitating this successful learning experience.

Ahalia Observatory Visit

24TH AUGUST 2024

As part of the National Space Day celebrations, selected students from Ahalia School of Engineering and Technology (ASET) had the unique opportunity to visit the Ahalia Observatory. Among the participants were ECE students Akhib, Muhammed Aashiq, Sreeram and Sreerag, who represented their department with enthusiasm.

During the visit, Dr. Sriganesh S. provided an insightful session on the working and significance of the observatory, explaining various astronomical instruments and observations. The session ignited curiosity and broadened the students' understanding of space science and its applications.

The visit was well-coordinated by Mr. Dhanesh, Faculty Coordinator of the ASET Astronomy Club, along with Ms. Bindu Valoor, Academics Outreach Manager, ensuring a smooth and enriching experience for the students.

Such initiatives play a key role in nurturing scientific temper and interdisciplinary interest among engineering students.

Kudos to all participants and organizers for making the event a memorable one!

Heartfelt Congratulations to Megha P - S6 Academic Topper

The Department of Electronics and Communication Engineering at Ahalia School of Engineering and Technology proudly congratulates Megha P for achieving the highest SGPA of 9.09 in Semester 6. Megha's exceptional academic performance reflects her hard work, dedication, and commitment to excellence in her studies. Her outstanding achievement is a testament to her perseverance and passion for the field of Electronics and Communication Engineering.

The department extends its heartfelt congratulations to Megha and wishes her continued success in her academic journey and future endeavors. She serves as an inspiration to her peers, and we are confident she will continue to excel in her pursuit of knowledge and innovation.

Shining Bright: Namitha S Kumar Tops S2 ECE

The Department of Electronics and Communication Engineering proudly congratulates Namitha S Kumar for securing the highest SGPA of 8.86 in the KTU Second Semester (S2) Examinations of the 2023–2026 batch. Her outstanding academic performance reflects her dedication, consistency, and commitment to excellence.

Namitha's achievement serves as an inspiration to her peers and exemplifies the academic standards upheld by the department. The faculty and staff extend their heartfelt congratulations and best wishes for her continued success in the semesters ahead.

Pakittu 2024: A Joyous Onam Celebration

"Pakittu 2024," our vibrant Onam celebration, brought together the campus community in a colorful display of tradition, unity, and joy. The event featured beautiful Pookalam designs, cultural performances, and the much-awaited traditional Onam Sadya, all of which captured the essence of Kerala's rich heritage. With participants dressed in traditional attire and spirits high, Pakittu 2024 was a heartwarming reminder of the strength of togetherness and the joy of celebrating our roots.

Industrial Visit

On 09th October 2024, a five-day study tour was organized for the final year students (2021–2025 batch) of the Electronics and Communication Engineering Department of Ahalia School of Engineering and Technology. A total of 40 students, accompanied by faculty members Ms. Swetha C, Assistant Professor, and Mr. Sathyan P of the ECE department, embarked on an enriching journey from Palakkad to Chikmagalur and Goa. The tour was planned with the aim of providing students with exposure beyond the classroom, combining academic insights with cultural experiences. It was conducted under the guidance and support of our Principal, Dr. P R Suresh, and the Head of the Department, Dr. V Balamurugan. The entire program was smoothly coordinated by Ms. Gayathri P S, Assistant Professor, ECE Department. During the tour, students had the opportunity to explore practical aspects of communication technologies, engage in group activities, and experience different cultural and geographical environments, making it a memorable and educational experience for all.

Learn the Art Of Report Writing With Latex Overleaf

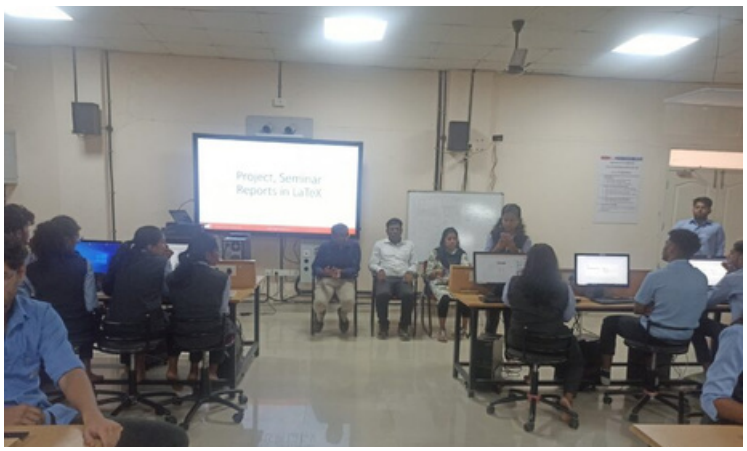
16TH OCTOBER 2024

The Department of Electronics and Communication Engineering, in association with the IEEE Student Branch of Ahalia School of Engineering and Technology, organized a technical session on "Learn the Art of Report Writing with LaTeX Overleaf" on 16th October 2024.

The session was conducted by Dr. Krishna Kumar Kishor, Vice Principal and Associate Professor, from 10:00 AM to 12:20 PM at the Design and Analysis Lab. It began with a prayer by students, followed by an inaugural address from IEEE student representative Mohammed Raeed.

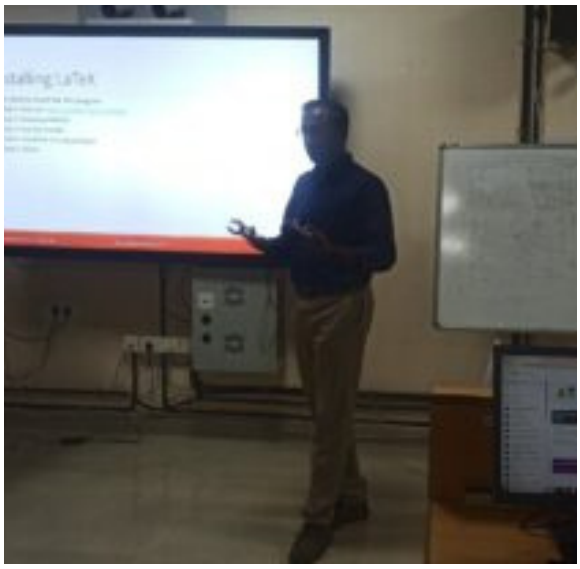
Seventh-semester ECE students participated in the session, which focused on effectively using Overleaf for collaborative documentation and report writing in LaTeX. The session covered key features and practical applications, equipping students with valuable skills for academic and professional report preparation.

Dr. V Balamurugan, Head of the Department, delivered the vote of thanks. The session was highly beneficial in enhancing students' technical writing capabilities.



Dept. of ECE


Department of Electronics and Communication Engineering
presents
A session on
LATEX
Learn the art of report writing with overleaf latex
Speaker
Dr. Krishna Kumar Kishor
Vice Principal , Associate Professor
Ahalia School of Engineering and Technology
16 th October 2024
D&A LAB



From Circuits to Careers: Exploring Opportunities In Electronics and Embedded Systems

25TH OCTOBER 2024

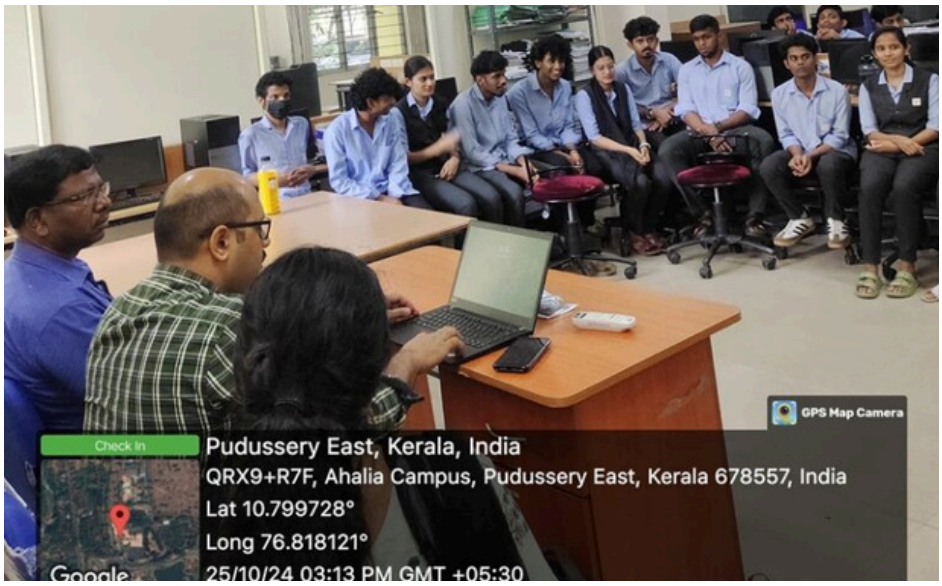
The Department of Electronics and Communication Engineering, in association with the IEEE Student Branch of Ahalia School of Engineering and Technology, organized a session on “From Circuits to Careers” on 25th October 2024 for S5 ECE students.

Mr. Nobi Sebastian, from CYRUSTECH INNOVATION Pvt. Ltd., Vaikom, served as the Chief Guest and resource person. He highlighted the growing demand for skills in electronics and embedded systems, diverse career paths, and the importance of hands-on experience.

The event began with a prayer by Ms. Akshaya Sree P S and Ms. Gowthami, followed by an inaugural address by Dr. V Balamurugan, HoD, ECE. Mr. Abhishek K V shared feedback on the session, and Ms. Gayathri P S, Assistant Professor, delivered the vote of thanks.

The session was highly beneficial in enhancing the students' awareness and preparedness for placement activities, especially in core Electronics domains..

Dept. of ECE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Hackathon Victory for ECE Students !

We are proud to share that Mr. Amith Mathew Titus and Ms. Anugraha M, final-year students of S8 ECE (2021–2025 batch), have brought laurels to Ahalia School of Engineering & Technology by securing First Prize in a prestigious hackathon conducted at Jain University, Kochi.

Their innovative project focused on developing a wind tunnel airflow stabilization system using low-level AVR C programming. This impressive solution not only showcased their technical expertise but also stood out among numerous competitive entries, earning them a cash prize of ₹25,000.
Their success exemplifies the high standards of technical acumen and creative problem-solving nurtured in the ECE department. Congratulations to both for their outstanding achievement and for bringing pride to our institution!

Dept. of ECE





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Palakkad District Athletic Championship

Abhishek K V of S5 ECE secured Second Prize in Javelin Throw (Men's Category) at the 64th Palakkad District Athletic Championship, held on 3rd October 2024 at the Palakkad Medical College Ground.

Hearty congratulations to Abhishek for his remarkable achievement and for bringing pride to the department!

APJAKTU E-Zone Table Tennis Championship

The Table Tennis Team of Ahalia School of Engineering and Technology secured the Runner-Up Trophy in the APJAKTU E-Zone Table Tennis Championship, held on 29th October 2024 at Vidya Academy of Science & Technology, Thrissur.

The team included ECE students Trishay and Sreehari (2023–27 batch), whose commendable performances contributed significantly to this achievement.

With this achievement, the team has successfully qualified for the Interzonal Championship. Congratulations to the team for their excellent performance and for bringing laurels to the institution!

Inauguration of IETE Student Chapter (ISF)

4TH NOVEMBER 2024

The IETE Student Forum (ISF) of Ahalia School of Engineering and Technology was officially inaugurated on 4th November 2024 at Visveswaraya Hall. Coordinated by Dr. Aneesh K, ISF–IETE faculty in charge, the event was inaugurated by Shri Pankaj Kumar Vasisht, Chairman & Managing Director of Instrumentation Limited. In his keynote address, Shri Vasisht highlighted the importance of professional societies and encouraged students to adopt disciplined and focused learning practices. Dr. P.R. Suresh, Principal, spoke on the significance of technical forums in enhancing student skills, while Dr. V. Balamurugan, HoD, ECE, welcomed the gathering and emphasized the value of linking theoretical knowledge with practical exposure.

Dr. Pradip C, Chairman of the IETE Palakkad Center, felicitated the event and shared insights on IETE's role in fostering student growth in the electronics and telecommunication domain. Pooja P Menon, President of the ISF and a 6th-semester ECE student, delivered the vote of thanks, expressing gratitude to all dignitaries and participants. The event saw active participation from students of the 3rd, 5th, and 7th semesters, reflecting strong enthusiasm for the forum. The inauguration marked the beginning of a new phase of student engagement at ASET through workshops, seminars, and technical activities that will support their academic and professional growth.

INDUSTRIAL VISIT TO BSNL Palakkad

7TH NOVEMBER 2024

As part of the academic initiative to bridge the gap between industry and academia, the Department of Electronics and Communication Engineering organized an industrial visit to BSNL Palakkad on 7th November 2024. The visit aimed to provide students with practical exposure to real-world telecommunications systems and enhance their understanding of industry practices.

A total of 53 students from the 2023–2027 batch participated in the visit, accompanied by faculty members Ms. Asha Arvind, Ms. Gayathri P S, and Ms. Swetha C.

During the visit, students toured key facilities including the power supply room, transmission and receiving section, and the IT and networking department. They were introduced to various communication protocols and systems used in modern telecom networks. The interactive sessions with BSNL experts offered valuable insights into the management of voice and data traffic, network security protocols, and strategies for maintaining quality of service.

The industrial visit was an enriching experience for the students, deepening their understanding of the practical aspects of telecommunications and highlighting the critical link between classroom learning and industry applications.

Skilling The Juveniles

26TH NOVEMBER 2024

Ahalia School of Engineering and Technology organized a Workshop on Artificial Intelligence for Internet of Things (AI for IoT) for the students of BES BTV Senior Secondary School, Kallekkad on 26th November 2024.

The workshop was conducted by a dedicated team comprising Mr. Abhijit V., Dr. Leesha Paul, Mr. Sathyan, Ms. Bindu Valoor, Ms. Priyanka, Mr. Sreeroop, and Mr. Sangulesh. The interactive sessions introduced students to the fundamentals and applications of AI in IoT, sparking interest in emerging technologies.

The workshop was well received by the students, and the school authorities appreciated the team's efforts, acknowledging the initiative as both informative and inspiring.

Dept. of ECE


ARTIFICIAL
INTELLIGENCE
FOR INTERNET
OF THINGS
WORKSHOP


ARTIFICIAL
INTELLIGENCE
WORKSHOP

MoU With New Technology Institutions

27TH NOVEMBER 2024

The Department of Electronics and Communication Engineering, Ahalia School of Engineering and Technology, signed a Memorandum of Understanding (MoU) with New Technology Institutions, Coimbatore on 27th November 2024.

The MoU aims to foster joint research and development, facilitate internships and placement opportunities, and promote workshops and skill development programs for students.

The MoU was formally exchanged between Dr. P. R. Suresh (Principal, ASET) and Dr. B. Krishnakumar (CEO & Founder, New Technology Institutions), in the presence of Dr. V. Balamurugan, Head of the Department, ECE.

This collaboration is expected to significantly enhance the academic and professional prospects of ECE students through industry-institution partnership.

ECE Students Completed Swayam Course

In a remarkable display of self-motivation and academic enthusiasm, a number of our Electronics and Communication Engineering (ECE) students have successfully completed courses on the SWAYAM platform. This achievement highlights the students' commitment to advancing their knowledge and skills in various areas of ECE. By leveraging online resources, they have expanded their understanding of cutting-edge technologies and industry trends. We commend their hard work and encourage all ECE students to take advantage of such valuable learning opportunities to complement their academic curriculum and stay ahead in their professional pursuits.

Skilling The Youth – Unlocking The Youth Potential

3RD DECEMBER 2024

Ahalia School of Engineering and Technology successfully organized a workshop on Artificial Intelligence for Internet of Things (AIoT) for the Higher Secondary students of Assisi English Medium Higher Secondary School, Kanjikode, on 03/12/2024. The event aimed to equip young minds with a foundational understanding of the rapidly evolving field of AIoT, fostering curiosity and innovation among the students.

Our dedicated team, comprising Mr. Abhijit V., Ms. Bindu Valoor, Mr. Sathyan, Ms. Priyanka, Mr. Sreeroop, and Mr. Sangulesh, led the session with insightful presentations and interactive discussions. The workshop focused on how Artificial Intelligence integrates with IoT to create smarter, more efficient systems, offering practical examples and demonstrations.

The initiative is part of our continuous efforts to empower the youth with the knowledge and skills needed to excel in the digital era, nurturing the leaders and innovators of tomorrow. We are thrilled to have provided an engaging learning experience and look forward to future collaborations that further unlock the potential of our young generation.

Christmas Day Celebration 2024

20TH December 2024

The Christmas celebration at ASET was held on 20/12/2024, bringing together students, faculty, and staff to celebrate the festive season in a spirit of joy, unity, and holiday cheer. The celebration was a delightful blend of tradition, creativity, and community spirit, making it one of the most memorable events of the academic year.

The campus wore a festive look, with vibrant decorations including sparkling lights, wreaths, and beautifully adorned Christmas trees gracing the main entrance, hallways, and common areas. The atmosphere was filled with excitement and holiday cheer, reflecting the collective effort of students and staff members who actively participated in preparing for the event.

The programme was formally inaugurated by Dr. P.R. Suresh, Principal, ASET, with the ceremonial cake-cutting, marking the official start of the celebrations. The event witnessed enthusiastic participation from both students and faculty members, highlighting the unity and camaraderie within the ASET community.
A variety of engaging activities and performances added to the festive vibe, while staff volunteers ensured that everything ran smoothly. The celebration concluded at 4:30 p.m., leaving behind cherished memories and smiles on every face.

Events like these not only bring joy but also strengthen the bonds within the academic community. The ECE department extends its heartfelt appreciation to all who contributed to making the Christmas celebration a grand success.

Dept. of ECE

Outstanding Chapter Award

We are proud to announce that the IEEE Education Society Kerala Chapter has been honored with the prestigious Outstanding Chapter Award. The award was received by Dr. Leesha Paul, Chair of the IEEE Education Society Kerala Chapter and Professor, ECE Department, ASET, at a formal ceremony held in Bangalore.

This recognition celebrates the Chapter's exemplary efforts in advancing engineering education, fostering professional development, and promoting innovative learning initiatives across the state.

Congratulations to Dr. Leesha Paul and the entire team for this well-deserved honor!

Certified Faculties in NPTEL Courses July – October 2024

We are proud to announce that our esteemed faculty members have successfully completed and received certifications for NPTEL courses in the July – October 2024 session. Their commitment to professional growth and excellence in teaching reflects the high standards of our Electronics & Communication Engineering department.

- Dr. Krishna Kumar Kishor completed the course on Entrepreneurship offered by IIT Madras, demonstrating a keen interest in fostering entrepreneurial skills among students.

- Dr. Aneesh K completed the course on System Design Through Verilog offered by IIT Guwahati, enhancing his expertise in the domain of digital system design.

- Mr. Abhijit V completed courses on Deep Learning and Introduction to Machine Learning, both from IIT Madras, solidifying his proficiency in cutting-edge technologies.

Independence Day Story Writing Competition

Athulya Sivadasan of S3 ECE brought laurels to the department by securing the Third Prize in the Independence Day Story Writing Competition held as part of the 77th Independence Day celebrations.

Her compelling narrative, reflecting the spirit of patriotism and national pride, stood out among numerous entries and was highly appreciated by the judges.

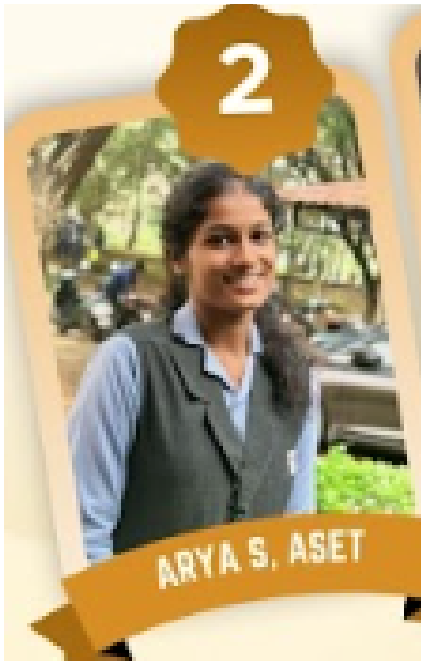
Congratulations, Athulya! Your achievement adds another feather to the ECE Department's cap. Keep up the good work!

Athulya Sivadasan
S3 ECE

Hiroshima Day Inter Collegiate Poster Making Competiton

We are delighted to share that Arya s, a third-year student of the ECE Department, secured the Second Prize in the Hiroshima Day Inter-Collegiate Poster Making Competition, organized under the National Service Scheme (NSS) and Unnat Bharat Abhiyan.

The event, hosted by Ahalia School of Engineering & Technology, witnessed enthusiastic participation from students across various institutions.



Congratulations, Arya! Your achievement brings pride to the department and inspires your peers to engage in socially meaningful and creative pursuits.

Lucky Draw Winners

The ASET NSS unit organized a Lucky Draw Contest from August 28 to September 13, 2024, as part of its fundraising initiatives. The event received overwhelming participation from students, faculty, and staff, reflecting the strong spirit of community and support within the ASET family.

The winners of the Lucky Draw — Dr. V Balamurugan, HOD, ECE and Dhanush P, S5 ECE — were announced during the vibrant ASET Onam Celebrations on September 13, 2024. The prizes were distributed by Dr. P R Suresh, Principal, Ahalia School of Engineering & Technology, adding to the festive cheer of the occasion.

All proceeds from this fundraising campaign will be donated to the APJAKTU NSS Cell to support the house-building project at Wayanad, an initiative aimed at providing shelter to the underprivileged.

Heartfelt congratulations to all the winners, and sincere thanks to everyone who contributed and supported this noble cause.

ECE Students Shine in College Kho Kho Team

The Kho Kho team of Ahalia School of Engineering and Technology has showcased outstanding teamwork and sportsmanship, with a significant number of players proudly representing the Electronics and Communication Engineering Department.

The team exhibited remarkable agility, coordination, and determination on the field, with ECE students playing a vital role in driving the team's spirited performance in various inter-collegiate matches and tournaments.

Their participation reflects the department's commitment to holistic development, encouraging students to excel not only in academics but also in extracurricular and sporting activities.

Congratulations to all the ECE players for their energetic and inspiring performance! Keep the spirit alive and continue making us proud.

Achievement in Bodybuilding
Manu S Vignesh

The Department of Electronics and Communication Engineering proudly congratulates Mr. Manu S Vignesh for his remarkable achievements in the field of bodybuilding. Displaying unwavering dedication and athletic excellence, he secured the Third Prize in the 65kg Bodybuilding category at the prestigious Mr. Palakkad 2023–24 Championship. Building on this success, he further distinguished himself by winning the Second Prize in the same category at the Mr. Kerala 2023–24 State Championship, thereby showcasing his talent at a higher competitive level.

Mr. Manu's accomplishments are a testament to his discipline, perseverance, and passion for excellence. His success serves as an inspiration to his peers, encouraging them to strive for achievements beyond academics. The department commends him for this commendable feat and extends its best wishes for continued success in his future endeavors.

ECE Students Shine In College Football Team

The Department of Electronics and Communication Engineering is proud to announce the remarkable participation of its students in the Ahalia School of Engineering and Technology Football Team. The team has actively represented the institution in various intercollegiate tournaments, showcasing excellent teamwork, sportsmanship, and competitive spirit.

Among the standout performers are Mr. Sreeram of S3 ECE and Mr. Ajmal of S5 ECE, who have been key players in the team.

The department appreciates and applauds their efforts, as well as the support provided by the faculty and coaching staff in nurturing student-athletes. Their achievements not only highlight individual talent but also reflect the holistic development encouraged at Ahalia School of Engineering and Technology.

Dr. P R Suresh, Principal, and Dr. V Balamurugan, HoD of ECE, have both extended their congratulations and encouragement to the students, emphasizing the importance of sports in fostering leadership and resilience.

We wish the team continued success in future tournaments and hope to see more ECE students make their mark in both academics and extracurricular activities.

Graduation Day Celebration

The Graduation Day for the 2020–2024 batch was celebrated with grandeur and pride at Ahalia School of Engineering and Technology, marking a significant milestone in the academic journey of our students.

The event was a memorable occasion filled with heartfelt speeches, moments of reflection, and expressions of gratitude. Faculty members, parents, and graduates came together to celebrate the achievements and journeys of our outgoing students from the Electronics and Communication Engineering department.

As our graduates step into the next phase of their lives—be it higher studies, professional careers, or entrepreneurial ventures—we extend our heartfelt congratulations and best wishes for their future endeavors.

Hearty congratulations to the ECE 2020–24 Batch! You will always be a part of the ASET family.

ECE Insight: Paper Publications

1.Amith Mathew Titus, Manukuttan P, Mohamed Afran, Vignesh V, Dr. V. Balamurugan, Asha Arvind, paper titled, “Robust Analytical Vehicle For Exploration and Navigation (Raven)” International Journal of Engineering Applied Sciences and Technology, 2024 Vol.9, Issue 05, ISSN No. 2455-2143, Pages 163-167.
https://doi.org/10.33564/IJEAST.2024.v09i05.021.

2. Arya A, Megha P, Shijila S, Sreelakshmy M, Dr. V. Balamurugan, Swetha C paper titled, “Railway Track Crack Detection Robot” International Journal of Engineering Applied Sciences and Technology, 2024 Vol. 9, Issue 05, ISSN No. 2455-2143, Pages 175-179.
https://doi.org/10.33564/IJEAST.2024.v09i05.023

3. Abdul Siya Salim, Dhakshayani V.R., Rahna A, Sruthika S., Dr. V. Balamurugan, Dr.Aneesh K, paper titled “Designing Low Power Double Tailed Comparator For ECG”, International Journal of Engineering Applied Sciences and Technology, 2024 Vol. 9, Issue 05, ISSN No. 2455-2143, Pages 168-174.
https://doi.org/10.33564/IJEAST.2024.v09i05.022

4. Abdul Zahid J, Anugraha M, Arun A, Shafil S, Dr. V. Balamurugan, Dr. Leesha Paul , paper titled “SOLARCLEAN AUTOBOT: IoT-ENABLED SOLAR PANEL CLEANING ROBOT”, International Journal of Engineering Applied Sciences and Technology, 2024 Vol. 9, Issue 05, ISSN No. 2455-2143, Pages 180-184
DOI: https://www.ijeast.com/papers/180-184,%20Tesma0905,IJEAST.pdf

5. Vishnu Venugopalan K, Anisha, Anugraha P C, Abhijit V paper titled “Development of an Arduino-Integrated Wireless Inter-Vehicle Communication Infrastructure for Enhanced Traffic Safety and Efficiency”, International Journal Of Innovative Science And Research Technology-IJISRT, Volume 9
DOI: https://doi.org/10.38124/ijisrt/IJISRT24MAR1506

6. Shruthi S; Amritha M H; Sreesha V; Abhijay V; Dr. Krishna Kumar Kishor; Dr. V. Balamurugan, “Multiband Frequency Compact Patch Antenna for 5G Applications”, International Journal Of Innovative Science And Research Technology-IJISRT, Volume 9
DOI: https://doi.org/10.38124/ijisrt/IJISRT24APR2145

7. Sanjay M.; Asha Arvind; Ajay Krishna K.; Anuchand P.C.; Sreelaxmi V. N.; Dr. V. Balamurugan paper titled on " Compact and Wearable Ventilator System for Enhanced Patient Care ", International Journal Of Innovative Science And Research Technology-IJISRT, Volume 9
DOI : https://doi.org/10.38124/ijisrt/IJISRT24APR056

8. Niranjitha.D, Nithyasree.S, Sneha Krishna.M, Sthuthi Maria.C paper titled, "Design and Development of Dynamic Comparator for Biomedical Applications Using LTspice", International Journal Of Creative Research Thoughts-IJCRT, Volume 12
DOI: https://ijcrt.org/viewfulltext.php?&p_id=IJCRT24A4458

9. Arjun Anand, Rahul.R, Hiran.H, Sooraj K S, paper titled "Plastic Bottle Reverse Vending Machine", International Journal Of Creative Research Thoughts-IJCRT, Volume 12
DOI: http://ijcrt.org/viewfull.php?&p_id=IJCRT24A3211

10. Hisham H, Aswin Haridas, Sreerenj PR, Vijayakrishnan M, Dr. V Balamurugan paper titled, "Home Automation Using Image Processing", International Journal Of Innovative Science And Research Technology-IJISRT, Volume 9
DOI: https://doi.org/10.38124/ijisrt/IJISRT24APR2036

11. Minzy M; Aryamol S ; Asha D; Divya Mohan; Dr V Balamurugan, paper titled, "Geospatial Land Classification Via Advanced Image Processing using CNN", International Journal Of Innovative Science And Research Technology-IJISRT, Volume 9
DOI: https://doi.org/10.38124/ijisrt/IJISRT24MAR1914

International Conference Publication:
Joel T Aju, Dr.V.Balamurugan , paper titled, A comprehensive survey on Extrative and Abstrative Text Summarization Approaches Evaluation Techniques and Engineering Technologies" in the 4 th ACE international Conference on Applied Science ,Engineering ,Technology and Management -AICASETM'24 organized by Alpha College of Engineering

Learning Loop: ECE Staff FDP Highlights

1) Dr. Krishna Kumar Kishor successfully completed the course on “Entrepreneurship” offered by NPTEL (July-October 2024).

2) Dr. V Balamurugan attended Five-day STTP on “Advancements and Innovations in AI for Healthcare and Medical Imaging Technologies”, conducted by the Department of Electronics and Communication Engineering, KPR Institute of Engineering and Technology, Coimbatore, from 26/12/2024 to 31/12/2024.

3) Dr. V Balamurugan attended Faculty Development Program on “Innovative Technologies for Smart Cities: IoT, AI, and Blockchain”, organized by Electronics and ICT Academy, IIT Roorkee in association with Noida Institute of Engineering and Technology, Greater Noida, held from 23/12/2024 to 28/12/2024.

4) Dr. Aneesh K attended ATAL FDP on “Digital design using Intel FPGA” (26/8/24 to 31/8 /2024). Venue: Reva University Bangalore.

5) Dr. Aneesh K attended NPTEL 12 WEEK COURSE FDP on “System Design through Verilog” (June -Sep 2024).

6) Ms. Swetha C attended FDP on “GENERATIVE AI: FOUNDATIONS, APPLICATIONS, AND FUTURE DIRECTIONS” Organized by Electronics and ICT Academy, IIT Roorkee from 18th November 2024 to 22nd November 2024.

7) Ms. Vijitha Khan attended Faculty Development Program on “Smart Sensor Systems: IoT-Based Sensor Design, Development and Applications in Electrical Engineering”, organized by the Department of Electrical and Electronics Engineering, from 18/11/2024 to 22/11/2024.

8) Ms. Divya Mohan attended Faculty Development Program on “Smart Sensor Systems: IoT-Based Sensor Design, Development and Applications in Electrical Engineering”, organized by the Department of Electrical and Electronics Engineering, from 18/11/2024 to 22/11/2024.

9) Ms. Asha Arvind attended Faculty Development Program on “Generative AI: Foundations, Applications, and Future Directions”, organized by Electronics and ICT Academy, IIT Roorkee, from 18/11/2024 to 22/11/2024.

10) Ms. Gayathri P S attended Faculty Development Program on “Generative AI: Foundations, Applications, and Future Directions”, organized by Electronics and ICT Academy, IIT Roorkee, from 18/11/2024 to 22/11/2024.

Class Committee Members

S7 ECE Class Committee Members

Staff Members:

Dr. V. Balamurugan
Mrs. Swetha C.
Mrs. Asha Aravind

Student Members:

Mr. Ajay K S
Mr. Amith Krishna K K
Ms. Arya A
Ms. Chaithanya C
Ms. Mohamed Afran
Ms. Khadija N
Ms. Nandana V
Ms. Sruthika S

S5 ECE Class Committee Members

Staff Members:

Dr. V. Balamurugan
Dr. Aneesh K.
Mrs. Swetha C.
Mrs. Divya Mohan
Mrs. Gayathri PS
Mr. Abhijith V
Dr. Leesha Paul
Ms. Preeja
Ms. Vijitha Khan

Student Members:

Ms. Arya P.R
Ms. Sreelakshmi V
Ms. Nanadana N
Mr. Dhanush P

Class Committee Members

S3 ECE Class Committee Members

Staff Members:

Dr. V. Balamurugan
Mrs. Swetha C.
Mrs. Divya Mohan
Mrs. Gayathri PS
Mrs. Preeja V.
Mrs. Asha Aravind
Dr. Aneesh K.
Mrs. Prabha R
Mr. Abhijith V

Student Members:

Mr. Sreeram
Mr. Mridul
Ms. Namitha S Kumar
Ms. Anuja
Ms. Athulya
Ms. Ann Maria

S1 ECE Class Committee Members

Staff Members:

Dr. V. Balamurugan
Mr. Abijith V.
Mrs. Vijitha Khan
Mrs. Swetha C.
Mrs. Sunitha K.G.
Mr. Thannasi C
Mr. Jishnoop J
Mr. Vipin Das K
Ms. Chippy B
Ms. Rosu V

Student Members:

Ms. Keerthi S
Ms. Athulya Das
Ms. Zoya Prakasan
Mr. Harikrishnan K

Recent Advancements in Electromagnetics

Dr V Balamurugan

Electromagnetics, a foundational pillar of electronics and communication engineering, continues to evolve with groundbreaking advancements that are reshaping technology across multiple sectors. In recent years, significant progress has been made in the field of electronic warfare, particularly in the development of systems that use electromagnetic interference to disable enemy drones and communication networks. One notable example is Ukraine's implementation of a nationwide electronic warfare mesh network, designed to jam and spoof hostile drones—a clear demonstration of how electromagnetics is playing a strategic role in national defense. Similarly, the UK has introduced a Radio Frequency Directed Energy Weapon (RFDEW), capable of disabling drones using focused RF pulses, offering a cost-effective alternative to traditional air defense systems.

In wireless communications, the journey toward 6G networks has spurred innovation in terahertz (THz) technology, where researchers are exploring graphene-based devices for high-speed data transmission. Additionally, reconfigurable intelligent surfaces (RIS) are emerging as a transformative solution for enhancing wireless signal quality by dynamically shaping electromagnetic wave propagation. These smart surfaces are poised to revolutionize communication systems in dense urban environments and smart factories.

Alongside communication advancements, electromagnetics is driving innovation in wireless power transfer (WPT), enabling contactless charging for applications ranging from medical implants to autonomous drones. The integration of simultaneous wireless information and power transfer (SWIPT) further pushes the boundary by allowing devices to receive power and data concurrently.

Biomedical applications have also benefited from recent electromagnetic research. Wireless power technologies are now being used to develop more efficient and compact implantable medical devices, such as pacemakers and neural interfaces. These devices increasingly incorporate reconfigurable antennas made from tunable materials like graphene, allowing them to adapt to the body's dynamic environment and maintain optimal performance. In the realm of quantum computing, computational electromagnetics is playing a critical role in minimizing electromagnetic noise that can disrupt quantum bits (qubits), thereby improving the reliability of quantum devices.

Moreover, the development of advanced materials like metasurfaces and electronically tunable substrates is enabling new types of antennas and wave-controlling devices. These innovations allow for precise manipulation of electromagnetic waves, with applications in next-generation wireless networks, radar systems, and even electromagnetic cloaking. Collectively, these advancements highlight the dynamic and interdisciplinary nature of modern electromagnetics.

For students and researchers in the ECE community, these developments not only reflect the rapid pace of technological progress but also underscore the exciting opportunities that lie ahead in this ever-evolving field.

Real-Time Operating Systems (RTOS) for IoT: Enabling Intelligence at the Edge

Sankulesh Narayanan M

The Internet of Things (IoT) is rapidly transforming the way devices interact with the world, making embedded systems smarter and more responsive. A critical enabler of this transformation is the Real-Time Operating System (RTOS), which provides a lightweight software framework to manage hardware resources and ensure that time-sensitive tasks are completed within strict deadlines. Unlike traditional operating systems, RTOS offers deterministic behavior, guaranteeing timely responses essential for applications such as industrial automation, healthcare monitoring, and smart home devices. Popular RTOS platforms like FreeRTOS, Zephyr, and Mbed OS are designed to operate efficiently within the limited resources typical of IoT devices, offering multitasking capabilities, task prioritization, minimal latency, and optimized memory usage. These features allow IoT devices to handle simultaneous processes—such as sensing, communication, and control—without missing critical events. While bare-metal programming can suffice for simple embedded systems, the complexity of modern IoT applications demands the scalability and abstraction an RTOS provides, simplifying development and improving reliability. However, challenges remain, including ensuring security within real-time constraints and balancing energy consumption. As RTOS technology continues to evolve, integration with AI, cloud services, and heterogeneous hardware will further empower IoT devices to operate autonomously and efficiently. In summary, RTOS plays a vital role in making IoT devices truly intelligent and capable of responding to their environments in real-time, thereby driving innovation across industries and everyday life.

Snapshots from Department Meetings

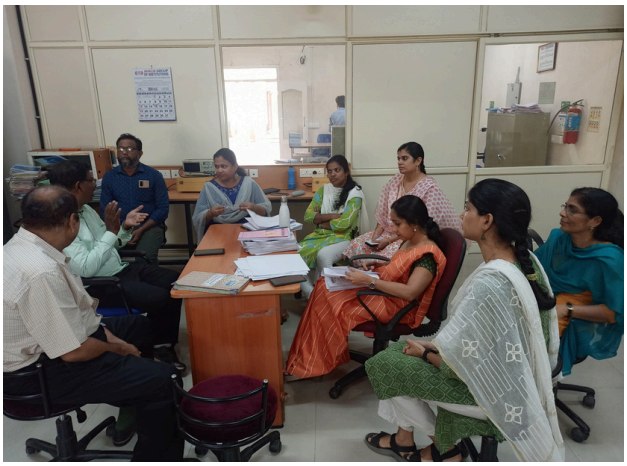
In our pursuit of academic and research excellence, regular department meetings play a pivotal role in fostering collaboration, planning, and continuous improvement. These gatherings bring together faculty members, researchers, and administrative staff to discuss key developments, address challenges, and align on strategic initiatives.

The photos featured here capture moments from our meetings—highlighting active engagement, thoughtful discussions, and the collective spirit that drives the Department of Electronics and Communication Engineering forward. These sessions are not just about agendas and reports—they are about shaping the future of our department, together.

Department meeting held for the month of September

Department meeting held for the month of October

Department meetings held for the month of November



Department meetings held for the month of December

NBA Meeting Highlights

The Department of Electronics and Communication Engineering actively participated in the National Board of Accreditation (NBA) meetings conducted during [insert month/year]. These sessions were instrumental in reviewing and refining our academic processes, teaching methodologies, and outcome-based education framework.

The meeting saw the enthusiastic involvement of department staff, the NBA coordinator, and other faculty members. It provided a valuable platform for open discussion, planning, and collaboration as we work together to meet accreditation standards and continually enhance the quality of our programs.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Pudussery East, Kerala 678557, India
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09/12/24 03:09 PM GMT +05:30
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GPS Map Camera
Pudussery East, Kerala, India
Ahalia Building, Ahalia College Rd, Ahalia Campus,
Pudussery East, Kerala 678557, India
Lat 10.798905° Long 76.818152°
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Innovation distinguishes between a leader and a follower

— Steve Jobs

About Tech-Tide

Tech Tide is the official newsletter of the Department of ECE, aiming to showcase innovation, research, and talent from our vibrant academic community.

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https://ahalia.ac.in/academics/departments/ece/

In this issue: Highlights

- Guest Lecture Series

Insights shared by industry leaders and academic experts on VLSI, Embedded Systems, and emerging technologies.

- Workshops

Interactive, hands-on sessions focused on cutting-edge technologies and professional skill development.

- Student Achievements

Celebrating student excellence in project exhibitions, technical competitions, and sports.

- Tech Events & Activities

Highlights of departmental initiatives including hackathons, seminars, and awareness campaigns.

- Industrial Visits

Snapshots of students' real-world exposure through visits to leading industries and tech hubs.