



Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)



School of Electrical and Communication Department of Electrical and Electronics Engineering

Academic Year 2023 – 24

June 2023 - December 2023

News Bite

Issue: 01



Founders



Col. Prof. Dr. Vel R. Rangarajan
B.E. (Elec), B.E. (Mech), M.S. (Auto), D.Sc.,
Founder President & Chancellor



Dr. Sagunthala Rangarajan
M.B.B.S.,
Foundress President



LEADERSHIP



Dr. Rangarajan Mahalakshmi Kishore
Chairperson & Managing Trustee

I am delighted to see the Department of Electrical and Electronics Engineering bring out this vibrant edition of News Bite. This newsletter reflects the academic excellence, research endeavours, and innovative spirit that define our university. As technology rapidly evolves, I encourage everyone to continuously push boundaries, cultivate a mindset of lifelong learning, and apply technical knowledge to solve real-world challenges. I congratulate the editorial team and the entire EEE department for their dedicated efforts in showcasing our collective achievements and vision.

Wishing you all continued success and growth!



LEADERSHIP



Prof. Dr. S. Salivahanan
Vice Chancellor

It is a matter of great pride to see the EEE Department publish another edition of News Bite, highlighting our academic and research milestones. In an era driven by technological advancement, our focus remains on fostering critical thinking, research excellence, and sustainable innovation. I extend my heartiest congratulations to the faculty, students and editorial team for their stellar contribution to this newsletter.



Prof. Dr. E. Kannan
Registrar

I warmly congratulate the EEE Department on launching this insightful edition of News Bite. This platform beautifully captures the dynamic activities, student achievements and administrative excellence of the department. I wish the EEE team continued success in inspiring our academic community through such meaningful initiatives.



LEADERSHIP



Dr. R. S. Valarmathi
Prof. & Dean-SoEC

It gives me immense pleasure to present this edition of News Bite, showcasing the vibrant academic and research accomplishments of our students and faculty. This newsletter captures our unwavering commitment to innovation, technical excellence and meaningful collaboration. I deeply appreciate everyone who contributed to bringing this edition together. Best wishes to the EEE community as we continue to strive for excellence and achieve greater milestones ahead!



Dr. S. Ramesh
Professor & HoD

I am delighted to present this edition of News Bite, featuring the research activities, innovative projects, and achievements of our EEE Department. This newsletter reflects the enthusiasm, creativity and dedication of our students and faculty. I sincerely appreciate the collective efforts that continue to strengthen our department and foster a culture of excellence, innovation and continuous learning. My best wishes to the entire faculty, staffs, students and EEE community.

VISION OF THE DEPARTMENT

To provide intellectual curiosity in the field of Electrical and Electronics engineering that produces skilled interdisciplinary engineers to serve the society

MISSION OF THE DEPARTMENT

- M1: To inculcate knowledge among the students through comprehensive curriculum.**
- M2: To enrich the academic experience in terms of flexibility, teamwork, design skills, practice and industrial trainings.**
- M3: To produce competent graduates suitable for a successful career in Industry and Research.**

PROGRAMME EDUCATIONAL OBJECTIVE

- PEO1: Design and analyse electrical and electronic systems by applying the knowledge of mathematics and engineering.**
- PEO2: Provide practical solution to multidisciplinary societal problems through innovative ideas.**
- PEO3: Secure positions and continue as valued, creative and proficient employees in a wide variety of fields and industries for a rewarding career.**

PROGRAMME SPECIFIC OUTCOME

- PSO1: Apply fundamental of mathematics, physical sciences and Electrical & Electronics engineering to analyze and solve complex real-world problems.**
- PSO2: Design, develop and implement Electrical, Electronics and Allied engineering systems to meet the demands of industry and suggest solutions for social needs.**



Value Added Course (VAC) on “PCB Design and Manufacturing”

The Department of EEE, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, in association with Vel Tech TBI and Auckam Technologies, organized a Value Added Course (VAC) on “PCB Design and Manufacturing” from 4th October to 27th October 2023. The course aimed to provide students with practical knowledge of printed circuit board (PCB) design and manufacturing techniques. It enhanced students' technical skills in circuit design, component placement, and PCB layout development. The programme also encouraged hands-on learning and helped students understand the industrial applications of PCB technology.

Impact of the program

The programme enhanced students' practical knowledge of PCB design and manufacturing techniques. It improved their technical skills in circuit design, component placement, and PCB layout development. The course provided industry-oriented exposure to modern PCB design tools and manufacturing processes. It motivated students to apply their knowledge in innovative projects and real-world engineering applications.



Event benefits

- Gained practical knowledge of PCB design and manufacturing processes. Understood the basic principles and applications of printed circuit boards.
- Developed skills in circuit design and PCB layout development. Learned to create circuit schematics and arrange components effectively.
- Acquired hands-on experience with PCB design software and tools. Improved proficiency in designing and developing electronic circuits.
- Understood PCB fabrication, assembly, and testing techniques. Gained knowledge of the various stages involved in PCB manufacturing.
- Enhanced technical and problem-solving skills. Learned to identify design errors and develop effective engineering solutions.
- Improved industry readiness and project development skills. Gained confidence to apply PCB design knowledge in practical projects and innovative applications.



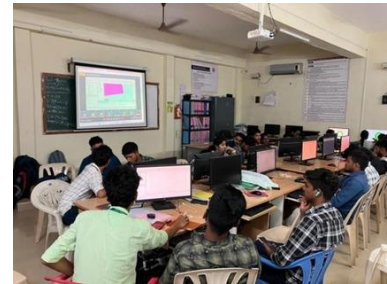
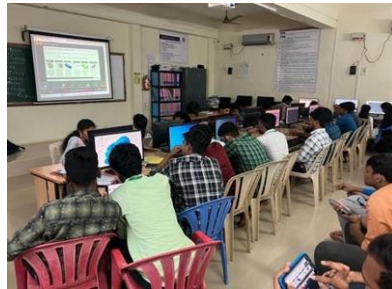
Workshop Organized

ANSYS Solution to EV

The Department of EEE organized an expert session on “ANSYS Solutions for Electric Vehicles (EVs)” to introduce students to simulation-based engineering solutions for electric vehicle development. The programme focused on the application of ANSYS tools in EV design, thermal management, and performance analysis. It aimed to enhance students’ technical knowledge and provide insights into simulation technologies used in the electric vehicle industry.

Outcome

1. Gained knowledge of ANSYS simulation tools and their applications in electric vehicle design and analysis.
2. Understood the role of simulation in evaluating EV performance, thermal management, and component reliability.



Design and Fabrication of single phase transformer

The Department of EEE organized a programme on “Design and Fabrication of Single-Phase Transformer” to provide students with practical knowledge of transformer construction and working principles. The programme focused on transformer design, component assembly, and fabrication techniques to enhance students’ hands-on skills and technical understanding.

Workshop on IoT (ESP32)

The Department of EEE organized a workshop on “Internet of Things (IoT) using ESP32” to introduce students to IoT concepts and embedded system applications. The workshop focused on ESP32 microcontroller programming, sensor interfacing, and wireless communication. Students gained hands-on experience in developing IoT-based projects and real-time monitoring systems. The programme enhanced their technical skills and encouraged innovation in smart and connected applications.



HIGHER-LEARNING INSTITUTE INTERACTION

The course also provided an opportunity for industry and higher-learning institute interaction, enabling students to gain practical insights into offshore wind farm technologies, sustainable energy practices, and current developments in the renewable energy sector. The interaction helped bridge theoretical learning with real-world applications and enhanced students' understanding of the opportunities and challenges associated with sustainable offshore wind energy. A vibrant question-and-answer segment followed, where students actively clarified technical queries regarding project deployment and maintenance. Garnering overwhelmingly positive feedback, attendees praised the session for successfully connecting classroom theory with actionable field expertise.

Event Highlights

About

Dr. Lung-Jieh Yang from Tamkang University, Taiwan, conducted the course "Sustainability and Offshore Wind Farm" for a total duration of 15 hours, carrying 1 credit. The course was attended by 29 students and focused on the principles of sustainability, offshore wind energy development, and the role of renewable energy in addressing future energy and environmental challenges.

Event Benefits

The course enhanced students' understanding of sustainability principles and offshore wind energy technologies. It created awareness of renewable energy applications in addressing global energy demands and environmental challenges. It also encouraged students to explore innovative and sustainable solutions for future energy generation and environmental protection..

Outcome

1. Gained knowledge of sustainability principles and offshore wind farm technologies for renewable energy generation.
2. Developed an understanding of the role of offshore wind energy in reducing carbon emissions and addressing environmental challenges.
3. Acquired awareness of emerging renewable energy technologies and their potential applications in sustainable power generation.



FACULTY ACHIEVEMENTS

Faculty members of the department have actively contributed to innovation and research by filing and publishing several patents in emerging areas of technology. These patents reflect the department’s commitment to developing innovative solutions to real-world challenges. The research activities focus on emerging technologies and advancements that have the potential to benefit society and industry.

Name	Title of the patent	Patent Number
Dr.P.K.Dhal	Laplace transform in solving partial differential equation in the second derivative and its application	02221068103
	Early warning optical sensor system for inflow organic matter breach in large scale irrigation and water treatment systems method	202241035917
Dr.K. Karthikumar	Non-contact hot water dispenser with solar panel	371560-001

STUDENT ACHIEVEMENTS

The Department of EEE proudly congratulates **Sohaib Siddiq**, student of EEE, for participating in various programmes and securing top positions. His dedication, hard work, and commitment to excellence are highly appreciated. His achievements reflect his talent and enthusiasm for learning and personal growth. The department wishes him continued success in all his future endeavours. May your passion for innovation continue to illuminate new pathways in engineering and technology. We look forward to seeing all the remarkable ways you will shape the future.

Event	Level	Award
Innovision – Idea Presentation (Praestantia 2k23) organized by Sairam Institute of Technology	State Level	First place
Mock Interview Event- KRATORQ 2023 organized by SRM Institute of Science and Technology	State Level	First place
AMALGAM 2024 – Energy & Sustainability Competition organized by METSA and IIT Madras	National	First place
Paper presentation in International Conference on Material Processing using Lasers and Surface Engineering (IMPULSE 2023) organized by Indian Institute of Technology Madras	International	Presented
Paper presentation in National Conference on Advancement in Artificial Intelligence and Emerging Trends (NCAA IET’23) organized by Sairam Engineering College	State Level	Second place

RESEARCH FUNDING

Faculty members have received Fund under Research Development fund scheme for having good impact factor publications in 2023.

Dr. S.Ramesh (TTS2784)

Prof / EEE,

Allocated Budget: INR 50,000/-



Faculty members have received Fund under Research Development fund scheme for having good impact factor publications in 2023.

Dr. K. Karthikumar (TTS3065)

Asso. Prof / EEE,

Allocated Budget: INR 1,00,000/-

Dr. N. K. Rayaguru received a grant of **INR 50,000/-** under Unnat Bharat Abhiyan 2.0. The grant supports initiatives related to Rural Energy Systems for sustainable rural development. The project is supported by IIT Delhi, promoting community-oriented research and energy solutions.



Thirteen faculty members have submitted a total of 24 research proposals to various funding agencies. The proposals were submitted to reputed agencies including DST, SERB, AICTE, and others. The total value of the research proposals submitted is approximately INR 6.67 Crores. This reflects the department's strong focus on research, innovation, and securing competitive external funding.

STUDENT PUBLICATION

Students have published their research findings in various national and international conferences and journals. Students published ARPN Journal of Engineering and Applied Sciences, Utility Policy and AIP Conference proceedings. Their scholarly contributions encompass high-impact research articles indexed in prestigious databases such as Scopus and Web of Science. By addressing complex challenges in modern electrical engineering, our young researchers demonstrate technical rigor and innovation. These publications highlight the department's commitment to fostering cutting-edge academic excellence and student-led inquiry. We take immense pride in their achievements as they contribute meaningfully to the global scientific community.

EDITORIAL BOARD

FACULTY TEAM

Dr. S. Ramesh
Professor & HOD

STUDENTS TEAM

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