



Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
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School of Electrical and Communication Department of Electrical and Electronics Engineering

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Founders



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



In the Fond Memory of
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. Rajat Gupta
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.**



Seminar on Smart Grid Protection

The Department of Electrical and Electronics Engineering (EEE) organised a seminar on “Smart Grid Protection” on 26 September 2024, delivered by Dr. K. Selvajyothi, Associate Professor, Department of ECE, IIITDM Kancheepuram. The session covered smart grid protection techniques, fault detection, intelligent monitoring, and renewable energy integration and interactive discussions. The seminar was highly interactive, encouraging students to actively participate in discussions, ask questions and clarify their doubts. Students gained valuable insights into emerging smart grid technologies and their real-world applications. The programme received positive feedback from students, who appreciated the expert’s clear explanations and engaging approach to the subject.

Impact of the program

The seminar is expected to strengthen participants’ technical understanding of smart grid protection and its significance in modern electrical power networks. It will help bridge the gap between theoretical concepts and practical applications by introducing intelligent protection devices, advanced fault detection techniques, and communication-based protection strategies.



Event benefits

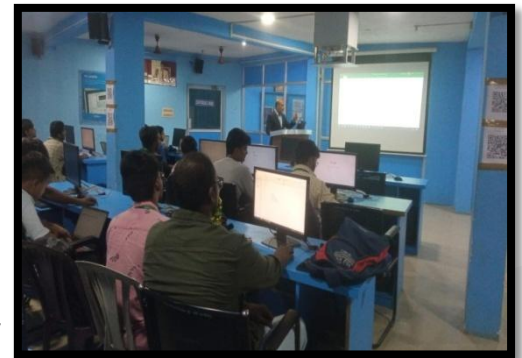
1. Enhanced Technical Knowledge: Participants gain a better understanding of smart grid architecture, operating principles, and advanced power system protection techniques.
2. Awareness of Emerging Technologies: The seminar introduces intelligent electronic devices, digital protective relays, phasor measurement units (PMUs), and communication-based protection systems.
3. Understanding of Fault Detection and Protection: Participants develop knowledge of fault identification, fault location, isolation, and restoration techniques in smart electrical networks.
4. Renewable Energy Integration: The programme highlights protection challenges arising from distributed generation, solar photovoltaic systems, wind energy systems, and bidirectional power flow.
5. Industry-Relevant Knowledge: Participants are exposed to modern protection practices, smart substations, automation systems, and IEC 61850-based communication technologies.
6. Research and Innovation Opportunities: The seminar encourages students and research scholars to explore research opportunities in adaptive protection, artificial intelligence-based fault diagnosis, and smart grid cybersecurity.

Institute Higher Learning Course- Wind Resource Assessment

The Department of Electrical and Electronics Engineering (EEE), in association with the Office of Industry Relations, successfully organized a one-credit specialized course on “Wind Resource Assessment” for third-year students from 29th to 31st August 2024. The programme was conducted by Dr. Kumaravel Rathinavel, Managing Director of Deutsche Wind Guard, who shared his extensive industrial expertise and professional knowledge in the field of wind energy and renewable power generation. The primary objective of this specialized course was to enhance students' understanding of wind energy technologies, wind resource evaluation, and their significance in sustainable energy development. The course provided valuable insights into the fundamental principles of wind energy conversion, wind characteristics, wind speed measurement, wind data analysis, and the importance of accurate resource assessment in identifying suitable locations for wind power projects.

Impact of the program

The one-credit specialized course on “Wind Resource Assessment”, organized by the Department of EEE in association with the Office of Industry Relations from 29th to 31st August 2024, provided valuable industry-oriented learning opportunities for third-year students.. Through the expert sessions delivered by Dr. Kumaravel Rathinavel,, students were introduced to important concepts such as wind resource estimation, wind speed measurement, wind data analysis, site selection, and the assessment of wind energy potential.



Event benefits

- **Enhanced Technical Knowledge:** Students gained an understanding of wind energy fundamentals, wind resource assessment techniques, wind characteristics, and their applications in renewable power generation.
- **Industry-Oriented Learning:** The expert sessions delivered by Dr. Kumaravel Rathinavel, Managing Director of Deutsche Wind Guard, provided valuable exposure to industrial practices, technological advancements, and professional requirements in the wind energy sector.
- **Practical Understanding of Wind Resource Assessment:** The programme introduced students to wind speed measurement, wind data analysis, site selection, and estimation of wind energy potential for effective wind power project planning.
- **Awareness of Renewable Energy Technologies:** Students developed awareness of the importance of wind energy in sustainable power generation, reduction of carbon emissions, and environmental protection.
- **Development of Analytical and Problem-Solving Skills:** The course encouraged students to apply engineering principles and analytical approaches to evaluate wind energy resources and understand challenges associated with wind power generation.
- **Industry-Academia Collaboration:** The programme strengthened the interaction between academic institutions and industry professionals, helping bridge the gap between theoretical knowledge and practical industrial applications.

Workshop on “workshop on “Entrepreneurship & Innovation as Career Opportunity” - 19.09.2024

The Department of EEE, in association with the Institution’s Innovation Council (IIC) - Vel Tech and National Innovation and Startup Policy (NISIP), organised a workshop on “Entrepreneurship & Innovation as Career Opportunity” on 19 September 2024 at the Video Conference Hall. The workshop highlighted the importance of entrepreneurship and innovation in shaping successful career pathways. It provided students with insights into startup development, opportunity identification, and converting innovative ideas into viable ventures. The session motivated students to explore entrepreneurial opportunities and develop an innovation-driven mindset.

Event Highlights

Topics Covered

The workshop covered creativity, invention, innovation, product and process innovation, product management, technology adoption lifecycle, Intellectual Property Rights (IPR), and the entrepreneurial ecosystem. It emphasized innovative thinking, startup development, and the protection of intellectual property.

Event Benefits

The programme enhanced students' creativity, problem-solving skills, and entrepreneurial awareness. It provided insights into innovation strategies, product development, intellectual property protection, and startup opportunities, encouraging students to explore entrepreneurship as a career option.

Outcome

The workshop enabled students to understand the differences between invention and innovation, apply innovative strategies for product and process development, and develop practical solutions to real-world problems. It also encouraged entrepreneurial thinking, research, and innovation-driven projects.



Community Service Project activity

Installation of Solar PV Street Lights at Arakkambakkam Village under Unnat Bharat Abhiyan 2.0

The Department of Electrical and Electronics Engineering (EEE), Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai, in association with Unnat Bharat Abhiyan (UBA) 2.0, undertook a community service initiative involving the installation of two solar photovoltaic (PV) street lights with automatic ON/OFF facilities at Arakkambakkam Village, Villivakkam Block, Tiruvallur District, Tamil Nadu. The initiative was carried out as part of a curriculum-based community engagement activity aimed at addressing the basic infrastructure requirements of rural communities through sustainable engineering solutions. The project responded to a long-standing request from local residents for improved lighting facilities near village bus stops. The installation was completed free of cost to the villagers, demonstrating the institution's commitment to social responsibility, rural development, renewable energy utilization, and community-oriented technological solutions.

The primary objective of the project was to improve public lighting facilities in Arakkambakkam Village by utilizing renewable solar energy. Important objective was to encourage students to apply their theoretical knowledge of electrical engineering, solar photovoltaic systems, and automatic control technologies to address real-world societal needs.



Faculty involved

The following faculty members were acknowledged in the appreciation letter issued by the Village Panchayat:

Dr. S. Ramesh - Professor and Head, Department of Electrical and Electronics Engineering.

Dr. K. Karunanithi - Professor, Department of Electrical and Electronics Engineering.

Dr. R. Gowri Shankar Rao - Professor, Department of Physics and Coordinator, Unnat Bharat Abhiyan.

Dr. N. K. Rayaguru - Associate Professor, Department of Electrical and Electronics Engineering and Co-Coordinator, Unnat Bharat Abhiyan.

Students Accomplishments

Best Poster Award

The Department of Electrical and Electronics Engineering (EEE) takes immense pride in highlighting the outstanding academic and research achievement of **Ms. Angel Babita Muppidi (VTP 3866)**, a final-year M.Tech. Power Electronics student, who received the prestigious **Best Poster Award** at the **IEEE 4th International Conference on Sustainable Energy and Future Electric Transportation (SEFET-2024)**, organized by the Department of Electrical and Electronics Engineering, **Gokaraju Rangaraju Institute of Engineering and Technology (GRIET)**, Hyderabad, from **31st July to 3rd August 2024**. The international conference provided a platform for researchers, academicians, industry professionals, and students to present innovative research contributions and exchange knowledge in the fields of sustainable energy, power electronics, renewable energy systems. Receiving the Best Poster Award at an international IEEE conference represents a significant academic accomplishment and highlights the importance of research-oriented learning and technical excellence among postgraduate students.

This recognition also reflects the department's commitment to encouraging students to participate in international conferences, undertake innovative research projects, and contribute to advancements in sustainable energy and electric transportation technologies.



Student's Innovation

The Department of Electrical and Electronics Engineering takes immense pride in highlighting the remarkable achievements of its students in the field of research, innovation, and intellectual property development. **Student members of the department have been granted patents in various emerging research domains, including Artificial Intelligence (AI), Electric Vehicles (EVs), Wireless Charging Technologies, and AI-Based Security Surveillance Devices.** These achievements demonstrate the students' technical expertise, innovative thinking, creativity, and commitment to developing advanced technological solutions for real-world challenges. Their research contributions reflect the successful integration of theoretical knowledge with practical applications, particularly in areas such as intelligent automation, sustainable transportation. The department congratulates all the student innovators on their outstanding accomplishments and remains committed to nurturing creativity, fostering technological advancements, and developing future-ready engineers capable of contributing meaningfully to industry and society.

Patent



III Year- EEE Students

1. VTU24241- ANKITA PARIDA
2. VTU27044- KOTTE CHANDANA

Funded Project

Faculty members

1. Dr.P.Chandrasekar,
Professor-EEE
2. Dr.Hari Charan
Nannam, Assistant
Professor-EEE

Dr. P. Chandrasekar, Professor/EEE (Principal Investigator) and Dr. Hari Charan Nannam, Assistant Professor/EEE (Co-Principal Investigator) have received financial assistance worth of Rs 27.028 Lakhs from Department of Science and Technology for a research proposal titled “Real -Time Implementation of Cost-effective Solar Powered 6.6 kW Standalone DC Microgrid System in Tribal Remote Areas of Aliyar Region, Coimbatore District” under Climate, Energy and Sustainable Technology scheme.

Department of Science and Technology

Hearty Congratulations
FOR RECEIVING FINANCIAL ASSISTANCE WORTH OF
₹ 27.028 LAKHS



Dr. P. CHANDRASEKAR

Professor/EEE
(Principal Investigator)



Dr. HARI CHARAN NANNAM

Assistant Professor/EEE
(Co-Principal Investigator)

RESEARCH PROPOSAL TITLE

**Real – Time Implementation of Cost-effective
Solar Powered 6.6 kW Standalone DC Microgrid System
in Tribal Remote Areas of Alivar Region, Coimbatore District**



GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY

FUNDING AGENCY

**Department of Science and Technology
Climate, Energy and Sustainable Technology
(DST-CEST)**



RENEWABLE
ENERGY



SUSTAINABLE
TECHNOLOGY



RURAL
DEVELOPMENT



SOCIAL
IMPACT

Faculty Accomplishments

BOOK PUBLICATION

Sl.No	Name of the Faculty	Title of the Textbook	Publisher Name	ISBN Number	Month & Year of Publication
1	Dr.S.Sivakumar	Embedded Systems and IoT	GCS Publication	978-81-97-818677	September & 2024
2	Dr. P. Chandrasekar	Automatic Voltage Stabilizers: Design, Fabrication & Testing	LAP LAMBERT Academic Publication	978-620-7-47329-8	August & 2024
3	Dr. P. Chandrasekar	Inspection of Wind Turbine System	LAP LAMBERT Academic Publication	978-620-7-48571-0	september & 2024
4	Dr. P. Chandrasekar	fabrication of Next Generation Solar cells	LAP LAMBERT Academic Publication	978-620-6-78433-3	2024
5	Dr.P.K.Dhal	A Text book of basic electrical technology	RK Publication	978-81-971218-1-4	2024
6	Dr N K Rayaguru	Basic Electrical & Instrumentation Engg	Pearson education Pvt Ltd	978-81-198-9681-3	2024

Faculty members are actively involved in textbook publication in the areas of Electrical and Electronics Engineering. Their textbooks provide comprehensive and up-to-date knowledge aligned with university curriculum. The publications support students, researchers, and practicing engineers with clear concepts and practical applications.

Placement

Key note talk



Dr. P. Chandrasekar, Professor/EEE, delivered a keynote talk on the topic “Solar Impacts on Wildlife and Ecosystems in India” in the 2024 FCU Sustainability Festival held on 6th December 2024 at Feng Chia University, Taiwan.




Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University) Est. 1984

School of Electrical and Communication
Department of Electrical and Electronics Engineering

Hearty Congratulations
Rishith Medaravoina
VTU 24030 **Batch 2021-2025**

We are pleased to announce that our student has been selected by



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with a CTC of Rs. 4.00 LPA




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School of Electrical and Communication
Department of Electrical and Electronics Engineering

Hearty Congratulations
Guhan K
VTU 20248 **Batch 2021-2025**

We are pleased to announce that our student has been selected by

WELKINRIM TECHNOLOGIES PVT. LTD



with a Stipend of Rs.15,000 per month

EDITORIAL BOARD

FACULTY MEMBER

Dr. S. Sivakumar
Professor

STUDENTS TEAM

Anuja Kumari
(VTU 27077)
Prethvi Adrian S
(VTU26940)

