

Sri Venkateswara
College of
Engineering

Autonomous Institution, Affiliated to
Anna University, Chennai
Approved by the AICTE, Accredited by NAAC

VIDYUT

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ABOUT THE DEPARTMENT

Welcome to the Department of Electrical & Electronics Engineering (EEE)

Established in 1985, the department was created to address the curriculum requirements of Electrical engineering subjects within Electronics and Communication Engineering, Mechanical Engineering, and Computer Science Engineering. Initially admitting 60 students, the department now accommodates 120 students, reflecting the growing demand for its programs.

The department holds permanent affiliation with Anna University and has been accredited by the National Board of Accreditation (NBA) for five consecutive years. Additionally, it offers a postgraduate program (M.E) in Power Electronics and Drives since 2002, with an intake capacity of 6 students. Equipped with state-of-the-art laboratories, the department is recognized as a nodal research center by Anna University. Its faculty and staff members are highly qualified and experienced, possessing proven abilities and skills.

Graduates of the department have been successfully placed in renowned companies, while a significant number pursue advanced studies abroad. The Department goes beyond the curriculum to nurture young minds by fostering technical clubs that promote technical events, community development, societal impact, and programs on universal values and ethics.

In line with this commitment, the Department of Electrical & Electronics Engineering has established the Institute of Electrical and Electronics Engineers (IEEE) and the Association of Electrical and Electronics Engineers (AEEE) to support students' innovations.

EEE – WE LIGHT THE WORLD



VIDYUT – July 2024

VISION AND MISSION OF THE INSTITUTION

AND DEPARTMENT

Vision of the Institution

To gain acclaim as an institution of eminence on a national and global scale, through the contributions and accomplishments of the individuals, nurtured by the facilities and support.

Mission of the Institution

M1. To establish a motivational framework through provision of infrastructure and resources that actively engages the individuals in core activities of learning, education, research and innovation

M2. To advance the competency of the individuals to comprehend the requirements of the society and fulfill them, through honing of their skills and virtues.

M3. To leverage institutional experiential learning to address engineering and technological challenges on national and global scales.

Vision of the Department

To become a premier Department in Electrical and Electronics Engineering through quality education, research and innovation, to address contemporary societal challenges with cutting-edge technologies.

Mission of the Department

M1: To periodically upgrade the facilities and resources such that the students excel in Electrical and Electronics Engineering education.

M2: To equip students with a well-defined domain specific curriculum thereby achieve industry standards and sustainable development of the society.

M3: To promote a culture of research, innovation, and entrepreneurship through collaborative learning in the thrust and allied areas of Electrical and Electronics Engineering.

M4: To inculcate soft skills, foster ethical values and shape the total personality of the students.

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PROGRAM EDUCATIONAL OBJECTIVES AND

PROGRAM OUTCOMES – UG(EEE)

Program Educational Objectives (PEOs) UG-EEE

PEO1: Graduates will serve as engineering contributors in the emerging fields of Electrical, Electronics and Computer Engineering.

PEO2: Graduates will become entrepreneurs through human centered design thinking and innovation.

PEO3: Graduates will be successful in pursuing higher studies in engineering or management.

PEO4: Graduates will be effective and ethical team player in the field of green energy management and sustainability.

Program Outcomes (POs) for UG-EEE

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

2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

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

4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. Modern tool usage: Create, select and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES – UG(EEE)

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

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

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

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

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

11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and lead.

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

Program Specific Outcomes (PSOs)

PSO1: The ability to build, implement, test and maintain analog and/or digital systems and implement electronic control of Drives for Industrial automation and Electric Vehicle.

PSO2: The ability to analyze Power System network encompassing stability, control and protection and interconnection of Renewable Energy Sources with Micro and smart grid.

PROGRAM EDUCATIONAL OBJECTIVES AND PROGRAM OUTCOMES – PG(EEE)

Program Educational Objectives for PG Program (PEOs)

I. Contribute professionally in fields of Power Electronic and related domains.

II. Manage and execute research and development projects leading to technological solutions that address industries and society.

III. Succeed in pursuing higher studies in engineering domains.

Program Outcomes (POs) for PG-PED

PO1: An ability to independently carry out research/investigation and development work to solve practical problems.

PO2: An ability to write and present a substantial technical report/document.

PO3: Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.

Program Specific Outcomes (PSOs) for PG-PED

PSO1: The ability to design and analyze Power Electronic converters and control of Electric drives for Industrial applications.

PSO2: The ability to apply Power Electronic Circuits in Transmission and distribution network of Power System and interconnection of Renewable Energy.

Faculty Research Day (FRD 2024)

Faculty Research day 2024 was conducted on 05.05.2024 (Friday). The event was inaugurated in Conference hall, Biotechnology. **Mr. C Naveen Andrew** , Joint Controller of Patents and Designs, IPR, Chennai was the chief guest and delivered the Inaugural address. **Dr K R Santha, HOD/EEE**, delivered the welcome address. Both internal and external research scholars , presented their research work to the chief guest at Seminar Hall, Software Lab. Four research works were selected and awarded prices.

Dr M Durairasan/HOD/EEE/ Anna university - Kancheepuram and **Dr S Kumaravel/Associate Professor/EEE** acted as judges for the day.





First Prize was Received by Ms.Pavithra, Asst Prof for her paper titled “Deep Learning and Control Algorithm for Autonomous Driving”



Second Prize was received by Ms M Sasikala, Asst Prof for her paper titled “Investigate the impact of gate dielectric Material on the property ZnO TFT”



Third prize was received by Mr. D. S. Purushothaman, Asst Prof, for his paper titled “Automated Guided Vehicle using Artificial Intelligence”



Third Prize received by Ms.K.Suganthi,Asst Prof for her paper titled “Coupled Inductor based triple output Bi polar converter with Direct Duty Cycle Control”

One week Certificate course on 'BASIC PNEUMATIC SYSTEMS, PLC & HMI PROGRAMMING'

The One week Certificate course on 'BASIC PNEUMATIC SYSTEMS, PLC & HMI PROGRAMMING' was organized by the Department of Electrical and Electronics Engineering in association with M/S Controlsoft India Private Limited from 24.07.2024 to 29.07.2024. A total of 16 internal and external registrants participated in the program.



Lighting the Kuthuvilaku by the dignitaries Inaugural address by
Dr.SudhakarBharatan, AHOD/EEE

The inauguration was held on 24.07.2024 in the Library Seminar Hall from 9.30 AM to 10.00 AM. The event started with a prayer song followed by lighting the Kuthuvilaku by the dignitaries on the dais. **Dr.M.Sankar, ASP/EEE** welcomed the dignitaries, participants, faculty and students. **Dr.Sudhakar.K.B**, Assistant HOD and Professor/EEE delivered the inaugural address emphasizing on the need of automation and significance of IoT in Industry 5.0. Dr.S.Kumaravel ASP/EEE introduced the chief guest. **Dr.D.Maharajan, Senior Project Engineer, Hitachi Energy (Formerly ABB)**, chief guest for the event delivered an expert lecture on the topic "Overview of Industrial Automation". He detailed on the significance of automation in industries, Hardware/ Software/ Database required for Automation and Why Python used for Automation mainly.



Introduction of the chief guest by
Dr.S.Kumaravel ASP/EEE



Presence of participants in
Inauguration



Chief Guest presenting the expert lecture on the topic “Overview of Industrial Automation”



Expert lecture by Dr.S.G.Bharathidasan, Professor/EEE

Day 1 (24-07-2024 AN session): Dr.S.G.Bharathidasan, Professor/EEE presented an expert lecture on the topic “Pneumatic circuit components, symbols & circuit design”. He briefed on the topics - Components of Pneumatic systems, Types of Cylinders, Types of Compressors, FRL Unit, Types of Directional Control Valve (DCV), Flow control valve, Logical Valve and Circuit Design – Cascading Method.



Expert lecture by Mr.S.Thamizmani, Assistant Professor/EEE

Day 2 (25-07-2024 AN session): Mr.S.Thamizmani, AP/EEE delivered an expert lecture on the topic “Introduction to Automation Studio, Simulation of pneumatic & hydraulic circuit”. In the second session, **Dr.M.Sankar, ASP/EEE** and **Mr.D. S.Purushothaman, AP/EEE** presented the expert lecture on the topics “Implementation of pneumatic circuit” and “Introduction to PLCs, Programming Basics” respectively.

Day 3 (26-07-2024 FN session): **Dr.Sudhakar Bharatan Prof/EEE** presented an expert lecture on the topic “Sensor technology for Industrial automation”. He briefed on the sensors widely used in the industrial automation sector and detailed on the significance of nanotechnology in designing and developing sensors for intended applications. Following the session the participants were guided to the ‘Interdisciplinary Centre for Nanotechnology’ where **Mrs.M.Sasikala, AP/EEE** detailed on the nanotechnology process involved in developing the sensors.



Dr.Sudhakar Bharatan Prof/EEE
presenting his expert topic



Mrs.M.Sasikala, AP/EEE detailing
the Nano technology process

Day 4 & 5 (27-07-2024 & 28-7-2024) Industry Hands on training was arranged at **M/S Control soft Engineering India Private Limited, Chennai.** **Mrs.Kamala** and team, **M/S Control soft Engineering India Private Limited** delivered an expert lecture on the topic “Introduction to PcVue-SCADA software, features and programming fundamentals”.





Employees of M/S Controlsoft Engineering India Private Limited engaging the participants in the hands-on session on “Implementation of IOT ecosystem for an industrial use case”



Mr. D S Purushothaman, AP/EEE and Dr S Kumaravel, ASP/EEE demonstrated hands-on in automating the process in an industry

Day 6 & 7 (28-07-2024 & 29-07-2024): On the sixth and the final day of the certificate course, in the FN and AN sessions, Mr. D S Purushothaman, AP/EEE and Dr. S Kumaravel ASP/EEE demonstrated hands-on in automating a process in an industry. They briefed on automating the bottle filling system in industry and automating the starting of a three-phase induction motor using star-delta starter respectively.



The One week Certificate course on 'BASIC PNEUMATIC SYSTEMS, PLC & HMI PROGRAMMING' concluded with a valedictory function on 29-07-2024 from 2.30 PM to 3.15 PM at EEE department Software Laboratory. Dr. Sudhakar KB, AHOD/EEE delivered the valedictory address consolidating the feedback points by the participants and emphasised on the importance of industrial internet of things (IIOT) and undertaking research in the automation domain. Dr. S Kumaravel, ASP/EEE delivered the vote of thanks.

Federation of Indian Chambers of Commerce & Industry (FICCI)

The Federation of Indian Chambers of Commerce & Industry (FICCI) is a non-governmental trade association and advocacy group based in India. **Dr. Anish Shah**, Group CEO and Managing Director of Mahindra & Mahindra, is the current President of FICCI.

Established in 1927, on the advice of Mahatma Gandhi by Indian businessman G.D. Birla and Purshottamdas Thakurdas. It is the largest, one of the oldest and the apex business organization in India. The chamber has an indirect membership of over 250,000 companies from various regional chambers of commerce. It is involved in sector-specific business building, business promotion and networking..

Ms.Sinthamani S, Assistant Professor, represented the Semiconductor fabrication facilities available in iNRC, SVCE (Center of Excellence) to the delegates by providing a stall with posters in the **Digital Disruption and Transformation Summit & Exhibition - DT8 (8th Edition)**. The theme of program was "AI, Electronics, Telecom and e- Governance are the key themes to drive Tamil Nadu towards the Trillion Dollar Economy by 2030".

The Exhibition was Unveiled by chief. guest **Ms. Michaela Kuchler, German Consulate General, Chennai**.



About YUKTI–National Innovation Repository (NIR)

YUKTI–National Innovation Repository (NIR) is an initiative of Ministry of Education (MoE), Government of India and being implemented by MoE's Innovation Cell and AICTE to build a system of repository of ideas, innovations and startups developed from academic institutions and enabling institutions to manage and nurture these innovations by offering continuous support in terms of one-to-one mentorship, grant assistance, referral and linkage with incubation units, connecting with Angel/Venture Capital (VC) investors network, knowledge agencies etc. Furthermore, the repository creation and maintenance in each HEI will also provide opportunities for innovations to take part in various national level innovation and start-up challenges/programs through a nomination process.

Following are the list of Final Year Projects uploaded in the portal for Innovative ideas ,Proto type, development.

S.No	Innovation ID	Innovation Title	Team Leader Details	
			Name	Student/ Faculty
	IR2024-899479	Design and Modelling of Gallium Oxide Field Effect Transistors	Narendran K	Student
2	IR2024-899481	Design and Enhancement of EV Driving Range using Flexible PV Module	Dr.Gopinath C	Faculty
3	IR2024-900110	Simulation and Fabrication of Heterojunction based Thin film solar cell	Ramana R P	Student
4	IR2024-900144	Design And Development Of Three Degrees Of Freedom Robot For Under Ground Cable Laying / Replacement	S Vishvak naraain	Student
5	IR2024-900226	On-Board Integrated Ev Charger Employing Bi-Directional Converter	Dr.N.Shanmugav adivu	Faculty
6	IR2024-901096	Energy Efficient Variable Frequency Drives Using Optimized H-Bridge	Aravind	Student
7	IR2024-901190	Improvement Of Soc Estimation Accuracy And Implementation Of Cell Balancing In Power Tool Battery Packs	Dr S S Sethuraman	Faculty
8	IR2024-901550	Sensory detector of hazardous gases in poultry farm	Harini N	Student
9	IR2024-901639	Anfis based pitch angle control for enhanced performance of wind turbines	Santhosh B	Student
10	IR2024-903152	Neuron Based Control Mechanism for Robotic Arm	Sabari S	Student

Alumni EEE 1997 batch Reunion at SVCE

The Alumni 1997 batch Reunion was held on 27th July 2024 in our college premises. Alumni arrived at the venue at 8:30 AM, warmly received by alumni coordinator Dr. N Shanmugavadivu, ASP/ EEE. Inside the venue they were welcomed by the Principal and exchanged good wishes. A group photo was taken with Principal.

The registration took place. After all the alumni arrived on campus, they gathered in the library seminar hall. Principal welcomed and addressed the gathering, followed by a virtual address from the Vice-Principal.

Principal asked alumni to visit the college and contribute in technical and non-technical ways for the development of their department



The alumni honoured their teachers and recalled their old memories of their study. Then they started the department visit with the alumni coordinator and saw the department laboratories.

The interaction between the alumni and the authorities concerned and ideas were exchanged and alumni reminisced their days at SVCE. Dr.KR.Santha , Vice-principal, Professor & HOD/EEE interacted the EEE alumnus in virtual mode and then they were escorted to various laboratories by Dr.Sudhakar K Bhartan AHOD/EEE & Dr.N.Shanmugavadivu,ASP/EEE.



ALUMNI visited the Machines LAB

Interaction with 3rd year Students



Alumnus interacted with the third year EEE students in their classroom and exchanged their ideas about placement and higher education. They were inquisitive about the placement status of the department and promised in their best ways to contribute towards the development of the department. After the pleasant interactions Alumni were served sumptuous lunch in the canteen and dispersed happily.

Student Participation in mentoring session organized by IIC, SVCE



Mr. B Surya, Mr. Sonaa Meyyappan, and Ms. S G Smirrthi II year students are participated in the Panel Discussion on “Innovation and Start-up Ecosystem” organized by the Institution Innovation Council (IC201810371 - IIC, SVCE Chennai), Sri Venkateswara College of Engineering, Sriperumbudur on 06th July 2024.

GRANT RECEIVED FROM AICTE TO CONDUCT ATAL FDP

ATAL FDP Proposal selected for support with in AID 2024-25 for ATAL Basic Faculty Development Program on “**Advanced Semiconductor Devices and AI Chips - Research Opportunities and Challenges**” 16th -21st December 2024. Dr. Sudhakar K Bharatan as Coordinator and Dr. KR Santha as Co Co ordinator. This program(FDP) will help in understanding of the design and processing of reconfigurable processors. Additionally, the FDF will provide hands-on training in the fabrication of thin film transistors, photodetectors and solar cells in the DST FIST sponsored Interdisciplinary Nano Research Centre facility at SVCE.



Patent Publication

Dr K R Santha, Vice Principal and HOD/EEE has published a patent titled “**NEURON BASED CONTROL MECHANISM FOR ROBOTIC ARMS AND LEGS**” in July 2024. IPR office Chennai, Application No : 202441047683.

Glimpses of Summer Internship program 2024 phase-II on Semiconductor Technology from 02.07.2024 -12.07.2024



Hands on Training at iNRC



Industrial Visit



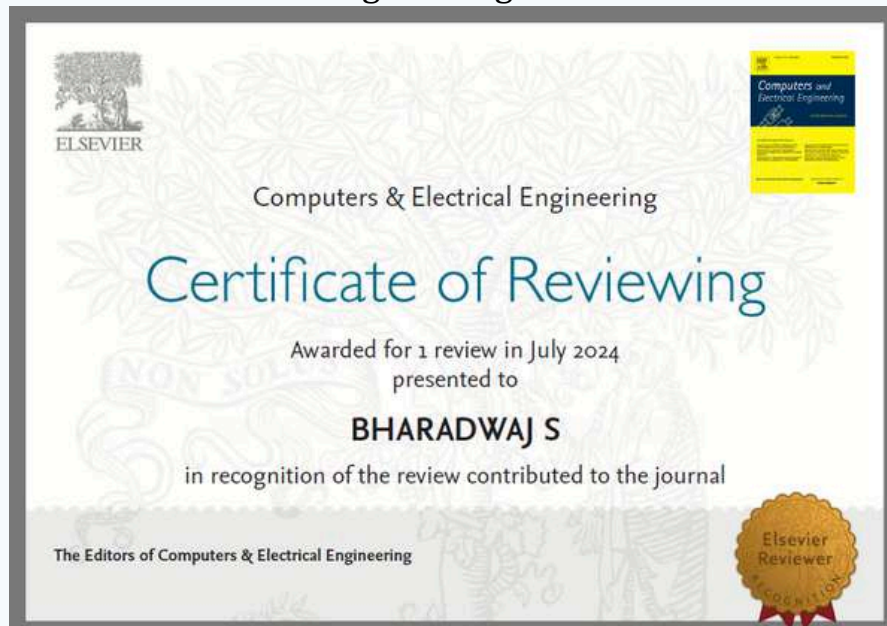
Certificate distribution to Summer Internship Participants

Faculty Participation in FDP/Workshop/IIC

Mr.Elakkiyavendan R, Mr.Karthikayen V, Ms.Akila S, Assistant Professors Participated in the Professional Development Program on “Electric Vehicle Systems and Control” conducted by the National Institute o Technical Teachers Training and Research, Chennai from 08.07.2024 to 12.07.2024



Mr. S Bharadwaj, Assistant Professor received letter of Appreciation for reviewing the journal paper in the journal The Editors of Computer & Electrical Engineering



Mr. S Bharadwaj, Assistant Professor has participated in the “Lean Startup and Minimum Viable Product/Business” organised by IIC SVCE Sriperumbudur



Mr. S Bharadwaj, Assistant Professor has participated in the Expert Talk on "Innovative Process development, Technology Readiness Level (TRL); Commercialisation of Lab Technologies & Tech-Transfer" organized by IIC , Sri Venkateswara College of Engineering, Sriperumbudur on 13th July 2024.



Mr. S Bharadwaj, Assistant Professor has participated in the Mentoring Session on "Angel Investment/VC Funding Opportunities for Early Stage Entrepreneurs" organized by IIC, Sri Venkateswara College of Engineering, Sriperumbudur



Mr. S Bharadwaj, Assistant Professor has participated in the Panel Discussion on “Innovation and Start-up Ecosystem” organized by IIC, Sri Venkateswara College of Engineering, Sriperumbudur



Mr. S Bharadwaj, Assistant Professor has participated in the Mentoring Session on "How to Plan for Startup, Legal and Ethical Steps" organized by IIC, Sri Venkateswara College of Engineering,

