

DEPARTMENT OF ELECTRICAL AND
ELECTRONICS ENGINEERING

VIDYUT
NOVEMBER 2023



OFFICIAL NEWSLETTER

**DEPARTMENT OF ELECTRICAL AND
ELECTRONICS ENGINEERING NEWSLETTER
EDITORIAL TEAM**

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SRI VENKATESWARA COLLEGE OF ENGINEERING
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Vision of the Institution

To be a leader in Higher Technical Education and Research by providing the state-of-the-art facilities to transform the learners into global contributors and achievers.

Mission of the Institution

To develop SVCE as a "CENTRE OF EXCELLENCE" offering Engineering Education to men and women at undergraduate and postgraduate degree levels, bringing out their total personality, emphasizing ethical values and preparing them to meet the growing challenges of the industry and diverse societal needs of our nation.

Vision of the Department

The vision of Electrical and Electronics Engineering Department is to provide a high standard of education in Electrical and Electronics Engineering so as to meet the industry standards through domain.

Mission of the Department

M1: To create state of the art facilities such that the students excel in Electrical and Electronics Engineering education.

M2: To equip students with a well defined curriculum to meet the requirements of Industries and society.

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

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

Program Educational Objectives (PEOs) UG-EEE

PEO1: Graduates of EEE transformed to engineering contributors in the fields of Electrical, Electronics and Computer Engineering.

PEO2: Succeed in becoming entrepreneurs through human centered design thinking and innovation.

PEO3: Become eligible to pursue higher studies in their chosen areas of engineering or management

PEO4: Effective, conscious 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.

4. 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.
5. 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.
6. 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.
7. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
8. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
9. 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.
10. 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.
11. 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) for UG-EEE

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 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

PIEZOELECTRICITY'S DYNAMIC IMPACT ON SUSTAINABILITY



In the realm of sustainable energy, piezoelectricity is proving to be a versatile force with diverse applications. Beyond its role in automobile wheels, it extends to infrastructure, wearable tech, and healthcare.

Innovations include integrating piezoelectric materials into roadways, where traffic-induced stress transforms into electrical energy, contributing to smart city initiatives. Wearable technology equipped with piezoelectric components envisions self-sustaining devices powered by body movements, reducing reliance on conventional sources.

Healthcare benefits from this technology with implantable devices, such as pacemakers, utilizing bodily movements for power, eliminating the need for frequent battery changes. Recent research amplifies the potential by introducing piezometers around a four-wheeler's entire wheel circumference, employing Lead Zirconate-Titanate. At 80 km/h, this setup generates 90 Wh, signaling a leap in power generation. Anticipating advancements in conventional piezometers promises even greater outputs.



In conclusion, as the world seeks sustainable energy solutions, piezoelectricity emerges as a frontrunner. From powering vehicles to revolutionizing healthcare, its transformative impact on daily life and the environment positions it as a key player in our journey towards a more sustainable future.

Reference: Aditya Pandey , Tejas Bansal , Amey Konde , Rushikesh Giri , Sarvesh Gandhi, "Energy Generation in Tyers using Piezoelectric Material", INTERNATIONAL JOURNAL OF ENGINEERING RESEARCH & TECHNOLOGY (IJERT) Volume 09, Issue 07 (July 2020).

- Ms. Harini N, IV year

STUDENTS ACHIEVEMENTS

Nanotech Hackathon under INUP i2i , IITM and Guwahati

Mr.Narendran K, Ms.Swetha A, Ms.Suruthigha S K, students from third and final year submitted a project proposal “Design and Fabrication of β -Ga₂O₃ Schottky Barrier Diodes (SBD’s) for High Power Applications” in **Nanotech Hackathon under INUP i2i CNNP, IITM**, under the guidance of Dr. Sudhakar K Bharatan. The proposal was shortlisted for preliminary online pitching under INUP-i2i program. They presented the project at the Centre for Nanotechnology, Indian Institute of Technology Madras and were sponsored by Ministry of Electronics and Information Technology (MeitY), Govt. of India

The same students submitted a another project proposal on the theme “**Design and Packaging**” / “**5G & 6G Technologies**” under **INUP-i2i program, Guwahati**, under the guidance of Dr.Sudhakar K Bharatan.



Mr.Narendran K (IV Year)



Ms.Swetha A (III Year)



Ms.Suruthigha S K (III Year)

Dr.Sudhakar K Bharatan, Professor and N.Harini, final year student, submitted a project proposal “Design and Development of Photodetector Based Sensors” in **Nanotech Hackathon under INUP i2i CNNP, IITM**. The proposal was shortlisted for preliminary online pitching under INUP-i2i program and they were presented the project.



Participation in National Level Symposium

Mr Siddharth Naren B, Mr Shanjay Ram S and Mr Rohith V, students from first year participated and secured the second place in “Connexions” at the National level Technical Symposium, Kridayanthrik 2023 held on 9th and 10th November 2023, organized by Department of Mechanical Engineering of Rajalakshmi Engineering College, Chennai.



Mr Siddharth Naren



Mr Shanjay Ram S



Mr Rohith V



Yukthi Innovation Challenge

Sona Meyyapan, I year student of EEE, along with 10 other team members from SVCE participated and presented their innovative ideas with prototypes at Crescent college, Chennai, on 1st December, 2023. This was done as part of Yukthi innovation challenge, an initiative of the Ministry of Education and AICTE. His work was mentored by Dr.Sudhakar K Bharatan, Professor.

Title of the work: E-ticketing and Transport management system.





SMART INDIA HACKATHON (SIH)

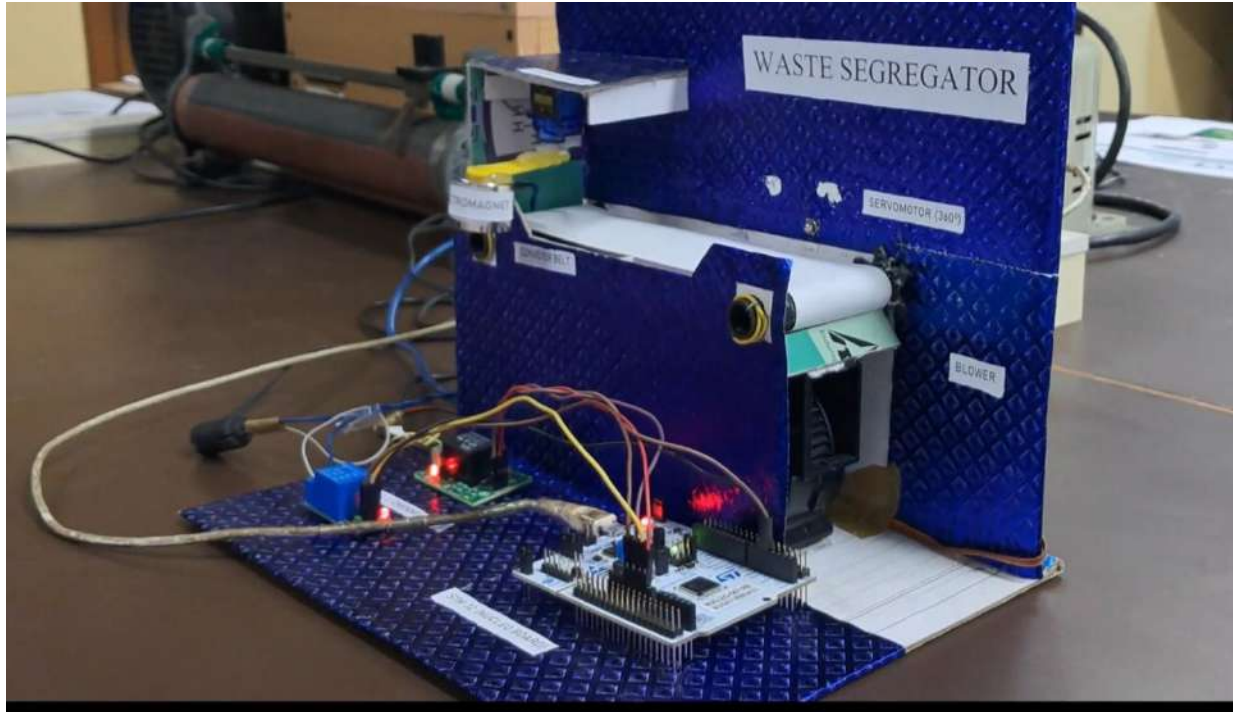
Following teams from dept. of EEE represented their innovative ideas in Smart India Internal Hackathon scheduled on 24.09.2023 in the Multipurpose Hall, SVCE.

Team 1-Barath S N, Aravin Takshan K K, Dinesh C, Mohamed Nowful A, Gokul N, III year EEE, and Esreen P, II year Student with team name, “COLD SENTINELS”, mentored by Dr. S. Arulmozhi, worked on the problem statement titled, “A system of IoT Devices to prevent underloading / overloading of Railway wagons” at Smart India Hackathon.



Team 2: Ramya R ,Swetha A , Suruthigha S K ,Sanjana Suresh Kumar , Visalakshi P ,of third year Students with Team name, “BRAINSTORM BATTALION” Mentored by Dr. S. Arulmozhi, worked on the problem statement, “Despite prohibition of hazardous cleaning of sewers and septic tanks (manual cleaning of sewers and septic tanks without safety kits, safety devices and without adherence to safety precautions) it is still being resorted to in many parts of the country” at Smart India Hackathon.

Team 3: N Harini, Siddharth RK, Somasundaram R, Vishnukumar D, Yukesh Kumar T, Sriranga of final year students with Abhiram G of third year Student worked on Hardware type problem statement titled, “Waste Revolution: Envirosmart Bins, Large-Scale Segregators” at Smart India Hackathon Mentored by Dr. D. Amudhavalli.



FACULTY ACHIEVEMENTS

Dr N.K Mohanty, Professor, successfully completed the NPTEL online Certification course on “Accreditation and outcome Based Learning” and “Fundamentals of Artificial Intelligence”.



Elite
NPTEL Online Certification
(Funded by the MoE, Govt. of India)

This certificate is awarded to
NALIN KANT MOHANTY
for successfully completing the course

Accreditation and Outcome Based Learning

with a consolidated score of **81** %

Online Assignments	19.46/25	Proctored Exam	61.85/75
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Total number of candidates certified in this course: **1356**

Aug-Oct 2023
(8 week course)

Indian Institute of Technology Kharagpur

Prof. Haimanti Banerji
Coordinator, NPTEL
IIT Kharagpur

Roll No: NPTEL23GE46S93351186 To verify the certificate No. of credits recommended: 2 or 3



Elite
NPTEL Online Certification
(Funded by the MoE, Govt. of India)

This certificate is awarded to
NALIN KANT MOHANTY
for successfully completing the course

Fundamentals of Artificial Intelligence

with a consolidated score of **71** %

Online Assignments	21.88/25	Proctored Exam	49.5/75
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Total number of candidates certified in this course: **1788**

Jul-Oct 2023
(12 week course)

Indian Institute of Technology Guwahati

Prof. T. V. Bharat
Head, Centre for Educational Technology
NPTEL Coordinator, IIT Guwahati

Participation in Hands on Training

Mr.R.Kandasamy and S. Premananth , Instructors Participated in Two Days Hands on Training Program on Maintenance, Testing and Usage of Electronic and Measuring Instrument/Machines and computers jointly conducted by Department of Instrumentation Engineering, MIT campus and Centre for Faculty & Professional Development , Anna University, Chennai on 3rd & 4th November,2023.

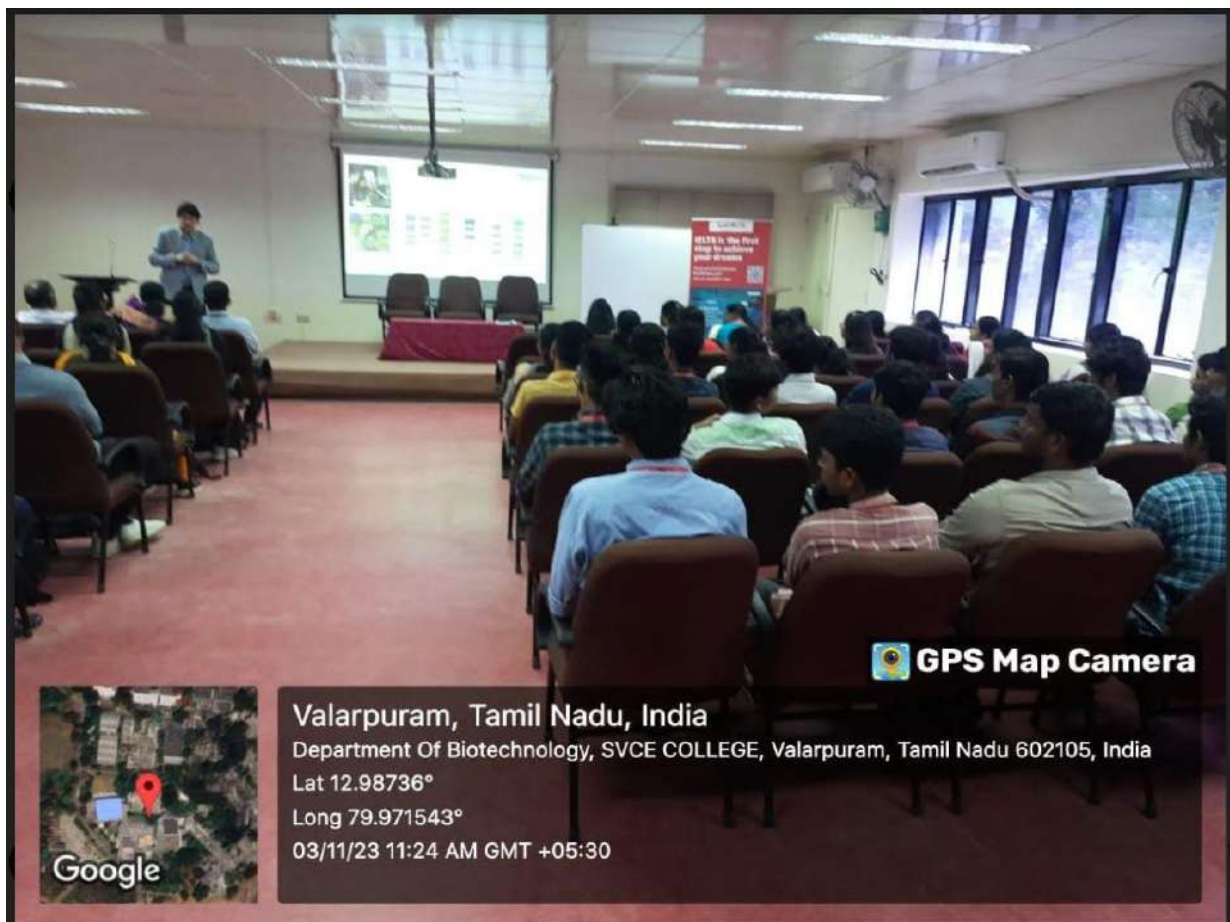


EVENTS ORGANIZED

Association of Electrical and Electronics Engineers (AEEE)

Guest Lecture on “Current Trends in Electrical Engineering”

On 3rd November 2023, Association of Electrical and Electronics Engineers (AEEE) & Training and Placement Cell organized an Expert talk on the topic “Current Trends in Electrical Engineering”. Dr. George Pappas, Director, MSAI Graduate program Lawrence Technological University, Michigan was the Expert Speaker. Around 50, 2nd year students attended the lecture.



Women Empowerment Cell (WEC)

Guest Lecture on “Women’s Wellness: Personal Hygiene Essentials”

On 7th November 2023, the Women Empowerment Cell (WEC-SVCE) organized a guest lecture on “Women’s Wellness: Personal Hygiene and Essentials”. The lecture was delivered by Dr. Kavitha Parthiban, from the Department of Psychiatry, Saveetha Medical College. The event was well attended, with approximately 500 participants, including first and second year female students and female faculty members from various departments.



Institution Innovation Council (IIC) SVCE

Seminar on Entrepreneurship as a Career Opportunity

Institution Innovation Council (IIC SVCE Sriperumbudur) in association with ISTE SVCE Students Chapter Organizing Seminar on “Entrepreneurship as a career opportunity” on 09.11.2023.

Seminar on Embracing Innovation for Progression

Institution Innovation Council (IIC SVCE Sriperumbudur) in association with ISTE SVCE Students Chapter Organizing Seminar on “Embracing Innovation for Progression” on 17-11-2023, 10:00 A.M to 11:30 A.M as a part of celebrations of National Education Day 2023 (Quarter-I IIC Celebration Activity). Our Institute IIC earned fourstar rating for IIC 5.0 Activities (AY 2022-2023). This rating is the highest rating achievable by IICs.



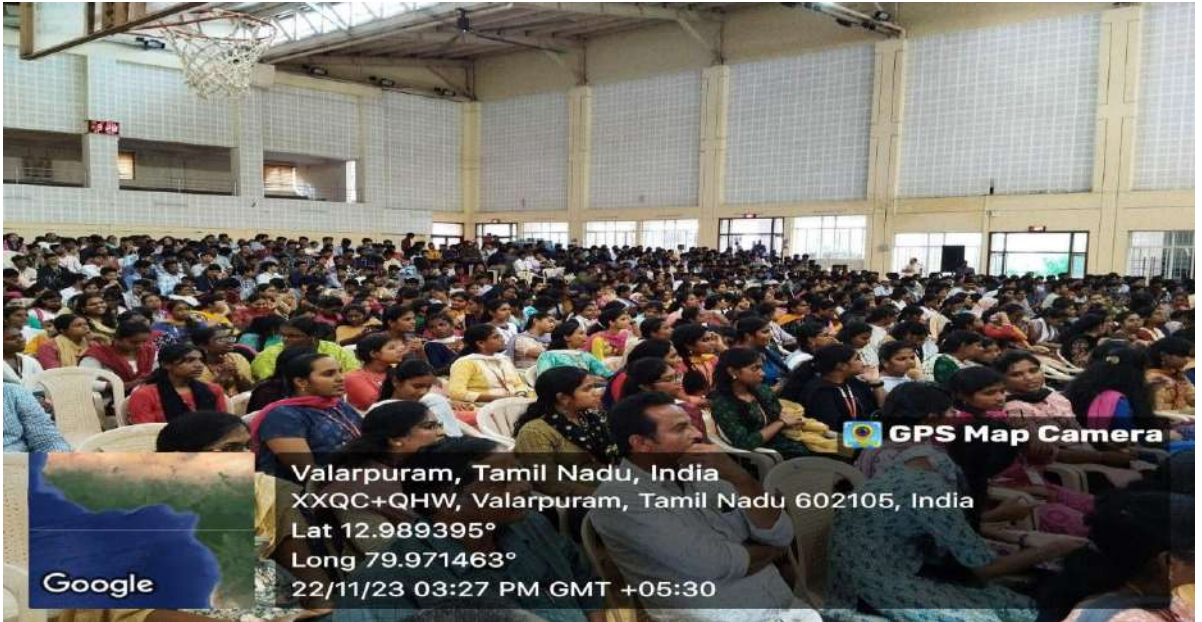
Awareness Program Against Drugs

The Student Council of SVCE is organizing an event "Awareness Against Drugs" for all the I Year students on 20.11.2023 at 2.00 pm. Inspector of police, Sriperumbudur, was the guest of honor. He delivered a lecture about the ill effects of drug use and how to stay away from it.



Awareness Program Governments Vidhyalakshmi student loan scheme

An awareness program on Governments Vidhyalakshmi student loan scheme was conducted on 22 November, 2023. Mr. TM Anbarasan, Tamil Nadu Minister for small and medium enterprises, granted cheque for educational loan to students as part of Vidhyalakshmi student loan scheme.



Industrial Visit Organized

An Industrial Visit was organized for our second year students on 08.11.2023 to Industry Andrew & Yule (Power transformer manufacturer), Perungudi, Chennai.



Alumni Feedback

My view on my college is that, it is a place where teens turn into adults through husties and giggles. Throughout the post graduate education period my days were wonderful. All the staffs, both teaching and non-teaching, in the department of EEE were very kind and wonderful. I feel personally that the knowledge and skills, I have acquired in SVCE have helped me a lot to grow my career. I'm in a good position at Amazon today. It is because of the knowledge and exposure gained at SVCE.



Mr. Augustine
M.E. alumnus (2019-21)
Associate Software Engineer
Amazon