





















VOLUME 27 | ISSUE NO 1



SAI RAM ENGINEERING COLLEGE

An Autonomous Institution | Affiliated to Anna University & Approved by AICTE, New Delhi Accredited by NBA and NAAC "A+" | An ISO 9001:2015 Certified and MHRD NIRF ranked institution

Sai Leo Nagar, West Tambaram, Chennai - 600 044. www.sairam.edu.in



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

VISION

To inculcate discipline, good quality education, research and training, wide knowledge to meet the global standards, opportunities to gain practical knowledge in the laboratories, awareness in emerging technologies in students to render their services for the betterment of the society with ethics.

MISSION

To provide a platform in acquiring knowledge in the field of Electrical and Electronics Engineering with highest quality in technical education and services to the society. To fulfill the needs:

TEACHING AND MENTORING - To provide best teaching and mentoring through ethical and moral values.

PROFESSIONAL GROWTH- To provide quality education for Electrical and Electronics Engineers that prepares them for exemplary life-long career and professional growth.

CUTTING-EDGE TECHNOLOGIES- To develop cutting edge technologies through research that meets the needs of industry, government and the scientific community.

HIGHER STUDIES- To guide our graduates to pursue their formal education further, including PG and PhD programmes.

SOLUTION PROVIDERS- To excel in student learning activities, to produce them as problem solvers as a team or individual by active interaction and effective communication with peers and stakeholders.





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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

PROGRAM EDUCATIONAL OBJECTIVES

PEO I: Graduate will apply the principles of basic science, mathematics and engineering fundamentals necessary to formulate, solve and analyze engineering problems.

PEO II: Graduate will expertise in the field of Electrical and Electronics Engineering.

PEO III: Graduate will acquire the knowledge for pursuing advanced degrees in Engineering, Science, Management, Research and Development.

PEO IV: Graduate will achieve professionalism, leadership qualities, self and continuous learning.

PEO V: Graduate will fulfill the needs of the society by working as Engineers, Entrepreneurs in core as well as inter-disciplinary areas in an ethical and responsible manner.

PROGRAM SPECIFIC OUTCOMES

PSO1. Students gain proficiency in analyzing and resolving complex issues related to Power and Energy, Power Electronics and Embedded Systems.

PSO2. Students gain the knowledge to design and control electrical machines and drives for applications in transportation and industrial sectors.





From the HoD's desk...



Dr. R. Azhagumurugan M.E., Ph. D Head of the Department Electrical and Electronics Engineering

We are pleased to share the highlights of the Department of Electrical and Electronics Engineering from June 2024 to December 2024. The department successfully conducted the National Level **Technical** Symposium "FLUXERA 2K24" on 17th September 2024, providing a platform for students to showcase their technical skills. We also hosted the IEEE **Technically Sponsored** Fourth **International** Conference (ICPECTS 2024) on 8th and 9th 2024, October promoting research and innovation. As part of the Founder's Day Celebration, the IEEE HKN Nu Eta Chapter organized a Hands-on Training on Design Modelling using Fusion 360 software, enhancing students' practical knowledge.

A series of technical sessions were organized, including a Special Talk on AI in Power Electronics and Renewable Energy Systems during SAI MAGNICON and a seminar on the Latest Trends in the Semiconductor Industry, ensuring students stay updated with industry advancements. The SAIRAM ENSAV Club successfully conducted Energy Diplomacy, where teams took roles as CEO, Policy Maker, and Environment Analyst to discuss the Global Transition towards Renewable Energy, fostering leadership and analytical skills.

We are also proud to highlight that our faculty members actively engaged in various internships, enhancing their industrial knowledge to provide a better learning experience for students. Furthermore, our students made remarkable achievements, including emerging as winners of the **Smart India Hackathon (SIH) 2024** and securing laurels in various technical events and competitions. As we move forward, we encourage our students and faculty to continue their journey of innovation, research, and excellence in Electrical and Electronics Engineering.

Dr. R. Azhagumurugan Head of the Department hod.eee@sairam.edu.in

"The future belongs to those who believe in the beauty of their dreams."









SYMPOSIUM FLUXERA 2K24



Department of Electrical and Electronics Engineering, Sai Magnicon proudly conducted National Level Technical Symposium "FLUXERA 2K24" held on 17TH SEPTEMBER 2024





CONFERENCE ICPECTS 2024

Department Of Electrical And Electronics Engineering Organizes IEEE Technically Sponsored Fourth International Conference On "Power, Energy, Control And Transmission Systems -ICPECTS'2022" on 08.10.2024 and 09.10.2024







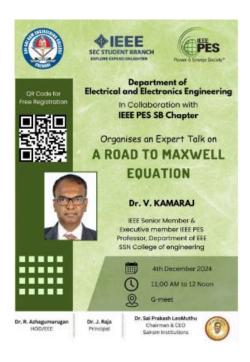








A ROAD TO MAXWELL EQUATION - 11/6/2024



Expert Talk on "A Road to Maxwell Equation" Organized by IEEE PES SB Chapter, aimed to provide a deep understanding of Maxwell's equations, a fundamental concept in electromagnetism

DESIGN MODELLING USING FUSION 360 SOFTWARE-17/10/2024

The IEEE HKN Nu Eta Chapter organized a Hands-on Training on Design Modelling using Fusion 360 software as part of the Founder's Day Celebration on October 17, 2024. Conducted by Aravindran V, ICT Design Week Winner from the Department of Mechanical and Automation, the session provided practical insights into 3D modeling and design.









ELECTRON DEVICE SOFTWARES - 25-09-2024 to 26-09-2024



The Department of Electrical and Electronics Engineering organized a Bootcamp on Electronic Device Softwares from 25th to 26th September 2024 at Alpha Hall. Led by Dr. P. Shanmugapriya, Associate Professor, along with Mr. Karthik S L and Mr. M Barath Kumar, Final Year EEE students.

LATEST TRENDS IN SEMICONDUCTOR INDUSTRY -20/09/2024

The Department of Electrical and Electronics Engineering hosted a session on "Latest Trends in Semiconductor Industry" on 20th September 2024 at SSR Hall. Dr. N. S. Suresh from Saveetha University.









THE ELECTRIFYING JOURNEY ON DC MACHINES -19/9/2024



The Department of Electrical and Engineering, Electronics collaboration with BIS the Standards Club, organized "The Electrifying Journey DC of Machines" on 19th September 2024. B. Chitti Babu, Associate Dr. **Professor IIITDM** at Kancheepuram, delivered an insightful talk on DC machines.

REGIONAL DISTINGUISHED PROGRAM ON POWER ELECTRONICS APPLICATIONS IN MICROGRID CONNECTED POWER SYSTEM -27.6.2024

The EEE Department and IEEE PELS SEC SB organized a lecture on power electronics in microgrids on 27th June 2024 at Alpha Hall. Prof. Dr. Mahesh Kumar Mishra from IIT Madras led the session. He shared insights on advanced power electronics applications in grid-connected systems.









OVERLEAF RESUME BUILDING : WITH THE POWER OF LATEX 11-06-2024



The Department of Electrical and Electronics Engineering, in collaboration with IEEE EDS SBC, conducted a session on "Resume Building with the Power of LaTeX" on 6th November 2024 via MS Teams. Led by Mr. Senthil Srinivas P S, a final-year ECE student and HCL Tech intern, the session introduced Overleaf for creating professional resumes.

SPECIAL TALK ON "POWER ELECTRONICS AND RENEWABLE ENERGY SYSTEMS "ON 2/7/2024

The Department of Electrical and Electronics Engineering successfully conducted SAI MAGNICON 2024 on July 2, 2024, at Alpha Hall. The event featured a special talk on AI in Power Electronics and Renewable Energy Systems by Dr. Kowsalya, Professor at VIT.









POWER ELECTRONICS CONVERTORS FOR BATTERY CHARGING IN EV- 25/07/2024



The Department of Electrical Electronics Engineering, in association with IEEE PELS SEC SB Chapter and IEEE Smart Grid Community, organized an expert talk on Power Electronics Converters for Battery Charging Electric Vehicles on July 25, 2024. Dr. K. Deepa, Associate Professor from Amrita School of Engineering, Bengaluru, delivered insights into advanced power conversion techniques.

THE 4IR,AI IN POWER ELECTRONICS AND RENEWABLE ENERGY SYSTEM-3.7.2024



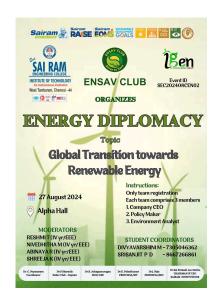
The IEEE WIE in association with the EEE Department organized IEEE WIE Day 2024 on July 2, 2024, at Alpha Hall from 9:00 AM to 4:00 PM. The event focused on empowering women in engineering through interactive sessions and activities.







ENERGY DIPLOMACY-27/8/2024



The SAIRAM ENSAV Club is organizing Energy Diplomacy on August 27, 2024, at Alpha Hall. The topic is Global Transition towards Renewable Energy, focusing on sustainability. Teams of three will take roles as CEO, Policy Maker, and Environment Analyst.

ON DESIGN THINKING on 12/9/2024

The Skill Development Club the Department of Electrical and Electronics Engineering, in association with IEEE PELS SEC SB Chapter, is organizing a skill training session on "Design Thinking" by Ms. Pramila Jagadeesan, Human Resources a Coach/Trainer/Mentor/Facilitator from India, on 12/09/2024 from 10:00 AM to 11:30 AM at Smart Classroom-2.









BIS Standards Club celebrated World Standards Day- 5-10-2024

Sri Sairam Engineering College's BIS Standards Club celebrated World Standards Day on October 5, 2024, with SyncXperience. The event featured technical quizzes, project presentations, and creative competitions. Students explored the role of standards in achieving Sustainable Development Goals (SDGs).



IGEN GRENN DAY-22/10/2024



The SAIRAM ENSAV Club is hosting IGEN Green Day 2024 – Pledge for Green on October 22, 2024, at Smart Classroom II.

The event encourages participants to commit to at least one green action for sustainability.







(June-December 2024)

Faculty Name : MEENAKSHI.B

Journal/Conference:

- 1. Multimedia Tools and Applications (08 July 2024)
- 2. 2024 2nd International Conference on Sustainable Computing and Smart Systems (ICSCSS) (10-12 July 2024)
- 3.2024 Second International Conference on Intelligent Cyber Physical Systems and Internet of Things (ICoICI) (28-30 August 2024)

Title :

- 1. A QoS-aware routing approach for Internet of Things-enabled wireless sensor networks in smart cities
- 2. Cloud Based Intelligent Nutrient Management System for Precision Agriculture Using CNN
- 3. Data-Driven IoT Smart Refrigerators for Medication Storage with Deep Learning Analytics

Faculty Name : SHANMUGAPRIYA.P

Journal/Conference:

- 1. Journal of Energy Storage (18 October 2024)
- 2. 2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (08-09 October 2024)

- 1. IoT based energy management strategy for hybrid electric storage system in EV using SAGAN-COA approach
- 2. Effective Approach for Energy Management System Using Machine Learning Algorithm







(June-December 2024)

Faculty Name : SIVAPRASAD.R

Journal/Conference:

- 1.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (08-09 October 2024)
- 2.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (08-09 October 2024)
- 3.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (08-09 October 2024)

Title :

- 1. Smart Goggles for the Visually Impaired
- 2. Comparative Study of Automatic Driving Assist Systems in Internal Combustion and Electric Vehicles
- 3. Smart Energy Consumption with Theft Detection and load Control

Faculty Name : VENKATESAN.G

Journal/Conference:

- 1.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (08-09 October 2024)
- 2.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (08-09 October 2024)
- 3.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (08-09 October 2024)

- 1. Power Generation Using Barium Titanate Piezoelectric Material [Tizo-Gen]
- 2. Adaptive SMC for modified three phase bridgeless Vienna rectifier for Electric Vehicle Application
- 3. Mitigation of faults in power quality using Automated LPG Cylinder Monitoring System







(June-December 2024)

Faculty Name : PORSELVI.T

Journal/Conference:

- 1.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (08-09 October 2024)
- 2.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (08-09 October 2024)
- 3.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (08-09 October 2024)

Title

- 1. Design Of Energy Efficient Motor For Electric Vehicle
- 2. Robot-Based Healthcare Monitoring Platform
- 3. Powering the EV Revolution: Charging Infrastructure Challenges and Innovations

Faculty Name : HEMALATHA .M

Journal/Conference:

- 1.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (8–9 October 2024)
- 2.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (8–9 October 2024)
- 3.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (8–9 October 2024)

- 1. Solar- Powered Automatic Dispenser
- 2. Cascaded Neural Network Controller Development for Electric Vehicle Energy Management
- 3. Comprehensive Analysis and Performance Comparison of Anti-Lock Braking Controllers: Mechanisms, Variants, and Simulation Results







(June-December 2024)

Faculty Name : PRATHIBANANDHI.K

Journal/Conference:

- 1.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (08-09 October 2024)
- 2.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (08-09 October 2024)
- 3.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (08-09 October 2024)
- 4.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (08-09 October 2024)

Title :

- 1. Smart Energy Consumption with Theft Detection and load Control
- 2. Smart Systems for Sustainable Aquaculture: A Focus on Water Quality
- 3. Real Time Violence Alert System
- 4. Enhanced Liver Tumor Localization Based on Couinaud Classification Using Deep Learning

Faculty Name : RAJKUMAR.K

Journal/Conference:

- 1.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (12 December 2024)
- 2.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (12 December 2024)

- 1. Arduino Based Smart Metering System with Smart 2560.
- 2. Street Light Intensity Control







(June-December 2024)

Faculty Name : BARATH KANNA C

Journal/Conference:

- 1.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (12 December 2024)
- 2.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (12 December 2024)

Title :

- 1. Mitigation of faults in power quality using Automatic Regulator
- 2. Automated LPG Cylinder Monitoring System

Faculty Name : SHALINI PRIYA J

Journal/Conference:

1.2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) (8 - 9 October 2024)

Title :

1. Arduino Based Internal Fault Detector for Cables

Faculty Name : SHARMILA.P

Journal/Conference:

1. NEXT-GEN PARKING SOLUTIONS

Title:

1. Intelligent Computing and Control for Engineering and Business Systems (ICCEBS) (11 June 2024)









RESEARCH

Anna University – Research Centre Recognition

The Department of Electrical and Electronics Engineering has been recognized as a Research center by Anna University vide Letter No. 1419/IR/EEE/AR2 dt 14.09.2022. This facilitates to interact with Anna University in collaborative research for the purpose of pursuing Ph.D. / M.S. (By Research) programmers.

This recognition is renewed once in three years in compliance with the required norms for research center as applicable. In accordance to the norms the research center is renewed up to June 2025 as per the "Common Renewal Session" to do collaborative research programmer with Anna University.

1.Dr. K. Prathibanandhi, Associate Professor / Supervisor Recognition: 4030019

She is a recognized supervisor in the area of "Power Electronics, optimization Techniques, Renewable Energy Technologies and wireless network" under the Faculty of Electrical Engineering, Anna University.

S. No	Name of the Student	Title of Research	University	Year of Registration	Programm e (Ph.D/M.S by research)	Status	Mode of Study (PT/FT)
1	Mr.T.Gokulakr ishnan	Inverter Fed Three Phase Induction Motor To Improve The Efficiency For Industrial Application	Anna University	July 2024	Ph.D	Course Work	PT
2	Ms.S.Kalpana	Advanced Hybrid Control Method For Torque Ripple Reduction In Brushless Dc Motor	Anna University	July 2024	Ph.D	Course Work	PT







RESEARCH

2. Dr.K.Suresh, Associate Professor / Supervisor Recognition: 4030007

He is a recognized supervisor in the area of "Power System, Intelligent Systems, Control Systems, Embedded Systems" under the Faculty of Electrical Engineering, Anna University

S. N o	Name of the Student	Title of Research	University	Year of Registration	Programme (Ph.D/M.S by research)	Status	Mode of Study (PT/FT)
1	Mr.Murugesan S	Hybrid Intelligent Computing Techniques For Optimal Power Quality Reinforceme nt In Smart Grid	Anna University	July 2024	Ph.D	Course Work	PT
2	Ms.Johnsi Rani J	Hybrid Intelligent Optimization Techniques For Controlling The Ev Charging System Of Electrical Vehicles	Anna University	July 2024	Ph.D	Course Work	PT







RESEARCH

3. Dr. G. Venkatesan, Professor / Supervisor Recognition: 1730281

He is a recognized supervisor in the area of "Power System, Intelligent Systems, Control Systems, Embedded Systems" under the Faculty of Electrical Engineering, Anna University

S. N	Name of the Student	Title of Research	University	Year of Registration	Programme (Ph.D/M.S by research)	Status	Mode of Study (PT/FT)
1	Ms.Arivukkody	Battery Management System In E- Vehicle	Anna University	July 2024	Ph.D	Course Work	PT









STUDENT ACHEIVEMENTS

(2024-2025)

SMART INDIA HACKATHON 2024

We are proud to announce that our talented students have secured the First Prize at the Smart India Hackathon 2024, held at Oriental Institute of Science and Technology, Bhopal.



ELEVATOR - THE IDEA EXPO



Our students have emerged as the Winners at the ELEVATOR – The Idea Expo organized by St. Xavier's College (Autonomous), Kolkata under the Entrepreneurship Development Cell & Incubation Centre.

Winning Team: HUSTLERS

Team Members:

S Sowmya

Reshmi T

Nivedhitha M











STUDENT ACHEIVEMENTS

(2024-2025)

SRM SDG HACKATHON 2024

Held at SRM Institute of Science and Technology, this talented team showcased their innovation and dedication, taking home a cash prize of ₹20,000!



EDII HACKATHON

EDII Hackathon Winners organized by the government of Tamil Nadu. The team members are Sharavana Vell Mukesh Kumar S Vignesh J









FACULTY AWARDS (2024-2025)

BUREAU OF INDIAN STANDARDS

Faculty: Dr. Saswati Kumari Behera

Name: Manak Veer Award (BIS -

Award : 2024)

Category Shared Vision for a Better

World incorporating

Sustainable Development

Goals, Club Mentor



Faculty : Dr. R. Azhagumurugan

Name : Dr. Kalam Best Mentor Award(World Youth Federation -

Award : 2024)
Category Mentor

Faculty : Dr.B.Meenakshi

Name : IETE Outstanding Faculty award(IETE -

Award : 2024)

Category Faculty award







FACULTY AWARDS (2024-2025)



Faculty Name : Dr T Porselvi

Tittle : AN AUTOMATIC WET GRINDING

Application : APPARATUS

Number : 2.02241E+11

Date of Filing : 12/26/2022

Status : Granted

Date of 7/11/2024

Publication



Faculty Name : Dr.K.Prathibanandhi

Tittle : A SMART MIRROR WITH

Application : EMOTIONAL AWARENESS

Number : 2.02441E+11
Date of Filing : 7/21/2024
Status : Published
Date of 7/26/2024

Publication







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