

VIDYUT

Volume-1 | Issue-1 | Jan-June-2022

Department of Electrical and Electronics Engineering
Official Newsletter

USE OF FUEL
CELLS WILL BE
UBIQUITOUS

**Trends In
Electrical Industries
You Must know**

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

NEWSLETTER

EDITORIAL TEAM

Dr. KR. Santha, Professor & Head
Dr. Sudhakar K Bharathan, Professor
Dr. R. Karthikeyan, Associate Professor
Ms.S. Sinthamani, Assistant Professor
Ms. K S. Pavithra, Assistant Professor

Mr. Akash.A, IV year
Mr. M.Adithyan, III year
Mr. Sabari S & Ms.N.Harini, II year

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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 "CENTER 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 the 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 will serve as engineering contributors in the emerging fields of Electrical and Electronics 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 players 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.
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) 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 networks encompassing stability, control and protection and interconnection of Renewable Energy Sources with Micro and smart grid.

Program Outcomes (POs) for PG-PED

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

PO2: 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.

Article on Fuel cells

Breathing New Life into Fuel Cells

The demand for clean energy has never been higher, and it has created a global race to develop new technologies as alternatives to fossil fuels. Among the most tantalizing of these green energy technologies is fuel cells. They use hydrogen as fuel to cleanly produce electricity and could power everything from long-haul trucks to major industrial processes.

However, fuel cells are held back by sluggish kinetics in a part of the core chemical reaction that limits efficiency. But, researchers from The University of Texas at Austin have discovered new dynamics that could supercharge this reaction using iron-based single-atom catalysts.

Fuel-cell-chemical-reaction

The Breakthrough: The researchers developed a new method to improve the oxygen reduction portion of the chemical reaction in fuel cells, in which oxygen molecules are split to create water. They did so through a “hydrogel anchoring strategy” that creates densely packed sets of iron atoms held in place by a hydrogel polymer. Finding the right formula for spacing these atoms created interactions that allowed them to morph into catalysts for oxygen reduction.

Figuring out the density and locational dynamics of these iron atoms unlocks a level of efficiency in this reaction never before realized. The researchers demonstrated these findings in a new paper published recently in *Nature Catalysis*.

Why it Matters: The oxygen reduction reaction is perhaps the greatest impediment to large-scale deployment of fuel cells. The promise of fuel cells lies in the fact that they are nearly limitless in potential applications. They can use a wide range of fuels and feedstocks to provide power for systems as large as a utility power station and as small as a laptop computer.

Academic researchers around the globe are working to enhance fuel cell capabilities. That includes other engineers at UT Austin who are taking a variety of approaches to solve key problems in fuel cell development.

What the Researchers Have to Say: “It is of the utmost importance to replace fossil fuels with clean and renewable energy sources to tackle major problems plaguing our society like climate change and the pollution of the atmosphere,” said Guihua Yu, an associate professor of materials science in the Cockrell School’s Walker Department of Mechanical Engineering. “Fuel cells have been regarded as a highly efficient and sustainable technology to convert chemical energy to electrical energy; however, they are limited by the sluggish kinetics of the cathodic oxygen reduction reaction. We found that the distance between catalyst atoms is the most important factor in maximizing their efficiency for next-generation

What's Next: These findings can be applied to anything that includes electrocatalytic reactions. That includes other types of renewable fuels as well as ubiquitous chemical products such as alcohols, oxygenates, syngas and olefin.

Use of fuel cells will be ubiquitous soon!

Of late, worldwide priority has been on harnessing renewable energies, especially solar and wind energies. However, Fuel Cells are also creating their own space. Whether Fuel Cells are falling within the domain of traditional definition of renewable energies – that is still debatable. However, there is a wide potential of these devices as standalone power sources and they have also shown their capabilities as complementary components to the solar and wind projects.

India is advancing with a holistic target, thus our government, industrial entities and scientists are continuously working on developing and improving Fuel Cells to bring them to the forefront of the industry. Contextually, recently the researchers from The Indian Institute of Technology, Guwahati have developed a bio-electrochemical device, Microbial Fuel Cell (MFC) that can generate green energy by treating wastewater.

There are many other instances that establish India's strong commitment towards bringing Fuel Cells to every sphere of life. For example, in March 2022, Union Minister for Road Transport and Highways NitinGadkari launched the world's most advanced technology-developed Green Hydrogen Fuel Cell Electric Vehicle (FCEV) Toyota Mirai at New Delhi. Also, in February, Ballard Power Systems signed a non-binding MoU with the Adani Group to assess a joint investment case for commercialization of fuel cells in India.

The latest decision of Cochin Shipyard Limited to invest an initial corpus of Rs. 50 Crore in start-up companies engaged in the marine sector is highly admirable. The Union Government's plan for building Hydrogen Fuelled Electric Vessels is definitely a forward-looking decision. Thus, I'm quite sure that within the next few years, India will witness the presence of Fuel Cells in most of the industrial sectors

Students Achievements

New Product Launch by the students

E-Ticketing and I-Transport Management System

Department of Electrical and Electronics Engineering in association with Gulf Engineering Pvt Ltd. organized the launch of a product conceptualized, designed and implemented by the students and faculty members of SVCE in collaboration with Gulf Engineering (P) Ltd. Chief guest for the event was the **Honourable Minister for Transport, Thiru S.S.SIVASANKAR, Government of Tamilnadu,** and **Thiru. VAZAPADI RAMA SUGANTHAN, Vice-President, Tamilnadu Congress Committee** was the Guest of Honour. The product was officially launched on **13th May 2022 at 11AM,** in the Seminar Hall, Dr. A. C. Muthiah Central Library, SVCE.

Project Outline

- Novel algorithm for paperless E-ticketing system and an Intelligent transport management system for the transportation sector is developed.
- Cost effective prototype is currently being developed at SVCE.
- Arduino based E-ticket generation
- GPS and NFC modules: Design and implementation
- Cloud based admin management system

Students of EEE, involved in product development



Mr. Kamalesh,
IIIrd Year



Mr. Gokul Prasath,
IIIrd Year



Mr. Diwakar. K. S,
IIIrd Year



Ms. Swaeta L,
III Year



SVCE Sri Venkateswara College of Engineering **GEC**

PRODUCT LAUNCH
E-TICKETING AND i-TRANSPORT MANAGEMENT SYSTEM
 Innovation & Design by SVCE & Gulf Engineering

INAUGURATION BY
Thiru S. S. SIVASANKAR
 Honourable Minister For Transport, Government of Tamil Nadu.

Thiru VAZHAPADI RAMA SUGANTHAN
 Tamil Nadu Congress Committee Vice-President

Thiru A.C.MUTHIAH
 Chairman, Governing Council-SVCE

MS. MEENA
 Vice President, Gulf Engineering

13th MAY 2022 @ 11:00 AM
 VENUE: Library Seminar Hall, SVCE

svce.ac.in



Moment Captured during the product launch

Electronic Bird, Squirrel and Reptile Repellent System for Electrical Installation

A new product was successfully designed and developed as a commercial product in collaboration with Gulf Engineering (P) Ltd. The Product launch was held on 28th, Feb 2022 (online mode), Mr.R.Karthikeyan, General Manager, Tamil Nadu Industrial Development Corporation Ltd (TIDCO) presided over the function. Students involved in product development are Mr. Sai Prasanth. B.L and Mr. Saurabh sonawane, final year, EEE.

Mr. Sai Prasanth.B.L



Mr. Saurabh Sonawane



Patent filed

Mr.S.Sanjay , Mr.V.Varun Vishal, Mr. J.VishalKhummar of final year EEE with Dr.C.Gopinath, Associate Professor, filed a Patent titled ‘A System and Method for Efficient Lighting in Highways’ in IPR ,Chennai and it was published in the patent office Journal on 10.02.2022 with **Application no** 202241007018.

Mr.S.Sanjay ,



Mr.V.Varun Vishal,



Mr. J.VishalKhummar



Project Funding Received

Mr.S.Sanjay, Ms.Swetha. Mr.Sankararaman.S.N , final year students of the Department Electrical and Electronics Engineering, have received a grant through Tamilnadu State Council for Science and Technology for the year 2021-2022. They have received a grant of Rs. 7500 for the project “Fabrication of MoS₂ based thin film transistor for display applications”.(884) under the guidance of Mr. S.Sudharsanam, Assistant Professor.

Mr.S.Sanjay,



Ms.Swetha.



PP,Sankararaman.S.N



DakshaaT22'

Mr. AshwinKarthik, Mr.BarathBasu.VB, and Mr. Dharanesh of third year EEE students won third place in project exhibition 'DakshaaT22' held on 28th May, 2022 at K.S.Rangasamy college of Technology , Namakkal, Guided by Ms N. Shunmugavadivu, Assistant Professor.








Mr. Sooya R, Sai Vignesh c.r and Mr.Sangeeth Gopinath, final year students, participated and presented a paper "IoT based environmental monitoring system" in a International Conference on Contemporary Engineering and Technology-(ICCET 2022), from 26th to 27th march organized by Prince Shri Venkateshwara Padmavathy Engineering College, Chennai.



Sports Achievement

Mr. MohanaVishwam,R, Final year student, secured 1st place in Table Tennis (Men) team ,in the Anna University Zonal Tournament 2022-2023 held at Sri Venkateswara College of Engineering ,on 19.11.2022.



ANNA UNIVERSITY		CERTIFICATE NO	
		000365	
	ANNA UNIVERSITY SPORTS BOARD CHENNAI - 600 025 ZONAL TOURNAMENTS 2022 - 2023 CERTIFICATE OF MERIT		
	This is to certify that <u>R. MOHANA VISHWAM</u> son / daughter of		
	Register no <u>190601046</u> year <u>IV</u>		
	branch <u>EEE</u> zone <u>II</u>		
	was a member of <u>TABLE TENNIS (MEN)</u> team		
	secured <u>First</u> / Second / Third Position in the Anna University zonal		
	Tournaments 2022 - 2023 held at <u>SRI VENKATESWARA COLLEGE</u>		
	OF <u>ENGINEERING</u> ON <u>19.11.22</u> to		
event _____ classification _____			
PROGRESS THROUGH KNOWLEDGE			
			
Local Sports Coordinator	Local Sports Secretary	Zonal Sports Coordinator	Zonal Sports Secretary

Higher Studies Details

Students of final year EEE got the admission in various universities like Northeastern University, Rochester Institute of Technology, University of Windsor, North Carolina University.



Akhil reddy Duruvu

THE GEORGE
WASHINGTON
UNIVERSITY
WASHINGTON, DC



K Prashanth



UNIVERSITY OF
BIRMINGHAM



Rohith Jayavel



University
of Windsor



Sai Prasanth B L

NC STATE
UNIVERSITY



Saurabh Sonawane



Northeastern
University

Internship Detail during Jan – June 2022

S. No	Name	Name of the company (Internship)	Internship Duration
1	Aakash A	Wood India Engineering and Projects Private Limited	3 months
2	Abirami.P	EmbedUR	3 months
3	Amuthan H	Cognizant	6 months
4	S. Anirudh	Ernst & Young	1 month
5	Dhivya K	Cognizant	6 months
6	Ganesh Kumaran S	Wood India Engineering and Projects Private Limited	3 months
7	GokulkrishnanYr	Cognizant	6 months
8	Harindar.R	Prodapt Solutions	3 months
9	Jaganathan M	TI Cycles	6 months
10	Janani T	Cognizant	3 months
11	N. Janaranjani	Wipro	10 weeks
12	Kaarthick S	Kaar Technologies	6 months
13	Kalyani M S	Cognizant	6 months
14	Kavyashreearun	Freshworks	3 months
15	Madhumithaa H	Cognizant	6 months
16	Manoj Pandian S	Prodapt solutions	3 months
17	Megna Selvi C	IBM	2 month
18	Mouli B	Simpson and Co limited	1 month
19	Nandhini S K	Cognizant	4 months
20	Naveen Kumar M	Bigthinkcode	6 months
21	Preethika.S	Cognizant	6 months
22	P Rajagopal	Cognizant	4 months
23	Sabarieswaran A	Cognizant	6 months
24	Samyuktha E G	Price Waterhouse Coopers- PwC	5 Months
25	Sanjay Srinivass E	Tube Investments of India - TI Cycles	6 months
26	Sanjay Suman S G	Planys Technologies	6 Months
27	Sanjeev S D	CTS	4 months
28	Saurabhsonawane	Caterpillar	9 months
29	Segin R	prodapt solutions	3 months
30	Shali R	Tube Investments of India - TI Cycles	6 months
31	Shankararaman S N	Prodapt solutions	2 month
32	Shobana.P	Prodapt solutions	3 months
33	Snekha S L	IBM	2 months
34	Sriram S	Cognizant	2 months
35	Surendiran C	Cognizant	5 Months

36	Swetha G M	ZOHO Corporation	10 Months
37	Swetha P	ZOHO Corporation	10 Months
38	Tamil Mehala S	Cognizant	4 months
39	Tamizharasi S	Mu Sigma	5 months
40	Tharun H	Prodapt Solutions	3months
41	Varshini Elangovansumathi	Freshworks	3 months
42	Varun Vishal V	Cognizant	5 Months
43	Vishal Khumaar J	Cognizant	3 Months
44	Yuvarajan. S	Prodapt Solutions	3 months
45	Aravind S	Cognizant	5 months
46	Nishanth R	ANORA instrumentation private limited	5 months
57	Vignesh P	ZOHO Corporation	1 month
48	Kamalesh P	ZOHO Corporation	1 month
49	Monish Kumar G.S	ZOHO Corporation	1 month
50	Diwakar K.S	ZOHO Corporation	1 month
51	Adithyan M	ZOHO Corporation	1 month

LOGO OF COMPANIES



Details of Online Courses (NPTEL, Coursera, Mathworksetc)

S. no.	Reg. no. of students	Name of student	Event Name	Place	Date
1	190601034	Karan.S	Introduction to internet of things” at Stanford University, Stanford, CA (Scored ‘S’ Grade)	Online	2021-22
2	190601003	Abinaya B	Programming in Java (NPTEL) (Elite + Silver Medal)	Online	Jan - April 2022
3	190601018	M.B.Diviya Bhavaani	Programming in Java(NPTEL) (Elite + Silver Medal)	Online	Jan-April 2022
4	190601031	R J .Jaya Chandiran	Data Base Management System, (NPTEL) (Elite)	Online	Jan-March 2022
5	190601069	Santosh.V	Programming in Java (NPTEL) (Elite + Silver Medal)	Online	Jan - March 2022
6	190601028	Hemanth T	Data Base Management System, (NPTEL)	Online	Jan - March 2022
7	200601021	Dhivya B	CMOS Digital VLSI Design, (NPTEL)	Online	Jan-March 2022
8	200601049	Narendran K	Foundations of Project Management Google (Coursera)	Online	30.05.2022 To 08.05.2022
9	200601049	Narendran K	Seminar on Air Autonomous Vehicle (DRDO)	Online	6.01.2022 to 07.01.2022
10	200601049	Narendran K	Use Canva to Create Desktop and Mobile-friendly Web Pages (Coursera)	Online	16.03.2022
11	190601075	Somitha T	Programming for Everybody(Getting started with python (Coursera)	Online	13.01.2022
12	190601053	Nithish kumar s	Programming for Everyone (Coursera)	Online	15-01-2022 to 21-01-2022
13	200601017	H.Deepak	Matlab Machine Learning Matlab Onramp (Mathworks)	Online	30.03.2022 to 06.04.2022
14	200601049	Narendran K	Project Initiation, (Google-Coursera)	Online	30.05.2022 To 15.08.05.2022

15	200601049	Narendran K	Crash Course on Python, (Google-Coursera)	Online	01.04.2022 to 20.04.2022
16	200601049	Narendran K	Use Canva to Create Desktop and Mobile-friendly Web Pages -(Coursera) Guided Project Network,	Online	16.03.2022
17	200601049	Narendran K	Autonomous Air Vehicles-Technologies and Applications. (ADE-DRDO)	Online	06.01.2022 to 07.01.2022
18	200601044	Manju R	SAR data processing and its application.(ISRO)	Online	04.04.2022 to 04.05.2022
19	200601049	Narendran K	Project Management Professional Certification (Coursera)	Online	1.05.2022 to 31.05.2022
20	200601049	Narendran K	AI Chatbot Development Using IBMatson(Coursera)	Online	23.05.2022
21	200601017	H.Deepak	HTML, CSS and Javascript for web developer, Johns Hopkins University (Coursera)	Online	12.06.2022

LOGO OF UNIVERSITIES

**Stanford
University**



coursera

Professional Society Activities

Association of Electrical and Electronics Engineering

NATIONAL CONFERENCE ON ADVANCES IN ELECTRICAL AND ELECTRONICS ENGINEERING – NCAEEE 2022

A National Conference christened “National Conference on Advances in Electrical and Electronics Engineering – NCAEEE2022” was held on 27 th and 28 th May 2022, organized by the Department of Electrical and Electronics engineering. Call for Papers were promulgated through a brochure which was distributed to various colleges within the country. The topics covered a wide spectrum such as Power Electronics, Power System, Energy System, Electrical drives, Automation, Embedded Systems. Owing to pandemic restrictions, the conference was held in two modes viz, Online mode for those who submitted papers outside Chennai and through offline mode meant for local participants. The papers received were peer reviewed and fiftyone papers were shortlisted. The authors of these papers presented them in offline and online mode. The conference was inaugurated by Mr.S.Nandhakumar, Deputy Manager, Power Grid Corporation of India. After inaugurating the conference, he delivered a talk on ‘Smart Grids– Trends in India’ which was well received by the audience which included conference participants, students and faculty members. The online session was chaired by Dr.AshwinKumarSahoo, Professor, Department of Electrical and Electronics Engineering, CV Raman college of Engineering, Bhubaneswar, Odisha. The offline mode was chaired by Dr.NC Naik, Associate Professor, Department of Electrical and Electronics Engineering, MNMJain College of Engineering, Chennai. A total of 51 papers were presented through online and offline mode. After paper presentation valedictory function was held with Dr.R.Muthucumarasamy, Dean(Research) of the college as the chief guest. He delivered the valedictory address encouraging everyone to take up research as a lifelong process. Certificates were then distributed by the chief guest and by Dr.KR.Santha, HOD of the EEE department and Convener of the conference to the offline participants. Prof N K Mohanty, Coordinator of the conference then delivered the vote of thanks thus concluding the conference. The various events of the conference are highlighted through the following photographs.



Invocation



HoD/EEE introducing Chief Guest



Network: 27-May-2022 9:44:17 am IST
Local: 27-May-2022 9:44:17 am IST
12°59'11.586"N 79°58'21.246"E
Unnamed Road
Kanchipuram
Tamil Nadu
Remark: NCAEEE2022



Network: 27-May-2022 10:16:31 am IST
Local: 27-May-2022 10:16:31 am IST
12°59'12.235"N 79°58'19.949"E
Unnamed Road
Kanchipuram
Tamil Nadu
Remark: NCAEEE2022

Chief Guest's Expert Lecture

GUEST LECTURE

Clean Coal Technologies for Sustained Power Generation

The guest lecture on “Clean Coal Technologies for Sustained Power Generation” presented by Mr.R.Krishnakumar, Deputy Executive Engineer, NLC India Limited, Neyveli on 10th.May,2022 tuesday from 10.30 AM to 12.15 PM in the Video hall. Second and third year students (a total of 99) and faculty from EEE department participated in this guest lecture.

The event started with a prayer song by Ms.Sharon Monisha of II year EEE. Dr.KR.Santha, Vice-Principal, Professor and HOD, EEE presented an introductory speech and detailed on the significance of pursuing Electrical Engineering which has the advanced core courses like Industrial Automation, Smart Grid and IoT Applications in Electrical Engineering.

The guest speaker Mr.R. Krishnakumar started his guest lecture with a brief introduction on the Government Schemes for promoting LED lighting, the UJALA (UnnatJyoti by Affordable LEDs for All), last mile connectivity and electricity connection to all un-electrified households in rural areas, the SAUBHAGYA and the Electricity Act 2003 that consolidate the laws relating to generation, transmission, distribution, trading and use of electricity. He shared the details on air pollutants vis-à-vis NO_x, SO₂, particulate matter and CO from a coal based thermal power plant. The speaker explained the technologies available for emissions control and to sustain the multi-pollutant emission regulatory requirements which are: Selective Catalytic Reduction (SCR), Electrostatic Precipitators (ESP), Fabric Filters (FF), Flue Gas Desulfurization (FGD), Wet ESP, Dry Sorbent Injection (DSI), and Mercury Control Methods (MCM) and concluded his lecture by summarizing government schemes, policies and pollution control methods.





Hands-on Training on Sensor Guided Robotics

The 3-days “Sensor Guided Robotics – Hands-on Training” program was organized by the Association of Electrical and Electronics Engineers (AEEE), Department of Electrical and Electronics Engineering in association with The Institution of Engineers India (IEI) from 19th to 21st March, 2022 for the II year EEE students. The inauguration of the training program was held on 19/3/2022 in the Function Hall of the college premises from 9.30 AM to 10.00 AM. Dr.KR.Santha, Vice-Principal, Professor and HOD, EEE lighted the Kuthuvilakku and delivered the inaugural address which covered topics on robotic sensors, signal conditioning circuits, controllers, actuators and applications of robotics in the medical field.



Guest Lectures

Robots and Autonomous Mobile Robots Applications in Industries

The guest lecture on the topic “Robots and Autonomous Mobile Robots Applications in Industries” was presented by Mr. B.Saravanan, BrixEn HiTech Pvt Ltd, Chennai on 21st March, 2022.



Two days Workshop Organized by Institution of Engineers (India) IEI

A two-day workshop on “Recent Technologies in Electrical Vehicles and Smart Grid” was conducted on 30th and 31st May, 2022. Mr.P.S.Premkumar, Division Manager – Industrial Automation, Hydrotek Engineering Company, Kuwait, was the guest speaker. Dr.KR. Santha, Vice principal and HOD, EEE convened the event. Dr.Sudhakar K B, Professor, and Dr. S.G.Bharathidasan, Associate Professor, coordinated the event. 165 students participated in the workshop.



Institute of Electrical and Electronics Engineers (IEEE)

Inauguration IEEE SB 2022

The Inaugural ceremony of the Institute of Electrical and Electronics Engineers (IEEE) Student Branch of Sri Venkateswara College of Engineering was conducted on 11th January

2022. The event was conducted online through google meet and had about 100 participants and went on for an hour.

Mr. Jebas Paul Daniel, Technical Staff Engineer, Microchip India, was the Chief Guest for the event. The Chief guest delivered a speech on 'Automobile - An electronics playground' and spoke about different approaches in Car manufacturing.

Technical Debate

The IEEE SVCE Student Chapter conducted a technical debate like event titled “Model Phoebus Cartel” on 23rd March, 2022. The event saw more than 20 teams registering from across departments and years of study. The registered teams were assigned to a company from an industrial domain. Some of the companies given were Kirloskar, Toshiba, ABB, Texas Instruments, Boeing, IBM, Benz etc. The teams were supposed to represent their companies and address the various agendas/problem statements put forth by the moderators as required with emphasis on innovation and collaboration. The event took place in the Library Seminar Hall located in the A.C.Muthiah Central Library on the SVCE Campus.



Guest Lecture Organized by IEEE

The Institute of Electrical and Electronics Engineers (IEEE) Student Branch of Sri Venkateswara College of Engineering held a guest lecture on the topic “Multimodal Interaction” on 11th April 2022. Dr.KR.Santha, HoD, EEE,Vice-Principal, SVCE welcomed the gathering and delivered an inspiring speech. The Chief guest, Mr.V.Laxmi Narayanan, gave a brief guest lecture on the theme “Multimodal Interaction”. He started his lecture by explaining how virtual reality plays an important role in 21st century. He then stated out how essential it is in interviews and explained its efficiency. He spoke about avatars and also explained how they can be created. The event was then followed by a demonstration of facial detection. The event was informative and witnessed overwhelming response from participants.



Women Empowerment Cell - SVCE

The Women's Day celebration at SVCE was held on 8th March 2022, organized by Women Empowerment Cell, SVCE. Ms. Monisha Venkatesh, Project Officer, Child Development Project Office, Sriperumbudur, presided over the event and gave a guest lecture on "Women's Health and Nutrition." The female students and women faculty members took part in a variety of competitions, including rangoli, adapt tune, solo vocals, tug-of-war, treasure hunt, spot light, speech, and master chef. Certificates and cash awards were given to the winners of various competitions



Industrial Visit

Seventy-nine students from Ist year EEE went to an industrial visit at Aruldevi Paper Mills, Panapakkam, Kanchipuram on 04.01.2022 and 08.02.2022. One hundred and twenty nine students from 2nd and 3rd year EEE went to an industrial visit at State Load Dispatch Centre - Headquarters (TANGEDCO-TNEB), Anna salai, Chennai from 01.06.2022 and 03.06.2022.



Research Center Activities

SVCE INNOVATES 2022 (Students' Research Day)

The best innovations of 2022, by the students of SVCE, would be identified by conducting a contest. This

is being organized as a college wide event for the seventh time with the following objectives:

- To nurture an interest in research and to provide an opportunity to the students to exhibit their creative skills
- To inculcate the spirit of healthy competition and to encourage interdisciplinary innovations

This is intended for undergraduate and postgraduate engineering students of all the departments in our campus. Around 70 students participated from the department to explore their research idea.

Ms. Amudhavalli D (Reg.No.1524399157), Part time research scholar, Anna University, Chennai, and Assistant professor, EEE, defended her thesis titled, "Mathematical Modeling and Implementation of Quadratic Boost Converter For Solar PV System" on 06th April,2022 at 02.00pm, through online mode under the supervision of Dr.Nalinkant Mohanty, Professor, EEE.





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Mr. C. Venkatesan (Reg.No.1314399727), Part time research scholar, Anna University, Chennai, and Assistant professor, EEE, defended his thesis titled, “A Novel Multi-Objective Hybrid Optimization Technique for Optimal Deployment of Distributed Generations and Shunt Capacitors” on 20th May, 2022 at 10.20 AM, through online mode under the supervision of Dr.R.Kannadasan, Assistant Professor, EEE

Faculty Publications

- Ms.Arulmozhi S, Dr. KR. Santha, “Analysis of dual-input three port isolated DC-DC converter with bidirectional capability”, Journal of Power Electronics, Vol. 22, no.:4, pp. 711-726, 2022.
- Dr. KR Santha and M Athappan, “A delay efficient hybrid parallel prefix variable latency CSKA based multi-operand adder with optimized 5:2 compressor and skip logic”, International Journal of Electronics. <https://doi.org/10.1080/00207217.2022.2081994> , June 2022.
- Ms.S. Rajalakshmi, Dr.K. R. Santha, “Hybrid Recommender System Using Systolic Tree for Pattern Mining”, Computer Systems Science and Engineering journal , Volume 44 ,Issue 2,pp 1251-1262, March 2022.
- Dr.Nalin Kant Mohanty “Investigation on Current and Prospective Energy Transition Scenarios in Indian Landscape Using Integrated SWOT-MCDA Methodology”, SCI indexed journal Sustainability, IF:3.2. Sustainability 2022, 14(9), 4940, Published: 20th April 2022.
- Indra Jayanthan, Venkatraman, and Nalin Kant Mohanty, "Assessment of Clean Energy Transition Potential in Major Power-Producing States of India Using Multi-Criteria Decision Analysis" Sustainability 14, no. 3: 1166.<https://doi.org/10.3390/su14031166>
- Dr.C.Kamal, “Design optimization of giant magneto resistance– based magnet

nanoparticle detection in liquid samples for biomedical applications", in Journal of Nanoparticle Research (2022) 24:166 <https://doi.org/10.1007/s11051-022-05484-6> SCI Indexed, IF 2.253.

- Dr.Kannadasan R, "Framework-Based Wind Forecasting to Assess Wind Potential with Improved Gray Wolf Optimization and Support Vector Regression", Sustainability 2022; Continua, vol. 70, no.1, pp. 151–169, 2022.
- Dr.Kannadasan R, "A Novel Forward-Propagation Workflow Assessment Method for Malicious Packet Detection", Sensors 2022, 22, 4167. <https://doi.org/10.3390/s22114167>. SCI Indexed, Q2, IF- 4.39.
- Dr.Kannadasan R, "Electrical and Mechanical Characteristics Assessment of Wind Turbine System Employing Acoustic Sensors and Matrix Converter", Sustainability 2022, 14, 4404.<https://doi.org/10.3390/su14084404>. SCI Indexed, Q2, IF-3.87
- Dr.Kannadasan R, "Machine Vision-Based Human Action Recognition Using Spatio-Temporal Motion Features (STMF) with Difference Intensity Distance Group Pattern (DIDGP)", Electronics 2022, 11,2363.<https://doi.org/10.3390/electronics11152363> SCI Indexed, Q3, IF-3.58
- Dr.Kannadasan R, "A Case Study on Renewable Energy Sources, Power Demand, and Policies in the States of South India Development of a Thermoelectric Model", Sustainability 2022, 14, 8882. <https://doi.org/10.3390/su14148882>.SCI Indexed, Q2, IF-3.87.
- Dr.Kannadasan R, "Target Object Detection from Unmanned Aerial Vehicle (UAV) Images Based on Improved YOLO Algorithm", Electronics 2022, 11, 2343.<https://doi.org/10.3390/electronics11152343>. SCI Indexed, Q3, IF3.58
- M.Sankar, S.G.BharathiDasan, S.Thamizhmani, "Real-Time Transient Stability Assessment of Post Fault Scenario in Power System by Using Probabilistic Neural Network," 2022 IEEE Delhi Section Conference (DELCON), 2022, pp. 1-8,[doi:10.1109/DELCON54057.2022.9752930](https://doi.org/10.1109/DELCON54057.2022.9752930).
- Suganthi K, and Sudhakar K B, "A Single-Inductor Multi-Output Current-Mode LED Driver with Soft- Switching" IEEE sponsored First International Conference on Electrical, Electronics, Information and Communication Technologies (ICEEICT 2022)

14(7):4235.<https://doi.org/10.3390/su14074235>. SCI Indexed, Q2, IF-3.87.

- Dr.Kannadasan R, “Harmonics Minimisation in Non-Linear Grid System Using an Intelligent Hysteresis Current Controller Operated from a Solar Powered ZETA Converter”, Sustainability 2022, 14, 7028. <https://doi.org/10.3390/su14127028>SCI Indexed, Q2, IF-3.87
- R. Kannadasan, "Crop yield prediction using machine learning approaches on a wide spectrum," Computers, Materials & Continua, vol. 72, no.3, pp. 5663–5679, 2022.
- R. Kannadasan,, "Design of a low-cost air quality monitoring system using arduino and thingspeak," Computers, Materials &
- S Sinthamani, M Ranjithkumar, Sudhakar K Bharatan, S Anitha, Sudharsanam S, Sasikala M, “Optical characterization of RF sputtered copper oxide for thin film solar cell applications”, Materials Today: Proceedings, Volume 59, Part 1, 2022, Pages 814-818, ISSN 2214-7853,<https://doi.org/10.1016/j.matpr.2022.01.114>.

Faculty Participation in FDP/Workshop / Conference

- Dr R Kannadasan, Mr. I Arun Abhishek and Mr. M Pandiyarajan, Assistant Professors, attended five days online FDTP on “MATLAB Applications to Electric Vehicle, Smart Grid and Battery Management System”, organized by Mathworks at SVCE from 20.01.2022 to 25.01.2022.
- Ms M Sasikala, Mr. M Ranjithkumar and Ms. S Sinthamani, Assistant Professors, attended five days online ATAL FDP on "Recent Advances in Nanoscience and Nanotechnology" at Rajasthan Technical University from 17.01.2022 to 21.01.2022.
- Dr. S Ssethuraman, Associate Professor attended five days online FDP on “Research Opportunities in Electrical Power Engineering” at Department of Electrical and Electronics Engineering, Prasad V. Potluri Siddhartha Institute of Technology, Vijayawada, Andhra Pradesh, India from 23.03.2022 to 27.03.2022.
- Dr. D Amudhavalli, Assistant Professor, attended six days of online FDP on “Control Engineering in Electric Vehicles” at SRM TRPEC IEEE Students Branch and IIC from 07.02.2022 to 12.02.2022.

- Ms S Anitha, Assistant Professor, attended five days online FDP on “Recent Trends of Emerging Research Advances in Design Aspects and Innovative Modeling Techniques with Miniaturization for Electronics Devices and Circuits Electronic Devices & Circuits Engineering” at Engineering Degree Division, Institute of Engineering and Rural Technology, Prayagraj from 24.01.2022 to 28.01.2022.
- Ms K S Pavithra, Assistant Professor, attended five days of online ATAL FDP on "Machine Learning Applications for Autonomous Driving" at KLE Technological University from 24.01.2022 to 28.01.2022.
- Dr. N K Mohanty, Professor, and Dr.R. Karthikeyan, Associated Professor, attended seven days short term course on "Foundation Course in YOGA" at SVCE from 15.06.2022 to 21.06.2022.
- Dr C Gopinath, Associate Professor, attended six days online short term training programme on "Avenues for Energy Conservation in Residential Buildings" at CEG, Guindy from 24.01.2022 to 31.01.2022.
- Dr C Gopinath, Associate Professor, attended seven days online Orientation Programme on "Medical Data Analytics with Python" at Anna University Regional Campus, Tirunelveli from 04.01.2022 to 10.01.2022.
- Dr C Gopinath, Associate Professor, attended One day Awareness workshop on "Intellectual Property Rights & Innovation -2022(IPR -2022)" at Anna University, Chennai on 28.04.2022.
- Dr S Kumaravel, Associate Professor attended two days online workshop on "EV Charge Controllers- Power & Control Aspects" organized by VIT Chennai in association with TATA Elxsi (P) Ltd.Trivandrum, at VIT Chennai from 04.02.2022 to 05.02.2022.
- Ms M Sasikala Assistant Professor attended six days online AICTE sponsored QIP short term course on "Sensors technology" at IIITDM, Kancheepuram from 14 03.2022 to 19.03.2022.
- Ms M Sasikala and Ms S Sinthamani, Assistant Professors attended three days online INUP i2i Familiarization workshop on “Nanofabrication technologies” at IIT Madras from 11.01.2022 to 13.01.2022.

- Dr. C. Venkatesan, Ms. K Suganthi and Mr. I. Arun Abhishek Assistant Professor attended Two Day Online Workshop on "Ideation and Proposal Writing" jointly organized by PALS and Rural Technology Action Group, IIT Madras from 02.03.2022 to 03.03.2022.
- Dr.S S Sethuraman and Mr.S.Thamizmani Assistant Professor attended two days workshop on “Issues of Renewable Energy Integrated Smart Grid (IRESG-2022)’ at College of Engineering, Bhuvanehsvar, Odisha from 22.04.2022 to 23.04.2022.
- Dr.D.Amudhavalli, Assistant Professor attended a five days online workshop on “Emerging Technologies” at SVCE from 25.02.2022 to 01.03.2022.
- Ms.D.Amudhavalli, Assistant Professor attended one day online workshop on “Recent Trends in Design of Induction Motor” at SRM TRPEC IEEE Students Branch and IIC on 14.02.2022.
- Mr. M.Ranjithkumar and Ms.S.Sinthamani Assistant Professor attended three days online workshop on "Thin Film deposition and device fabrication" at VIT Vellore from 07 01.2022 to 09.01.2022.

PARENTS DAY MEET – I Year

Parents' day meet for all year students for the EVEN semester of academic year (2021-2022) was held on 30th April, 2022, Saturday. The reception desk was managed by Dr.S.Kumaravel and Mr.M.Ranjithkumar. The parents were directed to assemble in the Electrical machines I laboratory of the EEE department. Faculty advisors carried out vigorous counseling. **Dr.KR.Santha, HoD,EEE** addressed the gathering and discussed elaborately about the autonomous stream and importance of regular class attendance, Laboratory class attendance, CAT exams, Special classes and Career planning. Parents clarified their doubts through interaction with HoD and for a query on higher studies guidance she advised the parents to seek the guidance of the faculty members instead of relying on private counselors.

The moments captured during the parent day meet are depicted as follows.



Farewell to Shri. S. Moorthy

Shri. S. Moorthy, instructor, EEE is retired from work on superannuation. In view of this the department of Electrical and Electronics Engineering organizes a farewell meet on 07.01.2022, Friday at around 2.00 pm in the DC Machines Laboratory, Ground Floor of EEE Department. On behalf of management Mr.G.Venkatesan, HR, SVCE attended the function. Faculty members and supporting staffs from various department attended the function.



