

MESSAGE FROM THE HOD'S DESK

Hearty welcome and best wishes to all the individuals who receive this newsletter. It gives me great pleasure to present the fourth issue of "SPARKZ" for the academic year 2020-2021. I cheer the students to work hard and put in their best efforts towards their technical endeavors so that it may yield prolific results. I would like to thank all my colleagues for their diligent efforts to help the department progress at a very steady rate of knots. We as a team strive hard to take the department to the height of success, glory and to achieve our vision.

THE EDITORIAL TEAM

CHIEF EDITOR:

Dr.E.KALIAPPAN,

PROFESSOR & HOD/EEE

EDITOR:

Ms.B.PONKARTHIKA,

ASSISTANT PROFESSOR/EEE

EDITORIAL MEMBERS:

A.KOUSHIKA PREETHI - IV A

U.INDUJA -IV A

S.S.SIVANEE-IV B

SAI MALAVIKA
VENKATESH-IV B

G.GUNASEKARAN - IV A

S.MALINI PREETHI- III A

T.EVANSEA TRACY-III A

B.SRIKUMARESH-III B

S.P.YASHWANTH KUMAR -
IV B

R.SRI RAJA SUMAN - III B

COURSES OFFERED:

- BE- ELECTRICAL & ELECTRONICS ENGINEERING
- ME- EMBEDDED SYSTEM TECHNOLOGIES
- PH.D/M.S(RESEARCH)

The Department is
Accredited by NBA

VISION OF THE DEPARTMENT

To produce graduates with foundation in Electrical and Electronics Engineering who can cater to the dynamic needs of the industry and to provide a diverse and stimulating environment for quality research.

MISSION OF THE DEPARTMENT

- M1. To align the teaching learning process and to provide basic foundation for the students to adapt to the changing industrial needs
- M2. To enrich with the latest developments through seminars, guest lectures, workshop and paper presentations
- M3. To awake young minds to acquire knowledge continuously and learn to apply it
- M4. To attain multidisciplinary problem solving skills, social awareness and confidence required to excel in their chosen field
- M5. To develop professional competency and technical expertise individually and through team effort thereby exhibit leadership in industry
- M6. To create research oriented mindset and focus in fulfilling growing demands of society through mentoring and motivation

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

1. Graduates will have fundamental and broad knowledge in Electrical Sciences relating to industrial applications and research to design, analyze and synthesize information from various sources and think differently to provide solutions to their discipline
2. Graduates will become entrepreneurs, employees of reputed organizations, pursue higher studies and research for developing advanced skills in Electrical and Electronics Engineering
3. Graduates will exhibit technical and intellectual competency and will be amenable for life-long learning
4. Graduates will demonstrate technical knowledge and ethical values for professional development to meet the societal needs
5. Graduates will be able to work in multi-disciplinary environment by providing solutions to real time problems.

ACTIVITIES CONDUCTED BY THE DEPARTMENT

(August-November)

S.No	Date	Webinar / Workshop	Name of the Resource Person and Designation	No of Participants Benefited
1.	17.10.2020	Ace your interviews: Interview Tips & Resume Building	Ms.B.Priyankha, Program Manager-Strategy,Murugappa Group Chennai	81
2.	31.10.2020	Energy Conservation & Energy Efficiency	Mr.D.Rathinasabapathy, Asst.Gen.Manager- Rtd Ashok Leyland, Mr.R.Vasudevan, Energy Conservation Consultant, External faculties form Petroleum Conservation Research Association,Southern region, Chennai	52
3.	07.11.2020	Gate Cracking Strategies and Ideas in Setting up Startups	Mr.M.Kapardi, Research Scholar, Department of Biomedical Engineering, IIT Hyderabad	50
4.	21.11.2020	Electric Vehicles Opportunities and Challenges	Mr.S.Jagannathan, Product Engineer, Sosaley Technolgies Pvt.Ltd., Chennai	40

FACULTY ACHIEVEMENTS

International Journal Publications:

(August-November)

S. No.	Paper
1.	R.Karpagam, ” Read mode Energy and Speed Optimization of High Speed STT-RAM, International Journal of Future Generation Communication and Networking, Vol. 13, No. 3, (2020), pp. 2328–2335.
2.	R. Karpagam , P.Marish Kumar ,K. A. Indusailaja, S.S. Bharathi Kannan, "Earthquake and Flood Management Using RF Communication And VANET” Solid State Technology, Vol. 63 No. 1s (2020).
3.	Marish Kumar P, Indu Sailaja K A, "Improved Performance of a Single Stage Voltage Power Factor correction converter for LED Lamp Driver" Zeichen Journal ,ISSN No:0932-4747, Volume 6, Issue 8, Pg No.204-216, DOI:15.10089.ZJ.2020.V6I3.285311.2119.
4.	P.Marish Kumar, "Design And Implementation Of Super-Lift Converter With Inverter For AC Applications",Zeichen Journal, VOLUME 6 ISSUE 9 2020,Page No:1-4,DOI:15.10089.ZJ.2020.V6I3.285311.2123.
5.	P. Marish Kumar, "Design and Construction of a LLC DC-DC Resonant Converter to Obtain Optimum Output in Solar Simulators "Solid State Technology, Vol. 63 No. 3,Page No:584 – 595,2020.
6.	P. Marish Kumar , "Cascaded Interleaved Boost Converter for Higher Voltage using Photovoltaic System "Solid State Technology, Vol. 63 No. 3, Page No:989 – 1001,2020.
7.	P. Marish Kumar , "Z- SVPWM Based Source Transformer Less Five Level Cascaded Inverter with Grid Connected Photovoltaic System, "Solid State Technology, Vol. 63 No. 3,Page No:665 – 673,2020.
8.	P. Marishkumar, " Implementation of Solar PV Array Fed EASPO Super-Lift Converter for PMBLDC Motor Drive" Test Engineering &Management ,ISSN: 0193-4120 Page No. 9930 – 9936,2020.
9.	J.Lydia, K.A.Indu Sailaja, N.Priya, "Smart Energy Management for Hybrid Power Generation System, Solid State Technology, Volume 63, No.1s (2020), pp.2234-2244,2020.
10.	D.Fathema Farzana, G.Ramakrishnan, R.Nishanth, Roshan Nawaz, A.Vijaya vignesh , "Intelligent Accident Tracking System Using Raspberry PI", European Journal of Molecular & Clinical Medicine, Volume 7, Issue 4, pp.2575-85,2020.

FACULTY ACHIEVEMENTS

S. No.	Paper
11.	B.Ponkarthika, V.Vijeesh, E.Kaliappan, D.Fathema farzana, G.Vignesh , "Comparative Analysis of Flashover by Measuring Leakage Current in Composite Insulation", European Journal of Molecular & Clinical Medicine, Volume 7, Issue 4, pp.2558-2574,2020.
12.	E.Kaliappan , B.Ponkarthika, , R.Manibharathi , R. Kishore Kumar , E. Manikandan , "Voice-Based Intelligent Door Access security System Using Embedded systems", European Journal of Molecular & Clinical Medicine, Volume 7, Issue 4, pp.2552-2557,2020.
13.	P. Marish kumar , E. Raghav, L. Subhesh, M. Vikash Balaji, M. Sridhar, " IOT based geo synchronised maximum power point tracking of solar panel", European journal of molecular & clinical medicine, volume 7, issue 4, Pages 2279-2286,2020.
14.	Priya. N, Marish Kumar P, Karpagam R, Indu Sailaja K A, Priya C, Lydia. J, " Maximum Power Point Tracking of Solar Power Generation Systems Using FCM Clustering ", European Journal of Molecular & Clinical Medicine, Volume 7, Issue 4, Pages 2156-2159,2020.
15.	P. Marish Kumar, Karpagam R, Indu Sailaja K A, Priya. N, Priya C, " Open Circuit Fault Detection in Z-Source Inverter Fed Induction Motor", European Journal of Molecular & Clinical Medicine, Volume 7, Issue 4, Pages 2167-2175,2020.
16.	D.Chandrakala , K Adhithiya venkatesh, N Balaji, B Mathi bharathi, A Mohamed Safaith Hussain, "Design Of Mobile Surveillance And Security Bot For Home Safety", European Journal of Molecular & Clinical Medicine, Volume 7, Issue 4, pp 2586 – 2591,2020.
17.	Dr.K. Mala , R.K. Pavithra, S. Swetha, N. Yashika, S. Varsha "A Raspberry Pi Based Smart Wrist Band for Women Safety Using IoT", European Journal of Molecular & Clinical Medicine, Volume 7, Issue 4, pp 2460 – 2464,2020.

Book / Chapter Publications:

Name of the Faculty	Book Title/ Chapter	Publisher Name	Year of Publication
Dr.R.Karpagam	Nonlinear model predictive control strategy for integrated renewable energy optimization and sizing, Smart Technologies for Sustainable Development	ESN Publication	2020
Dr.R.Karpagam	Faster frequency restorations in an integrated deregulated environment using intelligent controller, Smart Technologies for Sustainable Development	ESN Publication	2020
Mrs.J.Lydia	Optical Wireless Communication: A Survey of Recent Advances, Applications and Challenges, Intelligent Systems and Computer Technology	IOS Press	2020
Mrs.J.Lydia	Probability Detection for Heterogeneous Networks Using FODPSO with ACO Optimization in Tunnel Based High Speed Trains, Intelligent Systems and Computer Technology	IOS Press	2020

Events Attended by Faculty: (August-November)

S.No.	FDP/Webinar/ Workshop	No. of Faculty members attended
1	FDP	51
2	Workshop	05
3	Webinar	49
4	Online Course	02

STUDENT ACHIEVEMENTS

(August- November)

Internship:

S.No	Batch	Name of the student	Name of the Industry / Organization	Stipend
1	2019-23	S.Preethi	UNI PROFS	Rs.1,000
2	2018-22	P.V Sai deepak	Expertrons Technologies Pvt Ltd	Rs.3,000
3	2018-22	P.V Sai deepak	Pathfinder	Rs.10,000
4	2017-21	R.Mukesh Kumar	Internshala Student Partner	Rs.4,500
5	2017-21	B Akash Hari	Internshala Student Partner	Rs.4,500
6	2018-22	T.Abhishek Dheeven	Comondov	-
7	2017-21	P.Kothandaraman	Infinitum Learning Pvt. Ltd	-
8	2017-21	B Akash Hari	AKT Creations	-
9	2017-21	A.Shivani	TECHNEEL IT Services Pvt Ltd	-
10	2017-21	R. Jaswanth Venkatesh	AKT Creations	-

STUDENTS ACADEMIC EXCELLENCE - Star of the Semester- Even 2019-2020:



Akash.R -I A
CGPA-9.72



Harish.V -I A
CGPA-9.46



Koushika Preethi A -III A
CGPA-9.08



Ghokul.S.L -III A
CGPA-9.043



Kavipriayn.J -I B
CGPA-9.93



Preethi.S -I B
CGPA-9.73



Sreeram.M -III B
CGPA-9.09



Shivani.A
CGPA-9.07



Sanjana.S -III B
CGPA-9.07



Jaissri.S -II A
CGPA-9.52



Kavitha.R -II A
CGPA-9.07



Anirudh.S -IV A
CGPA-8.67



Harini.B.R -IV A
CGPA-8.41



Sugant.B -II B
CGPA-8.92



Srikuamresh.B -II B
CGPA-8.69



Sibi Gowtham.K -IV B
CGPA-8.43



Roshini.B.V



Pavithra.R.K Shruuthi.T -IV B
CGPA-8.19

PLACEMENT RECORD

Placement Summary:

S.No	Name of the Company	No of students placed
1.	ACCENTURE	20
2.	AMAZON	1
3.	BOSCH	2
4.	BYJUS	5
5.	CSS CORPARTION	1
6.	ECON SYSTEMS	2
7.	EMBERUR SYSTEMS	1
8.	ETHNUS	1
9.	FLDEC SYSTEMS	1
10.	FULL CREATIVE	1
11.	HCL TSS	2
12.	HEXAWARE TECHNOLOGIES	4
13.	IBM	1
14.	INFOSYS	1
15.	L&T INFOTECH	2
16.	MPHASIS	2
17.	SUTHERLAND GLOBAL SERVICES	11
18.	TATA ELXSI	1
19.	TCS NINJA	12
20.	THINKSYNQ SOLUTIONS PVT. LTD.	1
21.	TVS SUNDARAM FASTENERS	1
22.	VALUED EPISTEMICS PVT LTD	1
23.	WHIRLDATA SCIENCE	1
24.	WIPRO	2
25.	ZOHO CORPORATION	2
26.	NOKIA SOLUTIONS AND NETWORKS	1
27.	CAPEGEMINI	1
Total No of Students Placed		81

UG Students:

S.No	Name of the students	Name of the company
1.	BARATH SRINIVAS B	ACCENTURE
2.	DINAKARAN A	ACCENTURE
3.	EUNICE A	ACCENTURE
4.	GANAPATHI S	ACCENTURE
5.	GOWTHAM E	ACCENTURE
6.	KOUSALYA M	ACCENTURE
7.	MANIBHARATHI R	ACCENTURE

S.No	Name of the Company	No of students placed
8.	MUTHU MEERA S	ACCENTURE
9.	NANDHINI G	ACCENTURE
10.	NISHANTH R	ACCENTURE
11.	PAVITHRA R K	ACCENTURE
12.	RINI JOHN	ACCENTURE
13.	RITHU PRIYANGA M	ACCENTURE
14.	SATHIYENDRAN M	ACCENTURE
15.	SHANMUGA PRIYA V	ACCENTURE
16.	SHRUTHI T	ACCENTURE
17.	SUBHASHINI S	ACCENTURE
18.	SUSHMITA M S	ACCENTURE
19.	SWETHA LAKSHMI A B	ACCENTURE
20.	TINO ISAAC I	ACCENTURE
21.	M.R.ABINESH	AMAZON
22.	ANAND VIGNESH R	BYJUS
23.	ARVIND VISHWANATH S	BYJUS
24.	Vaishnavi	CSS CORPARTION
25.	ADHITHIYA VENKATESH K	ECON SYSTEMS
26.	MADHEVAN P R	EMBEDUR SYSTEMS
27.	MUTHU MEERA S	ACCENTURE
28.	NIVEDHITHA M	FULL CREATIVE
29.	SHIVANI P	FLDEC SYSTEMS
30.	HAMSA PRIYA S	HCL TSS
31.	VAISHNAVI S	HCL TSS
32.	APARNA R	HEXAWARE TECHNOLOGIES
33.	RAMAKRISHNAN G	HEXAWARE TECHNOLOGIES
34.	SUKUMARAN M	HEXAWARE TECHNOLOGIES
35.	MONISH V	HEXAWARE TECHNOLOGIES
36.	SWATIKA R	IBM
37.	KAVIN R M	INFOSYS
38.	SUDARSHAN M	L&T INFOTECH
39.	THANIGAIVELAN R	L&T INFOTECH
40.	AKSHAYA S B	MPHASIS
41.	GOVARTHANAN M	MPHASIS
42.	MADHUVANTHI	SUTHERLAND GLOBAL SERVICES

PLACEMENT RECORD

S.No	Name of the students	Name of the company
43.	DEEPAK VENKATESH	SUTHERLAND GLOBAL SERVICES
44.	MOHAN. M	SUTHERLAND GLOBAL SERVICES
45.	ROSHAN	SUTHERLAND GLOBAL SERVICES
46.	BALAJI N	SUTHERLAND GLOBAL SERVICES
47.	GOWTHAM R	SUTHERLAND GLOBAL SERVICES
48.	ISVARIYA G	SUTHERLAND GLOBAL SERVICES
49.	KAVIN R M	SUTHERLAND GLOBAL SERVICES
50.	KISHORE KUMAR R	SUTHERLAND GLOBAL SERVICES
51.	MONISH V	SUTHERLAND GLOBAL SERVICES
52.	VIJAYAVIGNESH A	SUTHERLAND GLOBAL SERVICES
53.	ANIRUDH S	TATA ELXSI
54.	ASWATH RAM A S	TCS NINJA
55.	EUNICE A	TCS NINJA
56.	MOHAMED SAFAAITH HUSSAIN A	TCS NINJA
57.	PAVITHRA R K	TCS NINJA
58.	PRASHANTH M	TCS NINJA
59.	RINI JOHN	TCS NINJA
60.	SATHIYENDRAN M	TCS NINJA
61.	SEETHARAMAN J R	TCS NINJA
62.	SUSHMITA M S	TCS NINJA

S.No	Name of the students	Name of the company
63.	SWETHA VILASHINI B	TCS NINJA
64.	VARUN SEKAR V G	TCS NINJA
65.	HARINI.B.R	TCS NINJA
66.	BOSE KANNAN M	THINKSYNQ SOLUTIONS PVT. LTD.
67.	BOSE KANNAN M	TVS SUNDARAM FASTENERS
68.	VINOTH S	VALUED EPISTEMICS PVT LTD
69.	HEMANTH KUMAR M	WHIRLDATA SCIENCE
70.	NIVEDHITHA M	WIPRO
71.	KAVIN R M	WIPRO
72.	BENEDICT ELIGIUS J	ZOHO CORPORATION
73.	THABASSUM ASHIFFA I	ZOHO CORPORATION
74.	ROSHINI B V	CSS CORP
75.	DEEPAK VENKATESH	BYJUS LEARNING
76.	MOHAN	BYJUS LEARNING
77.	ROSHINI B V	NOKIA SOLUTIONS AND NETWORKS
78.	YASHIKA	CAPEGEMINI
79.	RAGHAV E	BYJUS LEARNING

PG Students:

S.No	Name of the students	Name of the company
1.	V R HEMASRI RAMYA	ROBERT BOSCH
2.	SUDHARNA VINAYAGAM	ROBERT BOSCH

Congratulations to all the placed students.

HIGHER STUDIES : (as on 01/12/2020)

S. No	Batch	Name of the student	Course & Specialization	University with Official Address
1.	2016-2020	Aswath Ram A.S	M.S, Electrical and Computer Engineering	Illinois Institute of Technology, USA
2.		Mohamed Safaaith Hussain A	M.S, Electrical Computer Engineering	University of Windsor, Canada
3.		Arun Jeyaram S	M.S, Innovative Sustainable Energy Engineering	Chalmers University of Technology, Sweden

Mind Controlling TV Remote:

We have seen people access TV using remote and through voice. However, a new device may make the experience even easier for the user by simply controlling the TV through our mind.

NextMind is a headset that replaces the traditional TV remote and gives the viewer the capability to use the TV solely with their mind. The device is made up of fitted sensors that track electrical pulses in the brain, which correspond to various commands. This technology is created using a model of brainwave patterns and combined that information with machine learning to develop a software capable of using different brain signals for different actions.



When a user, wearing a specialized headset with 64 sensors, looks at the TV and selects a movie, the gear picks up signals and transfers them to the software, which produces the desired result on the screen. An important potential benefit that brainwave technology might offer is the ability to improve the accessibility of media content to people with disabilities. An important potential benefit that brainwave technology might offer is the ability to improve the accessibility of media content to people with disabilities. Samsung is now working on its innovation in this technology for their upcoming TV models.

- S.Sadhana -III B

Morden Cars Do More With Capacitive Sensors:

The electrification and intelligence have been increased in the automobile industry over the past decade. Many manufacturers compete to develop a well-advanced technology in order to provide a reliable and secure modern automobile. This makes the human-machine interface (HIM) aspect of automobile design to be a greater importance in the past couple of years.

As our cars has been found to be growing significantly in the automation and intelligence, the way we interact with our cars has begun to change. In modern cars, capacitive sensors are found to be significantly used in different applications such as touch screen control of multimedia like radio, navigation and phone calls. Beyond that, it is quite interesting that capacitive touch has also used to detect a user's hand and automatically unlock the car for them. But now, we are going to understand what capacitive sensors do more in the modern cars apart from its ubiquitous applications.

On first-hand, we must know what are capacitive sensors and how they work.

A capacitive sensor detects the change of capacity in different applications by measuring the relative change of the impedance. It consists of a pair of adjacent electrodes that exhibit some capacitance between each other. To explain this in a practical way, let's consider a human hand which is a conductive object, comes in contact with those electrodes. When hand came near to the electrode an additional capacitance is introduced and indicate the location of the hand relative to the electrode. This capacitive sensing has found itself integrated into a plethora of new in-vehicle applications. The most notable application where the capacitive sensors are used in the user's steering wheel. The capacitive touch sensing allows to detect the presence of a driver's hands on the steering wheel of the car. Historically, torque sensors have been used to detect the small deflections produced when the driver grips the steering wheel. The reason why capacitive sensing technique take over the torque sensing technique is because of capacitive sensor's reliability. The problem with torque technique is that it can be easily fooled, causing a risk to drivers and other road users. But capacitive sensors on its own have a disadvantage.

Most capacitive sensors fail because a driver decides to wear gloves or if there is other moisture or humidity present on the sensor. So, under such conditions, the capacitive sensors are not reliable and may cause some problem to the drivers also. To ensure the safety regulations and reliability has not to detain, a new advanced capacitive sensor is significant. Aiming to address this problem, ams has recently announced their newest product, a capacitive sensor that leverages "novel sensing techniques". "This week, Austrian company ams released a new capacitive sensor to perform hands-on detection", a news headline reflects a trend in capacitive sensors leading the charge in automotive Human-Machine-interface (HMI). Instead of using the popular charge method of capacitive sensing, ams uses AS8579, employs a method based on I/Q demodulation. This capacitive sensor detects the driver's hands accurately and reliably helping to improve the safety of Advanced Driver Assistance Systems (ADAS). This also most reliable and reducing the cost of handson detection system.

The introduction of the AS8579 capacitive sensors gives the automobile a better way to comply with United Nations regulations 79-already adopted by the European Union which requires all new production vehicles that offer a Lane Keeping Assist System (LKAS) and sold in Europe to include hands-on detection in the steering wheel from 1 st April 2021. These sensors have transmitter and receiver block. When it detects the user's hand transmitter blocks forces a sine wave voltage across the load. Receiver block detects the current response of the load. Current response is converted to a voltage and demodulated into I/Q components. Hence using these process, novel capacitive sensing technique found to be more significant and expected to be a boon for ADAS. As autopilot technologies been increasing, the development of hands-on detection is the key part of all systems for monitoring driver readiness in case of vehicle system fails. Thus, capacitive sensors are prominent and crucial in automobile industry.

-R.Manimaran- III B

GALLERY



SHYAM SUNDAR.A -IV B



KAVITHA.R - III A



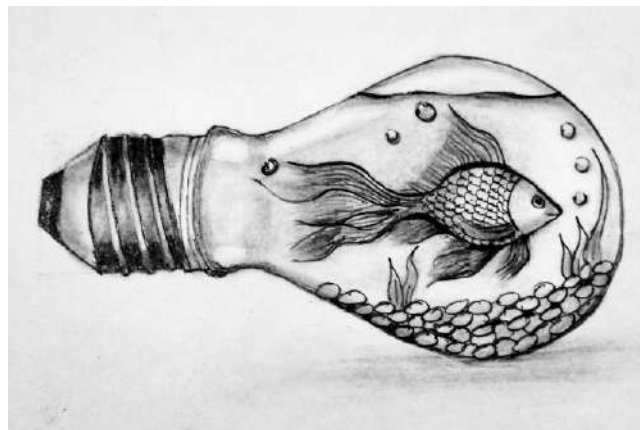
PARTHASARATHI.M -IV B



SASINDHAN.D - II B



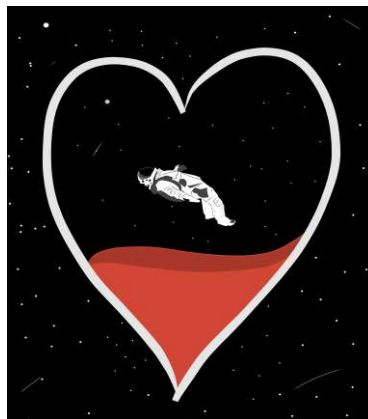
AMUDHA.M- III A



MUTHU KUMAR.R- II B



SHREENITHI.V- III B



LOGA PRASAD.T- II B



PREETHI.S -II B