



# REFLECTIONS

## ECE NEWSLETTER JAN'23

MANGALAM COLLEGE OF ENGINEERING



VOL.  
10

### VISION

To achieve excellent standards in technical education and engage research in the field of Electronics and Communication Engineering creating employable and innovative professional Is who can excel in global challenges

### MISSION

1. To practice innovative teaching and learning practices in Electronics and Communication domain with effective curriculum enhancement and Industry collaboration.
2. To inspire creative enquiry and innovation in students through excellent training programs and projects for professional skills.
3. To imbibe a sense of team work, ethics combined with social responsibility in students.



## DEPARTMENT ACHIEVEMENT



**Dr. Biju Varghese**  
(Chairman, Mangalam Educational institutions)



**Dr. Vinodh P Vijayan**  
(Principal, Mangalam College of Engineering)



TEAM ECE - ACHIEVED NBA ACCREDITATION (DURATION 01-07-2023 -- 03-06-2026)



**Dr. Abraham C G**  
(HOD, ECE, Mangalam College of Engineering)

## FACULTY ACHIEVEMENTS

1. Devika Sarath. "Underwater Fused Image Classification Using Deep Learning Based Resnet and Hybrid PSO + HHO Mode" 24-3- 2023
2. Devika Sarath. "Adam Bald Eagle Optimization enabled Transfer Learning for Underwater Image Fusion" 07 -06- 2023.
3. Dr. Radeep Krishna, Dr. Abraham C G "3D IC Integration Using Blockchain" 24 February 2023
4. Dr. Radeep Krishna, Neethan Elizabeth Abraham, Dr. Abraham C G "Modelling of thermal effect in through-silicon via for 3D IC" 12-13 April 2023
5. Ajeesh S "Home automation using BCI," International Conference on Communication" 12-13 April 2023
6. K. R. Jyothisree, "8-bit Arithmetic Logic Unit (ALU) using full swing restored M-GDI technique" 12-13 April 2023
7. Dr. Abraham C G "IoT based low-cost ventilator" 12-13 April 2023
8. K. R. Jyothisree, " Railway track crack detection using robot" 12-13 April 2023
9. Dr. Deepthy Mary Alex "Retinal Image Enhancement based on illumination component and gamma correction" 12-13 April 2023

### HOD'S MESSAGE

Educational institutions are the training centers for Leadership. Creating a sense of responsibility and taking the initiative to lead is the way to become a good leader. Our actions are guided by our perceptions, which form the basis of our emotions, attitudes, judgments and choices. The Department of ECE has a unique blend of quality conscious staff members with a strong sense of ethical and professional responsibility. The department also has a very good advisory system, class committee and PTA which help in maintaining a good student - teacher-parent relationship. Well-qualified, experienced and dedicated faculty as well as state-of-the-art laboratories and infra structure have been instrumental in growth of such magnitude. The department has persistently laid equal focus on academics and research and the efforts have borne fruit in terms of university ranks, patents, faculty, and student publications to name a few.

# ECE NEWSLETTER

ADARSH R BABU:

## 5G TECHNOLOGY

The possibilities of 5G are endless

A webinar on 5G Technology conducted by Adarsh R Babu, Software Engineer, Steyp, Talrop Pvt.Ltd, for students of Mangalam Engineering College through Google meet on February 10th 2023. 7:30PM-8.30PM.

### OUTCOME OF THE EVENT:

The event was conducted to understand various techniques and methodologies used in 5th generation telecommunication system (5G). The webinar has provided a basic knowledge about the different type of communication technology used and using now.

Also, students understood brief idea of different technologies use for telecommunication

One of the most notable features of 5G is its significantly faster data speeds. It offers download and upload speeds that are many times faster than 4G. This speed allows for the quick downloading of large files, streaming high-definition and even 4K video content, and better online gaming experiences.

5G technology is designed to have very low latency, which means that there is minimal delay in data transmission. This is crucial for applications that require real-time data transfer, such as autonomous vehicles, remote surgery, and augmented/virtual reality (AR/VR) applications.

5G networks can support a massive number of connected devices in a small area. This feature is particularly valuable in the context of the Internet of Things (IoT).

Beyond smartphones and tablets, 5G technology opens up opportunities for various industries. It can be a game-changer for autonomous vehicles, smart cities, telemedicine, remote work, and immersive AR/VR experiences.



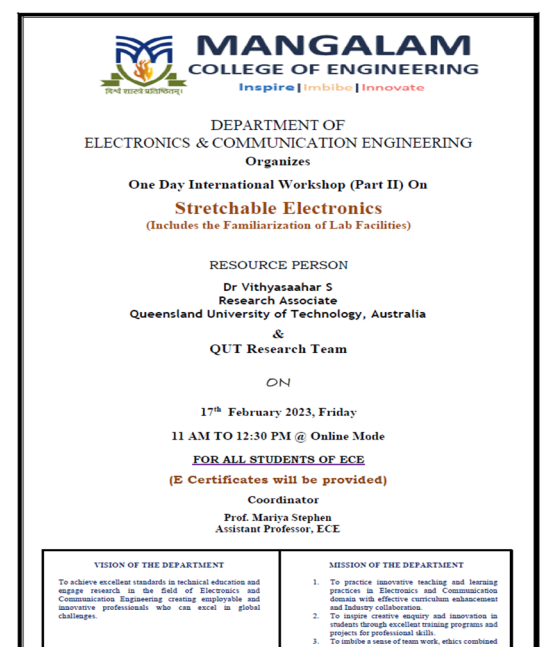
Dr. Vithyasaahar S

## STRETCHABLE ELECTRONICS

The One Day International Workshop on "Stretchable Electronics" is conducted on 17/02/23 Department of Electronics & Communication Engineering at 11:00Am to 12:30PM. The Resource Person is Dr. Vithyasaahar S. Research Associate, QIT. Australia.

### OUTCOME OF THE EVENT

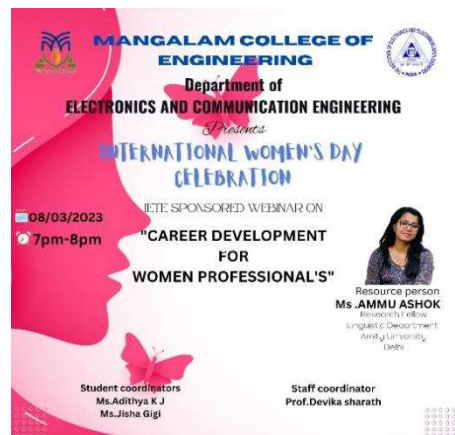
Event covered extensively on stretchable electronics and discussed the properties of the materials. This topic is used as Content Beyond Syllabus for Analog Electronics and other allied subjects



# ECE NEWSLETTER

Ms. Ammu Ashok

## CAREER DEVELOPMENT FOR WOMAN PROFESSIONALS

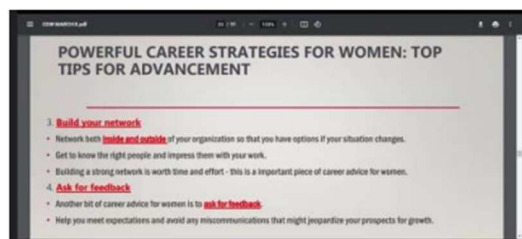
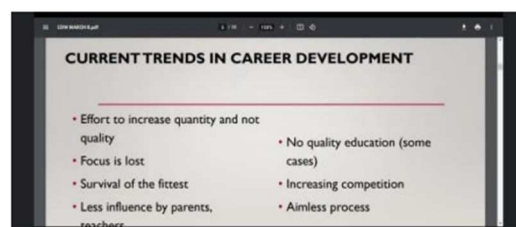


Self-awareness is the first step in career development. Women should identify their strengths, weaknesses, values, and interests to define their career goals.

A webinar on Career development for Women Professionals has been conducted in association with IETE on 8/3/2023 from 7.00 pm - 8.00 pm through Google meet. The resource person was Ms. Ammu Ashok, Research Fellow, Linguistic Department, Amity University, Delhi. She is a well-known speaker and columnist. The talk mainly aims women students and faculties. Total number of audiences were 30.

## OUTCOME OF THE EVENT

The event was conducted to give an awareness to students about the need of empowering themselves. The resource person clearly gave an information about the career options and choices for women. This webinar also featured how global companies can empower women by creating opportunities for them as entrepreneurs, suppliers, distributors etc. Nowadays, Women's empowerment has become a significant topic of discussion in development and economics. Economic empowerment allows women to control and benefit from resources, assets, and income. It also aids the ability to manage risk and improve women's well-being.



## INTERNATIONAL CONFERENCE ON COMMUNICATION EMBEDDED-VLSI SYSTEMS FOR ELECTRIC VEHICLES

The International Conference on Communication, Embedded - VLSI Systems for Electric Vehicle (ICCEVE'23) held on 12 th and 13 th April 2023 at Digital Theatre, Mangalam College of Engineering, Ettumanoor. The Chief Guest for the event was Dr Arun Cyril Jose, Faculty of CSE, IIIT Kottayam.



The Chief Guest releasing of proceedings of the ICCEVE2023



A 6G network is defined as a cellular network that operates in untapped radio frequencies

Dr.Smitha K M

## “A Perspective of Stochastic Process and an Overview of 6G”

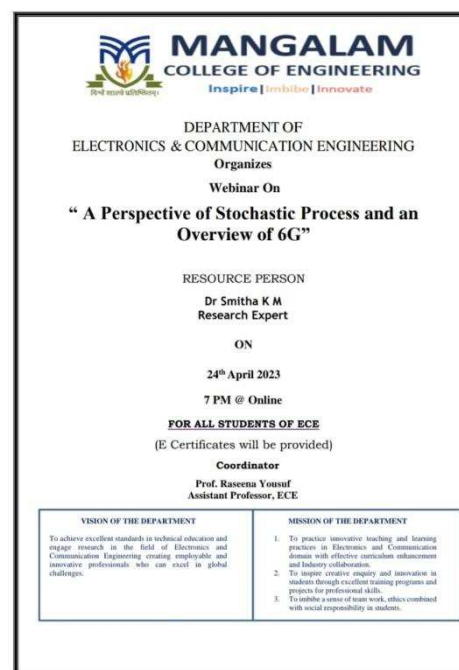
A webinar on A Perspective of Stochastic Process and an Overview of 6G was conducted by Dr. Smitha K M, Research Expert, KMEA Engineering College, Ernakulam, for students of Mangalam Engineering College through Google meet on April 24 2023.

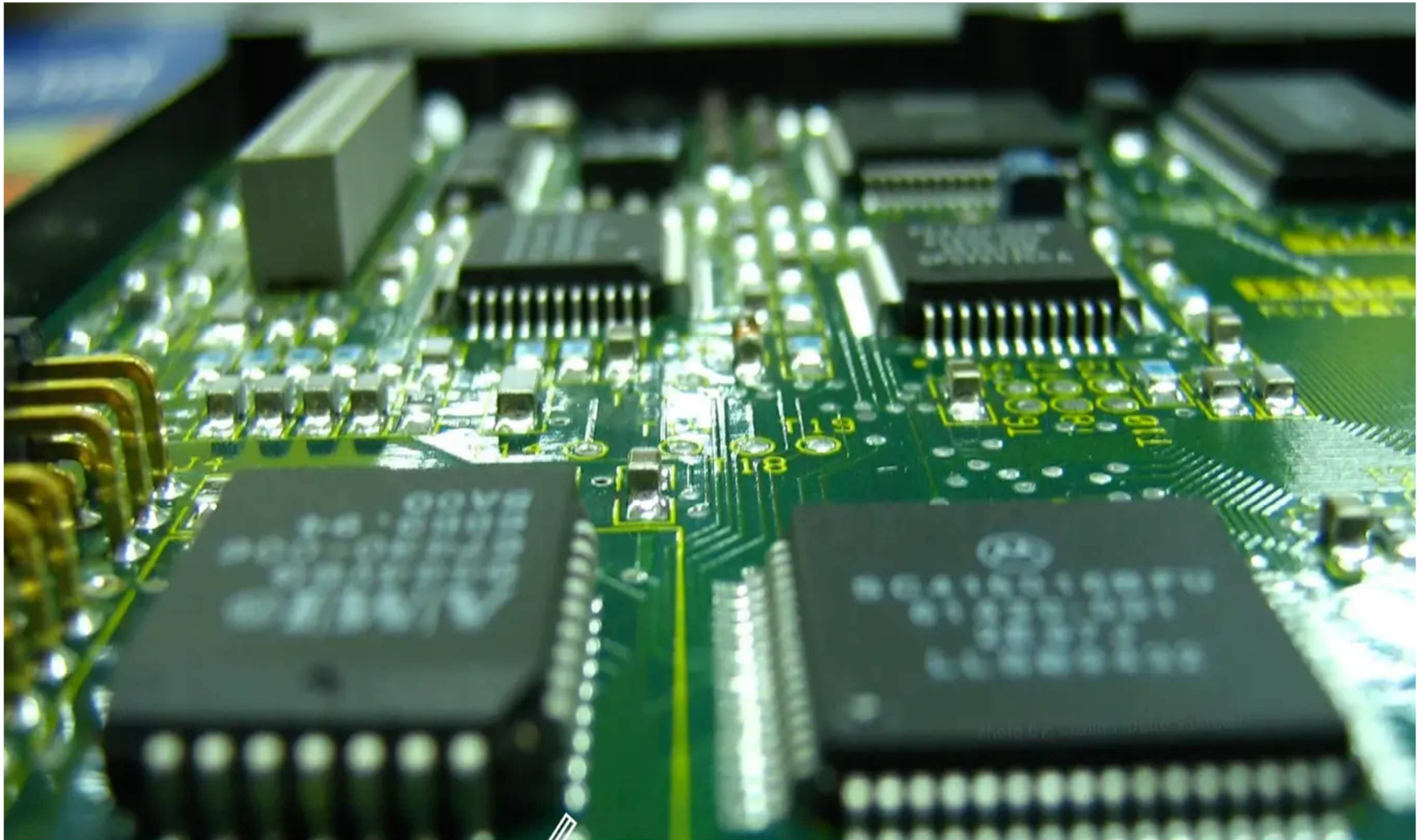
## OUTCOME OF THE EVENT

The event was conducted to understand why wireless standards are so important in today's world and why we need next generations in cellular system for students. The webinar have

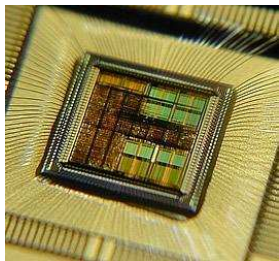
provided a basic knowledge about wireless communication and also students understood need for next generations in cellular system.

A stochastic process is a collection of random variables that evolve over time, typically indexed by a parameter, such as time. Each random variable represents the state or outcome of a system at a specific point in time. The collection of these random variables describes how the system changes or evolves over time in a probabilistic manner.





## LOW POWER VLSI TECHNIQUES



A webinar on Low Power VLSI Design Techniques was conducted by Dr. Rama Komaragiri, Professor and Head of ECE, Dean of Research and Consultancy of Bennett University, for students of Mangalam Engineering College through Google meet on May 08th 2023.

Dynamic power is proportional to the square of the supply voltage. By reducing the supply voltage, it's possible to reduce dynamic power consumption. Voltage scaling techniques include dynamic voltage scaling (DVS), where the voltage is adjusted dynamically based on the workload. Frequency scaling involves adjusting the clock frequency of a chip based on the processing demands.

### OUTCOME OF THE EVENT

The event was conducted to understand various techniques and methodologies aimed at reducing the overall dynamic and static power consumption of an integrated circuit (IC). The webinar has provided a basic knowledge about the different sources of power dissipation in MOSFET and also students understood how to reduce the power dissipation by using different technologies.

Low power Very-Large-Scale Integration (VLSI) techniques are a set of methodologies and design strategies used to minimize the power consumption of integrated circuits. These techniques are crucial for extending the battery life of portable devices, reducing heat generation in electronics, and conserving energy in a variety of applications.

Power gating involves selectively turning off power to certain sections or components of a chip when they are not in use. This technique helps reduce static power consumption. Sleep transistors or switches are used to cut off power to unused blocks, and when needed, the power is restored.

Clock gating is a method of controlling clock signals to different parts of the chip.

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**"Low power is not an option; it's a necessity in the world of VLSI design."**

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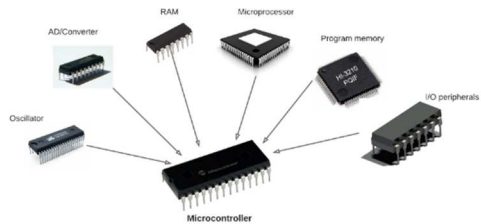
Multi-Voltage and Multi-Threshold Design Designing circuits with different voltage domains and threshold levels allows for optimizing power consumption based on the specific requirements of different circuit blocks. High-performance sections can operate at higher voltages, while low-power components can use lower voltages.

Subthreshold or Near-Threshold Operation Operating digital circuits in the subthreshold region, where the supply voltage is very close to the threshold voltage, can significantly reduce power consumption. However, it comes at the cost of reduced speed and increased sensitivity to process variations. Asynchronous Design Asynchronous circuits do not rely on a centralized clock signal. Instead, they use handshaking protocols to enable components to communicate, which can reduce dynamic power consumption, especially in idle periods.

# ECE NEWSLETTER

Dr. Deepthy Mary Alex

## INTERFACING CONCEPTS IN MICROCONTROLLERS

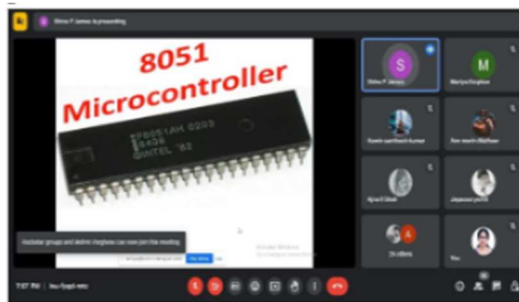


A webinar on Interfacing Concepts in Microcontrollers was conducted by Prof. Shine P. James, Research Expert, College of Engineering Poonjar, Kottayam for students of Mangalam Engineering College through Google meet on May 17th, 2023.

A webinar on Career development for Women Professionals has been conducted in association with IETE on 8/3/2023 from 7.00 pm – 8.00 pm through Google meet. The resource person was Ms. Ammu Ashok, Research Fellow, Linguistic Department, Amity University, Delhi. She is a well-known speaker and columnist. The talk mainly aims women students and faculties. Total number of audiences were 30.

## OUTCOME OF THE EVENT:

The event was conducted to understand the various interfacing techniques in microcontrollers. The webinar also gave an insight into basic concepts of microcontroller 8051. Four types of interfacing was explained in detail with programs. It gave a clear view of the concepts involved in interfacing of microcontrollers.

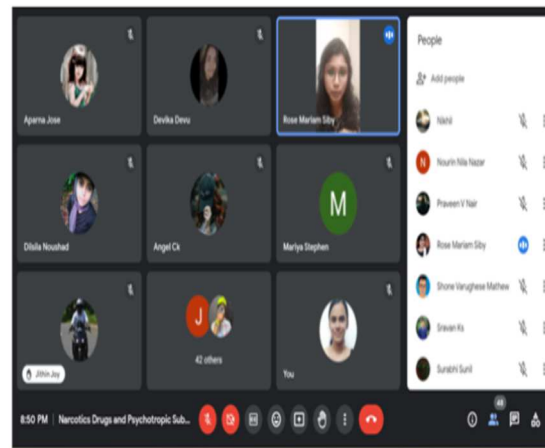


Rose Mariam Siby

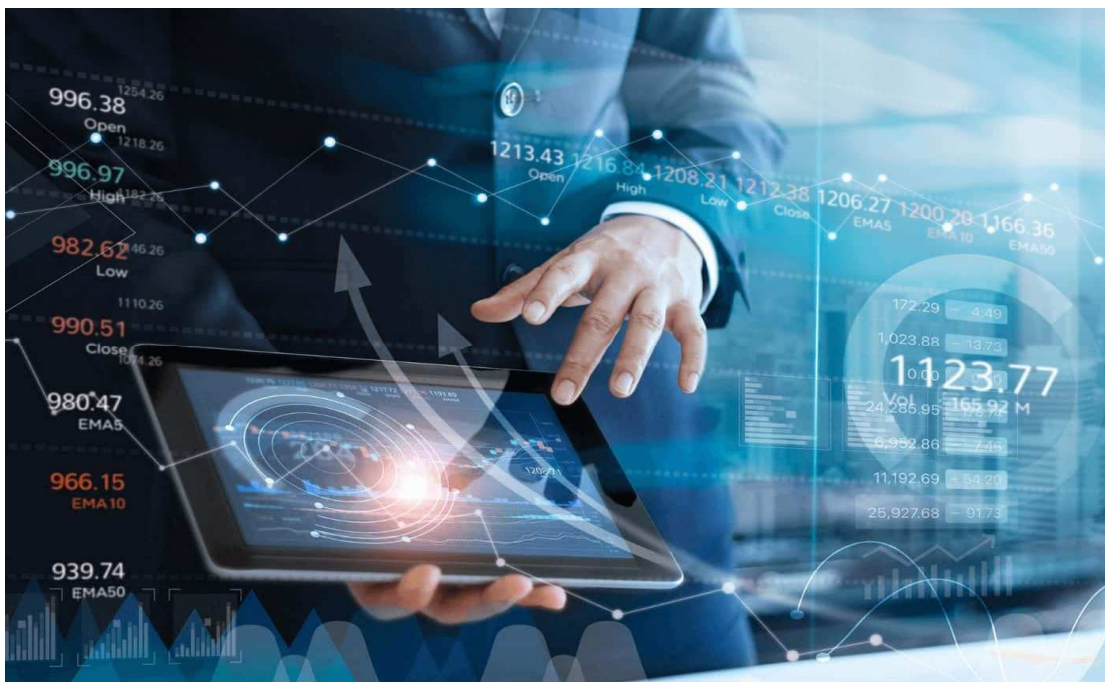
## NARCOTIC DRUGS & AMP; PSYCHOTROPIC SUBSTANCES ACT

The A webinar on Narcotic Drugs & Psychotropic Substances Act was conducted by Adv. Rose

Mariam Siby, leading advocate in Pala bar council and high court, former faculty member of Trivandrum law college through Google meet on 18th May2023.



Coordinated by: Ms. Jibi K Kurian

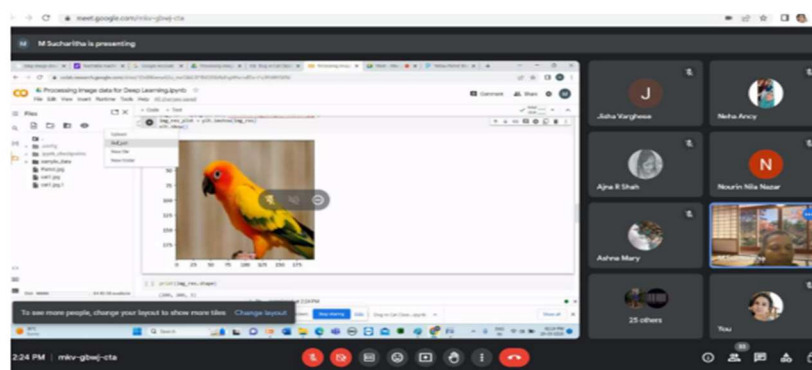


Without big data, you are blind and deaf and in the middle of a freeway.” — Geoffrey Moore

Dr. M Sucharitha


## IMAGE DATA PROCESSING FOR DEEP LEARNING

A webinar on “Image Data Processing for Deep Learning” has been conducted on 29/5/2023 from 1.30 pm - 2.30 pm through Google meet. The resource person was Dr. M Sucharitha, Associate Professor, VIT, Andhra Pradesh. She is a well-known researcher in the field of Image Processing and Deep Learning. Total number of audiences were Image data processing is a fundamental component of deep learning, particularly in the context of computer vision. Deep learning models, such as convolutional neural networks (CNNs), have revolutionized the field of image analysis and understanding. Here's an overview of image data processing for deep learning Preprocessing: Preprocessing is a fundamental step in image data processing. It includes tasks like resizing, cropping, and normalizing images. These techniques ensure that the data is in a consistent format a




## OUTCOME OF THE EVENT

The event was conducted to give an awareness to students about the basic image processing techniques and Deep Learning, the trending technology used in the domain of digital image processing to solve difficult problems such as image colorization, classification, segmentation and detection etc

  
**MANGALAM COLLEGE OF ENGINEERING**  
Department of Electronics and Communication Engineering

Organizes  
Webinar On  
**IMAGE DATA PROCESSING FOR DEEP LEARNING**

RESOURCE PERSON

  
Dr. M Sucharitha  
School of Electronics Engineering,  
VIT-AP University,  
On  
29<sup>th</sup> May 2023, Monday  
1.30PM – 2.30PM  
(Online Mode)

FOR ALL STUDENTS OF ECE

Coordinators:  
Mrs. Devika Sarath, Assistant Professor, ECE  
Mrs. Mariya Stephen, Assistant Professor, ECE

VISION OF THE DEPARTMENT  
To achieve excellent standards in technical education and engage research in the field of Electronics and Communication Engineering creating employable and innovative professionals who can excel in global challenges.  
MISSION OF THE DEPARTMENT  
1. To practice innovative teaching and learning practices in Electronics and Communication domain with effective curriculum enhancement and industry collaboration.  
2. To inspire creative enquiry and innovation in students through excellent training programs and projects for professional skills.  
3. To imbibe a sense of team work, ethics combined with social responsibility in students.

Ms. Aswathy P S

## Environment Social Governance as New Opportunity

Description of the events (200-250 Words) (Details Include Date, Resource Person, Participants Number, Location of Event, Other necessary information) The webinar was conducted on 05 th June 2023 at 8.30 pm to 9.30pm through google meet. Resource person was Ms. Aswathy P Program Director of Global Safety Summit and Authorized Signatory to UNGCNI, UK. Her research area is Sustainability & amp; Environmental Management Systems. The 50 students from S2, S4 and S6 of Dept. Of Electronic s and Communication Engineering has been attended the session.

She has explained the importance of world Environment Day and the various opportunities of Electronics Engineers in the area of Sustainability & amp; Environmental Management. The Webinar covered the following topics: Introduction (World Environment Day) 2. UNEP Action Areas 3. Mitigating Air Pollution 4. Discussing other Action Areas 5. Environmental Impact.

### OUTCOME OF THE EVENT

The students got awareness about the opportunities of electronics engineers in the field of ESG.



A series of cores optimized for power efficiency and deterministic operation.

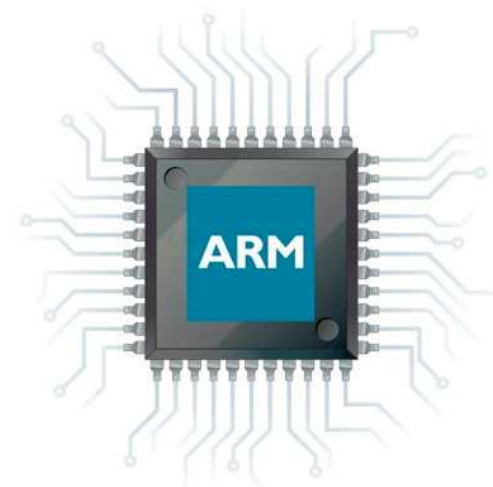
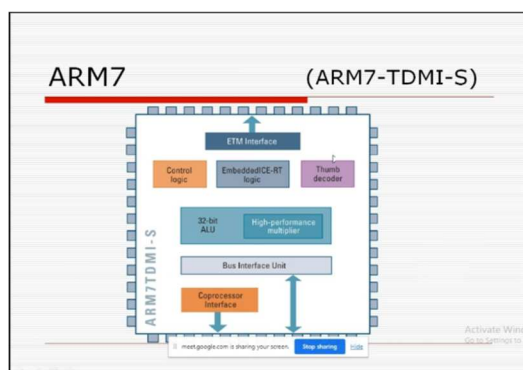
Mr. Manu Augustine

## ARM Microcontrollers- Architecture & Interfacing

A webinar on ARM Microcontrollers architecture & interfacing conducted by Mr. Manu Augustine, Project Manager, Arvin Technologies for students of Mangalam Engineering College through Google meet on June 26th 2023. 7:00PM

### OUTCOME OF THE EVENT

The event was conducted to understand basic idea of ARM Microcontrollers, Architecture and Interfacing. The webinar has provided a basic knowledge about the different peripherals interfacing with ARM Microcontrollers and its programming and simulation result. Also, students understood brief idea about programming ideas used in microcontrollers.



ARM processors, short for Advanced RISC Machines, have become integral to the world of computing and technology. Known for their energy efficiency, compact size, and versatility, ARM processors are at the heart of countless devices, from smartphones and tablets to embedded systems and IoT devices. Their architecture, based on Reduced Instruction Set Computing (RISC), prioritizes simplicity and speed, making them ideal for a wide range of applications. ARM processors have significantly impacted the development of mobile technology, enabling devices to become more powerful while conserving battery life. They continue to shape the future of computing by driving innovation and enabling the proliferation of smart, connected devices

# ECE NEWSLETTER

## FACULTY DEVELOPMENT PROGRAMME (FDP)



Inauguration of FDP

The Inauguration of the IETE Sponsored FDP- Innovation, IPR's and Optimization in Electronic Design with Energy Systems (I 2 OE 2) held at the Digital Theatre, Mangalam College of Engineering on 18th November 2022 at 10:30 AM. The Chief Guest for the Function was Dr M. V. Rajesh, Fellow IETE and Vice Chairman, IETE Kochi Centre. Dr Minu A Pillai, Assistant Professor, Dept of ECE, IIIT Kottayam was the Guest of Honor.

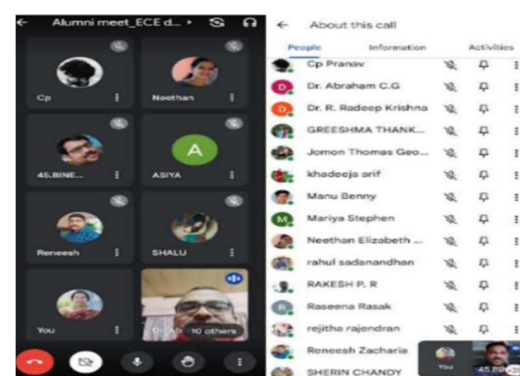
The Session 1 of the FDP (Figure 4) is Acoustic Energy Harvesting at 18/11/2022 as Offline mode at Digital Theatre, MLMCE at 11:45 AM. Dr Minu A Pillai, Assistant Professor of Department of ECE, IIIT Kottayam is the resource person. The resource person covered extensively the fundamentals of Acoustic Energy Harvesting and demonstrated the results obtained in the current research done by her team at IIIT Kottayam The Resource Person for the session 2 is Er Anjana Haridas, Examiner of Patents & Designs IPO-Chennai covered detailed sessions on the Patenting process and the steps involved. She also gave a detailed representation on the examples of types of patents and categories. The sessions from 1 to 7 extensively covered the topics in details from Innovations, IPR's and Optimization on Electronic Designs. It was useful to all the faculty of the Department of ECE and other external participants.



## ALUMNI MEET

Our Alumni meet of the year 2023 was conducted on 28th Jan 2023 through google meet from 7:00PM to 8.00PM. The Alumni Meet started with an invocation song seeking the blessings of almighty by Ms. Riya Sara Joy. Ms. Aiswarya Prasanna, alumni of our college 2016-2020 batch ECE delivered the welcome speech. She welcomed all the dignitaries and all the alumni for responding to the invitation from college and being part of the alumni meet in spite of their busy schedule. Dr. Abraham C G, HOD ECE delivered the presidential address. He pointed out the aims and objectives of the Alumni Association and the role of Alumni in placement activities and in the progress of college.

The Experience sharing and Testimonials of Alumni members, started by 7:10 pm and end by 8:00pm. The session was filled with the good experiences



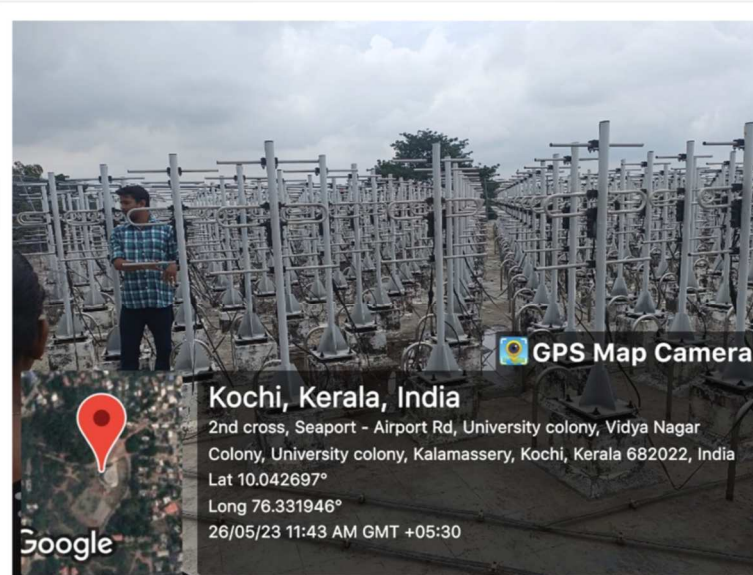
### 2 About Industrial Visit

Around 25 students from our department participated in the industrial visit. We left the college at 6.00 pm on 7th May 2023 and reached the destination at 9th May 2023 by 10.00 am. Students was guided by a senior Lady officer of the PPG. In MCF, Hassan students were given a brief introduction on India's space program and the role of MCF in monitoring the satellites. Later an elaborated video of 45 Minutes was shown explaining various work done at the MCF and also on the progress achieved by ISRO. Students got the opportunity to learn about the various types of satellites present in the orbit ranging from 400kms up to 40000kms and beyond. Also, they have learnt about the history of astronomy and India journey in this field from Aryabatta to IRNSS. Students got the opportunity to know about the different stages of GSLV rocket starting from booster, liquid core stage, cryogenic stage and payload released in the space. They learnt how the Geostationary and Geosynchronous satellites are launched in the orbit and are controlled from ground station located at Hassan. Students viewed 11- 13m antennas spread over the vast area of MCF. These antennas can be tune

## INDUSTRIAL VISIT ISRO-MCF - master control facility

The Department of Electronics and Communication Engineering had arranged a three-day industrial Visit to Karnataka and it includes ISRO-Master Control Facility, Hassan where the visit held on 9th May 2023, in which 25 students of Final year along with two faculties had taken part.

## The students of 2022-2026 S2 has visited the industry named ACARR, CUSAT on 26/05/2023



## “PROJECTS DONE BY STUDENTS”

**MANGALAM COLLEGE OF ENGINEERING**  
Department of Electronics and Communication  
**SPYONIAN 300 6WD –THE DARK SPY WORKER**  
**VOICE CONTROLLED ROBOTIC VEHICLE USING ARDUINO**  
John George, Sarathkumar K.S, Sruthi Prasad, Aiswarya S  
Guided by: Prof. Ramesh C Zacharia

**ABSTRACT**  
The aim of our project is to make a Voice Control Robot Car. The working is based on Arduino microcontroller, motor drivers, a Bluetooth module. Arduino is an open-source hardware (single-board microcontroller) and easy to use for building digital devices. The idea is to first design the Hardware of the Robot Car and then code the entire working using our previous knowledge of programming. The code will then be simulated on software (IDE) and later be uploaded to the hardware. The coordination of control unit with Bluetooth module is accomplished utilizing a Bluetooth module to catch and read the voice signals. The controlling remote is a smart android device with Bluetooth Application. We picked this as our project as robotics has become a major part of our everyday lifestyle and also have a wide scope in the engineering field. It plays a vital role in the development of new technology.

**BLOCK DIAGRAM**

**PROBLEM STATEMENTS**

- The main function of the project is to allow users to control the robotic vehicle remotely by voice commands as well as remote control.

**PROJECT OBJECTIVES**

- Objective show that it is indeed possible for a user to learn to effectively manipulate real world objects with only verbal voice on a control mechanism.
- The proposed results provide strong evidence that the further development of voice-controlled robotics will be successful.
- This system would find wide variety of applications. Mainly systems such as household appliances like washing machines microwave oven etc. will become voice controlled in future.
- In such case this research will work out practically satisfying the need of the day efficiently.

**TECHNICAL COMPONENTS USED**

**RESULTS & DISCUSSIONS**  
Voice control for a home assistant robot is developed in this paper. The voice commands are processed in real-time, using an offline server. The speech signal commands are directly communicated to the server over a wired network. The personal assistant robot is developed on a microcontroller based platform and can be aware of its current location. Performance evaluation is carried out with encouraging results of the initial experiments. Possible improvements are also discussed towards potential applications in home, hospitals, car systems and industries. The effect of the distance between the mouth and microphone on the robot, the performance of the robot, effect of noise on the speech to text conversion are some of the areas that can be further explored. The access of the speaker does not affect the operation of the robot as the voice commands are processed using a cloud server which functions irrespective of the accent of the speaker. Using renewable source of energy for the functioning of the robot would not only improve upon the cost of the robot but would also prove to be eco-friendly. Solar cells can be a possible source of energy that can be used. The robotic assistant developed has potential applications ranging from chemical industries to comfortable scenarios inside homes. This paper should be helpful in showcasing a server based application in developing a voice-controlled robotic assistant.

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- [2] Android Controlled Mobile Robot By Arjun Kumar Winter, (July 2013).
- [3] Android based Robot Implementation For Pick and Place of Objects By Ranjith Kumar Govil, B. Sarathkumar, (Oct 2014).
- [4] Smart phone based robotic control for surveillance applications By M.Selvam, (IJRET 2014).
- [5] Controlling a Robot using Android Interface and Voice By Kishan Raj KK, (2012).
- [6] Motion Control of Wheeled Mobile Robot By Gopalakrishna, (IJST 2006).
- [7] Design of PI and PID Controller with Transient Performance Specification By J. C. Barillo and S. R. Manu, (IEEJ 2002).
- [8] Robot Control Design Based On SmartPhone by Xiao Lu, Wenjun Liu, Huihua Wang, Qiu Sun, (IESE, 978-1-4573-1362, pp-2820-2823, Jun 2013).
- [9] Android phone controlled robot using Bluetooth by Arpit Sharma, Roshni Verma, Sonali Gupta, Sakshidharpantawatia, (IEEJ, Vol 7, pp-413-419, Nov- 2014).

ACADEMIC YEAR: 2021-22

**MANGALAM COLLEGE OF ENGINEERING**  
Department of Electronics and Communication  
**QUADRUPEL ROBOT**  
Megha m Nair, Melvin Devasia, Nandakishor A, Navya Benny  
Guided by: Dr. Radeep krishna R

**ABSTRACT**  
Legged animals can travel over most of earth's terrain, whereas the quadroped robots are optimal for a multilegged robots, due to the minimal difficult mechanical design and a recovered stability of configuration. Machine moving in a four leg movement style is known as quadroped, which means four feet. This robot look like a four pedal robot. The parts of legs are known as coxa, femur and tibia. There are two types of quadroped gait such as dynamical and static gait.

**BLOCK DIAGRAM**

**PROBLEM STATEMENTS**

- Wheeled robots cannot explore through the rough terrain.
- Facing difficulty to explore in areas where humans are confined.

**PROJECT OBJECTIVES**

- To create a robot that can be used in uneven terrain.
- To use robot in search and rescue where small size is important.
- To create a robot that can be used for surveillance and inspection.

**TECHNICAL COMPONENTS USED**  
We have designed home gesture-controlled robot using Arduino nano, HC05 bluetooth module, servo motor, IEX-25-D20.

**RESULTS & DISCUSSIONS**  
The design of quadroped robot has enabled to build the quadroped robot with lower cost, also trial and error method is used to optimize the dimensions of the robot.

**REFERENCES**

- [1] Tazaki, M., Lee, M.: Kinematics Modeling of Multi-legged Robots Walking on Rough Terrain. In: Second International Conference on Future Generation Communication Networking and Symposium, pp. 13-16 (2008).
- [2] Mahapatra, A., Roy, S.S.: Computer Aided Dynamic Simulation of Six-Legged Robot. International Journal of Recent Trends in Engineering 2(2) (November 2009).
- [3] Roy, S.S., Pratihar, D.K.: Effects of turning gait parameters on energy consumption and stability of a six-legged walking robot. Robotics and Autonomous Systems 40, 72-82 (2012).

ACADEMIC YEAR: 2021-22

## PLACEMENT DETAILS

**MANGALAM COLLEGE OF ENGINEERING**  
Mangalam Hills, Vettimukkal PD, Ettumanoor, Kottayam, Kerala - 686631  
9946279032, 9539525239 | info@mangalam.in | www.mangalam.edu.in  
NBA ACCREDITED

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

*Congratulations*

on YOUR SUCCESSFULL PLACEMENTS in

S. No	Name of the student	Name of the company placed	Avg. Salary per annum
1	SREELEKSHMI M	SUTHERLAND	25 LPA
2	SREELEKSHMI MADHU	SUTHERLAND	25 LPA
3	FATHIMA FAUJU M S	SUTHERLAND	25 LPA
		GSENERGY SOLUTION PVT.LTD	15 LPA
4	ANJANA SANTHOSH	GREEN ROOF SOLAR PVT.LTD	25 LPA
		SUTHERLAND	25 LPA
5	AJIMI R SHAH	GSL ENERGY SOLUTIONS PVT LTD	14 LPA
		SUTHERLAND	25 LPA
		GSL ENERGY SOLUTIONS PVT LTD	14 LPA
6	JOBIN GEORGE	IBS SOFTWARE	36 LPA
		TALROP	18 LPA
7	ALHANA T A	TI MOBILITY PRIVATE LIMITED (MONTRA)	18 LPA
8	GETHUMOLO	RISS TECHNOLOGIES	2 LPA
9	DARSHAN K J	GSL ENERGY SOLUTIONS PVT LTD	14 LPA
10	GLADSON SEBASTIAN	GSL ENERGY SOLUTIONS PVT LTD	14 LPA
11	SIVAGANGA SIVADAS	BLUESUN INNOVATIONS PVT LTD	12 LPA
12	SREEHARI SANTOSH	BLUESUN INNOVATIONS PVT LTD	12 LPA
13	SARATHKUMAR K S	BLUESUN INNOVATIONS PVT LTD	12 LPA
14	HAROOON MS	BLUESUN INNOVATIONS PVT LTD	12 LPA
15	AMAL RAJ CA	BLUESUN INNOVATIONS PVT LTD	12 LPA
16	SYAM K S	BLUESUN INNOVATIONS PVT LTD	12 LPA
17	SUJITH P V	BLUESUN INNOVATIONS PVT LTD	12 LPA

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION  
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**OUR TOPPERS**  
Batch -2019-2023

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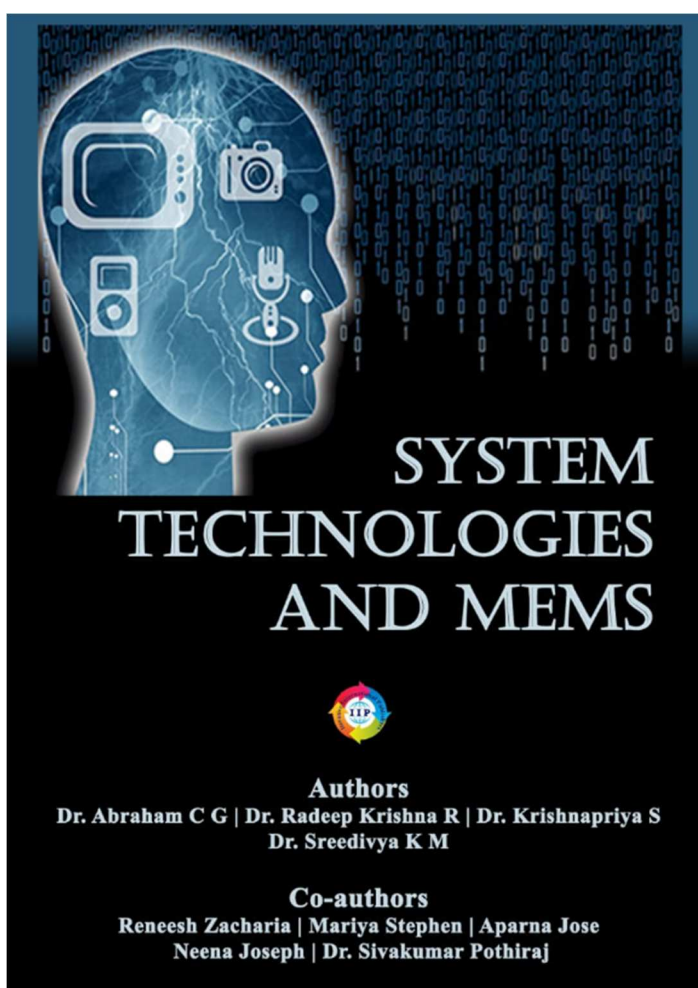


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## “BOOK PUBLISHED”



This book, titled "System Technologies and MEMS," aims to provide a comprehensive overview of the advancements and applications of system technologies and MEMS in a wide range of fields. It serves as a guide for students, researchers, and professionals seeking to deepen their understanding of this fascinating and interdisciplinary domain. The field of system technologies encompasses the design, development, and integration of complex systems that rely on the synergy between hardware, software, and firmware components. These systems can be found in areas such as telecommunications, automotive, aerospace, robotics, and healthcare. The book explores the fundamental principles, design methodologies, and practical considerations involved in building such systems, with a particular emphasis on the role of MEMS. Throughout the chapters, we present real-world examples, case studies, and practical applications to illustrate the significance and impact of system technologies and MEMS in various domains. We also discuss the challenges and emerging trends in the field, such as the Internet of Things (IoT), wearable devices, and autonomous systems, which are driving the next wave of innovation.

# ECE NEWSLETTER

## BON VOYAGE - FAREWELL PARTY 2023



Conducted awareness programme about higher studies for plus two students at Kumarakom Lions Club on 22/5/2023

A farewell party for outgoing batch (2019-23) of Electronics and Communication was organized by third year students of ECE of 30th June, 2023 at BEd Hall 10 am. Lunch was arranged at Strawberry field for final year and third year students and all staff of ECE department. The official meeting of the farewell program started soon after the lunch and the final and pre final year students and all staff members of ECE attended the program. The meeting was presided by HOD, Mr. Abraham CG, Assistant HOD Ms. Jyothisree KR and Staff advisor of final year, Ms. Devika Sarath. Ms. Devika Raj of S6 delivered inaugural address followed by the message by HOD. After that Ms. Jyothisree KR and Ms. Devika Sarath addressed the gathering shared their experiences and wished good luck to outgoing batch. The official meeting was closed by the vote of thanks by Mr. Akhil K Soman of S6. Ms. Stephane Abraham compered the event.



After the official meeting there were some cultural programs and games. Cultural programs included a film song by Anagha Rakesh and a folk song by Devika Raj of S6. There were some fun games organized by Afssy Basheer and Devika Raj involving final year students after which final year students shared their experiences and memories. Also, video clips of final year students compiled by S6 students was played. Altogether it was an entertaining program where the outgoing batch revived their memories and the staff and students bid a farewell and wished them all success. The program was winded up after a photo session.

### Team Behind

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Mr. Sreejish K Pillai  
Mr. Sudev A S

