



# AMRITA

## College of Engineering & Technology

### DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING



## “ECO ELECTRIC”

**NEWSLETTER**

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#### ABOUT THE COLLEGE

**Amrita College of Engineering and Technology (ACET)** is a co-educational, self-financing Engineering College (formerly Sun College of Engineering and Technology, established in the year 1999) run by Mata Amritanandamayi Math (MAM), Kollam from the academic year 2018-19. MAM is an International charitable organization aimed at the spiritual and material upliftment of humankind. MAM was founded in 1981 by the spiritual leader and humanitarian Mata Amritanandamayi Devi, with its headquarters in Paryakadavu, Alappad Panchayat, Kollam district, Kerala. The College has been approved by the All India Council for Technical Education, New Delhi, and is affiliated to the Anna University, Chennai.

The College is located inside Amrita Institutions Campus, Nagercoil, in a sprawling area of a 100-acre lush green campus, which is situated about 5 Kilometres north of Nagercoil, the headquarter of Kanyakumari District. Amrita College of Engineering and Technology is known for its value-based quality education through continuously improving its infrastructure, human resources, and teaching-learning process and we are committed to imparting high-quality skill-based education in Engineering & Technology to the youth in order to meet the challenging requirements of the industries.

#### ABOUT THE DEPARTMENT

**The Department of Electrical and Electronics Engineering** at Amrita College of Engineering and Technology was started in 2002. The first batch of EEE students under Amrita College of Engineering and Technology was admitted in the academic year 2018-2019. The department offers an undergraduate programme in Electrical and Electronics Engineering with an annual intake of 60 students.

The department is deeply committed to achieve goals based on the vision and mission of Mata Amritanandamayi Math. The department provides a value-based, high-quality learning experience that prepares students for future professional challenges through excellent education, intellectual interaction and training. The department has a team of highly qualified competent faculty members with a wide range of industry and academic expertise.

The department has well equipped and fully functional laboratories and excellent computational facilities with most up to date configuration software such as AUTOCAD, MATLAB, ETAP and PSCAD to support academic and research activities.

## Message from HOD's Desk

The newsletter is the ideal medium for widening students' horizons and encouraging recognition of their creative writing abilities. I wish to thank the faculty members and students for their outstanding assistance in making the Newsletter's successful publishing possible. This issue looks at the talents, dedication, involvement, and accomplishments of the faculty members and students in the Department of Electrical and Electronics Engineering. In addition, I ask "ECO ELECTRIC" readers for their benefaction and ideas for future editions.

## Message from Editor's Desk

It gives me great pleasure to introduce the second issue of the departmental newsletter "ECO ELECTRIC". It supports, enlightens, and makes it possible for faculty members and students to concentrate on their objectives and accomplishments.

The most recent newsletter highlights the achievements of our faculty members and students over the previous six months. I am thankful to the faculty and students of the Department of Electrical and Electronics Engineering for their valuable input.

I'm hoping that this newsletter will inspire a lot of students to show off their abilities and creative side. I want to express my gratitude to our Principal and HoD for their encouragement and intermittent feedback on the final draft.

## Editorial Board

### Chief Editor

Dr. M. S. Sivagama Sundari, Asso. Prof. and Head, EEE

### Editor

Dr. Shyni P Nair, Assistant Professor, EEE

### Student Members

Ms. K. A. Ashmini, IV B.E. (EEE)

Mr. G. Gurudas, III B.E. (EEE)

Mr. M. Naveen, II B.E. (EEE)

*“Motivation is the electrical power that activates the engine of success.”*

- Remez Sasson

## *What's Inside?*

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### **Vision of the Department**

To provide quality education and training in the field of Electrical and Electronics Engineering by keeping pace with modern trends and to make the students industry-ready with global competence.

### **Mission of the Department**

1. To provide quality education through excellence in teaching, research and consultancy activities.
2. To get elevated to technical lead position and lead the organization competitively.
3. To motivate students for lifelong learning in engineering practices.
4. To promote professional ethics and selfless service.

### **Programme Educational Objectives (PEOs)**

1. Find employment in Core Electrical and Electronics Engineering and service sectors.
2. Engross in life long process of learning to keep themselves abreast of new developments in the field of Electronics and their applications in power engineering.
3. Enter into higher studies leading to post-graduate and research degrees. Become consultant and provide solutions to the practical problems of core organization.
4. Become an entrepreneur and be part of electrical and electronics product and service Industries.

### **Programme Specific Outcomes (PSOs)**

1. Apply knowledge of mathematics, basic science and engineering science.
2. Identify, formulate and solve engineering problems.
3. Design an electrical system or process to improve its performance, satisfying its constraints.
4. Communication Proficiency in oral and written Communication.
5. Project management and finance implement cost effective and improved system.
6. Life-long learning, Continue professional development and learning as a life-long activity.

## Symposium Organized

The Department of Electrical and Electronics Engineering, Amrita College of Engineering and Technology, Nagercoil, organised the National Level Technical Symposium "Flashionz 2k23" with the guidance of the Principal, Dr. T. Kannan, and Administration Manager, Mr. V. Prabhakaran. The event was inaugurated by the head of department of Electrical and Electronics Engineering, Dr. M. S. Sivagama Sundari. Dr. Shyni P. Nair, Assistant Professor/EEE, coordinated the programme. Students from various colleges attended the Symposium. They also participated in both technical and non-technical event and won prizes. Certificates were provided to all the participants. The main goal of this symposium was to provide a platform for the students to showcase their talents. Cultural events were also conducted.



**Welcome Address by  
Mr. M. Goodwin, IV B.E. (EEE)**



**Prize distribution to the winners of  
Paper Presentation**

## Club Activities

### Energy Club

The Ideathon competition on the topic “Energy Conservation” was organised by the Department of Electrical and Electronics Engineering in association with the Energy club, Amrita College of Engineering and Technology, Nagercoil on 25<sup>th</sup> November 2022 under the guidance of the Principal Dr. T. Kannan. The event was inaugurated by the head of department of Electrical and Electronics Engineering, Dr. M. S. Sivagama Sundari. The energy club aims at educating, encouraging and enable our students to save energy. Dr. Shyni P Nair, Assistant Professor, Department of Electrical and Electronics Engineering coordinated this event.



**Inauguration of Ideathon Competition**



**Welcome Address by Mr. M. L. Dibin Raj, IV B.E. (Civil Engg.)**

**Faculty Development Program/ Conferences/ Workshops- Attended by the Faculty**

Sl. No.	Name of faculty	Program attended	Organizer	Date
1	Mrs. K. V. Subathra	Faculty Development Programme on "MATLAB- Artificial Intelligence and Optimization Techniques"	NITTTR, Chandigarh	21.11.2022 to 25.11/2022
2	Dr. Shyni P Nair Mr. K. Sivasubramanian Mrs. K. V. Subathra	Faculty Development Programme on Human Values	Amrita college of Engineering and Technology, Nagercoil	06.12.2022

3	Dr. Shyni P Nair	Faculty Development Programme on Optimization Techniques and its Emerging Applications	PSG College of Technology, Coimbatore	19.12.2022 to 23.12.2022
4	Dr. Shyni P Nair	Faculty Development Programme on Power Quality Problems and Solutions	NITTTR, Chandigarh	30.01.2023 to 03.02.2023
5	Dr. Shyni P Nair	Faculty Development Programme on Project Planning and Management	NITTTR, Chandigarh	16.01.2023 to 20.01.2023

#### FDP/Seminar Organized

Sl. No.	Name of faculty	FDP/Seminar	Resource Persons	Organizer	Date
1	Dr. M. S. Sivagama Sundari	Faculty Development Programme on "Human Values"	Dr. Chidanandamrita Chaithanya, Professor, Department of Electronics and Communication Engineering, Amrita Vishwa Vidyapeetham, Amrita School of Engineering, Amritapuri.	Amrita college of Engineering and Technology, Nagercoil	06 .12.2022
2	Dr. M. S. Sivagama Sundari & Dr.Shyni P Nair	ICSSR Sponsored Three Day National Seminar on "Research Methodology and Intellectual Property Rights"	Dr.C.Prakash, Director, Indian Institute of Handloom Technology, West Bengal	Amrita college of Engineering and Technology, Nagercoil	10.04.2023 to 12.04.2023
			Dr.S.Kumaravel, Associate Professor, Department of Electrical Engineering, National Institute of Technology, Calicut.		
			Dr.S.Gandhiya Vendhan, Assistant Professor, Department of		

			Statistics, Bharathiar University, Coimbatore.		
			Dr.M.Ganesh Kumar, Assistant Professor, Department of Mathematics, Amrita Viswa Vidyapeetham, Coimbatore.		
			Dr.S.Anand, Associate Professor, School of Electronics Engineering, Vellore Institute of Technology, Vellore.		
			Dr.M.S.Sivagama Sundari, Associate Professor/EEE, Amrita College of Engineering and Technology		

## அமிர்தா பொறியியல் கல்லூரியில் தேசிய கருத்தரங்கு

நாகர்கோவில், ஏப். 19-  
நாகர்கோவில்  
அமிர்தா பொறியியல்  
கல்லூரியின் மின்னியல்  
மற்றும் மின்னணுவியல்  
துறை சார்பில் முதல்வர்  
கண்ணன் மற்றும் நிர்வாக  
மேலாளர் பிரபாகரன் வழிகாட்டுதலுடன் புதுடிவில்லி  
இந்திய சமூக அறிவியல்  
ஆராய்ச்சிக் கவுன்சிலின்  
நிதியுதவியுடன் "ஆராய்ச்சி  
முறை மற்றும் அறிவுசார்  
சொத்துரிமைகள்" என்ற  
தலைப்பில் 3 நாள் தேசிய  
கருத்தரங்கு நடந்தது.



கருத்தரங்கின் சிறப்பு விருந்தினராக மேற்குவங்க இந்திய கைத்தறி தொழில்நுட்ப கழகத்தின் இயக்குநர் பிரகாஷ் கலந்து கொண்டார். மின்னியல் மற்றும் மின்னணுவியல் துறைத் தலைவி சிவகாம சுந்தரி வரவேற்றார். உதவி பேராசிரியர் கைனி.பி.நாயர் பேசினார். பேராசிரியர் ராதாமணி அறிமுக உரையாற்றினார். பல்வேறு கல்லூரிகளைச் சேர்ந்த 100க்கும் மேற்பட்ட மாணவ, மாணவிகள், ஆராய்ச்சி அறிஞர்கள் மற்றும் பேராசிரியர்கள் கலந்து கொண்டனர்.



## Inauguration of ICSSR Sponsored Three Day National Seminar on "Research Methodology and Intellectual Property Rights"

### Paper Publication in Conferences

- Sivagama Sundari, M. S. (2023, March 28). *Performance analysis of Modular Multilevel Inverter*. ICETSTEM-23, Theni, Tamil Nadu India.
- Shyni P. Nair, (2023, March 28). *Solar Powered Electric Vehicle Charging using Wireless Power Transfer*. ICETSTEM-23, Theni, Tamil Nadu India.



### **Paper Publication in Journals**

- **Sivagamasundari, M. S.,**Thamaraimanalan, T., Ramalingam, S., &Balachander, K. (2023). Improved Particle Swarm Optimization Based Distributed Energy-Efficient Opportunistic Algorithm for Clustering and Routing in WSNs. *Journal of Information Technology Management, 15*, 5-20.
- Cherappa, V., Thangarajan, T., **Sivagamasundari, M. S.,** Hajjej, F., Munusamy, A. K., & Shanmugam, R. (2023). Energy-Efficient Clustering and Routing Using ASFO and a Cross-Layer-Based Expedient Routing Protocol for Wireless Sensor Networks. *Sensors, 23*(5), 2788.

### **Industrial Visit for students**

The industrial trips and educational visits also help to develop and enhance interpersonal skills. The amazing industrial visits also help the students to enhance their teamwork abilities, communication skills, and interpersonal skills. Industrial visits and educational trips are a great platform for networking. It is very important for an Engineering student to maintain a close relationship between his or her educational curriculum and the technical world. It can be done only by means of mere practical observation. If we are going to be a part of the future technical world, we should know about what's really going on around the world, especially in our discipline, so that we can survive when we take our first step into the technical world. The objective of an industrial visit is to provide the students an insight regarding the internal working of companies. Today, we all perfectly understand that theoretical knowledge is just not enough for a successful professional career. It is here that by going beyond academics, industrial visit provides students a much relevant practical perspective of the actual work place and the larger world of business.

In order to fulfil this basic essential for an Engineering student, the Department of Electrical and Electronics Engineering arranged a two-day industrial visit to Anugraha Fashion Mill Pvt. Ltd., Solar Division, Coimbatore and ECI Systems, Coimbatore, on February 24, 2023. The basic purpose of this visit is to get the basics and practical knowledge of solar power plants and the manufacturing of automation control panels.

***“The only source of knowledge is experience”***

**- Albert Einstein**



**Industrial Visit - IV B.E. (EEE) students at ECI Systems**



**Industrial Visit -IV B.E. (EEE) students at Anugraha Fashion Mill Pvt. Ltd**

The Department of Electrical and Electronics Engineering arranged a one day industrial visit for the III year students to Vivekananda Kendra Bio gas plant, Kanyakumari district on April 28, 2023. The basic purpose of this visit is to get the basics and practical knowledge of Bio gas power plants.

*“If you want to find the secrets of the universe, think in terms of energy, frequency and vibration”*

- Nikola Tesla



**Industrial Visit – III B.E. (EEE) students at Vivekananda Kendra Bio gas plant**

The Department of Electrical and Electronics Engineering arranged a one day industrial visit for the II year students to Suzlon Global Services Limited, Radhapuram on April 29, 2023. The basic purpose of this visit is to get the basics and practical knowledge of Wind power plants.



**Industrial Visit – II B.E. (EEE) students at Suzlon Global Services Limited**

**Placement Details**

Sl. No.	Student name	Company name
1	Mr. K. Balaji Maharajan	M/s. CGI Solutions, Bengaluru

2	Mr. E.G. Abishek	M/s. Tata Consultancy Services, Chennai
	Ms. K. Reshma	
3	Mr. A. S. Gauthaman	M/s. V-dart Technologies, Chennai
	Mr. N. S. Nanda Kumar	
4	Ms. K. A. Ashmini	M/s. Daimler Trucks, Chennai
	Ms. K. Reshma	
5	Mr. K. Aju	M/s. Varroc Polymers Pvt. Ltd., Chennai
	Mr. Arjun V Radhakrishnan	
	Mr. S. Chandru	
	Mr. M. Goodwin	
	Mr. R. Goodwin	
6	Mr. S. R. Akash	M/s. Syrma Technologies, Chennai
	Mr. P. Raahul krishna	
	Ms. R. M. Abinaya	
7	Ms. R.S. Amritha sherin	M/s. Pinnacle Infotech, Madurai
	Ms. N. S. Ashmi	
	Mr. S. J. Richard Castro	
8	Mr. S. Suthan	M/s. J M Fricttech India Pvt. Ltd., Chennai

#### Grant Received

Sl. No.	Name of the Faculty	Received fund (in Rs.)	Funding Agency	Date
1	Dr. M. S. Sivagama Sundari & Dr. Shyni P Nair	Rs.2,00,000/-	Indian Council of Social Science Research, New Delhi	03.03.23
2	Dr. M. S. Sivagama Sundari & Dr. Shyni. P. Nair	Rs.3,78,500/-	Indian Council of Medical Science and Research, New Delhi	23.02.23

### **Book Publications**

- Dr.M.S.Sivagama Sundari has published a book titled “Power Quality Management”, in LAP LAMBERT Academic Publishing, Republic of Moldova.
- Dr.Shyni.P.Nair and Dr.M.S.Sivagama Sundari has published a book titled “MPPT Techniques for Renewable Energy Systems”, in LAP LAMBERT Academic Publishing, Republic of Moldova.