

You Choose, We Do It

# St. JOSEPH'S COLLEGE OF ENGINEERING (An Autonomous Institution)

# St. Joseph's Group of Institutions

OMR, Chennai - 119



### **SEPTEMBER 2024**

### DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

| S.No. | Title of the Events and Photographs                       | Details of the Event  |
|-------|---|---|
| 1.    | COLLABARATIVE QUALITY INITIATIVES WITH OTHER INSTITUTIONS | -   |
|       | INDUSTRIAL VISIT  |   |
|       | MCC Complex at SDSC                                       |   |
| 2.    |   | 2022 - 2026 Batch, Third Year Students from the Department of Artificial Intelligence and Data Science embarked on an educational tour of Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota, as part of their Industrial Visit, exploring its advancements in space science on 24/09/2024 and 26/09/2024. |

भारत सरकार अंतरिक्ष विभाग सतीश धवन अंतरिक्ष केंद्र शार श्रीहरिकोटा रेंज डा.घ. 524 124 श्राक्षारकाटा रण डा.च. उद्धर १८५ श्री पोट्टि श्रीरामुलु नेल्लूर जिला, आं.म., मारत दूरमाण : +91-8623 245060 (6 न) फैक्स : +91-8623 222099



Goverment of India Department of Space Satish Dhawan Space Centre SHAR Shriharikota Range P.O. 524 124 SPSR Nellore Dist., AP, India Telephone: +91-8623 245060 (6 Lines) Fax: +91-8623 222099

GD/MSA/Visits/2024

September 05, 2024.

Sub: Permission for Visiting SDSC SHAR Facilities - Reg.

This has the reference to your email/letter with the above subject. In this regard, kindly note that you may visit the Centre as per the date and time given below:

★ Approval Ref. No.★ Date of Visit : 553/2024 : 26.09.2024 (Thursday)

\* Reporting Time 09:30 hrs.

Max.110 only (Including Staff & Vehicle Crew) \* No. of Persons Permitted

Kindly confirm your visit by e-mail to ppo@shar.gov.in. If no confirmation is received (along with the visitors list) from Dept. Of Al&DS (Batch-11) - St. Joseph's College of Engineering, Chennai on or before 23.09.2024, we presume that you have dropped your programme.

Please go through the General Guidelines printed over-leaf for further details.

For any queries / help, please do not hesitate to contact 08623-226143/226136.

Wishing you a happy visit.

With regards.

(P Gopi Krishna)
Group Director, MSA
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HoD - Dept. Of AI&DS St. Joseph's College of Engineering

अंतरिक्ष विभाग सतीश धवन अंतरिक्ष केंद्र शार श्रीहरिकोटा रेंज डा.घ. 524 124 श्री पोष्टि श्रीरामुलु नेल्लूर जिला, आं.प्र., भारत दूरभाष : +91-8623 245060 (6 जं) फैक्स : +91-8623 222099



Government of India Department of Space Satish Dhawan Space Centre SHAR Shriharikota Range P.O. 524 124 SPSR Nellore Dist AP India Telephone: +91-8623 245060 (6 Lines) Fax: +91-8623 222099

GD/MSA/Visits/2024

September 05 2024

Sub: Permission for Visiting SDSC SHAR Facilities - Reg.

This has the reference to your email/letter with the above subject. In this regard, kindly note that you may visit the Centre as per the date and time given below:

> \* Approval Ref. No. : 549/2024

: 24.09.2024 (Tuesday) ★ Date of Visit

\* Reporting Time 09:30 hrs.

\* No. of Persons Permitted Max.110 only (Including Staff &

Vehicle Crew)

Kindly confirm your visit by e-mail to ppo@shar.gov.in. If no confirmation is received (along with the visitors list) from Dept. Of Al&DS - St. Joseph's College of Engineering, Chennai on or before 23.09.2024, we presume that you have dropped your programme.

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With regards.

(P Gopi Krishna) Group Director, MSA

HoD - Dept. Of AI&DS St. Joseph's College of Engineering Channai

पी. गोपी कृष्णा P. GOPI KRISHNA साह विदेशक एताहरा GROUP DIRECTOR, MSA भारत सरकार, अंतरिश विभाग GOVERNMENT OF INDIA, DEPT. OF SPACE इराग, सहअं के, शार / ISRO, SDSC SHAR श्रीदिखेल (अंत्र)/SRIHARIKOTA-524 124 (A.P.

### FDP/WORKSHOP/CONFERENCE/HACKATHON

Ms. Siva Shankari B, Assistant Professor from the Department of Artificial Intelligence and Data Science has Participated in 5 Days International Faculty Development Program on "Gen-AI and Prompt Engineering Using Microsoft Co-Pilot" organized by BNM Institute of Technology Bangalore (BNMIT) - Karnataka, D.Y. Patil Agriculture and Technical University Talsande -Maharashtra, and Marwadi University Rajkot -Gujarat in Collaboration with ExcelR Edtech Pvt. Ltd.





### Centre for Immersive Technologies

Centre for Excellence Building ,Anna University ,College of Engineering ,Chennai-600025

### INDUSTRY COLLABORATED ONLINE WORKSHOP ON

Smart AR: Demystifying the Integration of AI into Augmented Reality
21st - 22nd September, 2024

### PARTICIPATION CERTIFICATE

This is to certify that <u>DEEPA D</u> has participated in two days online workshop on "SMART AR:DEMYSTIFYING THE INTEGRATION OF AI INTO AUGMENTED REALITY" during 21st - 22nd September 2024, which has been organized and conducted by Centre for Immersive

Technologies, College of Engineering Guindy, Anna University, Chennai - 600025.



Mrs. Deepa D, Assistant Professor and Mrs. Kumari Deepika P, Assistant Professor from the Department of Artificial Intelligence and Data Science, has participated in two days online workshop on "SMART AR:DEMYSTIFYING THE INTEGRATION OF AI INTO AUGMENTED REALITY" during 21st - 22nd September 2024, which has been organized and conducted by Centre for Immersive Technologies, College of Engineering Guindy, Anna University, Chennai - 600025.



### Centre for Immersive Technologies

Centre for Excellence Building ,Anna University ,College of Engineering ,Chennai-600025

### INDUSTRY COLLABORATED ONLINE WORKSHOP ON

Smart AR: Demystifying the Integration of AI into Augmented Reality
21st - 22nd September, 2024

#### PARTICIPATION CERTIFICATE

This is to certify that <u>KUMARI DEEPIKA P</u> has participated in two days online workshop on "SMART AR:DEMYSTIFYING THE INTEGRATION OF AI INTO AUGMENTED REALITY" during 21st -

22nd September 2024, which has been organized and conducted by Centre for Immersive Technologies,

College of Engineering Guindy, Anna University, Chennai - 600025.

School Dr. S. Chitrakala



Mr. Senthil Kumar D, Assistant Professor from the Department of Artificial Intelligence and Data Science has attended Faculty Development Program (Physical Mode) on Creative Thinking at St. Joseph's College of Engineering, Sholinganallur, Chennai, by ICT Academy.

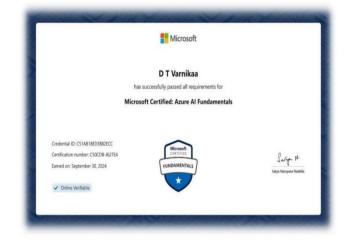




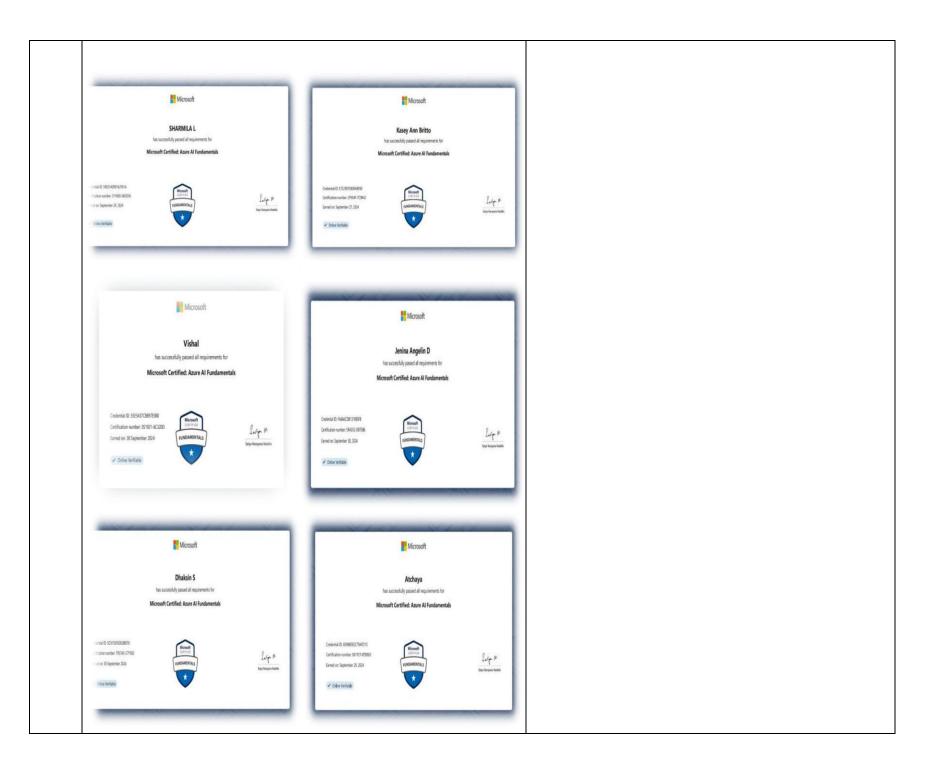
Mrs. Dharani R, Assistant Professor and Ms Jayasri, Assistant Professor from the Department of Artificial Intelligence and Data Science have successfully participated and completed AICTE Training and Learning (ATAL) Academy Faculty Development Program (Physical Mode) on Artificial Intelligence Techniques for Advancing Medical Data Processing and Health Care at St. Joseph's Institute of Technology, from 23/9/24 to 28/9/24.

### COMPETITIONS ATTENDED BY STUDENTS

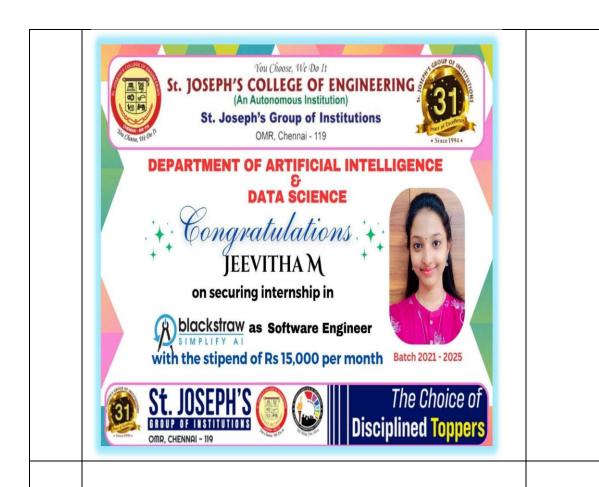




Ms Sharmila L, Ms. Jenina Angelin D, Ms. Kasey Ann Britto, Ms. Varnikaa D T, Ms. Atchaya S, Mr. Vishal G B and Mr. Dhaksin S, Final and Third Year Students from the Department of Artificial Intelligence and Data Science have successfully passed all requirements for Microsoft Certified: Azure AI Fundamentals.



| 5. | INDUSTRIAL PROJECTS DONE BY STUDENTS | Our Final Year Students Jeevitha M on securing internship in Blackstraw as software Engineer with the stipend of Rs 15000 per month. |
|----|--------------------------------------|--|



STAFF CONFERENCE PRESENTATION and PATENT PUBLISHED

6.





|                                  | Application Details  |
|----------------------------------|--|
| APPLICATION NUMBER               | 202421055775   |
| APPLICATION TYPE                 | ORDINARY APPLICATION   |
| DATE OF FILING                   | 22/07/2024   |
| APPLICANT NAME                   | Dr Sheela Naren Hundekari     Mrs. Pallavi Sandeep Thorat     G. G.Lavanya     Dr. Bhuvaneshwari Jolad     Dr. K.E.Naresh Kumar     P. Wumari Deepika     Mr. Anvesh Perada     P. Deepa     Suguna. M     N. Ukual Hiraman Borase |
| TITLE OF INVENTION               | AI-BASED AUTOMATIC HEALTHCARE MANAGEMENT SYSTEM FOR EARLY DETECTION AND MONITORING OF CARDIOVASCULAR DISEASES USING WEARABLE IOT DEVICES AND DEEP LEARNING MODELS  |
| FIELD OF INVENTION               | COMPUTER SCIENCE   |
| E-MAIL (As Per Record)           | senanipindia@gmail.com   |
| ADDITIONAL-EMAIL (As Per Record) |  |
| E-MAIL (UPDATED Online)          |  |
| PRIORITY DATE                    |  |
| REQUEST FOR EXAMINATION DATE     |  |
| PUBLICATION DATE (U/S 11A)       | 16/08/2024   |

Mrs. Kumari Deepika P, Assistant Professor from the Department of Artificial Intelligence and Data Science has published a Patent titled "AI - Based Automatic Healthcare Management System for Early Detection and Monitoring of Cardiovascular Diseases using Wearable IoT Devices and Deep Learning Models".

(54) Title of the invention: SMART CITY WASTE MANAGEMENT SYSTEM USING JOT, MACHINE LEARNING AND WSN FOR SOLID WASTE )Name of Applicant 1)Dr. S. Santiago Address of Applicant: Assistant Professor, Department of Computer Science. St. Joseph's College, Trichy, 2)Raj kumar Ramasamy 3)Senthil Kumar D 4)Ambati Nagaraju 5)Jibu J V 6)Abhileet Das 7)Dr. S.Sathya 8)M.Vara Lakshmi 9)Dr. C. Rameshkumar 10)lyappan G Name of Applicant : NA Address of Applicant : NA 72)Name of Inventor: ddress of Applicant : Assistant Professor, Department of Computer Science. St. Joseph's College, Trichy, :G06Q0010000000, G06Q0010060000, B65F0001140000, (51) International classification G06Q0010080000, G06Q0050260000 2)Rai kumar Ramasamy (86) International Application No :NA Address of Applicant : Assistant Professor, Department of Computer Science and Engineering, Rajarajeswari Filing Date :NA (87) International Publication No :NA ollege of Engineering, Ramohalli Cross, Kumbalgodu, Bengaluru, Kamataka -560074 ------3)Senthil Kumar D (61) Patent of Addition to Application Number Filing Date (62) Divisional to Application 4)Ambuti Nagaraju Address of Applicant : Assistant Professor, Department of CSE, NBKR Institute of Science & Technology, Number :NA dyanagar, Tirupati (District), Andhra Pradesh ------Filing Date 6)Abhijeet Das Address of Applicant: Research Scholar, Department of Civil Engineering, C.V. Raman Global University CGU), Bhuhaneswar, Odisha -----7)Dr. S.Sathya Address of Applicant : Associate Professor, Department of ECE, S.A. Engineering College, Avadi, Chennui, 8)M.Vara Lakshmi Address of Applicant : Assistant Professor, Department of CSE, Aditya Institute of Technology and faragement, Tekkali, Srikakulam Dist, Andhra Pradesh -532201 ------9)Dr. C. Rameshkumar Address of Applicant : Associate Professor, Department of Physics, Suthyahuma Institute of Science and echnology, Jeppiaar Nagar, Rajiv Gandhi Salai (OMR), Chennai, Tamilnadu----10)Iyappan G Address of Applicant : Assistant Professor, Department of Civil Engineering Arasu Engineering College, umbakoram, Tamilradu -612501 ------

Mr. Senthil Kumar D, Assistant Professor from the Department of Artificial Intelligence and Data Science has published a Patent on "SMART CITY WASTE MANAGEMENT SYSTEM USING IOT, MACHINE LEARNING AND WSN FOR SOLID WASTE".

The proposed invention is a Smart City Waste Management system integrating for T, Machine Learning, and Wireless Sensor Networks to enhance solid waste management efficiency and sustainability. In T sensor monitor sunt is evine and environmental conditions in relation, transmitting data to certain serves with Weekes Samon Networks. Machine Learning algorithms sunly be in data to optimize waste conduction schedules and ordered conductions. The data of the principle of the proposal waste generation pattern, and perform to see the overflows, thereby largering patches between propriets and supports officient or exceptions. The data-driven approach also supports efficient or exception and waste densition programs, contributing to the overall sustainability of urban environments. Through its intovative use of technology, the system addresses traditional under management efficiencies and aligns with must cry instairies.

No. of Pages: 29 No. of Claims: 10

|           | DEPARTMENT OF ARTIFICAL INTELLIGENCE AND MACHINE LEARNING  |   |  |  |
|-----------|--|---|--|--|
| SI.<br>No | Photographs<br>Captured<br>During Event  | Corresponding remarks in regarding the status of activity execution   |  |  |
| 1         | <b>Dr. Lilly Raamesh</b> Published a paper in scopus   | Project – HALE Wor–Corp: A Comprehensive and Collaborative Workspace Encompassing AI and State-of-the-Art Web Technology for Hospitals Abstract:  |  |  |
|           | Conference Paper.  Rameth, Lilly  The conference of the conference | The integration of IoT technology, blockchain technology, API technology, and artificial intelligence is investigated by Project HALE Wor-Corp. The integration of these technologies offers a substantial potential for augmenting patient care, streamlining administrative procedures, and improving healthcare delivery. Using blockchain technology, IoT devices can collect data in real time and transmit it securely. By facilitating data interoperability between systems, APIs improve communication and data sharing. The vast quantities of data produced by these technologies can subsequently be analyzed by AI algorithms, resulting in improved patient outcomes, personalized treatments, and more precise diagnoses. This paper assists organizations in effectively managing the workplace and fostering team collaboration. Present enhanced methods for communicating with clients, coworkers, or individuals who are not physically present in the same room concurrently. Featured with a live chat system that facilitates instantaneous communication between businesses and members and clients, event tracking, strategic planning to enhance productivity and stay organized while meeting deadlines, workflow visualisation aids in streamlining operations by restricting work in progress, ensuring efficiency, and facilitating the emulation and recording of time-stamped commercial documents. To streamline the process of storing and monitoring invoice histories, the system supports the management of billing addresses, office addresses, and home addresses for purchases. |  |  |

Additionally, it enables the configuration and management of diverse modes of transactions and payments for purchases, the creation of a wide range of discount, offer, deal, and coupon code schemes, and the development of custom applications for member and enterprise use. Dr. L. Sherly Puspha Content-based image retrieval by classification with reinforcement optimisation evolutionary 2 Annabel machine learning with applications Published a **ABSTRACT** paper in SCI Content Based Image Retrieval (CBIR) plays a significant role in identifying the similarity of images Indexed Paper with large datasets. It is identified based on the size, colour, and texture features of the image. But in such conditions, it is complex to determine the features of query images in large datasets and does not show accurate similarity when compared with every image in the retrieval process. In order to perform an efficient similarity of images, a novel Machine Learning (ML) approach Kernelized Radial Basis Auto-Encoder Function Neural Network (Ker RadBAEFNN) technique is proposed that performs the individual image classification in the retrieval process. Moreover, the neural networks are optimised based on the reinforcement process and perform the extraction process regarding

individual images. Further, reinforcement-based optimisation estimates the images in neural networks

classification process is validated based on MNIST, METU, and COCO datasets that determined the efficiency of the recognition and classification process of image retrieval. The experimental analysis is carried out based on various measures such as accuracy, precision, recall, F1-score, RMSE, and MAPE for the proposed and existing GLCM-ABC, PSO-ANN, IRB-CNN, FAGWO, and OCAM methods. The analysis shows that the performance of the proposed attained better effectiveness with attained accuracy by 98% and diminished for state-of-the-art techniques as 92%, 95%, 94%, 96.8%,

as well as 96%, respectively. Compared to existing methods, the accuracy rate of the proposed

method is maximised by 1.3%.

for undertaking an automatic feature extraction of query images. The performance of the

# 3 Certificates received by the Faculty

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## **Workshop Attended by the faculty**

| S.No | Name of the FDP  | Name of the Staff               | Conducted By                              | Duration                                |
|------|--|---------------------------------|---|---|
|      |  |                                 |   |   |
| 1    | AICTE Recognized FDP on Deep Learning for Engineering Applications | Dr. Lilly Raamesh               | St. Joseph's<br>College of<br>Engineering | 02.09.2024 to<br>06.09.2024 (6<br>Days) |
| 2    | AICTE Recognized FDP on Deep Learning for Engineering Applications | Dr. L. Sherly<br>Puspha Annabel | St. Joseph's<br>College of<br>Engineering | 02.09.2024 to<br>06.09.2024 (6<br>Days) |
| 3    | AICTE Recognized FDP on Deep Learning for Engineering Applications | Dr. C.J. Raman                  | St. Joseph's<br>College of<br>Engineering | 02.09.2024 to<br>06.09.2024 (6<br>Days) |
| 4    | AICTE Recognized<br>FDP on Deep<br>Learning for                    | Dr. G Manikandan                | St. Joseph's<br>College of<br>Engineering | 02.09.2024 to<br>06.09.2024 (6<br>Days) |

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| National Familiate of  Technical Technical Sections and Message  Confidence  C |   | Engineering Applications   |                       |   |   |
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| National Position of Committee  | 6 | AICTE Recognized FDP on Deep Learning for Engineering Applications | Mr. Raja Mohamed<br>N | St. Joseph's<br>College of<br>Engineering | 02.09.2024 to<br>06.09.2024 (6<br>Days) |
| Notinenal Restrictor of Charactery Character | 7 | AICTE Recognized FDP on Deep Learning for Engineering Applications | Dr. Anitha S          | St. Joseph's<br>College of<br>Engineering | 02.09.2024 to<br>06.09.2024 (6<br>Days) |
| **Characteristation of the Conference of the Con | 8 | AICTE Recognized FDP on Deep Learning for Engineering Applications | Ms. Poornima M        | St. Joseph's<br>College of<br>Engineering | 02.09.2024 to<br>06.09.2024 (6<br>Days) |
| AMERICANISMOS MARIA SERVICIONE DE LA SERVICIO DEL SERVICIO DE LA SERVICIO DE LA SERVICIO DEL SERVICIO DE LA SERVICIO DE LA SERVICIO DEL SERVICIO | 9 | AICTE Recognized<br>FDP on Deep<br>Learning for                    | Ms. Deepa K           | St. Joseph's<br>College of<br>Engineering | 02.09.2024 to<br>06.09.2024 (6<br>Days) |

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| National Resistants of<br>Geological Scutters of Participating and Messacrab<br>Charlespee Constituting and Messacrab<br>Charlespee<br>Mediate of Section Constitution<br>This is in constitution of Constitution<br>This is in constitution of Constitution<br>15 (1988) (1988) (1988)  |    | Engineering Applications   |                          |   |   |
| Transport in the ACTE Assignment Residence (Incompared Regiment Conference of Conferen | 10 | AICTE Recognized FDP on Deep Learning for Engineering Applications | Ms. Priyadharshini<br>SP | St. Joseph's<br>College of<br>Engineering | 02.09.2024 to<br>06.09.2024 (6<br>Days) |
| Deep Learning for Engineering Supportunes  Company of C | 11 | AICTE Recognized FDP on Deep Learning for Engineering Applications | Ms. Bhuvaneswari.<br>K   | St. Joseph's<br>College of<br>Engineering | 02.09.2024 to<br>06.09.2024 (6<br>Days) |
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| Notiness Teaching of Teaching and Teaching of Teaching and Teaching an | 13 | AICTE Recognized FDP on Deep Learning for Engineering Applications | Ms. Thiraviaselvi. G     | St. Joseph's<br>College of<br>Engineering | 02.09.2024 to<br>06.09.2024 (6<br>Days) |
|  | 14 | AICTE Recognized<br>FDP on Deep<br>Learning for                    | Ms. Abinaya. A           | St. Joseph's<br>College of<br>Engineering | 02.09.2024 to<br>06.09.2024 (6<br>Days) |

|    | Engineering<br>Applications  |                               |   |   |  |
|----|--|-------------------------------|---|---|--|
| 15 | AICTE Recognized FDP on Deep Learning for Engineering Applications | Ms. Meena kumari<br>Bugatha N | St. Joseph's<br>College of<br>Engineering | 02.09.2024 to<br>06.09.2024 (6<br>Days) |  |
| 16 | AICTE Recognized FDP on Deep Learning for Engineering Applications | Umayal. AR                    | St. Joseph's<br>College of<br>Engineering | 02.09.2024 to<br>06.09.2024 (6<br>Days) |  |

|       | DEPARTMENT OF BIOTEC                | HNOLOGY   |
|-------|-------------------------------------|---|
| S.No. | Title of the Events and Photographs | Details of the Event  |
| 1.    | INDUSTRIAL VISIT  II Year           | - II year students of Biotechnology were taken on a one day Industrial visit on 19/09/2024 to Modern Bakers, Madhavaram.  |
| 2.    | GUEST LECTURE                       | Guest lecture was organised for the II, III and IV year students on 06.09.2024 on the topic Patient derived explant (PDeX) and patient derived xenograft (PDX) delivered by Dr.Rayala Suresh Kumar, Professor – Indian Institute of Technology (IIT-M). |



Guest lecture Brochure

### 3. FDP/WORKSHOP/CONFERENCE/SKILL DEVELOPMENT

Organizing committee member and Session Chair in International Conference on Biotechnology and Biomedical Research organized by Association of Pharmaceutical Research, 19th and 20 September, 2024, Goa, India.

Acted as external reviewer of proposals submitted to the Research Projects of the National Research and Development Agency (ANID) of the Ministry of Science,



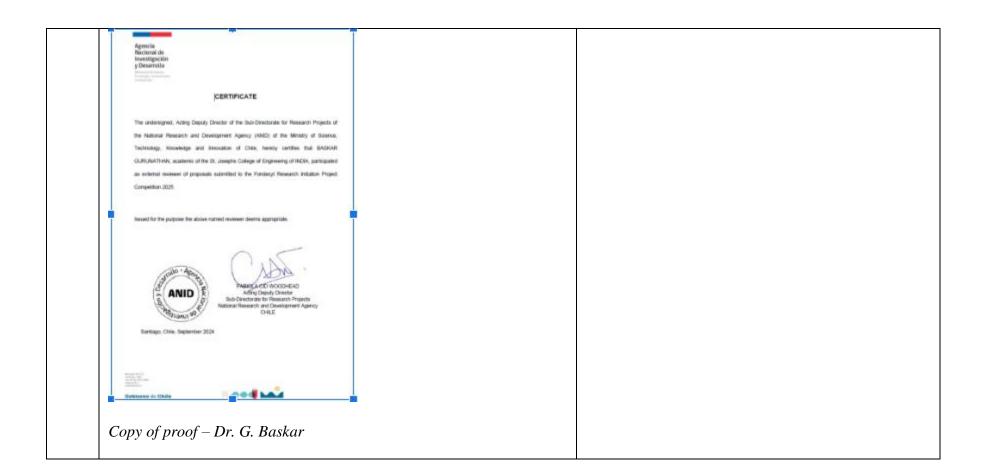
Technology, Knowledge and Innovation of Chile.

Ms. B. Sangeetha has been awarded an FDP certificate for successfully completing the eight-week course on "Sustainable Engineering Concepts and Life Cycle Analysis" through the Swayam NPTEL platform, earning the Elite+Silver category.

Copy of certificate - Dr. G. Baskar



Copy of certificate – Dr. G. Baskar





# SYMPOSIUM

4.



Department of Biotechnology organized National level symposium titled "Biovizta," on september 28th 2024,



### COMPETITIONS ATTENDED BY STUDENTS





5.





- 1. **S. B, Keerthana S. L and Ilakiya T** have participated and secured **Runner position** with a cash prize of 5000 in the Bio-hackathon held on 14<sup>th</sup> September at Rishiwood University, Delhi.
- 2. **Madeehah, Anjanha R, and Aloysius Rancy A.** participated and won first prize in quest of clarity at SSN College of Engineering on september 28<sup>th</sup>.
- 3. Susmithaa S, Vaaishnavi C, Jeevantika J, Vardini C, and Kabilan D. pariticpated and won second prize in the Biobazaar event at Invente'24 a National level tech fest organized by SSN College of Engineering.
- 4. **Reneta Siana S. and Shobana D.** won first prize with a cash prize of Rs 4000 in "Paper Fest" conducted at Invente' 24, National level tech-fest organized by SSN College of Engineering







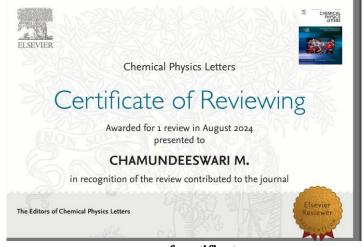








### **AWARDS WON BY FACULTY**



copy of certificate

Dr.M.Chamundeeswari received a "Certificate of Outstanding Contribution in Reviewing" from Surfaces and Interfaces, Elsevier, Amsterdam, The Netherlands on August 2024.

Dr.M.Chamundeeswari received a "Certificate of Reviewing" from "Chemical and Physics Letters", August 2024.

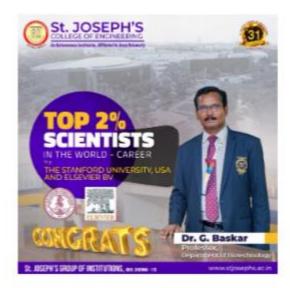
Ranked Top 2% Scientists in the world by Stanford University and Elsevier.

Dr. Justin Packia Jacob served as an external expert for the academic audit of the Department of Microbiology at Vels Institute of Science, Technology and Advanced Studies.

6.



Copy of certificate



Copy of proof - Dr. G. Baskar



05-09-2024

### Attendance Certificate

This is to certify that Dr. Justin Packiaraj Jacobs, Professor, Department of Biotechnology, St.Joseph Engineering College, Chennai has served as External Expert for the Academic Audit for the Department of Microbiology, Vels Institute of Science, Technology and Advanced Studies, Chennai on 04-09-2024.



Copy of proof – Dr. Justin Packia Jacob

# 7. PAPER PUBLICATIONS/ BOOK CHAPTERS/PATENT PUBLICATIONS

Dr. L. F. A. Anand Raj has published a patent titled Nanotechnology-based sensors designed for monitoring soil quality and maintaining the health of agricultural plants.

|    | (12) PATENT APPLICATION PUBLICATION (19) INDIA (22) Date of filing of Application: 11/08/2024   | (21) Application No. 202411060634 A  (43) Publication Date: 27/09/2024   |  |
|----|---|--|--|
|    |   | FOR MONITORING SOIL QUALITY AND MAINTAINING HEALTH OF  |  |
|    | optimizing the use of resources, nanosensors increase crop productivity. To<br>intensive, and they don't allow for real-time monitoring. By acting as sense                                   | (71)Name of Applicant:  1)Dr. Ann Tank Address of Applicant Assistant Professor-Sr Scale, Dept of Multidisciplinary Engineering, The NorthCop University, Gurugram, Haryana 3)Dr. F. A. Anna Raf, 3)Dr. P. Gurumoorthy 4)Dr. A. Subuch 6)Dr. Rithi Kant Nume of Applicant: NA Address of Applicant: NA (71)Name of Applicant: NA Address of Applicant: NA (72)Name of Applicant: NA (72)Name of Applicant: NA Address of Applicant: NA Address of Applicant: NA (73)Name of Applicant: NA (73)Name of Applicant: NA (74)Name Tonk 1)Dr. Ann Tonk 1)Dr. F. A. Anna Raf, 3 Address of Applicant: Assistant Professor of Scale, Dept of Multidisciplinary Engineering: The NorthCop University, Gurugram, Haryana 3)Dr. I. F. A. Anna Raf, 3 Address of Applicant: Associate Professor and Head, Department of Biotechnology, St. Joseph's College of Engineering, OMR, Chemai  7)Dr. P. Carumoorthy Address of Applicant: Associate Professor, Department of Department of Chemistry, Er. Perman Mammedalist College of Engineering (Autonomous), Hour 40)Dr. A. Subush Address of Applicant: Associate Professor, Department of Department of Chemistry, Er. Perman Mammedalist College of Engineering (Autonomous), Hour 158. Arunkunar Address of Applicant: Associate Professor, Department of Mechanical Engineering, SNS College of Technology, SNS Kalvi Nagar, Suby Main Road, Combatore  60)Dr. Rithi Kant Address of Applicant Assistant Professor, Department of Chemistry, GNA University, Snr Engineering (Papping), Papping, Papping |  |
|    | the main agricultural management processes that nanotechnology keeps an<br>quality, lowering agricultural imputs, improving soil absorption of nanosca<br>No. of Pages : 10 No. of Claims : 1 | lity, and sustainable agriculture all depend heavily on the health and quality of the soil. One of<br>ney one is it in typ time. Many other possible advantages include improving food safety and<br>le nutrients, etc.  |  |
|    |   |  | Dr. M. Chamundeeswari <b>Mentor</b> for <b>WISE-Ph.D</b>                           |
|    |   |  | Scholarship has a sanctioned order for Rs. 19,01,880/- fby Department of Science & |
|    |   |  | Technology (DST) , New Delhi for the Project                                       |
|    | FUNDED PROJECTS\  |  | Title: "Microalgal cultivation utilizing sequestered                               |
| 8. | TONDED I ROJECTS  |  | CO₂ from Plastic Biodegradation through soil                                       |
|    |   |  | microbiome incorporated Metal nanoparticles – A                                    |
|    |   |  | circular bioeconomic approach"   |
|    |   |  | Mr. R. Pravin, a full-time research scholar under the                              |
|    |   |  |  |

supervision of Dr. G. Baskar, has been awarded an



GOVERNMENT OF INDIA Ministry of Science & Technology Department of Science & Technology DST/WISE-PhD/ET/2024/16 (G) (WISE KIRAN)

> Technology Bhawan, New Delhi Dated: 23/89/2824

### Sanction Order

Subject: Financial assistance for the project entitled "Microalgal cultivation utilizing sequestered CO2 from Plastic Biodegradation through soil microbiome incorporated Metal nanoparticies - A circular bioeconomic approach" submitted by Ms. Mohanapriya P, ST JOSEPH S COLLEGE OF ENGINEERING, CHENNAI, KANCHIPURAM, TAMILNABU, 603119. Release of the First innullment regarding

Sanction of the President is hereby accorded to the approval to the above mention project at a total cost of Rs. 19,01,884/ (Rupers Ninetees Lakh One Thousand Eight Handred Eighty only) for a duration of 3 Years. The detailed breakup of the grant for General as well as Capital Components are given below:

General Component : ₹ 19,01,880/-Capital Component : ₹ 0.00/-

|                                    | Budget Summary (in Rs.) |        |        |         |  |  |
|------------------------------------|-------------------------|--------|--------|---------|--|--|
| Bent                               | Near-T                  | Year-2 | Year-3 | Total   |  |  |
| 1- Non-Recurring                   |                         |        |        |         |  |  |
| Subtotal (Capital)                 | 0                       | 0      | 0      |         |  |  |
| 2- Recurring                       |                         |        |        |         |  |  |
| Project Staff                      | 444000                  | 444000 | 444000 | 1332000 |  |  |
| WISE PhD Fellow-1 (@Rs. 37000'-pm) | 444000                  | 444000 | 444000 | 1332000 |  |  |
| Overhead                           | 50000                   | 50000  | 50000  | 150000  |  |  |
| HRA-@9%                            | 39960                   | 39960  | 39960  | 119880  |  |  |
| Research Grant-                    | 100000                  | 100000 | 100000 | 300000  |  |  |
| Subtotal (General)                 | 633960                  | 633966 | 633960 | 1901880 |  |  |
| Total Project Cost<br>(Cap.+ Gen.) | 633960                  | 633960 | 633960 | 1901880 |  |  |

2. The sanction of the President is also accorded to the release of Rs. 6,33,960: (Rupces St. Lakh Thirty Three Thousand Nine Hundred Sixty only) to the "Director/Registran/Principal/Controller/Comptroller, ST JOSEPH S COLLEGE OF ENGINEERING" being the First installment of grant as mentioned above table under "General Component" for the above mentioned roots.

3. The expenditure involved is debitable to Demand No. 89 , Department of Science & Technology for the year 2024-2025 :

| 3425                 | Other Scientific Research(Major Head)                                      |
|----------------------|--|
| 3425.60              | Others : (Sub-Major Head)  |
| 3425.60.200          | Assistance to Other Scientific Bodies(Minor Head)                          |
| 3425.60.200.68       | Science and Technology Institutional and Human Capacity Building(Sub Head) |
| 3425.60.200.68.01    | Disha Programme for Women in Science                                       |
| 3425.60.200.68.01.31 | Grants-in-aid General  |
|                      | (Previous: 3425.60.200.55.01.31)   |

Copy of sanctioned order

international travel grant of Rs. 1.2 lakhs by DST-SERB to present his research at the GTSE24 conference on Green Technology for a Sustainable Environment



| Copy | of pro | of – | Mr. | R. | Pravin |
|------|--------|------|-----|----|--------|
|------|--------|------|-----|----|--------|

| DEPARTMENT OF CHEMICAL ENGINEERING |   |  |  |  |  |
|------------------------------------|---|--|--|--|--|
| S.No.                              | Title of the Events and Photographs                       | Details of the Event   |  |  |  |
| 9.                                 | COLLABARATIVE QUALITY INITIATIVES WITH OTHER INSTITUTIONS |  |  |  |  |
| 10.                                | INDUSTRIAL VISIT  | On 20.09.2024, IInd Year Students had a Industrial Visit to Anchor Leathers, Pallavaram. Dr.T.Amudha and Mr. Anand Kumar P, Assistant Professor accompanied with students. |  |  |  |

On 20.09.2024 Dr. P. Renuka, Professor, and Dr. S. Sujatha, Assistant Professor from the Department of Chemical Engineering, recently visited Madras Pharma Pvt Ltd, where they met with Mr. Venkad, the Associate Vice President. Dr.S. Vinod Kumar, Associate Professor, Department of Chemical engineering attended a 6 day ATAL Sponsored Faculty Development programe on "Artificial Inteligence Techniques for Advancing Medical Data Processing and Health Care" organized by Department of Information Technology, St. Josephs, College of Engineering on 23.092024 - 28.09.2024. Dr.N.Magesh, Dr.S.Sujatha and Dr.R.Sivaranjanee, Assistant Professor, Department of Chemical engineering attended a 6 day ATAL Sponsored Faculty Development program on "Green 11. FDP/WORKSHOP/CONFERENCE Hydrogen: Innovations in Sustainable Production Techniques for zero carbon future" organized by Excel Engineering College 23.092024 - 28.09.2024.

| 12. | VALUE ADDED COURSES               | - Mr. Santhosh, a third-year student from the Chemical Engineering Department, has successfully completed a specialization certificate on Coursera by finishing four non-credit courses. This achievement highlights his dedication to enhancing his skills and knowledge beyond the classroom, further enriching his academic and professional development.   |  |
|-----|-----------------------------------|--|--|
|     |                                   | The state of the s |  |
| 13. | COMPETITIONS ATTENDED BY STUDENTS | <ul> <li>On September 19<sup>th</sup> Students from Department of Chemical Engineering has participated in "Greenhack-24" organised by SSN College of Engineering and Won First Prize.</li> <li>On Sptember 20<sup>th</sup> Students from Department of Chemical Engineering has participated and won prizes in "Chemersatz'24" a National Level Technical Symposium Organised by Hindusthan College of Engineering and Technology.</li> <li>On Sptember 27 and 28 Students from Department of Chemical</li> </ul>   |  |

|     |                              | Engineering has Participated and Won Prizes in "Invente'24" organised by SSn College of Engineering.   |
|-----|------------------------------|--|
| 14. | AWARDS/PRIZE WON BY STUDENTS | *Team 1 : Padmasri, Pradeepa and Gayathri *Team 2 : Kishore and Sriram  Has won first prize in GreenHAck'24 with a cash prize of 9000 each teamIn Chemersatz'24 Students have won multiple prizes in Paper Presentation: Kaviya won II Prize Poster Presentation: Muthusubramanian & Shabeer Ahamed won Ist Prize. Quiz Competition : Sanjay, Jawahirullah & Sandeep won IInd Place Connexion: Santhosh, Hari Balaji, Kaviamudhan & Srivatsan won Ist Prize. Invente' 24 – Organised by SSN College. Maragatha Nanayam (Main Event): 1st Place: Sandeep, Sabin, Aatral (IIIrd Year) 2nd Place: Gokul, Dharani, Surya (IVth Year) 3rd Place: Lewyn D, Harish ,Mohammed Aasif(IInd Year) Quiz: 1st Place: Samiha, Ishana, Shabeer (IVth Year) 2nd Place: Sabarigirish, Lewin, Shivanesh (IVth Year) 3rd Place: Santhosh, Maria, Lakeisha (IIIrd Year) Escape Room: 1st Place: Santhosh, Maria, Lakeisha (IIIrd Year) 3rd Place: Sabin, Aatral, Amritha, Aron (IIIrd Year) Fall Guyzz: 1st Place: Manohari, Thanushri (IIIrd Year) 2nd Place: Dynisha, Devika (IIIrd Year) 3rd Place: Yugesh, Hemachadran, Sudhan (IVth Year) Kahoot: 2nd Place: Dynisha, Devika (IIIrd Year) |

Paper Presentation:

2nd Place: Samiha, Ishana, Sakthivel (IVth Year)

**Poster Presentation:** 

2nd Place: Rajesh, Venkat, Sabari (IVth Year)

**Auction Avenue:** 

1st Place: Rajesh, Sabari, Venkat, Hariharan (IVth Year) 2nd Place: Biswin, Navin, Jeffresh, Dhanush (IVth Year) 3rd Place: Sudhan, Keshoke, Yugesh, Hemachandran (IVth Year)

Year)

CUO Krishna Aak, a IIIrd Year Chemical Engineering student from St. Joseph's College of Engineering, has secured the Bronze Medal in the Judging Distance and Field Signals event at the prestigious Thal Sainik Camp 2024, held in New Delhi.



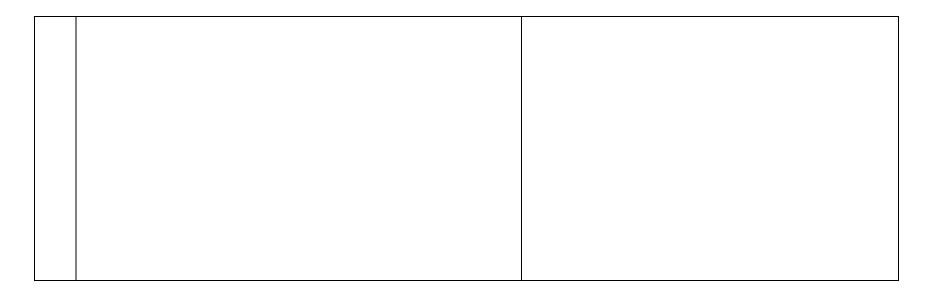


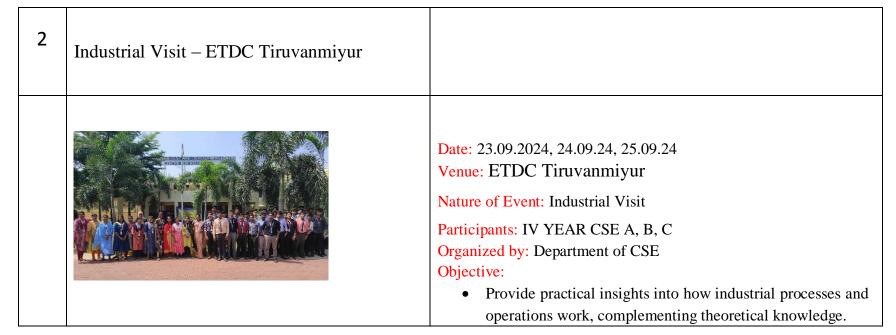
- Ms. Ishana Karan, a final-year student from the Department of Chemical Engineering, has successfully cleared the IELTS exam with impressive scores. She achieved 160/170 in Verbal Reasoning, a perfect 170/170 in Quantitative Reasoning, and 5/6 in Analytical Writing. Her outstanding performance reflects her strong analytical and communication skills, further highlighting her academic excellence.

15. INDUSTRIAL PROJECTS DONE BY STUDENTS

| 16. PUBLICATIONS(ONLY PUBLISHED) DETAILS | S.Sanjay, IV year Chemical Engineering Student has published a journal Title "Recent progress in ceramic membrane technology for the removal of emerging contaminant from wastewater: a critical review" in Chemical Engineering Communication Journal.  - Dr.S.Sujatha, Assistant Professor, Department of Chemical Engineering has published a journal titled "Metal—organic framework-enabled biomass conversion technologies for microalgae bio-refinery in the food industry" in Science of Food and Agriculture Journal.  - Dr.R.Sivaranjanee, Assistant Professor, Department of Chemical Engineering has published a journal titled "Advancements and environmental impact of hydrothermal processing of algal biomass" in Biomass Conversion and Biorefinery Journal.  - Dr.N.Venkatesh, Professor, Head of the Department, Department of Chemical Engineering has published a Patent Titles "Importance of marketing research in enhancing the service level to manufacturing company"  - Dr.N.Magesh, Assistant Professor, Department of Chemical Engineering has published a Patent Tutled "An IOT-Enabled High-Gain Antenna System for Enhanced 5G communication networks" |
|--|---|
|--|---|

|         | DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  |  |  |  |  |  |  |
|---------|---|--|--|--|--|--|--|
| SI. No. | Event with Photo  | Description  |  |  |  |  |  |
| 1       | CSI Event – Future FORGE 2.0  | Date: 30 .9.2024 Venue: Placement Block Nature of Event: CSI EVENT Participants: 15 Teams Organized by: Department of CSE Objective:  Develop new solutions, products, or technologie in a short time frame, pushing the boundaries of   |  |  |  |  |  |
|         | St. Joseph's College Of Engineering (An Autonomous Institutions)  The Choice of Disciplined Toppers | <ul> <li>creativity and problem-solving.</li> <li>Bring together diverse individuals to work as a team, share knowledge, and build professional connections.</li> <li>Provide hands-on experience to learn new skills and tools while rapidly prototyping and testing ideas.</li> <li>Outcome:</li> <li>Fresh ideas, prototypes, or solutions that address specific problems or create new opportunities.</li> <li>Strengthened relationships and improved teamwork among participants, often leading to future collaborations.</li> <li>Enhanced skills and knowledge for participants through hands-on experience and problem-solving</li> </ul> |  |  |  |  |  |





|   | Chennai, Tamil Nadu, India S.R.P. Tools, Tharamani, Chennai, Tamil Nadu 600096, India Lat 12.979808 Long 80.252286 25/09/24 10:53 AM GMT +05:30 | <ul> <li>Familiarize participants with real-world applications, technologies, and best practices used in the industry.</li> <li>Offer a glimpse into potential career paths, company cultures, and job roles within the industry.</li> <li>Outcome:         <ul> <li>Gained practical knowledge of industrial processes, technologies, and operations.</li> <li>Exposure to industry practices, challenges, and solutions, bridging the gap between theory and practice.</li> <li>Increased awareness of potential career opportunities and insights into different roles and company cultures.</li> </ul> </li> </ul> |
|---|---|--|
| 3 | Industrial Visit – ETDC Tiruvanmiyur  |  |
|   |   |  |
|   |   | Date: 26.09.2024  Venue: ETDC Tiruvanmiyur  Nature of Event: Industrial Visit  Participants: II YEAR CSE A  Organized by: Department of CSE  Objective:  • Provide practical insights into how industrial processes and operations work, complementing theoretical knowledge.  |



- Familiarize participants with real-world applications, technologies, and best practices used in the industry.
- Offer a glimpse into potential career paths, company cultures, and job roles within the industry.

#### Outcome:

- Gained practical knowledge of industrial processes, technologies, and operations.
- Exposure to industry practices, challenges, and solutions, bridging the gap between theory and practice.
- Increased awareness of potential career opportunities and insights into different roles and company cultures.

<sup>4</sup> Industrial Visit- NIOT , Pallikaranai, Chennai

Date: 27.09.2024



Venue: ETDC Tiruvanmiyur

Nature of Event: Industrial Visit

Participants: II YEAR CSE B & D Organized by: Department of CSE

Objective:

• Provide practical insights into how industrial processes and operations work, complementing theoretical knowledge.

• Familiarize participants with real-world applications, technologies, and best practices used in the industry.

• Offer a glimpse into potential career paths, company cultures, and job roles within the industry.

#### Outcome:

- Gained practical knowledge of industrial processes, technologies, and operations.
- Exposure to industry practices, challenges, and solutions, bridging the gap between theory and practice.
- Increased awareness of potential career opportunities and insights into different roles and company culture.

WORKSHOP - "Neuro pulse-2"

5



Date: 11.09.2024 & 12-9-24

Venue: Placement Block

Nature of Event: WORKSHOP - "Neuro pulse-2"

Participants: II YEAR CSE

Organized by: Department of CSE

Objective:

• To support students in developing their computational thinking skills

• It helps children to engage in open ended problems which require the use of decomposition, modelling and algorithms.

# Outcome:

- To increase your chances of getting a job and a lucrative career.
- Along with improving your professional skills and knowledge, your confidence gets boosted and it reflects in your personality.

|    | DEPARTMENT OF MECHANICAL ENGINEERING   |   |  |  |  |  |  |
|----|--|---|--|--|--|--|--|
| Sl | Name of the Activity   | Remarks   |  |  |  |  |  |
| No |  |   |  |  |  |  |  |
| 1  | Sc. JOSEPH'S COLLEGE OF ENGINEERING  You Choose, We Do It  (AN AUTONOMOUS INSTITUTION)  OMP. CHENNAI - 119 | On 14 <sup>th</sup> September, 2024 Department of Mechanical<br>Engineering Organized |  |  |  |  |  |
|    | DEPARTMENT OF MECHANICAL ENGINEERING   |   |  |  |  |  |  |
|    | ALUMNI INTERACTION PROGRAMME   | Alumni Interaction with Mr E Sriram, Production and Quality                           |  |  |  |  |  |
|    | FOR III YEAR MECHANICAL ENGINEERING STUDENTS   | Trainee, Lucas  |  |  |  |  |  |
|    | ВУ   | TVG D 1' A D 1 A1 ' CD 4 1 2010 22 H 1 ' 4  |  |  |  |  |  |
|    | Mr. SRIRAM. E, Production & Quality Trainee, Lucas TVS   | TVS, Padi, A Proud Alumni of Batch 2019 23 He also going to                           |  |  |  |  |  |
|    | INSTITUTION'S INSTITUTION'S COLORGE.  14 SEPTEMBER, 2024.  | do Higher   |  |  |  |  |  |
|    | 7  | Studies in Germany, He gave a clear vision to the Present Third                       |  |  |  |  |  |
|    |  | Year regarding the Core Company Expectation on current                                |  |  |  |  |  |
|    |  | engineers on hiring and how to prepare for Higher Studies and                         |  |  |  |  |  |
|    |  | how to Choose Universities Abroad.  |  |  |  |  |  |
|    | St. JOSEPH'S The Choice of Disciplined Toppers   |   |  |  |  |  |  |

4



Our distinguished Alumnus Alan Kevin From the Class of 2010 (Mechanical Engineering Formerly the Directeur Général of Spiro and Chief Operating Officer at MAuto Electric Mobility Pvt Ltd the largest electric vehicle company in Africa, visited our college on 6 th september He initiated discussions about a startup focused on three wheeled electric vehicles with battery swapping capabilities

3



On 9<sup>th</sup> September a special lecture for final year mechanical students, led by our faculty, to aid in securing core company job offers and improve placement prospects

4



As part of SAE Student Chapter Activity, Mechanical

Department students

from 2024 passed out students, 4<sup>th</sup> and 3<sup>rd</sup> year Students participated in

Drone Design Challenge 2024 took place in SRMIST

Kattankulathur

28/08/2024 to 31/08/2024 100 Teams from All over India participated in this

Event from 3 level of Scrutiny which is happening from July

2023. From 800

Teams 100 teams where shortlisted in Micro Class Aircraft

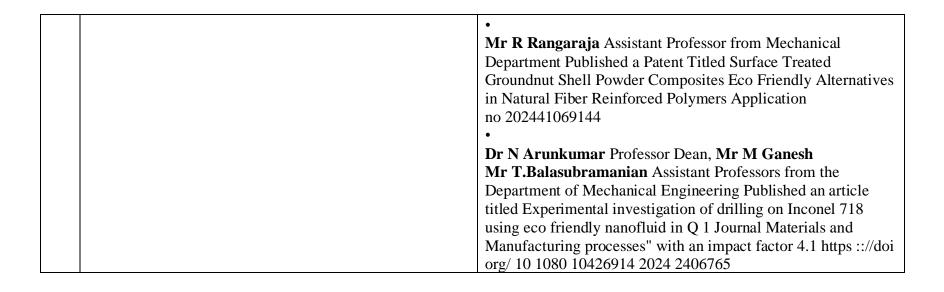
Category Team

ACES HIGH Being Finalist we secured All India Rank 8th out of 50 top

teams and state rank 2 nd out of 22 State teams



|    |   | person, Mr PG Ramanan Director, CADDAM Technologies He gave a clear insight about the Different CADD Tools used in Industries and the pre requisites a student must have while joining Core Industries.   |
|----|---|---|
| 8  | St. JOSEPH'S COLLEGE OF ENGINEERING Tou Chour, We Too It (AN AUTONOMOUS INSTITUTION) OMR, CHENNA! - 19  TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY  [Government of Tamil Nadu] STUDENTS PROJECT SCHEME 2024  GRANT RECEIVED PROJECT TITLE  Sustainable design and development of a cost- effective vacuum pump from waste water  MENTOR  Dr. R. Selvam Associate Professor  Mr. Aaron Felitto. M Mr. Badhrinath. S  The Choice of Disciplined Toppers | Dr R Selvam, Associate Professor from Department of Mechanical Engineering, along with Two final year Students, Mr M Aaron Felito Mr S Badrinath received Grant of Rs 7500 from Tamil Nadu State Council for Science and Technology for the Title Sustainable Design and Development of a Cost Effective Vacuum Pump for Waste Water'   |
| 9. | Patent and Paper Publications:  | Dr T Gavaskar, Assistant Professor from Mechanical Department Published a Patent Titled Characterization and Fabrication Methods Curalia Fiber Reinforced Green Composites" Application no 202441070058  Mr J Mariyappan Assistant Professor from Mechanical Department Published a Patent Titled Advancement and Challenges in Additive Manufacturing of 3 D Printed Polymer Composites Materials, Processes and Future Directions Application no 202441069720 |



#### DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

#### **Events conducted:**

The following events have been conducted during September 2024 at College Level



## Report

On September 23, 2024, a transformative placement talk titled "Core Dreams to Core Reality" was held, featuring esteemed alumnus Mr. Hariram Kumar S, a SoC Design Engineer at Intel Technology India Pvt. Ltd. The event saw an enthusiastic turnout of 190 students eager to gain insights into the engineering industry.

Key points covered during the session included:

- Challenges and Opportunities: Mr. Kumar elaborated on the dynamic landscape of core ECE companies, detailing both the challenges faced by engineers and the vast opportunities available in the industry.
- Skill Development: He stressed the importance of continuous learning and skill enhancement, encouraging students to engage in practical projects and internships to bolster their resumes.
- Industry Readiness: Practical guidance was offered on navigating the engineering landscape, including tips on networking, preparing for interviews, and adapting to industry trends.



# 2. Placement Empowerment Program

# A) -Nokia Industry-academia Conclave



# Report

Department of Electronics and Communication Engineering in association with 5G/6G Technology Innovation Centre - Placement Empowerment Program Centre.

15 Students and 3 Faculty Members attended Nokia Industry-academia Conclave "FutureX with GenZ" as part of the Engineers Day celebration organized by Nokia Chennai University Collaboration (NCUC) Team on September 18, 2024.

Students attended a Keynote address on "Nokia's Technology Vision" and a panel discussion on "Where are the networks heading?". Student engagements included Lab Visits, Career Mentoring, Virtual Factory Tour, a broad coverage of Nokia Services and Alumni connect.



# B) Placement Empowerment Program 5G/6G Technology Innovation Centre



# Report

5G & 6G Exploration Toolbox Workshop The Department of Electronics and Communication Engineering, in partnership with the 5G/6G Technology Innovation Centre - Placement Empowerment Program Centre (PEPC), successfully conducted a two-day workshop on "5G & 6G Exploration Toolbox" for III Year Students from September 27 to 30, 2024. Dr. Vivek Ashokan, Regional Manager from ARK Infosolutions Pvt. Ltd., Chennai, served as the resource person. The workshop provided participants with a deep dive into the 5G Toolbox within MATLAB, covering topics such as waveform generation, channel modeling, beam steering, and map-based visualization. Through practical exercises, attendees gained hands-on experience in creating and analyzing radio waveforms, implementing channel models, understanding beamforming techniques, and visualizing 5G network parameters on maps. This workshop equipped participants with valuable knowledge and skills to explore the exciting world of 5G and 6G technology.



# C) Placement Empowerment Program **5G/6G Technology Innovation Centre**



#### DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

in association with

PLACEMENT EMPOWERMENT PROGRAM CENTRES









Workshop on "MATLAB for AI Developers"







Senior Application Engineer - MATLAB, ARK Infosolution Pvt Ltd. Chennai.







# Report

MATLAB Workshop for AI Developers The Department of Electronics and Communication Engineering, in collaboration with the 5G/6G Technology Innovation Centre - Placement Empowerment Program Centre (PEPC), successfully conducted a workshop on "MATLAB for AI Developers" on September 26, 2024. Mr. S. Afsal, a Senior Application Engineer from ARK Infosolutions Pvt. Ltd., Chennai, led the session, providing participants with a comprehensive introduction to MATLAB and its applications in AI, ML, and DL. The workshop covered topics such as data analysis, modeling, visualization, feature extraction, machine learning model building, deep learning concepts, and webcam object recognition. Participants were also introduced to MATLAB's integration with Python and various learning resources. The workshop concluded with a Q&A session, summarizing the key takeaways and providing participants with valuable insights into MATLAB's potential in their AI development endeavors.





### Report

The SEERA program operates with the core mission of enhancing students' employability by providing them with the technical and soft skills required by today's employers. The program's focus areas include technical skill development, career strategy sessions, and communication enhancement techniques.

Key highlights of the program include:

- Hands-on training in coding with modules in C, Python, and Java.
- Communication workshops aimed at improving students' active listening and nonverbal communication skills.
- Insights into key industry-relevant skills, along with guidance on presenting these skills to potential employers.
- Preparatory strategies for competitive exams like GATE 2025 (Graduate Aptitude Test in Engineering), which is essential for students aspiring to pursue higher education or enter public sector undertakings.





STUDENTS EMPLOYMENT ENHANCEMENT RESEARCH ACTIVITIES



OUTCOMES











19-09-2024 3:30pm to 5:00pm



- Gained insights into key skills employers seek and how to present them effectively.
   Learned techniques to enhance
- communication through active listening and nonverbal cues.
- Acquired essential strategies and tips to approach the GATE 2025
   Practiced coding Modules in C. Python
- Practiced coding Modules in C, Python, Jawa.
- Motivated students to get better insights in Digital Electronics



# Report

The SEERA session concluded with participants leaving with a clearer understanding of the challenges and opportunities that lie ahead in their career paths. The key outcomes of the event were:

- Enhanced understanding of the placement process, reducing student anxiety and confusion regarding job interviews and corporate expectations.
- Greater awareness of digital etiquette, enabling students to maintain professionalism in both physical and virtual interactions.
- Improvement in communication skills, particularly in scenarios that require engagement and dialogue, such as interviews or presentations.
- Practical coding experience in programming languages like C,
   Python, and Java, which are essential for modern technical roles.
  - A deeper appreciation of digital electronics, which will help students in projects, internships, and future job roles.





STUDENTS EMPLOYMENT ENHANCEMENT RESEARCH ACTIVITIES















27-09-2024 Friday

3:30pm to 5:00pm

- Navigated the bits and bytes of placement processes.
- Emphasized digital etiquette for a brighter future.
- Gained strong communication skills that enhanced engagement. Explored pathways to higher education that opens doors to new opportunities.
- Gained experience with coding modules in C, Python, and Java.
- Encouraged students to deepen their understanding of digital electronics.

# C) SEERA Activity - 3



#### You Choose, We Do It St. JOSEPH'S COLLEGE OF ENGINEERING

(An Autonomous Institution)
St. JOSEPH'S GROUP OF INSTITUTIONS OMR, CHENNAI - 119





#### **DEPARTMENT OF**



STUDENT EMPLOYABILITY ENHANCEMENT RESEARCH ACTIVITIES

#### SEERA



Dr. D. SUMITHRA SOFIA

Topic: Resume Building





Dr. B. VICTORIA JANCEE



Dr. D. LAKSHMI

**Topic: Mock Interview** 





Course: Mentoring and **Tutoring Session** 



Dr. S. VINAYAGAPRIYA Mrs. P. Thenmozhi Topic: Group Discussion











Topic: Approaching Control System for GATE Success





BLOCK













# Report

On September 11, 2024, the ECE department conducted SEERA activities to enhance students' employability. Participants learned resume-building techniques, practiced mock interviews, and developed technical and soft skills through Skillrack. Special classes focused on challenging subjects, while an ABHS class prepared students for the GATE exam's control systems section. These activities aimed to equip students with the necessary skills for career success.





### D)SEERA Activity - 4





St. JOSEPH'S GROUP OF INSTITUTIONS OMR, CHENNAI - 119



STUDENT EMPLOYABILITY ENHANCEMENT RESEARCH ACTIVITIES **SEERA** 





Dr. D. SUMITHRA SOFIA Topic: Approaching **Electronic Circuits for GATE** Success



Dr. SURESH M Course: Mentoring and **Tutoring Session** 



Dr. B. VICTORIA JANCEE





IV ECE-C Topic: AVASOFT INTERVIEW PREPARATION



IV ECE-B Topic: Avasoft Interview Preparation







Dr. SIVAGURUNATHAN Dr. P. LATHA Topic: Mock Interview



Dr. NIRUBAN R

**Topic: Resume Building** 



















ECE





# **Report**

The SEERA program continued its focus on equipping students with essential skills for success. In the digital electronics class, students delved into multipliers and multiplexers, gaining practical knowledge through hands-on exercises. The Avasoft interview preparation class emphasized effective communication, technical skills, and problemsolving techniques. The mock interview sessions provided valuable practice and feedback. Special classes catered to the needs of slow learners, offering personalized instruction and support. The Skillrack class focused on enhancing coding skills through interactive challenges. Finally, the resume building class provided students with the tools to create compelling resumes that showcase their qualifications



#### 4. Industry Interaction

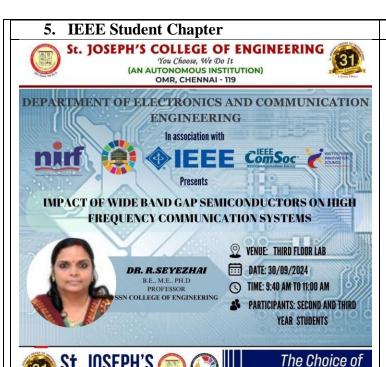
# Report



Industry-Academia Collaboration: A Successful Visit to Struent Semiconductors!!!

ECE Department faculties have visited Struent Semiconductors Private Limited in Chennai was a fruitful endeavor to explore potential collaborations between our institution and the semiconductor industry. They made a Productive discussions with Mr. Hiram Prassanna S, Founder and CEO, and Mrs. Anitha Stalin, Chief Operating Officer, regarding potential partnerships. Key topics included aligning our VLSI Design syllabus with industry needs, offering paid internships and training programs to enhance practical skills, and exploring placement opportunities and a potential Memorandum of Understanding (MoU). This visit marked a significant step towards fostering stronger industry-academia connections and preparing our students for future careers in the semiconductor field.

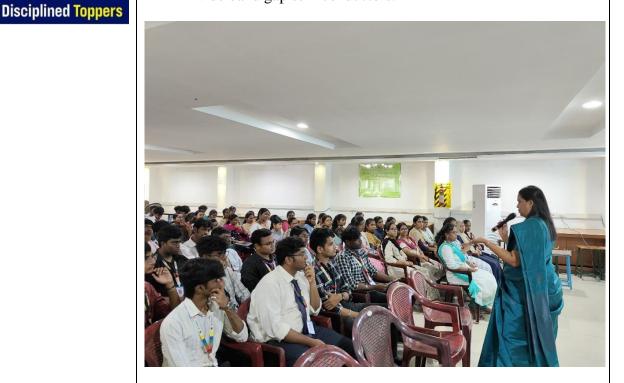




## Report

The Department of Electronics and Communication Engineering at St. Joseph's College of Engineering, in association with IEEE, organized a seminar titled "Impact of Wide Band Gap Semiconductors on High Frequency Communication Systems". This event aimed to provide valuable insights into the transformative potential of wide band gap (WBG) semiconductors, particularly in the field of high-frequency communication. The session was part of the institution's ongoing effort to expose students to cutting-edge technologies and trends in the electronics and communication domain. Students gained a clear understanding of the following:

- The fundamental properties and advantages of wide band gap semiconductors over traditional materials.
- How WBG semiconductors contribute to the advancement of high-frequency communication systems.
- The various industrial applications of WBG semiconductors in communication, automotive, and energy sectors.
- Future research and development opportunities in the field of wide band gap semiconductors.



### 6. IET Student Chapter



# Report

The Department of Electronics and Communication Engineering at St. Joseph's College of Engineering successfully hosted an insightful talk on 27th September 2024, focusing on the introduction of the IET (Institution of Engineering and Technology) Student Chapter to 2nd-year students. The session, led by Ms. Saudamini Dutta from IET Bangalore, aimed to familiarize students with the offerings and professional benefits of being associated with IET.

**Key Discussions:** 

- Overview of IET: Ms. Dutta provided a comprehensive introduction to the IET, emphasizing its global presence and professional stature.
- Student Benefits: The speaker highlighted the exclusive advantages of IET membership, including access to international scholarships, participation in global competitions, and numerous career development resources.
- Career Growth and Networking: Emphasis was laid on the role of IET in enhancing students' professional networks, offering mentorship, and unlocking career opportunities through internships and industry exposure.



# 7. A) Optica Student Chapter Event 1



**Disciplined Toppers** 

# Report

The Edit Forge Workshop was a comprehensive, hands-on event designed to enhance the video editing skills of 2nd-year ECE students. Over three days, participants were guided by skilled resource persons from the 3rd-year ECE class, who introduced cutting-edge software tools for multimedia editing. The focus was on three key tools: Adobe After Effects for motion graphics and visual effects, CapCut for simple yet powerful mobile video editing, and DaVinci Resolve for professional color grading and editing.





### B) Optica Student Chapter Event 2



# Report

Evo-Quest was an initiative organized by the OPTICA Student Chapter to provide an interactive platform for second-year ECE students to develop essential skills relevant to their academic and future professional endeavors. The event was designed to enhance communication, teamwork, and management skills through engaging activities, quizzes, and workshops.

The primary objectives of Evo-Quest were:

- To improve students' communication skills in both verbal and written formats.
- To foster teamwork and collaboration through competitive quizzes.
- To equip students with foundational management skills crucial for effective project execution.







The Choice of Disciplined Toppers

# Report

TechnoCAD: A Circuit Design Competition

The IETE Student Chapter hosted a thrilling circuit design competition, TechnoCAD, on September 24, 2024. Held in the ECE lab, the event challenged students to showcase their creativity and technical skills using Tinkercad. Participants were tasked with designing and simulating various circuits, including smoke alarms, LED buzzer interfaces, humidity sensors, traffic lights, LED displays, and circuits of their own choosing. Teams competed against the clock to complete as many circuits as possible, with the winners determined by the number of successfully completed designs. The event was a great opportunity for students to learn and apply their knowledge of circuit design in a fun and competitive environment.



# B) IETE- Student Forum - Industrial Visit CSIR-CEERI



# Report

A Deep Dive into Cutting-Edge Research: Exploring CSIR-Madras On September 26, a group of ECE students embarked on an enriching journey to explore the CSIR-Madras complex, delving into the groundbreaking research conducted at CSIO and CEERI labs. At CSIO, they learned about the innovative electrospinning process, a nanotechnology used to create ultra-fine fibers, and the precision of acoustic sensing for various applications. Their visit to CEERI introduced them to the advanced terahertz system, a powerful tool for material characterization and imaging. Moreover, they gained valuable insights into the non-invasive edible oil detection method developed at CEERI, ensuring quality and safety through advanced analysis techniques.





# 9. Entrepreneur Development Cell

# Seer, H. Sell

#### St. JOSEPH'S COLLEGE OF ENGINEERING

You Choose, We Do It (AN AUTONOMOUS INSTITUTION) OMR, CHENNAI - 119





# ENTREPRENEUR DEVELOPMENT CELL

Present

# **GUEST LECTURE**

on

Healthcare Startups: Turning Vision into Valuable Impact



DR. NABEEL PM LEAD RESEARCH SCIENTIST CARDIOVASCULAR SCIENCE & ENGINEERING HTIC - IIT MADRAS

- 04-09-2024 WEDNESDAY
- Library AV hall
- ( 10:30 am 12:00 pm







#### Report

Dr. Nabeel from IITM Research Campus delivered a guest lecture on September 4, 2024 to Second year ECE Students, highlighting the innovative potential of healthcare startups. He emphasized the rapid growth of the sector, driven by technological advancements and personalized healthcare solutions. Dr. Nabeel provided a comprehensive overview of different categories within health startups, including telemedicine, wearable devices, digital therapeutics, and AI-driven diagnostics.





### 10. Employability Course

#### A) Robotics and Automation



# Report

The Department of Electronics and Communication Engineering, in collaboration with the Tamil Nadu Smart and Advanced Manufacturing Centre of Excellence (TANSAM), conducted a Robotics and Automation course for third-year ECE students specializing in Robotics. 47 ECE students participated in the course, which took place from September 13th to 14th, 2024.



# **B)** System Verilog for Verification



# Report

The Edveon Expert Team conducted a 5-day intensive training program for ECE Students from September 9 to 13, 2024, focused on equipping students with the essential skills in System Verilog for VLSI chip verification using the QuestaSim EDA tool. This comprehensive course, attended by 47 students from the 3rd and 4th years of their respective programs, provided a deep dive into VLSI chip design, covering its components, architecture, and intricacies. Through hands-on exercises and assessments, participants gained valuable practical knowledge and skills, preparing them for successful careers in the field of VLSI chip design.



# C) 5G Deep Dive



# Report

The "5G Deep Dive" program, conducted by TelcoLearn from September 9 to 14, 2024, was an intensive course for 39 III Year ECE students at the 5G/6G Technology Innovation Centre. Led by Mr. Sanjay Kumar, with over 20 years of telecom experience, the course covered wireless fundamentals, 2G-4G overviews, 5G evolution, network architecture, NR layers, core networks, Telco Cloud, and hands-on 5G lab setups. Students engaged in practical exercises using MATLAB and srsRAN & pen5GS and underwent six assessments. The program aimed to enhance students' employability in the 5G field.



#### D) FPGA Prototyping



# Report

The workshop on FPGA Prototyping was organized for ECE students, led by Mr. Vinnalan K.A from CoreEL Technologies, Bangalore, on September 5th and 6th, 2024, focused on equipping participants with FPGA development skills using Zedboard and Vivado. Participants delved into the 7-Series architecture, mastered design flow, RTL implementation, hardware debugging, and embedded system design.



# E) Data Analytics



# Report

IQMATH's Data Analytics course, specifically designed for 3rd-year ECE students, aims to equip them with the skills to leverage data for informed decision-making, improved efficiency, and enhanced customer experiences. The course, with 65 participants, covers data analytics fundamentals, enabling students to gain a competitive edge, drive revenue growth, manage risk, foster innovation, reduce costs, and streamline processes. By embracing data analytics, students can unlock new possibilities, drive growth, and stay ahead in today's data-driven business landscape.



# 11. NGO Activities Report



A Day of Compassion and Connection

On September 4th, 2024, a group of Second year students embarked on a heartwarming journey to the New Hope and New Life Trust - Children Home in Perumbakkam. The day was filled with laughter, learning, and a deep sense of connection as we interacted with the children who call this home. The day was a testament to the positive impact this NGO has on the lives of the children it serves.



#### 12. Industrial Visit

# A) Air Traffic Management and Airport Authority of India



# Report

Our II Year ECE students had the opportunity to embark on an enriching industrial visit to the Air Traffic Management (ATM) and Communication Navigation Surveillance (CNS) facilities, as well as the Airport Authority of India (AAI). This visit provided invaluable insights into the intricate workings of air traffic management, including the advanced technologies used to ensure safe and efficient air travel. Students gained a deeper understanding of safety protocols, regulatory compliance, and potential career paths within the aviation sector. The visit also offered valuable networking opportunities with industry professionals.



B) Tamil Nadu Smart and Advanced Manufacturing Centre of Excellence (TANSAM)





A group of students from the department of ECE visited TANSAM on September 26, 2024. It was an eye-opening experience that provided invaluable insights into the cutting-edge technologies shaping the future of manufacturing. From AR/VR to machine learning and Industry 4.0, students gained a comprehensive understanding of how these advancements are transforming industries. The live demonstrations of metal 3D printing and the basics of electric vehicles further enriched our learning. This visit equipped them with practical knowledge that will complement our academic pursuits.



# 13. FDP/Workshop:

The following staff member have participated in various FDP/Workshop conducted by other institutions during the month of September at National/International level.

| S.NO | Name of the Faculty   | Title of the professional development program   | National /<br>Internation<br>al | Worksho<br>p/<br>FDP/Co<br>nference/<br>STP | Date and<br>Duration<br>(from – to) | No. of<br>Days | Place of the<br>Program/<br>Conducted by               |  |
|------|-----------------------|---|---------------------------------|---|-------------------------------------|----------------|--|--|
| 1.   | Mrs.P.Thenmozhi       | Innovation and Design<br>Challenges in Antenna and RF<br>Devices for Next Generation<br>5G/6G Wireless<br>Communication | National                        | FDP   | 23/09/24 to<br>28/09/24             |                | Sri Manakula<br>Vinayagar<br>Engineering<br>College    |  |
| 2.   | Dr. D. Sumithra Sofia | Recent Advances Trends and<br>Challenges in Material<br>Characterization and<br>Technique                               |                                 | FDP   | 9/9/24 to<br>14/9/24                | 6              | koneru<br>Lakshmaiah<br>Education<br>Foundation, India |  |

# 14. Patent Published

The following staff member have published patent during the month of September 2024.

| S. No. | Country and Application No. | Name of the Applicants | Name of the<br>Patentee | Patent Title  | Date of<br>Filing | Date of Publication | Date of<br>Grant |
|--------|-----------------------------|------------------------|-------------------------|---|-------------------|---------------------|------------------|
| 1.     | 202441068113<br>A           | B. VICTORIA<br>JANCEE  | B. VICTORIA<br>JANCEE   | IOT-ENABLED SMART CITY TRAFFIC MANAGEMENT SYSTEM  | 10/09/2024        | 20/09/2024          | -                |
| 2.     | 202441070039<br>A           | Mr. G D Vignesh        | Mr. G D Vignesh         | IOT ENABLED EDGE COMPUTING SYSTEM FOR SMART AGRICULTURE APPLICATIONS                            | 16/09/2024        | 20/09/2024          | -                |
| 3.     | 202441069131<br>A           | Dr. R. Niruban         | Dr. R. Niruban          | Encrypted Federated Learning Framework for Collaborative Model Training with Privacy Guarantees | 12/09/2024        | 20/09/2024          | ı                |

### 11.Publications

The following staff member have published the research papers in Journal/Conferences organized during the month of September at International/National Level.

- 1. Dr.D. Lakshmi, published a journal titled "Hybrid model-based early diagnosis of esophageal disorders using convolutional neural network and refined logistic regression" in EURASIP Journal on Image and Video Processing.
- 2. Elaveni Palanivel, Shirley Selvan, published a journal titled "Unsupervised Multispectral Gaussian Mixture Model-Based Framework for Road Extraction" J Indian Soc Remote Sens (2024). https://doi.org/10.1007/s12524-024-01972-5.

## DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

| SI. | Photographs Captured During Events     | Corresponding remarks (Minimum 300 words)  |
|-----|--|--|
| No. |  |  |
| 1   | Industrial visit- 4 <sup>th</sup> year | As a part of industry institutional teaching, Department of EEE of St. Joseph's College of Engineering has organized an Industrial Visit to AAVIN for the second year students on 17 <sup>th</sup> and 18 <sup>th</sup> September 2024. Total 120 Students and 4 Staffs (60 Students and 2 staffs per day) participated in this industrial visit. The Objectives of this Industrial Visit:  1. To learn the functioning of a milk processing plant 2. To Understand the different milk packaging |
| 2   | Industrial visit- 3 <sup>rd</sup> year | Department of EEE of St. Joseph's College of Engineering has organized a visit to National Institute of Ocean Technology, Ministry Of Earth Sciences, Govt of India for the second year students on 27 <sup>th</sup> September 2024. The Objectives of this Industrial Visit:  |



To learn in detail about the IOT based ocean observatory system.

To gain insights about the SONAR based acoustic systems.

To observe the real time working of Navigation Systems & Marine Sensors.

## 3 Entrepreneurship Cell- Idea spark



The E – Cell of St. Joseph's College of Engineering conducts a plethora of events that encourages entrepreneurship and Innovation among students. One such event took place on 26/09/2024 called Eureka. This event aims to develop short description of an idea, product or company that explains the concept in such a way that the listener can instantly grasp it. Pitching involves conveying your idea in the given time while incorporating frame various like development, aspects design



PIC: EVENT POSTER & PHOTO

implementation, and marketing strategies. Three start - up founders Ms. Revathi Asokan founder of Biteskart, Mr. Deepan Kumar, Founder of Brand Bytes solutions& Fellow Funder & Mr. Swathish. Founder of Vernure are judges for **Eureka event**. The 65 participants participated enthusiastically and the winners of idea pitching Event was awarded with cash prize and certificate.

#### 4 GUEST LECTURE



Our department organized a guest lecture for second vear students topic on the "Opportunities & Challenges of Electric Vehicle in India" by Mr. D. Sudharsan, **Technical** Manager, Senior **Project** Management Schneider Electric, Bangalore, at Library AV Hall on 20th September 2024. The Guest lecture aims to discuss about the key challenges and trends in the evolving electrical power sector towards EV technology and to highlight the various career opportunities in power systems and energy management. The lecture concluded with Emphasizing on skills like simulation tools, renewable technology and Energy management for EV utility.

# PIC: EVENT POSTER Teacher's Day Our department of electrical electronics engineering conducted the teacher's day event on 05th September 2024, where students who scored above 9.0 CGPA and various other academical achievements were awarded with a total cash prize worth Rs 3.55 lakhs from St. Joseph's College of Engineering. PIC: EVENT POSTER

## National level symposium-Jet Potential 2K24



PIC: VISIT PHOTO

The Department of Electrical and Electronics Engineering at St. Joseph's College of Engineering, in collaboration with the Department of Electronics and Instrumentation Engineering. hosted the national-level symposium "JET POTENTIAL-2k24" on 28th September 2024. The event aimed to celebrate knowledge, ignite innovation, and foster collaboration among students from across the country. The symposium saw 274 registrations with 227 participants from 33 colleges, making it a highly competitive and enriching platform for budding engineers. "JET POTENTIAL-2k24" featured five exciting events: E-Talash, a technical treasure hunt; Circuitrix, a circuit design challenge; Technical **Tech-Charades**, **Ouiz:** interactive game that blended engineering with creativity; and Ted Talks, where participants shared their groundbreaking ideas. These events tested participants' technical expertise, problem-solving abilities, and teamwork, encouraging them to push the boundaries of their knowledge. The symposium concluded with an award ceremony recognizing the best performers. The awards were distributed across the various events, with the total prize pool amounting to Rs. 30,000.



Department of EEE has conducted mentor meeting for III year and IV year students on 28<sup>th</sup> September 2024. The mentors motivated the students to do well in their academics. Also, they encouraged them to do online courses and internships.

IEEE activities









The IEEE Standards Workshop and Hackathon was held on September 18, 2024, at Robotic and Process Automation lab (PEP CENTRE) St. Joseph's College of Engineering, Chennai. It was a significant event as St. Joseph's College of Engineering was chosen from across the southern zone to host it. Organized by the IEEE Student Branch (SBC60101), in association with the IEEE India Council Industry Academia Young Professionals Committee and the Indian Internet Foundation (IIFON), the event brought together experts and participants to explore the importance of standards in key technology sectors, including Software & Systems Engineering, Network

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**ІТ РНОТО** 

Governance & Management, Cybersecurity, and the Internet of Things (IoT).

Session 1 - Advanced Internet Operations **Research** (AIORI) in India- I: The first technical session, led by Mr. Anand Raje delved into **Advanced Internet Operations** Research (AIORI) in India.

Session 2 - ICT & Standardization: The next session focused on ICT & Standardization, with contributions from Ms. T R Ramya, Principal Research Engineer at CeWIT,

Session 3 - Advanced Internet Operations Research (AIORI) in India- II: Mr. Anand Raje

tivities

The IEEE Madras Section and the IEEE Power Electronics Society (PELS) Madras Chapter proudly hosted the PELS Project Expo 2024 on September 13th, 2024, at St. Joseph's College of Engineering. The event witnessed enthusiastic participation, with over 100 abstracts submitted, out of which 22 teams were shortlisted to present. Dr. C. Bharathiraja, Professor, Department of EEE, SRM Institute of Science and Technology, Dr. Jayarama Pradeep, Professor & Head, Department of EEE, St. Joseph's College of Engineering, Dr. T. Anuradha, Professor & Head, Department of EEE, KCG College of Technology, Dr. Nazar Ali, Professor, Department of EEE, Rajalakshmi Engineering College are the juries for the Project Expo 2024.



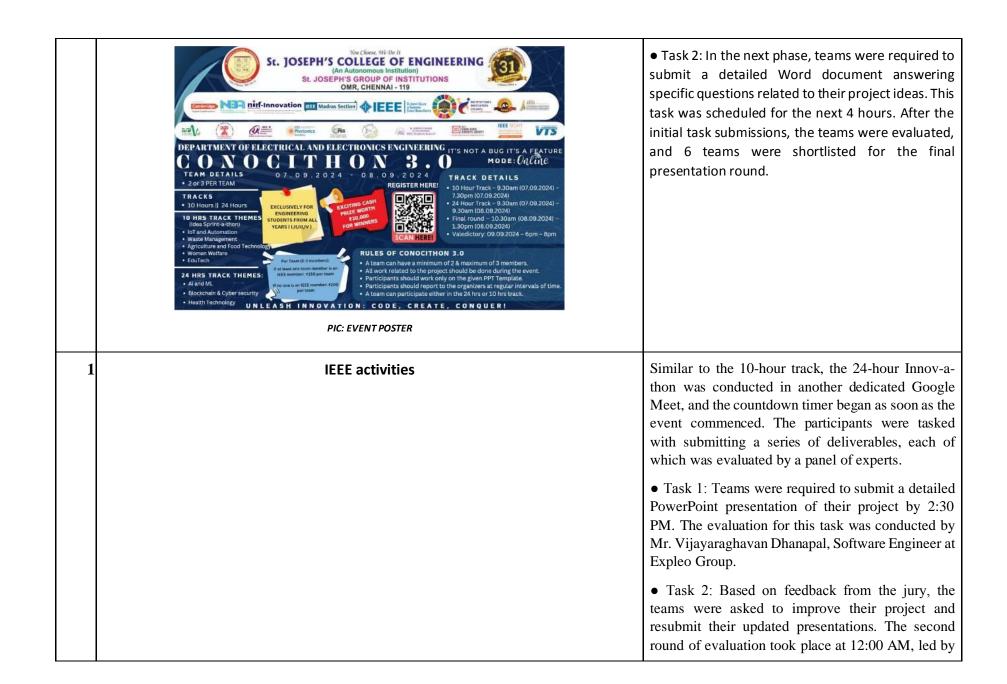
The participants were tasked with presenting their innovative projects related to sustainable power solutions. Each team was evaluated based on creativity, technical understanding, innovation, and practical implementation. The projects ranged from IoT-based solutions to automation systems and advanced energy management techniques.

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IEEE activities

The Ideas Sprint-a-thon track was conducted via a separate Google Meet, where the teams were instructed to follow a structured series of tasks and evaluations over the 10-hour period. The participants were divided into teams, and each team was given specific tasks to complete within designated time slots.

• Task 1: The teams were asked to submit a PowerPoint presentation detailing their ideas without using any Al tools. This submission was required within the first 4 hours.





Mr. Zaid Aasim. Associate 2 at PwC Acceleration Centre, and Mr. Vijayaraghavan.

• Task 3: The final task required teams to incorporate the jury's feedback and create a video presentation of their working prototype model. After thorough assessment, 5 teams were shortlisted for the final evaluation.

The final evaluation was conducted by Mr. Nishanth Rajalingam, Associate Lead Software Engineer at Expleo Group, at 10:30 AM on 8th September 2024. After careful deliberation, the top 3 winners were announced:

**IEEE** activities

IEEE Madras Section Women in Engineering Affinity Group, organized and IEEE St. Joseph's College of Engineering Women in Engineering Affinity Group, hosted "Connecting the Dots 3.0" on 4th September 2024. The event took place from 9:00 AM to 3:00 PM in Basil hall, featuring various student branches in participation. The event was inaugurated with a lighting ceremony led by distinguished guests, including Dr. T. Sree Sharmila (Chair - IEEE MAS WIE AG), Dr. Jayarama Pradeep (Executive Member - IEEE MAS WIE AG), Mr. Niranjan Kumar (Executive Member - IEEE MAS WIE AG), and Ms. Abinaiya Sri (Executive Member - IEEE MAS WIE AG). Keynote addresses were delivered by Mrs. Kavitha Anbarasu (Director H1 at

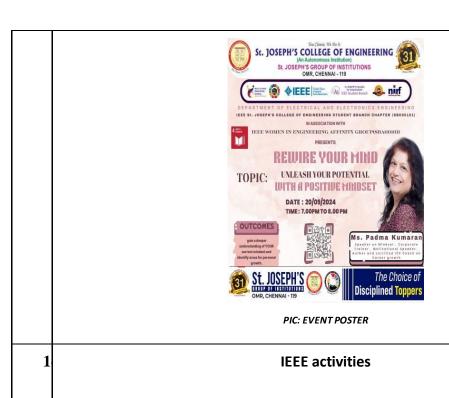


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Toastmasters Club) and Mrs. Vijaya Sanchana Reddy (Software Architect at Vantiva). Connecting the Dots 3.0" successfully brought together a vibrant community of students and professionals, providing a platform for knowledge-sharing and networking. The event promoted collaboration among various student branches, encouraging them to present innovative ideas and share their experiences. It also highlighted the importance of leadership, teamwork, and personal growth within IEEE, Participants gained valuable insights into career development, and the event strengthened the bond between student branches and IEEE professionals.

IEEE activities

On September 20, 2024, the IEEE Women in Engineering Affinity Group of St. Joseph's College of Engineering organized a session titled "Rewire Your Minds: Unleash Your Potential with a Positive Mindset," featuring Ms. Padma Kumaran, a renowned mindset speaker, corporate trainer, motivational speaker, author, and certified IFC coach on career growth. The event was attended by around 20 students from the 2nd, 3rd, and 4th years of the EEE Department. Ms. Kumaran shared insights on the power of a positive

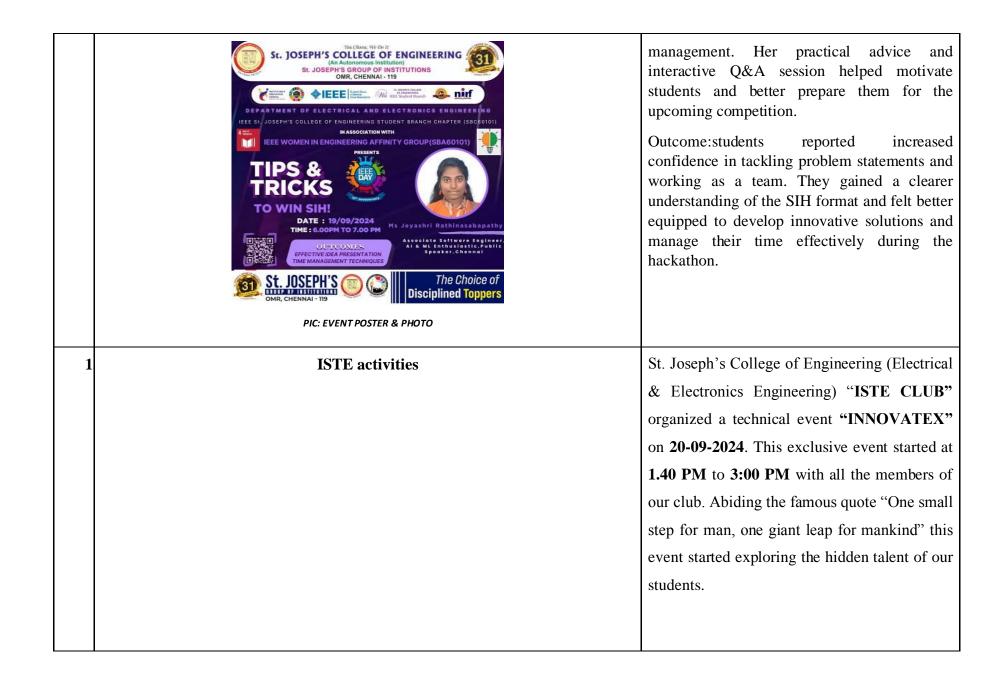


mindset, focusing on how it can drive personal and professional growth. She emphasized techniques for overcoming selfdoubt, setting clear goals, and fostering resilience in the face of challenges.

**OUTCOME:** The session left students motivated and equipped with practical tools to harness their potential.

As an outcome, students reported increased confidence in managing academic pressures and career planning, feeling more.

On September 19, 2024, the IEEE Women in Engineering Affinity Group of St. Joseph's College of Engineering organized a session titled "Tips and Tricks to Win SIH 2024," featuring Ms. Jeyashri R, an Associate Software Engineer at Prodapt and SIH Winner 2022. The event, attended by around 20 students from the 3rd and 4th year of the EEE Department, focused on strategies for success in Smart India Hackathon (SIH) 2024. Ms. Jeyashri shared her experience from SIH 2022, providing valuable insights on understanding problem statements, fostering team dynamics, innovative thinking, prototyping, and time





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**Club activities** 

St. Joseph's College of Engineering, Electrical & Electronics Engineering ROBOTICS CLUB in association with IEEE ROBOTICS AND **AUTOMATION SOCIETY [SBC60101B]** organized a technical event "CIRCUIT **CLASH**" on 13/09/2024. This exclusive event started at 1:40 pm with all the members of our club and society. The event started exploring the hidden talent of our students. Abiding the famous quote "Talent hits a target no one else can hit; Genius hits a target no one else can

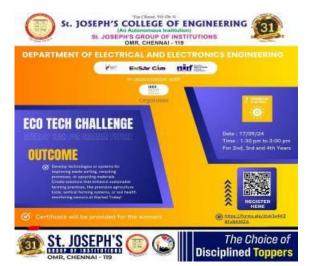


**see**" the event started exploring the hidden talent of our students through this event.

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### **Club activities**



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On September 17, 2024, "ENSAV CLUB" of department of Electrical and Electronics Engineering at St. Joseph's College of Engineering, conducted an event "ECO TECH CHALLENGE", presented by Mr. Elamparithi, final year EEE. Approximately 32 Students from per final year and second year attended the event on 1:40pm. The event winners were all rewarded with the certificate.

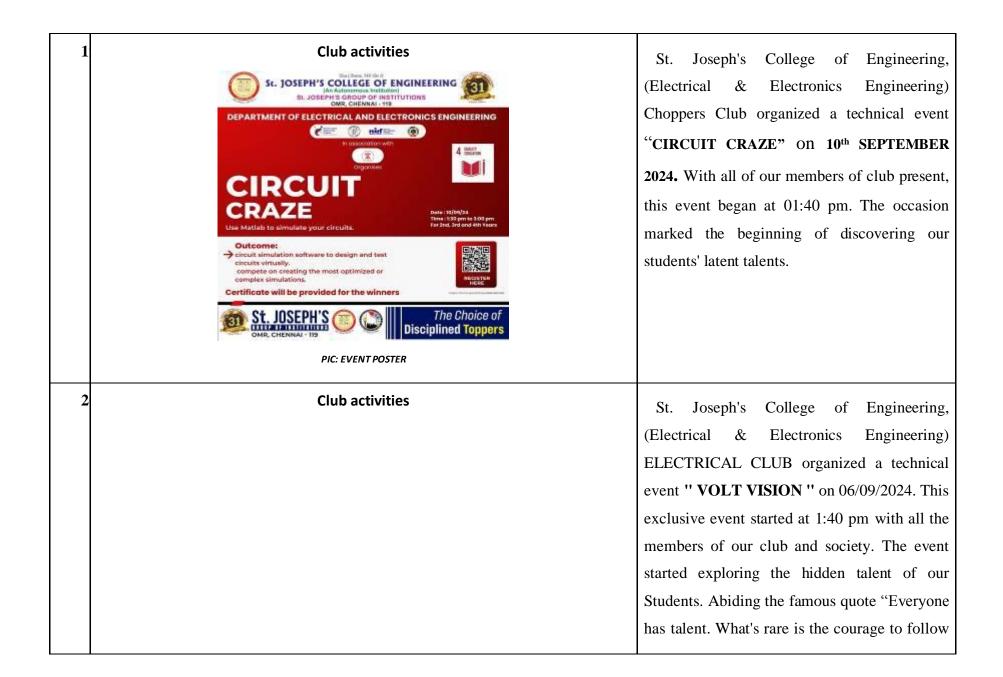
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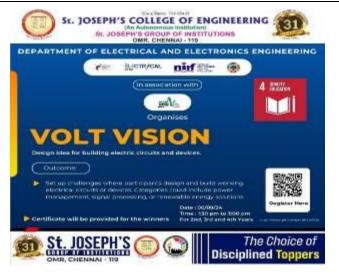
#### **Club activities**



PIC: EVENT POSTER & PHOTO

The Department of Electrical and Electronics Engineering, in collaboration with the EnSav Club St. Joseph's College of Engineering, organised an insightful awareness program titled "UN SDGs and Energy Conservation" on September 23, 2024, at Basel Hall, Placement Block of St. Joseph's College of Engineering. The session was led by Dr. S. Madan Kumar, an esteemed UN's Youth Ambassador for the International Youth Society, Chairman of IGEN GREEN9, and Assistant Engineer at TNEB, TANGEDCO-MTPS-1. He shared valuable insights about 17 United nations Sustainable development goals, 9 Mantras of IGEN to save 1 Unit per day. In addition, Dr. Madan Kumar explained and delved into present Scenario of power Grid Energy Conservation, the workings of power stations and offered detailed information about TNEB and its operational framework.





it to the dark places where it leads." the event started exploring the hidden talent of our students through this event.

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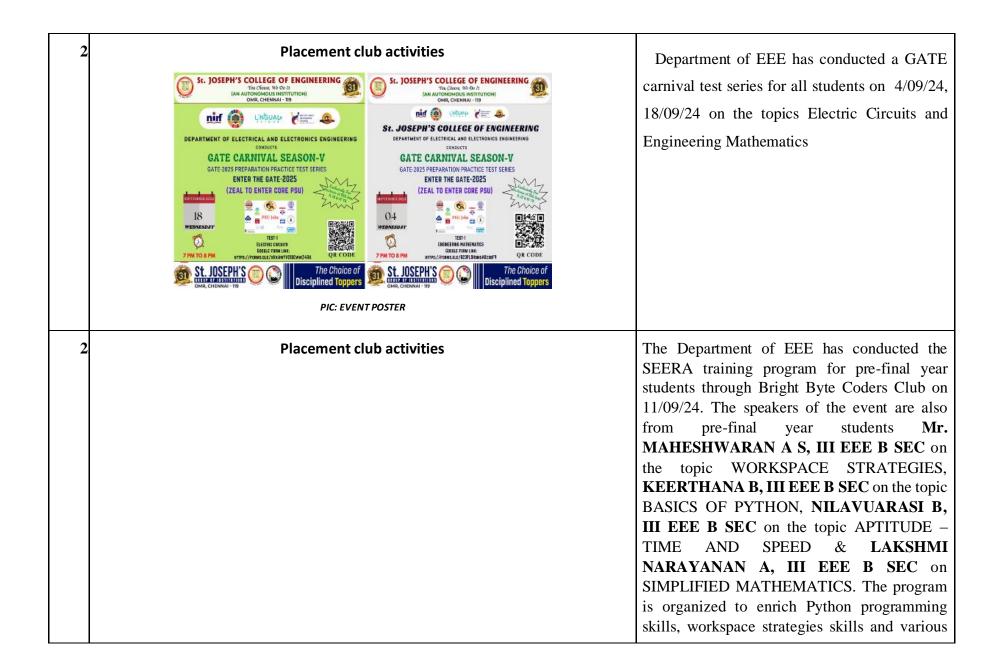
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#### Club activities



Linqual Clique club of department of EEE has conducted a word power vocabulary test series for all students on 6/09/24, 13/09/24 and 20/09/24 on the topics Grammer & Sentence correction ,Para Completion , fill-up the appropriate words.

PIC: EVENT POSTER







aptitude for the students and provides the placement drive procedures for various companies.

PIC: EVENT POSTER

Placement club activities

Department of EEE has conducted the SEERA training program for pre-final year students through Lingual Club on 25/09/24. The speakers of the event are also from pre-final year students Mr. DIVYAPRAKASH B, III EEE A on the topic ARITHMETIC PROGRESSION, AADHI VIGNESHWAR P S, III EEE A on the topic PROBLEM **SOLVING USING** PYTHON, HARIPRASATH S, III EEE A on the topic PROFESSIONAL NETWORKING AND **COMMUNICATION SKILLS** &

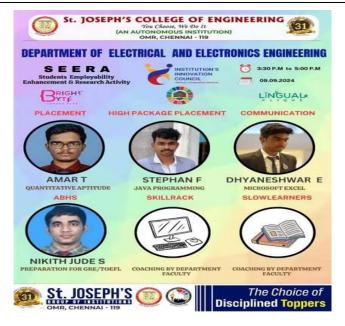


HARSHAVARDHAN S, III EEE A on the topic PROFIT AND LOSS. The program is organized to enrich the C programming skills, Data structure knowledge & various topics on aptitude for the students and provides the placement drive procedures for various companies.

PIC: EVENT POSTER

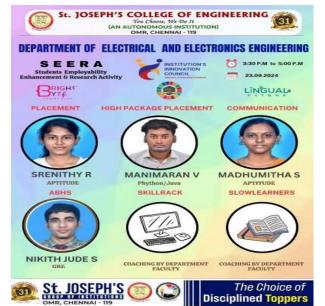
Placement club activities

Department of Electrical and Electronics Engineering (EEE) conducted a session featuring several final-year students on 09/09/24. AMAR T FROM IV EEE A presented on Quantitative Aptitude, STEPHAN F OF IV EEE C discussed Java Programming, NIKITH JUDE FROM IV EEE B talked GRE/TOFEL about exam. and DHYANESWAR E FROM IV EEE A covered Excel tricks. This session aimed to enhance students' technical skills, provide insights into higher education opportunities



abroad, and improve their quantitative aptitude. The initiative successfully prepared students for interviews and future career challenges.

PIC: EVENT POSTER

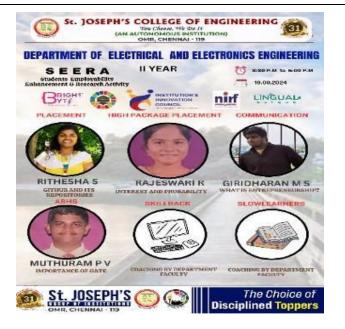


Placement club activities

PIC: EVENT POSTER

Department of Electrical and Electronics Engineering (EEE) conducted a session featuring several final-year students on 23/09/24. SRINITHY R FROM IV EEE C presented on Solving Aptitude Questions, MANIMARAN V FROM IV EEE B discussed Java Programming, NIKITH JUDE FROM IV EEE B talked about Higher Studies Abroad, and MADHUMITHA S FROM IV EEE B covered Quantitative Aptitude. This session aimed to enhance students' technical skills, provide insights into higher education opportunities abroad, and improve their quantitative aptitude. The initiative successfully prepared students for interviews and future career challenges.

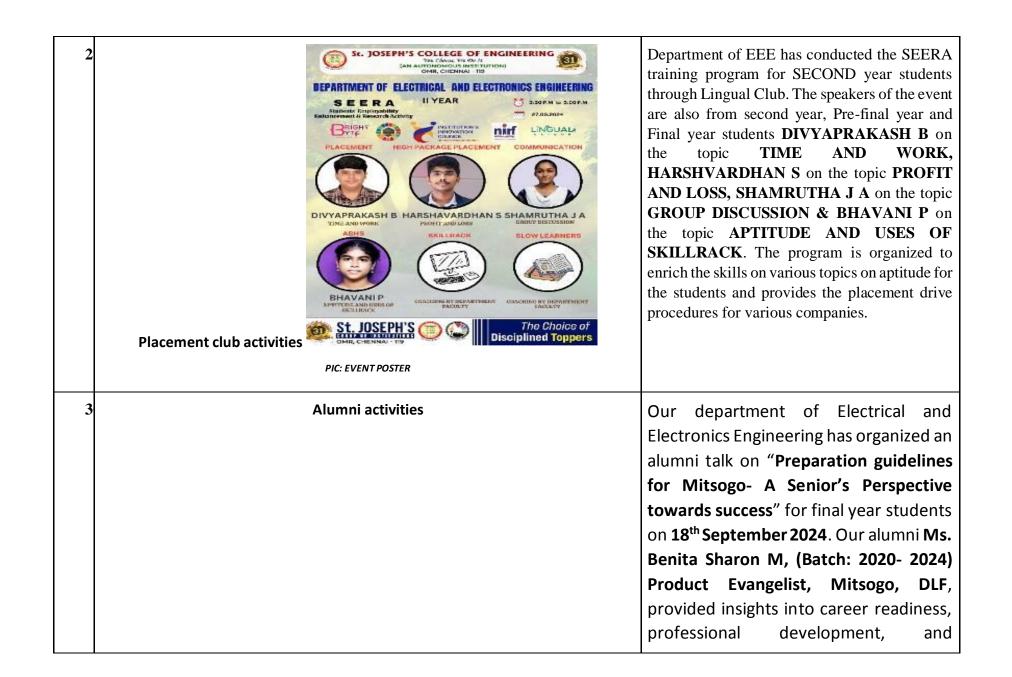
2

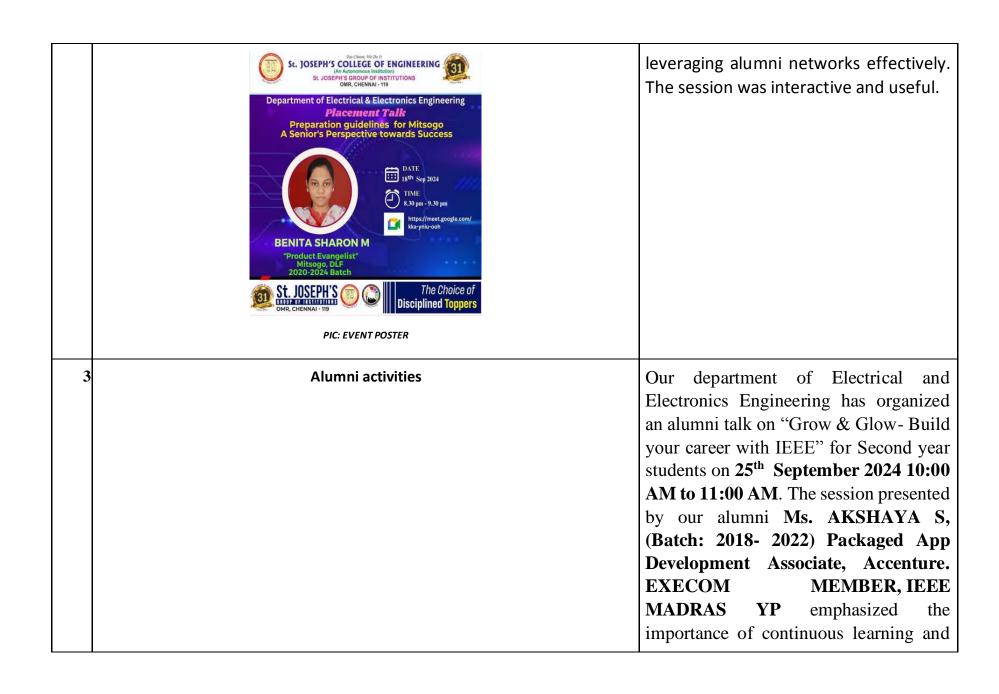


Placement club activities

PIC: EVENT POSTER

Department of EEE has conducted the SEERA training program for second year students through Lingual Club on 19/09/24. The speakers of the event are also from second year students RITHESA S on the topic GITHUB AND ITS REPOSITORIES, RAJESWARI R **INTEREST** topic the AND PROBABILITY, GIRIDHARAN M S on the topic WHAT IS ENTREPRENEURSHIP? & MUTHURAM P V on the topic **IMPORTANCE OF GATE.** The program is organized to enrich the GitHub skills, entrepreneurship awareness & various topics on aptitude for the students and provides the placement drive procedures for various companies.







skill development. IEEE offers various online courses, certifications, and webinars that cater to different aspects of technology and engineering. The "Grow & Glow" session provided attendees with valuable insights into how IEEE can serve as a powerful tool for career advancement.

PIC: EVENT POSTER & PHOTO

Alumni Activities

Our department of Electrical and Electronics Engineering has organized an alumni talk on "Renewable Energy Markets in India" for Second year students on 26<sup>th</sup> September 2024 10:00 AM to 11:00 AM. Our alumni Mr. SATHISH V (Batch: 2009- 2013), Manager - Operations 'L& T Constructions, Renewable BU, Manapakkam, Chennai briefed about challenges in the Renewable



Energy Sector and Growing demand for clean energy solutions presents significant career opportunities in engineering, project management, research, and policy development. He also shared successful case studies of renewable energy projects in India, illustrating best practices and lessons learned.

PIC: EVENT POSTER

Alumni Activities

Our department of Electrical and Electronics Engineering has organized an alumni talk on "AVENUES TO NAVIGATE - My Journey in last 5 years" for III year students on 30<sup>th</sup> September 2024 10:00 AM to 11:00 AM. Our Alumni Ms. SARANNYA D, (Batch: 2015- 2019) Senior Engineer, Office of Executive, Bosch Global software technologies, Bangalore briefed about career advancement and



current job opportunities in the field of Electrical Engineering.

PIC: EVENT POSTER

Student achievements



- The following students had won in PELS
   Project Expo 2024 on September 13th,
   2024, at St. Joseph's College of Engineering.
- **1.Team Demeters**: Yashwanth Dhanpal, Sugantha Krishnan, Sirapani D, from St. Joseph's College of Engineering **Second Prize** (₹5,000):
- **2.Team Tensai**: Vishalini R, Rohith R, Mouli S, from St. Joseph's College of Engineering **Third Prize** (₹4,000)





Pic. Students receiving prize

- our final year students Jemila Rosy L, Bhuvaneshwari T and Janani G won third position in the project expo organized by SRM institute of Science and Technology on 19th September 2024.
- our EEE girls team had received 5th position in the Electric Bike Design Challenge 4.0 (EBDC) organized by Sri Ramakrishna Institute of Technology (SRIT), Coimbatore and collaborated with Mechatron Motors from 24/09/2024 to 27/09/2024. The competition aimed at fostering innovation in electric vehicle design and technology, brought together students from various colleges to design, test, and showcase their electric bikes. These enthusiastic team **bagged 5 Awards** "Iconic reel of EBDC 4.0", "Best women driver "," Best captain award", "Best faculty advisor award", "Best mentor award". Student Team Members: Selvi P, Rakshana P, Livitha S, Sanmitha V, Adirai D, Esther Abraham, Sai harshitha M, Saniya Benzer E, Sai Samyuktha Y, Harini V K, Sindhumedha M,Swathi K, Kayalvizhi SJ, Dharani M, Chemmozhi B, Deepthi Jenni Priya E, Ramya K, Shreelekha K, Yazhini S, Harini Sri, Sandhiya T, Aksaya R, Tharani M, Bhuvaneshwari T, and Arulmozhi R;

|   |   | • | Faculty Mentor: Mr.R.Elanthirayan, AP/EEE  Abubakkar Chithik M, Deepak Prabhu C, Dinakar .N, Dinesh C had won second prize in Circuit Debugging Competition organized by Loyala ICAM College of Engineering.  our third year students Yashwanth D, Sugantha Krishna S, Sirapani D, Oviyavarshini had received 1st prize and cash award of Rs 3000 in Project Panoply event organized by Jeppiar Engineering College  |
|---|---|---|--|
| 3 | Faculty Development Program  Figure 1 Program  PIC: EVENT PHOTO |   | Our Electrical and Electronics Engineering Department in collaboration with National Institute of Technical Teachers' Training and Research (NITTR) Chandigarh conducted Faculty Development Program on "SMART GRID AND RENEWABLE ENERGY SOURCES" during 23–27 September 2024. The course co-ordinator is Dr. Lini Mathew, Professor & Head, Electrical Engineering Department, NITTTR Chandigarh. Around 73 faculties from various engineering Colleges attended the faculty development program. |

- **Dr.Jayarama Pradeep**: Participated in AICTE-ATAL FDP titled "Digital Marketing" University College of Engineering at University College of Engineering, Villupuram from 19.08.2024 to 24.08.2024.
- Dr.Jayarama Pradeep, Dr.A.Jamna, Ms.S.P.Vedavalli, Mr.Sadeesh Kumar, Mr.S.Nishant Attended 4 days online workshop on EV design & Simulation using Fusion 360, Solid works and Ansys conducted by ISIEINDIA from 21st to 24th September 2024
- Dr.M.RameshBabu, Dr.N.Chidambararaj, Mr.N.Jeyaprakash, Mr.K.Aravindhan Participated in AICTE-ATAL FDP titled "Opportunities and Challenges in Electric Vehicles in India" at Easwari Engineering College from 26.08.2024 to 31.08.2024.
- Dr.M.Venmathi, Dr.P.Velmurugan, Ms.S.P.Vedavalli, Ms.S.Gomathi, Mr.S.Nishant Participated in 5 days FDP on "Powering the Integrating Electric Vehicles smart Grid" by the Department of Electrical and Electronics Engineering of Bharath Institute of Higher and Research from 27, 08, 2024 to 31, 08, 2024.
- **Dr.V.Krishnakumar** Participated in AICTE-ATAL FDP titled "Digital Marketing" University College of Engineering at University College of Engineering, Villupuram from 19.8.24 to 24.08.2024.

| 3 | Faculty Publication             | Our faculty <b>S.P. Vedavalli</b> published a conference paper titled " <b>Design of High Efficiency Power Electric Converters for Fuel Cell System Applications</b> " in International Conference on Smart Systems for Electrical, Electronics, Communication and Computer Engineering (ICSSEECC).  Our faculty <b>S.Gomathi</b> published a conference paper titled " <b>High Speed Neural Network MPPT Algorithm For DFIG Based Wind Energy Conversion System</b> " in 7th International Conference on Circuit Power and Computing Technologies (ICCPCT).   |
|---|---------------------------------|--|
| 3 | Faculty awards and recognitions | <ul> <li>our faculty Dr.T.V.Narmadha receivied a Grant of Rs. 20,000/- for conducting two days Workshop under the Scheme "Popularization of Science Activities 2023 – 2024".</li> <li>our faculty Dr.V. Krishnakumar who has received Rs. 7,500/- under the Students Project Scheme 2023 – 2024.</li> <li>Dr.Jayarama Pradeep Acted as Jury member in Project Expo 2024, conducted by IEEE PELS Madras section on 13th September 2024 at St.Joseph's College of Engineering, Chennai.</li> <li>Dr.M.RameshBabu has reviewed 1 paper for the IEEE Access.</li> <li>Dr.P.Velmurugan acted as resource person in 5 days FDP on "Powering the</li> </ul> |

Integrating Electric Vehicles smart Grid" and delivered a lecture on the topic "Evolution in Electric vehicles" on 30th Sep 2024, organised by the Department of Electrical and Electronics Engineering of Bharath Institute of Higher and Research from 27, 08, 2024 to 31, 08, 2024.

3

## **Industry institute interaction**





Dr. Arunkumar Dean Industry Interaction & IQAC, Dr. Jayarama Pradeep Professor/EEE, Dr. Lakshmi Associate Professor/ECE attended CII Tamil Nadu Skill Summit Outcomes: CII Tamil Nadu Skill Summit aims to bridge the gap between academia and industry, enhancing research, innovation, and employability of graduates.

PIC: EVENT PHOTOS

Our department as part of industry interaction visited

- Arun plasto moulders India pvt ltd
- Savera Kothari India pvt ltd
- ELGI rubber company ltd

To get skill development of students through internship, Industrial visit, sharing technology for further research & development.

Confederation of Indian Industries (CII)
 Tamilnadu Skill summit aims to bridge
 gap between academia and industry,
 enhancing research, innovation and
 employability of graduates.

PLACEMENT DETAILS FOR THE MONTH OF SEPTEMBER 2024

## 2021-2025 Batch

Total No of students placed = 22 Students

Total No of Offers = 24 Offers

Total No of Students (UG) = 194

Total No of Eligible Students (UG) = 160 (All Clear)

% of students Placed (UG) = 22/194 = 11.34 %

No of students having single offers = 20

No of students having Double offers = 2

# DEPARTMENT OF ELECTRONICS AND INSTRUMENTATION ENGINEERING

| SI. | Title                  | Deta  | ail  |                 |  |  |                     |                    |
|-----|------------------------|-------|--|-----------------|--|--|---------------------|--------------------|
| lo. |                        |       |  |                 |  |  |                     |                    |
| ı   | Journal<br>Publication | S.No. | Name of the Authors  | Title o         | f the Papers   | Name the<br>Journal                            | Year of Publication | Journal<br>Indexed |
|     |                        | 1.    | Reddi Khasim Shaik,<br>S. Shanmuga Priya,<br>N. Saranya,<br>Kotteeswaran R.,<br>S. Ramya & R.<br>Thiagarajan | Analys<br>GRU a | g-Edge Climate<br>is: Combining MLP-<br>nd Remote Sensing<br>ologies | Remote Sensing<br>in Earth Systems<br>Sciences | September<br>2024   | Scopus             |
|     |                        |       |  |                 |  |  |                     |                    |
|     | Patent                 |       |  |                 |  |  |                     |                    |

|     |              | <b>S.No.</b> 1. | Name of the Facult  Dr. MEENA S | У       |       |   | <b>Period</b><br>Jul-Sep 2024 | Proof  NPTEL ONLINE CONC trims  Provent to the MC. One of trims  The complete in terminal to the Concerning  With complete in terminal to the Concerning  With constant to Markiton Learning  with constant and market arrang  with constant and market arrang  with constant and market arrang  And constant of analysis and the SE2015  Mad constant of analysis and the SE2015  And the SE2 |
|-----|--------------|-----------------|---------------------------------|---------|-------|---|-------------------------------|--|
| III | NPTEL Course |                 |                                 |         |       |   |                               |  |
|     |              | 2               | Indian<br>202441069983          | Dr. S.  | Meena | Durability In Ev Zinc-Oxygen Batteries  A Hybrid AI and Machine Learning System for Accurate Skin Cancer Detection and Classification | 20/09/2024                    | The first of the read of the r |
|     |              | 1               | Indian<br>202441069693          | Dr. S I | Meena | Nanostructured Zinc<br>Electrodes For Improved  | 20/09/2024                    | STATE   STAT   |

|    |     | 2.        | Dr.DEEPA P            | Research Met   | no Machine Learning | Jul-Sep 2024  Jul-Sep 2024 | NPTEL ONLINE CERTIFICATION  For a second to the second to  |
|----|-----|-----------|-----------------------|----------------|---------------------|----------------------------|--|
|    |     | 3.        | Dr.GNANAPRAKASAM<br>N | C Introduction | to Machine Learning | Jul-Sep 2024               | And Sep 1954  The state of the  |
|    |     | 4.        | Dr.SANKARAN D         | Introduction   | to Machine Learning | Jul-Sep 2024               | The second of th |
| II | FDP | S.<br>No. | Faculty Name T        | itle           | Conducted By        | Date                       | And to go 2014 (a read of the control of the contro |
|    |     |           |                       |                |                     |                            |  |

|  | 1. | Dr.S Meena        | Deep Learning for<br>Engineering<br>Applications   | Computer Science<br>and Engineering<br>Department at St<br>Josephs College of<br>Engineering                            | 02/09/2024<br>to<br>06/09/2024<br>(One Week) | National Southeast of General Security  |
|--|----|-------------------|--|---|--|--|
|  | 2. | Dr.R.Kotteeswaran | Deep Learning for<br>Engineering<br>Applications   | Computer Science<br>and Engineering<br>Department at St<br>Josephs College of<br>Engineering                            | 02/09/2024<br>to<br>06/09/2024<br>(One Week) | Conduction of Continues and Co |
|  |    |                   | Artificial Intelligence Techniques for Advancing Medical Data Processing and Health Care | AICTE Training And Learning (ATAL) Academy Faculty Development Program at ST.JOSEPH'S INSTITUTE OF TECHNOLOGY, Chennai. | 23/09/2024<br>to<br>28/09/2024               | ATAL SHAPE TO SHAPE T |
|  | 3. | Dr.V.Vijayan      | Deep Learning for<br>Engineering<br>Applications   | Computer Science<br>and Engineering<br>Department at St<br>Josephs College of<br>Engineering                            | 02/09/2024<br>to<br>06/09/2024<br>(One Week) | Command Sections of Command Co |

|  | 4. | Dr.Gnanaprakasam<br>C N | Deep Learning for<br>Engineering<br>Applications   | Computer Science<br>and Engineering<br>Department at St<br>Josephs College of<br>Engineering  | 02/09/2024<br>to<br>06/09/2024<br>(One Week) | Samuel Sections  National Sections of Comming and Secrets  Western Sections of Comming and Secrets  Confliction  Confliction  ST JOHN IN COLUMN OF SECTION |
|--|----|-------------------------|--|---|--|--|
|  |    |                         | Artificial Intelligence Techniques for Advancing Medical Data Processing and Health Care | AICTE Training And<br>Learning (ATAL)<br>Academy Faculty<br>Development<br>Program at<br>ST.JOSEPH'S<br>INSTITUTE OF<br>TECHNOLOGY,<br>Chennai. | 23/09/2024<br>to<br>28/09/2024               | ALL DISCOUNTED FOR THE CALL DECLARATE  ALL DISCOUNTED FOR |
|  | 5  | Mr. SANKARAN D          | Artificial Intelligence Techniques for Advancing Medical Data Processing and Health Care | AICTE Training And Learning (ATAL) Academy Faculty Development Program at ST.JOSEPH'S INSTITUTE OF TECHNOLOGY, Chennai.                         | 23/09/2024<br>to<br>28/09/2024               | ALL INDA CONCELL FOR TECHNICAL SPECATION  ALL INDA CONCELL FOR TECHNICAL SPECATION  AND WHITE WAS THE MAN THE  |

#### DEPARTMENT OF INFORMATION TECHNOLOGY Sl. **Photographs Captured During** Corresponding remarks in regarding the status of activity execution No. **Event/Screenshot Staff Paper Publication** Sustainable Computing: Informatics and Distributed clustering model for energy efficiency based topology R. Elavarasan, A. Rajaram, "Distributed Clustering Model for Energy Efficiency based Topology control using game theory in wireless Control using Game Theory in Wireless Sensor Networks", Sustainable Computing: Informatics and sensor networks Systems, Print ISSN: 2210-5379, E ISSN: 2210-5387, Vol. 44, July 2024. Impact Factor: 3.8, SCIE) **Abstract:** In this study, we use a topology control technique to tackle the issue of energy balance and consumption minimization in wireless sensor networks. By maintaining network connection while **Author** sensibly adjusting the transmission power level, such an algorithm may reduce and balance energy usage. This study provides an energy welfare topological control using a game-theoretic approach by calculating Dr. R. Elavarasan Published energy welfare as usefulness metric for energy populations using the welfare function from the social a paper in SCIE sciences. Energy balance occurs when every node works to improve its local society's energy situation to the best of its ability. We demonstrate that the consequence ant game is an intriguing game with a single Nash equilibrium that is Pareto optimum. According to economic theory, Pareto optimality is a situation in which improving one person's circumstances would always make another person's worse off. We demonstrate our suggested methodology's superiority in establishing energy balance and efficiency in wireless sensor networks by contrasting the simulation results of our algorithm with those of other approaches. Our approach surpasses existing methods by a wide margin. For reliable and long-lasting wireless sensor applications, this study offers insightful information about how to maximize network performance while preserving energy resources.



Co-Author

Mrs. Kavitha A

Published a paper in Scopus indexed Conference

Ashok, K., Anu, P., Rajheshwari, K.C., Lalitha, R.V.S., Tata, R.K. and **Kavitha, A**., Interactive robots for personalised multimodal comedy experiments. Entertainment Computing, p.100874, Print ISSN: 1875-9521, E ISSN: 1875-953X, 2024. (Impact Factor: 2.8, SCIE)

**Abstract:** This research proposes a novel system for personalising humour delivery using interactive robots with AI, natural language processing, and human-robot interaction technologies. The robots can adapt the multimodal content of jokes tactically now and strategically over time based on recording and analyzing each user's subjective emotional reactions. The study evaluated pragmatic aspects of timing and framing jokes by having the robots try different "comeback tactics" and observing audience response. An ANOVA analysis revealed six distinct response categories. 78 % of participants positively rated the personalized robot comedy across the six scenarios. However, when both robot comedians took a negative tone, only 23 % approved (p < 0.001). Interestingly, audiences validated the robot comedian's performance (89 % approval) more than the human comedian (54 % approval), a statistically significant difference (p < 0.01). These findings shed light on ideal characteristics for effective human-robot comedy interactions, highlighting the importance of topicality, maintaining a generally positive mood, and the unique strengths of robot performers. The study paves the way for further optimization of personalized, adaptive robot humour systems leveraging multimodal AI capabilities to enhance entertainment experiences tailored to individuals.

3.

## Detection and classification of arrhythmia disorders using machine learning algorithm

#### P. Ramani

Electronics and Communication Engineering Departmen SRM Institute of Science and Technology. Ramapuram, Cheunai, India Email: ramanip@srmist.edu.in \*Corresponding author

#### S. Sugumaran

Electronics and Communication Engineering Department, Vishnu Institute of Technology, Bhimaveram, India Ernail: sugamaran.s@vishnu.edu.in

#### Manoharan Nivethitha Devi

Electronics and Instrumentation Engineering Department, St. Joseph's College of Engineering, Chernal India

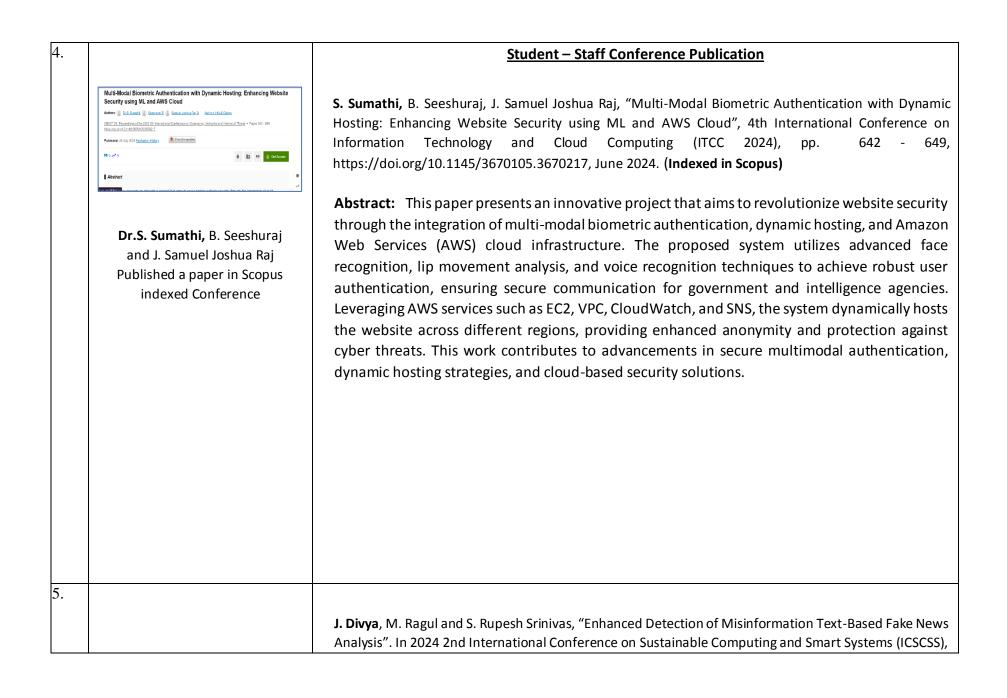
#### Co-Author

#### Mrs. M. Nivethitha Devi

Published a paper in Scopus indexed Conference

P. Ramani, S. Sugumaran, M. Nivethitha Devi, T.J. Nagalakshmi and G. Annapoorani, "Detection and classification of arrhythmia disorders using machine learning algorithm", International Journal of Medical Engineering and Informatics (IJMEI), E ISSN: 1755-066, Print ISSN: 1755-0653, DOI: 10.1504/IJMEI.2024.140806, Vol. 16, No. 5, 2024. (Indexed in Scopus)

**Abstract:** A recent study by the United Nations Agency (World Health Organization) reported that 17.9 million people died due to cardio vascular disease, and it is increasing exponentially. Furthermore, it was also reported that it was highly difficult to recognise the sickness and dictate the relevant care in a timely manner. For analysis, a user data file for cardiopathy prediction that contains parameters such as gender, age, kind of pain, force per unit area, hyperglycaemia, and so on has been considered. The approach entails determining the correlations between the numerous properties of the data file using regular processing techniques and then treating the attributes appropriately to forecast the likelihood of cardiopathy. This article endeavoursat probing methodised data-mining techniques such as NB classifier, random forest classification, decision tree in addition to support vector machine. These machine learning approaches require less time to anticipate sickness with ahigh degree of accuracy. The proposed algorithm provides 91.2% recognition rate than SVM and decision tree classifier.





**J. Divya**, M. Ragul and S. Rupesh Srinivas

Published a paper in Scopus indexed Conference

DOI: 10.1109/ICSCSS60660.2024.10625391, E /ISBN:979-8-3503-7999-0, Print ISBN: 979-8-3503-9155-8, pp. 691-696, IEEE, July 2024. (Indexed in Scopus)

Abstract: Diabetes is a dangerous medical condition that have to be identified at early stages if not might produce adverse consequences later. The fundus image of the retina can be effective in understanding the diabetic relevancy and can also produce various other results related to retinal diseases using angiography techniques. To solve this issue, a combination of GAN or Generative Adversarial Networks with VGG can be effective in classifying whether the retina scan input image is affected by diabetes or not. The involvement of GAN with a classification algorithm is entertained due to the imbalance of medical records and the complexity involved with extensive training with CNN, which produces pessimistic results due to the lower number of records. GANs offer a solution to the challenge of sparse data in generating synthetic retinal images. Conversely, VGG stands out as a deep convolutional neural network ideal for image classification tasks. By combining these two techniques, it is possible to improve the accuracy of diabetic retinopathy detection. This approach has the potential to make diabetic retinopathy screening more accessible and affordable, especially in low-resource settings where traditional methods may not be feasible.



Mrs. A Kavitha

Published a paper in Scopus indexed Conference

S. Z. Beevi, **A. Kavitha**, G. Bhagya Sri, N. Muthu Bala, O. F. Washeel and T. H. Abdtawfeeq, "The use of Ontology in Diagnosing LC: A Detailed Framework Discussion," 2024 4th International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE), Greater Noida, India, pp. 378-381, doi: 10.1109/ICACITE60783.2024.10616830, E ISBN:979-8-3503-6016-5, Print ISBN:979-8-3503-6017-2, 2024. (Indexed in Scopus)

**Abstract:** The network of actual physical objects, or items having software, sensors, and other technology implanted in them The Internet of Things (IoT) is a network of interconnected devices and systems that communicate with each other via the Internet to share data. IoT devices should be secured even if many of them are publicly accessible to everyone on the network. The result is a picture file that seems identical to the original but includes typical, unencrypted "noise" patterns data because the encrypted data was applied to this redundant data discretely. The goal of this project is to use picture data hiding to encrypt data from IoT networks by concealing the message within an image file. By using convolutional neural networks, the payload which can be conveyed via a visual will be significantly expanded in conjunction with the conventional picture data hiding approach. To get the maximum payload, various convolutional settings will be examined. The data will be encrypted and decrypted using the recently created deep learning algorithm. In order to improve the payloads of information to be encrypted and securely decrypted for displaying the original message, convolutional networks will be trained in this study.

## **Sample FDP Certificate**







# Seminar/ FDP Attended by Faculty

| S.No | Title of the topic   | Name of the Staff | Conducted By   | Date                                    |
|------|--|-------------------|--|---|
| 1    | Next Gen employability program   | Supraja G         | Edunet foundation  | 2/9/24 to<br>6/9/24(5<br>days)          |
| 2    | Advanced Informative and<br>Emerging trends in teaching<br>and Research  | Abdhur Rahman A   | Research Foundation of India and Institute of Marketing & Management Delhi | 24-08-2024 to<br>30-08-2024<br>(7 days) |
| 3    | Artificial intelligence impacts<br>on transforming software<br>robotics electrical electronics<br>and mechanical field | Ashok Kumar K     | Dhaanish Ahmed college of engineering                                      | 29-8-2024 to<br>3-9-2024                |
| 4    | Oracle cloud infrastructure<br>Ai fundamentals Associate   |                   | Oracle university  | 5-9-2024 to<br>10-9-2024 (6<br>days)    |
| 5    | Artificial Intelligence impacts<br>on transforming software<br>robotics electrical electronics<br>and mechanical field | D.Jeya Priya      | Dhaanish Ahmed<br>college of<br>engineering                                | 29-8-2024 to<br>3-9-2024 (5<br>days)    |
| 6    | Gen-Al and Prompt Engineering Using Microsoft Co-Pilot   | A S Hepsi Ajibah  | BNM Institute of Technology  | 16-09-24 to<br>20-09-2024<br>(5 days)   |

|  |  |  | Bangalore (BNMIT)<br>– Karnataka |  |
|--|--|--|----------------------------------|--|
|  |  |  |                                  |  |
|  |  |  |                                  |  |
|  |  |  |                                  |  |
|  |  |  |                                  |  |
|  |  |  |                                  |  |
|  |  |  |                                  |  |



**Mrs.E.Elakkiya**Published an India Patent

### **Patent Published**

**Title of the invention:** AN ADVANCED SYSTEM FOR AUTOMATED IDENTIFICATION OF IRREGULAR HEARTBEATS IN ECG DATA USING ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

#### Name of Inventor:

- 1. Mr. Prasanth Kamma
- 2. Dr.Rajeshwari Dharavath
- 3. Dr.V. Kubendran
- **4.** Mrs.Ruhi Fatima
- 5. Mrs.E.Elakkiya
- 6. Mr. Bathula Prasanna Kumar
- 7. Mr.Subramanyam Kunisetti

**Patent Application Number:** 202441064773 **Date of filing of Application:** 27/08/2024

**Publication Date:** 30/08/2024

8.



Mr.K.Madhan
Published an India Patent

**Title of the invention:** AI-POWERED PRECISION AGRICULTURE SYSTEM FOR OPTIMIZED CROP MANAGEMENT

#### **Name of Inventor:**

- 1. Dr.R Rahin Batcha
- 2. Mr. S. Vignesh
- 3. Dr. Vijay Ramalingam
- 4. Dr.Arul Prakash A
- 5. Dr. D. Saravanan
- 6. K.Madhan

Patent Application Number: 202441064090 Date of filing of Application: 25/08/2024

**Publication Date:** 06/09/2024

9.



Mrs. Annie T A

Published an India Patent

**Title of the invention:** IDENTIFYING THERAPEUTIC TARGETS OF LUNG CANCER USING MACHINE LEARNING AND MOLECULAR DOCKING

#### Name of Inventor:

- 1. Dr Rayala Venkat
- 2. Dr.Rashmi Mohapatra
- 3. S Premalatha
- 4. Annie T A
- 5. Dr. Sakshee Shalini

**Patent Application Number:** 202441064500 **Date of filing of Application:** 27/08/2024

**Publication Date:** 06/09/2024

10



Mrs. Nivethitha Devi M
Published an India Patent

**Title of the invention:** ENHANCED REAL-TIME FRAUD DETECTION IN FINANCIAL TRANSACTIONS USING DEEP LEARNING

#### Name of Inventor:

- 1. A Pitchi Rani
- 2. K Arun Priya
- 3. P.Misba Marybai
- 4. Dr.Irissappsne Dhanusu Soubache
- 5. Dr.Kusuma Rajasekhar
- 6. Dr. Anjali Bhute
- 7. Manu Vasudevan Unni
- 8. Dr. Amit Chauhan
- 9. Nivethitha Devi M

**Patent Application Number:** 202441065146 **Date of filing of Application:** 29/08/2024

**Publication Date:** 06/09/2024



Mrs. Sarika K
Published an India Patent

**Title of the invention:** EVALUATING FACULTY PERFORMANCE USING MACHINE LEARNING: IMPACT OF TEACHING METHODS ON STUDENT LEARNING SKILLS

#### **Name of Inventor:**

- 1. Veernapu Sudheer Kumar
- 2. Dr. Amol Pandurang Godge
- 3. Sarika K
- 4. Dr. Saiyed Faiayaz Waris
- 5. Dr. Sonlata Bargotya
- 6. Prof N L Mishra
- 7. Dhanapal M

**Patent Application Number:** 202441064882 **Date of filing of Application:** 28/08/2024

**Publication Date:** 06/09/2024

12



Mr.A.Abdhur Rahman Mrs.G.Lathaselvi Mrs.M.Nandhini

Published an India Patent

**Title of the invention:** INTEGRATING LLM-BASED SPEECH RECOGNITION WITH HOLOGRAPHIC DATA PROJECTION ENHANCING 3D DATA INTERACT

Name of Inventor:

- 1. Mr.A.Abdhur Rahman
- 2. G.Lathaselvi
- 3. M.Nandhini

**Patent Application Number:** 202441067899 **Date of filing of Application:** 09/09/2024

**Publication Date:** 13/09/2024



Mrs. R. Shoba Published an India Patent

**Title of the invention:** MACHINE LEARNING-POWERED AUTOMATED INFLUENCER MARKETING ANALYTICS PLATFORM FOR SOCIAL MEDIA NETWORKS

#### Name of Inventor:

- 1. L Sudha Rani
- 2. R.Deepa
- 3. R. Shoba
- 4. Dr. Pravin Shamrao Jadhav
- 5. Manisha Das
- 6. Dr. Ranjana P. Shinde
- 7. Prasanth T
- 8. N. Menaka

**Patent Application Number:** 202441066919 **Date of filing of Application:** 04/09/2024

**Publication Date:** 13/09/2024

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Application of Costsier General Applications

Oct. Costsier General Genera

Mrs.Gnanasoundharam J
Published an India Patent

**Title of the invention:** AN OPTIMISING EV CHARGING STATION OPERATIONS USING IOT, CLOUD COMPUTING, AND MACHINE LEARNING FOR ECO-FRIENDLY TRANSPORTATION

#### Name of Inventor:

- 1. Hari Prasad Bhupathi
- 2. Dr. Bhabani Shankar Mohanty
- 3. Ms. Dwipanita Mishra
- 4. Mrs.Gnanasoundharam J.
- 5. Mr. PritamRamesh Aire
- 6. Dr. Rabinarayan Patnaik

**Patent Application Number:** 202441067827 **Date of filing of Application:** 09/09/2024

**Publication Date:** 13/09/2024

15



**Mrs. G. Supraja**Published an India Patent

**Title of the invention:** MACHINE LEARNING DRIVEN WEARABLE SENSOR FOR MONITORING AND CLASSIFICATION OF HEALTH ISSUES IN PERSONALIZED HEALTH CARE

#### Name of Inventor:

- 1. E. Shalini
- 2. Veerraju Sampenga
- 3. Murugavel A
- 4. G. Supraja
- 5. NR Raghapriya
- 6. Sonawane Girish Satish
- 7. Ismatha Begum

**Patent Application Number:** 202441069620 **Date of filing of Application:** 14/09/2024

**Publication Date:** 20/09/2024

16



**Dr. S. Sumathi**Published an India Patent

**Title of the invention:** AI-POWERED IOT SOLUTIONS FOR SMART HOME AUTOMATION WITH ENHANCED SECURITY FEATURES

#### **Name of Inventor:**

- 1. Md Moyeed Abrar
- 2. Dr.D.Menaga
- 3. Anant Shankar E
- 4. Dr. S. Sumathi
- 5. Dr. Rajinder Kumar
- 6. Pradeep Ammasaikutti
- 7. Dr. M.Muthamizh Selvam
- **8.** Mrs. Jaya Sonal Patil

**Patent Application Number:** 202441069622 **Date of filing of Application:** 14/09/2024

**Publication Date: 20/09/2024** 



**Mrs.Hepsi Ajibah A S**Published an India Patent

**Title of the invention:** REAL-TIME SOLAR ENERGY PREDICTION AND FAULT ANALYSIS USING MACHINE LEARNING FOR ENHANCED PV PERFORMANCE

### **Name of Inventor:**

- 1. R. Prabha
- 2. S. V. Lakshmi
- 3. Arunkumar N
- 4. E.Christina Dally
- 5. Poornima R
- 6. Dr. Soumya Mishra
- 7. Hepsi Ajibah A S
- 8. V Ashok Gajapathi Raju

**Patent Application Number:** 202441068808 **Date of filing of Application:** 11/09/2024

Publication Date: 20/09/2024

## DEPARTMENT OF MATHEMATICS AND ENGLISH

| Events                               | Remarks   |
|--------------------------------------|---|
| FDP/Workshop/Confe                   | erence  |
| Publications(only published) details | <ol> <li>T.Ragunathan, Shweta Choudhary, G. Venkat Narayanan, S Jagadeesh, Numerous Determinants Identities Involving Jacobsthal and Jacobsthal Lucas Numbers, Vol. 31 No. 5s (2024), Page No. 289—295 Scopus</li> <li>Rajiniganth, P., Suresh, K., Aparna, T. and Oyetepo, T., 2024, April. Generalized Quantum Computing K-Fibonacci Sequence. In 2024 International Conference on Science, Engineering and Business for Driving Sustainable Development Goals (SEB4SDG) (pp. 1-5). IEEE.</li> <li>Rajiniganth, P., Aparna, T., Oyetepo, T. and Suresh, K., 2024, April. Generalized Tribonacci Sequence and its Sum Through Third Order Difference Operator. In 2024 International Conference on Science,</li> </ol> |
|                                      | Engineering and Business for Driving Sustainable Development Goals (SEB4SDG) (pp. 1-6). IEEE.   |

## **DEPARTMENT OF MBA**

| FACULTY PUBLICATION / REVIEW: | LEKSHMI.R.S has published a paper titled," Does Social Media Help or Hinder Success" in Journal of Informatics Education and Research, Vol 4 Issue 2, pp. 1396-1408, ISSN: 1526-4726 (2024), DOI: https://doi.org/10.52783/eel.v14i2.1458.  LEKSHMI.R.S has published a paper titled," Understanding Social Media Habits and Their Influence on MBA Students in Chennai," in European Economic Letters, Vol 14, Issue 2, pp. 1210-1218, ISSN: 2323-5233 (2024), https://doi.org/10.52783/eel.v14i2.1458  LEKSHMI.R.S has published a paper titled," The Impact of Influencer Marketing on Consumer Behaviour in the Cosmetic Industry: Analysing Engagement, Credibility, And Platform Preferences," in European Economic Letters, Vol 14, Issue 3, pp. 1180–1187, ISSN: 2323-5233 (2024), https://doi.org/10.52783/eel.v14i3.1879 |
|-------------------------------|--|
| FACULTY PUBLICATION / REVIEW: | Dr.K.Sampath has published a paper titled "AI-Powered Employee Performance Evaluation Systems in HR Management" in 2024 International Conference on Circuit Power and Computing Technologies (ICCPCT), ISBN: 979-8-3503-7281-6, <a href="https://doi.org/10.1109/ICCPCT61902.2024.10673159">https://doi.org/10.1109/ICCPCT61902.2024.10673159</a>  |
|                               | Dr.K.Sampath has published a paper titled "Data-Driven Decisions: Integrating Machine Learning into Human Resource and Financial Management" in 2024 International Conference on Circuit Power and Computing Technologies (ICCPCT), ISBN: 979-8-3503-7281-6, https://doi.org/10.1109/ICCPCT61902.2024.10672785https://doi.org/10.1109/ICCPCT61902.2024.10673159  |
|                               | Dr.K.Sampath has published a paper titled "AI-Driven Financial Management Optimizing Investment Portfolios through Machine Learning" in 2024 International Conference on Circuit Power and Computing Technologies (ICCPCT), ISBN: 979-8-3503-7281-6, <a href="https://doi.org/10.1109/ICCPCT61902.2024.10672859">https://doi.org/10.1109/ICCPCT61902.2024.10672859</a>   |

### FDP / STTP/ WORKSHOP ATTENDED:



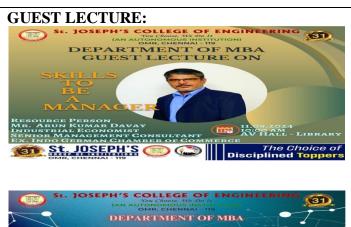
Mrs.J.Angel Priya has attended a 7 Day International workshop on "Writing and Publishing research papers in Scopus / WoS Journals " from 07.09.24 to 13.09.24.

Dr.Subalya, Dr.Sathish & Dr.G.Nirmala have attended a 5 Day online workshop on "Stock Market for beginners" from 23.09.24 to 27.09.24

#### **INDUSRIAL VISITS:**



The department of Management studies organized a one-day Industrial Visit to "THAAI CASTING LIMITED SRIPERUMBUDUR" on 18.09.2024 for the II year MBA-INTEGRATED students. This company is a prominent manufacturer of auto parts equipments and components made of Aluminium. They are the raw material producer for leading companies like Maruti Suzuki, JCB, Mahindra etc., The total



Organised a Guest Lecture on "Skills to be a Manager" on 29.08.2024 by Mr.Arun Kumar Davay, Senior Management Consultant, Ex-Indo German Chamber of Commerce.



Organised a Guest Lecture on "e-Commerce: The Future Business" on 24.09.2024 by Ms.Maria Subi Rajan, e-Commerce Coach, Founder & CEO BRANDFOX.



The Choice of

Organised a Guest Lecture on "Impact of Union Budget 2024-25 on Business & Entrepreneurship" on 20.09.2024 by Mr.M.U.Balaji, District Coordinator, ED&II.

Organised a Guest Lecture on "Challenging Challenges of Future Managers" on 18.09.2024 by Dr.S. Vasudevan, Director – Institute of Analytics (USA).



Dr.Angelin S.Kiruba has completed the NPTEL Course on Corporate Social Responsibility.

Mr.Arvinth S has completed the NPTEL Course on Financial Accounting.

#### **FACULTY AWARDS / RECOGNITION:**



Dr.K.Jawahar Rani has received the "Outstanding Educator & Scholar Award" on 05.09.2024.

## NGO VISITS:



NGO: Nandhavanam Trust

Date: 26.09.2024

Class: II MBA C Section

## DEPARTMENT OF SCIENCE

| Sl.<br>No. | Events                               | Remarks   |
|------------|--------------------------------------|---|
| 1          | FDP/Workshop/Conference              | 1. Dr. B. Subash, Dr. G. Sasikumar, Dr. A. Dhivya have completed AICTE 8 weeks course and FDP on "Introduction to Polymer Science" during 22.07.2024 to 16.09.24.   |
| 2          | Competitions attended by students    | <ol> <li>Viniyaa S, Sindhukavi S, Hiranmayi, Jayaprakasam of I year Chemical participated in "Cocoenz 24 Tech fest" Event conducted by "Sri Sairam Institute of Technology in Chennaii" on 20.09.24.</li> <li>Harirajan N, Joel George C, Tholkappian N of I year Chemical participated in "Paper Fest" Event conducted by "SSN College of Engineering, Chennai" on 27.09.24.</li> <li>Rakshana S, Waseela Fathima K S, and Dayana Devi M, Shyam Krithi A, Adlin Jose S A and Valan Albina of I year Chemical participated in "Flagship Tech Fest – SSN Invente 2024 – Escape room , Maragatha Naanayam" Events</li> </ol>  |
| 3          | Awards/Prize won by students / Staff | <ul> <li>conducted by "SSN College of Engineering, Chennai" on 28.09.24.</li> <li>Staff:  Dr. N.R. Rajagopalan has been selected as Editorial Board Member for the "American Journal of Applied and Industrial Chemistry" for the period of Sep 2024 to Sep 2027.  Students:  1. Rakshana S, Waseela Fathima K S, and Dayana Devi M of I year Chemical department, won third prize in Technical event-UNMASKED INNOVATORS conducted by "Sairam Institute of Technology, Chennai" held on 19.09.2024</li> <li>2. Harigugan S and Rokesh S of I ADS department won third prize in "TECH BUZZ – Samarpana 2K24" events conducted by "Sri Sairam Institute of Technology in Chennai" on 25.09.24</li> <li>3. Om Murugan M of First year AML department, won Bronze medal in District level Chief Minister's trophy Silambam competition conducted by "Sports Development Authority of Tamilnadu" held in September 2024.</li> </ul> |

| 4 Publications(only published) details | Published:  |
|--|---|
|  | 1. Dr. P. Saravanan published an article titled "Visible-light enhanced tetracycline  |
|  | degradation via SnO2/TiO2-Ni@rGO ternary heterostructures"" in the journal  |
|  | of "Luminescence", 39 (2024) e4906 {doi: https://doi.org/10.1002/bio.4906}  |
|  | 2. Dr. P. Saravanan published an article titled "Fabrication of one-dimensional Zndoped Bi2S3 nanorods for photodiode applications." in the journal of "Luminescence", 39 (2024) e4906 {doi: https://doi.org/10.1002/bio.4901}  |
|  | 3. Dr. N. Punitha published an article titled "Effect of Graphite Nanoadditives on the Behavior of a Diesel Engine Fueled with Pyrolysis Fuel Recovered from Used Plastics" in the "ACS Omega" Vol.9, (2024) 39584-39595, {doi.org/10.1021/acsomega.4c03715 }   |
|  | 4. Dr. P. Krishnan published an article titled "Biomedical applications of terbium oxide nanoparticles by Couroupita guianensis aubl leaves extract: A greener approach" in the journal of "Nano-Structures & Nano-Objects", 40 (2024) 101341 {doi: https://doi.org/10.1016/j.nanoso.2024.101341 }  |
|  | 5. Dr. V. Swarnalatha published an article titled "Dr. P. Saravanan published an article titled "Fabrication of one-dimensional Zn-doped Bi2S3 nanorods for photodiode applications." in the journal of "Journal of Materials Science: Materials in Electronics", 35 (2024) 1777 {doi: https://doi.org/10.1007/s10854-024-13534-z}  |
|  | 6. Dr. B. Subash and Dr. B. Chandrasatheesh published an article titled "Facile synthesis of Co-doped In2O3 integrated with tubular g-C3N4 heterostructure and their synergistic effect on the enhanced photocatalytic degradation of tetracycline and oxygen evolution reaction"." in the journal of "Colloids and Surfaces A: Physicochemical and Engineering Aspects", 703 (2024) 135340 {doi: https://doi.org/10.1002/bio.4901} |

7. Dr. S.M. Prakash and Dr. K. Jayamoorthy published an article titled "Impact of the Catalytic Activity of SiO2 on the Synthesis of Aryl Benzimidazoles and its Mechanism: NMR Studies and Antimicrobial Effect." in the journal of "Silicon", (2024) {doi: https://doi.org/10.1007/s12633-024-03140-3}

Reviewer:

1. Dr. P. Saravanan acted as reviewer for the journal "Environmental Science and Pollution Research" – September 2024

2. Dr. K. Jayamoorthy acted as reviewer for the following journals. (September 2024)

Journal of Molecular Structure - Current Organic Chemistry
Sensor and Actuators B: Chemical - Journal of the Indian Chemical Society
Journal of Photochemistry & Photobiology, A: Chemistry