SRM
INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)

THE PULSE

ELECTRICAL AND ELECTRONICS ENGINEERING

2024 ISSUE 2

NAAC A++

Category 1 with 12B Status

(2023) Ranked 18th University

(2024) World Ranking one among 45 Indian Universities

(2023) World Ranking one among 75 Indian Universities

QS 4 Star Rated Globally VERY GOOD

(2023) World Ranking one among 14 Indian Universities

TABLE OF CONTENTS

HOD's Desk

Dr.K.Vijayakumar

HOD/DEAN

Electrical and Electronics Engineering

Dear All,

As we venture into the vibrant sunny days of July, I hope this edition of "The Pulse" finds you all in high spirits. I am delighted to share with you the latest achievements and activities of the Electrical and Electronics Engineering department for the period from April to June 2024. These accomplishments reflect our unwavering commitment to excellence in education, research, and industry collaboration.

Our department has been ranked 10th among Indian universities and placed in the 301-350 band globally in the QS World University Rankings 2024. This recognition is a testament to the dedication of our faculty, students, and staff. Additionally, we have received a project sanctioned under the Margdarshan Scheme (AICTE) for an amount of 15 lakhs and a duration of 3 years.

We are also excited to welcome the new semester joining students. You are now part of a vibrant and dynamic department that is dedicated to providing a comprehensive education and fostering a culture of innovation. We encourage you to take full advantage of the resources and opportunities available to you, engage actively in your studies, and participate in the various departmental activities. Your journey here will be filled with learning, growth, and success.

These achievements reflect our department's continuous efforts to excel and our commitment to providing our students with the best opportunities for growth and success. We look forward to more such accomplishments in the future.

Editorial Desk

Dr. PRADEEP V
Assistant Professor
Faculty Mentor

DINESH KUMAR S
III Year, EEE
Content Writer

KAVYA N
II Year, EEE
Columnists

GIDEON STEVE B
II Year, EEE
Graphic Designer

AJAY AKSANTH J
III Year, EEE
Layout Designer

THARUNKANTH MS
II Year, EEE
Content Writer

Dear Readers,

Welcome to the second edition of "The Pulse" for the year 2024! As we continue our journey through the realms of Electrical and Electronics Engineering, we're excited to bring you the latest updates, innovations, and insights from our department.

The past few months have been a whirlwind of activity, with our faculty and students pushing the boundaries of knowledge and technology. From groundbreaking research to impactful projects, the spirit of innovation continues to thrive within our community.

In this edition, we delve into some of the most intriguing developments that have taken place between April and June 2024. From advancements in renewable energy systems to the latest trends in artificial intelligence and machine learning applications, there's something for everyone to explore.

We are also thrilled to showcase the achievements of our students and faculty members, who have been making waves both within the department and beyond. Whether it's winning prestigious awards, presenting at international conferences, or spearheading community initiatives, their dedication and passion are truly inspiring.

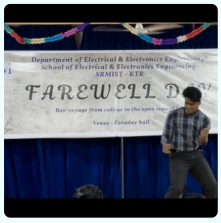
We hope you find this edition informative, thought-provoking, and inspiring. Your feedback and suggestions are invaluable to us as we strive to enhance the quality and relevance of our newsletter. Thank you for your continued support, and we look forward to embarking on this journey together.

Warm regards,
Team Newsletter.

Students' CORNER

The Farewell Day celebration for the graduating batch of 2024 from the Electrical and Electronics Engineering Department at SRM Institute of Science and Technology was a vibrant event organized by the EEE Association at Faraday Hall on 10th May 2024. The occasion, graced by Dr. K. Vijayakumar, Head of the EEE Department, along with faculty members and approximately 125 attendees, including students, was a poignant tribute to the achievements and journey of the graduating students.

The event commenced with an inspiring speech from Dr. K. Vijayakumar, acknowledging the accomplishments of the graduating batch and offering words of wisdom for their future endeavors. The program featured lively dance performances, engaging games like Musical Chair and a Pushup Challenge, and interactive sessions where students shared heartfelt reflections on their experiences at SRMIST.



A highlight of the evening was the Best Outgoing Student Award, recognizing a student for exceptional academic performance, extracurricular involvement, and leadership qualities. The celebration concluded with a vibrant group dance performance, adding to the festive spirit of the farewell.

The Farewell Day celebration for the EEE graduating batch of 2024 was a grand success. The event provided a platform for students to express their gratitude, showcase their talents, and celebrate their achievements.

PLACEMENT RECORDS

2020 - 2024 BATCH


Shubhang Pappur


Tanmay Yadav


Nikhil Verma


Saumyarup Bhaumik


Austin Sunny


Nitin Varghese


Praveen Yadav


Anshuman Khare


Shivansh Gupta


Venkatesh Pandey


Anshul Kanthaliya


Suryansh Dubey


Nandighosh Kuanr


Amreen


Durga Prasad


Aslamhanif S


Anany Jain


Hermona Moses


Karnati Nagamani

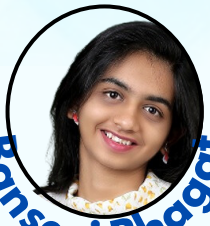

Aryan

PLACEMENT RECORDS

2020 - 2024 BATCH


FOXCONN
Nishukanth Goswami


Subros
Gayathiri Alagesan


Subros
Bansari Bhagat


DAIMLER
Adarsh T S


TATA COMMUNICATIONS
Suranyo Chattopadhyay


SIEMENS
Awanish Kumar


SIEMENS
Seemakurthi Nithin


SIEMENS
Kavinkishore R S


SIEMENS
Sanjay K


Linde
Kallam Reddy


Linde
K Vinith


Mahindra
Hemprasad R


mycaptain
Prasun Mondal


Schneider Electric
Jayti Bhatnagar


dexian
Sindhuja S


KPIT
Borra Chandra


KPIT
Harish Vasudevan B


KPIT
Tushar Vijay


KPIT
Sriram Karthikamani


KPIT
Rishika Anand

PLACEMENT RECORDS

2020 - 2024 BATCH


ROCKMAN
ANISH T


INDIA
Gokul Raj C


torrent GAS
Tamil Vaanan D K


torrent GAS
Yuvaneshwaran S


AFCONS
Sumandeep Paul

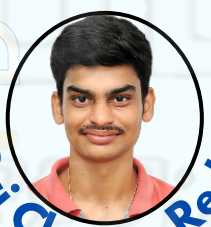

Capgemini
Sidharth Joly

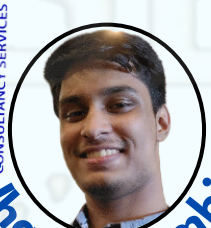

Capgemini
Srighanesh A S


Capgemini
Dillibabu B


Capgemini
Nikunj Lahoti


DEXTERITY
B S Venkata Satya


DEXTERITY
R Sai Charan Reddy


TATA CONSULTANCY SERVICES
Sidharth Nambiar


TATA CONSULTANCY SERVICES
Karthik Sankaran


APTIV
Ayan Muduli


BYJU'S
Mirudhulah R


PD TECHNOLOGY SERVICE
Narendhiran S


BHARAT FIH
Marpuri Madhava Saai


BHARAT FIH
Aruneshvar S


BHARAT FIH
Naveen R


BHARAT FIH
Hrittick Chatterjee

PLACEMENT RECORDS

2020 - 2024 BATCH

2021 - 2025 BATCH

AWARDS AND ACHIEVEMENTS

Vinith K, fourth year student have won the **second prize** for his project "Rollie: Generative AI-Powered Home" at the 3rd International Conference on Recent Trends in Electrical, Electronics, Ubiquitous Communication, and Computational Intelligence held at SRMIST, Kattankulathur Institute on April 15, 2024

Vinith K, a fourth-year student, participated in intercollege event "The Project Expo" organised by SRMIST, Kattankulathur, from April 25 to April 26, 2024, and secured first place.

Himanshu Yadav, a second-year student, has participated in the NCC Competition, a national-level event held at Kongu Engineering College on April 24, 2024, and emerged as a winner.

Aparajita Pal, Sree Sowmi A, Chitesh Thangasamy Na, and Samarpan Kharel from 1st year won the second prize in Techno Expo 2024 at SRM Institute of Science and Technology, Kattankulathur, on 6.5.24.

Aditya, Madhav, Hari Govind, Anugoju Dhanunjay, and Hethu Varadhan from the 1st year won the First prize in Techno Expo 2024 at SRM Institute of Science and Technology, Kattankulathur, on 6.5.24.

Harsha S., T., Thentral T. M., T., Ramasamy, P**., Pal, A., M., S., Panda, S., & Das, I.** (2024). Innovative design and development of attitude determination and control systems for CubeSats with reaction wheels. Indonesian Journal of Electrical Engineering and Computer Science, 34(1), 109. https://doi.org/10.11591/ijeecs.v34.i1.pp109-118

STUDENTS PARTICIPATION

Vinith K, Fourth-year student has presented a paper titled "An Unmanned Agri Vehicle (UAV) for Precision Agri-Operation" during the Sixth International Conference on Emerging Trends in Engineering and Technology at St. Joseph College of Engineering, Chennai, from April 17 to April 18, 2024.

Souvik Maity and Atish Dinda, second-year students, participated in the Inter-College event "Project and Poster Expo" organised by SRMIST, Kattankulathur, from April 25 to April 26, 2024.

50 students from fourth year has participated in intercollege event "project and poster expo" organised by SRM Institute of Science and technology held on April 25 to April 26,2024 **[Kallam Hemanth Reddy, Arpit Shanker Pandey, Yawan Surendra Bagada, Praveen Yadav, Aruneshvar S, Gokul Raj C, Sudhaharan M, Muthaiya V, Abishek S, Hermona Praisy Moses, Sameer Vicky Pillai, Vinith K, Prasun Mondal, Borra Umesh Chandra, Srighanesh, Tandle Sampath Kumar, T.Rakshann, Rishika Anand, Harish Vasudevan.B, Awanish Kumar, Pranjal Tiwari, Saumyarup Bhaumik, Siddarath Joly, oNithin, Kavinkishore R S, Gautham, Ayan Muduli, Suranyo Chattopadhyay, Cyriac Monachan, Karthik Sankaran, Kapikethan Reddy, Marpuri Madhava Saai, Abhishek Soni, Koppola Gokul Sai, Karthikeyan S, Maadhav Y, Kishan Kumar B]**

V. Varun and Nithyashree A Pillai, second-year students, has presented in intercollege event on "Principles of Self-Driving Vehicles and Renewable Energy Generation" at an event organized by SRMIST, Kattankulathur, from April 25 to April 26, 2024.

Sriram Karthik from the 4th year participated in Project Expo-2024, as part of the 3rd International Conference on RAEEUCCI-2024 at SRM Institute of Science and Technology, Kattankulathur, on 15th April 2024.

Sabarish M, Swastik Panda, and Indraneela Das from the 3rd year published a paper in the Indonesian Journal of Electrical Engineering and Computer Science on 01-04-2024.

Souvik Maity from the 2nd year completed the course on Advanced Topics in Wireless Communication (Hindi) at IIT Madras from 01.02.2024 to 01.04.2024.

Iniyan, Jayden Varghese Alex, Karthik Pemmani, Muskan Singh, and Sneha Radhakrishnan from the 1st year participated in GIST'24 at Dhaanish Ahmed College of Engineering on 02-05-2024.

Aarthi.M , Rohini.S, Sanjay. A, Tharunkanth MS, Kavya N ,Vaitheeswari R, Pavithra L , Sundarrasu.S , Rukkumani M D, DIVYASRI.D , VIJAY RAJ, Aakash A from the 2nd year went for an internship training at Bharat Heavy Electricals Limited from 04.06.2024 to 19.06.2024.

Facultys' CORNER

FUNDED PROJECTS

Project Title: Margadarshan Scheme
PI: **Dr.K.Vijayakumar**
Funding Agency: AICTE
Sanctioned Amount: 15 Lakhs

Dr.K.Vijayakumar

Project Title: Adaptation of Quasi Dynamic Wireless Electric Vehicle charging Module for Slow Moving Indian Traffic Road Scenarios
PI: **Dr.C.Bharatiraja**
Funding Agency: The Scheme for Promotion of Academic and Research Collaboration (SPARC)
Sanctioned Amount: 74 Lakhs

Dr.C.Bharatiraja

PUBLICATIONS AND PATENTS

Number of papers published in 2024 : **126**
Number of papers in IEEE Transactions : **4**
Total citations of the department : **23278**
H-Index of the department : **61**
i10-Index of the department : **588**
Number of patent published in 2024 : **5**
Number of patent granted in 2024 : **10**

List of Articles

- Ganesan, M., Kandhasamy, S., Chokkalingam, B., & Mihet-Popa, L. (2024). A Comprehensive Review on Deep Learning-Based Motion Planning and End-To-End Learning for Self-Driving Vehicle. IEEE Access, 1-1. https://doi.org/10.1109/ACCESS.2024.3394869
- Vijayan, M., Udumula, R. R., Mahto, T., & K.M., R. E. (2024). A novel multi-port high-gain bidirectional DC-DC converter for energy storage system integration with DC microgrids. Journal of Energy Storage, 87, 111431. https://doi.org/10.1016/j.est.2024.111431
- R, S., R, P., Choudhury, S., & Shukla, S. (2024). A Novel Non-Isolated DC-DC Converter for Marine Water Pumping Applications using Solar PV System. 2024 IEEE International Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation (IATMSI), 1-5. https://doi.org/10.1109/IATMSI60426.2024.10503144
- Kalaiarasi, N., Doss, M. A. N., Inbaraj, M. J., Dhanush, K., Janarthanam, P., Perumal, V., & Fernandez, S. G. (2024). An intelligent controller for fault-tolerant cascaded multilevel inverter-based photovoltaic system. 020058. https://doi.org/10.1063/5.0196479
- Kalaiarasi, N., Fernandez, S. G., Dass, M. A. N., Vaishali, U., Jayakumar, M., Aridoss, V., & Nithyanandham, S. (2024). Analysis of Vienna rectifier. 020056. https://doi.org/10.1063/5.0196477
- Harini, S., Nallaperumal, C., & Hosseinpour, A. (2024). Analysis, design, and reliability evaluation of a modified multi-port quasi-resonant converter with high gain. IET Power Electronics. https://doi.org/10.1049/pel2.12691
- Manoj Kumar, V., Bharatiraja, C., ELrashidi, A., & AboRas, K. M. (2024). Chaotic Harris Hawks Optimization Algorithm for Electric Vehicles Charge Scheduling. Energy Reports, 11, 4379-4396. https://doi.org/10.1016/j.egyr.2024.04.006
- Ramasamy, P., Muruganantham, B., Rajasekaran, S., Durai Babu, B., Ramkumar, R., Aparna Marthanda, A. V., & Mohan, S. (2024). A comprehensive review on different types of fuel cell and its applications. Bulletin of Electrical Engineering and Informatics, 13(2), 774-780. https://doi.org/10.11591/eei.v13i2.6348

- Parthasarathi, M., Fernandez, S. G., & Doss, M. A. N. (2024). Design and analysis of dynamic wireless power transfer for electric vehicle charging application. 020009. https://doi.org/10.1063/5.0196364
- Venkatesan, M., Narayanamoorthi, R., Emara, A., & Ghadi, Y. Y. (2024). Fuzzy Logic Controlled Pulse Density Modulation Technique for Bidirectional Inductive Power Transfer Systems. IEEE Access, 12, 55184-55200. https://doi.org/10.1109/ACCESS.2024.3388491
- Harsha S., T., Thentral T. M., T., Ramasamy, P., Pal, A., M., S., Panda, S., & Das, I. (2024). Innovative design and development of attitude determination and control systems for CubeSats with reaction wheels. Indonesian Journal of Electrical Engineering and Computer Science, 34(1), 109. https://doi.org/10.11591/ijeecs.v34.i1.pp109-118
- E.Vani, R.C.Ilambirai, M.Ganga & Gnanamalar. J. (2024). Jellyfish Search Optimized Gated Recurrent Unit Based FOPID/PID for Enhanced Automatic Voltage Regulator. Electric Power Components and Systems, 1-22. https://doi.org/10.1080/15325008.2024.2322004
- Anand, A., Bharath, M. Y., Sundaravadivel, P., Roselyn, J. P., & Uthra, R. A. (2024). On-Device Intelligence for AI-Enabled Bio-Inspired Autonomous Underwater Vehicles (AUVs). IEEE Access, 12, 51982-51994. https://doi.org/10.1109/ACCESS.2024.3385435
- Doss, M. A. N., Kalaiarasi, N., Suba, K., SathishKumar, B., Ramesh, L., & Fernandez, S. G. (2024). Open circuit switch fault detection in multilevel inverter using artificial neural network. 020059. https://doi.org/10.1063/5.0196365
- Ramamurthi, Subbulakshmy, and Palanisamy Ramasamy. 2024. "Reliability Evaluation of Non-Isolated High Gain Interleaved DC-DC Converter." Bulletin of Electrical Engineering and Informatics 13(2): 794-99. https://beei.org/index.php/EEI/article/view/6585.
- NithyaDevi, S.M., Vijayakumar Krishnasamy, and J. Divya Navamani. 2024. "Transformerless High Voltage Gain Y-Source Converter with Reduced Switch Stress." e-Prime - Advances in Electrical Engineering, Electronics and Energy 8: 100558. https://linkinghub.elsevier.com/retrieve/pii/S2772671124001396.
- S, Yamuna, and Vijayakumar K. 2024. "Transforming 3D Brain MRI Data: Building a Robust Preprocessing Pipeline." International Journal of Electronics and Communication Engineering 11(4): 51-59. https://www.internationaljournalssrg.org/IJECE/paper-details?Id=568.
- Usha, S., P. Geetha, A. Geetha, and Surender Reddy Salkuti. 2024. "Analysis, Modeling and Implementation of Electric Vehicle Converter Configurations." In , 229-67. https://link.springer.com/10.1007/978-3-031-18389-8_11.
- Vishnuram, Pradeep, Mohit Bajaj, Rangu Seshu Kumar, and Arvind R. Singh. 2024. "Buck-Boost Converter-Based Sliding Mode Maximum Power Point Tracking System for Photovoltaic Systems." In , 61-77. https://link.springer.com/10.1007/978-3-031-18389-8_3.
- Sattianadan, D., Anusha, R., Fernandez, S. G., Sudhakaran, M., & Sridevi, S. (2024). Comprehensive analysis of optimal apportionment of EV charging station in a radial distribution system. 020005. https://doi.org/10.1063/5.0196475

- Babu, V. Vignesh, J. Preetha Roselyn, and Prabha Sundaravadivel. 2024. "Coordination of SRF-PLL and Grid Forming Inverter Control in Microgrid with Solar PV and Energy Storage." Journal of Low Power Electronics and Applications 14(2): 29. https://www.mdpi.com/2079-9268/14/2/29.
- Babu, V. Vignesh, J. Preetha Roselyn, C. Nithya, and Prabha Sundaravadivel. 2024. "Development of Grid-Forming and Grid-Following Inverter Control in Microgrid Network Ensuring Grid Stability and Frequency Response." Electronics 13(10): 1958. https://www.mdpi.com/2079-9292/13/10/1958.
- Panneerselvam, Dhivya, and Kodumur Meesala Ravi Eswar. 2024. "Development of High Voltage Gain DC-DC Converter with Dual Output for Electric Vehicle Charging Application." In 2024 International Conference on Distributed Computing and Optimization Techniques (ICDCOT), IEEE, 1-6. https://ieeexplore.ieee.org/document/10516124/.
- Shanmugam, Yuvaraja, Narayanamoorthi Rajamanickam, Roobaea Alroobaea, and Abdulkareem Afandi. 2024. "Driving towards Sustainability: Wireless Charging of Low-Speed Vehicles with PDM-Based Active Bridge Rectifiers." Sustainability 16(9): 3810. https://www.mdpi.com/2071-1050/16/9/3810.
- Sattianadan, D., Sharma, R. K., Fernandez, S. G., Sudhakaran, M., & Sridevi, S. (2024). Estimation of state of charge and state of health of batteries using hybrid method and recurrent neural network. 020028. https://doi.org/10.1063/5.0196476
- E, Priya, and Preetha Roselyn J. 2024. "Identification of Coherent Group of Generators Based on Modularity Clustering to Improve System's Resiliency." In 2024 Third International Conference on Intelligent Techniques in Control, Optimization and Signal Processing (INCOS), IEEE, 1-5. https://ieeexplore.ieee.org/document/10527558/.
- Eswar, Kommoju Naga Durga Veera Sai, Mohan Arun Noyal Doss, Mohammed Alruwaili, and Waleed Mohammed Abdelfattah. 2024. "Implementation of a Microgrid System with a Four-Phase Inductor Coupled Interleaved Boost Converter for EV Charging Stations." Energies 17(10): 2277. https://www.mdpi.com/1996-1073/17/10/2277
- Abinaya, K., and U. Sowmmiya. 2023. "Instantaneous Power Based Effective Power Balance Operation in All-Electric Ship Microgrid." In 2023 7th International Conference on Computer Applications in Electrical Engineering-Recent Advances (CERA), IEEE, 1-6. https://ieeexplore.ieee.org/document/10455112/
- Sowmmiya, U., J. Preetha Roselyn, and Prabha Sundaravadivel. 2024. "Integrating Edge-Intelligence in AUV for Real-Time Fish Hotspot Identification and Fish Species Classification." Information 15(6): 324. https://www.mdpi.com/2078-2489/15/6/324.
- T, Nivetha, and Preetha Roselyn J. 2024. "Investigation of Small Signal Stability Enhancement through Combined Local and Wide Area PSS in PV Integration in Multimachine Power System." In 2024 Third International Conference on Intelligent Techniques in Control, Optimization and Signal Processing (INCOS), IEEE, 1-7. https://ieeexplore.ieee.org/document/10527720/.
- Shanmugam, Y., Narayanamoorthi, R., Ramachandaramurthy, V. K., Bernat, P., Shrestha, N., Son, J., & Williamson, S. S. (2024). Machine Learning based Optimal Design of On-Road Charging Lane for Smart Cities Applications. IEEE Journal of Emerging and Selected Topics in Power Electronics, 1-1. https://doi.org/10.1109/JESTPE.2024.3400292

- Antony, R. P., Komarasamy, P. R. G., Rajamanickam, N., Alroobaea, R., & Aboelmagd, Y. (2024). Optimal Rotor Design and Analysis of Energy-Efficient Brushless DC Motor-Driven Centrifugal Monoset Pump for Agriculture Applications. Energies, 17(10), 2280. https://doi.org/10.3390/en17102280
- S, Harini, Chellammal N, and Ramesh C Bansal. 2024. "Power Flow and Reliability Analysis of a Non-Isolated PV/Grid Connected Quasi Resonant Converter for off-Board EV Charging Station." International Journal of Modelling and Simulation: 1–16. https://www.tandfonline.com/doi/full/10.1080/02286203.2024.2345239.
- Ramanathan, G., C. Bharatiraja, Hossam Kotb, and Ahmed Emara. 2024. "PV-Assisted Modified Z-Source Inverter for Multiport EV Charging Infrastructure: Access with PV2V." Energy Reports 11: 5716–32. https://linkinghub.elsevier.com/retrieve/pii/S2352484724003068.
- Palanisamy, R., Usha, S., Selvabharathi, D., Selvakumar, K., & Salkuti, S. R. (2024). SVPWM Based Transformerless Z-Source Five Level Cascaded Inverter with Grid Connected PV System (pp. 421–438). https://doi.org/10.1007/978-3-031-18389-8_19
- Sattianadan, D., Umapathy, G., Karthik, S., Balaji, K. J., Narendran, M., & Fernandez, S. G. (2024). Techno economic analysis of electrical vehicle charging station. 020057. https://doi.org/10.1063/5.0196478
- Balasubramanian, Sujatha, and Preetha Roselyn J. 2024. "Detection and Classification of Faults Using Intelligent Approach in Microgrid Network." In 2024 Third International Conference on Intelligent Techniques in Control, Optimization and Signal Processing (INCOS), IEEE, 1–5. https://ieeexplore.ieee.org/document/10527718/.
- Albert Paul Arunkumar, C.P., and K. Selvakumar. 2024. "A Novel Dynamic Batching Energy Management Strategy for Multi-Microgrid Networks with Enhanced Privacy." Energy and Buildings 318: 114501. https://linkinghub.elsevier.com/retrieve/pii/S0378778824006170.
- Mani, Pemila, Pongiannan Rakkiya Goundar Komarasamy, Narayanamoorthi Rajamanickam, Roobaea Alroobaea, Majed Alsafyani, and Abdulkareem Afandi. 2024. "An Efficient Real-Time Vehicle Classification from a Complex Image Dataset Using EXtreme Gradient Boosting and the Multi-Objective Genetic Algorithm." Processes 12(6):1251. doi: 10.3390/pr12061251.
- Murugan, Chitra, Sutha Subbian, Saravanan Kaliyaperumal, Kishor Kumar Sadasivuni, Md Irfanul Haque Siddiqui, Suresh Muthusamy, Marc A. Rosen, Chander Prakash, and Choon Kit Chan. 2024. "An Event Triggered Control Scheme for Enhanced Production of Escherichia Coli and Biomass Concentration during Fed-Batch Cultivation." Heliyon 10(12):e32210. doi: 10.1016/j.heliyon.2024.e32210.
- M., Pemila, Pongiannan R. K., Narayanamoorthi R., Kareem M. AboRas, and Amr Youssef. 2024. "Application of an Ensemble CatBoost Model over Complex Dataset for Vehicle Classification" edited by A. M. Alqudah. PLOS ONE 19(6):e0304619. doi: 10.1371/journal.pone.0304619.
- Purushothaman, D., Narayanamoorthi R, and Vigna Kumaran Ramachandramurthy. 2024. "Charging Ahead: Unlocking the Potential of Constant Voltage and Constant Current Modes in WPT for EVs." Journal of Energy Storage 96:112603. doi: 10.1016/j.est.2024.112603.

- Ramakrishnan, Venkatesan, Dominic Savio A, Balaji C, Narayanamoorthi R, Pradeep Vishnuram, Tiansheng Yang, Mohit Bajaj, Rajkumar Singh Rathore, and Ievgen Zaitsev. 2024. "Design and Implementation of a High Misalignment-Tolerance Wireless Charger for an Electric Vehicle with Control of the Constant Current/Voltage Charging." Scientific Reports 14(1):13165. doi: 10.1038/s41598-024-63952-6.
- Anbazhagan, Geetha, M. Maragatharajan, and Tai-hoon Kim. 2024. "Smart Battery Management System for Mobile Consumer Electronics Based on Federal Split Learning Model." IEEE Transactions on Consumer Electronics 1-1. doi: 10.1109/TCE.2024.3415757.
- Aravind, R., Bharatiraja Chokkalingam, Rajesh Verma, Sakthivel Aruchamy, and Lucian Mihet-Popa. 2024. "Multi-Port Non-Isolated DC-DC Converters and Their Control Techniques for the Applications of Renewable Energy." IEEE Access 12:88458-91. doi: 10.1109/ACCESS.2024.3413354.
- G., Ramanathan, Bharatiraja Chokkalingam, and J. L. Munda. 2024. "PV-Assisted Grid Connected Multi Output Electric Vehicle Charger with PV2V, G2V and PV2G Functions" edited by A. Kumar. PLOS ONE 19(6):e0304637. doi: 10.1371/journal.pone.0304637.
- Kannan, Deeba, Amutha Balakrishnan, K. Mekala Devi, Nagendra Singh, P. Angelin Kiruba, Ravindran Ramkumar, and Dhandapani Karthikeyan. 2024. "Hybrid Rater to Quantify and Measure the Severity of Infection and Spread of Infection in Muskmelon." Bulletin of Electrical Engineering and Informatics 13(3):1667-75. doi: 10.11591/eei.v13i3.5432.
- Arumbu, V. P., and D. Karthikeyan. 2024. "Reliability Assessment and Fault Prediction in a 13-Level Multilevel Inverter Through Machine Learning with SVM." Journal of Electrical Engineering & Technology. doi: 10.1007/s42835-024-01955-z.
- Priya, E., and J. Preetha Roselyn. 2024. "Development of Hierarchical Two-Stage Constrained Spectral Clustering Algorithm to Enhance Power System Distribution Network Resiliency under Zonal Attacks." Electrical Engineering. doi: 10.1007/s00202-024-02537-y.
- Arulvendhan, K., Srinivas Kandadai Nagaratnam, R. Narayanamoorthi, Mohammed Alharbi, and Seada Hussen. 2024. "Hybrid Compensation Based Efficient Wireless Charging System Design With Solar Photovoltaic Interface Toward Sustainable Transportation." IEEE Access 12:87152-66. doi: 10.1109/ACCESS.2024.3414169.
- Pemila, M., RK Pongiannan, R. Narayanamoorthi, Emad A. Sweelem, Essam Hendawi, and Mohamed I. Abu El-Sebah. 2024. "Real Time Classification of Vehicles Using Machine Learning Algorithm on the Extensive Dataset." IEEE Access 1-1. doi: 10.1109/ACCESS.2024.3417436.
- Shanmugam, Yuvaraja, and Narayanamoorthi R. 2024. "Receiver Side-Controlled Load-Independent S-LCC/SP-Compensated Multileg Inverter-Powered Dynamic Charging System." IEEE Transactions on Industrial Electronics 1-10. doi: 10.1109/TIE.2024.3398672.
- Palanisamy, R. 2024. "Mitigation of Capacitor Voltage Unbalance and Common Mode Voltage for 3-Phase 5-Level NPC Inverter Using Hexagonal SVPWM." E-Prime - Advances in Electrical Engineering, Electronics and Energy 9:100639. doi: 10.1016/j.prime.2024.100639.

- U, Sowmmiya, Abinaya K, Rishik Jhunjhunwala, Prateek Satpathy, and Arul R. 2024. "Fault Classification and Identification through Machine Learning Approaches for a Solar PV – Battery Based Water Pumping System." Multimedia Tools and Applications. doi: 10.1007/s11042-024-19593-y.
- Thanigaivelraja M, Femi R, Graphene-Infused copper contacts: Achieving ultra-low resistance ohmic interfaces, AIP Conf. Proc. 3170, June 2024. 040011-1-040011-6; https://doi.org/10.1063/5.0215814.
- K A., Vijayakumar K. Exploring radiative cooling solutions for microinverter in bifacial and monofacial PV systems across diverse Indian climatic zones, MRS Energy & Sustainability. 2024.doi:10.1557/s43581-024-00089-z

- **Anbazhagan, Geetha, M. Maragatharajan, and Tai-hoon Kim. 2024. "Smart Battery Management System for Mobile Consumer Electronics Based on Federal Split Learning Model." IEEE Transactions on Consumer Electronics 1–1. doi: 10.1109/TCE.2024.3415757.**
- **Shanmugam, Yuvaraja, and Narayanamoorthi R. 2024. "Receiver Side-Controlled Load-Independent S-LCC/SP-Compensated Multileg Inverter-Powered Dynamic Charging System." IEEE Transactions on Industrial Electronics 1–10. doi: 10.1109/TIE.2024.3398672.**

PATENTS

Granted

- **Dr.J.Divya Navamani** received patent grant for the title, " High gain dc-dc converter ", Government of India, Grant number: 532616
- **Dr.R.Narayanamoorthi** received patent grant for the title, " An Apparatus for Preparing and Transporting Toilet Sludge to a Septic Tank ", Government of India, Grant number: 535353.
- **Dr.C.Bharatiraja** received patent grant for the title, " Agricultural Machine for Ploughing and Seeding Agricultural Fields ", Government of India, Grant number: 535300.
- **Dr.C.Subramani, Dr.S.Usha, Dr.A.Geetha, Dr.T.M.Thamizh Thentral** received patent grant for the title, " A System for Controlling Parameters of an Electric Lamp ", Government of India, Grant number: 538838
- **Dr.S.Usha** received patent grant for the title, " Mechanical System for Generating Free Electricity for the Basic Needs", Government of India, Grant number: 539734.
- **Dr.C.Bharatiraja** received patent grant for the title, " A system for wireless charging of an electric vehicle and a method thereof ", Government of India, Grant number: 538104

- **Dr.S.Vijayalakshmi, Dr.C.Anuradha** received patent grant for the title, "IoT based trash bin with touch free Lid", Government of India, Grant number: 539734.
- **Dr.C.Bharatiraja** received patent grant for the title, " An agrinode device and a method for operating the agrinode device ", Government of India, Grant number: 534941.

Published

- **Dr.C.S.Boopathi** published patent title, "Cloud computing based decentralized blockchain network for secure data sharing", Indian patent, Application Number: 202441025050.
- **Dr.C.S.Boopathi** published patent title, "An AI-based system for healthcare transaction validation via blockchain technology and methods", Indian patent, Application Number: 202441043491A.
- **Dr.D.Karthikeyan** published patent title, "A system and a method of integrated boost CUK converter for PV applications", Indian patent, Application Number: 202321078517.
- **Dr.D.Karthikeyan** published patent title, "FPGA integrated pollution monitoring system with IOT", Indian patent, Application Number: 202441046387.

Consultancy work

- **Dr.C.Bharatiraja** has done a consultancy work in **Abhinav Rizal** on 11-04-2024.
- **Dr.C.Bharatiraja** has done a consultancy work in **ZF COMMERCIAL VEHICLE CONTROL SYSTEMS INDIA LIMITED** on 20-05-2024.
- **Dr.A.Geetha** has done a consultancy work in **Vijaya Hospital**, Vadapalani, Chennai and Navitas Energy Consultant on 17-04-2024.
- **Dr.C.Bharatiraja** has visited **Rizal** for knowledge sharing on 20-04-2024.
- **Dr.R.Narayanamoorthi** has visited **ISIEINDIA PVT LTD** for knowledge sharing on 11-06-2024.

AWARDS AND FACILITATIONS

Dr.S.Usha received the **Best Paper Award** at Karpaga Vinayaga College of Engineering and Technology in April 2024.

Dr.R.Narayanamoorthi became a **Research Fellow** at Prince Sultan University in June 2024.

Dr.C.Bharatiraja received **Two Best Paper Awards** from the International Conference On Advances In Mechanical Engineering organised by the Department of Mechanical Engineering, SRMIST.

Dr.U.Sowmmiya served as the **Expert Member** of the programme assessment committee at Velammal Engineering College on 26-04-2024.

Dr.K.Mohanraj served as the **External Examiner** for university examinations conducted at Aarupadi Veedu Institute of Technology on 16-04-2024.

Dr. Jagabar Sathik delivered a talk on "**Digital Twin in smart battery management system using OPAL RT**" organized by the Department of Electrical & Electronics Engineering, AVIT held between 01-04-2024 to 05-04-2024.

Dr. Jagabar Sathik has been appointed as the academic expert of the **Board of Studies member** in the Department of Electrical & Electronics Engineering, Paavai Engineering College, Namakkal.

Dr.D.Suchitra has been appointed as the academic expert of the **Board of Studies member** in the Department of Electrical & Electronics Engineering, Sri Sairam Engineering College, Chennai.

Dr.R.Narayanamoorthi has been appointed as the academic expert of the **Board of Studies member** in the Department of Electrical & Electronics Engineering, Mohamed Sathak A.J. College of Engineering, Chennai

Dr.R.Sridhar has been appointed as the academic expert of the **Board of Studies member** in the Department of Electrical & Electronics Engineering, DMI COLLEGE OF ENGINEERING Palanchur – Nazarathpet P.O., Chennai – 600 123

Dr.A.Rathinam has been appointed as the academic expert of the **Board of Studies member** in the Department of Electrical & Electronics Engineering, Sree Sakthi Engineering College, Coimbatore.

FACULTY PARTICIPATION

Dr.R.Femi attended a faculty development program titled "Modeling Cable Design & Power Electronics" on 20-05-2024 organized by the College of Engineering & Technology.

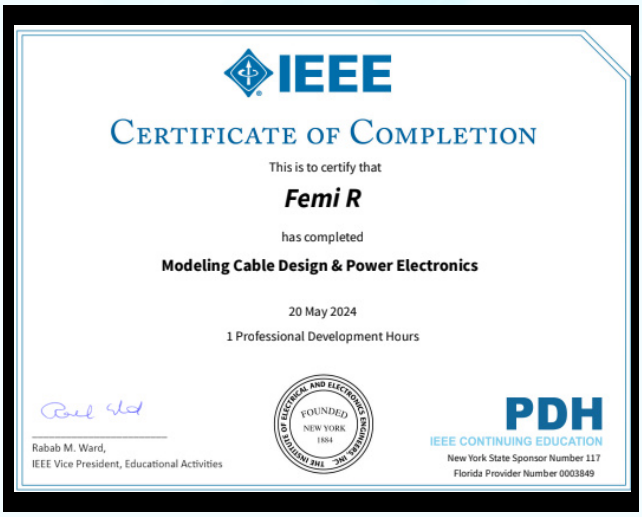
Dr.R.Femi attended a faculty development program titled "Impulse Technology on Solar Cell & OLED Devices Modeling and Simulation using SETFOS Software" on 27-05-2024 from Impulse Technology.

Dr.T.M.Thamizh Thentral attended a faculty development program titled "A Comprehensive Power System Optimization Tool: GAMS" from 21-05-2024 to 25-05-2024, organized by SRM Institute of Science and Technology.

Dr.D.Karthikeyan attended a faculty development program titled "A Comprehensive Power System Optimization Tool: GAMS" from 21-05-2024 to 25-05-2024, organized by SRM Institute of Science and Technology

Dr.D.Karthikeyan attended a program titled "Artificial Intelligence Integrated with Cloud Applications" from 27-05-2024 to 31-05-2024 at St. Xavier's Catholic College of Engineering, Nagercoil.

Dr.R.Palanisamy attended a program titled "Artificial Intelligence Integrated with Cloud Applications" from 27-05-2024 to 31-05-2024 at St. Xavier's Catholic College of Engineering, Nagercoil.


IEEE

CERTIFICATE OF COMPLETION

This is to certify that

Femi R

has completed

Modeling Cable Design & Power Electronics

20 May 2024

1 Professional Development Hours

Rabab M. Ward,
IEEE Vice President, Educational Activities

PDH
IEEE CONTINUING EDUCATION
New York State Sponsor Number 117
Florida Provider Number 0003849

Dr.R.Rajarajeswari attended a faculty development program in "Psychology of Stress, Health, and Well-Being" from 22-01-2024 to 12-04-2024 on the National Programme on Technology Enhanced Learning (NPTEL) AICTE.

Dr.R.Palanisamy attended a faculty development program titled "A Comprehensive Power System Optimization Tool: GAMS" from 21-05-2024 to 25-05-2024, organized by SRM Institute of Science and Technology.

Dr.N.Kalaiarasi attended a faculty development program in Fundamentals of Power Electronics from 22-01-2024 to 12-04-2024 on the National Programme on Technology Enhanced Learning (NPTEL).

Dr.N.Kalaiarasi attended a faculty development program in NBA Accreditation and Teaching and Learning in Engineering (NATE) from 22-01-2024 to 12-04-2024 on the National Programme on Technology Enhanced Learning (NPTEL)

Dr.D.Anitha attended a faculty development program in Fundamentals of Power Electronics from 22.01.2024 to 12.04.2024 on the National Programme on Technology Enhanced Learning

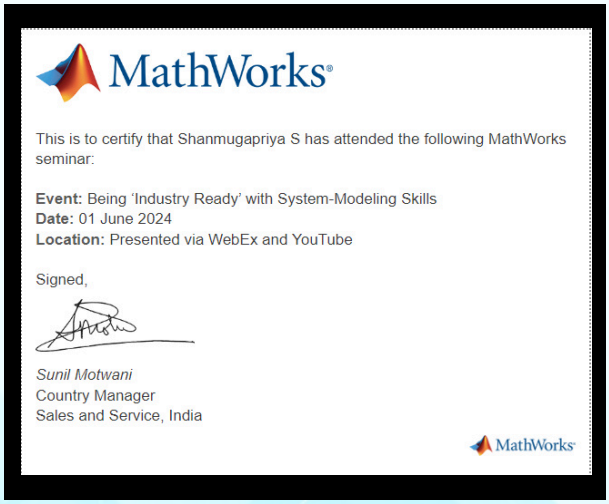
Dr.D.Anitha attended a faculty development program in NBA Accreditation and Teaching and Learning in Engineering (NATE) from 22-01-2024 to 12-04-2024 on the National Programme on Technology Enhanced Learning (NPTEL)

Dr.R.Senthil Kumar attended a faculty development program in STTP on "Emerging Trends on Control and Automation in the Present Scenario" from 09-05-2024 to 15-05-2024, organized by Dream Institute of Technology, Kolkata.

Dr.D.Karthikeyan attended a faculty development program in NBA Accreditation and Teaching and Learning in Engineering (NATE) from 22-01-2024 to 12-04-2024 on the National Programme on Technology Enhanced Learning (NPTEL)

Dr.D.Karthikeyan attended a faculty development program in STTP on "Emerging Trends on Control and Automation in the Present Scenario" from 09-05-2024 to 15-05-2024, organized by Dream Institute of Technology, Kolkata.

Dr.C.Naveen attended a faculty development program on "Exploring Data Science with Hands-on Training using Python" from 22-04-2024 to 26-04-2024.


MathWorks

This is to certify that Shanmugapriya S has attended the following MathWorks seminar:

Event: Being 'Industry Ready' with System-Modeling Skills
Date: 01 June 2024
Location: Presented via WebEx and YouTube

Signed,

Sunil Motwani
Country Manager
Sales and Service, India

MathWorks

Dr.R.Senthil Kumar attended a faculty development program titled "Unlocking Potential Emerging Technologies in Computing Techniques" from 06-05-2024 to 10-05-2024 at Dr. MGR Educational and Research Institute.

Dr.R.Senthil Kumar attended a faculty development program titled Microprocessor and Interfacing from 22-01-2024 to 12-04-2024 on the National Programme on Technology Enhanced Learning (NPTEL).

Dr. R.Palanisamy attended a program titled "Sustainable Energy Spectrum: Exploring Trends and Application in Renewable Resources" from 14-05-2024 to 20-05-2024 at Army Institute of Technology, Pune.

Dr.D.Selva Bharathi attended a faculty development program in STTP on "Emerging Trends on Control and Automation in the Present Scenario" from 09-05-2024 to 15-05-2024, organized by Dream Institute of Technology, Kolkata.

Dr.D.Selva Bharathi attended a faculty development program in NBA Accreditation and Teaching and Learning in Engineering (NATE) from 14-05-2024 to 20-05-2024 on the National Programme on Technology Enhanced Learning (NPTEL)

Dr.C.S.Boopathi attended a faculty development program on 5-day face-to-face Inhouse FDP on Universal Human Values (UHV II) from 08-04-2024 to 12-04-2024, organized by AICTE at SRM Institute of Science and Technology.

Dr.S.Shanmugapriya attended a program on "Being 'Industry Ready' with System-Modeling Skills" on 1-6-2024 by MathWorks.

Dr.S.Shanmugapriya attended an 8-day face-to-face UHV-III FDP from 01-05-2024 to 08-05-2024 organized by AICTE at SRMIST.

Dr.R.Palanisamy attended a faculty development program in STTP on "Emerging Trends on Control and Automation in the Present Scenario" from 09-05-2024 to 15-05-2024, organized by Dream Institute of Technology, Kolkata.

Dr.S.Usha attended a program titled "Sustainable Energy Spectrum: Exploring Trends and Application in Renewable Resources" from 14-05-2024 to 20-05-2024 at Army Institute of Technology, Pune.

Dr.T.M.Thamizh Thentral attended a program titled "Sustainable Energy Spectrum: Exploring Trends and Application in Renewable Resources" from 14-05-2024 to 20-05-2024 at Army Institute of Technology, Pune.

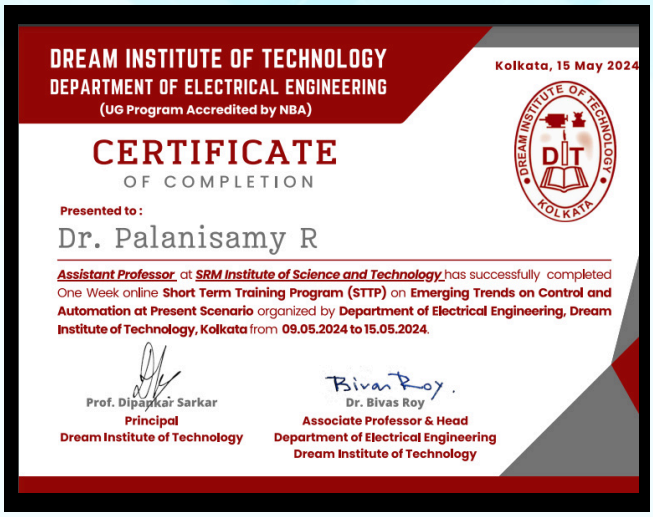
Dr.A.Geetha attended a program titled "Sustainable Energy Spectrum: Exploring Trends and Application in Renewable Resources" from 14-05-2024 to 20-05-2024 at Army Institute of Technology, Pune

Dr.R.Palanisamy attended a faculty development program in NBA Accreditation and Teaching and Learning in Engineering (NATE) from 22-01-2024 to 12-04-2024 on the National Programme on Technology Enhanced Learning (NPTEL)

Dr.D.Anitha attended a faculty development program titled PALS VLAB on 10-04-2024.

Dr.N.Kalaiarasi attended a faculty development program titled PALS VLAB on 10-04-2024.

Dr.R.Uthra attended a faculty development program titled PALS VLAB on 10-04-2024.


DREAM INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRICAL ENGINEERING
(UG Program Accredited by NBA)
Kolkata, 15 May 2024
CERTIFICATE
OF COMPLETION
Presented to :
Dr. Palanisamy R
Assistant Professor at SRM Institute of Science and Technology has successfully completed One Week online Short Term Training Program (STTP) on Emerging Trends on Control and Automation at Present Scenario organized by Department of Electrical Engineering, Dream Institute of Technology, Kolkata from 09.05.2024 to 15.05.2024.
Prof. Dipankar Sarkar
Principal
Dream Institute of Technology
Dr. Bivas Roy
Associate Professor & Head
Department of Electrical Engineering
Dream Institute of Technology

Dr.S.Usha attended a faculty development program in NBA Accreditation and Teaching and Learning in Engineering (NATE) from 22-01-2024 to 12-04-2024 on the National Programme on Technology Enhanced Learning

Dr.T.M.Thamizh Thentral attended a faculty development program in NBA Accreditation and Teaching and Learning in Engineering (NATE) from 22-01-2024 to 12-04-2024 on the National Programme on Technology Enhanced Learning (NPTEL)

Dr.A.Geetha attended a faculty development program in NBA Accreditation and Teaching and Learning in Engineering (NATE) from 22-01-2024 to 12-04-2024 on the National Programme on Technology Enhanced Learning

Dr.R.Ramya attended a faculty development program in NBA Accreditation and Teaching and Learning in Engineering (NATE) from 22-01-2024 to 12-04-2024 on the National Programme on Technology Enhanced Learning

Dr.A.Lavanya attended a program titled "NEP 2020 Orientation & Sensitization Programme under Malaviya Mission Teacher Training Programm of University Grants Commission" from 15-04-2024 to 24-04-2024 at Indian Institute of Information Technology, Kanchipuram.

Dr.J.Divya Navamani attended a program titled "NEP 2020 Orientation & Sensitization Programme under Malaviya Mission Teacher Training Programme (MM-TTP) of University Grants Commission (UGC)" from 15-04-2024 to 24-04-2024 at Indian Institute of Information Technology, Kanchipuram.

Dr.R.Ramya attended a faculty development program on 5-day face-to-face Inhouse FDP on Universal Human Values (UHV II) from 08-04-2024 to 12-04-2024, organized by AICTE at SRM Institute of Science and Technology.

Dr. S.Usha presented the paper "Empowering Electric Vehicles: Dual Source Charging System with WPT and PV Integration" at the International Conference on Role of Artificial Intelligence and IoT in Engineering, Technology & Science on 05-04-2024 and 06-04-2024 at Karpaga Vinayaga College of Engineering and Technology.

Dr.U.Sowmmiya presented the paper "Modelling of Hybrid Shipboard Microgrid" at the International Conference on Emerging Trends in Engineering & Technology from 17-04-2024 to 18-04-2024.


SRM School of Computing

CERTIFICATE OF PARTICIPATION

This certificate is proudly presented to

Dr. Sureshkumar A, A.P. (S.G.) / EEE, SRMIST, KTR

for participating in the Five days Professional Development Programme on '**Pathways to Excellence: Navigating Research Proposals, Accreditation & OBE**' organized by the Department of Data Science and Business Systems at SRM Institute of Science and Technology, Kattankulathur, held during **22nd April 2024 - 26th April 2024**.

Convenor | Head of the Department - DSBS | Chairperson - School of Computing

Dr.U.Sowmmiya presented the paper "Disturbance Rejection Control Scheme for a Tandem-Rotor Aircraft Using Non-linear Control" at the International Conference on Emerging Trends in Engineering & Technology from 17-04-2024 to 18-04-2024 at St. Joseph College of Engineering.

Dr.U.Sowmmiya presented the paper "An Unmanned Agri Vehicle (UAV) for Precision Agri-Operation" at the International Conference on Emerging Trends in Engineering & Technology from 17-04-2024 to 18-04-2024 at St. Joseph College of Engineering.

Dr.A.Geetha presented the paper "Efficient Energy Management of Hybrid Renewable Power Generation Based on Charging Station Demand" at the International Conference on Role of Artificial Intelligence and IoT in Engineering, Technology & Science on 05-04-2024 and 06-04-2024 at Karpaga Vinayaga College of Engineering and Technology.

Dr.P.Suresh presented the paper "Performance Improvement of Integrated Microgrid Based Predictive Control Scheme" at the International Conference on Computational Innovations and Emerging Trends from 04-04-2024 to 05-04-2024.

Dr.V.Kalyanasundaram attended a faculty development program titled UHV II from 08-04-2024 to 12-04-2024.

Dr.V.Pradeep participated in professional development on "Pathways to Excellence: Navigating Research Proposals, Accreditation & OBE" from 22-04-2024 to 26-4-2024 at SRM Institute of Science and Technology.

Dr.A.Sureshkumar participated in professional development on "Pathways to Excellence: Navigating Research Proposals, Accreditation & OBE" from 22-04-2024 to 26-4-2024 at SRM Institute of Science and Technology.

ONLINE COURSE

Dr.J.Divya Navamani completed an online course in "**Solar Energy Basics**" on Coursera.

Dr.V.Pradeep completed an online course titled "**The Complete Python Bootcamp: From Zero to Hero in Python**" on Udemy.

Dr.A.Sureshkumar completed an online course titled "**The Complete Python Bootcamp: From Zero to Hero in Python**" on Udemy.

Dr.S.Shanmugapriya completed an online course in "**Air Pollution and Control**" on NPTEL SWAYAM.

Dr.V.Pradeep completed an online course titled "**NBA Accreditation and Teaching-Learning in Engineering (NATE)**" on NPTEL SWAYAM.

Dr.A.Sureshkumar completed an online course titled "**NBA Accreditation and Teaching-Learning in Engineering (NATE)**" on NPTEL SWAYAM.

Dr.A.Sureshkumar completed an online course titled "**State Space Approach to Control System Analysis and Design**" on NPTEL SWAYAM.

Dr.R.Palanisamy completed an online course titled "**NBA Accreditation and Teaching-Learning in Engineering (NATE)**" on NPTEL SWAYAM.

Dr.S.Lourdu Jame completed an online course in "**Air Pollution and Control**" on NPTEL SWAYAM.

Dr. A.Geetha completed an online course titled "**NBA Accreditation and Teaching-Learning in Engineering (NATE)**" on NPTEL SWAYAM.

Dr.C.S.Boopathi completed an online course titled "**NBA Accreditation and Teaching-Learning in Engineering (NATE)**" on NPTEL SWAYAM.

Dr.P.Suresh completed an online course titled "**NBA Accreditation and Teaching-Learning in Engineering (NATE)**" on NPTEL SWAYAM.

Dr.R.Ramya completed an online course titled "**NBA Accreditation and Teaching-Learning in Engineering (NATE)**" on NPTEL SWAYAM.

Dr.R.Ramya completed an online course titled "**Science of Yoga**" on Swayam Plus.

Dr.D.Selvabharathi completed an online course titled "**NBA Accreditation and Teaching-Learning in Engineering (NATE)**" on NPTEL SWAYAM.

Dr.R.Senthil Kumar completed an online course in "**Microprocessors and Interfacing**" on NPTEL SWAYAM.

Dr.S.Geethanjali completed an online course in "**Air Pollution and Control**" on NPTEL SWAYAM.

Dr.A.Lavanya completed an online course in "**Solar Energy Basics**" on Coursera.

Dr.S.Usha completed an online course titled "**NBA Accreditation and Teaching-Learning in Engineering (NATE)**" on NPTEL SWAYAM.

Dr.T.M.Thamizh Thentral completed an online course titled "**NBA Accreditation and Teaching-Learning in Engineering (NATE)**" on NPTEL SWAYAM.

Dr.T.M.Thamizh Thentral completed an online course titled "**State Space Approach to Control System Analysis and Design**" on NPTEL SWAYAM.

Dr.P.U.Poornima completed an online course in "**Microprocessor and Microcontroller**" on NPTEL SWAYAM.

Dr.K.Subha Sharmini completed an online course in "**Industrial Automation and Control**" on NPTEL SWAYAM.

Dr.C.Anuradha completed an online course in "**Education for Sustainable Development**" on NPTEL SWAYAM.

Dr.S.Vijayalakshmi completed an online course in "**Education for Sustainable Development**" on NPTEL SWAYAM.

Dr.D.Karthikeyan completed an online course titled "**NBA Accreditation and Teaching-Learning in Engineering (NATE)**" on NPTEL SWAYAM.

Dr.R.Rajarajeswari completed an online course in "**Psychology of Stress, Health, and Well-Being**" on NPTEL SWAYAM.

Dr.D.Suchitra completed an online course titled "**NBA Accreditation and Teaching-Learning in Engineering (NATE)**" on NPTEL SWAYAM.

Dr.D.Suchitra completed an online course in "**Psychology of Stress, Health, and Well-Being**" on NPTEL SWAYAM.

Dr.D.Anitha completed an online course in "**Fundamentals of Power Electronics**" on NPTEL SWAYAM.

Dr.R.Ramya completed an online course in "**Communication Skills, Modes, and Knowledge Dissemination**" on NPTEL SWAYAM.

Dr.R.Ramya completed an online course in "**Outcome Based Assessment**" on NPTEL SWAYAM.

Dr.R.Femi completed an online course titled "**Crash Course on Electronics and PCB Design**" on Udemy.

Dr.D.Anitha completed an online course titled "**NBA Accreditation and Teaching-Learning in Engineering (NATE)**" on NPTEL SWAYAM.

Dr.N.Kalaiarasi completed an online course titled "**NBA Accreditation and Teaching-Learning in Engineering (NATE)**" on NPTEL SWAYAM.

Dr.N.Kalaiarasi completed an online course in "**Fundamentals of Power Electronics**" on NPTEL SWAYAM.

Dr.R.Uthra completed an online course in "**Psychology of Stress, Health, and Well-Being**" on NPTEL SWAYAM.

INDUSTRY CONNECT

Dr.C.Nithya has given a lecture on the topic "Short Circuit Analysis" on the workshop power system analysis and research studies using DIGSILENT power factory organised by SRM in Association with **HCL Tech.**

Dr.Preetha Roselyn collaborated with **Andromeida maritime Solutions** Pvt Ltd for the project "Bioinspired autonomous AUV with docking station detection and digital twin based navigation and battery systems"

MoU has been signed with the following companies

- **VOLVO**
- **Anu Electronics**
- **Power sys**
- **Sharda Motors**
- **ARAI-Advance Mobility Transformation & Innovation Foundation (AMTIF).**

Dr.Y.Jeyashree has undergone Faculty Training and Immersion program at **WOORY Automotive India Pvt**

Dr.R.Rajarajeswari and Dr.R.Uthra has undergone Faculty Training and Immersion program at **Sri Vidhyut Eco Tech India Pvt.** Ltd from 13-06-2024 to 22-06-2024.

Dr.D.Selvabharati has undergone Faculty Training and Immersion program at **ARN CONCRETE** from 03-06-2024 to 18-06-2024.

Dr.J.Preetha Roselyn and Dr.C.Nithya have received an industrial-funded project titled "Development of Visual odometry for autonomous vehicles" **ANDROMEIDA MARITIME SOLUTIONS PVT. LTD.**

Capability Enhancement for Faculty Members by VOLVO

Volvo, Bangalore, hosted an intensive Capability Enhancement Program focusing on advanced power electronics in electric vehicles (EVs). The three-week program combined theoretical knowledge with practical applications from 10-06-2024 to 28-06-2024. Our faculty members Dr.V.Pradeep, Dr.A.Sureshkumar and Dr.K.Mohanraj attended the program.

Participants explored the role of traction inverters in EVs, covering operational principles and design challenges. A problem statement helped them apply their learning to real-world scenarios.

Various charging technologies and standards. Participants designed a city-wide charging network and addressed grid capacity issues. Essential for stepping down high voltage to lower voltages in EVs, this session covered types and efficiency considerations of DC-DC converters. Participants integrated their knowledge of traction inverters, charging systems, and DC-DC converters to solve a complex problem. Overview of the Design & Information Technology (D&IT) department at Volvo. Inverter Control and Wireless Charging: Participants learned about control strategies for inverters and the technology behind wireless charging. Participants observed manufacturing processes, safety protocols, and quality control measures at the VOLVO plant.

PROJECT & POSTER Expo 2024

The Department of Electrical and Electronics Engineering at the College of Engineering and Technology hosted its highly anticipated Project & Poster Expo 2024 on April 25th and 26th, showcasing innovative projects aligned with diverse themes ranging from Energy to Social Relevance. The event provided a platform for students to exhibit their creativity, and problem-solving abilities. 50 teams were participated and the program was coordinated by Dr.R.Narayanamoorthi and Dr.V.Pradeep.

The projects presented during the expo spanned a wide array of themes, reflecting the interdisciplinary nature of modern engineering. From innovative energy solutions to advancements in healthcare technology, each project addressed pressing societal challenges with creativity and ingenuity.

Notable highlights included projects focusing on sustainable manufacturing processes, computational intelligence applications, and initiatives aimed at preserving water resources and mitigating environmental degradation.

TECHNICAL EVENTS

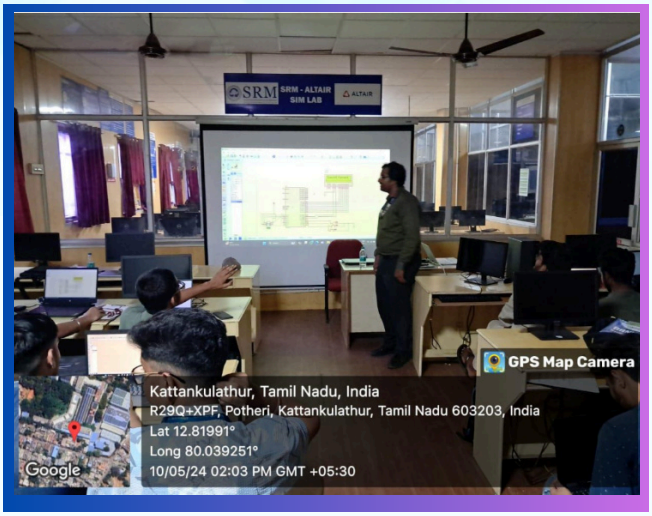
Alumni talk on "Impact of Referencing Tools in Research"

On 1st April 2024, SRMIST Kattankulathur's Department of Electrical and Electronics Engineering hosted an alumni talk by Dr. Ranjith Kumar Gatla, Dean of Intellectual Property Management and Commercialization at the Institute of Aeronautical Engineering, Hyderabad. Dr. Ranjith, a 2009-2011 M. Tech Power Electronics and Drives alumnus, discussed the importance of referencing in research, emphasizing tools like EndNote and Mendeley.

He highlighted how these tools enhance productivity by automating citation management, detecting duplicates, and enabling keyword tagging. This allows researchers to focus on their work's content rather than the mechanics of referencing. The session included a demonstration of both tools and was well-received by attending scholars.

Coordinated by Dr. Usha and Dr. Geetha, the event concluded with a Q&A session. In his vote of thanks, Dr. Narayanamoorthi expressed gratitude to the Assistant Alumni Director and Dr. Ranjith for their contributions to the insightful session.

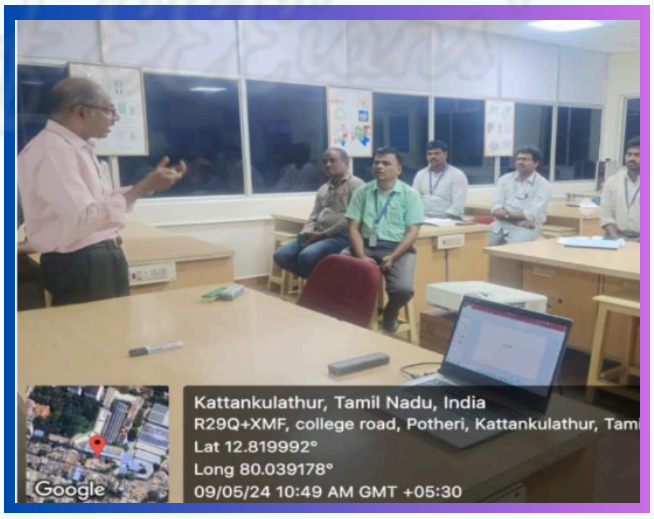
Skill Development Program on "Design And Debugging of Embedded Systems With ARM PROCESSORS"



On 9th and 10th May 2024, VI Sem EEE-A students attended a skill development program titled "Design and Debugging of Embedded Systems with ARM Processors," coordinated by Dr. P.U. Poornima and led by Mr. R. Pavithran from Emerald Global Automation Limited. The workshop focused on embedded system design, covering hardware selection, interfacing peripherals, and power management. It introduced development tools like Keil µVision, ARM Development Studio, Eclipse, ARM Compiler, and GCC, as well as firmware development techniques for ARM processors in assembly and C/C++. Students engaged in hands-on debugging with the LPC 2148 ARM processor, working on interfacing LEDs, switches, displays, and motors, and used Proteus software for output verification. The program enhanced their skills in embedded programming, hardware interfacing, and mini project development.

TECHNICAL EVENTS

Workshop on "Energy Management and Energy Audit"



The Workshop on Energy Management and Energy Audit, held from 9th to 11th May 2024 at SRMIST, focused on the integration of artificial intelligence and machine learning in energy-related applications. Organized by Dr. K. Vijayakumar, HoD of DEEE, and coordinated by Dr. U. Sowmmiya, Associate Professor, the event attracted 41 participants eager to explore current trends and methodologies in this field. Speakers included Mr. J. Mohanan Pillai, a BEE Certified Energy Auditor and retired Scientific Officer from Madras Atomic Power Station, Kalpakkam, Tamil Nadu, and Mr. D. Ravichandran, BEE Certified Energy Manager and Assistant Professor at SRMIST. They delivered insightful sessions on machine learning algorithms and demonstrated real-time applications in energy management. The workshop not only provided theoretical knowledge but also equipped participants with practical skills to enhance their understanding and implementation of AI and machine learning in energy auditing and management practices.

FDP on "Unlocking Research Excellence - Collaborative Research Practices in Modern Era"

The "Unlocking Research Excellence - Collaborative Research Practices in Modern Era" faculty development program, held from May 20th to May 26th, 2024, at SRM Institute of Science and Technology, Kattankulathur, was a collaborative effort by the Department of Electrical and Electronics Engineering and the Center for Electric Mobility, supported by the DST PURSE project. Aimed at enhancing faculty research skills, the program focused on academic publishing, AI tools for manuscript writing, advanced research writing techniques, proposal writing, and international collaborations. Led by experts from various institutions, including SRMIST and Editage, the sessions provided valuable insights and practical guidance. The program concluded with a hands-on session, assessment, feedback, and a valedictory ceremony, fostering a rich learning experience for participants in navigating contemporary research challenges and opportunities and coordinated by Dr.C.Bharatiraja.

TECHNICAL EVENTS

Workshop on "Power System Analysis and Research Studies Using DIGSILENT PowerFactory"

On 7th May 2024, SRM Institute of Science and Technology hosted a workshop at the NI Research lab, ESB, attended by Dr. K. Vijayakumar, Dr. J. Preetha Roselyn, and Ms. Priyadharshini. The inaugural function began with a welcome address by Dr. K. Vijayakumar, followed by Dr. J. Preetha Roselyn detailing the workshop schedule, and concluded with a vote of thanks from Ms. Priyadharshini. The workshop saw participation from B. Tech, M. Tech students, and HCL employees, with sessions conducted by faculty members and research scholars. Over three days, attendees engaged in sessions covering IEEE 9 bus system design, load flow analysis, short circuit analysis, RMS/EMT simulation, transmission and distribution network tools, contingency analysis, modal and eigenvalue analysis, power quality harmonics, cable sizing, protective functions, and controller designs in automatic voltage regulators. Dr. J. Preetha Roselyn encouraged participants to actively use the available resources, culminating in a detailed Q&A session with HCLTech employees.

Live Demonstration of Solar PV Generation and Utilization for Domestic Use

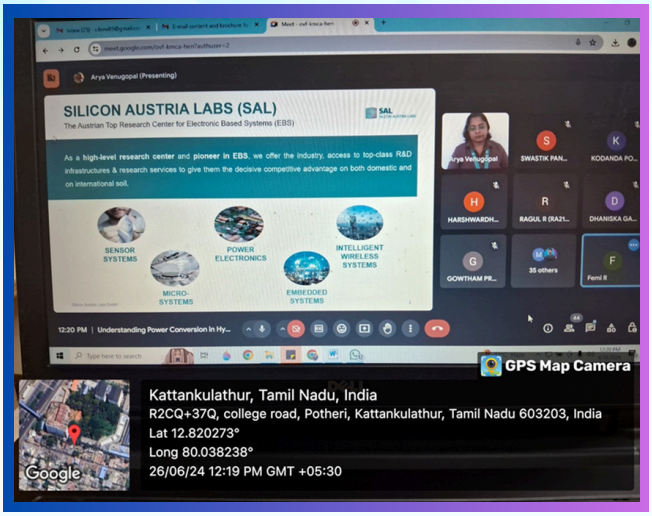
On 20th June 2024, at Kalvoy Government Middle School, Guduvanchery, a one-day live demonstration showcased the practical applications of solar photovoltaic (PV) technology for household energy needs. Organized by Dr. V. Raghavendra Rao, NSS Officer Unit 1, and facilitated by Dr. Phani Teja Bankupalli and a team of experts, the event aimed to educate students and homeowners on the benefits and feasibility of solar energy adoption. Participants learned about optimal panel placement for maximum sunlight exposure, electricity generation processes, and the environmental and economic advantages of solar power. This initiative not only highlighted the reduction in carbon footprint and energy costs but also promoted energy independence through renewable sources, contributing to a sustainable future.

OUTREACH ACTIVITY

International Yoga Day

The National Service Scheme (NSS) at Kalvoy Government Middle School, Guduvanchery, celebrated International Yoga Day on June 21, 2024, with a day-long event dedicated to promoting holistic health through yoga. Led by NSS Officer Dr. V. Raghavendra Rao, the event aimed to enhance physical, mental, and spiritual well-being among participants. It featured a comprehensive yoga session comprising various asanas, pranayama exercises, and guided meditation, facilitated by instructors andresource persons including Dr. Phani Teja Bankupalli, Dr. Ravi Eswar K M, Mr. Kiran Kumar, and Mr. Chandu V. Participants enthusiastically engaged in the session, appreciating the guidance and health benefits of yoga. The event also included an interactive workshop where attendees could delve deeper into yoga practices and their benefits. Positive feedback highlighted increased interest in incorporating yoga into daily routines post-event. The program successfully fostered a sense of community and well-being, with future plans to continue monthly yoga sessions and health awareness programs to sustain and expand the benefits of yoga within the community.

Webinar on "Understanding Power Conversion in Hybrid Electric Vehicles"



Department of Electrical and Electronics Engineering at SRM Institute of Science and Technology, in association with The Institution of Engineers (India), Kattankulathur Local Center, organized a guest lecture titled "Understanding Power Conversion in Hybrid Electric Vehicles." The webinar, held on Google Meet, featured Dr. Arya Venugopal from Silicon Austria Labs as the resource person. Dr. Venugopal's lecture covered key topics including the importance of hybrid electric vehicles in reducing emissions, different HEV configurations, the role of power electronics, and various power conversion architectures and topologies. He also provided insights into ongoing research at Silicon Austria Labs, discussing efficiency challenges and advancements in power conversion systems. The session concluded with an interactive Q&A where participants explored topics such as the impact of new semiconductor materials, reliability of power electronic components, and integration of renewable energy sources with HEVs. The event, convened by Dr. K. Vijayakumar and coordinated by Dr. R. Femi, saw active participation from 39 attendees.

EVENTS

Intra Substation visit

Department of Electrical and Electronics Engineering (DEEE) at SRM Institute of Science and Technology organized an intra substation visit for the course 18EEC305T / Power System Protection. The event took place at the distribution substation feeding the Tech Park building at SRMIST, Kattankulathur. Coordinated by Dr. R. Ramya and Mr. D. Ravichandran, Assistant Professors of DEEE, the visit aimed to provide third-year B.Tech EEE students with practical exposure to substation equipment protection. The session featured demonstrations of transformer protection, busbar protection, HVAC equipment, and generator protection. Additionally, students observed the inner components of an 11 kV lightning arrester used in pole-mounted substations. The demonstrations were conducted by Mr. T. Velumani, Mr. P. Mahesh, and Mr. R. Venkatraman, engineers and operators from SRMIST, offering students valuable hands-on learning experience.

Hemavarshini Vidyasagar

For Feedback, Copyright and Suggestions :
eeeassociation@srmist.edu.in