APR'24- JUN'24

NEWSLETTER

SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY SURAT

DEPARTMENT OF ELECTRICAL ENGINEERING

The Department of Electrical Engineering is one of the oldest departments at Sardar Vallabhbhai National Institute of Technology. The department actively conducts various academic and research activities throughout the year. This newsletter presents a brief about various activities from April 2024 to June 2024.

📅 HIGHLIGHTS

- **Research Publications**
  - Journals -07

- Patent- 01

Department Vision

To be the leading department disseminating globally acceptable education, effective industrial consultancy and relevant research output.

Department Mission

To be a global centre of excellence in technical education and innovation producing competent professionals with integrity.

Programme Educational Objectives

- Graduates will be able to solve engineering / industrial problems by employing various learning resources and modern tools.
- Graduates will be able to design products to meet social, economic and environmental demand by innovative ideas.
- Graduates will be able to investigate complex problems and take up research and development work in the allied fields.
- Graduates will be able to communicate effectively through oral and written presentation of technical reports, adopting lifelong learning with integrity and ethics; and they will have interpersonal skills required to lead and nurture diverse teams.

DR. PRANAV B. DARJI

Head, DoEE
SVNIT, Surat

Welcome to the Department of Electrical Engineering at SVNIT, Surat. The Department has 24 well-qualified faculty members actively involved in academics, administrative duties, research, and consultancy. The broad research areas are Power Electronics, Electrical Drives, Power Systems, Control and Instrumentation. The faculty published several research papers indexed in SCIE, SCI, ESCI, Web of Science, Scopus, etc. Also, the worth of present ongoing and completed projects is more than two crores.

The Department of Electrical Engineering offers B. Tech and M. Tech programmes. The M. Tech specialisations are Power Electronics and Electric Drives, Power Systems and Instrumentation and Control. The Department of Electrical Engineering has many PhD scholars, and a significant amount of research is ongoing.

I am happy to present the 15th issue of the Department's quarterly newsletter. The present issue includes new administrative duties, STTPs/Workshops, student placement details, Research publications and projects, and faculty and student achievements.

I acknowledge the efforts of the committee members Dr. J. Venkataramanaiah, Dr. G. Sushnigdha and Dr. Suresh Lakhimsetty in editing this issue. I also thank Mr. Mayank Bhagat for assisting the committee members.

RESEARCH PUBLICATIONS

Journals

- Prashant Kumar and Sabha Raj Arya, and Khyati D Mistry, "Momentum adaption and meta-learning based DVR with optimized gains of fractional order PID controller," EEE Transactions on Aerospace and Electronic Systems, vol. 60, no. 2, pp. 1309-1318, April 2024.

- S. R. Arya, K. D. Mistry and P. Kumar, "A Hybrid Fuzzy Predictive DVR Model for Voltage Estimation Using Intelligent Learning," IEEE Transactions on Power Delivery, vol. 39, no. 1, pp. 378-385, Feb. 2024.

- S. R. Arya, S. J. Alam and P. Ray, "Optimized PI gain in UPQC control based on improved zero attracting normalized LMS," Accepted for Publication in IEEE-CPSS Transactions on Power Electronics and Applications, (22 May 2024). doi: 10.24295/CPSSTPEA.2024.00007.

- Ambati Bhimaraju, Aeidapu Mahesh, Recent Developments in PV/Wind Hybrid Renewable Energy Systems: A Review, Energy Systems. Published Online, May 2024, DOI: 10.1007/s12667-024-00679-3

RESEARCH PUBLICATIONS

Journals

- Mathew, L.E., & Panchal, A.K. (2024). An Efficient Energy Conversion in Standalone Photovoltaic Lithium-Ion Battery System With Modified Pulse-Ripple-Current Charging. IEEE Transactions on Energy Conversion. DOI:10.1109/tec.2024.3405537

- Kasoju, B.K., Kunisetti, V.P.K. Voltage Vector Classification-Based Duty Cycle-Modulated PCC for OEW-PMSM Drive with Three-Level Inversion. J Control Autom Electr Syst 35, 742–757 (2024). https://doi.org/10.1007/s40313-024-01092-y

- P. Kumar, S. R. Arya, K. D. Mistry and P. Ray, "Performance of DVR Using Diffusion Norm Penalized LMS Fourth Adaption Algorithm With Optimized FOPID Gains," Accepted for Publication in IEEE Transactions on Automation Science and Engineering, (22 May 2024). doi: 10.1109/TASE.2024.3395763.
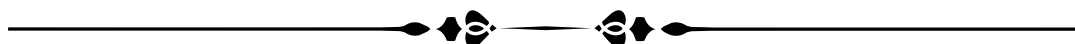
INSTITUTE/DEPARTMENT LEVEL FACULTY NEW ROLES/RESPONSIBILITIES

Dr. Kunisetti. V. Praveen Kumar, Assistant Professor

HAS TAKEN OVER CHARGE OF CHIEF WARDEN, SARABHAI BHAVAN.

GRANT OF AN INDIAN PATENT

- **Patent No.:** 533999
- **Application No.:** 202021022353
- **Date of Filing:** 28/05/2020
- **Patentee:** 1. Dr. Mahmadasraf A. Mulla
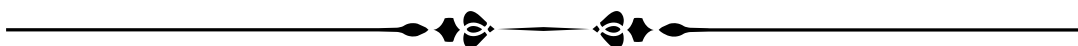   2. Er. Rajan Vinodray Vamja

MULTIPURPOSE BATTERY-ASSISTED SOLAR POWERED WATER PUMPING SYSTEM

STUDENT ACHIEVEMENTS

- Four participants Vedika Tomar, Ekta Kumari Khanda, Ayushmaan Singh and Parv Gupta 1st-year Electrical Engineering students, secured third position in line follower competition in MINDBEND, under the team name TECHNOPAVE
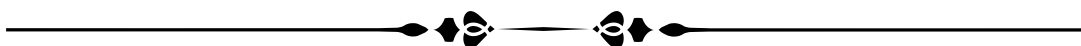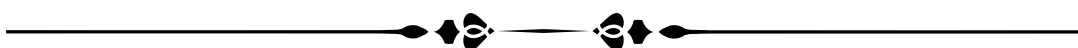
STUDENT ACHIEVEMENTS

- Palak Prajapati 1st-year Electrical Engineering student, have done a certification from neo4j graph academy, neo4j certified professional and completed an internship from Hexaware.

STUDENT ACHIEVEMENTS

- Aditi Tapariya 3rd-year Electrical Engineering student, selected as WISH'24 (Women in Silicon Hardware) Scholar by TalentSprint supported by Google and Semi-Finalist in Google Girls Hackathon 2024 and presented an innovative solution in silicon domain.

STUDENT ACHIEVEMENTS

- Vibhanshu Botke 3rd-year Electrical Engineering student, Selected for Amazon ML Summer School 2024
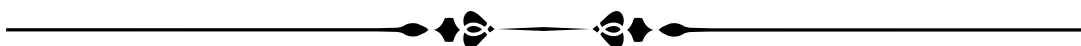
TEAM

GANGIREDDY SUSHNIGDHA
ASSISTANT PROFESSOR
DOEE, SVNIT SURAT

J.VENKATARAMANAIAH
ASSISTANT PROFESSOR
DOEE, SVNIT SURAT

SURESH LAKHIMSETTY
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MAYANK BHAGAT
SENIOR TECHNICIAN
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