



VIT[®]
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

SCHOOL OF ELECTRICAL ENGINEERING (SELECT)

Newsletter

ISSUE / 01
JANUARY - MARCH 2024



**WORLD
UNIVERSITY
RANKINGS**

RANKED 7 - 8
BY SUBJECT IN INDIA AND
151 -200 IN THE WORLD BY SUBJECT.



VISION

To offer an education in electrical engineering that provides strong fundamental knowledge, skills for employability and creates leaders who provide technological solutions to societal and industry problems.

MISSION

To prepare students in electrical engineering with strong critical thinking and employability skills through personalized experiential learning in industry sponsored labs.

To create innovators and entrepreneurs in electrical engineering domain by fostering design thinking, creativity and cross-disciplinary research using highly qualified faculty.

Collaborate with national and international partners and provide solutions to societal and industry problems using electrical engineering know-how.

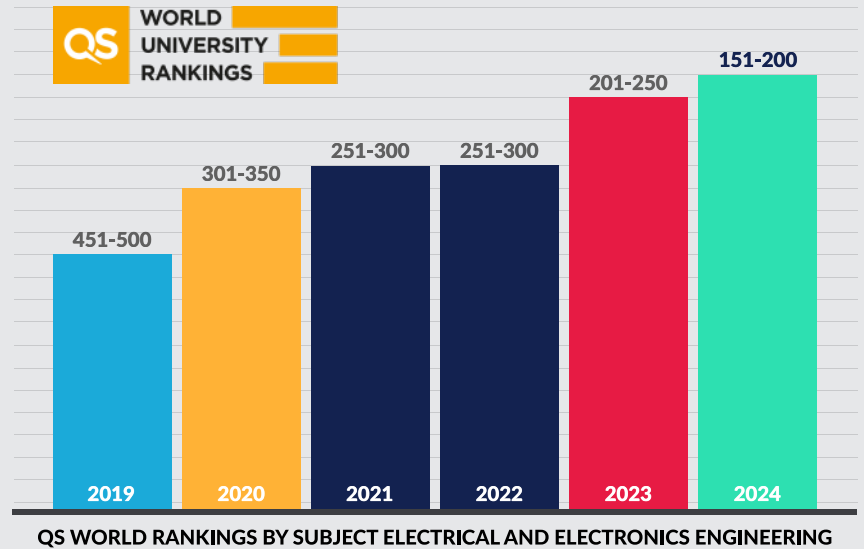
DEAN'S MESSAGE



Dr. Mathew M. Noel

DEAN

School of Electrical Engineering (SELECT)



Dear Patron,

I am happy to announce that we have made significant progress in improving our international and national QS ranking. In particular, the QS world subject rank of our EEE program has improved by 50 ranks over the past year and stands at 151 - 200 globally as of 2024. The commendable efforts of our distinguished faculty and meritorious students has made this quantum leap in ranking from the 451-500 QS world rank that we received in 2019.

Our national QS ranking by subject in Electrical and Electronics Engineering has also improved to 7 - 8 in 2024.

Since the start of January 2024, the School of Electrical Engineering has organized 28 international Guest Lectures to provide global exposure and make our students cognizant of research in top international universities. An industry sponsored hackathon was organized to provide students with experience in solving real-world problems. Five Faculty Development Programs and 5 industrial visits were organized during this same period to improve the quality of our academic programs and help faculty adopt effective pedagogies. The faculty of our school published 63 research papers in highly reputed international journals during this period.

We are grateful for your continued support and encouragement. You can follow the activities of our school and keep in touch with us through our official social media handles listed at the end of this newsletter.

InvenTiv - 2024

InvenTiv is the first-of-its-kind, mega R&D fair, where all IITs, NITs, IISERs, IIITs and other top 50 ranked NIRF Institutions in the country come together to showcase the R&D happening there.



Two of the products/innovations were exhibited at the prestigious InvenTiv-2024 hosted by IIT Hyderabad during January 19-20, 2024. Out of the three stalls from VIT, two were exhibited by SELECT students and faculty members.



All the visitors, including the Chief Guest, Honorable Central Minister for Education Mr. Dharmendra Pradhan, visited the stalls and appreciated the efforts of the students and the faculty members of VIT.

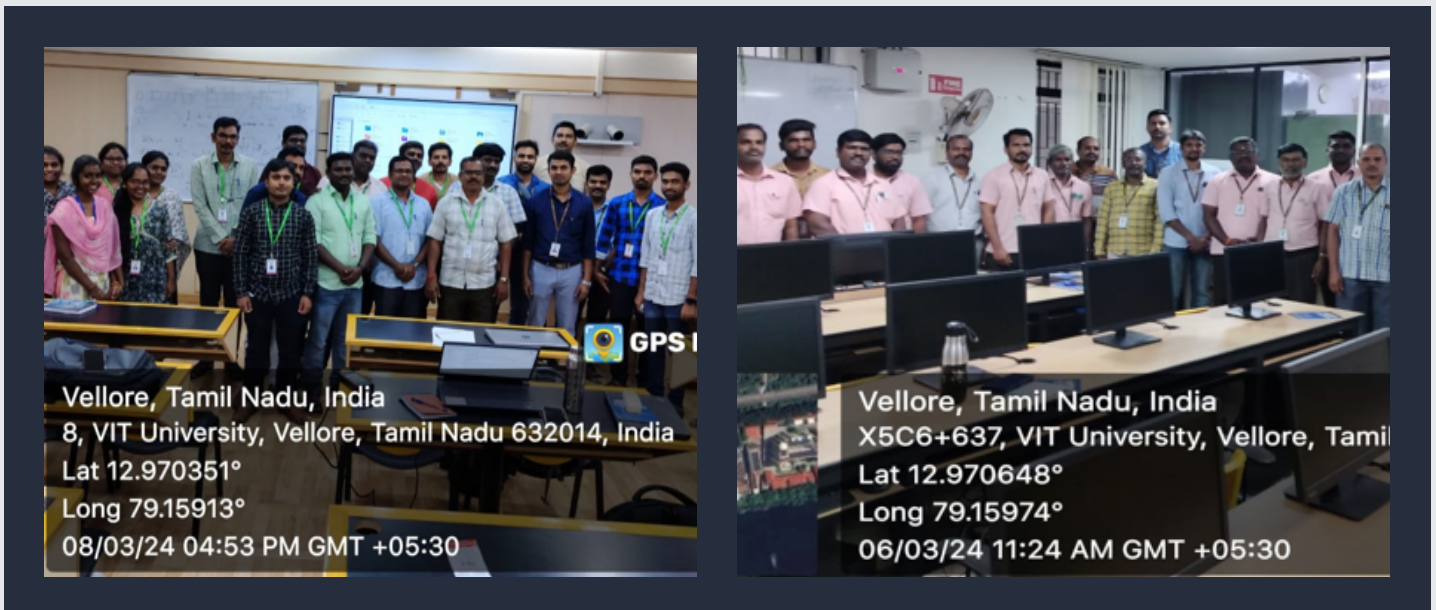
INTERNATIONAL SPACE DRONE CHALLENGE 2024

Mr. Sapkal Om Hemant and Mr. Maulik Kansal along with their team ARDRA participated in International Space Drone Challenge 2024 organised by Space Robotics Society (SPROS) at PSG iTech, Neelambur, Coimbatore, from 24th January to 29th January and secured First Position worldwide.



QUALITY WEEK - 2024

The tSchool of Electrical Engineering celebrated quality week from 4th to 8th March 2024 to raise awareness on quality assurance, sustenance and enrichment initiatives among the stakeholders and to encourage them to adopt high-quality standards in education and research.



STANDARDS CLUB ESTABLISHMENT

On 6th February 2024, VIT established the Standards club with an objective to sensitize young members of society about the importance of standards in improving quality of life.



MOU SIGNED

An MoU was signed between VIT Vellore and L & T Technology Services Ltd, Gujarat, on 28-02-2024 Faculty coordinator: Dr. Chilukuri Venkata Mahendra



PROUD MOMENT

Momento from our industry partner PRIVA technologies Pvt. Ltd., Goa, appreciating VIT collaboration in their product development.



INDUSTRY ACADEMIA CONCLAVE 2024



An Industry Academia conclave in cutting edge technologies was held between February 19th and 20th 2024. Industries such as GE Power, Reliance JIO, Macdermid Alpha, Appollo Tyres, Rakiya Information systems and Vaydyan technologies participated in the conclave. Academicians from IISc Bengaluru and Kunsan National University, South Korea delved into the opportunities and research challenges awaiting the participants at the university and industries Level.



The main focus areas of the industry academic conclave was Smart Grid, Power Quality System Solution, Flexible and Printable, Electronics Control & Automation, Autonomous Systems, New Industry Transformation Towards Digitalization, AI for Autonomous Systems, 5G Technology Use Cases and VLSI.

SPONSORED PROJECT

TITLE: A study on E-bike usage in Urban and Suburban Areas of Tamil Nadu: Customer Satisfaction, Societal Perceptions, Government Policies and Manufacturing Strategies.

COST: Rs. 9.16 lakhs

PRINCIPAL INVESTIGATOR:

1. Dr. V.Indragandhi, SELECT

CO-INVESTIGATORS:

1. Dr. N. Amutha Prabha, SELECT
2. Dr. B. Ashok, SMEC

FUNDING AGENCY: ICSSR

PATENT GRANTED

TITLE: Development of Low Cost & Portable Module for VGA Projectors by Using Mobile Phone & FPGA

INVENTER NAMES:

1. Dr. Marimuthu R
2. Dr. Prabhu K R
3. Mr. Amit Biswal

APPLICATION NUMBER:

5117/CHE/2013

PATENT NUMBER

504523

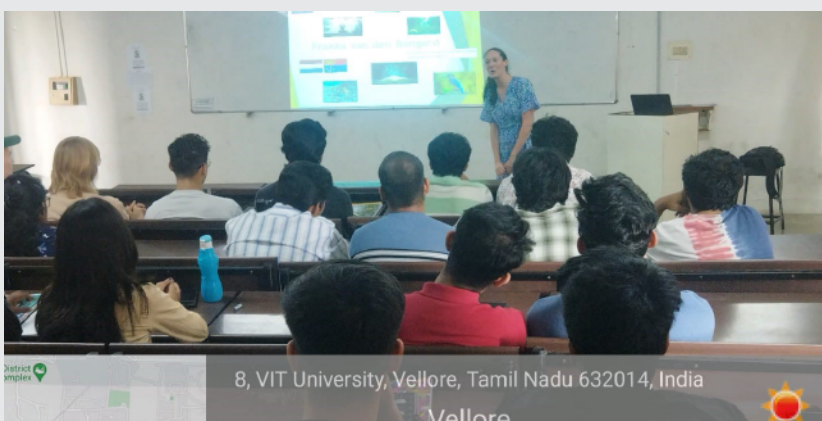
GUEST LECTURES ORGANISED



On 13th March, 2024, Dr. Sonam Shrivastava and Dr. Uma Sathyakam P, conducted a guest lecture titled "An insight into Semiconductor Devices." Mr. Samuel Tensingh, Associate Lecturer, from University of Sydney, Australia was the speaker of the event. He delivered a lecture on the topic "The future of semiconductors".



On 9th January 2024, Dr Nageswara Lalam, Research Scientist and Technical Task Lead at the US Department of Energy, Pennsylvania delivered a Guest Lecture on the topic "Real-time Monitoring and Control of Energy Infrastructure". Faculty Coordinators: Dr. Rani C, Dr. Vijaya Priya P and Dr. Brisilla R M



On 20th March 2024, An international guest lecture was organized by Dr. I. Jacob Raglend, Dr. J. Belwin Edward, and Dr. K. Ravi. In the event, Ms. Franka Van den Bongard from the School of Technology and Logistics in Venlo, Netherlands, delivered a talk on "Cultural Influences on International Business."



On 22-03-2024, an Industrial Expert Guest Lecture on "Role of CAN in Automobile Networks" by Mr. C. Jayaseelan, Product Cyber Security Manager, APTIV Automotive, and Bangalore was organized by Dr. K. Selvakumar.

GUEST LECTURES ORGANISED



Dr. Geetha M, Dr. Sharmila A, and Dr. Monica Subashini M organised a Industry Expert Guest Lecture on 26/02/2024. Dr.Venkattraman K, Manager, Technical Lead, Biovision Medical Systems, Chennai, delivered a lecture on the topic "Safe Environments: Preventing Electric Shock Hazards"

ALUMNI MEET



Alumni meet was organized by SELECT on 26.1.2024. Faculties from SELECT interacted with the Alumni students

ALUMNI ACHIVEMENT



Mr. SIDDHARTH SINHA

B. Tech. EEE (Electrical and Electronics Engineering) 2014

Google Maps and Climate Policy Lead at Google India

INDUSTRIES VISITING SELECT

SCHNEIDER ELECTRIC



The top leadership and technical team of Schneider Electric from France and Bagalore visited the School of Electrical Engineering on March 26 to discuss joint research leading to the solution of important industry problems in the area of sustainability. This visit from Schneider Electric was a followup to the visit to Schneider Electric Bangalore by a 5 member SELECT faculty team to discuss problem statements on March 7.

CAPGEMINI



On 2.3.2024, Dr. Dhanamjayulu C, Dr. Praveenkumar M and Dr. Gokulakrishnan G from SELECT visited Capgemini R&D and had research discussion.

INDUSTRIAL VISIT



On 16.2.2024, Dr. Amutha prabha N, Dr. Rajini G K, Dr. Indragandhi V, Dr. Abhishek Gudipalli, Dr. Vijayapriya R, and Dr. Jitendra Kumar Goyal from SELECT visited Daimler Truck, Panapakkam, Tamilnadu, India.



On February 26, 2024, students from SELECT, VIT Vellore visited SRLDC in Bengaluru for an insightful industrial trip on power system monitoring and control. Faculty Coordinators: Dr. B. Saravanan and Dr. S. Prabhakar Karthikeyan.



Enthusiastic students from the School of Electrical Engineering paid a visit to Danfoss Industries Pvt Ltd in Chennai, India on February 22, 2024. The faculty coordinators are Dr. Indragandhi V, Dr. Arunkumar G, and Dr. Vijaya Priya P.



On March 28, 2024, students from the School of Electrical Engineering visited the Southern Regional Load Despatch Centre (SRLDC), Bengaluru, Karnataka. Faculty Coordinators: Dr. I. Jacob Raglend, Dr. J. Belwin Edward, and Dr. M. Janaki.

INDUSTRIAL VISIT



On March 14, 2024, M.Tech Control & Automation first-year students from the School of Electrical Engineering visited Schneider Electric Pvt Ltd. in Bengaluru, India to explore innovative technologies and sustainability practices. Faculty Coordinators: Dr. Bagyaveereswaran V, Dr. Ruban N, and Dr. Manimozhi M.



On 13-03-2024, a group of enthusiastic students from School of Electrical Engineering, visited 33 kV/11 kV Sub Station, VIT Campus, Vellore, India. Faculty coordinators: Dr. Saravanan B, Dr. Meikandasivam S, and Dr. Janaki M.

STUDENT ACHIVEMENTS



First-year students Lakshya Saini, Parshva Runwal, and Divya Prakash Yadav from SELECT participated in two-day hackathon organized by Netstratum Company in Kochi on 3rd and 4th Feb and won first prize.

FACULTY ACHIEVEMENTS



Dr. S. Albert Alexander, SELECT Received "Best Researcher Award 2024" From IEEE Madras Section On 23rd February 2024 For the Research Achievements he made in Publications, projects and patents.



Dr. S. Albert Alexander, SELECT received "Best Researcher Award 2024" from IEEE Madras Section On 23rd February 2024 for the Research Achievements he made in Publications, Projects and Patents.



Dr. A. Sharmila from SELECT, VIT Vellore, received the "Distinguished Alumni Award" from Jerusalem College of Engineering at their Silver Jubilee Alumni Meet on January 28, 2024.

FACULTY ACHIVEMENTS



Dr. Kowsalya M completed Post-Doctoral Fellowship from Kunsan National University, South Korea



Dr. Kowsalya M received Best Researcher Award from International Academic Excellence Awards



Dr. Chitra A received "Outstanding Woman Researcher Award" in the Engineering category in "Intelligent Drives" from Venus International Foundations in the 9th Annual Women's Meet held at Hotel Green Park, Chennai, on March 2, 2024.



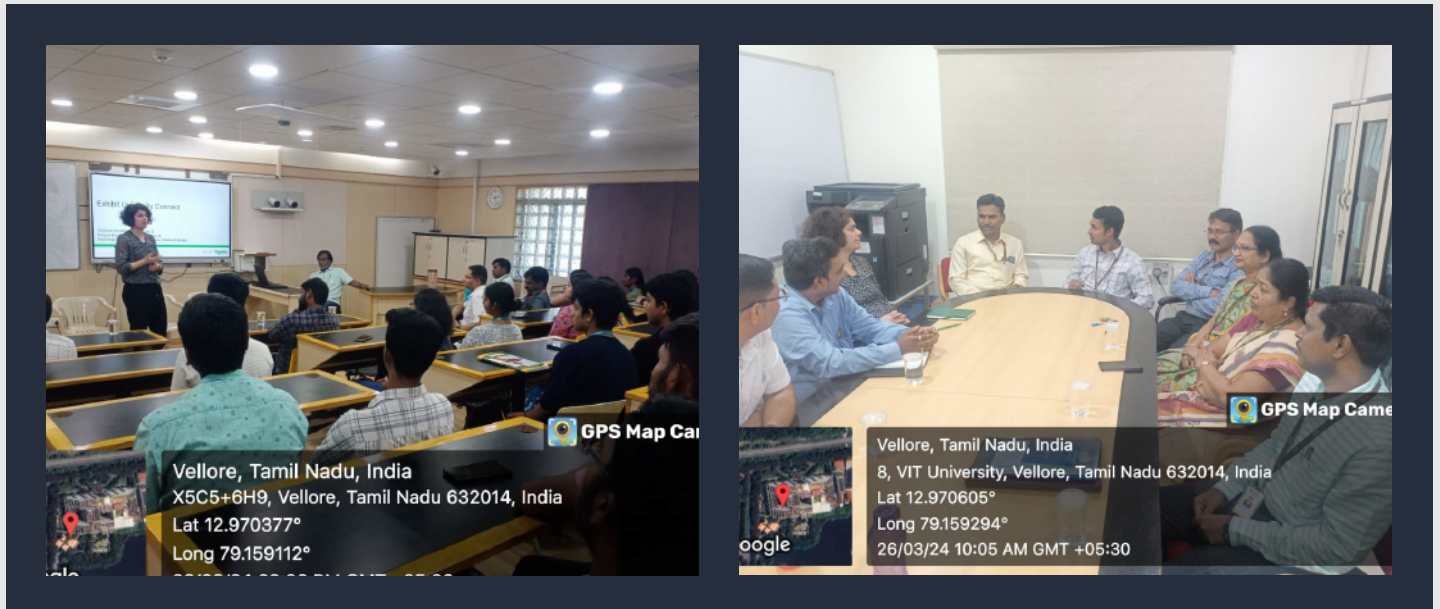
STARTUP PARTNERSHIP



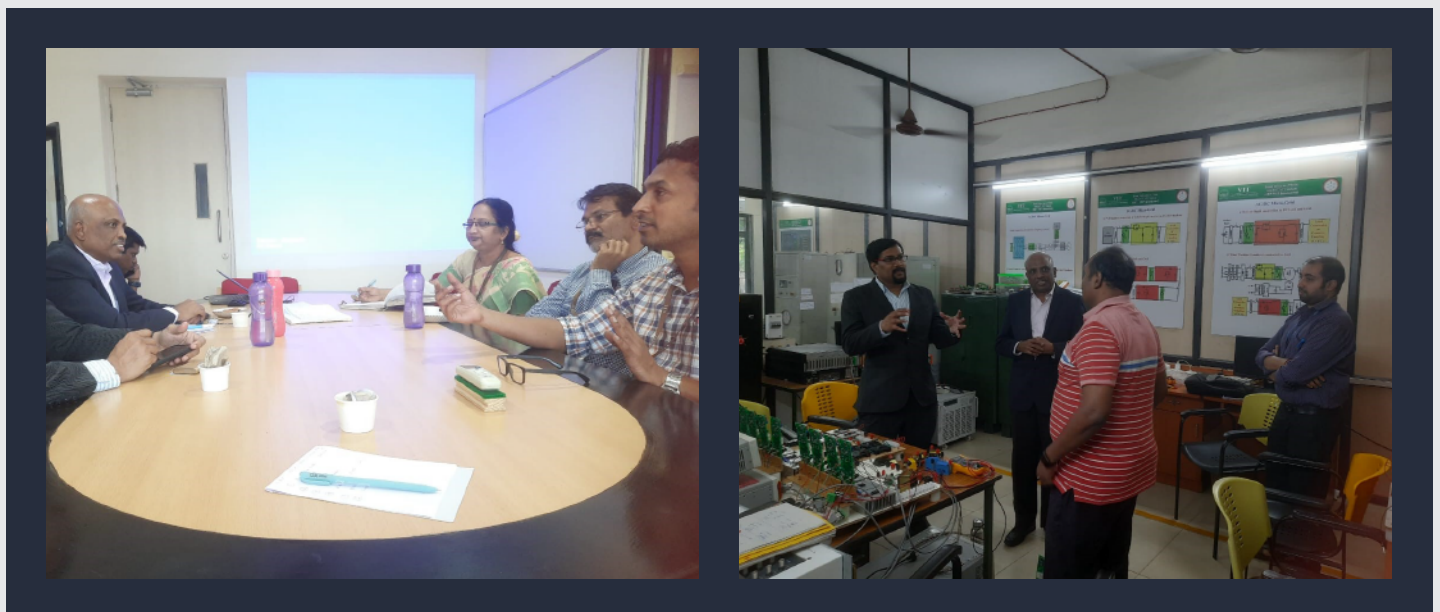
KUPPISMART SOLUTIONS Pvt Ltd (owned by SELECT alumni Mr. K. Akhil Reddy) has partnered with RAP Global Company a pioneering force driving innovation across multiple frontiers in more than 5 countries and 10 different locations worldwide. This partnership opens up incredible opportunities for Livestockify to leverage RAP expertise and global presence to further enhance our solutions for poultry farming. Together, it helps to revolutionize the agricultural industry, empowering farmers with cutting-edge technology and sustainable practices.

CORPORATE VISIT

The Schneider Electric team visited VIT, Vellore on 26.3.2024 and interacted with the students of School of Electrical Engineering about their problem statements and shared their experience in various Schneider domains.



A team from L & T Technology Services Ltd, Gujarat, Visited School of Electrical Engineering and interacted with the faculties regarding collaboration and research.



HIGH IMPACT FACTOR PUBLICATIONS - JANUARY 2024

LENKA R.K., PANDA A.K., SENAPATI L., GRID INTEGRATED MULTIFUNCTIONAL EV CHARGING INFRASTRUCTURE WITH IMPROVED POWER QUALITY, *JOURNAL OF ENERGY STORAGE*, I.F. 9.4

- **Sharma P., Raju S., Salgotra R.,** An evolutionary multi-algorithm-based framework for the parametric estimation of proton exchange membrane fuel cell, *Knowledge-Based Systems*, I.F.8.8
- **T. P., Elumalai V.K., E. B.,** Hand gesture classification framework leveraging the entropy features from sEMG signals and VMD augmented multi-class SVM, *Expert Systems with Applications*, I.F.8.5
- **Divya R., Uma Maheswari S., Stonier A.A.,** Machine learning based smart intrusion and fault identification (SIFI) in inverter based cyber-physical microgrids, *Expert Systems with Applications*, I.F.8.5
- **Ramadevi B., Kasi V.R., Bingi K.,** Fractional ordering of activation functions for neural networks: A case study on Texas wind turbine, *Engineering Applications of Artificial Intelligence*, I.F.8.0
- **Mohapatra P.; Panda A.K.; N V.R.N.; Lenka R.K.; Senapati L.,** ANF-MAP Based Multipurpose Control Approach for Single-Stage Grid-Connected PV System, *IEEE Transactions on Industrial Electronics*, I.F.7.7
- **Sundarakamath R., Natarajan S.,** Integration of multiple sources for fuel cell hybrid electric vehicles using single inductor multi-input converter, *International Journal of Hydrogen Energy*, I.F.7.2
- **Gopinath M., Marimuthu R.,** Experimental study of photovoltaic- thermoelectric generator with graphite sheet, *Case Studies in Thermal Engineering*, I.F.6.8
- **Reddy K.J., Dash R., Subburaj V., Kumar B.H., Dhanamjayulu C., Blaabjerg F., Muyeen S.M.,** A stochastic variance reduction gradient- based GSO-ANFIS optimized method for maximum power extraction of proton exchange membrane fuel cell, *Energy Conversion and Management: X*, I.F.6.3
- **Sarkar D.U.; Prakash T.,** A convolutional neural network framework to design power system stabilizer for damping oscillations in multi-machine power system, *Neural Computing and Applications*, I.F.6.0
- **Nair R., Gokuladoss V.,** Synergistic adsorption and kinetic studies of heterostructure g-C₃N₄/TiO₂ nano-photocatalyst under visible light for enhanced CO₂ reduction, *Environmental science and pollution research international*, I.F.5.8

HIGH IMPACT FACTOR PUBLICATIONS - FEBUARY 2024

R. S., KOWSALYA M., HESS-BASED MICROGRID CONTROL TECHNIQUES EMPOWERED BY ARTIFICIAL INTELLIGENCE: A SYSTEMATIC REVIEW OF GRID-CONNECTED AND STANDALONE SYSTEMS, *JOURNAL OF ENERGY STORAGE*, I.F. 9.4

- **Sinha P.K., R M., Conglomeration of deep neural network and quantum learning for object detection: *Status quo review, Knowledge-Based Systems*, I.F. 8.8**
- **Viswanadhapalli J.K., Elumalai V.K., Shivram S., Shah S., Mahajan D., Deep reinforcement learning with reward shaping for tracking control and vibration suppression of flexible link manipulator, *Applied Soft Computing*, I.F. 8.7**
- **CH H.B., K R.R., C D., Kamwa I., Muyeen S.M., A novel on intelligent energy control strategy for microgrids with renewables and Evs, *Energy Strategy Reviews*, I.F. 8.2**
- **Salgotra R., Sharma P., Raju S., A multi-hybrid algorithm with shrinking population adaptation for constraint engineering design problems, *Computer Methods in Applied Mechanics and Engineering*, I.F. 7.2**
- **Rout S., Das S., Online State-of-Charge Estimation of Lithium-Ion Battery using a Fault Tolerant and Noise Immune Threefold Modified Adaptive Extended Kalman Filter, *IEEE Transactions on Transportation Electrification*, I.F. 7.0**
- **Yadav V.V., B S., Analysis and control of large-signal stability with storage in small-scale islanded AC microgrids, *Energy Reports*, I.F. 5.2**
- **Srilakshmi K., Santosh D.T., Ramadevi A., Balachandran P.K., Reddy G.P., Palanivelu A., Colak I., Dhanamjayulu C., Chinthaginjala R.K., Khan B., Development of renewable energy fed three-level hybrid active filter for EV charging station load using Jaya grey wolf optimization, *Scientific Reports*, I.F. 4.6**
- **Kumari P.A., Basha C.H.H., Puppala R., Fathima F., Dhanamjayulu C., Chinthaginjala R., Mohammad F., Khan B., Application of DSO algorithm for estimating the parameters of triple diode model-based solar PV system, *Scientific Reports*, I.F. 4.6**
- **Prashanth V., Rafikiran S., Hussain Basha C.H., Kumar J.A., Dhanamjayulu C., Kotb H., ELrashidi A., Implementation of high step-up power converter for fuel cell application with hybrid MPPT controller, *Scientific Reports*, I.F. 4.6**
- **Manikandan R., Raja Singh R., Open Circuit Fault Localization in NPC Inverter Fed Induction Motor Drives Using Cost Function and Estimated Voltages, *IEEE Transactions on Circuits and Systems II:Express Briefs*, I.F. 4.4.**

HIGH IMPACT FACTOR PUBLICATIONS - MARCH 2024

NYAMATHULLA S., DHANAMJAYULU C., A REVIEW OF BATTERY ENERGY STORAGE SYSTEMS AND ADVANCED BATTERY MANAGEMENT SYSTEM FOR DIFFERENT APPLICATIONS: CHALLENGES AND RECOMMENDATIONS, *JOURNAL OF ENERGY STORAGE*, **I.F. 9.4**

- **Ramadevi B., Kasi V.R., Bingi K.,** Hybrid LSTM-Based Fractional-Order Neural Network for Jeju Island's Wind Farm Power Forecasting, *Fractal and Fractional*, **I.F. 5.8**
- **Kumar K., Lakshmi Devi V., Dhanamjayulu C., Kotb H., Elrashidi A.,** Evaluation and deployment of a unified MPPT controller for hybrid Luo converter in combined PV and wind energy systems, *Scientific Reports*, **I.F. 4.6**
- **Jyothi K.K., Borra S.R., Srilakshmi K., Balachandran P.K., Reddy G.P., Colak I., Dhanamjayulu C., Chinthaginjala R., Khan B.,** A novel optimized neural network model for cyber-attack detection using enhanced whale optimization algorithm, *Scientific Reports*, **I.F. 4.6**
- **Geetha G., Geethanjali P.,** An efficient method for bearing fault diagnosis, *Systems Science and Control Engineering*, **I.F. 4.1**
- **Kattiakara Muni Samy M.R., Gudipalli A.,** Design circular polarized antenna at ISM band for WBAN using parasitic elements, *Heliyon*, **I.F. 4.0**
- **Varun Sai B.S., Mohanty R., Mohanty S., Chatterjee D., Dhanamjayulu C., Chinthaginjala R., Kotb H., Elrashidi A.,** An efficient MPPT techniques for inter-harmonic reduction in grid-connected hybrid wind and solar energy systems, *Heliyon*, **I.F. 4.0**
- **Siva Sivamani G.K., Gudipalli A.,** Design and implementation of DATA logging and stabilization system for a UAV, *Heliyon*, **I.F. 4.0**
- **Anil V., Arun S.L.,** Enhancing Transactive Energy Trading Framework for Residential End Users, *IEEE Access*, **I.F. 3.9**
- **Vaishali K., Prabha D.R.,** The Reliability and Economic Evaluation Approach for Various Configurations of EV Charging Stations, *IEEE Access*, **I.F. 3.9**
- **Gopinath M., Muthuswamy N., Marimuthu R.,** Graphite sheet assisted photovoltaic - thermoelectric generator for hydrogen generation from seawater, *Energy Sources, Part A: Recovery, Utilization and Environmental Effects*, **I.F. 2.9**

ADVISORY TEAM



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VITEEE 2024
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World University Rankings 2023
World University Rankings 2024
Shanghai Ranking 2022
World University Rankings 2024

A PLACE TO LEARN. A CHANCE TO GROW



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VITMEE 2024
Admissions open for
M.Tech. Power Electronics and Drives

Opportunities:

- To work in industry-supported labs (Schneider-HMI, Schneider Building & Factory Automation, Fluke, Danfoss, Q-Max, RockWell).
- To undergo a Curriculum, designed to meet industrial demands with a focus on Electrical Vehicles
- To develop products and file patents through School's Pre-incubation cell and VIT-IPR.

World Subject Rank : 201-250
India Rank : 8

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VITMEE 2024
Admissions open for
M.Tech. Control and Automation

Opportunities:

- To work in industry-supported labs (Schneider-HMI, Schneider Building & Factory Automation, Fluke, Danfoss, Q-Max, RockWell).
- To undergo a Curriculum, designed to meet industrial demands with a focus on Industry 4.0.
- To develop products and file patents through SELECT School's Pre-incubation cell and VIT-IPR.

World Subject Rank : 151-200
India Rank : 7

APPLY NOW

இரள்நீங்கி இன்பம் பயக்கும் மரள்நீங்கி
மாசற காட்சி யவர்க்க

DARKNESS DEPARTS, AND RAPTURE SPRINGS TO MEN WHO SEE,
THE MYSTIC VISION PURE, FROM ALL DELUSION FREE.- THIRUVALLUVAR



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