



School of Electrical Engineering (SELECT)



Mission

To be a leader for academic excellence in the field of electrical, instrumentation and control engineering imparting high quality education and research leading to global competence for the societal and industrial developments.

Vision

- **Impart high quality education and interdisciplinary research by providing conducive teaching learning environment and team spirit resulting in innovation and product development.**
- **Enhance the core competency of the students to cater to the needs of the industries and society by providing solutions in the field of electrical, electronics, instrumentation and automation engineering.**
- **Develop analytical skills, leadership quality and team spirit through balanced curriculum.**

DEAN'S MESSAGE



Dr. Mathew M. Noel

Dean

Message from Dean, School of Electrical Engineering:

The School of Electrical Engineering has steadily grown in eminence since its inception in 2009 and enables undergraduate and graduate students to provide technological solutions to societal problems. In particular, the QS world subject rank of our EEE program has improved by 50 ranks over the past years and stands at **201-250 globally as of 2023**. The field of Electrical Engineering is evolving faster than ever, growing ever more complex and multidisciplinary. We keep abreast of latest developments by continually revising our curriculum with inputs from academia and industry. In addition we ensure that at least 80 % of students in every batch take multiple Value Added Programs (VAPs) to acquire new employability skills. Since the start of our academic year in July 2022, the School of Electrical Engineering has organized **15 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. **12 Faculty Development Programs** and **16 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 **354 journal papers, 32 conference papers and 24 books/chapters** till date this academic year. I encourage you to 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.

HOTEEE 2023

MARCH 17-18, 2023

School of Electrical Engineering offered the two-day workshop on “Hands on Training in Electrical and Electronics Engineering”.

Dr. A.Gopi, Mr.V.M. Selvaganesan, Mr. Rajarathinam Selvaraj and Mr. U.Srinivasan, co-ordinated this workshop successfully where around **50 participants** from various **polytechnics and Engineering colleges from Tamil Nadu** participated in this programme.



EEE

**ORGANIZING
TEAM**



**Dr. K. Sathishkumar,
Prof and Head /EEE**



**Dr. S. Prabhakar Karthikeyan
Professor /EEE**



**Dr. R. Mageshwaran
Professor/EEE**



**Prof. G. Gokulakrishnan
Asst.Prof/EEE**

HOTEEE 2023

MARCH 17-18, 2023



The workshop was inaugurated by our Pro-Vice chancellor, Dr. Partha Sharathi Mallick, Dr. Mathew Mitra Noel, Dean, SELECT and Dr. Amutha Prabha N, Associate Dean, SELECT. The Technical sessions are handled by our SELECT faculty members

TECHNICAL SESSIONS (SOFTWARE AND HARDWARE)

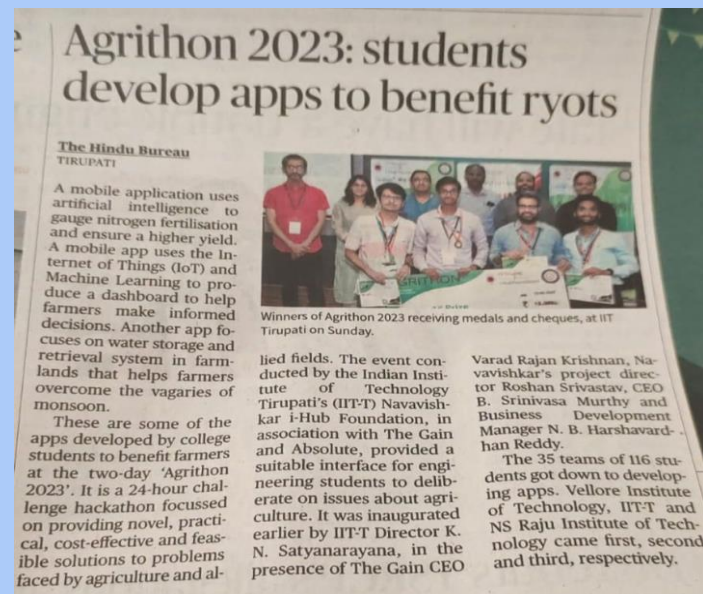


STUDENT ACHIEVEMENTS



KADAMBARI SANTOSH 19BEE0141 HAVE BEEN SELECTED AS ONE OF THE 35 INTERNATIONAL FINALISTS FOR THE **MCCALL MACBAIN SCHOLARSHIP PROGRAM**. SHE WILL BE GOING TO MONTREAL IN MARCH FOR MY FINAL INTERVIEW. THE TOP 10 INTERNATIONAL STUDENTS WILL BE GIVEN A FULL SCHOLARSHIP FOR THE GRADUATE PROGRAM WHILE THE REMAINING STUDENTS WILL BE OFFERED A **\$20,000** SCHOLARSHIP AMOUNT.

BISHAL SAHA 20BEE0298 AND TEAM PARTICIPATED IN **AGRITHON** ORGANIZED BY IIT, TIRUPATI AND SECURED **FIRST PRIZE**. THEY RECEIVED CASH PRIZE OF 15,000 AND THE NEWS PUBLISHED IN THE HINDU NEWSPAPER.



**SUCCESSFUL
ENTREPRENEUR**

ALFALEUS TECHNOLOGY

**IIT HYDERABAD,
TECHNOLOGY RESEARCH
PARK**

BY

**FOUNDER MR. SANDAL
KOTAWALA(14BEE0036)**

MAKE-A-THON 2023



Inaugural Chief Guest
Mr. Senthil Kumar P
IJET Chairman & Senior
Project Manager

35 teams
120+ participants
6 Domains
36 Hours



SCHOOL OF ELECTRICAL ENGINEERING
VIT, VELLORE
MAKE-A-THON 2023
VALEDICTORY
Chief Guest:
Mr. Subhash Babu Jagadam
Senior Manager Power Electronics & Controls
for Danfoss Drives India RnD

Sponsored By



MAKE-A-THON 2023 HIGHLIGHTS

ORGANIZING TEAM



FOREIGN EXPERT VISITED SELECT



Prof. In-Ho Ra from School of Computer, Information and Communication Engineering, Kunsan National University, South Korea visited our VIT-Vellore campus on 9th and 10th of January 2023. He discussed "Recent developments of 5G and beyond 5G networks" with the VIT faculty and research scholars. Additionally, he has provided information on the various R&D opportunities in South Korea for collaborative research. During his visit he has interacted with Chancellor Dr. G. Viswanathan, VPs, VC, ProVC and Registrar of VIT-Vellore for further proceedings.



Prof. Wolfram Pernice & Prof. Johannes Schmmel, Neuromorphic Computing, Heidelberg University, France discussed with SELECT students, research scholars and Faculties on 06.03.2023. They gave detailed presentation on Neuromorphic Computing and facilities available in Heidelberg University for collaborative research. Prof. Schmmel shared his ideas about the process of self-organization and learning represents the key for understanding intelligence, be it biological or artificial.

BOOKS PUBLISHED

Springer Tracts in Electrical and Electronics Engineering

K. Sivasankaran
Partha Sharathi Mallick

Multigate Transistors for High Frequency Applications

 Springer

SENSORS FOR NEXT-GENERATION ELECTRONIC SYSTEMS AND TECHNOLOGIES



Edited by
P. Uma Sathyakam and
K. Venkata Lakshmi Narayana

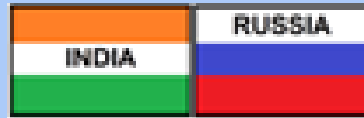
 CRC Press
Taylor & Francis Group

NSS ACTIVITIES



Prof. Balaji Sand
Prof. Santha Kumar
R from SELECT
participated in NSS
Camp'2023

SPONSORED PROJECT & CONSULTANCY



Title: Development of an interdisciplinary approach for the diagnosis and correction of the emotional sphere disorders of children using artificial intelligence methods: a cross-cultural study

Cost: Rs. 37.1 Lakhs, **Principal Investigator:** Dr. N. Ruban

Co-investigators: 1. Dr. K. V. Arulalan, MD, DCH DNB, Senior Pediatrician, AA Child Care Center, Vellore, India.

2. Dr. A. Mary Mekala, SCOPE 3. Dr. Thenmozhi M, SSL 4. Dr. S. Prabhakar Karthikeyan, SELECT

5. Dr. Monica Subhashini, SELECT 6. Dr. M. Varalakshmi, SCOPE

Funding agency: DST (International Cooperation Division, Indo-Russian Joint Project)

ZF (German company that supplies systems for Vehicles) visited the School of Electrical Engineering, Vellore Institute of Technology (VIT) Vellore on 9th September 2023. A faculty team from SELECT is developing a Smart Inverter for ZF as a consultancy project and demonstrated the first phase of the developed product to ZF team, headed by Dr. Gandert, Germany.

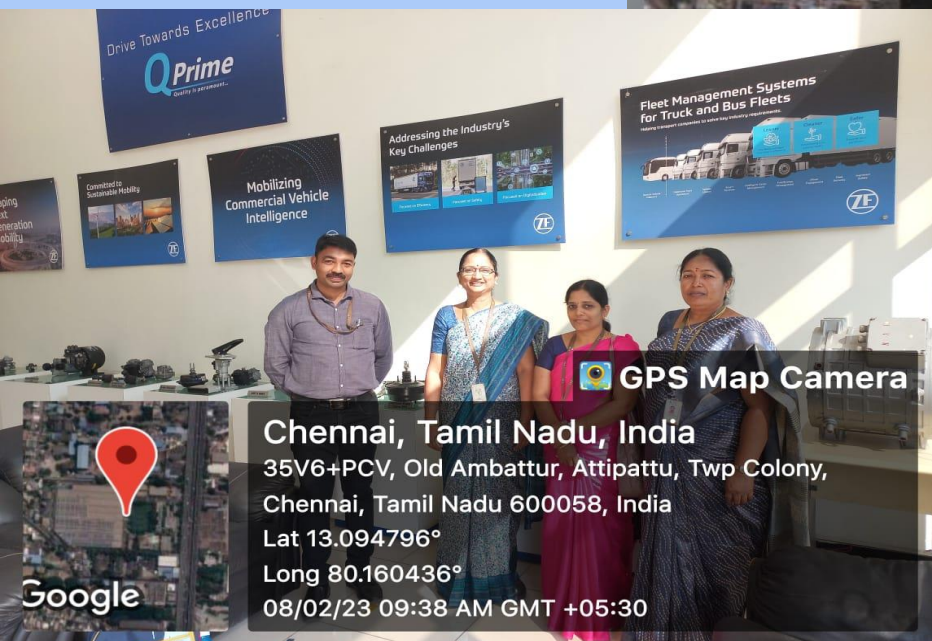


FACULTY INDUSTRY VISIT



The faculty members from SELECT visited **PRDC** (Power Research and Development Consultants Pvt Ltd), Bengaluru, Karnataka and discussed possible collaborative research activities with industry experts in Feb'2023.

The faculty members from SELECT visited **Bio-Vision Medical Systems**, Chennai and discussed possible collaborative research activities with industry experts in Jan'2023.



The faculty members from SELECT visited **ZF Commercial Vehicle Control Systems India Ltd**, Chennai and discussed possible collaborative research activities with industry experts in Feb'2023.

TOP 10 HIGH IMPACT FACTOR PUBLICATIONS JANUARY 2022



1) Nutakki M., Mandava S., “ Review on optimization techniques and role of Artificial Intelligence in home energy management systems”, Engineering Applications of Artificial Intelligence, I.F. 7.802.



2) Sasikumar A., Vairavasundaram S., Kotecha K., Indragandhi V., Ravi L., Selvachandran G., Abraham A., “Blockchain-based trust mechanism for digital twin empowered Industrial Internet of Things”, Future Generation Computer Systems, I.F. 7.307.

3) S. T., S S., “High power chirped pulse Yb fiber amplifier seeded by mode-locked fiber laser oscillator with multimode interference based saturable absorber”, Optics and Laser Technology, I.F. 4.939

4) Kumar G.V.B., Palanisamy K., Sanjeevikumar P., Muyeen S.M. “Analysis of control strategies for smoothing of solar PV fluctuations with storage devices”, Energy Reports, I.F. 4.937

5) Sitharthan R., Vimal S., Verma A., Karthikeyan M., Dhanabalan S.S., Prabakaran N., Rajesh M., Eswaran T., “Smart microgrid with the internet of things for adequate energy management and analysis”, Computers and Electrical Engineering, I.F. 4.152

6) Puppala R., Jeyaraj B.E., Isaac J.R., CH H.B., “Framework for smart grid to implement a price elasticity-based peak time rebate demand response program”, Frontiers in Energy Research, I.F. 3.858

7) Saravanakumar T., Kumar R.S., “Fuzzy Based Interleaved Step-up Converter for Electric Vehicle”, Intelligent Automation and Soft Computing, I.F. 3.401

8) Praiselin W.J., Belwin Edward J., “Power-Sharing Enhancement Using Harmonized Membership Fuzzy Logic Droop Control Based Micro-Grid”, Intelligent Automation and Soft Computing, I.F. 3.401

9) Nandagopal V., Balaji Damodhar T.S., Vijayapriya P., Thamilmaran A., “Improving Power Quality by DSTATCOM Based DQ Theory with Soft Computing Techniques”, Intelligent Automation and Soft Computing, I.F. 3.401

10) Dutta N., Kaliannan P., Shanmugam P., “SVM Algorithm for Vibration Fault Diagnosis in Centrifugal Pump”, Intelligent Automation and Soft Computing, I.F. 3.401

TOP 10 HIGH IMPACT FACTOR PUBLICATIONS - FEBRUARY 2022



1) Vijayan V., Mohapatra A., Singh S.N., Dewangan C.L.. “An Efficient Modular Optimization Scheme for Unbalanced Active Distribution Networks with uncertain EV and PV Penetrations”, IEEE Transactions on Smart Grid, I.F. 10.275



2) Ramachandra N., Natarajan R. “Productivity Enhancement of Total Cross-Tied PV Array Under Static Shade Conditions”, IEEE Transactions on Power Electronics, I.F. 5.967

3) Ramalingegowda C.H., Rudramoorthy M., “Transient stability enhancement using optimized PI tuning of static synchronous series compensator in wind power conversion system”, Frontiers in Energy Research, I.F. 3.858

4) Dhanasekaran P., Marimuthu R., “Efficiency enhancement of natural cocktail dyes in a TiO₂-based dyesensitized solar cell and performance of electron kinetics on the TiO₂ surface”, Frontiers in Energy Research, I.F. 3.858

5) Venkatapathy S., Srinivasan T., Jo H.-G., Ra I.-H., “Optimal Resource Allocation for 5G Network Slice Requests Based on Combined PROMETHEE-II and SLE Strategy”, Sensors, I.F. 3.847

6) Lyakso E., Ruban N., Frolova O., Mekala M.A., “The children’s emotional speech recognition by adults: Cross-cultural study on Russian and Tamil language”, PLoS ONE, I.F. 3.752

7) Khasim S.R., Dhanamjayulu C., Muyeen S.M., “A Single Inductor Multi-Port Power Converter for Electric Vehicle Applications”, IEEE Access, I.F. 3.476

8) Suvvala J., Kumar K.S., “Implementation of EFC Charging Station by Multiport Converter with Integration of RES”, Energies, I.F. 3.252

9) Shrivastava S., Subudhi B., Sahu J., “Distributed Finite-Time Control of Islanded Microgrid for Ancillary Services Provision”, Electronics (Switzerland), I.F. 2.690

10) Dhanamjayulu C., Sanjeevikumar P., Prasad D., Khasim S.R., Blaabjerg F., Fellow IETE, “A New 29-Level Switched-Diode Multilevel Inverter with Optimal Device Count”, IETE Journal of Research, I.F. 1.877.

HIGH IMPACT FACTOR PUBLICATIONS - MARCH 2022



1) Singirikonda S., Yeddula Pedda O. “Investigation on performance evaluation of electric vehicle batteries under different drive cycles”, Journal of Energy Storage, **I.F. 8.907**

2) Khawaja Y., Shankar N., Qiqieh I., Alzubi J., Alzubi O., Nallakaruppan M.K., Padmanaban S., “Battery management solutions for li-ion batteries based on artificial intelligence”, Ain Shams Engineering Journal, **I.F. 4.790**

3) Aditya K., Suresh Y., Kumar R.D., Naik B.S., Rao B.N., Dhanamjayulu C., “A Single Source Self-Balanced Boost MLI with Reduced Part Count for EV Applications”, Sustainability (Switzerland), **I.F. 3.889**

4) Mathesh G., Saravanakumar R., “A novel digital control scheme for power management in a hybrid energysource environment pertaining to electric vehicle applications”, Frontiers in Energy Research, **I.F. 3.858**

5) Gogula V., Edward B., “Fault detection in a distribution network using a combination of a discrete wavelet transform and a neural Network’s radial basis function algorithm to detect high-impedance faults”, Frontiers in Energy Research, **I.F. 3.858**

6) Srinivasan B., Venkatesan R., Aljafari B., Kotecha K., Indragandhi V., Vairavasundaram S., “A Novel Multicriteria Optimization Technique for VLSI Floorplanning Based on Hybridized Firefly and Ant Colony Systems”, IEEE Access **I.F. 3.476**

7) Alzahrani A., Wangikar S.M., Indragandhi V., Singh R.R., Subramaniaswamy V., “Design and Implementation of SAE J1939 and Modbus Communication Protocols for Electric Vehicle”, Machines **I.F. 2.899**

8) Aala Kalananda V.K.R., Komanapalli V.L.N., “A competitive learning-based Grey wolf Optimizer for engineering problems and its application to multi-layer perceptron training”, Multimedia Tools and Applications **I.F. 2.577**

9) Vinodh Kumar P., Obulesu Y.P., “Solar thermal energy on the convective transport in microchannel with exponential heat sink”, Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering **I.F. 1.822**

SELECT IN SPORTS - VITPL



**DR.SUDHAKAR N
WINNER IN
BADMINTON**



**DR.MAHALAKSHMI
WINNER IN
WOMEN'S
VOLLEYBALL**



SELECT FACULTY INTERNATIONAL VISIT

NTU, SINGAPORE

Prof. K. Sathish Kumar, Head-EE and Prof. J. Belwin Edward participated in the 7th IEEE International Conference on “Green Energy and Applications, ICGEA2023” in NTU @ One-north campus, Singapore during 10-11, March 2023. Sponsored by Singapore Institute of Electronics, and co-sponsored by Taiyuan University of Technology, China.



Dr. N. Ruban, Dr. S. Prabhakar Karthikeyan and Dr. K. Sathish Kumar attended and presented their research work in International Conference on Advanced Research in Computing organized by Faculty of Applied Sciences, Sabaragamuwa University of Sri Lanka, Belihuloya, Sri Lanka, during Feb 23-24, 2023. They also met Senior Prof. R.M.U.S.K. Rathnayaka, The Vice-Chancellor,



GPS Map Camera

Ratnapura, Sabaragamuwa Province, Sri Lanka

PQ6R+FMQ, Sri Lanka

Lat 6.711139°

Long 80.791958°

23/02/23 10:52 AM GMT +05:30

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SELECT STUDENTS SPORTS ACHIVEMENTS

Basketball (Women) - Winners

Simran Goel(20BEE0359)

Football (Women) - Winners

Anuja Mishra(22BEE0109)

Swimming - Women-Gold

Sankara Bhavani(22BEE0114)

Basketball (Men) - Winners

Rahul Agni Prakash .A(21BEE0314)

Tamil Nadu
Chief
Minister's
Trophy

WORKSHOP AND FDP

A Two-Day Workshop on “Control Systems Design and Hardware-in-loop Testing” is conducted by **Dr. Vinodh Kumar E, Dr. Praveen Kumar and Dr. Sankardoss** from 03.02.2023 to 04.02.2023 . The major topics covered in the workshop were 1. Frequency response modelling 2. Full state feedback control 3. Linear quadratic regulator design 4. Cascade control 5. Observer design 6. PIV control 7. Iterative learning control and 8. Hardware in loop (HIL) testing.

A Three -Day FDP on “Recent Trends in Power System Networks: Advanced Technology and Challenges” is conducted by **Dr. Sonam Shrivastava and Dr. R. Sitharthan** from 15-03-2023 to 17-03-2023. This workshop promoted advances in knowledge and research in the field of Power System Networks, DC and AC Microgrid.

ADVISORY TEAM



Dr. Mathew M Noel
Prof and Dean



Dr. Amutha Prabha N
Prof and Asso. Dean



Dr. Sathish Kumar.K
Prof and HOD/EEE



Dr. Rajini G. K
Prof and HOD/EIE



Dr. Ponnambalam.P
Prof and HOD/EPE



Dr. Jaganatha Pandian B
Prof and HOD/C&A

EDITORIAL TEAM



Dr. Joshua Reddipogu



Dr. Indragandhi V

SELECT PRE-INCUBATION CELL

***SELECT Pre-Incubation Cell** invites applications for start-ups and aspiring entrepreneurs for technology transfer and product development.*

Register Now



24-26, November 2023

4th International Conference on Innovations in Power & Advanced Computing Technologies

i-PACT'23

Conference ID : 58649

Jointly Organized by
Dr.M.G.R BLOCK

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

UNIVERSITI MALAYA

More details visit us @ <https://vit.ac.in/ipact/index.html>

VIT is accredited by
NAAC with the
highest A++ grade in
4th cycle



**EEE is the Highest Ranked
Program in VIT
(QS Subject-wise world
ranking 2022)**



EEE is ranked 8th in
India (QS Subject-wise
world ranking 2022)



தொட்டனைத் தூறும் மணற்கேணி மாந்தர்க்குக்
கற்றனைத் தூறும் அறிவு. - திருவள்ளுவர்

In sandy soil, when deep you delve, you reach the springs below;
The more you learn, the freer streams of wisdom flow. - Thiruvalluvar

