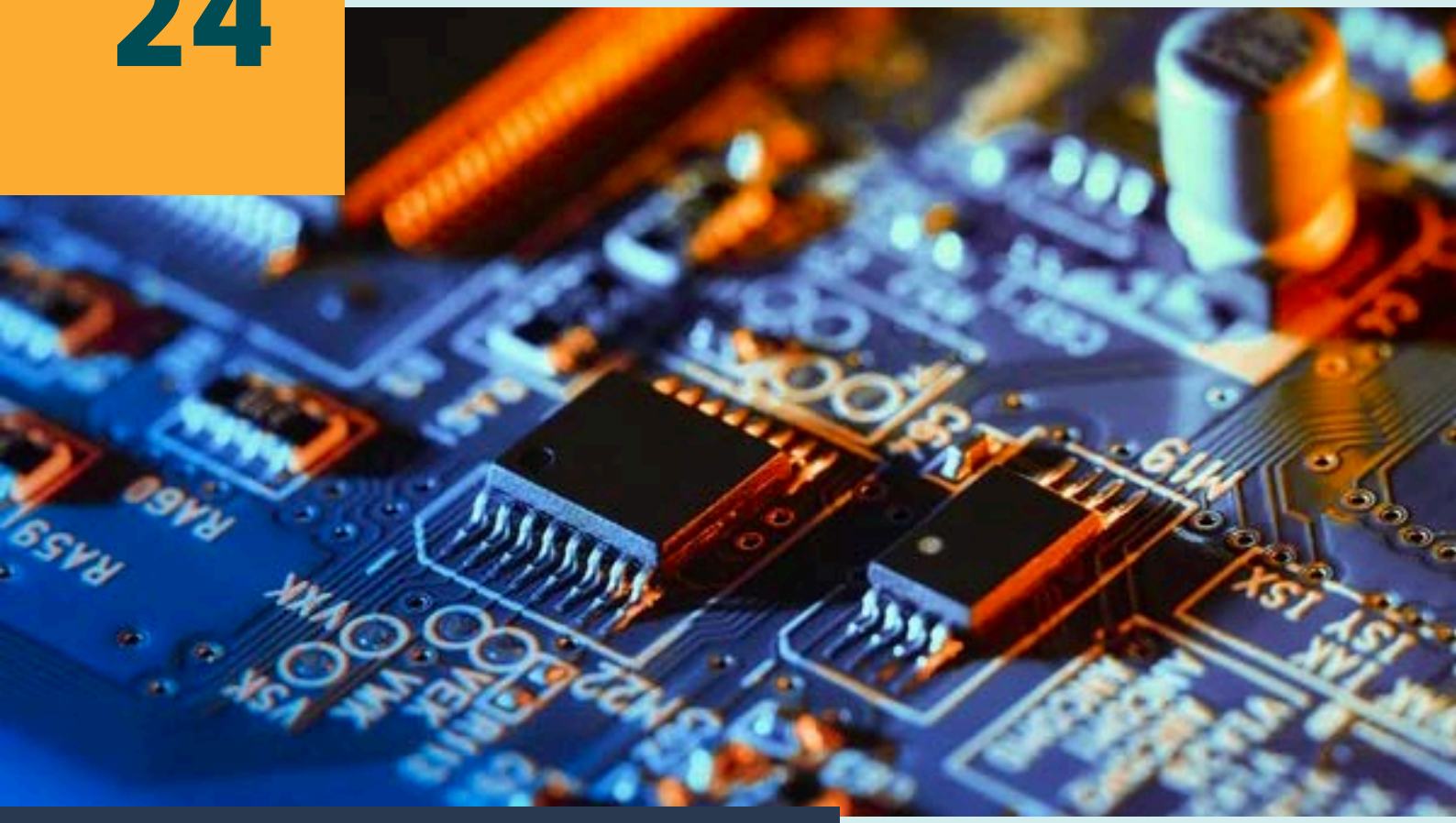
2024

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

SCHOOL OF ELECTRONICS ENGINEERING



Tech-Tronics TRIBUNE

E-NEWSLETTER:

Volume 5 Issue 2 Apr- Jun' 24

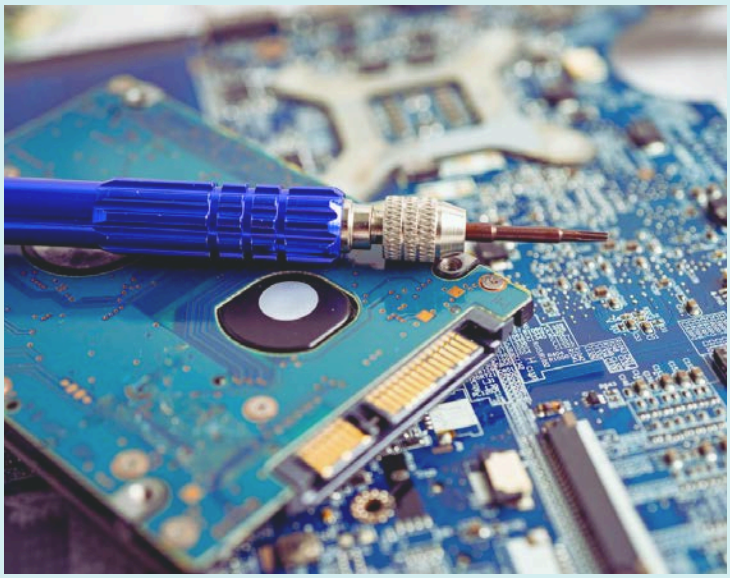
SCHOOL OF ELECTRONICS ENGINEERING

VISION

To be a leader in imparting in-depth and futuristic knowledge of electronics engineering and allied domains that cater to the needs of industry, research, and society.

HIGHLIGHTS

- Vision & Mission
- Dean's Message
- Faculty Achievements
- AIIoT 2024
- Events Organized
- Selected Publications
- Sponsored Research
- Consultancy Projects
- Editorial Committee



MISSION

- To create and maintain an environment of excellence in teaching, learning, and applied research in electronics engineering and associated disciplines to pioneer sustainable growth.
- To equip students with the necessary knowledge and skills enabling them to be lifelong learners in solving real-life problems, thereby improving the quality of human life and values.

DEAN'S
MESSAGE

Message from SENSE Dean

Dear VITians,
I trust this message finds you in good health and high spirits. Today, I am delighted to bring you important updates and announcements concerning our esteemed institution's School of Electronics Engineering.

In light of the ever-evolving landscape of electronics engineering, we have embarked on a thorough review of our curriculum. Our goal is to ensure that our programs remain at the forefront of technological advancements, equipping our students with the skills and knowledge essential for success in the industry. Anticipate exciting changes in our course offerings, upgraded laboratory facilities, and enriched project-based learning opportunities.

In our commitment to fostering innovation and facilitating groundbreaking research, we have actively pursued collaborations with industry partners and secured additional funding for research projects. These efforts will provide our faculty and students with expanded opportunities to delve into cutting-edge technologies, engage in multidisciplinary research endeavors, and contribute to addressing real-world challenges.

To bridge the gap between academia and industry, we are proactively establishing partnerships and collaborations with leading technology companies. These collaborations will enable our students to gain practical insights through internships, industrial training programs, and guest lectures from industry experts. We firmly believe that these interactions will enhance your professional growth and help you establish valuable industry connections.

I am thrilled to present the 5th Volume, 2nd Issue of our ENewsletter, "Tech-Tronics Tribune," by the School of Electronics Engineering (SENSE) for the second quarter of 2024. This edition showcases the well-deserved honors and recognitions bestowed upon both faculty and students within the SENSE family for the period of April to June 2024. I extend my heartfelt gratitude to all members of the SENSE family for their unwavering support and contributions that have made this newsletter possible. Your continued support is deeply appreciated, and we eagerly anticipate realizing the institute's mission and vision.

Thank you, and we look forward to an exciting journey ahead.

Dr. Sivanantham S.
Professor & Dean
School of Electronics Engineering
Vellore Institute of Technology, Vellore
dean.sense@vit.ac.in

FACULTY
ACHIEVEMENTS

Guest Lectures Delivered

- Dr. Vinoth Babu K delivered a lecture titled “Exploring Spatial Modulation Techniques for Next-Generation Wireless Communication” at Thiagarajar College of Engineering, Vellore, India, on June 15, 2024.
- Dr. Prakash R delivered a lecture titled “NELEX” at VIT, Vellore, India, on June 15, 2024.
- Dr. Idrasen Singh delivered a lecture at the International Conference on Innovations and Challenges in Emerging Technologies 2024 (ICICET-2024) at GHRCE, Nagpur, India, on June 7, 2024.
- Dr. Valarmathi J delivered a lecture titled “Machine Learning and AI Applications in Climate Modelling” at Jeppiaar Institute of Technology, Kunnam, Sunguvarchatram, Sriperumbudur (TK), Chennai, India, on June 6, 2024.
- Dr. Sharmila N delivered a familiarization session on NISP at Multiple Mentee Institutes, Vellore, India, on June 5, 2024.
- Dr. Rohit Mathur delivered a lecture titled “Modeling and Analysis of EM-Field using CST MW Studio” at VIT AP, Andhra Pradesh, India, on June 4, 2024.
- Dr. Sharmila N delivered a lecture titled “Campus Start-Up Spin-Off with Students” at Kongu Engineering College, Perundurai, India, on May 28, 2024.
- Dr. Kannadassan D delivered a session on IEEE paper publication for Cadence at Cadence, Bangalore, India, on May 22, 2024.
- Dr. Budhaditya Bhattacharyya delivered a lecture titled “Academic Excellence in Campus: Reshaping Engineering Landscape” at Future Institute of Engineering and Management, Kolkata, India, on May 21, 2024.
- Dr. Sharmila N delivered a lecture titled “Exploring Current Technologies for Upper Limb Function” at PRS NeuroSciences, Bangalore, India, on May 18, 2024.
- Dr. Jaffino delivered a lecture at the Advances in Modern Age Technologies for Health and Engineering Science (AMATHE 2024) at PES Institute of Technology and Management, Karnataka, India, on May 9, 2024.
- Dr. Palla Penchalaiah delivered a lecture titled “Single Photon Sources Based on Low-Dimensional Materials” at Vellore Institute of Technology, Vellore, India, on May 8, 2024.
- Dr. Arun Dev Dhar Dwivedi delivered a lecture titled “Modeling and Simulation of OTFTs Using Silvaco TCAD and EDA Tools” in a One-Week Faculty Development Program (FDP) on “Emerging Trends and Developments in Simulation and Fabrication of Semiconductor Devices” from May 2 to May 8, 2024, at VIT AP, Amaravati, India, on May 4, 2024.
- Dr. Sivakumar R served as Session Chair at Vellore Institute of Technology, Vellore, India, on May 3, 2024.

FACULTY

ACHIEVEMENTS

Guest Lectures Delivered

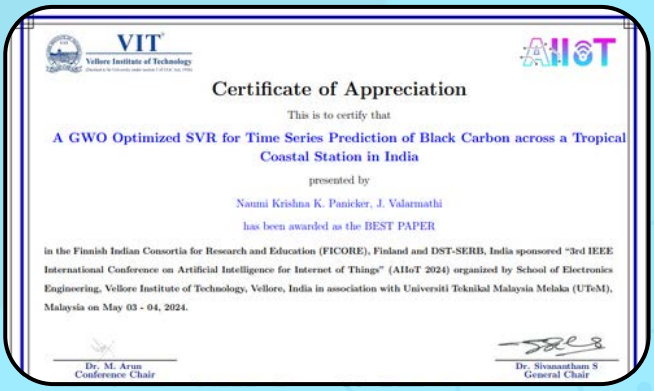
- Dr. Gopinath P served as Conference Session Chair at Vellore Institute of Technology Vellore India in association with Universiti Teknikal Malaysia Melaka Malaysia, Vellore, India, on May 3, 2024.
- Dr. Jaffino delivered a lecture at the IEEE International Conference on Artificial Intelligence for Internet of Things at Vellore Institute of Technology, Vellore, India, on May 3, 2024.
- Dr. Arun Dev Dhar Dwivedi delivered a lecture titled “Compact Modeling of Field Effect Transistors for VLSI Design: Using AI and Machine Learning” at the School of Computer Science and Engineering (SCOPE), Vellore Institute of Technology, Vellore, Tamil Nadu, India, on April 25, 2024.
- Dr. Noor Mohammed V delivered a lecture titled “Electronics Engineers for Next Generation Technologies (M.Tech 2 Year Program)” at Vellore Institute of Technology, Vellore, India, on April 24, 2024.
- Dr. Biswajit Dwivedy delivered a lecture titled “Data Analytics Using Python for IoT Use Cases” at Vellore Institute of Technology, Vellore, India, on April 23, 2024.
- Dr. Konguvel Elango delivered a lecture titled “Understanding Career Scopes in 21st Century” at The Takshilah Global School, Ambur, India, on April 8, 2024.
- Dr. Naveen Mishra delivered a lecture titled “Metamaterial Structures and Their Distinct Applications” at Vishnu Institute of Technology, Bhimavaram, Andhra Pradesh, India, on April 6, 2024.
- Dr. Sujatha R delivered a lecture titled “Trends and Challenges in Implementing Internet of Things for Digital Twin Applications” at VIT Vellore, Vellore, India, on April 2, 2024.
- Dr. Sujatha R delivered a lecture titled “IoT System Development Using Microcontroller” at VIT, Vellore, India, on April 2, 2024.

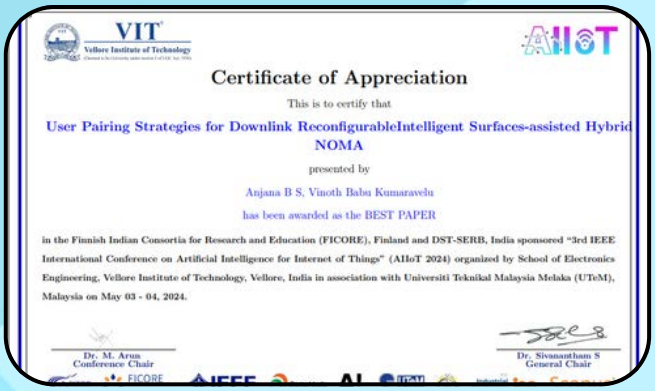
FACULTY

ACHIEVEMENTS

Honours and Awards

- Dr. Prakasam P received the Outstanding Associate Editor of 2023 award from IEEE Access Journal on May 23, 2024.
- Dr. Valarmathi J received the Best Paper Award at the IEEE International Conference on Artificial Intelligence for Internet of Things (AIIoT 2024) on May 3, 2024.
- Dr. Prakasam P received the Samsung PRISM Program - Certificate of Excellence from Samsung PRISM on April 29, 2024.
- Dr. Vinoth Babu K received the Best Paper Award for “User Pairing Strategies for Downlink Reconfigurable Intelligent Surfaces Assisted Hybrid NOMA” at the 3rd IEEE International Conference on Artificial Intelligence for Internet of Things (AIIoT2024) on May 3, 2024.





EVENTS

Events Organized

The School of Electronics Engineering at VIT has been busy hosting a variety of events that encompass workshops, training programs, seminars, and more. These events are not only enriching for our students and faculty but also contribute to the growth of knowledge and expertise in the field of electronics.

- 3rd IEEE International Conference on Artificial Intelligence for Internet of Things (AIIoT 2024) was organized from May 3, 2024, to May 4, 2024, coordinated by Dr. Arun M, Dr. Sujatha R, and Dr. Karthikeyan B (Conference).
- Emerging Materials for Future Electronics was organized from May 6, 2024, to May 10, 2024, coordinated by Dr. Rajan Kumar Pandey and Dr. Saurabh Nagar (FDP).
- Microwave Photonics Enabled Wireless Communication for Advanced Systems was organized from April 1, 2024, to April 5, 2024, coordinated by Dr. Rajkishor Kumar and Dr. Avinash Chandra (FDP).
- Developing Cloud-Based Edge Powered Intelligent IoT Solutions was organized from May 11, 2024, to May 25, 2024, coordinated by Dr. Sriharipriya K C and Dr. Sujatha R (Summer Interns Programme).
- Ideathon 2024 was organized from June 20, 2024, to June 21, 2024, coordinated by Dr. Revathi S and Dr. Aarthi G (Thons).
- Ideathon 2024 was organized from June 20, 2024, to June 21, 2024, coordinated by Dr. Sivanantham S and Dr. Jasmin Pemeena Priyadarisini M (Thons).
- Ideathon 2024 was organized from June 20, 2024, to June 21, 2024, coordinated by Dr. Jabeena A and Dr. Sathya P (Thons).
- Hackathon - Medical Image Processing was organized from April 27, 2024, to April 28, 2024, coordinated by Dr. Jeeva J.B (Thons).
- Eletra - Hack-A-Thon was organized from April 16, 2024, to April 18, 2024, coordinated by Dr. Rajeev Pankaj Nelapati and Dr. Sivasankaran K (Thons).

EVENTS

Events Organized

- A One-Day National Level Workshop on AI, Machine Learning and Deep Learning was organized on May 25, 2024, coordinated by Dr. Venugopal P and Dr. Gerardine Immaculate Mary (Workshop).
- One-Day Workshop on “Proposed Projects Using Millimeter Wave Radar” was organized on May 23, 2024, coordinated by Dr. Jabeena A and Dr. Valarmathi J (Workshop).
- Integration & Use of AI in Robotics & Automation was organized on May 4, 2024, coordinated by Dr. Arun M, Dr. Sujatha R, and Dr. Konguvel Elango (Workshop).
- Innovate to Elevate: Youth and Intellectual Property was organized on April 26, 2024, coordinated by Dr. Sundar S and Dr. Mageshvaran R (Workshop).
- Formal Verification was organized on April 21, 2024, coordinated by Dr. Jagannadha Naidu K and Dr. Sivasankaran K (Workshop).
- Thin Film Growth, Characterization and Device Fabrication was organized on April 5, 2024, coordinated by Dr. Elizabeth Rufus (Workshop).

SCHOOL OF ELECTRONICS ENGINEERING

AIIoT-2024

IEEE International Conference on Artificial Intelligence for Internet of Things

The IEEE International Conference on "Artificial Intelligence for Internet of Things (AIIoT-2024)" was held on May 3rd and 4th, 2024. AIIoT-2024 was organized with the aim of bringing together academicians, researchers, engineers, and students who specialize in the areas of Electronics, Electrical and Computer Engineering. AIIoT 2024 was sponsored by FICORE, Finland, DST-SERB & IETE, India.

Key Highlights of AIIoT- 2024:-

- **Diverse International Presence:** AIIoT-2024 attracted participants and contributions from all around the globe. Notably, keynote speakers hailed from different countries, including Brazil, Australia, Estonia, and India.
- **Global Academic Engagement:** The conference received an overwhelming response from the academic community, with more than 300 academic institutions across the world contributing research papers.
- **Significant Paper Submissions:** An impressive total of 3083 research papers were submitted to the conference. After a rigorous selection process, 272 papers were accepted and registered for presentation, reflecting the high standards of the conference.
- **Comprehensive Technical Sessions:** AIIoT-2024 hosted a total of 12 keynote sessions and 27 technical sessions, showcasing the depth and breadth of research in Electronics, Communication, and Networking. A special session on "Women in Engineering" emphasized the importance of gender diversity in the field.
- **Diverse Conference Tracks:** The conference featured nine distinct tracks, allowing attendees to explore specific areas of interest:

  a. AI-enabled Computing Techniques for Smart Systems
  b. IoT Solutions for Sustainable Development
  c. Embedded and VLSI Design for Edge Computing
  d. Next Generation Communication Networks
  e. AI for Signal and Image Processing
  f. Women in Engineering

AIIoT-2024

IEEE International Conference on Artificial Intelligence for Internet of Things

- **Paper Acceptance Rate:** The acceptance rate for papers was 8.8%, reflecting the selectivity and quality of the papers presented at the conference.
- **Impressive Revenue Generation:** AIIoT-2024 demonstrated a successful financial outcome, generating a revenue of Rs 35,00,206, which includes GST.
- **Geographical Distribution of Papers:** The papers received and accepted showed a wide geographical spread. A significant number of papers came from both North India (515) and South India (2229), indicating a strong interest in the conference from across the country. Additionally, the conference attracted papers authored by foreign contributors (68), underlining its international appeal.

Chief Guest and Guest of Honour for the Inaugural Ceremony:

Dr. Peter Hofstee
IBM Distinguished Engineer,
Texas, USA

Ms. Ponni Krishnamoorthy
Director, Telco Cloud Data Centres &
4G/5G Test Networks, Nokia, Bengaluru, India

SCHOOL OF ELECTRONICS ENGINEERING

AIIoT-2024

IEEE International Conference on Artificial Intelligence for Internet of Things

General Chairs

Dr. Sivanantham S., Vellore Institute of Technology, Vellore
Dr. Jasmin Pemeena Priyadarisini M., Vellore Institute of Technology, Vellore

General Co-Chairs

Dr. Arun M., Vellore Institute of Technology, Vellore
Dr. Karthikeyan B., Vellore Institute of Technology, Vellore
Dr. Sasikumar P., Vellore Institute of Technology, Vellore
Dr. Sujatha R., Vellore Institute of Technology, Vellore

Keynote Speakers

Stephan Sigg
Professor
Aalto University, Finland

Lauri Järvilehto
Professor
Aalto University, Finland

Sivakumar Subramaniam
Professor
Universiti Teknikal Malaysia Melaka, Malaysia

Svetlana Stanarevic
Associate Professor
University of Belgrade, Serbia

Peter Hofstee
IBM, USA

Nandana Rajatheva
Professor
University of Oulu, Finland

Bo Tan
Professor
Tampere University, Finland

Markku Turunen
Professor
Tampere University, Finland

Tomi Salo
Professor
University of Vaasa, Finland

Hong-Linh Truong
Professor
Aalto University, Finland

Ajay Lotan Thakur
Cloud Software Architect
Intel, Canada

SCHOOL OF ELECTRONICS ENGINEERING

AIIoT-2024

IEEE International Conference on **N**ext Generation **El**ectronics

TOP PUBLICATIONS (IF)

- Emerging trends of 3D architectonic MXene-based flexible pressure sensors as multimodal medical devices, Pitcheri R.; Chittibabu S.K.; Sangaraju S.; Jarsangi B.; Al-Asbahi B.A.; Minnam Reddy V.R.; Kim W.K., Coordination Chemistry Reviews, Vol:499, DOI: 10.1016/j.ccr.2023.215527, IF = 20.3.
- Smart maracas: An innovative triboelectric nanogenerator for earthquake detection and energy harvesting, Chandrasekhar A., Basith S.A., Vivekananthan V., Khandelwal G., Joseph Raj N.P.M., Purusothaman Y., Kim S.J., Nano Energy, Vol:123, DOI: 10.1016/j.nanoen.2024.109379, IF = 16.8.
- Flexible and rigid spinel ferrite carboneous composite as a future of tunable absorption dominant cmWave shielding materials, Khade V., Thirumalasetty A.B., Rathod A.A., Chaoukiker Y.K., Wuppulluri M., Journal of Materials Chemistry A, DOI: 10.1039/d3ta07624e, IF = 10.7.
- Dialectic Feature-based Fuzzy Graph Learning for Label Propagation Assisting Text Classification, Madhu C.; S S.M., IEEE Transactions on Fuzzy Systems, Pg.No:(1-15), DOI: 10.1109/TFUZZ.2024.3421595, IF = 10.7.
- An Interpretable Fuzzy Graph Learning for Label Propagation Assisting Data Classification, Madhu C., Sudhakar M.S., IEEE Transactions on Fuzzy Systems, Vol:32, Issue: 3, Pg.No:(1331-1345), DOI: 10.1109/TFUZZ.2023.3323093, IF = 10.7.
- Double transition-metal MXenes: Classification, properties, machine learning, artificial intelligence, and energy storage applications, Hussain I., Sajjad U., Kewate O.J., Amara U., Bibi F., Hanan A., Potphode D., Ahmad M., Javed M.S., Rosaiah P., Hussain S., Khan K., Ajmal Z., Punniyakoti S., Alarfaji S.S., Kang J.-H., Al Zoubi W., Sahoo S., Zhang K., Materials Today Physics, Vol:42, DOI: 10.1016/j.mtphys.2024.101382, IF = 10.
- Analysis and multi-objective evolutionary optimization of Solar-Biogas hybrid system operated cascade Kalina organic Rankine cycle for sustainable cooling and green hydrogen production, Madhesh K., Devesh D.R., Vivin T., Praveen Raj M., Phelan P.E., Vignesh Kumar V., Praveen Kumar G., Energy Conversion and Management, Vol:301, DOI: 10.1016/j.enconman.2023.117999, IF = 9.9.
- Machine Learning and Computer Vision Based Methods for Cancer Classification: A Systematic Review, Mukadam S.B., Patil H.Y., Archives of Computational Methods in Engineering, DOI: 10.1007/s11831-024-10065-y, IF = 9.7.
- Nb-based MXenes: Structures, properties, synthesis, and application towards supercapacitors, Kewate O.J.; Hussain I.; Tyagi N.; Saxena S.; Zhang K.; Rajamansingh E.G.; Chinnappan N.; Joshi H.; Punniyakoti S., Journal of Energy Storage, Vol:94, DOI: 10.1016/j.est.2024.112445, IF = 8.9.

TOP PUBLICATIONS (IF)

- A Novel Mechano-Synthesized Zeolitic Tetrazolate Framework for a High-Performance Triboelectric Nanogenerator and Self-Powered Selective Neurochemical Detection, Sarfudeen S., Nitha P.K., Basith S.A., Varghese M., Jhariat P., Chandrasekhar A., Panda T., ACS Applied Materials and Interfaces, Vol:16, Issue: 19, Pg.No:(24851-24862), DOI: 10.1021/acsami.4c00454, IF = 8.3.
- Fiber Optic Sensor Coated with Multiple Layers of Hexagonal Boron Nitride Nanosheets (BNNS) for the Detection of Volatile Organic Compounds, Jamila R.M.; Narasimman S.; Prasanth A.; Muthukumar M.; Alex Z.C.; Anand G.T., ACS Applied Materials and Interfaces , Vol:16, Issue: 27, Pg.No:(35525-35540), DOI: 10.1021/acsami.4c05230, IF = 8.3.
- Ni-Ti3C2 MXene composite derived from Ni-metal organic framework for electrochemical hydrogen evolution reaction in acidic and alkaline medium, Gothandapani K.; Tamil Selvi G.; Sofia Jennifer R.; Velmurugan V.; Pandiaraj S.; Muthuramamoorthy M.; Pitchaimuthu S.; Raghavan V.; Josephine Malathi A.C.; Alodhayb A.; Nirmala Grace A., International Journal of Hydrogen Energy, DOI: 10.1016/j.ijhydene.2023.10.022, IF = 8.1.
- Release kinetic study of microplastics from N95 face masks and consequent effects on freshwater alga Scenedesmus obliquus, Das S.; M R S.; Jeeva J.B.; Mukherjee A., Chemosphere, Vol:363, DOI: 10.1016/j.chemosphere.2024.142851, IF = 8.1.
- Nickel nanoparticles supported on carbon surface as an electrocatalyst for hydrogen evolution reaction, Gothandapani K.; Jeniffer R.S.; Tamil Selvi G.; Velmurugan V.; Assaifan A.K.; Alzahrani K.E.; Albrithen H.; Muthuramamoorthy M.; Pandiaraj S.; Pitchaimuthu S.; Alodhayb A.N.; Grace A.N., International Journal of Hydrogen Energy, DOI: 10.1016/j.ijhydene.2023.08.027, IF = 8.1.
- An efficient deep learning network with orthogonal softmax layer for automatic detection of tuberculosis, Das P.K., Sreevatsav S., Abraham A., Engineering Applications of Artificial Intelligence, Vol:133, DOI: 10.1016/j.engappai.2024.108116, IF = 7.5.
- Optimal placement of fixed hub height wind turbines in a wind farm using twin archive guided decomposition based multi-objective evolutionary algorithm, Raju M S.S., Mohapatra P., Dutta S., Mallipeddi R., Das K.N., Engineering Applications of Artificial Intelligence, Vol:130, DOI: 10.1016/j.engappai.2023.107735, IF = 7.5.
- A novel self-adaptive multi-population quadratic approximation guided jaya for solving real-parameter constrained optimization problems, Das R.; Nath Das K.; Mallik S.; Das S.; Laskar N.M.; Nath S., Expert Systems with Applications, Vol:238, DOI: 10.1016/j.eswa.2023.121898, IF = 7.5.

TOP PUBLICATIONS (IF)

- Fabricating NiCoFe2O4 decorated PANI nanostructures for high-performance electrochemical detection of 3-Nitro-L-tyrosine biomarkers for rapid diagnosis, Pragalathan S., Ruspika S., Chen S.-M., Dhanasekaran A., Velmurugan V., Balaji R., Mohan J., Chandrasekar N., Journal of Environmental Chemical Engineering, Vol:12, Issue: 3, DOI: 10.1016/j.jece.2024.112455, IF = 7.4.
- Energizing geriatric healthcare: A triboelectric energy harvester with self-powered morse code generator and IoT-Enabled remote sensing tactile patch, Viswanathan P., Chandrasekhar A., Materials Today Sustainability, Vol:27, DOI: 10.1016/j.mtsust.2024.100801, IF = 7.1.
- Contact-electrification enabled water-resistant triboelectric nanogenerators as demonstrator educational appliances, Vivekananthan V.; Chandrasekhar A.; Dudem B.; Khandelwal G.; P Silva S.R.; Kim S.-J., JPhys Energy, Vol:6, Issue: 1, DOI: 10.1088/2515-7655/ad0739, IF = 7.
- ACDSSNet: Atrous Convolution-based Deep Semantic Segmentation Network for Efficient Detection of Sickle Cell Anemia, Das P.K., Dash A., Meher S., IEEE Journal of Biomedical and Health Informatics, Pg.No:(1-8), DOI: 10.1109/JBHI.2024.3362843, IF = 6.7.
- Performance analysis of successive di-state full-duplex cooperative wireless cellular networks, Baskar N., Selvaprabhu P., Alexandria Engineering Journal, Vol:91, Pg.No: (139-151), DOI: 10.1016/j.aej.2024.01.074, IF = 6.2.
- TwI-FTM: Two-way IoT-FoG trust management scheme for task offloading in IoT-FoG networks, B P., P P., Results in Engineering, Vol:22, DOI: 10.1016/j.rineng.2024.102197, IF = 6.
- Lightweight object detection in low light: Pixel-wise depth refinement and TensorRT optimization, Vinoth K.; P S., Results in Engineering, Vol:23, DOI: 10.1016/j.rineng.2024.102510, IF = 6.
- Performance analysis of UAV-enabled data gathering for IoT sensor network based on backscatter communication over correlated Nakagami-m fading channels, Tamilarasan I.; Selvaprabhu P.; Venkatesan R.; Rajamani V.; Nagarajan D.; Balakrishnan R., Ain Shams Engineering Journal, Vol:15, Issue: 9, DOI: 10.1016/j.asej.2024.102966, IF = 6.
- Enhancing visual clarity in rainy conditions based on single-frame filtering algorithm, Rajesh A., Sharma A., Chinthaginjala R., Pau G., Abbas M., Shankar T., Fouziya Sulthana S., Ain Shams Engineering Journal, DOI: 10.1016/j.asej.2024.102846, IF = 6.
- Distributed resource optimisation using the Q-learning algorithm, in device-to-device communication: A reinforcement learning paradigm, Jayakumar S.; Nandakumar S., Results in Engineering, Vol:23, DOI: 10.1016/j.rineng.2024.102462, IF = 6.

PATENTS

1. Title: Small Scaled Filtering Divider for Wireless Applications
   Inventors: Dilip Kumar Choudhary, Naveen Mishra, Idrasen Singh
   Date of Filing: 10-06-2024
   Status: Published

2. Title: Two Layered Metasurface Loaded Antenna
   Inventors: Vijay Kumar, Sanjiban Sekhar Roy
   Date of Filing: 05-06-2024
   Status: Granted

3. Title: Multi Functional Intelligent Helmet for Construction Workers
   Inventors: Sujatha R, Harshit Poddar, Sree Harsha S, Yash Garg, Shuraj R, Vinodhini M
   Date of Filing: 28-05-2024
   Status: Published

4. Title: Method and System for Enhancing Network Coverage for Indoor Industrial Internet of Things 5G Network
   Inventors: Subhra Sankha Sarma, Sagar Pareshkumar Ramanbhai
   Date of Filing: 22-05-2024
   Status: Published

5. Title: System and Method for Detecting Acute Lymphoblastic Leukemia (ALL) and Non-Acute Lymphoblastic (Non-ALL) in Real-Time
   Inventors: Pradeep Kumar Das, Sanjay Kumar Mohanty, Chiranjivi Bharadwaj
   Date of Filing: 13-05-2024
   Status: Published

6. Title: System for Automatically Managing and Optimizing Return of an Asset Portfolio
   Inventors: Sanjay Kumar Mohanty, Pradeep Kumar Das, Gouranga Mallik
   Date of Filing: 29-04-2024
   Status: Published

PATENTS

7. Title: System and Method for Controlling Prosthetic Limb Using Foot and Toe Movement
   Inventors: Sumit Kumar Jindal, Hemprasad Yashwant Patil, Vivek Muthke
   Date of Filing: 24-04-2024
   Status: Published

8. Title: Methods to Reduce the Schottky Barrier Height and the Contact Resistance in MOS Transistors
   Inventors: Rajan Kumar Pandey
   Date of Filing: 12-04-2024
   Status: Published

9. Title: Radial Basis Function Neural Network Based Linearization for Thermistors Using Instrumentation Amplifier
   Inventors: Vaegae Naveen Kumar, Aditya Vikram Singh
   Date of Filing: 11-04-2024
   Status: Published

10. Title: Two Layered Metasurface Loaded Miniaturized Antenna
    Inventors: Vijay Kumar, Yogesh Kumar Choukiker, Rajkishor Kumar, Avinash Chandra
    Date of Filing: 05-04-2024
    Status: Granted

MEMORANDUM OF UNDERSTANDING

Nokia Solutions and Networks India Pvt. Ltd.:

Vellore Institute of Technology (VIT) signed a Memorandum of Understanding (MoU) with Nokia to pursue 5G and next generation collaborative research with Artificial Intelligence (AI) and Machine learning applications on June 24, 2024.

The MoU was signed by Dr. T. Jayabarathi, VIT Registrar and Ms. Ponni, Director (R&D) and Nokia Bangalore University Collaboration Lead in the presence of VIT Founder-Chancellor Dr. G. Viswanathan, VIT Vice-Presidents Mr. Sankar Viswanathan and Dr. G.V. Selvam, VIT Vice-Chancellor Dr. V. S. Kanchana Bhaaskaran, Pro-Vice Chancellor Dr. Partha Sharathi Mallick, Dean of School of Electronics Engineering Dr. S. Sivanantham and Leader of Nokia Labs Ms. Meenakshi S.

Experts from Nokia will be part of VIT's Board of Studies, mentor students and faculty with hands-on learning, prototyping and student projects and actively engage with all the relevant departments of VIT, which are closely linked to the project and skill requirements of Nokia.

MEMORANDUM OF UNDERSTANDING

Nokia Solutions and Networks India Pvt. Ltd.:

Through this MoU, VIT and Nokia will focus on key areas like new study areas in 5G, Artificial Intelligence (AI)-enhanced communication, Digital Twin, radio-based sensing, connected aerial vehicles, eHealth, Cloud Technologies and automation, Zero touch mobile networks, etc.

VIT and Nokia will exchange information related to research practices in the form of corporate/academic training based on the expertise of both partners. Nokia will provide hands-on learning opportunities for the students of VIT and jointly organize short-term continuing education programmes, etc.

VIT signs MoU with Nokia to pursue collaborative research

Vellore Institute of Technology (VIT) recently signed a Memorandum of Understanding (MoU) with Nokia to pursue 5G and next-generation collaborative research with Artificial Intelligence (AI) and Machine learning applications.

Experts from Nokia will be part of VIT's Board of Studies, mentor students and faculty with hands-on learning, prototyping and student projects and actively engage with all the relevant departments of VIT, which are closely linked to the project and skill requirements of Nokia.

VIT in a release said through this MoU, VIT and Nokia will focus on key areas such as new study areas in 5G, Artificial Intelligence (AI)-enhanced communication, Digital Twin, radio-based sensing, connected aerial vehicles, eHealth, Cloud Technologies and automation, Zero-touch mobile networks. VIT and Nokia will exchange information related to research practices in the form of corporate/academic training based on the expertise of both partners. Nokia will provide hands-on learning opportunities for the students of VIT and jointly organise short-term continuing education programmes.

MOU—VIT

Vellore Institute of Technology signed a MoU with Nokia to pursue 5G & next generation collaborative research with AI & ML applications. The MoU was signed by Dr. T. Jayabarathi, VIT Registrar & Ms. Ponni, Director (R&D) Nokia Bangalore University. Experts from Nokia will be part of VIT's Board of Studies, mentor students & faculty with hands-on learning, prototyping & student projects, actively engage with all the relevant departments of VIT.

MEMORANDUM OF UNDERSTANDING

CHIP IN Centre (Chip to Start Up):

The Vellore Institute of Technology (VIT), Vellore, has undertaken an initiative to gain access to EDA tools provided by the ChipIN Centre under the C2S Programme on April 22, 2024. This initiative supports various existing programs at VIT, including B.Tech. and M.Tech. courses in Electronics & Communication, Electrical Engineering, Microelectronics, VLSI, Integrated Circuit, Embedded System, and Electronic System Design.

VIT boasts a well-equipped VLSI design lab and over 70 permanent faculty members specializing in VLSI design. The EDA tools from ChipIN Centre will be used exclusively for teaching, instruction, and research purposes across all academic levels, including B.Tech, M.Tech, PhD, and professional engineers.

The institute plans to conduct over 15 short-term VLSI Design projects, each lasting more than four weeks, to train at least 273 industry-ready professionals in VLSI/Embedded System design. The manpower will be categorized into four types based on their qualifications, ranging from PhD holders to B.Tech graduates with relevant coursework.

Designated Points of Contact:

Dr. Sivanantham S., Dean, SENSE

Dr. Jagannadha Naidu K., HoD, Dept. of Micro & Nano Electronics, SENSE

Chips to Startup Programme

CONSULTANCY PROJECTS

Investigator Details: Prof. S. SUNDAR
Prof. KARTHIKEYAN B
Title: Development of Algorithm for PCB assembly testing using vision system
Funding Agency: Energiteam Technologies Pvt Ltd, India
Agency Type: Government
Sanction Date: October 24, 2024
Sanction Amount: Rs. 89,680


CONSULTANCY PROJECTS

Investigator Details: Prof. RAJESH KUMAR M
Prof. PRAKASH R
Prof. ZACHARIAH C ALEX
Prof. ARIVARASI A
Title: Mobile App Oriented Service Session Request and Diagnosis
Funding Agency: PMCGS PRIVATE LTD, India
Agency Type: Government
Sanction Date: May 6, 2024
Sanction Amount: Rs. 1,50,000



CONSULTANCY PROJECTS

Investigator Details: Prof. ROHIT MATHUR
Title: Advance the design of X-Band FMCW RADAR
Funding Agency: Edgeforce Solutions Pvt Ltd, India
Agency Type: Government
Sanction Date: April 1, 2024
Sanction Amount: Rs. 50,000

CONSULTANCY PROJECTS

Investigator Details: Prof. SOMASUNDARAM D
Title: Artificial Intelligence enabled IoT brain wave analyzer
Funding Agency: Indiaspeaks Pvt ltd, India
Agency Type: Government
Sanction Date: May 17, 2024
Sanction Amount: Rs. 1,00,000

CONSULTANCY PROJECTS

Investigator Details: Prof. ZACHARIAH C ALEX
Prof. ABRAHAM SAMPSON S
Title: Design of Laboratory Experiments using Moku Go
Funding Agency: Techfluent Solutions Pvt Ltd, India
Agency Type: Government
Sanction Date: April 1, 2024
Sanction Amount: Rs. 59,000


CONSULTANCY PROJECTS

Investigator Details: Prof. SASIKUMAR P
Title: Driver Health data collection and alarm system
Funding Agency: TM Automotive Seating Systems Pvt ltd, India
Agency Type: Government
Sanction Date: April 1, 2024
Sanction Amount: Rs. 1,61,352

CONSULTANCY PROJECTS

Investigator Details: Prof. SOMASUNDARAM D
Title: A smart heart rate estimation device using radar signal
Funding Agency: Biofly Instruments Pvt Ltd, India
Agency Type: Government
Sanction Date: June 19, 2024
Sanction Amount: Rs. 1,00,000

CONSULTANCY PROJECTS

Investigator Details: Prof. PRAKASAM P
Title: AI/ML based Network Device Software Upgrade in SDN Controlled Network
Funding Agency: SAMSUNG PRISM, India
Agency Type: Government
Sanction Date: April 1, 2024
Sanction Amount: Rs. 86,400

CONSULTANCY PROJECTS

Investigator Details: Prof. SIVAKUMAR R
Title: Bixby, Intelligence | Bixby Diary OCR
Funding Agency: SAMSUNG PRISM, , India
Agency Type: Government
Sanction Date: April 1, 2024
Sanction Amount: Rs. 86,400

CONSULTANCY PROJECTS

Investigator Details: Prof. VAEGAE NAVEEN KUMAR
Title: Performance Analysis of Large Intelligent Surfaces Assisted NOMA Network
Funding Agency: SAMSUNG PRISM, India
Agency Type: Government
Sanction Date: April 1, 2024
Sanction Amount: Rs. 86,400

CONSULTANCY PROJECTS

Investigator Details: Prof. VINOTH BABU K
Title: Throughput Maximization of Cell-edge Users through RIS-assisted Cooperative NOMA
Funding Agency: SAMSUNG PRISM, , India
Agency Type: Government
Sanction Date: April 1, 2024
Sanction Amount: Rs. 86,400

CONSULTANCY PROJECTS

Investigator Details: Prof. YOGESH KUMAR CHOUKIKER
Title: Electronically beam switching conformal array antenna for 5G applications
Funding Agency: SAMSUNG PRISM, India
Agency Type: Government
Sanction Date: April 1, 2024
Sanction Amount: Rs. 86,400

CONSULTANCY PROJECTS

Investigator Details: Prof. VAEGAE NAVEEN KUMAR
Title: Sum Rate Maximization in Multi-user NOMA in Presence of Channel Estimation Error
Funding Agency: SAMSUNG PRISM, , India
Agency Type: Government
Sanction Date: April 1, 2024
Sanction Amount: Rs. 86,400

CONSULTANCY PROJECTS

Investigator Details: Prof. JAYAKRISHNAN P
Prof. KARTHIKEYAN B
Title: Smart IoT-based Energy monitoring and control system implementation
Funding Agency: NAGA INDUSTRIES, India
Agency Type: Government
Sanction Date: June 21, 2024
Sanction Amount: Rs. 40,000

CONSULTANCY PROJECTS

Investigator Details: Prof. VAEGAE NAVEEN KUMAR
Title: Machine Learning Approach for Precise Localization of Wireless Nodes in Unmanned Aerial Vehicle Assisted Wireless Networks
Funding Agency: SAMSUNG PRISM, , India
Agency Type: Government
Sanction Date: June 6, 2024
Sanction Amount: Rs. 86,400

EDITORIAL BOARD

For Suggestions & Feedback:

sense.outreach@vit.ac.in