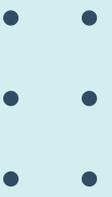


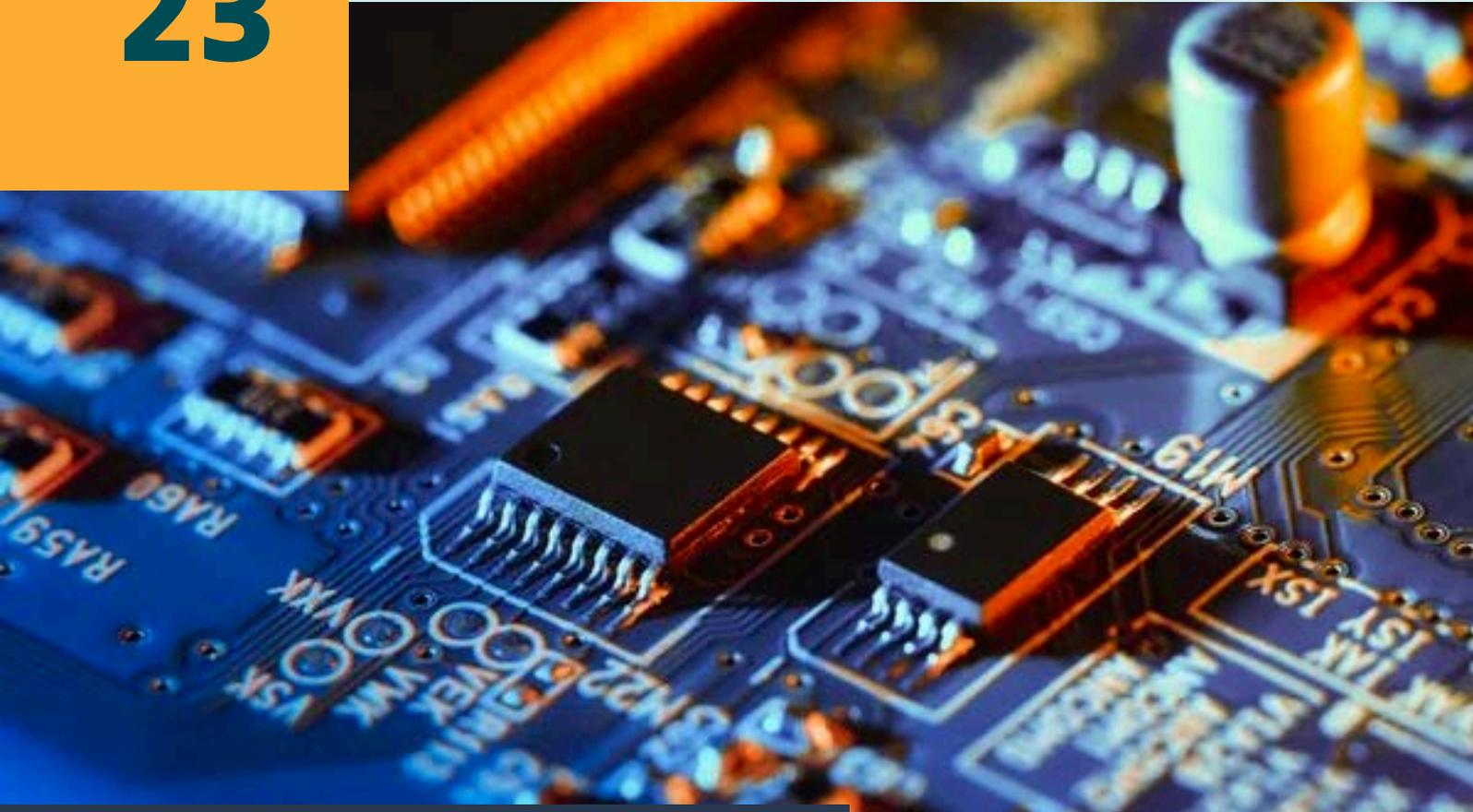
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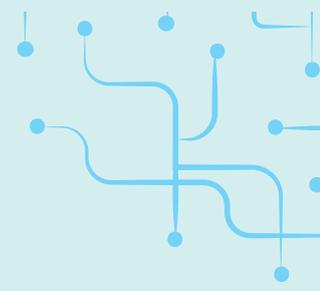
**VIT**<sup>®</sup>  
Vellore Institute of Technology  
(Deemed to be University under section 3 of UGC Act, 1956)



**SCHOOL OF ELECTRONICS ENGINEERING**



# Tech-Tronics **TRIBUNE**



**E-NEWSLETTER:**

**Volume 4 Issue 4**

**Oct - Dec ' 23**



## 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**
- **NEeX 2023**
- **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 4th Volume, 4th Issue of our ENewsletter, "Tech-Tronics Tribune," by the School of Electronics Engineering (SENSE) for the fourth quarter of 2023. This edition showcases the well-deserved honors and recognitions bestowed upon both faculty and students within the SENSE family for the period of October to December 2023. 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. Sivakumar R delivered a lecture titled “Future Directions and Collaborative Research in Semiconductor” at KGiSL Institute of Technology, Coimbatore, India, on December 21, 2023.
- Dr. Sidharth Gautam delivered a lecture titled “Image Processing AI-ML & Control” at NIT Patna, Patna, India, on December 21, 2023.
- Dr. Sujatha R delivered a lecture titled “Principles and Phases of Value Engineering and Analysis in IoT Solutions, Cost-Function Analysis in IoT Solutions, Assets for IoT Solution Development, Reusability Plans” at VIT Vellore, Vellore, India, on December 20, 2023.
- Dr. Kannadassan D delivered a lecture titled “Characteristic Mode Analysis for Future Antenna Developments” at KLE Technological University, Belagavi, India, on December 20, 2023.
- Dr. Sujatha R delivered a lecture titled “Sustainable Smart Cities and its Digital Transformation Powered by LoRa Enabled Edge Devices” at VIT Chennai Campus, Chennai, India, on December 19, 2023.
- Dr. Antony Xavier Glittas Xavier Chelliah delivered a lecture titled “Latex Tikz Pictures, Tables and Figures” at VIT, Vellore, India, on December 19, 2023.
- Dr. Gerardine Immaculate Mary delivered a lecture titled “Embedded C Programming” at Vellore Institute of Technology, Vellore, India, on December 18, 2023.
- Dr. Konguvel Elango delivered a lecture titled “User-Centric IoT Architecture” at Vellore Institute of Technology, Vellore, India, on December 18, 2023.
- Dr. Christina Josephine Malathi A delivered a lecture titled “Antennas and Microwave Engineering” at VIT, Vellore, India, on December 18, 2023.
- Dr. Biswajit Dwivedy delivered a lecture titled “Data Analytics, Architecture for Convergence, Cloud-Based Platforms” at Vellore Institute of Technology, Vellore, India, on December 18, 2023.
- Dr. Shanmugasundaram M delivered a lecture titled “Microprocessor and Microcontrollers” at Vellore Institute of Technology, Vellore, India, on December 18, 2023.
- Dr. Kavitha K.V.N. delivered a lecture titled “Nelex” at Vellore Institute of Technology, Vellore, India, on December 15, 2023.
- Dr. Hementa Kumar Sahu delivered a lecture titled “Emerging Electronics and Automation” at National Institute of Technology Silchar, Silchar, India, on December 15, 2023.
- Dr. Sujatha R served as Session Chair for Special Session at VIT Vellore, Vellore, India, on December 15, 2023.

## Guest Lectures Delivered

- Dr. Kavitha K.V.N. delivered a lecture titled “Analog Communication” at Vellore Institute of Technology, Vellore, India, on December 14, 2023.
- Dr. Rajeev Pankaj Nelapati delivered a lecture titled “VLSI Track” at VIT, Vellore, India, on December 14, 2023.
- Dr. Aparna Mohanty served as Session Chair at Vellore Institute of Technology, Vellore, India, on December 14, 2023.
- Dr. Abraham Sampson delivered a lecture titled “Session 7 of IEEE International Conference on Next Generation Electronics (NEleX 2023)” at Vellore Institute of Technology, Vellore, India, on December 14, 2023.
- Dr. Sivakumar R delivered a lecture titled “Special Session on Emerging Trends in Healthcare Computing” at Vellore Institute of Technology, Vellore, India, on December 14, 2023.
- Dr. Konguvel Elango delivered a lecture titled “Special Session on Emerging Trends in Healthcare Computing” at Vellore Institute of Technology, Vellore, India, on December 14, 2023.
- Dr. Arunachalam V delivered a lecture titled “Algorithmic Transformation & Numerical Strength Reduction” at Kumaraguru College of Technology, Coimbatore, India, on December 14, 2023.
- Dr. Sidharth Gautam served as Session Chair at Vellore Institute of Technology, Vellore, India, on December 14, 2023.
- Dr. Sivakumar R delivered a lecture titled “Recent Trends in Biomedical Technology” at University of National and World Economy, Sofia, Bulgaria, on December 13, 2023.
- Dr. Jaffino delivered a lecture titled “Recent Trends in VLSI with Machine Learning Algorithms” at St. Joseph’s Institute of Technology, Chennai, India, on December 12, 2023.
- Dr. Sri Adibhatla Sridevi delivered a lecture titled “Current Trends in VLSI Design and Chip Fabrication” at Nettur Technical Training Foundation, Katpadi, India, on December 8, 2023.
- Dr. Rajesh Kumar M served as Session Chair for Electronics 2 at VIT India University Malaya, Vellore, India, on December 8, 2023.
- Dr. Naushad Manzoor Laskar delivered a lecture titled “Design Requirements and Challenges in Brain-Machine Interfaces for Monitoring and Treatment of Neurological Diseases” at VIT University, Vellore, India, on December 7, 2023.
- Dr. Kumaravel S delivered a lecture titled “ML & AI Applications in Automated Integrated Circuit Design and Optimization” at Saranathan Engineering College, Trichy, India, on December 6, 2023.

## Guest Lectures Delivered

- Dr. Sri Adibhatla Sridevi delivered a lecture titled “Low Power Design using Powergating” at TLCE Vellore Institute of Technology, Vellore, India, on December 5, 2023.
- Dr. Manish Kumar delivered a lecture titled “Optical Sensors” at VIT Vellore, Vellore, India, on December 4, 2023.
- Dr. Suganthan V delivered a lecture titled “Expert Guidance on Defining Your Career Path” at Sri Sai Vidyashram, Vellore, India, on December 1, 2023.
- Dr. Biswajit Dwivedy delivered a lecture titled “Dielectric Resonator Antennas” at National Institute of Technology Rourkela, Rourkela, India, on December 1, 2023.
- Dr. Ananthakrishna Chintanpalli delivered a lecture titled “Application of Deep Learning in Healthcare” at LMAG IEEE India Council, Kolkata, India, on November 30, 2023.
- Dr. Sivakumar R delivered a lecture titled “Effective Teaching of Fundamentals to Students” at Sethu Institute of Technology, Virudhunagar, India, on November 28, 2023.
- Dr. Sivakumar R delivered a lecture titled “MOSFET Characterization and Inverter Design & Adiabatic Logic Circuit and its Applications” at P S R Engineering College, Sivakasi, India, on November 27, 2023.
- Dr. Gopinath P delivered a lecture at the International Conference on Recent Trends in Commerce, Management, Science and Engineering (ICCMSE) 2023 at Maharani Cluster University, Bengaluru, India, on November 26, 2023.
- Dr. Chittaranjan Nayak chaired a technical session at Raj Kumar Goel Institute of Technology, Ghaziabad, India, on November 23, 2023.
- Dr. Konguvel Elango delivered a lecture titled “VLSI Memory Design” at Karpagam Academy of Higher Education, Coimbatore, India, on November 21, 2023.
- Dr. Ravi S delivered a lecture titled “VLSI Design using LT Spice Software” at Kings Engineering College, Chennai, India, on November 17, 2023.
- Dr. Aparna Mohanty delivered a lecture titled “ML Trends” at Vellore Institute of Technology, Vellore, India, on November 6, 2023.
- Dr. Suraj Prakash Sahoo delivered a lecture titled “Evolution of Image Processing in the Field of AI and ML” at VIT Vellore, Vellore, India, on November 6, 2023.
- Dr. Rajeshkumar V delivered a lecture titled “Antenna Design Challenges for mm Wave Frequencies (26 GHz and Above)” at University of Technology and Applied Sciences Muscat, Oman, on November 5, 2023.
- Dr. Rohit Mathur delivered a lecture titled “Industrial Importance of EMC/EMI” at Vellore Institute of Technology, Vellore, India, on November 1, 2023.

## Guest Lectures Delivered

- Dr. Manish Kumar delivered a lecture titled “Printed Circuit Board (PCB) Basics” at VIT Vellore, Vellore, India, on November 1, 2023.
- Dr. Gopinath P served as Conference Session Chair at the Second International Conference on Engineering, Science and Technology (ICEST) 2023 at RSP Science Hub and Global Conference Hub, Coimbatore, India, on October 29, 2023.
- Dr. Jaffino delivered a lecture titled “Machine Learning” at Sri Sai Ram Institute of Technology, Chennai, India, on October 27, 2023.
- Dr. Rajkishor Kumar delivered a lecture titled “Circularly Polarized Performance in Dielectric Resonator Antennas Using Different Coupling Schemes” at IEEE APS Chapter Vizag Bay Section, Visakhapatnam, India, on October 27, 2023.
- Dr. Rajeshkumar V delivered a lecture titled “RF Use Cases for Healthcare” at Vellore Institute of Technology, Vellore, India, on October 25, 2023.
- Dr. Shanidul Hoque delivered a lecture titled “Spectrum Handoff Performance in CR-Enabled 5G and Beyond Networks” at VIT Vellore, Vellore, India, on October 25, 2023.
- Dr. Arunkumar Chandrasekhar delivered a lecture titled “Sustainable Energy from Waste Resources: A Triboelectric Approach Towards Green Energy Revolution” at Vellore Institute of Technology, Vellore, India, on October 20, 2023.
- Dr. Avinash Chandra delivered a lecture titled “FSS Inspired Waveguide Arrays for 5G and Beyond Applications” at Vellore Institute of Technology, Vellore, India, on October 17, 2023.
- Dr. Sumit Kumar Jindal delivered a lecture titled “Fundamentals of Research Methodology: Methods & Techniques” at Pimpri Chinchwad College of Engineering and Research, Pune, India, on October 17, 2023.
- Dr. Hemprasad Yashwant Patil delivered an invited talk on “Effective Scientific Research Paper Writing” at PCCOER, Pune, India, on October 17, 2023.
- Dr. Sagar Pareshkumar Ramanbhai delivered a lecture titled “Metamaterial and its Applications in Antenna Design” at VIT Vellore, Vellore, India, on October 16, 2023.
- Dr. Chittaranjan Nayak delivered a lecture titled “Graphene-Based THz Absorber” at Gandhi Institute of Excellent Technocrats, Bhubaneswar, India, on October 14, 2023.
- Dr. Sumit Kumar Jindal delivered a lecture titled “Embedded Sensor Systems in Medical Devices: In Synopsis and its Research Perspective” at VIT, Vellore, India, on October 12, 2023.
- Dr. Arunkumar Chandrasekhar delivered a lecture titled “Nanogenerator for Biomedical Applications” at Vellore Institute of Technology, Vellore, India, on October 12, 2023.
- Dr. Sundar S delivered a lecture titled “Modelling Techniques for Embedded Design” at VIT, Vellore, India, on October 11, 2023.

## Guest Lectures Delivered

- Dr. Chittaranjan Nayak chaired Parallel Session IIIC at Government Engineering College Bikaner, Bikaner, India, on October 10, 2023.
- Dr. Palla Penchalaiah delivered a lecture titled “Online Oral Sessions Condensed Matter and Applied Physics” at Govt Engineering College Bikaner Technical University, Bikaner, India, on October 10, 2023.
- Dr. Chittaranjan Nayak delivered a lecture titled “Optimization, Machine and Deep Learning in Optics and Photonics” at MVJ College of Engineering, Bangalore, India, on October 9, 2023.
- Dr. Debashis Maji delivered a lecture titled “Sensor Systems” at Vellore Institute of Technology Vellore, Vellore, India, on October 9, 2023.
- Dr. Vivek Rajpoot delivered a lecture titled “Cognitive Radio: Providing Intelligence to 6G Networks” at Motilal Nehru National Institute of Technology Allahabad, Prayagraj, India, on October 6, 2023.
- Dr. Valarmathi J delivered a lecture titled “Millimeter Wave Radar and Its Applications” at Ramaiah Institute of Technology, Bangalore, India, on October 6, 2023.
- Dr. Vinoth Babu K delivered a lecture titled “MIMO Evolution Beyond 5G through Reconfigurable Intelligent Surfaces” at Ramaiah Institute of Technology, Bangalore, India, on October 6, 2023.
- Dr. Vinoth Babu K delivered a lecture titled “Spatial Modulation for Multiple-Antenna Communication” at Ramaiah Institute of Technology, Bangalore, India, on October 6, 2023.
- Dr. Rajeshkumar V delivered a lecture titled “Design Aspects of Metamaterial Antennas for Wireless Applications” at Rajalakshmi Institute of Technology, Chennai, India, on October 5, 2023.
- Dr. Rajeshkumar V delivered a lecture titled “Mitigation of Mutual Coupling and Isolation Enhancement in MIMO Antenna Systems” at M S Ramaiah Institute of Technology, Bangalore, India, on October 4, 2023.
- Dr. Sujatha R served as Session Chair and delivered a keynote titled “Edge Computing - A New Frontier for Smart Technology and Edge Intelligence” at Loyola Institute of Technology, Chennai, India, on October 4, 2023.
- Dr. Sathya P delivered a lecture titled “AmpliFire - Design and Development of an Audio Amplifier” at Vellore Institute of Technology, Vellore, India, on October 4, 2023.

FACULTY

ACHIEVEMENTS

Honours and Awards

- Dr. Valarmathi J received the “Women in Engineering Chair” award at the IEEE International Conference on Next Generation Electronics (NEleX 2023) on December 16, 2023.
- Dr. Konguvel Elango served as Chief Guest at Vidyapeetam School, Walajah, on November 25, 2023.
- Dr. Vidhya S served as Chief Guest at Vidyapeetam School, Walajah, on November 25, 2023.
- Dr. Sujatha R received an award from the Goa State Research Foundation on November 24, 2023.
- Dr. Kannadassan D received the “Research Awards VIT” from VIT on October 19, 2023.
- Dr. Palla Penchalaiah received the “Best Academician Award” from the Society for Learning Technologies on October 1, 2023.



# 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.

- Faculty Development Program on Computer Communications and Networks was organized from December 19, 2023, to December 21, 2023, coordinated by Dr. Prakasam P and Dr. Velmurugan T.
- 3-Days Faculty Development Program on BECE301L/BECE301P Digital Signal Processing was organized from December 19, 2023, to December 21, 2023, coordinated by Dr. Kalaivani S and Dr. Sudhakar M S.
- Information Theory and Coding was organized from December 18, 2023, to December 20, 2023, coordinated by Dr. Preetha K.S and Dr. Saravanan K.
- Antenna and Microwave Engineering was organized from December 18, 2023, to December 22, 2023, coordinated by Dr. Vijay Kumar and Dr. Yogesh Kumar Choukiker.
- FDP on Microprocessors and Microcontrollers was organized from December 18, 2023, to December 22, 2023, coordinated by Dr. Karthikeyan B and Dr. Padmini T N.
- One Week FDP on IoT Domain Analyst was organized from December 18, 2023, to December 22, 2023, coordinated by Dr. Aparna Mohanty and Dr. Manish Kumar.
- FDP on Embedded C Programming was organized from December 18, 2023, to December 22, 2023, coordinated by Dr. Sundar S and Dr. Vidhyapathi C.M.
- BECE304L/P - Analog Communication Systems was organized from December 7, 2023, to December 13, 2023, coordinated by Dr. Shankar T and Dr. Vijendra Babu V.
- Recent Trends and Research Challenges of VLSI in Memristor Based Neuromorphic Circuits was organized from December 7, 2023, to December 9, 2023, coordinated by Dr. Vetriveeran Rajamani and Dr. Sultan Mahmood Chowdhury.



# EVENTS

## Events Organized

- Modern Electronics Engineering for Advanced Wireless Communication was organized from December 4, 2023, to December 8, 2023, coordinated by Dr. Dilip Kumar Choudhary and Dr. Naveen Mishra.
- Building an Effective Innovation and Entrepreneurship Ecosystem was organized from December 4, 2023, to December 8, 2023, coordinated by Dr. Sundar S, Dr. Mageshvaran R, and Dr. Leema Rose Viannie.
- Recent Advancements in Nano Electronics and Its Applications was organized from December 4, 2023, to December 8, 2023, coordinated by Dr. Shelja and Dr. Prachi Sharma.
- Five Day Faculty Development Program (FDP) on Antenna Design for Next Generation Wireless Communications was organized from December 4, 2023, to December 8, 2023, coordinated by Dr. Rajeshkumar V and Dr. Rajesh N.
- Unhashing the Cryptos of Blockchain was organized from November 27, 2023, to December 1, 2023, coordinated by Dr. Christopher Clement J and Dr. Sriharipriya K C.
- Wearable Technology in Healthcare was organized from November 15, 2023, to November 17, 2023, coordinated by Dr. Vijendra Babu V and Dr. Jaffino.
- FDP on Recent Trends in ML for Engineering Applications was organized from November 6, 2023, to November 8, 2023, coordinated by Dr. Aparna Mohanty and Dr. Sriharipriya K C.
- Recent Trends in AI/ML, IoT and RF Use Cases for Healthcare Applications and Quality Monitoring was organized from October 24, 2023, to October 26, 2023, coordinated by Dr. Christina Josephine Malathi A and Dr. Deepika Rani Sona.



# EVENTS

## Events Organized

- Enhancing IoT Use Cases with AR/VR Technologies for Smart Applications with Security Aspects was organized from October 18, 2023, to October 20, 2023, coordinated by Dr. Sangeetha A and Dr. Sujatha R.
- Thinking and Innovation - Wireless Communications and Antenna Technologies was organized from October 16, 2023, to December 20, 2023, coordinated by Dr. Abhijit Bhowmick and Dr. Yogesh Kumar Choukiker.
- Antennas for Industrial Applications (AIA) was organized from October 16, 2023, to October 18, 2023, coordinated by Dr. Kalyanbrata Ghosh and Dr. Shah Arpan Hasmukh Mayuri.
- Electronics Design in Healthcare: Recent Trends, Challenges and Research Scope was organized from October 12, 2023, to October 14, 2023, coordinated by Dr. Naushad Manzoor Laskar and Dr. Debashish Dash.
- Faculty Development Program (FDP) on AI Enabled Technologies, IoT & Computational Intelligence (AIETICI-2023) was organized from October 9, 2023, to October 11, 2023, coordinated by Dr. Hemprasad Yashwant Patil and Dr. Sumit Kumar Jindal.
- Two Days Hands-On Training of Servicing the Electronics Lab Equipment and Meters was organized from November 16, 2023, to November 17, 2023, coordinated by Dr. Sivanantham S and Dr. Kathirvelan J.
- Technical Writing and Presentation with LaTeX Hands-On TexStudio and Overleaf was organized from December 19, 2023, to December 20, 2023, coordinated by Dr. Sri Adibhatla Sridevi and Dr. Aarth M.
- Workshop on Optical Wireless Communication Systems (WOWS) at IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS) was organized from December 17, 2023, to December 20, 2023, coordinated by Dr. Anand Singh.



# EVENTS

## Events Organized

- JMP Pro 17 - Statistical Data Analysis Tool was organized from November 23, 2023, to November 25, 2023, coordinated by Dr. Sasikumar P and Dr. Arulmozhiarman P.
- System-on-Chip Design Using OpenPOWER was organized from November 20, 2023, to December 2, 2023, coordinated by Dr. Somasundaram D and Dr. Satheesh Kumar S.
- Machine Learning and Data Analytics Using Python was organized from October 28, 2023, to October 29, 2023, coordinated by Dr. Vinoth Babu K and Dr. Poongundran Selvaprabhu.
- Dr. Sriharipriya K C and Dr. Gerardine Immaculate Mary organized the workshop titled “IoT Beginner’s Series 2 - Building IoT Applications Using Arduino and Raspberry Pi” on October 28, 2023.
- Dr. Sasikumar P and Dr. Arulmozhiarman P organized the workshop titled “JMP Pro 17 - Statistical Data Analysis Tool” from October 19, 2023, to October 21, 2023.
- Dr. Venugopal P and Dr. Gerardine Immaculate Mary organized the “One-Day National Level Workshop on Automotive Communication Protocols” on October 14, 2023.
- Dr. Sundar S and Dr. Mageshvaran R organized the “Mentoring Session on Driving Technology Innovations to Commercializations” on October 10, 2023.
- Dr. Sriharipriya K C and Dr. Christopher Clement J organized the workshop titled “IoT Beginner’s Series 1 - Simulators for IoT Applications” on October 7, 2023.
- Dr. Konguvel Elango and Dr. Sujatha R organized the workshop titled “IoT - Edge to Cloud Connect Using NI MyRIO” on October 6, 2023.
- Dr. Konguvel Elango and Dr. Vidhya S organized the workshop titled “Innovative Applications of Industry 5.0” on October 5, 2023.



# NEleX-2023



## IEEE International Conference on Next Generation Electronics

The IEEE International Conference on "Next Generation Electronics (NEleX-2023)" was held on December 14th and 16th, 2023. NEleX-2023 was organized with the aim of bringing together academicians, researchers, engineers, and students who specialize in the areas of Electronics, Electrical and Computer Engineering.

### Key Highlights of NEleX - 2023:-

- **Diverse International Presence:** NEleX-2023 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 100 academic institutions across the world contributing research papers.
- **Significant Paper Submissions:** An impressive total of 578 research papers were submitted to the conference. After a rigorous selection process, 170 papers were accepted and registered for presentation, reflecting the high standards of the conference.
- **Comprehensive Technical Sessions:** NEleX-2023 hosted a total of 12 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. Semiconductor Devices, VLSI Design and Embedded Systems
  - b. Optics, Photonics, & Biomedical
  - c. Communication Engineering
  - d. Signal Processing, Image Processing, Biomedical Signal and Image Processing
  - e. Power Electronics
  - f. Computers in Electronics
  - g. Women in Engineering
  - h. Special Sessions



## IEEE International Conference on Next Generation Electronics

- **Paper Acceptance Rate:** The acceptance rate for papers was 29%, reflecting the selectivity and quality of the papers presented at the conference.
- **Impressive Revenue Generation:** NEleX-2023 demonstrated a successful financial outcome, generating a revenue of Rs 20,00,000, 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 (61) and South India (98), indicating a strong interest in the conference from across the country. Additionally, the conference attracted papers authored by foreign contributors (11), underlining its international appeal.

### Chief Guest for the Inaugural Ceremony:



**Dr. Gandhimohan Viswanathan**  
UFRN Brazil



NEleX-2023



## IEEE International Conference on Next Generation Electronics

### General Chairs

Dr. Sivanantham S, Vellore Institute of Technology, Vellore

### General Co-Chairs

Dr. Chittaranjan Nayak, Vellore Institute of Technology, Vellore

Dr. Cheng-Yang Liu, National Yang Ming Chiao Tung University, Taiwan

Dr. Narottam Das, Central Queensland University, Australia

Dr. Felipe Pinheiro, Universidade Federal do Rio de Janeiro, Brazil

Dr. Claudionor Bezerra, Universidade Federal do Rio Grande Do Norte, Brazil

Dr. Jagannadha Naidu K, Vellore Institute of Technology, Vellore

### Keynote Speakers



**Dr. Narottam Das**  
CQ University, Australia



**Dr. Gandhimohan Viswanathan**  
UFRN, Brazil



**Dr. Vijayakumar Anand**  
SUT, Estonia



**Dr. Nasimuddin**  
Infocomm Research,  
Singapore



**Dr. Srinivas Talabattula**  
IISc, Bengaluru



**Dr. Raghendra Chaudhary**  
IIT Kanpur



**Dr. Bidyadhar Subudhi**  
IIT Goa



**Dr. Sudipata Mukhopadhyay**  
IIT Kharagpur



**Dr. VV Raghavendra Sai**  
IIT Madras



**Dr. Prasant Kumar Sahu**  
IIT Bhubaneswar



**Dr. Tapan Kumar Gandhi**  
IIT Delhi



**Dr. Udit Satija**  
IIT Patna



**Dr. Manas Kumar**  
IIT Palakkad



**Dr. Appina Balasubramanyam**  
IIT Indore



**Ravindra Kumar Jha**  
IIT Guwahati

# NEleX-2023



## IEEE International Conference on Next Generation Electronics



## TOP PUBLICATIONS (IF)

- COVID-19 clinical waste reuse: A triboelectric touch sensor for IoT-cloud supported smart hand sanitizer dispenser, Basith S.A., Chandrasekhar A., Nano Energy, Vol:108, DOI: 10.1016/j.nanoen.2023.108183, IF = 16.8
- Sucrose assisted chemical-free synthesis of rGO for triboelectric nanogenerator: Green energy source for smart-water dispenser, Muktar Ahmed R.F.S., Mohan S.B., Ankanathappa S.M., Shivanna M., Basith S.A., Chandrashekhara Shastry M.H., Chandrasekhar A., Sannathammegowda K., Nano Energy, Vol:106, DOI: 10.1016/j.nanoen.2022.108085, IF = 16.8
- A graphene oxide decorated BZT-CNF composite through hybrid microwave processing: an advanced multifunctional material for superior microwave shielding applications, Parhi C.C., Thirumalasetty A.B., James A.R., Choukiker Y.K., Wuppulluri M., Journal of Materials Chemistry A, DOI: 10.1039/d3ta06292a, IF = 10.7
- Marriage between metal-organic frameworks/covalent-organic frameworks and triboelectric nanogenerator for energy harvesting ?A review, P K N.; Chandrasekhar A., Materials Today Energy, Vol:37, DOI: 10.1016/j.mtener.2023.101393, IF = 9
- Developing novel channel estimation and hybrid precoding in millimeter-wave communication system using heuristic-based deep learning, G N.R., Ravikumar C.V., Energy, Vol:268, DOI: 10.1016/j.energy.2022.126600, IF = 9
- Ti<sub>3</sub>AlC<sub>2</sub> MAX phase and Ti<sub>3</sub>C<sub>2</sub>TX MXene-based composites towards supercapacitor applications: A comprehensive review of synthesis, recent progress, and challenges, Kewate O.J.; Punniyakoti S., Journal of Energy Storage, Vol:72, DOI: 10.1016/j.est.2023.108501, IF = 8.9
- Deep convolution neural network based semantic segmentation for ocean eddy detection, Saida S.J., Sahoo S.P., Ari S., Expert Systems with Applications, Vol:219, DOI: 10.1016/j.eswa.2023.119646, IF = 7.5
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- Breast cancer diagnosis through knowledge distillation of Swin transformer-based teacher-student models, Kolla B., Venugopal P., Machine Learning: Science and Technology, Vol:4, Issue: 4, DOI: 10.1088/2632-2153/ad10cc, IF = 6.3
- Blockchain-based trust mechanism for digital twin empowered Industrial Internet of Things, Sasikumar A., Vairavasundaram S., Kotecha K., Indragandhi V., Ravi L., Selvachandran G., Abraham A., Future Generation Computer Systems, Vol:141, Pg.No:(16-27), DOI: 10.1016/j.future.2022.11.002, IF = 6.2
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- Revolutionizing Intelligent Transportation Systems with Cellular Vehicle-to-Everything (C-V2X) technology: Current trends, use cases, emerging technologies, standardization bodies, industry analytics and future directions, R D.K.; A R., Vehicular Communications, Vol:43, DOI: 10.1016/j.vehcom.2023.100638, IF = 5.8
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- Embroidered Annular Elliptical E-Textile Antenna Sensor for Knee Effusion Diagnosis, Shah A.H., Patel P.N., IEEE Sensors Journal, Pg.No:(1-1), DOI: 10.1109/JSEN.2023.3239783, IF = 4.3
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- Design and Analysis of a Conformal MIMO Ingestible Bolus Sensor Antenna for Wireless Capsule Endoscopy for Animal Husbandry, Govindan T.; Palaniswamy S.K.; Kanagasabai M.; Kumar S.; Agarwal R.; Kumar R.; Panigrahy D., IEEE Sensors Journal, Vol:23, Issue: 22, Pg.No: (28150-28158), DOI: 10.1109/JSEN.2023.3323658, IF = 4.3
- Development of high-performance broadband optical detector for cryogenic to elevated operating temperature, Talib M., Manzoor S., Sharma P., Tripathi N., Platonov V., Pavelyev V., Volkov V.S., Arsenin A.V., Syuy A.V., Hasan P.M.Z., Melaibari A.A., Mishra P., Materials Science in Semiconductor Processing, Vol:158, DOI: 10.1016/j.mssp.2023.107364, IF = 4.2
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## PATENTS

1. Title: Adjustable Intelligent Reflecting Surfaces for 6G Communications  
Inventors: Veerapu Goutham, Nisha J S, Gopinath P, Konkala Venkateswarlu Reddy,  
B S Karthikeya Reddy  
Date of Filing: 19-12-2023  
Status: Granted
2. Title: Diaper Waste Based Triboelectric Nanogenerator (D-TENG)  
Inventors: Arunkumar Chandrasekhar, Sayyid Abdul Basith V  
Date of Filing: 26-11-2023  
Status: Published
3. Title: Method for Fabrication of Plasmonic Based Green Polymer Photonic Crystal Fiber Sensor  
Inventors: Revathi S, Parthiban M, Harikrishnan  
Date of Filing: 26-11-2023  
Status: Published
4. Title: Force Field 360-Degree Sensor for Automobiles  
Inventors: Sumaiya Thaseen I, Apoorv Goyal, Kashish Jain  
Date of Filing: 25-11-2023  
Status: Published
5. Title: IoT-Micro Controller Based Wake-Up Alarm System  
Inventors: Sumit Kumar Jindal, Lakshit Pardeshi, Ayushi Sinha, Devanshi Mahendra,  
Hemprasad Yashwant Patil  
Date of Filing: 25-11-2023  
Status: Published
6. Title: Quad Looped Pump Based Water Borne Pest Control System  
Inventors: Sumit Kumar Jindal, Dev Pandey, Hemprasad Yashwant Patil  
Date of Filing: 25-11-2023  
Status: Published

## PATENTS

7. Title: MIMO Antenna for WiFi Router

Inventors: Rohit Mathur, Avinash Chandra

Date of Filing: 21-11-2023

Status: Granted

8. Title: UV-C Light Based Disinfection System

Inventors: Mohiul Islam, Suraj Prakash Sahoo

Date of Filing: 21-11-2023

Status: Granted

9. Title: Automated Nurse Calling System

Inventors: Mohiul Islam, Suraj Prakash Sahoo

Date of Filing: 03-11-2023

Status: Granted

10. Title: Diamond Shaped Dual Band Antenna

Inventors: Sagar Pareshkumar Ramanbhai, Shah Arpan Hasmukh Mayuri, Aswathi V

Date of Filing: 29-10-2023

Status: Granted

11. Title: Microwave Sensor for Measuring Soil Moisture

Inventors: Sagar Pareshkumar Ramanbhai, Subhra Sankha Sarma,

Shah Arpan Hasmukh Mayuri

Date of Filing: 29-10-2023

Status: Granted

12. Title: Pentagonal Shaped Multiband Antenna

Inventors: Shah Arpan Hasmukh Mayuri, Sagar Pareshkumar Ramanbhai,

Pradeep Kumar Das

Date of Filing: 29-10-2023

Status: Granted

13. Title: Coconut Tree Climber-Sprayer

Inventors: Gopinath P, Veerapu Goutham, Nisha J S, B S Karthikeya Reddy,

Konkala Venkateswarlu Reddy

Date of Filing: 06-10-2023

Status: Granted

## MEMORANDUM OF UNDERSTANDING

### VLSI Society of India (VSI):

School of Electronics Engineering signed a MoU with the VLSI Society of India (VSI) on November 07, 2023 that will work towards developing talent, research, start-ups & employment opportunities in VLSI Design and semiconductors.

Dr. Satya Gupta - President of VLSI Society of India along with his team were present during this occasion, flanked by our Pro-Vice Chancellor Dr. Partha Sharathi Mallick, Registrar - Dr. T. Jayabarathi, Dean & faculty members from the School of Electronics Engineering (SENSE).



## SPONSORED PROJECTS

Prof. ARUNKUMAR CHANDRASHEKHAR (PI)

Title: Shape Memory Self-Healable Hydrogel for Self-Powered Triboelectric Nanogenerator-Based E-Skin

Funding Agency: DST-SERB

Agency Type: Government

Sanction Date: October 25, 2023

Sanction Amount: Rs. 29,99,830



## CONSULTANCY PROJECTS

Prof. CHRISTOPHER CLEMENT J (PI)

Prof. SRIHARIPRIYA K C (Co-PI)

Title: Mobile App Oriented Service Session Request and Diagnosis

Funding Agency: H2O Solutions, India

Agency Type: Government

Sanction Date: October 25, 2023

Sanction Amount: Rs. 21,000



## CONSULTANCY PROJECTS

Prof. ROHIT MATHUR

Type: PI (Principal Investigator)

Title: Conceptual Design of Fog Penetration Radar

Funding Agency: Edgeforce Solutions Pvt Ltd, , India

Agency Type: Government

Sanction Date: October 13, 2023

Sanction Amount: Rs. 3,75,000



Prof. VALARMATHI J (PI)

Prof. GERARDINE IMMACULATE MARY (Co-PI)

Title: Corporate Training Royal Enfield Employees

Funding Agency: Royal Enfield, India

Agency Type: Government

Sanction Date: October 7, 2023

Sanction Amount: Rs. 3,69,100



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