



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

TECHINNOVATION

NEWS LETTER

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ECE Department

Electronics and Communication engineering is a discipline which uses the scientific knowledge of the behaviour and effects of electrons to develop components, devices, systems, or equipment that uses electricity as part of its driving force. This engineering field encompasses many subfields like signal processing, semiconductor chip design, telecommunication, data communication networks, satellite and radar link setup, embedded systems, robotics and many more.

Electronics and Communication engineering department transforms our day-to-day lives through a multitude of innovative technologies and products. The ECE department is intended to expose students to the unlimited opportunities for innovation in this exciting field, and to the methodologies and tools used by ECE engineers for the exploration and design of new technologies and products.

The applications of Electronics & Communication engineering is an endless list with a lot of scope in each and every subfield. It is a versatile branch that opens path for core electronics & communication jobs. Besides the numerous jobs in core field, the IT sector also welcomes an ECE engineer with open arms.

As compared to other branches, there are more interdisciplinary specializations in higher studies for ECE students like Embedded Systems, VLSI, Wireless communication, Signal Processing. Therefore, ECE students have a wider choice.

Department of Electronics and Communication Engineering was started since the inception of Vignan's Institute of Management and Technology for Women during 2008 with an initial intake of 90. The strength was enhanced to 120 during 2010. The Department had added Post graduate programme in VLSI during the year 2011 and Embedded Systems during 2014 with an intake of 18 each.

The Department has state-of-art laboratories equipped with advanced and well-maintained equipment, continuously updated application software packages, more than adequate computing systems with 24x7, 40 MBPS internet facility. All faculties are having a minimum teaching experience of 4 years. Seminars, Guest Lectures, Workshops, and Technical Symposia are conducted in the department to keep faculty and students updated with the latest developments in various technologies.

The Department is accredited by the National Board of Accreditation (NBA) has been accredited by National Board of Accreditation (NBA) successively two times i.e. in 2019 and 2022, which is valid up to 2025.

ECE students of the institution are well placed in different companies with different packages.



Department Vision

To transform the students into technologically competent professionals, with abilities to address the societal challenges of the time through innovative technical practices in electronics & communication engineering.

Department Mission

- M1: To foster inquisitive-driven advanced knowledge building among students for reinforcing the domain knowledge, develop capabilities, skills and solve complex engineering problems.
- M2: To prepare industry-ready graduates for global Electronics as well as communication-based engineering companies by conducting training programs, workshops and industry visits.
- M3: To build entrepreneurship and leadership qualities, research aptitude among students for the contribution of economic and technological development in cutting edge technologies in the national and as well as in the global arena.

Program Educational Objectives:

- PEO1: To develop the student's ability on technical concepts to design, simulate, and synthesize various electronic and communication circuits & systems for their research advancements.
- PEO2: To impart analytical skills and to prepare the students to excel in applying state-of-the-art hardware and software tools to solve complex engineering problems for R&D, Industry, and societal requirements.
- PEO3: To prepare the students to work in teams, take independent decisions, and integrate engineering issues for a successful career in a multi-disciplinary environment.
- PEO4: To promote entrepreneurship among the students to become successful entrepreneurs with professional ethics.

Program Specific Outcomes:

- A graduate of the Electronics and Communication Engineering Program will be able to
- PSO1: **Professional Skills Ability:** Identify, design electronics & communication circuits and conduct experiments with electronics & communication systems, analyze and interpret data, formulate and solve electronics & communication engineering problems.
 - PSO2: **Industrial Skills Ability:** Design digital and analog systems, algorithms, fire ware, modern engineering tools, software, etc. as per needs and specifications and work in laboratory and multidisciplinary tasks.
 - PSO3: **Ethical and Social Responsibility:** Communicate effectively in both verbal and written form, will have knowledge of professional and ethical responsibilities and will show an understanding of the impact of engineering solutions on the society, and also will be aware of contemporary issues.

EDITORIAL BOARD

- Mr.P.Harikrishna, HOD, ECE.
- Mrs. D. Shirisha, Assistant Professor, ECE.
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- M. Raja Suhasini, ECE (Student)
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HOD'S MESSAGE

Mr. P. Harikrishna,
Associate Professor &
HEAD OF THE DEPARTMENT,
DEPARTMENT OF ELECTRONICS
AND COMMUNICATION
ENGINEERING.

It gives me immense pleasure to present the Oct–Dec 2024 issue of our department newsletter, TECHINNOVATION. This newsletter reflects the dedication and achievements of our students and faculty, celebrating academic excellence, innovation, and creativity. I congratulate everyone involved in maintaining the high standards of the department and wish our students continued success in their professional journey.

COLLEGE EVENT: NAVARATRI CELEBRATING CULTURE, DEVOTION, AND DANCE

The vibrant festival of Navaratri was celebrated with great enthusiasm at our college, bringing together students, faculty, and staff to honor Goddess Durga and the triumph of good over evil. The nine-day festival is not just a religious celebration but also a cultural extravaganza showcasing tradition, art, and community spirit.

Festivities on Campus

Students enthusiastically participated in garba and dandiya dance performances, decorated the campus with colorful lights and rangoli, and arranged exhibitions highlighting traditional attire and cultural arts. The energy and joy reflected the spirit of Navaratri, making it a memorable experience for everyone.

Unity in Diversity

The celebration encouraged collaboration across departments, fostering friendship, teamwork, and appreciation for India's rich cultural heritage. It was a platform where creativity, devotion, and entertainment merged seamlessly.

A Cultural Learning Experience

Beyond the festivities, Navaratri taught lessons in discipline, dedication, and cultural pride. Students learned to balance creativity with organization, teamwork with individual performance — skills that resonate beyond college life.

“Navaratri reminds us that tradition and joy go hand in hand, inspiring celebration, unity, and cultural pride.”





Flash Mob: Sparking Energy at the Creative Carnival

The Creative Carnival at our college was electrified by a spectacular flash mob that brought students, faculty, and visitors to their feet. Organized spontaneously by the Cultural Club, the performance was a perfect blend of music, dance, and creativity, leaving everyone amazed.

A Burst of Energy

As the carnival buzzed with exhibitions, games, and workshops, the flash mob erupted in the main atrium, catching the crowd by surprise. Students performed synchronized dance routines with energetic moves, combining classical and contemporary styles, showcasing both talent and teamwork.

Behind the Scenes

Weeks of secret rehearsals, coordination, and creativity culminated in a seamless performance. The event highlighted team spirit, dedication, and the joy of artistic expression, inspiring others to participate in future events.

Impact and Excitement

The flash mob wasn't just entertainment; it was a celebration of spontaneity, unity, and creativity. It added a dynamic touch to the Creative Carnival, making the event unforgettable for everyone present.

“A flash mob turns a moment into a memory, a crowd into a family, and creativity into celebration.”



DEPARTMENT EVENTS INTERNATIONAL CONFERENCE – VMTW-ICAVSP-2K24

International Conference – VMTW-ICAVSP-2K24

(International Conference on Advances in VLSI and Signal Processing)

Dates: 25th & 26th November 2024

Mode: Hybrid (Offline & Online)

The Department of Electronics and Communication Engineering, Vignan's Institute of Management and Technology for Women, Hyderabad, successfully organized the International Conference titled VMTW-ICAVSP-2K24 on 25th and 26th November 2024 in hybrid mode.

The conference served as a global platform for researchers, academicians, industry professionals, and research scholars to share innovative research findings and advancements in VLSI Design, Signal Processing, Communication Systems, Embedded Systems, and allied technologies.

The event was organized under the guidance of the management of Vignan Group of Institutions.

OBJECTIVES OF THE CONFERENCE

- To provide an international forum

for presentation of research contributions.

- To promote interaction between academia and industry.
- To encourage research culture among faculty and students.
- To discuss emerging trends in VLSI and advanced signal processing.
- To facilitate collaboration and knowledge exchange.

DAY 1 – 25th November 2024 Inaugural Session (10:30 AM)

The conference commenced with the ceremonial lighting of the lamp, followed by a welcome address by the Conference Convener.

Chief Guest (Inaugural Session):

Dr. Swarna Bai Arnicker, Scientist 'G' & Technology Director (Reliability & Quality), DRDO, Hyderabad.

Guest of Honor:

Dr. A. Rajani, Professor & Head, Director UIIC, JNTUH.

The Chief Guest emphasized the importance of reliability engineering, innovation in semiconductor technology, and indigenous research in defense and strategic applications. The

Guest of Honor highlighted the significance of research publications, interdisciplinary collaboration, and funding opportunities.



Technical Session – I (VLSI Design)

This session focused on:

- Low-power VLSI architectures
- FPGA-based system design
- CMOS technology advancements
- Design optimization techniques

Researchers presented innovative circuit designs aimed at improving power efficiency and performance. Discussions were held on scalability challenges in nano-scale technologies.

Technical Session – II (Signal Processing)

Topics covered:

- Image and video processing techniques
- AI-based signal processing
- Biomedical signal analysis
- Speech and audio processing

Participants presented research on machine learning integration with signal processing for real-time applications.

DAY 2 – 26th November 2024

Technical Session – III (Communication & Embedded Systems)

Key themes:

- 5G and beyond communication technologies
- IoT-based embedded solutions
- Wireless sensor networks
- Smart systems and automation

The session included presentations from both offline and online participants, ensuring global engagement.



Technical Session – IV (Emerging Technologies)

This session covered:

- AI and VLSI integration
- Edge computing
- Cyber-physical systems
- Sustainable electronics

Interactive discussions enabled knowledge sharing between industry professionals and researchers.

Valedictory Session (2:30 PM)

Chief Guest (Valedictory Session):

- **Dr. Madhumita Chakravarti**, Director (Retd.), CMSDS, DRDO, Kolkata.

Guest of Honor:

- D. Srinivasa Rao, Project Director, RailTel Corporation of India Ltd., Secunderabad.

The dignitaries appreciated the quality of research presentations and encouraged young researchers to pursue innovative and socially impactful research.

Certificates were distributed to presenters and organizing committee members. The conference concluded with a vote of thanks.

PARTICIPATION DETAILS

- Faculty members

- Research scholars
- PG and UG students
- Industry professionals

The conference received significant paper submissions from various institutions across India and abroad. After peer review, selected papers were presented.

IMPACT OF THE CONFERENCE

- Enhanced research exposure
- Strengthened academia-industry interaction
- Encouraged publication culture
- Promoted interdisciplinary collaboration

The conference successfully achieved its objectives and was highly appreciated by participants.

CONFERENCE OUTCOMES

1. Academic Outcomes

- Improved research orientation among students and faculty.
- Enhanced understanding of emerging technologies in VLSI and Signal Processing.
- Strengthened publication and documentation practices.

2. Research Outcomes

- Encouraged original research contributions.
- Initiated collaborative research discussions.
- Identified potential interdisciplinary research areas.

3. Industry Interaction Outcomes

- Established networking with DRDO and RailTel experts.
- Provided exposure to real-world technological challenges.
- Opened avenues for internships and consultancy.



4. Student Learning Outcomes (Mapped to PO's)

- PO1: Engineering knowledge enhanced through technical sessions.
- PO3: Improved ability to design system components.
- PO5: Usage of modern engineering tools.
- P O 9 : Team work and communication through paper presentations.
- PO10: Technical presentation and documentation skills.

5. Institutional Outcomes (NAAC Perspective)

- Strengthened research ecosystem.
- Increased visibility of the institution at international level.
- Promoted quality research and innovation culture.
- Enhanced stakeholder engagement.

CONCLUSION

The International Conference VMTW-ICAVSP-2K24 was a grand success. It provided a dynamic platform for intellectual exchange and technological advancement. The Department of Electronics and Communication Engineering extends heartfelt gratitude to the management, distinguished guests, organizing committee, and participants for their valuable support.



FDP ATTENDED

SI No	Name of the faculty	Title	Event Type	Date of event	Mode of attending
1	Mr.E.Nagaraju	5G WIRELESS NETWORKS	ATAL	11/11/2024 to 16/11/2024	ONLINE
2	Mr.D.Naresh	5G wireless networks	ATAL	11/11/2024 to 16/11/2024	ONLINE
3	Mrs.D.Shirisha	Emerging Trends in VLSI Device , circuits & System Design	National	09/11/2024 To 11/11/2024	ONLINE
4	Mr.P.Hari Krishna	5G Wireless Networks	National	11/11/2024 to 16/11/2024	ONLINE
5	Mr.G.Ganesh Reddy	Synergizing Innovation Ecosystems, Signal Processing & VLSI Design	National	23/12/2024 TO 28/12/2024	ONLINE

FACULTY PUBLICATIONS

SI No	Author	Title	Date of Published	ISSN No	Journal
1	Dr.SK Masthan Basha	Evaluating Accessibility Cyber Safe Inclusion Index for women	Nov-24		UGC
2	Dr.SK Masthan Basha	Emotion-Informed Cyberbullying Detection System	Dec-24		UGC
3	Mr.P.HariKrishna	Hybrid Generative Adversarial Network and reinforcement Learning Framework for robust ECG anomaly detection	Nov-24		UGC

BOOKS & CHAPTERS PUBLISHED

S.No	Author	Title of book	Date of Published
1	Ms.K.Padmaleela	Using Machine Learning for early prediction of Autism Spectrum Disorder	25,26 Nov 2024
2	Ms.K.Padmaleela	Detection of Major Depressive DisOrder Using genetic Algorithm for Feature From EEG signals	Nov-24
3	Mrs.D.Shirisha	A Review on metamaterial-based on Antennas for Image Applications	25/11/2024

WORKSHOP'S ORGANIZED

SI No	Name of the faculty	Title	Event Type	Date of event	No.of participants	Mode of Conducting
1	Mrs.G.Indira Priya darshini	PCB Design and Fabrication	National	11/11/2024 to 12/11/2024	65	OFFLINE
2	Mrs.M.Pravalli ka	PCB Design and Fabrication	National	11/11/2024 to 12/11/2024	65	OFFLINE
3	Mr.G.Ganesh Reddy	A Journey into Arduino & IOT Applications	National	23/12/2024 to 24/12/2024	65	OFFLINE

WORKSHOP' ATTENDED

SI No	Name of the faculty	Title	Event Type	Date of event	Mode of attending
1	Mr.G.Ganesh Reddy	DFT for Cutting Edge Application	National	11-12-2024	ONLINE

CONFERENCES ATTENDED

SI No.	Name of the faculty	Title	Event Type	Date of event
1	Mr.E.Nagaraju	VMTW-ICAVSP-2K24	International	25-11-2025 TO 26-11-2025
2	Mrs.G.Indira Priya darshini	VMTW-ICAVSP-2K24	International	25-11-2025 TO 26-11-2025
3	Ms.K.Padmaleela	VMTW-ICAVSP-2K24	International	25-11-2025 TO 26-11-2025
4	Mrs.D.Shirisha	VMTW-ICAVSP-2K24	International	25-11-2025 TO 26-11-2025
5	Mr.J.Sunil Kumar	VMTW-ICAVSP-2K24	International	25-11-2025 TO 26-11-2025
6	Dr.G.Jhansi Reddy	VMTW-ICAVSP-2K24	International	25-11-2025 TO 26-11-2025
7	Mr.D.Naresh	VMTW-ICAVSP-2K24	International	25-11-2025 TO 26-11-2025
8	Ms.G.Susmitha	VMTW-ICAVSP-2K24	International	25-11-2025 TO 26-11-2025
9	Dr.T.Pullaiiah	VMTW-ICAVSP-2K24	International	25-11-2025 TO 26-11-2025
10	Mr.P.Hari Krishna	VMTW-ICAVSP-2K24	International	25-11-2025 TO 26-11-2025
11	Mrs.G.Swathi	VMTW-ICAVSP-2K24	International	25-11-2025 TO 26-11-2025
12	Mr.G.Ganesh Reddy	VMTW-ICAVSP-2K24	International	25-11-2025 TO 26-11-2025
13	Mrs.M.Pravallika	VMTW-ICAVSP-2K24	International	25-11-2025 TO 26-11-2025

CONFERENCES ORGANIZED

SI No	Name of the faculty	Title	Event Type	Date of event	Mode of Conducting
1	Dr.SK.Masthan Basha	VMTW-ICAVSP-2K24	International	25-11-2025 TO 26-11-2025	OFFLINE
2	Dr. Vijaykumar R. Urkude	VMTW-ICAVSP-2K24	International	25-11-2025 TO 26-11-2025	OFFLINE

Program Outcomes (Adapted from NBA)

Engineering Graduates will be able to:

PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3: Design/Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4: Conduct Investigations of Complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6: The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7: Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11: Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12: Life-long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.