



Editorial

Board Members

Chief editor

Dr D Venkata Rao

HoD, ECE

Editor

Mrs. Y Sarada Devi

Assistant professor

ECE

Student Editors

C Ramakrishna

S. P. Sriram

IV BTech ECE

Inside the Issue

- *Programs organized in the dept.*
- *Faculty achievements*
- *Faculty participations in FDPs/Workshops/seminars*
- *Student achievements*
- *Placement details*

.....and many more

Vision

To produce globally competitive and socially sensitised engineering graduates and to bring out quality research in the frontier areas of Electronics & Communication Engineering.

Mission

To provide quality and contemporary education in the domain of Electronics & Communication Engineering through periodically updated curriculum, best of breed laboratory facilities, collaborative ventures with the industries and effective teaching learning process.

To pursue research and new technologies in Electronics & Communication Engineering and related disciplines in order to serve the needs of the society, industry, government and scientific community.

Program Educational Objectives (PEOs)

After 3 to 5 years of graduation, electronics & Communication Engineering graduates will

PEO1: Excel in their professional career and higher education in Electronics & Communication Engineering and related fields.

PEO2: Exhibit leadership through technological ability and contemporary knowledge.

PEO 3: Adapt to emerging technologies for sustenance in their relevant areas of interest.

About the Department

Accreditation of B. Tech and MTech programmes by NBA, New Delhi to turn out globally recognized graduates.

40% of the faculty with Ph.D. qualification from premier institutions encompassing IITs, NITs, BITS and government universities to institute strong foundation and impart necessary skills

Establishment of TIFAC CORE in Telematics by DST, New Delhi and industries with outlay of 10 Crores, first of its kind in the state of AP, for producing industry ready students in the focused core areas. Conduct of research and guidance in the focused areas of Antennas, Image Processing, RF&MW, VLSI & ES, Telematics.

More than 75% of the students are being absorbed by reputed MNCs'.

The Teaching-Learning process adopts different methods such as experiential learning, participative learning and problem-solving methodologies utilizing ICT facilities, LMS and e-resources. All the academic activities are carried out strictly following the academic and activity calendar. Proctor dairy system is in place for counselling and to monitor academic and personal issues of students. Necessary efforts are being made in identifying the learning levels (slow and fast) of the students through various assessments and additional training is imparted to slow learners.

Department encourages academic discussions between faculties and students using black board and faculties shares academic study material using it.

Use of modern teaching aids like LCD projectors, Wi-Fi enabled laptops are usually employed in classrooms and other student learning environments

Department has introduced EPICS (Engineering Projects for Community Services) in the curriculum along with mini and major projects. In EPICS students will go to the society (villages/ hospitals/ towns etc.) to identify the problem and survey the literature for a feasible solution.

Expert video subject lectures delivered by the various eminent resource persons are available in the digital library and it facilitates the faculty and students to utilize E-Tutorials of NPTEL, MOOCs access E-Journals, Video Conference, etc.

Faculty members use department library, digital library and other Open-Source platforms to enhance their teaching skills. The faculty members are encouraged to participate in short term courses, staff development programs and workshops on advanced topics to keep pace with the advanced level of knowledge and skills.

Program Specific Outcomes (PSOs)

After completion of electronics & Communication engineering Program, the students will be able to have ability to:

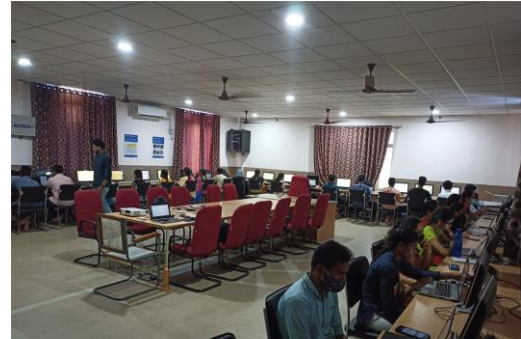
PSO 1: Demonstrate proficiency in the use of IOT required in real -life applications

PSO 2: Implement functional blocks of hardware/software designs for signal processing and communication applications.



Events organized in the department

NI CLAD Certification



NI CERTIFIED LabVIEW ASSOCIATE DEVELOPER (CLAD) is the first level of global certification offered by National Instruments (NI). Identifying the demand for the certified people in present industrial scenario, the Department of ECE planned to conduct a workshop to train the faculty and students to prepare for the CLAD certification. Mr. Sk khaleelahmed, Assistant professor, Department of ECE organised one Week Training Program on “NI CLAD Certification” in Association with BlauPlug Innovations Pvt.Ltd. The Training was scheduled from 04-04-2022 to 09-04-2022 to provide training on advanced concepts to prepare the participants for CLAD certification. A total of twelve technical sessions were conducted to train the thirty participants in the workshop. Mr. G Mani Babu, Application Engineer, Blauplug Innovations Pvt Ltd, Bangalore. 30 Participants were trained to take up CLAD certification exam in the month of April 2022.

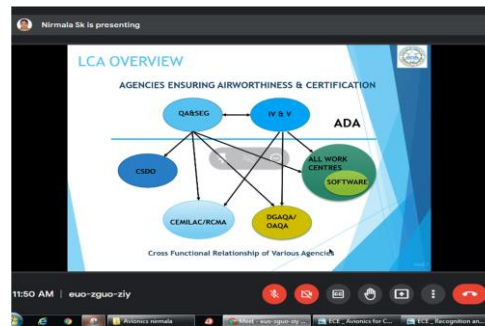
5G & it's Beyond

The Antenna Research Group of ECE Department headed by Dr A Jhansi Rani Professor, organized a Guest lecture on “5G & it's Beyond” on 12-03-2022 through online mode. Dr. Debajit De, Senior Research Engineer, R&D Center of ACE Technologies Corporation, was the resource person. The topics discussed included Global 4G & sub 6 GHz spectrum allocations, small cells and 5G Network Layers, how to improve cellular networks, Sub 6 GHz Communication, Massive MIMO & Beam forming, Massive MIMO Antenna for Base station, Massive MIMO Antenna for 5G sub 6 GHz base station, Examples of

simulated massive MIMO antenna model, small cell antenna model, achieving methods of Uniform coverage, Deployment scenarios of small cell radio, Manufacture challenges regarding RF small cell radio, Issues related to limitation of spectral efficiency, Deployment of Antennas in Massive MIMO for sub 6 GHz, Challenges of manufacturer for small cell radio. Faculty and students acquired exposure in 5G antennas and MIMO beam forming. Faculty had an opportunity to interact with resource person from industry which can help them in their professional career and collaborative research.

Overview of Avionics for Combat Aircraft

Mrs Nirmala Satish Kumar, Scientist G, Group Director Aeronautical Development Agency, was invited as resource person for the guest lecture on “Overview of Avionics for Combat Aircraft” organised by Dr. A. Jhansi Rani Professor, Mr Ch Raghavendra, Assistant Professor ECE on 26.03.2022. The topics covered included LCA overview and Variants, FCS overview, Avionics system overview, LCA Variants, Avionics Systems, Display and Navigation systems, Identification and communication systems, Sensor Systems, Electronic warfare systems, Test JIG- stores management system integration, Identification and communication systems, Sensor Systems, Electronic warfare systems, Test JIG- stores management system integration. Mrs Nirmala Satish Kumar was an Alumni 1990-93 batch.



The Code of Conduct Monitoring Committee

A counselling session organized by THE CODE OF CONDUCT MONITORING COMMITTEE, VRSEC on the topic “Campus Code of Conduct and Discipline” for I year B. Tech students on 17-03-2022. Prof. K.R.S. Rao, Consultant Psychologist and Director: Child Care Education Counselling Research Centre, Vijayawada was the chief guest. Prof. KRS Rao in his discourse touched upon many critical points that are well received by the students like Importance of Good behaviour, Manners, discipline, Essence of working hard at whatever your present position is, Realising the importance of the available facilities and resources in VRSEC and to use them purposefully, Need to follow the teachers closely and impressing them to extract maximum knowledge from them, Emergence of Technology in many walks of life during the past 5 decades in India, Importance of learning English and communicating freely with others, How to pursue a given task relentlessly 24/7 till you master it, How some of the daredevil pilots in the Air force do not care their lives on a mission just, to put national interest on top of everything, How different countries economically progressed while India is struggling to maintain integrity, Importance of Physical exercise and sports, Understanding big national heroes like APJ Abdul Kalam, Mahatma Gandhi, Dr BR Ambedkar and to dedicate ourselves for larger national cause.

VELAGAPUDI RAMAKRISHNA SIDDHARTHA ENGINEERING COLLEGE
(AUTONOMOUS)

Organized by Code of Conduct Monitoring Committee

Counselling Session on
**CAMPUS CODE OF
CONDUCT & DISCIPLINE**

Resource Person
Prof. K.R.S. RAO
Consultant Psychologist &
Director-Child Care Education
Counselling Research Centre,
Vijayawada

Date : 17th March, 2022
Time : 3:00 PM
Venue : Auditorium

Chairperson:
Dr. A. Jhansi Rani, Professor, ECE

Co-ordinators:
Dr. N.C.S Rao, Assoc. Prof. MBA
Mr. S. Ravi Kishan, Assoc. Prof. Dept. of CSE

Guest Lectures by Faculty



Webinar on
Smart Antenna Technologies for
Future Wireless Systems : Trends and Challenges

07-03-2022
10:00 - 11:30 AM

Resource Person
Dr. A. Jhansi Rani
FIETE, MISTE, BMESI, MSEMCEI
Professor,
Department of Electronics and Communication Engineering,
V.R. Siddhartha Engineering College, Vijayawada.

Organized by
IEEE NEC Wie SB & IQAC
Department of **ELECTRONICS AND COMMUNICATION ENGINEERING**

Dr A Jhansi Rani, was invited as resource person to a Webinar on Smart Antenna Technologies for future wireless systems: Trends & Challenges Organized by IEEE NEC Wie SB & IQAC- Department of Electronics and Communication Engineering, Narasaraopeta Engineering college on 07-03-2022.

Faculty participation on FDP

- Dr Venkata Sainath Gupta T participated in IEEE Signal Processing Society Seasonal School on Networked Federated Learning: Theory, Algorithms and Applications, organized by Aalto University & Signal Processing Society from 28-03-2022 to 01-04-2022.
- Dr. K. Shri Ramtej attended 3-day FDP on “Scientific Educational Practices” organized by IQAC, VRSEC in association with Learning and Development Centre SRMIST, Chennai during 17-19 March 2022.

Certificate Courses Completed by the Faculty

Dr Venkata Sainath Gupta T Assistant Professor Dept of ECE completed certificate courses on Machine Learning offered by “Solo Learn” and Hyperparameter Tuning with Keras Tuner by “Coursera”.



Student Achievement



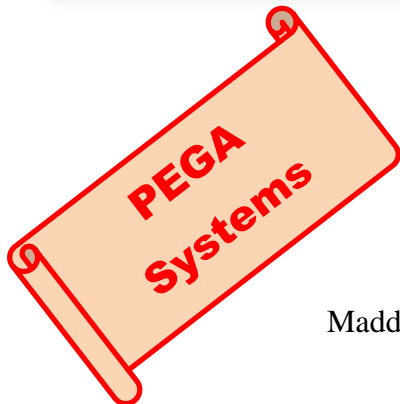
Kalasani Naveen (198W1A04E9) won 1st prize in the IOT Project Expo sponsored by AICTE SPICES, organized by IEEE student Branch of VVIT in association with IETE Student Form of ECE Department for " Anti Covid system". He was guided by Dr Praveen Naidu, Associate Professor, ECE, VRSEC.

Share of Expertise: Insights on 6G Communication

..... *Dr A Jhansi Rani, Professor, ECE*

The global mobile data traffic has been increased dramatically in recent years due to high demand in secure, fast, and large data transmission rates in advanced applications, including broadcasting, Internet of Things (IoT), automobiles, smart cities, energy, emergencies communication, and wearable devices. 6G wireless communications require considerable research and development in antennas, Radio-Frequency (RF) front-ends, and wave propagation characterization. Sustainable green electronics also introduce new rules into the antenna and RF front-end development. 6G is predicted to be commercialized in the early 2028 and is an intelligent information system driven with AI technologies and provides enhanced mobile broadband (eMBB), ultra-reliable and low latency communications (URLLC), and massive machine-type communications (mMTC). Extended reality (XR), hologram, digital replica, three-dimensional (3D) mapping, positioning, and sensing are also detected. The high data rate can be acquired from a wider bandwidth above 100 GHz, realizable at terahertz (THz) frequency. Thus, make future generation can extend up to THz region The higher the frequency, the smaller the wavelength and it is a crucial to fabricate and to measure a tiny antenna. For 6G communications, antenna designs face more challenges. Multi-band operation in the same aperture, multiple services in different mmWave bands demands for innovative three-dimensional structural designs and advanced aperture sharing methods. Reconfigurable mmWave antennas are highly anticipated, for switching between different operational bands or pattern modes for multipurpose applications. The large scale and seamless integration of mmWave chips operating at different bands with the antennas in the same module is required. It involves packaging designs, fabrication process, and heat dissipation consideration. Antenna technologies need to be integrated by using Antenna-in-Package (AiP) and on-chip antenna technologies, and the required signal integrity will necessitate high-performance vertical and horizontal interconnections and feed networks. Antenna-on-Chip (AoC) is an alternative antenna technology drawn a substantial attention due to its benefits over off chip antenna technology. A few of these benefits include miniaturization, low power, low cost, and high integration of the wireless modules.

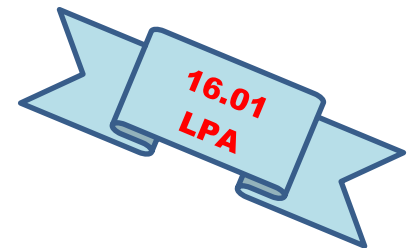
Placements during March & April 2022



Madduri Vidyasri Neeharika
188W1A04K2



Mohammed Junaid Iqbal
188W1A04E9



V R Siddhartha engineering College Department of ECE News Letter Editorial Board

Chief Editor
Dr. D Venkata Rao
Head of Dept
ECE

Editor
Mrs. Y Sarada Devi
Asst.Professor
ECE

Student Editors
Ramakrishna 188W1A04L5
Sriram 188W1A04L9

Core values of the institute

V R Siddhartha Engineering college engages itself in a process of self and community reflection that leads the institution to recognize and heighten awareness of the core values the college is practising and to develop an institutional culture that stands accountable to those values

- 1. Commitment**
 - Responding to the changing need of our region and nation
 - Develop a shared decision-making process
- 2. Respect**
 - Include stake holders in the decisions
 - Recognise and support employee contributions
- 3. Excellence**
 - Anticipate techno-social need and respond accordingly
 - Encourage innovation and interdepartmental collaboration
- 4. Accountability**
 - Continuously evaluate and improve the academic and administrative systems
 - Demonstrate responsibility through stakeholder satisfaction
- 5. Diversity**
 - Ensure fair and equal access for all
 - Recognise, appreciate and celebrate diversity
- 6. Cultural competence**
 - Encourage ideas and participate
- 7. Learning environment**
 - Outstanding physical infrastructure, along with a culture of excellence
- 8. Community**
 - Value and respect Collegiality, Partnerships, Safe and Healthy Environment and Service
- 9. Integrity**
 - Committed to ethical and responsible behaviour

Quality policy

VRSEC strives to impart Knowledge, Skills and Attitude through continuous improvement to meet the ever-changing needs of Industry and the Sustainable Development of Society

PROGRAM OUTCOMES (POs)

PO1	Engineering knowledge: An ability to apply knowledge of mathematics, science, fundamentals of engineering to solve electronics and communication engineering problems.
PO2	Problem analysis: An ability to identify, formulate and analyse electronics and communication systems reaching substantiated conclusions using the first principles of mathematics and engineering sciences.
PO3	Design/development of solutions: An ability to design solutions to electronics and communication systems to meet the specified needs.
PO4	Conduct investigations of complex problems: An ability to design and perform experiments of complex electronic circuits and systems, analyse and interpret data to provide valid conclusions.
PO5	Modern tool usage: An ability to learn, select and apply appropriate techniques, resources and modern engineering tools for modelling complex engineering systems.
PO6	The engineer and society: Knowledge of contemporary issues to assess the societal responsibilities relevant to the professional practice.
PO7	Environment and sustainability: An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.
PO8	Ethics: An understanding of professional and ethical responsibilities and norms of engineering practice.
PO9	Individual and team work: An ability to function effectively as an individual, and as a member in diverse teams and in multidisciplinary settings.
PO10	Communication: An ability to communicate effectively with engineering community and with society at large.
PO11	Project management and finance: An ability to demonstrate knowledge and understanding of engineering and management principles and apply these to manage projects.
PO12	Life-long learning: An ability to recognize the need for, and engage in independent and life-long learning in the broadest context of technological change.