Events organized in the department

Guest Lecture

A Guest lecture was conducted on "MIMO antenna and its effect on MIMO wireless Communication" by Department of Electronics and Communication Engineering on 30th September 2024, Prof. Rakhesh Singh Kshetrimayum, Professor Department of Electronics and Electrical Engineering Indian Institute of Technology Guwahati delivered an insightful lecture during the Distinguished Lecture series on September 30th 2024. His address focused on the Inter-antenna-interference (IAI) in the MIMO wireless technology. He highlighted the importance of Diversity Gain (DG), Mutual Coupling (MC), Envelope Correlation Coefficient (ECC) calculation from S-parameters, 3-D radiation patterns, Evolution of the MIMO system, Performance metrics, Futuristic technologies: B5G/6G & RSN. This One Day Guest Lecture on "MIMO antenna and its effect on MIMO wireless Communication" provided an opportunity for III & IV B.Tech. students, research community to have an exposure to recent research trends on antenna is MIMO technology, its features, and implementation on Wireless technology and beyond 5G/6G technology. Students were introduced to the necessity of MIMO technology in wireless communication and their application in improving the data transmission with different algorithms.

IEEE Signal Processing and Communications Societies Joint Chapter

Inauguration of IEEE Student Branch (STB64285) was organized in collaboration with the Department of Electronics and Communication Engineering (ECE), VRSEC, and in association with IEEE Signal Processing Society (SPS) Hyderabad Section. The inauguration of the IEEE Signal Processing and Communications Societies Joint Chapter took place on 14th September 2024, aligning with Engineers Day, which celebrates the birth anniversary of the eminent Indian engineer Sir Mokushagundam Visvesvaraya. This marked a milestone for VRSEC, establishing a platform dedicated to advancing knowledge and research in the fields of Signal Processing and Communications. Dr. Yarlagadda Padma Sai, Chair of the IEEE SPS Hyderabad Section, delivered an insightful keynote on the role of Signal Processing in healthcare and AI. She shared her entrepreneurial journey and encouraged students to explore interdisciplinary research. Dr. Y. Vijayalata Reddy, Chair of IEEE Hyderabad Section, spoke about the role of IEEE in professional development and the opportunities it offers to students. She encouraged students to make the most of IEEE resources.

The event aimed to promote collaboration between students, researchers, and industry professionals, focusing on emerging technologies in signal processing and communications. It also provided students with the opportunity to engage in academic and practical activities, fostering innovation and professional development. The winners of The Art of Image Processing: A MATLAB-based Competition were announced by Dr. Venkata Rao Dhulipalla. This competition saw enthusiastic participation from students, showcasing their technical skills in image processing. Maruprolu Venkata Karthik Reddy, Pathan Mujahid and K. Kaveri stood in first second and third places respectively in the competition.

Guest Lecture

The IEEE Signal Processing and Communications Joint Societies Student Branch Chapter at VRSEC organized a guest lecture titled "The Art of Research Writing and Effective Articulation". The lecture was delivered by Dr. Gopi Battineni, a post-doctoral researcher at the Clinical Research Centre, School of Medicinal and Health Products Sciences, University of Camerino, Italy.

Dr. Battineni's expertise in research writing and communication skills, coupled with his extensive background in fields such as Telemedicine, Process Mining, and Natural Language Processing, made him an ideal speaker for this event. He completed his degree in Electronics and Communication Engineering from Jawaharlal Nehru Technological University, India, with first-class distinction. Dr. Battineni's expertise in research writing and communication skills, coupled with his extensive background in fields such as Telemedicine, Process Mining, and Natural Language Processing, made him an ideal speaker for this event. Organizing Research with a Clear Flow, Concise and Precise Writing, Correct Citation Practices, Revising for Clarity, and Coherence were the topics covered by the speaker. The session was interactive, with Dr. Gopi Battineni engaging with the audience by addressing their questions and providing personalized tips on improving their research writing skills. He shared examples from his published work, illustrating the application of the discussed techniques in real-world research. The session concluded with a segment where students and faculty members actively participated, seeking advice on various aspects of research writing. Dr. Gopi Battineni's responses were practical and insightful, resonating well with the attendees. The guest lecture was well-received, with attendees appreciating Dr. Battineni's clear and methodical approach to research writing. Participants reported gaining valuable insights into organizing and presenting their research effectively, which they plan to implement in their academic and professional writing projects.

➢ Dr.Pratikhya Raut, Assistant Professor Dept of ECE,VRSEC, served as session chair in the 4th international IEEE Conference Artificial Intelligence and Signal Processing AIS P 2024 held at VIT-AP University Amaravati, from 26th to 28th Oct 2024.

FDPs/Workshops/Guest lecture attended by faculty

- Moirangthem Santoshkumar Singh, participated in AICTE recognized FDP, from 16/09/2024 to 20/09/2024 (one week), at Prasad V Potluri Siddhartha Institute of Technology, Kanuru, Vijayawada.
- Moirangthem Santoshkumar Singh, participated in IEEE Authorship and Open Access Symposium, held on 04/09/2024

Faculty Publications

- Kondamuri, S. R., Kundu, N. K., & Ghanshyala, A. (2024) Quantum Communication in Weakly Turbulent Channels: Error Analysis and Capacity Bounds. IEEE Wireless Communications Letters.
- Suryanarayana, G., Kondamuri, S. R., & Yang, J. (2024). Learning infrared degradations for coherent visible image fusion in the undecimated Dual-Tree complex wavelet domain. Infrared Physics & Technology, 105596.
- **Pratikhya Raut.,** Anitha, K., Sowmya, S., & Vinnu, K. (Sept 2024). Mastery Detector Through Speech. In 2024 OPJU International Technology Conference (OTCON) on Smart Computing for Innovation and Advancement in Industry 4.0 (pp. 1-6). IEEE.doi: 10.1109/OTCON60325.2024.10687555.

Faculty Publications with students

- Malkapurapu, Sai Kiran, Venkat Guntupalli, Bhanu Nivas Manapaka, and V. S. G. Thadikemalla. "A Machine Learning-Based Marine Vessel/Ship Classification Using Passive Sonar Signals—A Multi-class Problem." In International Symposium on Intelligent Informatics, pp. 245-259. Singapore: Springer Nature Singapore.
- K. V. Chinni, R. S. Karanam, N. Nagidi and V. S. G. Thadikemalla, "Deep Dive: Unveiling the Latest in Sonar Signal Classification Through the Power of Deep Learning," 2024 International Conference on Computational Intelligence for Green and Sustainable Technologies (ICCIGST), Vijayawada, India, 2024, pp. 1-6, doi: 10.1109/ICCIGST60741.2024.10717592.