

Department of Biomedical Engineering
KPR Institute of Engineering and Technology



KPR Institute of Engineering and Technology

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"We are Engineers for Doctors"

Biomedical Engineering is one of the premier Engineering disciplines among technocrats since it merges Healthcare Technology with Electronics and Software technologies including Artificial Intelligence, Machine Learning, Robotics in Medicine, Bioinformatics, Prosthetic Engineering etc. to serve better to the human community with advance and continuously upgrading technologies. In KPRIET, we nourish our students with advance laboratories like Bio-signal processing, Diagnostics and Therapeutic Equipment, Human Anatomy and Physiology, Biomedical Instrumentation to learn by practicing. Hospital training and internship are arranged with leading multispecialty hospitals and biomedical industries to facilitate the students for better career. Research activities are vibrant with publications and patents in the recent trends.

Dr. D. Ganesh kumar HoD/BME

Highlights of this month

Events

**VAC/Training Program on
MATLAB and LABVIEW**

Students' Participation

**Faculty - Professional
Development & Achievements**

Monthly Newsletter: Department of Biomedical Engineering

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About KPRIET

KPR Institute of Engineering and Technology (KPRIET), founded by Dr. K. P. Ramasamy, is one of the leading institutions of academic excellence by imparting technical, intellectual and professional skills to students. The Institution is ranked 100-150 band by NIRF. The institute, with its diverse and energetic community of students offers a distinguishing blend of some of the premium graduate, undergraduate and research programs, talented faculty, world class amenities and a residential campus set on a sprawling 150 acres of lush green campus.

While students at KPRIET immerse themselves in academics, the institute has a lot in store for them outside the classroom. Student life includes participation in sports, co-curricular activities and cultural. In short, at KPRIET, students will find an academic and social environment where everyone- from faculty members to peer's support shape their future. KPRIET is a home to artistically designed buildings with state of the-art computer and internet facilities, modern workshops, seminar halls, auditoriums and well stocked libraries, sports and games fields in addition to an indoor badminton court and gymnasium.

KPRIET has a faculty strength of 264 with a faculty student ratio of 1:15. Out of the total, 139 faculty members PhDs. and 95 are in the process of completing their PhDs. As an exemplary institution of learning, KPRIET follows an admission policy that strongly favours merit, even as it enables access to education for students from all strata of society through appropriate scholarships. The Institution boasts of a strong alumni network with alumni events held every year serving as a platform for past students to give back to KPRIET and share their experiences with its present fellow students.

About the Department

The Department of Biomedical Engineering of KPR Institute of Engineering and Technology, Coimbatore was established in the year 2017 with an annual intake of 60 students. The Department has highly qualified faculty members with Ph. D. and M.E. / M. Tech / M.S. under various specialize such as Biomedical Signal and Image Processing, Medical Electronics, Healthcare Data Analytics, Biomaterials, Regenerative medicine and Nanoscience. The total strength of the faculty members in the Department is thirteen. Out of which, 60% of the faculty Members (9 Faculty) have completed their PhD and four faculty members are pursuing their PhD.

The faculty members contribute to academic development by publishing books / journals, products, patent filing and presenting papers in International and National Conferences. The Department of Biomedical Engineering signed MoUs with the reputed industries like Silicon systems, Aravind Eye Care Hospital, GEM Hospitals, Ganga Medical Center and Hospital, Masonic Medical Centre for children and ALERT (NGO) to bridge the gap between theory and field practices.

The Department also provides an opportunity for students in improving practical knowledge in the field of Biomedical Engineering and Software skills like MATLAB, LabVIEW, Wokwi simulation through Centre of Excellence, in addition to Communication and Presentation skills. The students have to undergo Industrial Training and Industrial Visit to facilitate them to take up industrial live projects to understand the industry needs. The Students from Biomedical Engineering as well as faculty members has membership in various Professional Societies like BMESI and IEEE (EMBS) to gain knowledge through various programs conducted by these bodies across the Nation.

Vision of the Department

To be the **centre of excellence** for **dissemination of knowledge, research and development** in biomedical engineering to serve **society with moral values**.

Mission of the Department

The **Mission** of the Department is to

- Impart **value-based education** in biomedical engineering using **modern equipment and tools**.
- Build an **integrated team** of biomedical engineers to foster technologies through **research, development and innovation**.
- Provide **healthcare industries** with solutions imbued **through lifelong learning** with **ethics and moral values**

LIST OF EVENTS / PROGRAMS CONDUCTED DURING DECEMBER 2023

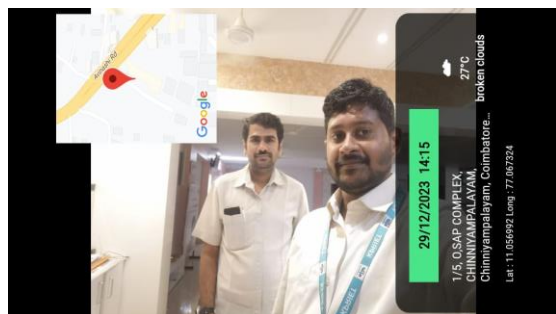
S. No.	Date	Type of Event / Program	Title of the Event
1.	05.12.2023 to 09.12.2023	VAC/Training Program	VAC on Signal analysis using MATLAB
2.	05.12.2023 to 09.12.2023	VAC/Training Program	VAC on Physiological signal analysis using LABVIEW

Industry visits by the Department

S. No.	Date of Visit	Name of the Industry visited by the faculty during December 2023
1.	04.12.2023	Suriya Artificial Limb Centre, Coimbatore
2.	29.12.2023	KGM Hospital (P) Ltd. Coimbatore



Suriya Limb Centre, Coimbatore



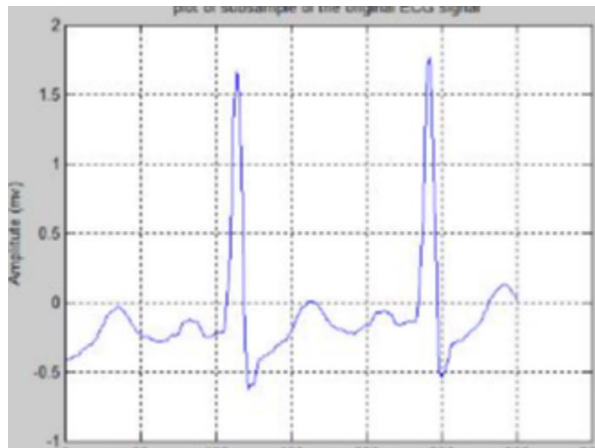
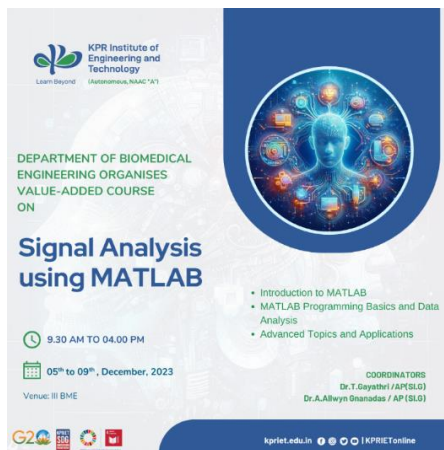
KGM Hospital, Coimbatore

EVENT - 1**VAC/Training Program on Signal analysis using MATLAB**

Department of Biomedical Engineering organized a Value-Added Course on “Signal Analysis using MATLAB” from 5th December, 2023 to 9th December, 2023. Thirty-two students from third year Biomedical Engineering Department attended this course to gain knowledge on the basics of MATLAB and practical skills. This course was handled by Dr. T. Gayathri, Assistant Professor (SI.G) / BME and Dr. A. Allwyn Gnanadas, Assistant Professor (SI.G) / BME.

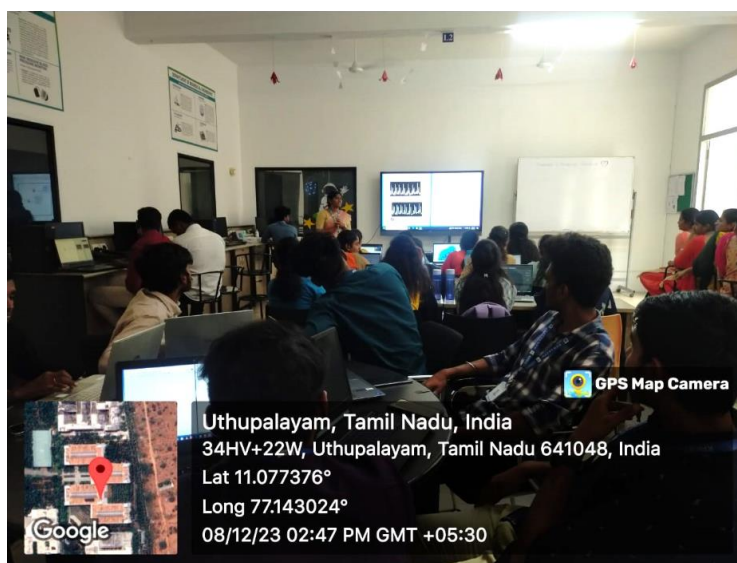
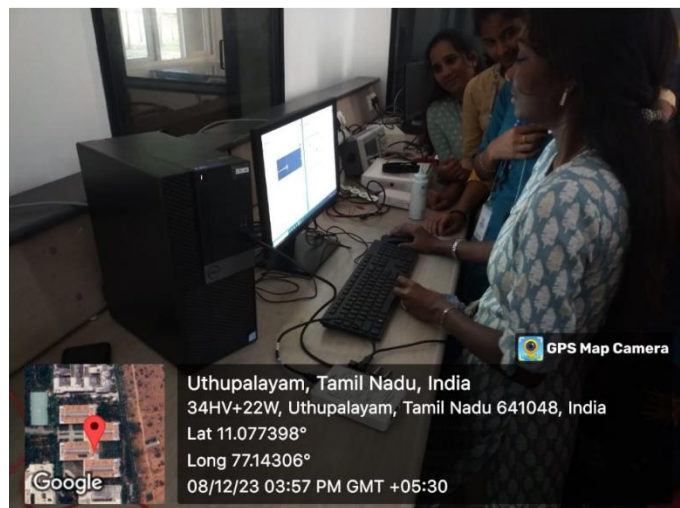
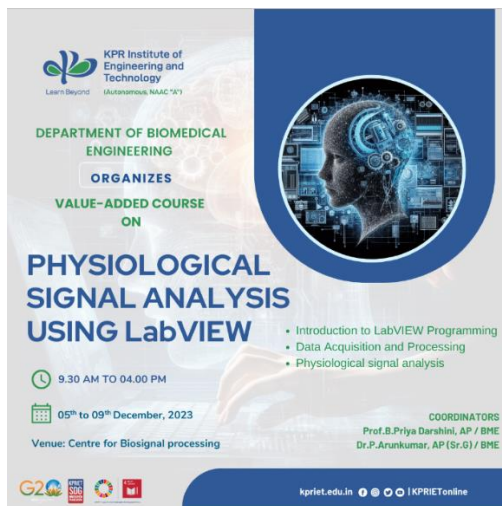
The course commenced with the introduction to MATLAB session, where the participants were able to understand the basic operations and plotting through the hands-on sessions in MATLAB. Further the participants were able to apply the concepts of conditional statements and data analysis and debug the errors.

Then the key concepts related to Signal Processing such as Fourier transforms, filtering techniques, and spectral analysis were trained through practical sessions. The highlight of the event was the practical exercises, where participants tackled real-world signal processing challenges. This hands-on approach provided a valuable opportunity for participants to apply theoretical knowledge in a simulated environment, reinforcing their understanding of signal analysis techniques.



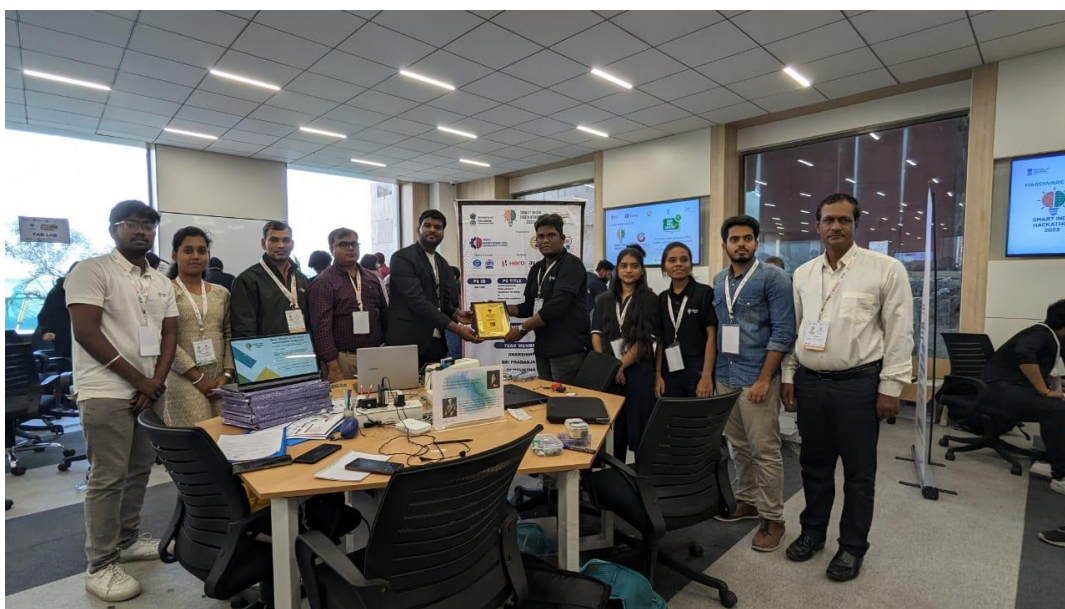
EVENT - 2**VAC/Training Program on Physiological signal analysis using LABVIEW**

The value-added course on 'Physiological signal analysis using LabVIEW' was a comprehensive educational program aimed at providing participants with a deep understanding of physiological signal analysis methodologies using LabVIEW software. The course employed a mix of theoretical lectures, interactive discussions, and hands-on laboratory sessions. Participants were provided with LabVIEW software access and guided through step-by-step procedures in signal acquisition, processing, and analysis. The practical exercises allowed attendees to gain practical skills and confidence in utilizing LabVIEW for physiological signal analysis. The course concluded with positive feedback from participants, indicating a better grasp of physiological signal analysis methodologies and practical skills in using LabVIEW software for signal processing.



Students' Participation – Technical / Non-Technical/Sports

S. No.	Name of the Student	Year	Detail about the Participation
1.	Ms. Samadmikha S G	I	Psychology First Aid - Peer Counselling training Program
2.	Mr. Sai Saran and Team	II	Participation for Final round in Smart India Hackathon – Hardware Edition at Galgotias University, Uttar Pradesh



Faculty - Professional Development & Achievements

S.No.	Name of the Faculty member	Contribution details
1.	Dr. P. Sreelatha, Professor/BM	1 st place in Yukti Innovation challenge, IIC ATAL FDP on Application of Quantum Computing in Digital Design and Implementation
2.	Dr. A. Allwyn Gnanadas, AP (Sl. G)/BM	One-week Internship at Jesai Healthcare, Coimbatore.
3.	Dr. S. Logesh Kumar, AP (Sl. G)/BM	High-End Workshop on "Next Generation Medical Devices - series 2 at National Institute of Technology, Rourkela One-week Internship at Medsby Healthcare, Coimbatore
4.	Ms. M. Swathy, AP (Sr. G)/BM	One-week Internship at Medsby Healthcare, Coimbatore
5.	Mr. John Amose, AP (Sr. G)/BM	Published (WoS, Scopus & SCI) Journal Paper
6.	Mr. R. Krishna Kumar, AP/BM	FDP on Machine Learning and its Applications, organized by NITTTR Kolkata

